FINAL WRITTEN REEVALUATION

FOR THE

ENVIRONMENTAL IMPACT STATEMENT

AIP 03-09-0002-26

IGOR I. SIKORSKY AIRPORT
STRATFORD, CONNECTICUT

JUNE 27, 2011

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APPENDICES

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EXHIBITS

ACRONYMS

ACHP	Advisory Council on Historic Preservation
ALP	Airport Layout Plan
APE	Area of Potential Effect
ARC	Airport Reference Code
BDR	Igor I. Sikorsky Airport
BRAC	Base Closure and Realignment Commission
CEQ	Council on Environmental Quality
CFR	Code of Federal Regulations
COE	US Army Corp of Engineers
CT DEP	Connecticut Department of Environmental Protection
CT DOT	Connecticut Department of Transportation
CWA	Clean Water Act
CZMA	Coastal Zone Management Agency
CZMP	Coastal Zone Management Program
DEP	Department of Environmental Protection
DOI	US Department of Interior
DOT	US Department of Transportation
EFH	Essential Fish Habitat
EIS	Environmental Impact Statement
EMAS	Engineered Materials Arresting System
EPA	US Environmental Protection Agency
FAA	Federal Aviation Administration
FIRM	Flood Insurance Rate Map
FPPA	Farmland Protection Policy Act
FWS	US Fish and Wildlife Service
HSWA	Hazardous and Solid Waste Amendments of 1984
MALSF	Medium Intensity Approach Light System with Sequenced Flashing Lights
NAAQS	National Ambient Air Quality Standards
NEPA	National Environmental Policy Act of 1969
NHPA	National Historic Preservation Act
NRCS	National Resource Conservation Service
NRHP	National Register of Historic Places
O_3	Ozone
OLISP	Office of Long Island Sound Programs
$PM_{2.5}$	Fine Particulate Matter
RCRA	Resource Conservation and Recovery Act
ROD	Record of Decision
RSA	Runway Safety Area
SAEP	Stratford Army Engine Plant
SIP	State Implementation Plan
SWDA	Solid Waste Disposal Act
USC	United States Code
USDA	US Department of Agriculture
VASI	Visual Approach Slope Indicator

SECTION 1
PURPOSE AND NEED

1.0 INTRODUCTION

In 1999 the Federal Aviation Administration (FAA) approved various projects to improve runways and runway safety areas (RSAs) at Igor I. Sikorsky Memorial Airport (BDR) in Stratford Connecticut (see **Exhibit 1.0-1** and **Exhibit 1.0-2**). These proposed improvements followed the completion of an airport master plan and a fatal crash in 1994. For various reasons explained below, those projects were never completed. This document provides an environmental analysis of an additional RSA alternative and a reevaluation of the existing alternatives included in the 1999 environmental documents. A runway extension for Runway 6-24 is not proposed in this reevaluation.

According to FAA Order 1050.1E, *Environmental Impacts: Policies and Procedures*, "if major steps toward implementation of the proposed action (such as the start of construction, substantial acquisition, or relocation activities) have not commenced within three years from the date of approval of the FEIS, a written reevaluation of the adequacy, accuracy, and validity of the FEIS will be prepared by the responsible FAA official." FAA Order 1050.1E further states that "this evaluation, signed by the responsible FAA official, will either conclude that the contents of the previously prepared environmental documents remain valid or that significant changes require the preparation of a supplement or new EIS."

Thus, this Written Reevaluation of the Final EIS has been prepared to assist the FAA in evaluating the potential environmental effects resulting from the newly proposed design for the RSA upgrades to Runway 6-24 at BDR and will document the additional data that has arisen since publication of the Final EIS. The proposed projects to be re-evaluated in this Written Reevaluation include the following:

- Construction of a RSA that is 500 feet in width (250 feet on either side of the runway centerline) by 300 feet in length beyond the Runway 24 threshold with the installation of an Engineered Materials Arresting System (EMAS) (120 feet in width by 300 feet in length); and

- Rehabilitation of pavement on Runway 6-24.

It should be noted that an extension to Runway 6-24 and an approach lighting system are not proposed; thus, this Written Reevaluation will not include an evaluation of a runway extension or the installation of an approach lighting system.

This report will be divided into the following sections:

Section 1 (Purpose and Need) will discuss the purpose and need of the proposed projects to be addressed in this written reevaluation;

Section 2 (Alternatives) will discuss the new design alternative to meet the stated purpose and need;

Section 3 (Affected Environment) will provide a description of the existing condition of the physical, natural, and human environment both on and within the immediate vicinity of the Airport that has changed since preparation of the Final EIS; and

Section 4 (Environmental Consequences) will present an assessment of the potential environmental impacts associated with the proposed project alternative included in **Section 2**.

This document has been prepared in accordance with the National Environmental Policy Act of 1969 [(NEPA); 42 United States Code (USC) 4321 et seq.]; the Council on Environmental Quality (CEQ) implementing regulations; [40 Code of Federal Regulations (CFR) 1500-1508]; FAA Order 1050.1E, Change 1: *Environmental Impacts: Policies and Procedures*, and FAA Order 5050.4B: *National Environmental Policy Act (NEPA) Implementing Instructions for Airport Actions* as supplemented by FAA's *Environmental Desk Reference for Airport Actions* (October 2007).

This Written Reevaluation was made available for public comment. A total of twelve comment letters were received from the public. In addition, a Public Workshop/Hearing was held on September 22, 2010. A total of twenty-nine speakers commented at the public hearing. All substantive comments received from the public during the public comment period as well as during the Public Hearing were carefully reviewed; comments and responses are included in **Appendix F**. In accordance with Federal regulations, the FAA will not decide whether to implement the proposed projects or take an alternative action until the review process is completed and a ROD is issued.

1.1 PROJECT BACKGROUND

On April 27, 1994, a twin-engine charter aircraft overshot Runway 6-24 at BDR in instrument conditions and struck the blast fence at the northeast end of Runway 6-24 (see **Appendix G**). Eight passengers were killed. In a report by the National Transportation Safety Board (NTSB), the following was recommended: "In coordination with the State of Connecticut and the Town of Stratford, following the relocation of State Highway 113, Sikorsky Memorial Airport should immediately establish a runway safety area at the approach end of Runway 24 in accordance with Federal Aviation Administration Advisory Circular 150/5300-13 and remove the nonfrangible blast fence." Class II, Priority Action) (A-94-216).

In 1995, the City of Bridgeport and BDR completed a Master Plan Study and Airport Layout Plan (ALP) Update, which identified deficiencies that affected the ability of the Airport to fulfill its role as a regional corporate and general aviation airport for the New England region. Deficiencies noted were as follows: deteriorated pavement on Runway 6-24; non-standard RSAs on Runway 6-24; absence of a standard runway approach lighting system for the Runway 6-24 instrument approach; and insufficient runway length on Runway 6-24.

As a result of the deficiencies noted in the Master Plan, an EIS was initiated in 1996 to address the potential environmental impacts associated with various proposed projects that were intended to improve the runway pavement structure on Runway 6-24; to provide, to the extent practicable, RSAs on Runway

6-24 which met (then) current FAA minimum safety standards; to enhance the visual guidance for the Runway 6-24 instrument approach; and to provide sufficient runway length on Runway 6-24 to accommodate existing and projected air transportation demand.

The *Final Environmental Impact Statement for the Proposed Improvements to Runway 6-24* at BDR was prepared in May 1999 and a ROD was issued by the FAA on October 5, 1999. The proposed improvements were included on the (then) current ALP, dated 1995. The proposed improvements contained in the ROD included a shift of Runway 6-24 700 feet to the northeast; construction of a 1,000-foot RSA for Runway 24; construction of an 800-foot RSA for Runway 6; relocation of Main Street (Route 113); installation of a MALSF; and rehabilitation of pavement of Runway 6-24.

On October 1, 1999, the FAA issued FAA Order 5200.8, *Runway Safety Area Program*, which stated that all federally obligated airports and all RSAs at airports certificated under 14 CFR part 139 shall conform to the standards contained in FAA Advisory Circular 150/5300-13, *Airport Design*, to the extent practicable.

In December 1999, the Town of Stratford, Connecticut objected to the issuance of the FAA's ROD for the *Approval of the 1995 Airport Layout Plan, Installation of Landing Aid, and Funding of Airport Development*, (October 1999) and sued the FAA. Ultimately the US Court of Appeals found in favor of the FAA ROD.

In accordance with FAA Order 5200.8, a RSA Determination was issued by the FAA on September 9, 2000 that stated that the RSA for Runway 6-24 can be improved by shifting the runway 700 feet northerly, resulting in 900 feet on the Runway 6 centerline and 1,000 feet on the Runway 24 end.

On March 9, 2001, a single engine aircraft overran the runway while landing and struck the non-frangible blast fence (see **Appendix G**). On April 23, 2004, the NTSB reached out to the Town of Stratford by writing that it" strongly urges the Town of Stratford to agree to the approved airport layout plan. The Board believes that failure to do so imposes an unnecessary and avoidable safety risk…"

Opposition still continued and in order to compromise with the Town of Stratford and the City of Bridgeport to advance critical RSA improvements, the FAA suggested that one of the EIS alternatives be re-evaluated for consideration. Alternative 1G, as explained in **Section 2**, was selected for re-evaluation and on May 30, 2003. The Town of Stratford and the FAA agreed that the safety improvements for Runway 6-24 should be revised to allow Runway 6-24 to remain in its current location, the RSA for Runway 6 to include existing wetlands, and the RSA for Runway 24 to be limited to 300 feet beyond the threshold of Runway 24. This agreement received support from the Connecticut Department of Transportation (CT DOT) on August 3, 2006.

Subsequent to that support and upon a submission by the Town of Stratford's state representative, the State Legislature imposed to a two year (one year then it was extended) Moratorium in April 2007 on any State involvement on the moving of Main Street in Stratford, which prevented the possibility of the RSA project progressing as the State needed to be a part of the movement of the State roadway.

Given the advancement in EMAS technology, a revised RSA Determination was issued on February 5, 2009 by the FAA in accordance with FAA Order 5200.8. The FAA recognized that EMAS technology has now improved and would be warranted for study at BDR as it would enhance the safety for aircraft in approach categories C and D. The FAA also recognized that Alternative 1G of the Final EIS did not include the removal of the non-frangible blast fence. Based on FAA Advisory Circular 150/5300-13, *Airport Design*, the blast velocity of the business jet using BDR would not warrant the existence of the fence and thus, it could be removed. The revised RSA Determination recommended the construction of a 300-foot safety area on the Runway 24 end with EMAS and the removal of the blast fence.

The ALP was updated to reflect these changes; the ALP was conditionally approved on March 20, 2009 (see **Exhibit 1.1-1**).

On June 12, 2009, a single-engine aircraft struck the non-frangible blast fence at the northeast end of the runway (see **Appendix G**). Subsequent efforts by the US Army, FAA, and the City of Bridgeport to ensure a small piece of federal surplus property be dedicated toward the EMAS project was met with another lawsuit. In March 2010, the Town of Stratford sued the City of Bridgeport seeking a preliminary injunction to prevent that dedication of land or further efforts towards the EMAS project. The preliminary injunction was denied by the US District Court.

As of 2011, none of the proposed improvements addressed in the Final EIS/ROD have occurred at BDR.

1.2 PROJECT LOCATION AND ROLE OF THE AIRPORT

BDR occupies a 600-acre site in the Town of Stratford in Fairfield County, Connecticut. The Airport is approximately four miles southeasterly of the City of Bridgeport and approximately 20 miles southwest of New Haven, Connecticut. The Airport has a listed elevation of 10 feet above mean sea level and is located on a peninsula bounded by Main Street (Connecticut Route 113) on the east and Lordship Township, Prospect Drive, and Stratford Road on the south and west, and a portion of the Great Meadows on the north. The Airport is owned and operated by the City of Bridgeport.

1.2.1 FORECAST OF AIRCRAFT OPERATIONS

Several forecasting efforts have been completed for the Airport. In support of the Master Plan effort is 1995, a forecasting effort was completed for the Airport for the years 1998, 2003, and 2018 with 1993 as the base year. This effort was developed based on the data in the FAA's Terminal Area Forecast (TAF), the 1986 Connecticut State Airport System Plan, and the 1982 Master Plan in addition to historical trends at the Airport. In 2006, the Connecticut Statewide Airport System Plan provided a review of the existing state aviation system. These forecasts were developed using the 1995 effort.

Since air traffic at BDR had fallen significantly since the 1995 Airport Master Plan, a forecasting effort was conducted in support of the ALP Update in 2009 to determine the critical or design aircraft and to review the role of the Airport.

1.2.1.1 Classification of the Airport

The classification of an airport in reference to its conformance with design standards is accomplished by a system called the airport reference code, or ARC. The ARC is comprised of a two-part code, which represents the approach speed and wingspan of the critical design aircraft. The critical design aircraft is defined as the largest aircraft with 500 or more operations that operates or is anticipated to operate at the airport in the foreseeable future. The components of this ARC code are defined in **Table 1.2-1**.

TABLE 1.2-1: ARC COMPONENT DEFINITIONS

APPROACH SPEED CATEGORY	APPROACH SPEED CRITERIA	DESIGN GROUP	WINGSPAN CRITERIA
A	Speed < 91 Knots	I	Wingspan < 49 feet
B	Speed > 91 but < 121 knots	II	Wingspan > 49 but < 79 feet
C	Speed >121 but < 141 knots	III	Wingspan > 79 but < 118 feet
D	Speed >141 but < 166 knots	IV	Wingspan> 118 but < 171 feet
E	Speed > 166 knots	V	Wingspan > 171 but < 214 feet
		VI	Wingspan > 214 but < 262 feet

Source: FAA Advisory Circular 150/5300-13.

According to the Master Plan that was prepared for BDR in 1995, the critical aircraft was the Gulfstream III; thus, BDR was identified as being in Approach Category C, Design Group II (C-II) for Runway 6-24. In April 2009, an ALP Update was prepared. This Update noted that despite the fall off in overall aircraft traffic at the Airport, jet traffic has increased (see **Table 1.2-2**). As shown in the table, the aircraft using the airfield in approach categories C and D are jets and since there are more than 500 operations by the Gulfstream IV, this aircraft has been selected critical aircraft for design. Thus, the ARC for future development at the Airport is D-II, which includes aircraft with approach speeds of 141 knots or more but less than 166 knots, wing spans between 49 feet and 79 feet, and tail heights between 20 feet but not including 30 feet.

TABLE 1.2-2: ANNUAL JET AIRCRAFT FLEET MIX (OPERATIONS)

AIRCRAFT	ARC	Takeoff Wt. (lbs.)	1993[1]	2002[2]	Three Year Average, 2005-2007[4]	2007[3]
Challenger	C-II	41,250	60	328	-	580
Cessna Citation (all Models)	B-II	22,000	300	1,552	1,418	839
Gulfstream II/III/IV/V	C-II/D-II	68,700	10	1,028	1,057	3,175
Gulfstream II	D-II	65,300	-	-	78	-
Gulfstream III	C-II	68,700	-	-	246	365
Gulfstream IV	D-II	74,000	-	-	641	708
Gulfstream V	C-III	89,000	-	-	92	412
Learjet 24/35/54/60	D-1	18,300	370	534	613	658
Dassault Falcon 50/900	B-II	37,500	10	56	352	1,032
Rockwell Sabreliner	C-II	24,500	240	-	-	-
IAI Westwind/IAI Astra	C-I	23,500	240	290	225	-
Boeing 737	C-III	110,000	-	6	-	-
BAC 111	C-III	79,000	120	-	-	-
Global Express	C-III	-	-	-	12	90

Source: reprinted from *Airport Layout Plan Update*, URS Corporation (2009).
[1] 1993 Master Plan
[2] Jet Ops by Type (IFR, 7/02 to 6/03) from Sikorsky Airport Operations
[3] Jet Ops by Type, Calendar Year 2007, from Sikorsky Airport Operations, includes VFR ops
[4] ETMSC Report, 01/2005 to 12/2007, from filed flight plans

1.3 EXISTING AIRPORT FACILITIES IN NEED OF IMPROVEMENT

Since none of the proposed improvements addressed in the Final EIS/ROD have occurred at BDR, the deficiencies noted in the Master Plan and Final EIS remain. It should be noted that during the EIS process between 1996 and 1999, alternatives to provide sufficient runway length on Runway 6-24 to accommodate existing air carrier and corporate and projected air transportation demand were eliminated from further study. In addition, during the numerous meetings and discussions over the last 10 years with the FAA, City of Bridgeport, and the Town of Stratford, the City, Airport, and FAA decided that an approach lighting system would not be considered.

The most recent, FAA-approved ALP for BDR is shown on **Exhibit 1.1-1**. **Note**: This ALP will be submitted with minor corrections to the FAA. Per guidance received by the FAA, the *Non-Conforming Condition* table is being renamed to *Modification of Standards* and the RSA for Runway 6 will be identified as being 100 feet beyond the threshold and not 200 feet.

1.3.1 RUNWAY SAFETY AREA

As defined by FAA Advisory Circular 150/5300-13, *Airport Design*, a RSA is "a defined surface surrounding the runway prepared or suitable for reducing the risk or damage to airplanes in the event of an undershoot, overshoot, or excursion from the runway." The required RSA at an airport is based on the ARC. At the time of the Master Plan and Final EIS, FAA guidelines detailed in Advisory Circular 150/5300-13, stipulated that a D-II runway requires a RSA that is 500 feet in width centered on the runway centerline and 1,000 feet in length beyond the runway threshold. However, since that time, FAA standards relating to RSAs have changed. According to the ALP Update (2009), most of the air traffic using BDR are aircraft in approach categories A and B and that the visibility minimums to Runway 6 are 1 mile. According to Change 14 of Advisory Circular 150/5300-13, a RSA that is 300 feet in length prior to the landing threshold or beyond the runway end would satisfy the RSA needs for the majority of aircraft using Runway 6.

There is only 100 feet of RSA beyond the Runway 6 threshold and no RSA at the end of Runway 24 (see **Exhibit 1.3-1**). A blast fence is located 15 to 25 feet northeast of the end of the pavement at the Runway 24 end immediately adjacent to Main Street (US Route 11). This structure is 200 feet in length, 8 feet in height, and constructed to withstand jet blasts in excess of 120 miles per hour. The fence is a rigid, non-frangible structure.

1.3.2 PAVEMENT CONDITION

Subsequent to the completion of the Master Plan Update in 1995, engineering investigations were conducted in June 1996. Results indicated that the pavement on both runways were "fair" with both runways exhibiting indications of accelerating deterioration due to normal exposure to weather and climate. A visual inspection indicated that Runway 6-24 exhibited a higher degree of pavement raveling. As a result of this Pavement Condition Index study, the FAA recommended that the pavements of both runways be reconstructed to restore a 20-year design life. It should be noted that limited funding precludes the ability to reconstruct Runway 11-29 at this time.

1.4 PURPOSE AND NEED FOR THE PROPOSED IMPROVEMENTS

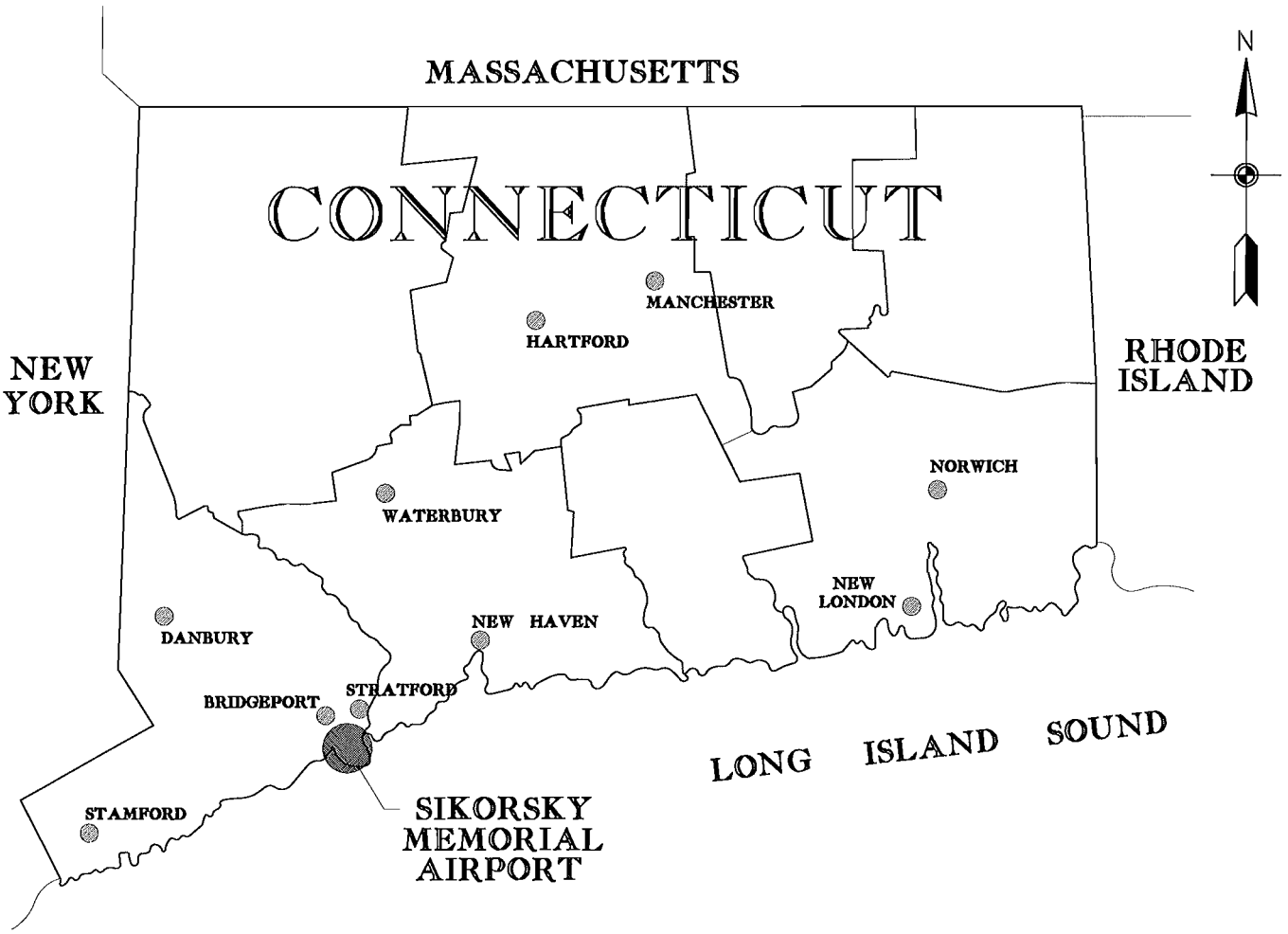
The purpose and need of the proposed projects contained in this Written Reevaluation are the following:

• **Provide, to the extent practicable, RSAs on Runway 6-24 which meet current FAA minimum safety standards**: The National Transportation Safety Board stated that 'the fatalities were caused by the presence of the nonfrangible blast fence and the absence of a safety area at the end of the runway.' FAA Order 5200.8 states that the RSAs at Federally obligated airports and all RSAs at airports certificated under 14 CFR Part 139 shall conform to the standards contained in FAA Advisory Circular 150/5300-13 to the maximum extent practicable.

• **Improve the runway pavement structure on Runway 6-24 in order to restore a 20-year pavement design life to accommodate existing and projected aircraft types and levels of operations**:. The Airport does participate in a regular crack seal maintenance program and in 2007, the runway received a thermoplastic seal coat; however, no reconstruction or rehabilitation of the pavement of Runway 6-24 has taken place. Thus, the pavement is continuing to deteriorate as identified in the engineering investigations in 1996.

The purpose and need has been changed from that was included in the 1999 Final EIS/ROD. Principally, there is no proposal to extend Runway 6-24. The need to improve the RSA and Runway 6-24 pavement remains. Section 2 identifies the proposed action and alternatives developed to meet the purpose and need.

In addition to evaluating alternatives, this Written Reevaluation will also determine whether the contents of the previously prepared 1999 environmental documents remain valid or whether significant changes require the preparation of a supplement or new EIS. This determination will be based in part on a review of new information obtained since the issuance of the Final EIS/ROD.



IGOR I. SIKORSKY MEMORIAL AIRPORT
STRATFORD, CONNECTICUT

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LOCATION MAP

EXHIBIT

1.0-1

4/21/2010
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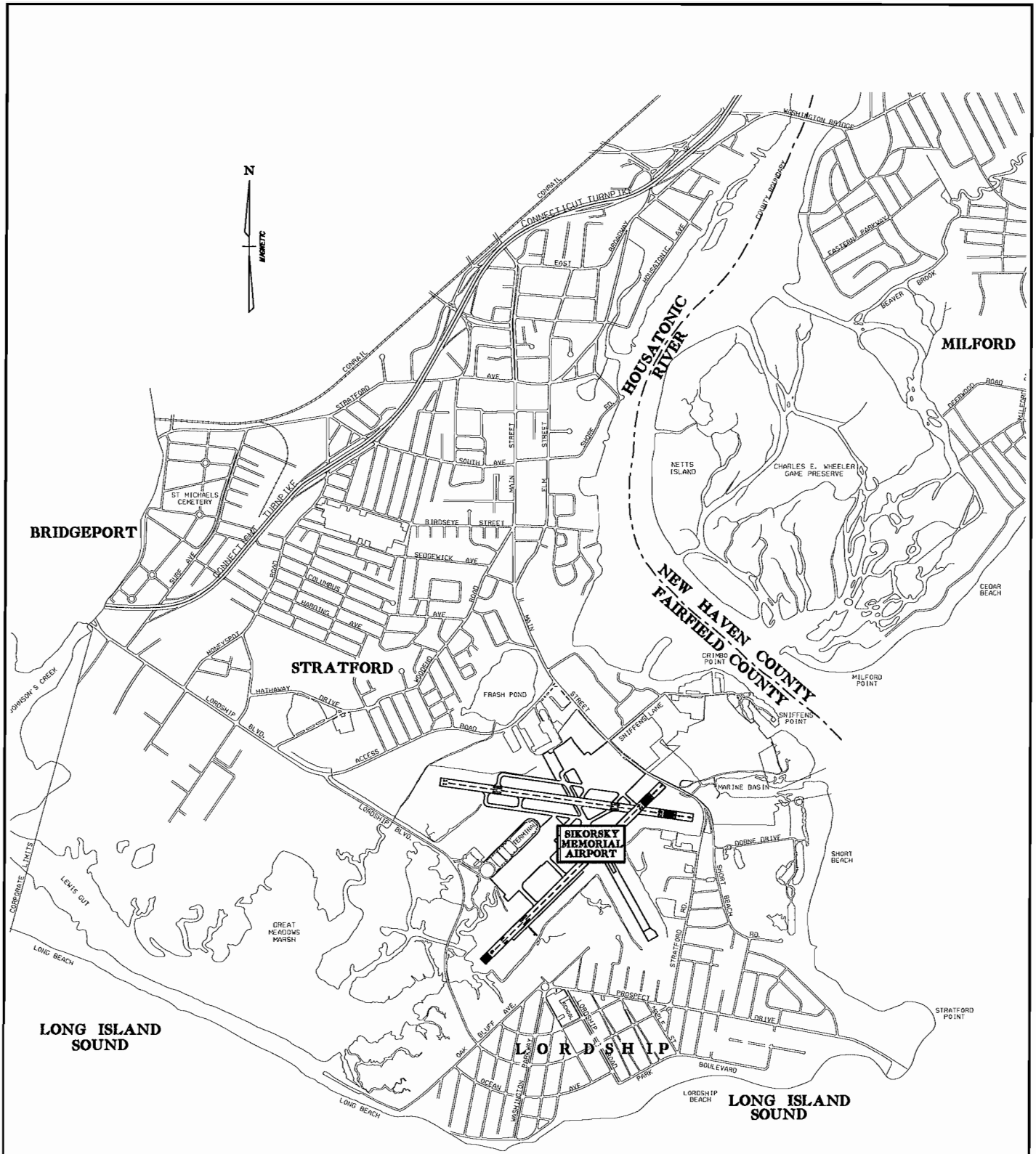

IGOR I. SIKORSKY MEMORIAL AIRPORT
STRATFORD, CONNECTICUT

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VICINITY MAP

EXHIBIT

1.0-2

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NON CONFORMING CONDITIONS

DESCRIPTION	EXISTING/ PLANNED	STANDARD	DATE APPROVED	REMARKS
TAXIWAY D SEPARATION FROM R/W 11-29	VARIES 261' TO 320'	300'	JUNE 3, 2003	MOS #120 AIP-3-09-0002-16
TAXIWAY SIGN 62 LOCATION	PLACED BEHIND ENTRANCE	PLACED BEFORE ENTRANCE		REQUESTED MARCH 9, 2006, AIP-23
SUPPLEMENTAL WIND CONE LOCATION R/W 11	240' FROM R/W ℄	250' MINIMUM	JAN. 27, 2004	MOS AIP-3-09-0002-16
R/W 29 OFA	800' WIDE x 370' BEYOND R/W THRESHOLD	800' WIDE x 1000' BEYOND R/W THRESHOLD		REQUESTED UNDER AIP-23
R/W 6 OFA	800' WIDE x 920' BEYOND THRESHOLD	800' WIDE x 1000' BEYOND THRESHOLD		REQUESTED UNDER AIP-23
R/W 11 OFA	600' WIDE x 1,000' BEYOND R/W THRESHOLD	800' WIDE x 1,000' BEYOND R/W THRESHOLD		REQUESTED UNDER AIP-23
R/W 24 OFA	800' WIDE x 300' BEYOND THRESHOLD	800' WIDE x 1,000' BEYOND THRESHOLD		REQUESTED UNDER AIP-23
R/W 6 SAFETY AREA	200' BEYOND THRESHOLD	1,000' BEYOND THRESHOLD	2-19-09	AIP-3-09-0002-23
R/W 24 SAFETY AREA	300' BEYOND THRESHOLD	1,000' BEYOND THRESHOLD	2-19-09	AIP-3-09-0002-23
R/W 11 SAFETY AREA	600' WIDE x 370' BEYOND THRESHOLD	600' WIDE x 1,000' BEYOND R/W THRESHOLD	2-19-09	AIP-3-09-0002-23
R/W 29 SAFETY AREA	600' WIDE x 370' BEYOND THRESHOLD	600' WIDE x 1,000' BEYOND THRESHOLD	2-19-09	AIP-3-09-0002-23

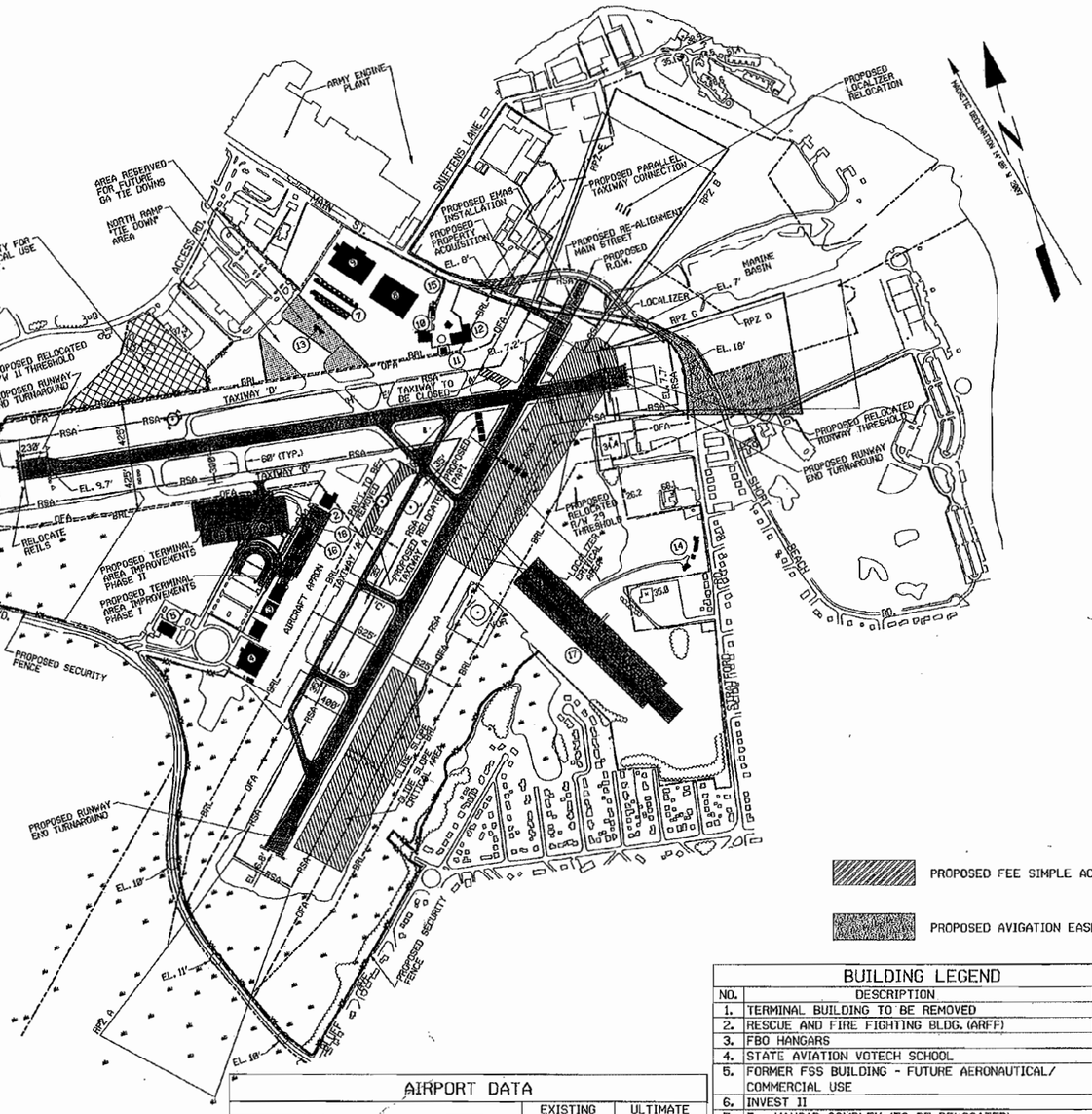
LEGEND

DESCRIPTION	EXISTING	ULTIMATE
PROPERTY LINE (FEE SIMPLE)		
OBJECT FREE AREA (OFA)	----OFA----	----OFA----
FENCE LINE	-x-x-x-	-x-x-x-
ON AIRPORT BUILDINGS		
OFF AIRPORT BUILDINGS		
OPERATIONAL PAVED SURFACES		
BUILDING RESTRICTION LIMITS (BRL)	--- BRL---	---BRL---
LIGHTED WIND CONE & SEG.CIRCLE		
NAVAID CRITICAL AREA		
RUNWAY PROTECTION ZONE (RPZ)		
RUNWAY SAFETY AREA		
AIRPORT REFERENCE POINT (ARP)		
RUNWAY THRESHOLD LIGHTS		
REILs	△	▲
MALSF		
VASIs/PAPI	□	■
AIRPORT BEACON	☆	SAME

RUNWAY DATA

DESCRIPTION \ RUNWAY		EXISTING 6	24	11	29	ULTIMATE 6	24	11	29
LENGTH		4,677'	4,677'	4,761'	4,761'	4,677'	4,677'	4,768'	4,768'
DISPLACED THRESHOLD		0'	328'	0'	364'	0'	101'	0'	362'
WIDTH		150'	150'	150'	150'	100'	100'	100'	100'
RUNWAY GRADIENT		0.01%	0.01%	0.04%	0.04%	0.01%	0.01%	0.04%	0.04%
PAVEMENT STRENGTH		S-30, D-126	S-30, D-106	S-30, D-109	S-30, D-126	S-30, D-109	S-30, D-109	S-30, D-109	S-30, D-106
LIGHTING		HIRL	HIRL	HIRL	HIRL	HIRL	HIRL	HIRL	HIRL
MARKINGS		PRECISION	NPI	VISUAL	NPI	PRECISION	NPI	VISUAL	NPI
TAXIWAY - WIDTH		VARIES 35'-100'				35'		35'	
TAXIWAY SAFETY AREA (WIDTH		79'				79'			
TAXIWAY OBJECT FREE AREA (WIDTH)		131'				131'			
APPROACH LIGHTING		NONE	NONE	NONE	NONE	NONE	NONE	NONE	NONE
AIRCRAFT APPROACH CAT.		C	C	C	C	D	D	D	D
AIRCRAFT DESIGN GROUP		II	II	II	II	II	II	II	II
DESIGN AIRCRAFT		GULFSTREAM III				GULFSTREAM IV			
APPROACH SLOPE	EXISTING	2.5:1	29:1	6:1	10.8:1				
	STANDARD	34:1	34:1	20:1	34:1	34:1	20:1	20:1	20:1
		OBJECT FREE AREA (OFA)				OBJECT FREE AREA (OFA)			
WIDTH	EXISTING	800'	800'	800'	640'	800'	800'	800'	800'
	STANDARD	800'	800'	800'	800'	800'	800'	800'	800'
LENGTH BEYOND	EXISTING	120'	0'	1,020'	120'	120'	300'	1,020'	370'
RUNWAY END	STANDARD	1,000'	1,020'	1,000'	1,020'	1,000'	1,020'	1,020'	1,020'
		RUNWAY SAFETY AREA (RSA)				RUNWAY SAFETY AREA (RSA)			
WIDTH	EXISTING	500'	500'	500'	500'	500'	500'	500'	500'
	STANDARD	500'	500'	500'	500'	500'	500'	500'	500'
LENGTH BEYOND	EXISTING	120'	0'	1,020'	120'	120'	300'	370'	370'
RUNWAY END	STANDARD	1,000'	1,020'	1,000'	1,020'	1,020'	1,020'	1,020'	1,020'
RUNWAY END	NORTH	41°09'25.36'	41°09'55.81'	41°09'58.47'	41°09'52.65'	41°09'25.36'	41°09'55.81'	41°09'58.77'	41°09'52.36'
COORDINATES	WEST	73°07'55.05'	73°07'14.76'	73°08'25.89'	73°07'08.94'	73°07'55.05'	73°07'14.76'	73°08'08.84'	73°07'07.20'

RUNWAY PROTECTION ZONES	A	B	C	D	A	E	F	G
LENGTH	1,700'	1,700'	1,700'	1,700'	1,700'	1,700'	1,700'	1,700'
INNER WIDTH	500'	500'	500'	500'	500'	500'	500'	500'
OUTER WIDTH	1,010'	1,010'	1,010'	1,010'	1,010'	1,010'	1,010'	1,010'
SLOPE	2.5:1	29:1	6:1	10.8:1	34:1	20:1	20:1	20:1



PROPOSED FEE SIMPLE ACQUISITION

PROPOSED AVIGATION EASEMENT

AIRPORT DATA

		EXISTING	ULTIMATE
MEAN MAXIMUM TEMPERATURE		82.6° F	82.6° F
MAGNETIC DECLINATION		W13.88° 1994	W14°05' 2007
AIRPORT REFERENCE POINT (NAD 83)	LAT.	41°09'48.64"N	41°09'48.69"N
	LONG.	73°07'34.24"W	73°07'35.74"W
AIRPORT ELEVATION		10' MSL	10' MSL
AIRPORT & TERMINAL NAVAIDS		REIL PAPI VASI VOR ILS / VOR REIL VASI	REIL PAPI VOR ILS / REIL VOR PAPI
AIRPORT ROLE		GENERAL AVIATION/ CORPORATE	GENERAL AVIATION/ CORPORATE

BUILDING LEGEND

NO.	DESCRIPTION	HEIGHT MSL
1.	TERMINAL BUILDING TO BE REMOVED	49.2'
2.	RESCUE AND FIRE FIGHTING BLDG. (ARFF)	34.1'
3.	FBO HANGARS	41.4'
4.	STATE AVIATION VOTECH SCHOOL	45.1'
5.	FORMER FSS BUILDING - FUTURE AERONAUTICAL/ COMMERCIAL USE	28.3'
6.	INVEST II	36.0'
7.	T - HANGAR COMPLEX (TO BE RELOCATED)	19.5'
8.	HANGAR	67.3'
9.	HANGAR	60.6'
10.	HANGAR	35.3'
11.	FBO OFFICE TO BE RETAINED FOR AERONAUTICAL USE OR REMOVED	35.6'
12.	HANGAR TO BE RETAINED FOR AERONAUTICAL USE OR REMOVED	40.6'
13.	T - HANGARS (TO BE REMOVED)	23.2'
14.	CIVIL AIR PATROL (CAP)	36.3'
15.	FUEL FARM	
16.	PROPOSED CORPORATE HANGARS	
17.	T - HANGAR COMPLEX	
18.	ADMIN. BLDG ATCT, BEACON	49.2'

IGOR I. SIKORSKY MEMORIAL AIRPORT

STRATFORD CONNECTICUT

Sponsors Name:

CITY OF BRIDGEPORT CONNECTICUT

FAA A.I.P. Project Number:

3-09-0002-23

Drawing Name:

AIRPORT LAYOUT PLAN

CERTIFICATION:

THE CITY OF BRIDGEPORT CERTIFIES THAT ALL AIRPORT ELEMENTS SHOWN ON THIS ALP ARE IN ACCORDANCE WITH CRITERIA CONTAINED IN THE CURRENT EDITION OF FAA ADVISORY CIRCULAR 150/5300-13 EXCEPT AS NOTED IN THE TABLE ENTITLED "NON CONFORMING CONDITIONS"

JOHN RICCI, AIRPORT MGR. — DATE 3/4/09

FEDERAL AVIATION ADMINISTRATION

APPROVED: _____ FOR NEW ENGLAND REGION — DATE 5/21/09

DEPARTMENT OF TRANSPORTATION

APPROVED: _____ AVIATION DIVISION — DATE 3/11/09

IGOR SIKORSKY MEMORIAL AIRPORT COMMISSION

APPROVED: _____ CHAIRMAN — DATE 2/4/09

REVISIONS

No.	Description	Date	By

FIGURE 3

Designer:	Checked by:
GWD	
Technician:	Project Number:
MJT	38397090

Autocad Drawing Reference:

Date:	Sheet Number:
FEBRUARY, 2009	3 of 6

Scale: 500 250 0 500 — SCALE IN FEET

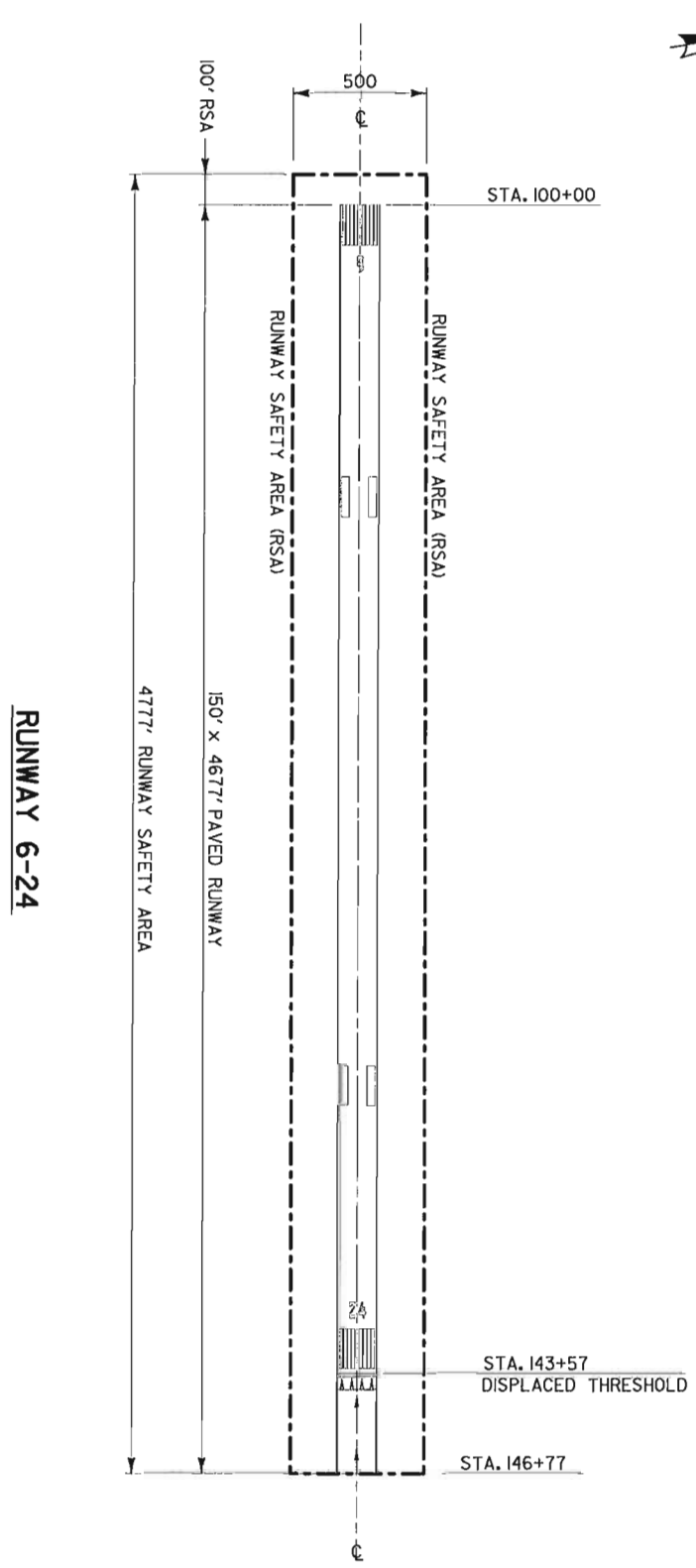
URS

500 ENTERPRISE DRIVE
ROCKY HILL, CONNECTICUT 06067

IGOR I. SIKORSKY MEMORIAL AIRPORT
STRATFORD, CONNECTICUT
URS

EXISTING AIRPORT LAYOUT PLAN

EXHIBIT 1.1-1



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STRATFORD, CONNECTICUT

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EXISTING RUNWAY 6-24 SAFETY AREAS

EXHIBIT

1.3-1

4/2/2010
FILE NAME: J:\38397150 Sikorsky EIS Update 38397142\CADD\exhibit 1.1-2.dgn

SECTION 2
ALTERNATIVES

2.0 INTRODUCTION

Section 1 identified the nature and extent of existing conditions at BDR with respect to the non-standard RSA and deteriorating pavement condition. This section provides a description and evaluation of alternatives considered in terms of meeting the identified purpose and need for the proposed improvements at BDR.

The EIS process initially identified 21 preliminary alternatives for the rehabilitation of Runway 6-24, RSA upgrades to Runway 6-24 and associated relocation of Main Street, and the construction of an approach lighting system for Runway 6. All of these alternatives included the reconstruction of all or part of the existing pavement on Runway 6-24 and were developed based on three basic scenarios:

Group 1 Alternatives: Alternatives which utilized only the existing pavement envelope of Runway 6-24;

Group 2 Alternatives: Alternatives which shifted the pavement of Runway 6-24 to accommodate RSAs and the approach light system only to the extent required to provide the 4,677 linear feet of usable takeoff length presently provided by the runway; and

Group 3 Alternatives: Alternatives which shifted and extended the pavement of Runway 6-24 as to provide a 5,000-foot usable takeoff length as well as accommodate RSAs and the approach light system.

2.1 FINAL EIS ALTERNATIVES RETAINED FOR FURTHER STUDY

During the EIS process, the 21 preliminary alternatives were then screened according to two basic assessment criteria: aviation operations and wetland impact. As a result of the initial screening, the following alternatives were retained for further study: Alternatives 1, 1G, 2B, 2D, 3E, 3G, as well as the No Action Alternative. However, after further analysis and coordination, it was determined in the EIS process that the additional runway length in the Group 3 Alternatives may be inconsistent with the Connecticut Coastal Management Act as it relates to the expansion of airports within the coastal boundary. Thus, Alternatives 3E and 3G were dropped from further study and Alternatives 1, 1G, 2B, 2D and No Action were retained for further study. Alternative 2D was selected as the FAA's Preferred Alternative in the Draft EIS; however, due to comments received during the Draft EIS Public Review Process, this alternative was modified to combine various elements of Alternative 2B [Medium Intensity Approach Light System with Sequenced Flashing Lights (MALSF) and 800-foot RSA at the Runway 6 end] and Alternative 2D (MALSF, 1,000-foot RSA at the Runway 24 end, and the relocation of Main Street onto Sniffens Lane). This combination was referred to as Alternative 2D-Modified and then became the FAA's Preferred Alternative in the Final EIS and the Selected Alternative in the ROD.

2.1.1 ALTERNATIVE 1

As noted above, Group 1 Alternatives only utilized the existing pavement envelope of Runway 6-24. Thus, this alternative involved the reconstruction of the Runway 6-24 pavement without any other

improvements; that is, this alternative did not involve the addition of any RSAs or approach light systems and an extension of the usable takeoff length of that runway (see **Exhibit 2.1-1**).

2.1.2 ALTERNATIVE 1G

Based on comments received during the study process, this alternative was developed to provide a minimal amount of RSA at the Runway 24 end without impacting any wetlands. Thus, this alternative is similar to Alternative 1 in that it involved the reconstruction of the Runway 6-24 pavement but provided 250 feet of RSA at the Runway 24 end with a minor relocation of Main Street (see **Exhibit 2.1-2**).

2.1.3 ALTERNATIVE 2B

As mentioned above, Group 2 Alternatives shifted the pavement of Runway 6-24 to accommodate RSAs and the approach light system only to the extent required to provide the 4,677 linear feet of usable takeoff length provided by the runway. Thus, this alternative shifted the runway 575 feet to the northeast with the abandonment of the pavement on the Runway 6 end and the construction of RSAs of 500 feet in width and 600 feet in length for Runway 6-24 (see **Exhibit 2.1-3**). Alternative 2B included a MALSF installed approximately at the new Runway 6 threshold. This alternative required Main Street to be relocated 1,200 feet to the northeast.

2.1.4 ALTERNATIVE 2D

Alternative 2D shifted Runway 6-24 875 feet to the northeast with the abandonment of the pavement of the Runway 6 end and the construction of RSAs of 500 feet in width and 1,000 feet in length for Runway 6-24 (see **Exhibit 2.1-4**). Also, a MALSF was proposed with Alternative 2D. This alternative required Main Street to be relocated approximately 1,800 feet to the northeast.

2.1.5 ALTERNATIVE 2D-MODIFIED

Alternative 2D-Modified shifted the entire existing runway 875 feet to the northeast and establish a 1,000-foot long by 500-foot wide graded RSAs at both ends of the new runway. This configuration required the closure of a portion of existing Main Street and creation of a new connection utilizing a segment of existing Sniffens Lane and new roadway around the end of the new RSA back to Main Street. As a result of the Final EIS/ROD, Alternative 2D-Modified was selected for final design and construction (see **Exhibit 2.1-5**).

2.1.6 NO ACTION ALTERNATIVE

The No Action Alternative was defined as not reconstructing Runway 6-24, not providing standard RSAs, not installing an approach lighting system on Runway 6-24, and not extending Runway 6-24 to a length of 5,000 feet.

Although this alternative would not have met the intended purpose and need stated in the EIS, it was retained and considered throughout the EIS process in order to establish a comparative baseline against which all other Build Alternatives were compared.

2.2 NEW ALTERNATIVES RETAINED FOR FURTHER STUDY

Since completion of the Final EIS and FAA's issuance of a ROD, no improvements have occurred at BDR but new information has been received. In 1999, the FAA issued FAA Order 5200.8 that stated that all federally obligated airports and all RSAs at airports certificated under 14 CFR part 139 shall conform to the standards contained in FAA Advisory Circular 150/5300-13 to the extent practicable. As a result, the FAA issued a Determination that stated that the RSA for Runway 6-24 can be improved by shifting the runway 700 feet northerly, resulting in 900 feet on the Runway 6 centerline and 1,000 feet on the Runway 24 end. Opposition continued and as a result, in 2003, the FAA and the Town of Stratford agreed that one of the EIS alternatives be re-evaluated for consideration. Given the technological advances with EMAS, the FAA reissued their Determination in 2009 to include the use of EMAS with Alternative 1G from the Final EIS. The Determination also called for the removal of the non-frangible blast fence.

2.2.1 ALTERNATIVE 1G-MODIFIED WITH INSTALLATION OF EMAS

This new alternative is similar in scope to the RSA improvements for Runway 24 originally presented as Alternative 1G in the Final EIS, which included a RSA that is 500-foot wide (250 feet on either side of the runway centerline) by 250-foot in length beyond the Runway 24 threshold. However, Alternative 1G-Modified varies in that it provides construction of the RSA for Runway 24 of 300 feet and not 250 feet as with Alternative 1G. Thus, this revised alternative involves the rehabilitation of pavement on Runway 6-24 and construction of a RSA that is 500 feet in width (250 feet on either side of the runway centerline) by 300 feet in length beyond the Runway 24 threshold with the installation of an Engineered Materials Arresting System (EMAS) (120 feet in width by 300 feet in length). **Exhibit 2.2.-1** depicts this new alternative. This alternative is depicted on the current ALP which was conditionally approved by the FAA on March 20, 2009 (refer back to **Exhibit 1.1-1**). Conditional approval indicates the improvements shown on the ALP still require environmental determinations/permits.

The installation of EMAS could be used to enhance the RSA beyond the runway end when it is not practicable to obtain a RSA that meets current standards. FAA Advisory Circular 150/5220-22A, *Engineered Materials Arresting Systems (EMAS) for Aircraft Overruns*, provides guidance on EMAS. EMAS provides a crushable material in the RSA that allows an aircraft, unable to stop on the active runway, to gradually decrease its speed, and allow the aircraft to come to a stop without serious structural damage. EMAS offers runways with geographically constrained areas an opportunity to provide the acceptable level of safety as a conventional RSA would.

According to FAA Advisory Circular 150/5220-22A, the resulting RSA with EMAS "must provide adequate protection for aircraft that touch down prior to the runway threshold (undershoot). Adequate protection is provided by either: (1) providing at least 600 feet (or the length of the standard runway safety area,

whichever is less) between the runway threshold and the far end of the EMAS bed if the approach end of the runway has vertical guidance or (2) providing full length standard runway safety area when no vertical guidance is provided." The FAA concluded in the 2009 RSA Determination that the majority of aircraft that utilize Runway 6 are in categories A and B and thus require a RSA 300 feet in length prior to the landing threshold or beyond the runway end.

Connected actions to this new design alternative include the following (see **Exhibit 2.2-1**):

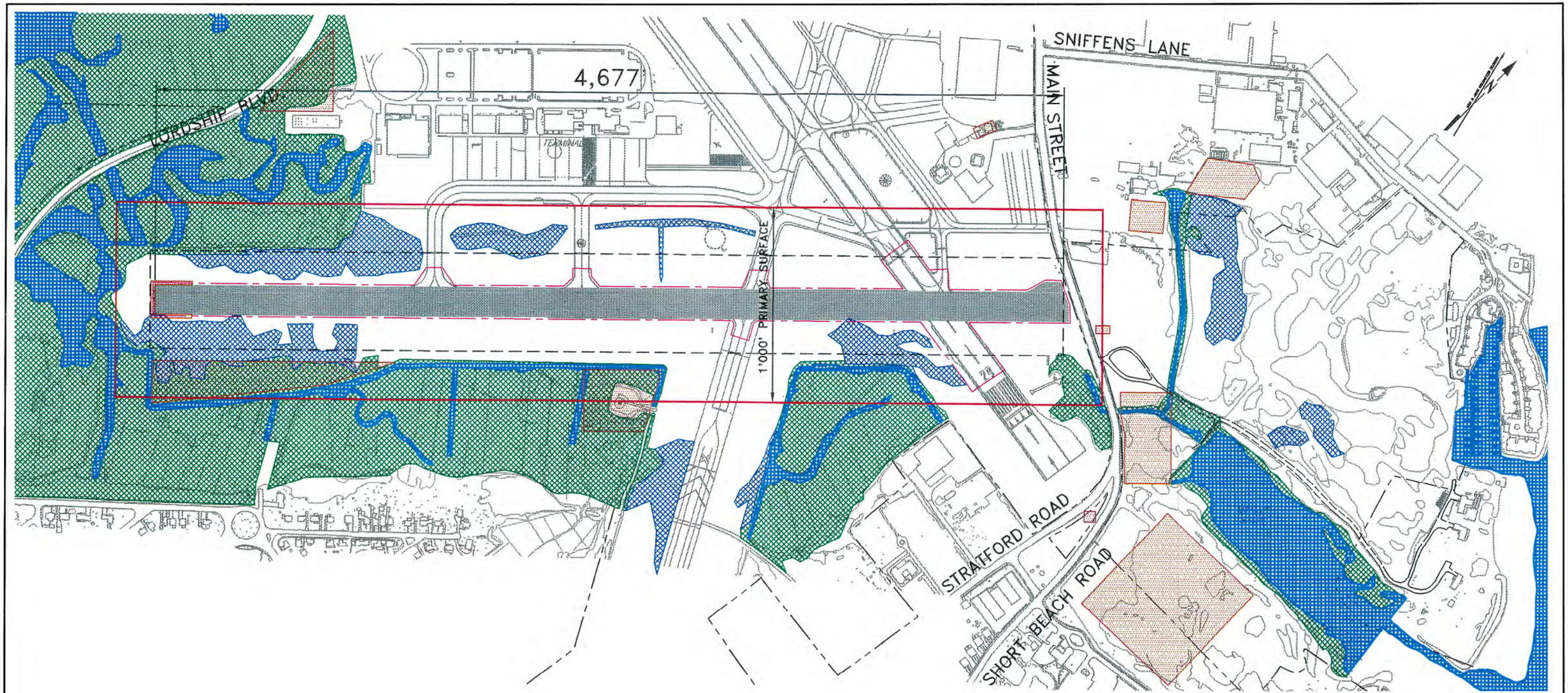
- Relocation of 2,150 feet of Main Street;
- Installation of new runway edge lights on Runway 6-24;
- Relocation of Runway End Identifier Lights;
- Relocation of the existing Visual Approach Slope Indicator (VASI) or replacement of the VASI with a Precision Approach Path Indicator;
- Construction of a new connector taxiway (35 feet in width by 330 feet in length) from Taxiway A to the new Runway 24 threshold and demolition of the existing connector taxiway from Taxiway A to the existing Runway intersection;
- Removal of the existing blast fence located off the Runway 24 threshold;
- Installation of new Airport security fence;
- Removal of an existing berm, tide gate, and culvert; and
- Construction of a turnaround at the Runway 6 threshold.

2.2.2 NO BUILD ALTERNATIVE

The No Build Alternative was assessed consistent with Section 1502.14(d) of CEQ Regulations (40 CFR 1500-1508), which requires that the No Build Alternative be considered in all development projects. The No Build Alternative assumes that no alteration of the existing airfield configuration would occur other than routine maintenance and equipment upgrading. Therefore, with implementation of the No Build Alternative, no reconstruction of Runway 6-24 pavement would occur and no RSAs upgrades to bring, to the extent practicable, BDR into compliance with application FAA design standards would occur.

2.2.3 SUMMARY

An assessment of the potential environmental impacts associated with Alternative 1G-Modified as well as the No Build Alternative is presented in Section 4 – Environmental Consequences.



Source: Reprinted from Final Environmental Impact Statement / Environmental Impact Evaluation for the Proposed Improvements to Runway 6-24, May 1999.

NOTES:
1. RECONSTRUCTION OF EXISTING RUNWAY PAVEMENT
2. NO ADDITIONAL SAFETY AREAS
3. NO APPROACH LIGHT SYSTEM
4. NO EXTENSION OF USABLE TAKEOFF LENGTH OF RUNWAY
5. BLAST FENCE @ RUNWAY END 24 WOULD REMAIN AT ITS CURRENT LOCATION AND CONFIGURATION

500 0 250 500 1000

SITES OF POTENTIAL HAZMAT/ ENVIROMENTAL CONCERN

INLAND WETLAND

TIDAL WETLAND

OPEN WATER

EXISTING RUNWAY SAFETY AREA

EXISTING AIRPORT PROPERTY BOUNDARY

LIMIT OF GRADING/DISTURBANCE

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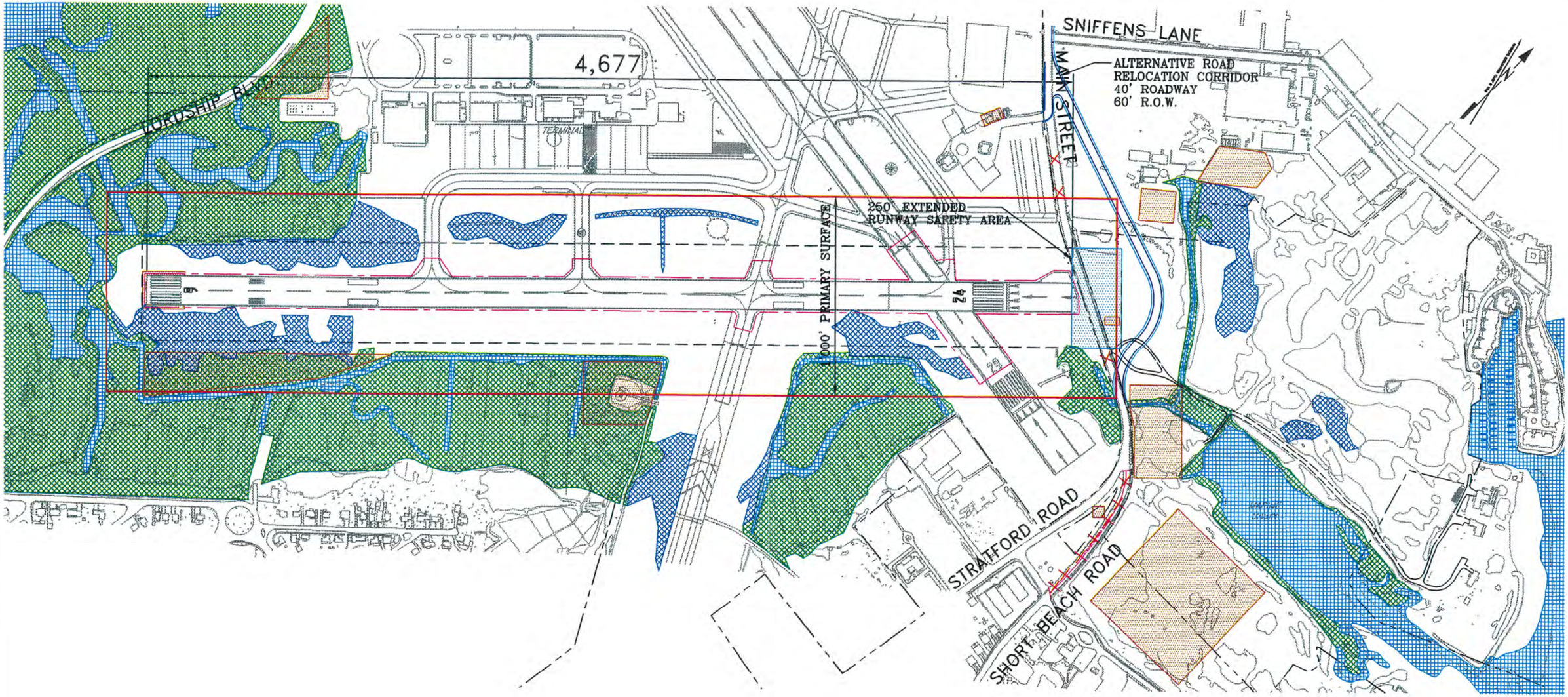
ALTERNATIVE 1

EXHIBIT

2.1-1



Source: Reprinted from Final Environmental Impact Statement / Environmental Impact Evaluation for the Proposed Improvements to Runway 6-24, May 1999.

NOTES:
1. RECONSTRUCTION OF EXISTING RUNWAY PAVEMENT
2. ADDITIONAL 250' SAFETY AREA @ RUNWAY 24 END
3. NO APPROACH LIGHT SYSTEM
4. NO EXTENSION OF USEABLE TAKEOFF LENGTH OF RUNWAY
5. RELOCATION OF MAIN STREET AVOIDS WETLAND IMPACTS
6. WOULD REQUIRE THE RELOCATION OF BLAST FENCE ALONG RELOCATED MAIN STREET

500 0 250 500 1000

- EXTENDED RUNWAY SAFETY AREA (250' X 500')
- INLAND WETLAND
- TIDAL WETLAND
- OPEN WATER
- SITES OF POTENTIAL HAZMAT/ ENVIRONMENTAL CONCERN
- EXISTING ROADWAY NO LONGER AVAILABLE FOR USE
- EXISTING RUNWAY SAFETY AREA
- EXISTING AIRPORT PROPERTY BOUNDARY
- LIMIT OF GRADING/DISTURBANCE

IGOR I. SIKORSKY MEMORIAL AIRPORT
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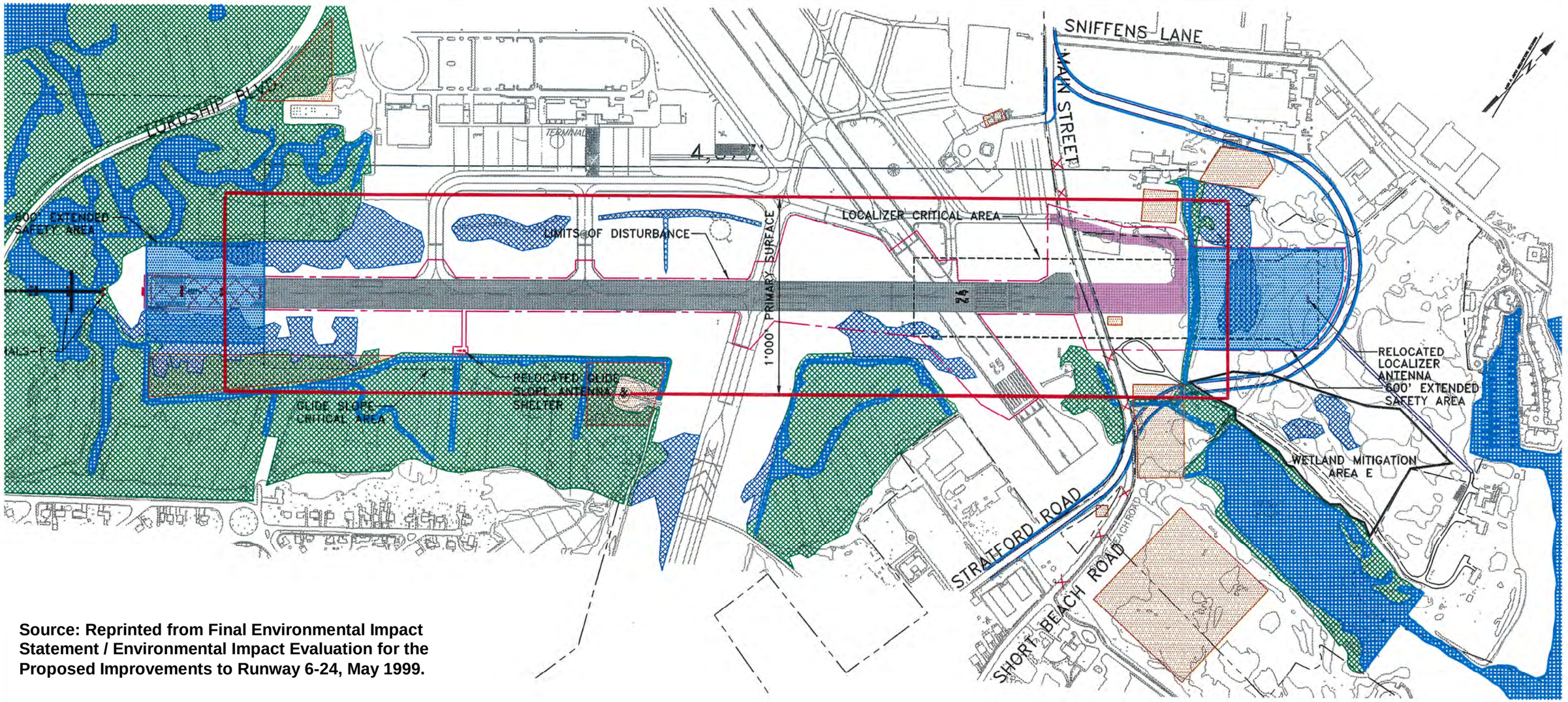
ALTERNATIVE 1G

EXHIBIT
2.1-2



Source: Reprinted from Final Environmental Impact Statement / Environmental Impact Evaluation for the Proposed Improvements to Runway 6-24, May 1999.

NOTES:
1. 600-FOOT SAFETY AREA, BOTH ENDS
2. NO DECLARED DISTANCES
3. SHIFT RUNWAY 6-24 575 FEET NORTHEAST
4. INSTALL MALS-F (IN-PAVEMENT NOT REQUIRED)
5. LOCALIZER IN SAFETY AREA

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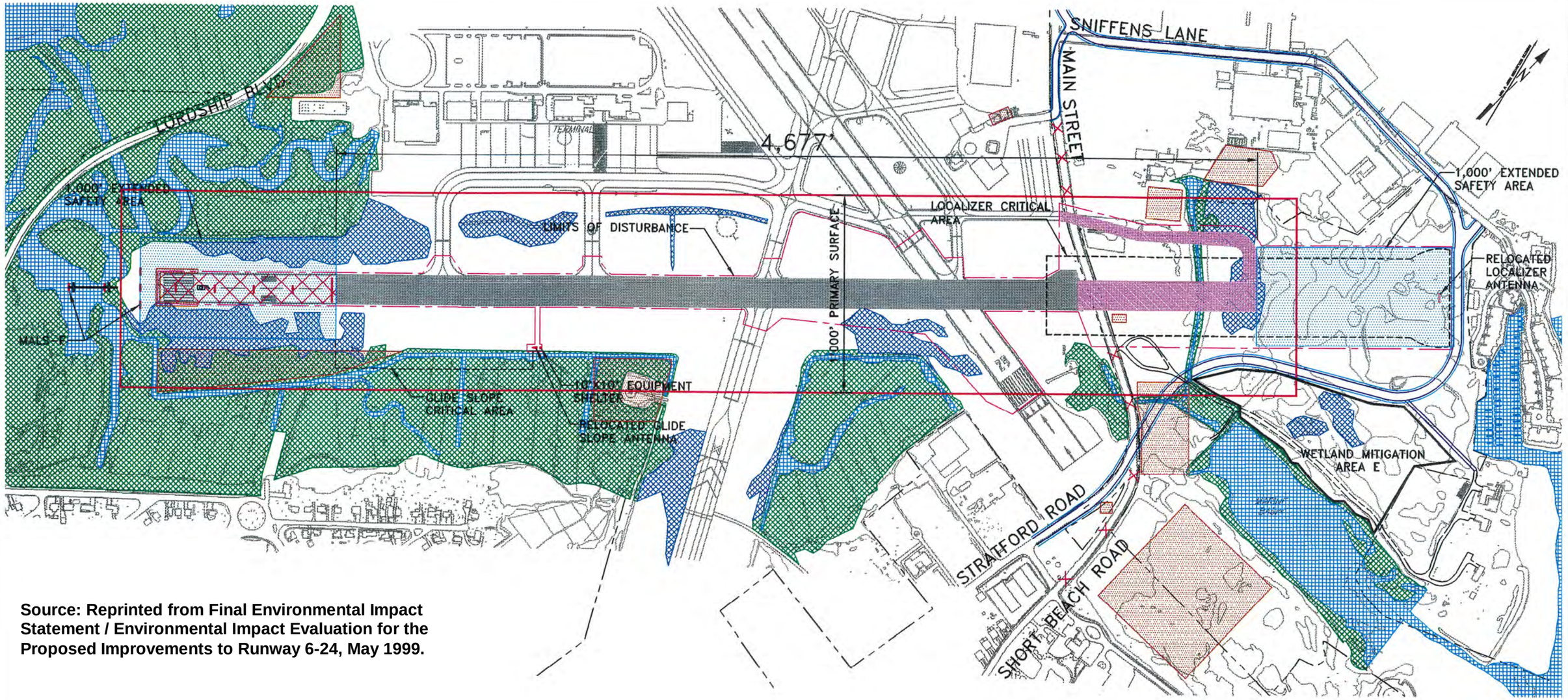
ALTERNATIVE 2B

EXHIBIT 2.1-3



Source: Reprinted from Final Environmental Impact Statement / Environmental Impact Evaluation for the Proposed Improvements to Runway 6-24, May 1999.

500 0 250 500 1000

- NEW PAVEMENT
- EXTENDED RUNWAY SAFETY AREA 1,000' X 500'
- EXISTING PAVEMENT NO LONGER AVAILABLE FOR RUNWAY USE
- TIDAL WETLAND
- INLAND WETLAND
- OPEN WATER
- SITES OF POTENTIAL HAZMAT/ ENVIRONMENTAL CONCERN
- RUNWAY PRIMARY SURFACE BOUNDARY
- EXISTING ROADWAY NO LONGER AVAILABLE FOR USE
- RUNWAY PRIMARY SURFACE BOUNDARY
- EXISTING AIRPORT PROPERTY BOUNDARY
- LIMIT OF GRADING/DISTURBANCE

NOTES:
1. 1,000-FOOT SAFETY AREA, BOTH ENDS
2. NO DECLARED DISTANCES
3. SHIFT RUNWAY 6-24 875 FEET NORTHEAST
4. INSTALL MALS-F (IN-PAVEMENT NOT REQUIRED).
5. LOCALIZER IN SAFETY AREA, OF RUNWAY 24

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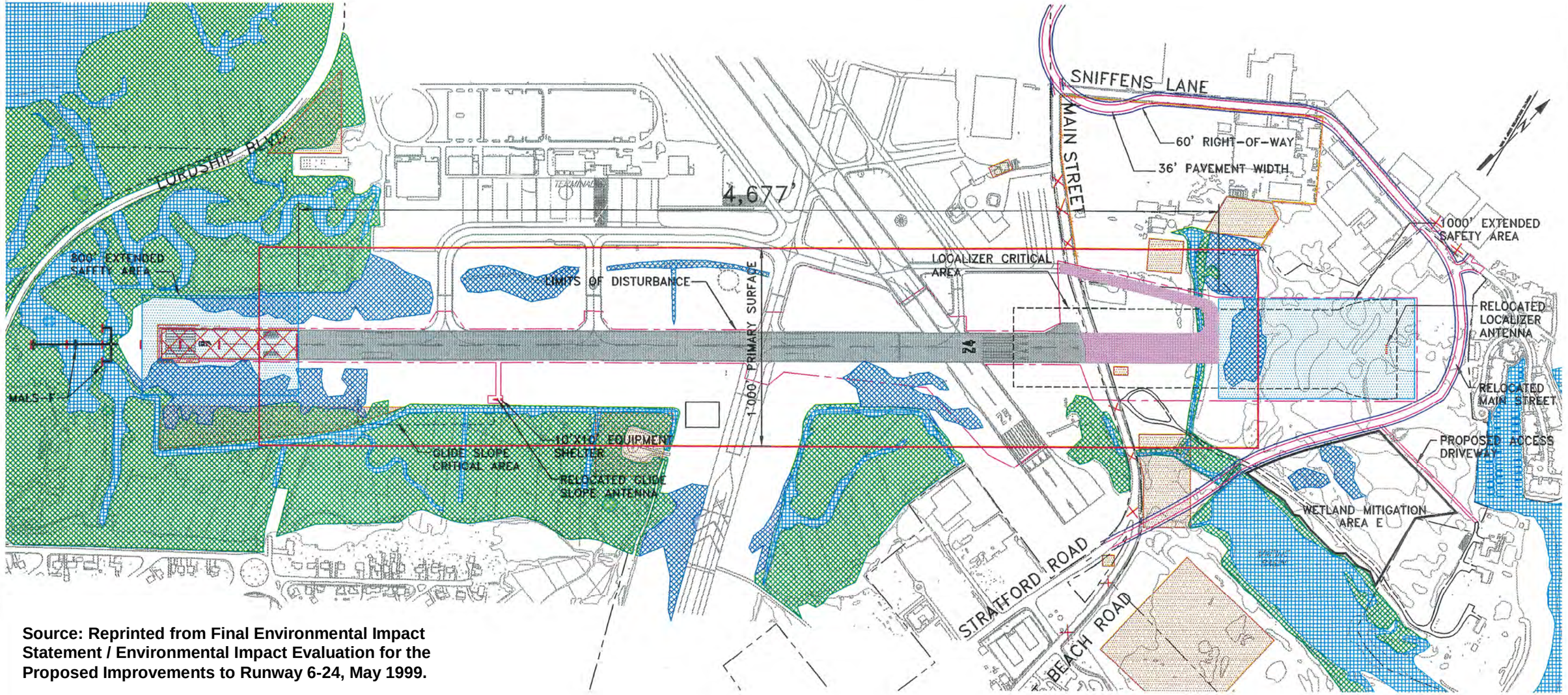
ALTERNATIVE 2D

EXHIBIT
2.1-4



Source: Reprinted from Final Environmental Impact Statement / Environmental Impact Evaluation for the Proposed Improvements to Runway 6-24, May 1999.

500 0 250 500 1000

- NEW PAVEMENT
- EXTENDED RUNWAY SAFETY AREA
- EXISTING PAVEMENT TO BE REMOVED
- TIDAL WETLAND
- INLAND WETLAND
- OPEN WATER
- SITES OF POTENTIAL HAZMAT/ ENVIRONMENTAL CONCERN

- RUNWAY PRIMARY SURFACE BOUNDARY
- FORMER STRATFORD ARMY ENGINE PLANT PROPERTY
- EXISTING ROADWAY NO LONGER AVAILABLE FOR USE
- EXISTING AIRPORT PROPERTY BOUNDARY
- LIMIT OF GRADING/DISTURBANCE

NOTES:
1. 800-FOOT SAFETY AREA, R/W 6 END
   1000-FOOT SAFETY AREA, R/W 24 END
2. NO DECLARED DISTANCES
3. SHIFT RUNWAY 6-24 700 FEET NORTHEAST
4. INSTALL MALS-F (IN-PAVEMENT NOT REQUIRED)

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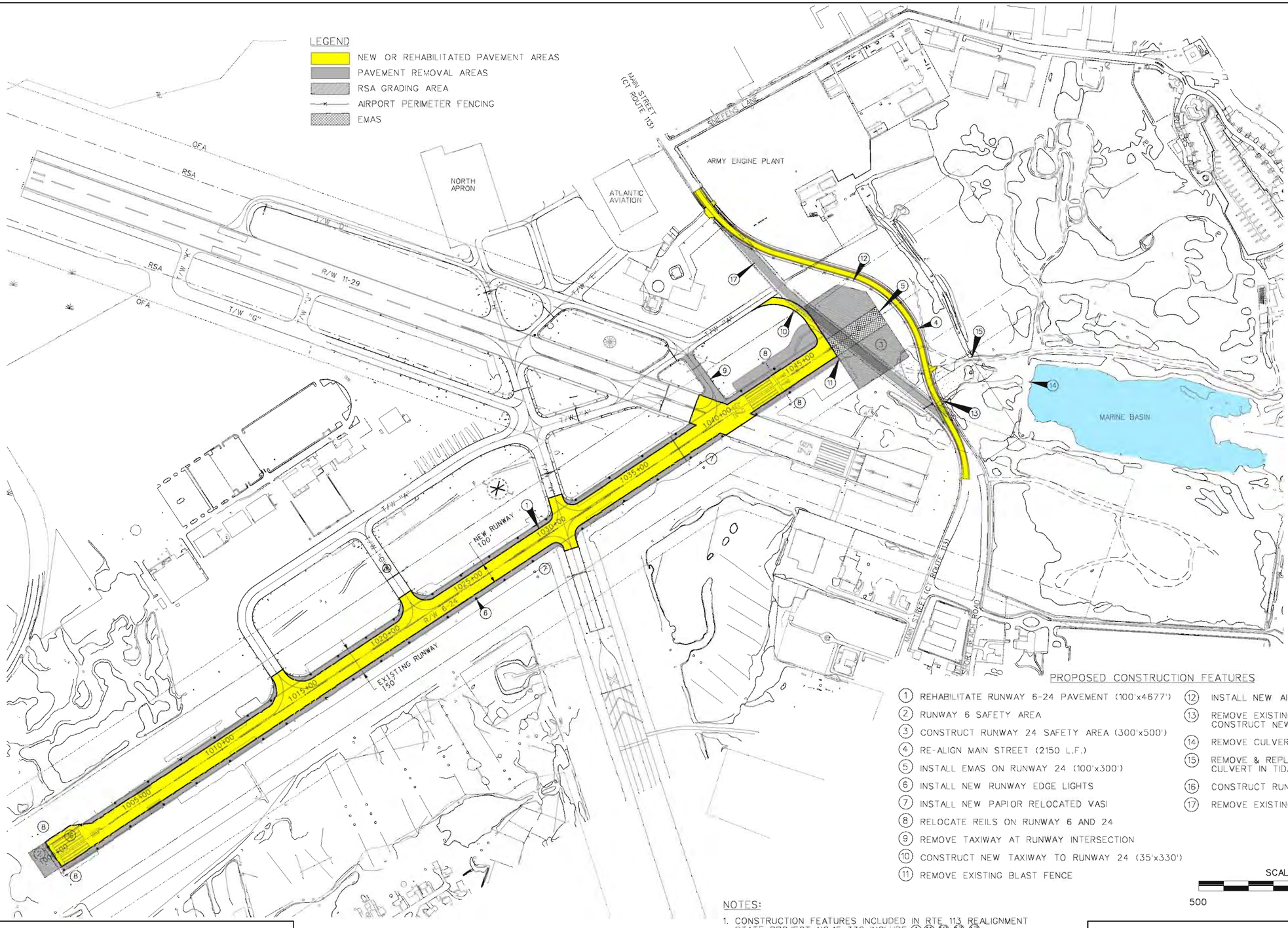
ALTERNATIVE 2D - MODIFIED

EXHIBIT 2.1-5



NOTES:

1. CONSTRUCTION FEATURES INCLUDED IN RTE. 113 REALIGNMENT STATE PROJECT NO.15-336 INCLUDE ④ ⑪ ⑫ ⑬ ⑰ .
2. CONSTRUCTION FEATURE ⑮ , DRIVEWAY CULVERT REPLACEMENT, TO BE COMPLETED BY THE CITY OF BRIDGEPORT IN A CONSTRUCTION CONTRACT SEPARATE FROM STATE PROJECT NO. 15-336.
3. CONSTRUCTION FEATURE ⑭ , REMOVE CULVERT AND TIDE GATE STRUCTURE TO BE COMPLETED BY THE CITY OF BRIDGEPORT IN A CONSTRUCTION CONTRACT SEPARATE FROM STATE PROJECT NO.15-336.

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STRATFORD, CONNECTICUT

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ALTERNATIVE 1G MODIFIED WITH INSTALLATION OF EMAS

EXHIBIT 2.2-1

SECTION 3
AFFECTED ENVIRONMENT

3.0 INTRODUCTION

This section provides a description of the existing condition of the physical, natural, and human environment both on and within the immediate vicinity of the Airport that have changed since preparation of the Final EIS. **Section 4** of this document will examine the potential impacts that would result from the revised alternative.

The Final EIS was prepared in accordance with FAA Order 1050.1D, *Policies and Procedures for Assessing Environmental Impacts*, and FAA Order 5050.4A, *Airport Environmental Handbook*, Since that time, FAA Order 1050.1D has been replaced with FAA Order 1050.1E, *Environmental Impacts: Policies and Procedures*, and FAA Order 5050.4A has been replaced with FAA Order 5050.4B, *National Environmental Policy Act (NEPA) Implementing Instructions for Airport Actions* as supplemented by FAA's *Environmental Desk Reference for Airport Actions* (October 2007). The categories presented herein reflect the relevant environmental disciplines contained in FAA Order 1050.1E.

3.1 EXISTING LAND USE AND ZONING

Although owned and operated by the City of Bridgeport, BDR is located within the municipal limits of the Town of Stratford. The Airport is located in the southern area of town on the interior portion of a land feature roughly bound by the Long Island Sound to the south and east and the Housatonic River to the northeast.

3.1.1 EXISTING LAND USE

Since preparation of the Final EIS in 1999, the Town of Stratford has adopted a new comprehensive, *Update to Town Plan of Conservation and Development* (December 2003). However, the existing land use patterns for the area surrounding BDR have not changed since preparation of the Final EIS with the exception of the transfer of 1.075 acres of land of the Stratford Army Engine Plant (SAEP) to the FAA.

Existing land uses in the vicinity of BDR are varied and include open space, residential, industrial, and commercial. Within the proposed project area, land use is aviation related or undeveloped on Airport property and industrial and undeveloped on the SAEP property. To the south of the Airport, land use is predominately residential. Open space of the Great Meadows Marsh is located to the west of the Airport while industrial uses and Frash Pond, a tidal pond, are located on the northern perimeter. Immediately east of BDR is a commercial area with additional open space and residential areas located further east along the Housatonic River.

The SAEP, a US Army Tank-Automotive and Armaments Command Installation, is sited on 117 acres. Under the Defense Base Closure and Realignment Act of 1990, the Defense Base Closure and Realignment Commission (BRAC) recommended the closure of the SAEP in July 1995. The installation closed on September 30, 1998. The *Final Environmental Impact Statement on the Disposal and Reuse of*

the Stratford Army Engine Plant was prepared and a ROD was issued in 2001. The ROD concluded that portions of the property would be transferred to a Local Reuse Authority and four acres would be transferred for aviation purposes. In March 2010, 1.075 acres of the SAEP was transferred to the FAA.

3.1.2 EXISTING ZONING

Since preparation of the FINAL EIS, no changes in zoning designations have occurred within the project study area. Thus, the Town of Stratford continues to designate two zoning classifications for the Airport: Runway Zone, which includes the airfield, and Airport Development District, which includes all other areas on the Airport. Zoning surrounding the Airport is comprised of Light Industrial District and Coastal Industrial District to the north, Resource Conservation District to the west and south and Residential to the south and east.

3.2 SOCIOECONOMIC IMPACTS, ENVIRONMENTAL JUSTICE, AND CHILDREN'S HEALTH AND SAFETY RISKS

Since preparation of the Final EIS, new US Census data (Year 2000) has been received and FAA Order 1050.1D has been replaced with FAA Order 1050.1E and FAA Order 5050.4A has been replaced with FAA Order 5050.4B. In accordance with the revised Orders, this section also includes an analysis pursuant to US Department of Transportation (DOT) order on Environmental Justice (Order 5610.2) (July 16, 1997) and Executive Order 13045, *Protection of Children From Environmental Health Risks and Safety Risks* (April 21, 1997).

To comply with the goals of Executive Order 12898, *Federal Actions to Address Environmental Justice in Minority and Low-Income Populations* and DOT Order 5610.2, the 2000 US Bureau of Census data was reviewed to determine the presence of minority and/or low-income populations. US DOT Order 5610.2 defines a minority population as "any readily identifiable group of minority persons who live in geographic proximity." CEQ regulations state that if the percentage of minority population within a given area within the proposed project area is 50 percent or greater, then these areas would be considered minority. BDR and the proposed project area are located within Census Tract 805 Block Group 1. Of the 1,778 people in Census Tract 805, Block Group 1, 74 are minority (4% minority).

The US Bureau of Census follows the Office of Management and Budget's Statistical Policy Directive 14 and uses a set of money income thresholds that vary by family size and composition to determine both the poverty threshold and also who is poor. If a family's total income is less than that family's threshold, then that family, and every individual in it, is considered poor. The poverty threshold for 2009, as established by the US Bureau of Census, was used to determine the low-income populations within the vicinity of the Airport. The average household size is 2.29 persons per household for Census Tract 805, Block Group 1. For this analysis, the poverty threshold was established using the Bureau of Census information for a 2-person household, with one person being a child under the age of 18. Using this criterion, the average poverty threshold is $14,787. The median household income for Census Tract 805,

Block Group 1 is $63,629. Therefore, the Census Block Group in which the Airport and proposed project area are located is not considered to be low-income areas, based on the 2000 census information.

Pursuant to Executive Order 13045, the FAA recently revised their policies and procedures for compliance with NEPA to include the assessment of environmental health and safety risks resulting from airport development projects that may disproportionately affect children. Currently, operations at the Airport have not been identified by any known source as adversely impacting the health or safety of children in the area.

3.3 NOISE

According to the noise analysis completed for the Final EIS in 1999, noise levels were expected to decrease from 1996 to 2001 (base year and study year, respectively) due to the replacement of older louder aircraft with newer quieter aircraft. Alternative 1G, which is similar to Alternative 1G-Modified, would not have caused more than a 2.2dBA projected increase in DNL from the future No Build condition at any of the ten locations within residential communities surround the Airport. A 2.2 dBA increase is less than the 3dBA increase considered significant for noise sensitive land uses outside the DNL 65 dBA contour.

Since selection of any particular alternative would not result in an increase in the number of aircraft operations, a change in aircraft types, or a change in day/night operational splits, which are factors that could result in a change in noise exposure, no noise analysis was conducted for this Written Reevaluation.

3.4 AIR QUALITY

Fairfield County currently comprises a portion of the New York-New Jersey-Long Island NY-NJ-CT non-attainment area. The area was designated “moderate” non-attainment in 2004 with respect to the 8-hour ozone (O_3) National Ambient Air Quality Standards (NAAQS) promulgated in 1997. The US Environmental Protection Agency (EPA) required that states possessing non-attainment areas submit attainment demonstration State Implementation Plans (SIPs) by 2008. Because EPA also requires that “moderate” O_3 non-attainment areas demonstrate compliance with the NAAQS no later than six years after designation, the Fairfield County area must be in compliance with the 1997 O_3 NAAQS by June 2010.

Additionally, the NY-NJ-CT non-attainment area has been classified as non-attainment for the annual fine particulate matter ($PM_{2.5}$) NAAQS in 2005 and non-attainment for the 24-hour $PM_{2.5}$ NAAQS shortly after its promulgation in 2006. With respect to these designations, non-attainment areas must submit SIPs by April 2008 and attain the standard no later than five years after their designation.

Historically, the Fairfield County area was part of the 1-hour O_3 Greater Connecticut Non-attainment area prior to the repeal of the 1-hour O_3 NAAQS. Moreover, portions of the Fairfield County area were included in both the former New Haven-Meriden-Waterbury and the NY-NJ-CT CO non-attainment areas for the

years 1992 through 1998. These areas were re-designated as "maintenance" of the applicable CO NAAQS in 1998 and 1999, respectively.

To satisfy EPA's requirements listed above, Connecticut Department of Environmental Protection (CTDEP) prepared an 8-Hour Ozone Attainment Demonstration SIP and submitted it to EPA on February 1, 2008. The document presented national, regional, and local estimates and control programs necessary to attain the NAAQS by EPA's established deadline. However, EPA proposed to disapprove the Attainment Demonstration SIP in May of 2008, contending that it did not display enough compelling evidence to ensure attainment by June 2010. EPA's ruling has yet to be finalized, due in part to CT DEP's recent petition to extend EPA's attainment deadline.

CTDEP also submitted their Fine Particulate Matter ($PM_{2.5}$) Attainment Demonstration SIP to EPA on November 18, 2008, demonstrating how the area would attain the annual $PM_{2.5}$ NAAQS by April 2010. EPA is still reviewing this submittal and has yet to render an approval. In addition, CTDEP made revisions to its Regional Haze SIP on November 18, 2009, to assure EPA that the effort to increase visibility in the area is harmonized to the attainment strategies contained in the $PM_{2.5}$ SIP.

A complete air quality analysis can be found in **Appendix C**.

3.5 DEPARTMENT OF TRANSPORTATION ACT: SECTION 4(f)

Section 4(f) resources include public parks and recreation areas, and wildlife and waterfowl refuges or management areas of national, state, or local significance. Section 4(f) also applies to historic sites of national, state, or local significance, as determined by the Official that has jurisdiction over these historic resources. Such sites are those that are listed or eligible for listing in the National Register of Historic Places (NRHP), as well as those identified by appropriate state or local agencies as having historical significance.

As concluded in the Final EIS, Short Beach Park is located east of the Airport between Main Street and Long Island Sound, the Great Meadows Marsh is located immediately to the west of the Airport, and Milford Point is located northeast of the Airport at the mouth of the Housatonic River and Long Island Sound (see **Exhibit 3.5-1**). The Great Meadows Marsh and Milford Point are two of the ten units that make up the Stewart B. McKinney National Wildlife Refuge.

3.6 HISTORIC, ARCHITECTURAL, ARCHAEOLOGICAL, AND CULTURAL RESOURCES

Consideration of the effects Federal actions to cultural resources is mandated by Section 106 of the National Historic Preservation Act (NHPA), as amended (16 USC 470-470w-6). Section 106 requires Federal agencies to take into consideration the effects of their undertakings on historic properties, and afford the Advisory Council on Historic Preservation (ACHP) an opportunity to comment on such undertakings, as appropriate. The procedures for implementing Section 106 are contained in the ACHP regulations 36 CFR Part 800, *Protection of Historic Properties*.

These regulations define a Federal undertaking as an action that is proposed by a Federal agency (or a project proposed by others that will receive funding, permits, licenses, or authorizations from Federal agencies) that has the potential to affect historic properties. Historic properties are defined as properties that are either listed in or eligible for listing in the NRHP, including buildings, structures, historic districts, objects, sites, or archaeological resources. These regulations implementing the NRHP may be found in 36 CFR 60.4.

According to the Final EIS, no historic architectural properties were located within the Area of Potential Effect (APE) that was developed for the Final EIS analysis. In support of the Final EIS, a geomorphological investigation was conducted to identify areas of buried, intact, non-wetland soils that had the potential to contain archaeological deposits and features. Shovel testing and test unit excavations were conducted within the area of intact soils accessible though hand excavations. A light scatter of prehistoric quartz lithic debitage (chipped stone from tool making by the early Native Americans) was recovered from shovel testing and one of the test units. In addition, a piece of prehistoric ground stone used as a tool for grinding was recovered on the surface, in a disturbed context.

Thus, since the proposed project area currently under study in this Written Reevaluation encompasses the APEs developed for the Final EIS, it is concluded that no historic, architectural, cultural, or archaeological properties are located within the proposed project area. The Connecticut State Historic Preservation Office has been contact for concurrence. A response is pending.

3.7 FARMLANDS

According to the soils data provided by the United States Department of Agriculture (USDA) - Natural Resource Conservation Service (NRCS) Soil Survey database (Version 4, dated March 22, 2007), there are several different soil types located within the Airport and surrounding area (see **Table 3.7-1** and **Exhibit 3.7-1**).

The Farmland Protection Policy Act (FPPA), Public Law 97-98, 7 USC 4201-4209, was enacted as part of the Agriculture and Food Act of 1981 to minimize the extent to which federal programs contribute to unnecessary and irreversible conversion of farmland to nonagricultural uses. Important farmlands include all pasturelands, croplands, and forestlands that are considered to be Prime, Unique, and Statewide or Locally Important lands. As part of the FPPA, the USDA - NRCS has defined Prime Farmland as land that has chemical and physical characteristics, which support food production, feed, and fiber production. Statewide important soils are soils that are among the most productive soils in the State for agriculture and forestry. Unique soils are classified as soils that are unique to the region and are used for specific agriculture or industrial purposes. The FPPA does not apply to land that is already committed to urban development, regardless of whether it has been classified as Prime or Statewide Important Farmland by the NRCS.

TABLE 3.7-1
SOILS TYPES WITHIN THE VICINITY OF THE PROJECT AREA

Map Unit Symbol	Map Unit Name	Rating
13	Walpole sandy loam	Farmland of statewide importance
29A	Agawam fine sandy loam, 0 to 3 percent slopes	All areas are prime farmland
99	Westbrook mucky peat, low salt	Not prime farmland
302	Dump soils	Not prime farmland
306	Udorthent – Urban Land Complex	Not prime farmland
307	Urban Land	Not prime farmland
308	Udorthent, smoothed	Not prime farmland
W	Water	Not prime farmland

Source: USDA-NRCS Web Soil Survey (State of Connecticut, Version 7, December 3, 2009).

3.8 WATER RESOURCES

As detailed in the Final EIS, the project study area is located at the junction of two major water sources: the Housatonic River and the Long Island Sound. The study area is bisected by two drainage basins: Marine Basin and Stratford Great Meadows sub-basin, which is within the Southwest Coast Basin.

Water resources within the project area consist of surface and ground waters. The State of Connecticut has adopted standards to protect water quality. These Water Quality Standards are administered by the Connecticut Department of Environmental Protection (CT DEP) and were established to identify designated uses for surface and ground waters and identify criteria necessary to support those uses.

3.8.1 SURFACE WATER QUALITY

Within the vicinity of the Airport, several different surface waters exist, as depicted on State of Connecticut Surface Water Quality Maps (CTDEP 2006). There are surface waters to the west and southwest of the Airport with a surface water quality of "SC/SB". Most of these surface waters are located in the Great Meadows marsh complex, to the west of the Airport. The Housatonic River, Marine Basin and associated ditches on the eastern side of the airport are also classified as "SC/SB". According to the Connecticut Surface Water Quality Standards (CTDEP 2002), this classification indicates that the existing surface water quality is "SC" with a goal of achieving "SB". Frash Pond to the north of the Airport and other smaller pockets of surface water surrounding the Airport are classified as "A". Many of these surface water features are hydraulically connected by human-made ditches.

3.8.2 GROUNDWATER QUALITY

Based on State of Connecticut Ground Water Quality Maps (CTDEP 2009), the entire project area is located in a groundwater classification area of GB. The Connecticut Ground Water Quality Standards (CTDEP 1996) describe the GB classification as:

Ground water within a historically highly urbanized area or an area of intense industrial activity and where public water supply service is available. Such ground water may not be suitable for human consumption without treatment due to waste discharges, spills or leaks of chemicals or land use impacts.

Class GB ground waters are designated for use in industrial processes and cooling waters; base flow for hydraulically-connected surface water bodies; presumed not suitable for human consumption without treatment.

3.8.3 DRAINAGE AND STORMWATER CHARACTERISTICS

The existing drainage system along Main Street consists primarily of a roadside swale on the west side of the roadway and a closed drainage system on the east side. The major outlet to the drainage system is a channel (approximately 16 feet wide), located south of Runway 24, which outlets to the Marine Basin and Long Island Sound. Records indicate that there is a 15 inch diameter RCP under the existing road, however, this culvert is submerged, even under low tide conditions, and survey of the exact size and invert has not been obtained. This segment of roadway at the culvert is known to flood during major storm events.

The overall drainage system is influenced by a berm and non-functioning gated drainage structure at the north end of Marine Basin. The gate mechanism, inside a concrete structure, has deteriorated over the years and has been completely removed. No information indicating the original configuration or intended operation of this gate mechanism has been located. Field observations suggest that it was a manually controlled vertical gate, controlling flow through a culvert under the earth berm. Anecdotal evidence and observed debris at the east end of the berm that indicates the Marine Basin overtops the berm, in that location, during higher than normal tide events.

Drainage along the existing runways consists of overland sheet flow directly to open channels.

3.9 COASTAL RESOURCES

BDR is required to comply with the regulations set forth in the Coastal Zone Management Act of 1972 (CZMA), as amended through Public Law (PL) 104-105, the Coastal Zone Protection Act of 1996, and the provisions of the Connecticut Coastal Management Act (CCMA), sections 22a-90 through 22a-112. The CZMA requires that each state with coastal boundaries establish a Coastal Zone Management Program (CZMP), which in Connecticut, is administered by the CTDEP - Office of Long Island Sound Programs (OLISP).

The entire Airport is located within Connecticut's coastal boundary as defined by section 22a-94 of the CGS. Connecticut has a two-tired coastal zone. The first tier "Coastal Boundary" generally extends inland 1,000 feet from the shore. It is bounded by a continuous line delineated by a 1,000-foot linear setback measured from the mean high tide water mark in coastal waters; or a 1,000-foot linear setback measured from the inland boundary of state regulated tidal wetlands; or the continuous interior contour elevation of the one hundred year frequency coastal flood zone; whichever is farthest inland. The second tier "Coastal Area" includes all of the state's thirty six coastal municipalities.

The CZMP identifies all of the project area within the Coastal Boundary as established by the CGS Section 22a-90 through 22a-112 9.

The project area contains multiple coastal resources, including tidal wetlands and coastal flood hazard areas (CFHA). A CFHA is statutorily defined as, "those land areas inundated during coastal storm events or subject to erosion induced by such events…" In general, CFHAs include, "all areas designated as within A-zones and V-zones by the FEMA. A-zones are subject to still-water flooding during 100-year flood events and V-zones are subject to direct action by waves three feet or more in height." Only CFHA A-zones are found within the study area.

Other coastal features in the study area include Marine Basin, a tidal inlet bounded on its western end by a man-made earthen berm with an obsolete tide-gate structure. Two tidal creeks flow inland from Marine Basin. One flows in a northwesterly direction through a constricted culvert under a gravel residential driveway. This creek terminates in a small tidal wetland area located just south of the SAEP located on the corner of Main Street and Sniffens Lane. The second tidal creek flows in a westerly direction through a culvert under Main Street and terminates in a tidal wetland area located just inside (west of) the airport fence. There are no shellfish beds in the immediate vicinity of the study area and shellfishing is actually prohibited within Marine Basin.

3.10 WILD AND SCENIC RIVERS

The US Department of the Interior (DOI) maintains a national inventory of river segments, which appear to qualify for inclusion in the National Wild and Scenic River System. A review of the DOI National Park Service National Rivers Inventory website (last updated November 23, 2004) indicated that there are no federally-designated, nor potentially eligible Wild and Scenic Rivers on or within the vicinity of the Airport. There are no state-level wild and scenic rivers programs in Connecticut.

3.11 FLOODPLAINS

Executive Order 11988, Floodplain Management, defines floodplains as the "lowland and relatively flat areas adjoining inland and coastal waters including flood prone areas of offshore islands, including at a minimum, the area subject to a one percent or greater chance of flooding in a given year." The State of Connecticut participates in the National Flood Insurance Program and, as such, has adopted ordinances to manage development within floodplains. Floodplains in the area are subject to flooding due to coastal storm activity or extremely high tides.

According to the Federal Emergency Management Agency Flood Insurance Rate Map (FIRM), dated June 18, 2010, the project area is located within a special flood hazard area subject to inundation by the 1% annual chance flood (Flooding Zone AE) (see **Exhibit 3.11-1**).

3.12 WETLANDS

Wetlands are areas found along streams, rivers, springs, ponds, and drainage ditches. Jurisdictional wetlands are defined by the US Army Corps of Engineers (COE) 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. The majority of jurisdictional wetlands, those wetlands that are protected by the Clean Water Act (CWA), meet three delineation criteria: a prevalence of wetland-associated vegetation, hydric (wetland-type) soils), and wetland hydrology.

3.12.1 WETLAND DELINEATIONS

In support of the Final EIS, a variety of investigations were completed to determine the extent and nature of tidal and inland wetlands at the Airport. The areas that were delineated generally included Airport property east of Lordship Boulevard with specific attention to a linear swath along Runway 6-24 to a distance of approximately 1,000 feet from the edge of pavement on both sides of the runway and the entire property east-northeast of Main Street in the vicinity of, and including, Marine Basin (see **Exhibit 3.12-1**).

In December 2009, the boundaries of the inland and tidal wetlands within the vicinity the Runway 24 end and Main Street were again field-delineated. In June 2010 and October 2010, the wetlands in the vicinity of the Main Street Realignment Project were further evaluated to obtain more detailed information on existing tidal and inland wetland resources. The delineated wetlands are detailed in the Section 3.12.1.1 entitled *Wetland Field Investigation and Delineation for Route 113 Relocation* (see **Exhibit 3.12-2** and **Appendix D**). In November 2010, the wetlands within the limits of the Runway 6-24 Rehabilitation project were further evaluated The delineated wetlands are detailed in Section 3.12.1.2 below entitled *Wetland Field Investigation and Delineation for Runway 6-24 Rehabilitation* (see E**xhibit 3.12-3** and **Appendix D**).

The 2009 and 2010 wetland delineations were conducted according to both the federal and State of Connecticut definitions. Criteria used to support the inland wetland boundary determinations included: NRCS mapping; *Field Indicators of Hydric Soils in the United States – Version 6.0* (NRCS, 2006); *Field Indicators for Identifying Hydric Soils in New England – Version 3* (New England Hydric Soils Technical Committee, 2004); and the *Corps of Engineers Wetland Delineation Manual: North Central and Northeastern Supplement*, Waterways Experiment Station, 2008). Tidal wetland delineations were conducted based on the estimated elevation of the high tide line and extent of tidal wetland vegetation in accordance with COE requirements. The June 2010 and October 2010 wetland delineations extended several of the wetland boundaries in the vicinity of the existing access driveway to the east of Main Street to better represent the wetland boundary in the vicinity of the proposed activity. The November 2010 wetland delineation extends 250 feet from either side of Runway 6-24 and extends a sufficient distance to encompass the Town of Stratford upland review area of 100 feet.

3.12.1.1 Wetland Field Investigation and Delineation for Route 113 Relocation

The wetlands below are depicted on **Exhibit 3.12-2** and in **Appendix D** in a report entitled *Wetland Field Investigation and Delineation for Route 113 Relocation*.

Wetland 1 (Flag Series 101-153/ Inland Wetland) is located to the northwest of the existing residential driveway off Main Street between the last house on the road and the end of Breakers Lane. This large emergent wetland extends well beyond the project limit to the west and south and is hydraulically connected to wetlands 8, 9, and 10. The delineated portion of this wetland covers approximately 2.5 acres. Wetland vegetation is dominated by common reed (*Phragmites australis*), which forms a dense monoculture throughout most of the wetland.

Wetland 2 (Flag Series 201-222 / Inland Wetland) is located to the west of Breakers Lane, just north of wetland 1. This wetland covers approximately 0.5 acres and is dominantly forested in the north and emergent in the south. The forested portion of this wetland is dominated by gray birch (*Betula Populifolia*) and the emergent vegetation is dominated by common reed, which forms a dense monoculture.

Wetland 3 (Flag Series 301-311 / Inland Wetland) is located south of Sniffens Lane, just west of a large parking lot behind the condos on Breakers Lane and north of wetland 2. This emergent wetland covers approximately 0.2 acres. Wetland vegetation is comprised of common reed in the east and south, gray birch in the west and mixed herbaceous grasses (*graminae spp.*), sedge (*Carex spp.*), and rush (*Scirpus spp.*) in the central portions of the wetland.

Wetland 4 (Flag Series 401-434 / Tidal Wetland) is located to the east of Main Street, just south of the existing residential driveway off Route 113. This emergent tidal wetland is hydraulically connected to wetlands 5, 6, and 7 and covers approximately 1.25 acres. The dominant feature of this wetland is the open water tidal ditch that bisects the wetland and forms the connection to the other tidal wetlands. The vegetation is comprised of smooth cordgrass (*Spartina alterniflora*) close to the ditch and saltmeadow cordgrass (*Spartina patens*) and common reed inland from the ditch.

The delineated portion of **Wetland 5** (Flag Series 501-532 / Tidal Wetland) is located just south of the existing residential driveway off Main Street, east of wetland 4. This emergent tidal wetland is hydraulically connected to wetland 4. The dominant feature of this wetland is the open embayment area that opens into Long Island Sound, identified on USGS maps as “Marine Basin”. The delineated portion of this wetland is west and north of this embayment. The vegetation is comprised of smooth cordgrass close to the water and saltmeadow cordgrass and common reed inland from the water.

Wetland 6 (Flag Series 601-622 / Tidal Wetland) is located to the west of Main Street, between the eastern ends of Runways 11-29 and 9-24, within the Airport property perimeter fence. This emergent tidal wetland is hydraulically connected to wetland 4 and covers approximately 2 acres. The open water tidal ditch that flows under Main Street from wetland 4 is the dominant feature of the northeastern portion of this wetland. The vegetation is comprised of smooth cordgrass close to the ditch and saltmeadow

cordgrass and common reed inland from the ditch. Further inland from the ditch is an area that is maintained by the airport and is dominated by mowed salt tolerant grasses (*Graminae spp.*). At the time of delineation this area was flooded.

Wetland 7 (Flag Series 701-722 / Tidal Wetland) is located to the east of Main Street, just north of the existing residential driveway off Main Street. This emergent tidal wetland is hydraulically connected to wetland 4. The dominant feature of this wetland is the open water tidal ditch that forms the eastern border of the wetland. The eastern side of the ditch is vegetated by a very narrow band of tidal wetland vegetation before an upland mound of land parallels the entire length of the ditch. The vegetation of this wetland is comprised of smooth cordgrass close to the ditch and common reed inland from the ditch.

The delineated portion of **Wetland 8** (Flag Series 801-8805 / Tidal Wetland) is located just north of the existing residential driveway off Main Street, east of the open water tidal ditch adjacent to wetland 7. This large emergent wetland extends well beyond the project limit to the east and north and is hydraulically connected to wetlands 1, 9, and 10. Wetland vegetation is dominated by common reed, which forms a dense monoculture throughout most of the wetland.

The delineated portion of **Wetland 9** (Flag Series 901-910 / Inland Wetland) is located just north of the existing residential driveway off Main Street, east wetland 8. There is only a small upland ridge between the delineated portions of wetlands 8 and 9. This large emergent wetland extends well beyond the project limit to the east, west, and north and is hydraulically connected to wetlands 1, 8, and 10. Wetland vegetation is dominated by common reed, which forms a dense monoculture throughout most of the wetland.

The delineated portion of **Wetland 10** (Flag Series 1001-1004 / Inland Wetland) is located just north of the existing residential driveway off Main Street, east wetland 9. There is only a small upland ridge between the delineated portions of wetlands 9 and 10. This large, emergent wetland extends well beyond the project limit, to the west, and north, and is hydraulically connected to wetlands 1, 8, and 9. Wetland vegetation is dominated by common reed, which forms a dense monoculture throughout most of the wetland.

3.12.1.2 Wetland Field Investigation and Delineation for Runway 6-24 Rehabilitation

The wetlands below are depicted on **Exhibit 3.12-3** and in **Appendix D** in a report entitled *Wetland Field Investigation and Delineation for Runway 6-24 Rehabilitation*.

Wetland 1 (Flag Series 101 to 106 / Inland Wetland) is located in the infield area on the northwest side of Runway 6-24, just northeast of the northernmost taxiway, near the Runway 24 end. This small, emergent wetland is hydraulically connected to wetlands 2, 4, and 8 by a series of culverts under the taxiways. Although there is a hydraulic connection to tidal wetlands 4 and 8, the tidal influence does not extend inland past Wetland 4. At the time of delineation there was some standing water in this wetland. This wetland covers approximately 250 square feet. Wetland vegetation is dominated by yellow nutsedge

(*Cyperus esculentus*), green bulrush (*Scirpus atrovirens*), and mowed goldenrod (*Solidago spp.*). Other species include black willow (*Salix nigra*), and redosier dogwood (*Cornus sericea*). The principal function of this wetland is groundwater recharge.

Wetland 2 (Flag Series 201 to 225 / Inland Wetland) is located in the infield area on the northwest side of Runway 6-24, between the northernmost taxiway and the middle taxiway. This long, linear swale is bordered on both sides by an emergent wetland that is hydraulically connected to wetlands 1, 4, and 8 by a series of culverts under the taxiways. Although there is a hydraulic connection to tidal wetlands 4 and 8, the tidal influence does not extend inland past Wetland 4. At the time of delineation there was some standing water in this wetland. This wetland covers approximately 0.2 acres. Wetland vegetation is dominated by yellow nutsedge, green bulrush, saltmarsh bulrush (*Scirpus robustus*) and mowed black willow. Other species include redosier dogwood, and common reed (*Phragmites australis*). The principal function of this wetland is groundwater recharge.

Wetland 3 (Flag Series 301 to 318 / Inland Wetland) is located in the infield area on the northwest side of Runway 6-24. This long, linear swale is an emergent wetland that is aligned perpendicularly to the middle of Wetland 2, but is not hydraulically connected to it. This wetland covers approximately 0.1 acres. Wetland vegetation is dominated by yellow nutsedge, green bulrush, redtop (*Agrostis gigantea*), sedge (*Carex spp.*), and aster (*Symphyotrichum spp.*). The principal function of this wetland is groundwater recharge.

Wetland 4 (Flag Series 401 to 457 / Tidal Wetland) is located in the infield area on the northwest side of Runway 6-24, between the middle taxiway and the southernmost taxiway. This long, linear swale is flanked by an emergent wetland which broadens in width near the middle and narrows on the ends. This wetland is hydraulically connected to wetlands 1, 2, and 8 by a series of culverts under the taxiways. Although there is a hydraulic connection to inland wetlands 1 and 2, the tidal influence does not extend inland past Wetland 4. At the time of delineation there was some standing water in this wetland. There were also small fish (species undefined) observed in the water. This wetland covers approximately 0.75 acres. Wetland vegetation is dominated by smooth cordgrass (*Spartina alterniflora*), saltmeadow cordgrass (*Spartina patens*), yellow nutsedge, common reed, and green bulrush. Other species include saltmarsh bulrush, black grass (*Juncus gerardi*), redtop, and aster.

Wetland 5 (Flag Series 501 to 511 / Inland Wetland) is located on the northwest side of Runway 6-24, just southwest of the southernmost taxiway, near the Runway 6 end (see Figure 3). This small, emergent wetland is not hydraulically connected to any other wetland, although it is close to Wetland 6. There is also a storm drain just north of this wetland. This wetland covers approximately 0.1 acres. Wetland vegetation is dominated by green bulrush, redtop, sedge, and rush (*Juncus spp.*). Other species include black grass and aster. The principal function of this wetland is groundwater recharge.

Wetland 6 (Flag Series 601 to 644 / Inland Wetland) is located on the northwest side of Runway 6-24, southwest of the southern taxiway, near the Runway 6 end. This emergent wetland is not hydraulically connected to any other wetland, although it is close to wetlands 5 and 7. This wetland covers

approximately 0.35 acres. Wetland vegetation is dominated by redtop, sedge, rush, black grass, and aster. The principal function of this wetland is groundwater recharge.

Wetland 7 (Flag Series 701 to 725 / Inland Wetland) is located on the northwest side of Runway 6-24, southwest of the southern taxiway, near the Runway 6 end. This small, emergent wetland is not hydraulically connected to any other wetland, although it is close to wetlands 6 and 8. This wetland covers approximately 0.1 acres. Wetland vegetation is dominated by redtop, sedge, rush, black grass, and aster. The principal function of this wetland is groundwater recharge.

Wetland 8 (Flag Series 801 to 888 / Tidal Wetland) is located along the periphery of the airfield, along the southwestern end of Runway 6, on the west and east sides of the runway. This vast wetland extends well beyond the delineated boundary and is hydraulically connected to wetlands 1, 2, and 4 by a series of culverts under the taxiways. Although there is a hydraulic connection to inland wetlands 1 and 2, via tidal Wetland 4, the tidal influence does not extend inland past Wetland 4. This wetland is also connected to Wetland 16, which is part of an open water ditch on the eastern side of the airport. Wetland 8 also empties into the open waters of Long Island Sound, by way of a culvert under Lordship Boulevard. The delineated portion of this wetland, within the study area, covers more than 2 acres. The overall wetland covers more than 100 acres and is known locally as Lordship Marsh. Wetland vegetation is dominated by black grass, common reed, smooth cordgrass, and saltmeadow cordgrass. Other species include seaside goldenrod (*Solidago sempervirens*) and marsh elder (*Iva frutescens*).

Wetland 9 (Flag Series 901 to 916 / Inland Wetland) is located on the northwest side of Runway 6-24, southwest of the southern taxiway, near the Runway 6 end. This small, emergent wetland is not hydraulically connected to any other wetland, although it is close to Wetland 8. This wetland covers approximately 0.1 acres. Wetland vegetation is dominated by redtop, sedge, rush, black grass, and aster. The principal function of this wetland is groundwater recharge.

Wetland 10 (Flag Series 1001 to 1025 / Inland Wetland) is located on the southeast side of Runway 6-24. This emergent wetland is not hydraulically connected to any other wetland, although it is close to wetlands 8 and 11. This wetland covers approximately 0.25 acres. Wetland vegetation is dominated by redtop, sedge, rush, and aster. The principal function of this wetland is groundwater recharge.

Wetland 11 (Flag Series 1101 to 1109 / Inland Wetland) is located on the southeast side of Runway 6-24 (see Figure 3). This small, emergent wetland is not hydraulically connected to any other wetland, although it is close to wetlands 10 and 12. This wetland covers approximately 850 square feet. Wetland vegetation is dominated by redtop, sedge, rush, and aster. The principal function of this wetland is groundwater recharge.

Wetland 12 (Flag Series 1201 to 1216 / Tidal Wetland) is located on the southeast side of Runway 6-24. This emergent wetland is hydraulically connected to wetlands 13, 15, and 16 beyond the study area boundary. The delineated portion of this wetland, within the study area, covers approximately 0.1 acres. Wetland vegetation is dominated by redtop, sedge, rush, and aster.

Wetland 13 (Flag Series 1301 to 1215 / Tidal Wetland) is located on the southeast side of Runway 6-24. This emergent wetland is hydraulically connected to wetlands 12, 15, and 16 beyond the study area boundary. The delineated portion of this wetland, within the study area, covers approximately 0.1 acres. Wetland vegetation is dominated by redtop, sedge, rush, and aster.

Wetland 14 (Flag Series 1401 to 1425 / Inland Wetland) is located on the southeast side of Runway 6-24. This small, emergent wetland is not hydraulically connected to any other wetland, although it is close to wetlands 13 and 15. This wetland covers approximately 0.1 acres. Wetland vegetation is dominated by sedge, rush, and aster. The principal function of this wetland is groundwater recharge.

Wetland 15 (Flag Series 1501 to 1520 / Tidal Wetland) is located on the southeast side of Runway 6-24 (see Figure 3). This emergent wetland is hydraulically connected to wetlands 12, 13, and 16 beyond the study area boundary. At the time of delineation there was an area of shallow, standing water. The delineated portion of this wetland, within the study area, covers approximately 0.15 acres. Wetland vegetation is dominated by redtop, sedge, and rush. Other species include common reed, black grass, and aster.

Wetland 16 (Flag Series 1601 to 1661 / Tidal Wetland) is located along the periphery of the airfield, on the southeastern side of Runway 6-24 (see Figure 3). This long, linear, open water swale and emergent wetland is hydraulically connected to the open water portions of Wetland 8 beyond the study area boundary. Wetland 16 and Wetland 17 appear to be connected by a culvert that passes under the abandoned runway on the eastern side of Runway 6-24. Wetlands 12, 13, and 15 are also connected to this wetland beyond the study area limits. At the time of delineation there was water in the ditch adjacent to this wetland. Within the study area, the delineated portion of this wetland covers more than 2 acres. Wetland vegetation is dominated by common reed, smooth cordgrass, and saltmeadow cordgrass. Other species include black grass, seaside goldenrod, and redtop.

Wetland 17 (Flag Series 1701 to 1760 / Tidal Wetland) is located southeast of Runway 6-24 near its intersection with Runway 11-29 along the periphery of the airfield, on the eastern side of the Runway 24 end. This emergent wetland and open water swale appears to be connected wetland 16 by a culvert that passes under the abandoned runway on the eastern side of Runway 6-24. At the time of delineation there was water in the ditch. The delineated portion of this wetland, within the study area, covers approximately 1.0 acres. Wetland vegetation along the edge of the open water ditch is dominated by black grass, common reed and saltmarsh bulrush. Wetland vegetation in the emergent portion of the wetland closer to the runway is dominated by seaside goldenrod, redtop, sedge, rush, and saltmarsh bulrush.

Wetland 18 (Flag Series 1801 to 1811 / Inland Wetland) is located due south of the point where Runway 6-24 and Runway 11-29 intersect in the infield area on the east side of the Runway 24 end. This small, emergent wetland is not hydraulically connected to any other wetland, although it is close to Wetland 17.

This wetland covers approximately 0.05 acres. Wetland vegetation is dominated by redtop, sedge, rush, and aster. The principal function of this wetland is groundwater recharge.

3.12.2 HIGH TIDE LINE

The CT DEP Office of Long Island Sound Programs (OLISP) regulates all activities conducted in the tidal wetlands in Connecticut. The OLISP permit authority includes everything waterward of the high tide line (HTL). The HTL indicates the maximum height reached during the year by a rising tide. The HTL includes spring high tides and other high tides that occur with periodic frequency (including 1 year frequency storms) but does not include significant storm surges such as may accompany a hurricane.

An evaluation and observation of the peak seasonal high tide was conducted on October 8, 2010. This was the date of the highest tide predicted by NOAA for the year 2010 at Sniffens Point. The observed high tide was surveyed to be at Elevation 5.75 based on the NGVD 1929 datum. **Exhibit 4.5-1** shows the HTL in the vicinity of Route 113. Also, a Technical Memorandum regarding the HTL can be found in **Appendix D**.

3.13 FISH, WILDLIFE, AND PLANTS

As detailed in the Final EIS, within the vicinity of the Airport are several major habitat complexes. This written reevaluation will summarize the complexes that are located within the current project area: Great Meadows Marsh, Lewis Gut, and the Housatonic River.

The Great Meadows Marsh is the large tidal marsh system to the west and southwest of the Airport. Within the overall area known as the Great Meadows Marsh lies the Lewis Gut estuarine embayment. Lewis Gut consists of a large east-west channel leading from the eastern side of Bridgeport Harbor to an open embayment southwest of Lordship Boulevard. Lewis Gut and its networks of creeks are the pathways by which the Great Meadows Marsh system received tidal flushing.

The Housatonic River ecosystem includes bottom habitats and overlying waters of the river's lower mainstem and Marine Basin and the Nells Island/Charles E. Wheeler Game Preserve tidal wetland complex. Tidal wetlands in the study portion of the Housatonic River mainstem consist of areas associated with the Marine Basin. Historically, the area in which the Marine Basin lies consisted of a tidal wetland and creek system that was connected to Great Meadow Marsh and Lewis Gut to the southwest. Artificial fill placed to create the Airport, Lordship, and the industrial complex to the north, have eliminated that connection. Many other factors shaped the present configuration of the Marine Basin and its tributaries including, but not limited to, dredging in the 1920's, disposal of dredge sediments on land to the north, and creation of a landfill between Marine Basin and Dorne Drive.

The shorelines of the Marine Basin and its tributaries consist of debris and rubble fill slopes which limit the extent of the tidal wetland vegetation in most areas. The remainder of the Marine Basin consists

primarily of open water surrounded by marrow cordgrass fringe which gives way to dense monocultures of common reed along the upper borders.

3.13.1 RARE, THREATENED, AND ENDANGERED SPECIES

Under Section 7(c) of the Endangered Species Act of 1973 (16 USC 1531 *et seq*.) and FAA Order 1050.1E, Federal agencies are required to consult with all Federal and state agencies regarding Federally- and State-listed threatened and/or endangered species in the proposed project area.

Previous coordination with the US Fish and Wildlife Service (FWS) in support of the Final EIS identified that the Atlantic coast piping plover (*Charadrius melodus*), a federally threatened species, was present in the vicinity of the Airport. A Biological Assessment was conducted during the previous EIS process to evaluate the potential effects of the (then) proposed projects on the piping plover. The FWS concurred with a preliminary determination of "not likely to adversely affect" the piping plover conditioned on the inclusion of minimization measures in the implementation of the project. These minimization measures included time-of-year restrictions for installation of the MALSF, construction of runway modifications, and the change in approach elevations.

In addition, in support of the previous EIS, the FWS noted that two other federally-listed species that were potentially occurring within the area included the bald eagle (*Haliaeetus leucocephalus*) and the peregrine falcon (*Falco peregrinus*). These species were noted as transient.

Previous coordination with the CTDEP in support of the Final EIS identified the presence of several state-listed species within the vicinity of the Airport. Two species in particular that were noted to be located within the direct study areas of the alternatives included in the previous EIS were panic grass (*Panicum amarum*) and coast violet (*Viola brittoniana*). Surveys, which were conducted in 1996, concluded that the only plant species that was present in the proposed project area was coast violet.

Recent coordination with the FWS in support of this Written Reevaluation indicated that piping plovers consistently nest in the vicinity of the project area (see **Appendix B**). However, since the revised alternative included in this Written Reevaluation would not include a MALSF, the piping plovers would not be impacted by the increased light levels. In order to avoid adversely affecting breeding piping plovers, the FWS recommended that the approach elevation over Milford Point remain at 200 feet above mean sea level or greater. In addition, the FWS reiterated the implementation of minimization measures: runway modifications and change in approach elevations must be in place prior to March 15. At that time, piping plovers return to nearby beaches to breed. No other federally-listed or proposed threatened or endangered species under the jurisdiction of the FWS are known to occur in the vicinity of the project area.

A recent search of the CTDEP Natural Diversity Data Base identified numerous records of populations of species listed by the State, pursuant to section 26-306 of the CGS, as endangered, threatened or special concern within the vicinity of the Airport (see **Appendix B**).

According to recent coordination with the National Marine Fisheries Service (NMFS), Essential Fish Habitat (EFH) has been designated for 17 federally managed species within and adjacent to the Airport (see **Appendix B**). Coordination with the NMFS has indicated that particular attention should be focused on the winter flounder (*Pseudopleuronectes americanus*) habitat. Adult winter flounder utilize shallow near shore areas such as the marine basin for spawning and feeding, while eggs, larvae, and juveniles use the area for early stage life development.

3.14 HAZARDOUS WASTE, POLLUTION PREVENTION, AND SOLID WASTE

Information presented in this section pertains to the generation, disturbance or disposal of environmental contaminants and hazardous materials at the study area. This assessment was focused on the portion of the study area slated for potential acquisition for the re-alignment of a 2,200-foot long portion of Main Street. The assessment presented in this section adheres to the following regulations and recommendations set forth in the following guidance: FAA Order 1050.1E, FAA Order 5050.4B, and the FAA Environmental Desk Reference for Airport Actions.

3.14.1 FEDERAL AND STATE REGULATIONS

3.14.1.1 Hazardous Materials

Federal legislation, enforced by the EPA and summarized in **Table 3.14-1**, regulates the release, handling and remediation of hazardous materials. Several Connecticut State statutes and regulation are also potentially applicable to the study area. These statutes and regulations are listed in **Table 3.14-1.** These regulations pertain to requirements for the investigation and remediation of contaminated parcels.

Note: In accordance with CGS 22a-134(1)(M) and upon review by the City of Bridgeport, the transfer of the FAA land to the City of Bridgeport would be exempt from the Connecticut Property Transfer Law [a/k/a the Property Transfer Act (PTA)] for several reasons: there is no indication that the portion of land has been used for anything other than a parking lot; no hazardous waste has been generated since November 18, 1980; there is no indication that there has been any discharge of hazardous waste on the portion of land; and the contaminants detected are generally associated with asphalt.

TABLE 3.14-1
REGULATIONS PERTAINING TO HAZARDOUS MATERIALS MANAGEMENT - FAIRFIELD COUNTY

Regulation	Description
Federal	
Clean Air Act (CAA) Title I	Addresses the release of hazardous or toxic contaminants into the atmosphere
Clean Water Act (CWA)	Regulates levels of hazardous materials and other contaminants in the drinking water and groundwater
Emergency Planning and Community Right to Know Act (EPCRA)	Informs the public and emergency officials about the presence and dangers of hazardous materials in their surrounding areas
Comprehensive Environmental Response Compensation and Liability Act (CERCLA, or "Superfund")	Allocates government funds and resources to ensure timely remediation of accidental or unintentional release of hazardous material and environmental contaminants
Federal Insecticide Fungicide and Rodenticide Act (FIFRA)	Guides management and regulation of toxics associated with pest and weed control
Hazardous Materials Transportation Act (HMTA)	Manages safe transport of hazardous waste
Pollution Prevention Act of 1990	Requires that pollution shall be prevented or reduced at the source wherever feasible
Resource Conservation and Recovery Act (RCRA)	Sets important standards and practices regarding the generation and management of hazardous materials from "cradle to grave"
Safe Drinking Water Act (SDWA)	Regulates levels of hazardous materials and other contaminants in the drinking water
Toxic Substances Control Act (TSCA)	Guides the process of introducing new toxic contaminants into the environment
State	
§22a – 6u	Reporting of Certain Significant Environmental Hazards Required
§22a -134 – 22a-134e	Connecticut Property Transfer Law
§22a -133k-1 – 22a-133k-3	Remediation Standard Regulations
§22a -133q-1	Environmental Land Use Restrictions
§22a -114 – 22a-134z	Hazardous Waste Regulations

Based upon the review by City of Bridgeport outside legal counsel, the presence of Polychlorinated Biphenyls (PCBs) in site soils does not meet the definition of PCB Remediation Waste found in 40 CFR 761.3 as long as the fill material was deposited prior to April 18, 1978 and PCB concentrations are less than 50 parts per million.

Project site is not subject to the remedial requirements of the PTA or the Toxic Substances Control Act (TSCA). However, due to the presence of contaminated soils the construction documents will contain specifications describing methods of handling controlled materials, including best management practices, storage on site and removal and disposal of materials to a designated waste remediation site/area.

3.14.1.2 Solid Waste

The main Federal regulations by which solid waste is controlled are the Resource Conservation and Recovery Act (RCRA) - Hazardous and Solid Waste Amendments of 1984 (HSWA) and the Solid Waste Disposal Act (SWDA) of 1965. As defined under the SWDA, solid waste includes any garbage, refuse or sludge from a waste treatment plant, water supply treatment plant or air pollution control facility, including that generated from industrial, commercial, agricultural and other land uses. Additionally, the State of Connecticut has several Solid Waste Regulations that govern the disposal, excavation, handling and disruption of solid waste. These regulations define solid waste as unwanted or discarded solid, liquid, semisolid or contained gaseous material, including but not limited to, demolition debris, material burned or otherwise processed at a resource recovery facility or incinerator, material processed at a recycling facility and sludges or other residue from a water pollution abatement facility, water supply treatment plant or air pollution control facility. Connecticut regulations also govern the disruption of solid waste disposal areas. A solid waste disposal area is defined in the Connecticut regulations as any location, including a landfill or other land disposal site, used for the disposal of more than ten cubic yards of solid waste. Approval from the CTDEP is required to disrupt such a solid waste disposal area. Regulations pertaining to solid waste management are summarized in **Table 3.14-2.**

TABLE 3.14-2
REGULATIONS PERTAINING TO SOLID WASTE MANAGEMENT - FAIRFIELD COUNTY

Regulation	Description
Federal	
Resource Conservation and Recovery Act (RCRA)	Sets important standards and practices regarding the generation and management of hazardous materials from “cradle to grave”
Solid Waste Disposal Act (SWDA)	Includes any garbage, refuse or sludge from a waste treatment plant, water supply treatment plant or air pollution control facility, including that generated from industrial, commercial, agricultural and other land uses
State	
§22a-209-1 – 22a-209-16	Connecticut Solid Waste Management Regulations
§22a-207 – 22a-207b	Connecticut Solid Waste Regulations

3.14.2 METHODOLOGY

The impact assessment performed for this Written Reevaluation involved: 1) addressing the potential for existing or future environmental contamination or hazardous materials in the study area and 2) identifying the types and amounts of these contaminants that may occur as a result of the construction and operation of the proposed projects.

The information utilized to address the requirements of the written reevaluation were derived from two Preliminary Site Assessments prepared by URS Corporation which covered the study area and data

derived from the completion of a Subsurface Investigation. The two Preliminary Site Assessment reports were titled, *Task 120 – Preliminary Site Assessment Site 1-City of Bridgeport Property Map 50.04, Block 3, Lots 1 and 2* (dated August 13, 2009) and *Task 120 – Preliminary Site Assessment Site 2 – Stratford Army Engine Plant Property, Map 50.05, Block 4, Lot 2* (dated August 13, 2009).

These Preliminary Site Assessment reports followed the CT DOT general guidance for completion of a Task 120 Preliminary Site Evaluation as presented in the CT DOT Division of Environmental Compliance On-Call Contaminated Soil/Groundwater Scopes document, dated 2003. In March 2010, a Subsurface Investigation was conducted in accordance with CT DOT Task 220 to evaluate soil and groundwater conditions in response to the environmental concerns identified by the Preliminary Site Assessments. These reports can be found in **Appendix E**. The study area is illustrated in **Exhibit 3.14-1**.

3.14.3 PRELIMINARY SITE ASSESSMENT FINDINGS

The Preliminary Site Assessment for Site 1 identified the following environmental concerns for the portion of the study area located on the two parcels currently owned by the City of Bridgeport.

1. Raymark Waste. So called Raymark Waste has been identified in two portions of the Site. Based on the results of soil samples collected at the Site, the Raymark Waste contains concentrations of asbestos, total mass and synthetic Precipitation Leaching Procedure (SPLP) Metals, dioxins, pesticides, Polycyclic Aromatic Hydrocarbons (PAHs), PCBs and Volatile Organic Compounds (VOCs). The areas of the Site which contain the Raymark Waste are considered a portion of the Raymark Superfund site.

2. Contaminated Soil. Assessment activities of the Raymark Waste present at the Site identified the presence of contaminated soil at portions of the Site beyond the limits of the identified Raymark Waste. Soil beyond the limits of the Raymark Waste is contaminated with concentrations of asbestos, copper, lead, pesticides and PCBs.

3. Contaminated Groundwater: Groundwater in vicinity of the SAEP is impacted with minimal concentrations of chlorinated VOCs.

4. Former Truck Stop: A truck stop was formerly located in the southwestern portion of the Site along Main Street (CT Route 113). The former presence of a truck stop could indicate the former presence of gasoline and/or diesel fuel oil tanks associated with vehicle fueling operations and a fuel oil tank associated with the truck stop building. Furthermore, the former use of this portion of the Site by trucks could have resulted in incidental releases of gasoline and or diesel fuel in this location.

5. Former Building Structures: In addition to the truck stop, three other building structures previously existed on portions of the Site. One of these buildings was apparently a restaurant. The use of the other two former buildings is not known. There is the possibility that these former buildings could have had heating oil tanks, could have been used for industrial purposes and/or could have been painted with lead-based paint, all of which could have lead to impacts to soil and/or groundwater.

6. Earth Fill: One portion of the Site has been identified as an area where fill material, so called Airport Earth Fill, has been deposited. Portions of this area beyond the limits of the Raymark Waste are impacted with contaminants such as lead and asbestos.

7. Stratford Solid Waste Landfill: Although some distance from the project area portion of the Site, portions of the Stratford Solid Waste Landfill are located on the Site. Contaminants are known to commonly leach from landfills to soil and/or groundwater. While no specific reference to releases from the Stratford Solid Waste Landfill were identified by this assessment, there is a good possibility that releases have occurred from this landfill and that such releases could have impacted portions of the Site.

8. Solid Waste Disposal Area: The so called Raymark Waste identified in several portions of the Site and the Airport Earth Fill located near the project area may contain Solid Waste at a volume (greater than 10 cubic yards) that could subject the Site to the requirements of the Connecticut Solid Waste Regulations. Further assessment of the content of the identified Raymark Waste and airport earth fill may be required to refine this conclusion.

The Preliminary Site Assessment for Site 2 identified the following environmental concerns for the portion of the Study Area located on the SAEP.

1. Former Soil Stockpile. Petroleum contaminated soil was formerly stockpiled in the southeast portion of the South Parking Lot. This material was later used as fill material in an area east of the South Parking Lot as approved by the CTDEP. The former presence of the petroleum impacted soil and the filling may have resulted in impacts to soil and groundwater in this South Parking Lot.

2. Contaminated Groundwater. Groundwater in the vicinity of the project area portion of this Site has been monitored as part of the RCRA closure of several waste water sludge lagoons (a/ka/ RCRA landfills) located to the east of this area. The monitoring has identified concentrations of VOCs in groundwater in the vicinity of the proposed roadway area.

3. FOSFT. The Army has implemented a FOSFT for the entire SAEP site. The FOSFT includes land use restrictions such as no residential use and no use of groundwater. This deed restriction may convey with the property or may require the application of an Environmental Land Use Restriction.

Other potential environmental concerns exist within the Site parcel (21.53 acres) including former plating and manufacturing areas, the closed RCRA lagoons and the former wastewater treatment plant. However, as these areas are located some distance from the proposed roadway, the portion of the Site slated for potential acquisition, the potential for an environmental concern to the project area is minimal relative to disturbance of soil. Further study conducted during the subsurface investigation (Task 210) noted that only minimal concentrations of arsenic and barium within the project area. No other contaminants were detected in the ground water.

3.14.4 SUBSURFACE INVESTIGATION FINDINGS

A Subsurface Investigation consisting of the drilling of twenty (10) soil borings, collection and analysis of two (2) soil samples from each soil boring, installation of two (2) groundwater monitoring wells and collection and analysis of one (1) groundwater sample from each of the groundwater monitoring wells was conducted during April 2010. The soil borings, soil sample collection and groundwater monitoring well installation activities were completed on April 18 and April 19, 2010. The groundwater monitoring well sampling was conducted on April 26, 2010. The soil borings were advanced via the use of hollow stem auger drilling equipment and soil samples were collected via use of split spoon soil sample equipment. Groundwater samples were collected in general accordance with CT DEP low-flow groundwater sampling procedures. A copy of the Subsurface Investigation report can be found in **Appendix E**.

Subsurface materials at the Site consisted primarily of fine to medium sand and silt with lesser amounts of fine gravel and trace amounts of organic material and concrete. Difficult drilling conditions were encountered in the southern portion of the Site in the general area of soil borings B-8 through B-10. The majority of the material observed appeared to be fill material. At least one soil boring, B-9, encountered peat type material near the completion depth of the soil boring.

3.14.4.1 Soil Sample Results

Each of the twenty (20) soil samples were analyzed for asbestos via Polarized Light Microscopy, (PAHs) by EPA Method 8270 and RCRA 8 metals plus copper, nickel and zinc by EPA Methods 6010 and 7471. Selected soil samples were also analyzed for one or more of the following compounds: VOCs by EPA Method 8260, petroleum hydrocarbons by the Connecticut Extractable Total Petroleum Hydrocarbon (ETPH) Method, Semi-volatile Organic Compounds (SVOCs) by EPA method 8270, RCRA 8 metals, copper, nickel and zinc by EPA Method 6010 and 6020A following extraction by the SPLP process, RCRA 8 metals, copper, nickel and zinc by EPA Method 6010 and 6020A following extraction by the Toxicity Characteristic Leaching Procedure (TCLP) process, Chlorinated Pesticides by EPA Method 8081B, Chlorinated Herbicides by EPA Method 8151A, PCBs by EPA Method 8082, cyanide by EPA Method 9010/9012, Flashpoint by EPA Method 1010, Corrosivity by EPA Method 9045C and Reactivity by SW846 CH.7. One soil sample was also analyzed for Dioxins by EPA Method 8290.

Concentrations of asbestos, PCBs, Metals, VOCs, petroleum hydrocarbons, SVOCs and Dioxins were detected in various soil samples collected at the study area during the conductance of the Subsurface Investigation. Pesticides and herbicides were not detected in soil samples analyzed for these compounds.

Asbestos was detected via a presence/absence test as being in only three of the twenty soil samples. These three soil samples were subsequently analyzed for the percentage of asbestos present. Asbestos was not detected at concentrations greater than the laboratory reporting limit in these three samples. PCBs were detected in eight (8) of the twenty (20) soil samples and ranged in concentration from 0.48 milligrams per kilograms (mg/kg) to 8.3 mg/kg. The majority of the detected concentrations are greater than the CT DEP Remediation Standard Regulations (RSRs) Residential Direct Exposure Criteria (RDEC)

of 1 mg/kg. Various total metals were detected in each of the twenty (20) soil samples. The detected concentrations of barium, copper, chromium, lead, nickel and zinc indicate the presence of releases of these metals in some of the soil boring locations. Several petroleum related VOCs were detected in some of the soil samples at concentrations less than RSRs criteria. Petroleum hydrocarbons were detected in four (4) of seven (7) soil sample analyzed for ETPH. Two (2) of the detected concentrations (780 mg/kg and 3,900 mg/kg) exceeded the RSRs RDEC, the Industrial/Commercial Direct Exposure Criteria (ICDEC) and/or the GB Pollutant Mobility Criteria (GB PMC). SVOCs, mostly PAHs, were detected in five (5) of eight (8) soil samples analyzed for these compounds. Concentrations of several of the SVOCs compounds in several of the soil samples exceeded the RDEC, ICDEC and/or the GB PMC.

Selected soil samples were analyzed for RCRA eight metals plus copper, nickel and zinc following extraction by both the SPLP and TCLP processes. Concentrations of lead in the SPLP extract in three (3) of the five (5) soil samples were greater than the GB PMC. Concentration of lead in three (3) of the five (5) soil samples were greater than the Toxicity Characteristic Regulatory Levels indicating that the soil would be considered hazardous. Elevated concentrations of copper, nickel and zinc were also present in the TC LP extract of the same three soil samples. Several other disposal characterization compounds were also analyzed from selected soil samples to characterize the soil for potential off-site disposal. No issues were identified related to these disposal characterization soil samples.

3.14.4.2 Groundwater Sample Results

The groundwater samples collected from each of the two groundwater monitoring wells at the site were analyzed for VOCs, ETPH, PAHs, PCBs and RCRA eight metal plus copper, nickel and zinc. VOCs, ETPH, PAHs and PCBs were not detected at concentrations greater than the laboratory reporting limit in the groundwater samples collected from groundwater monitoring wells MW-100 and MW-101. Barium was detected at a concentration of 0.14 milligrams per liter (mg/L) in the groundwater sample collected from groundwater monitoring well MW-100. The RSRs do not have an established Surface Water Protection Criteria (SWPC) for barium. The presence of barium in groundwater may be related to the elevated concentrations of barium detected in site soils. This concentration likely represents background conditions. No other metals were detected at concentrations greater than the laboratory reporting limit in this groundwater sample. Arsenic was detected at a concentration of 0.0062 mg/L in the groundwater sample collected from groundwater monitoring well MW-101. This concentration is greater than the SWPC for arsenic of 0.004 mg/L but may, however, represent background conditions as no elevated concentrations of arsenic were detected in site soils No other metals were detected at concentrations greater than the laboratory reporting limit in this groundwater sample.

LEGEND

- CURRENT BOUNDARY OF STEWART B. McKINNEY NATIONAL WILDLIFE REFUGE (USDOT SECTION 4 (F) AND 6(f) RESOURCES) (GREAT MEADOW MARSH AND MILFORD POINT UNITS)
- AIRPORT PROPERTY LINE
- SHORT BEACH PARK

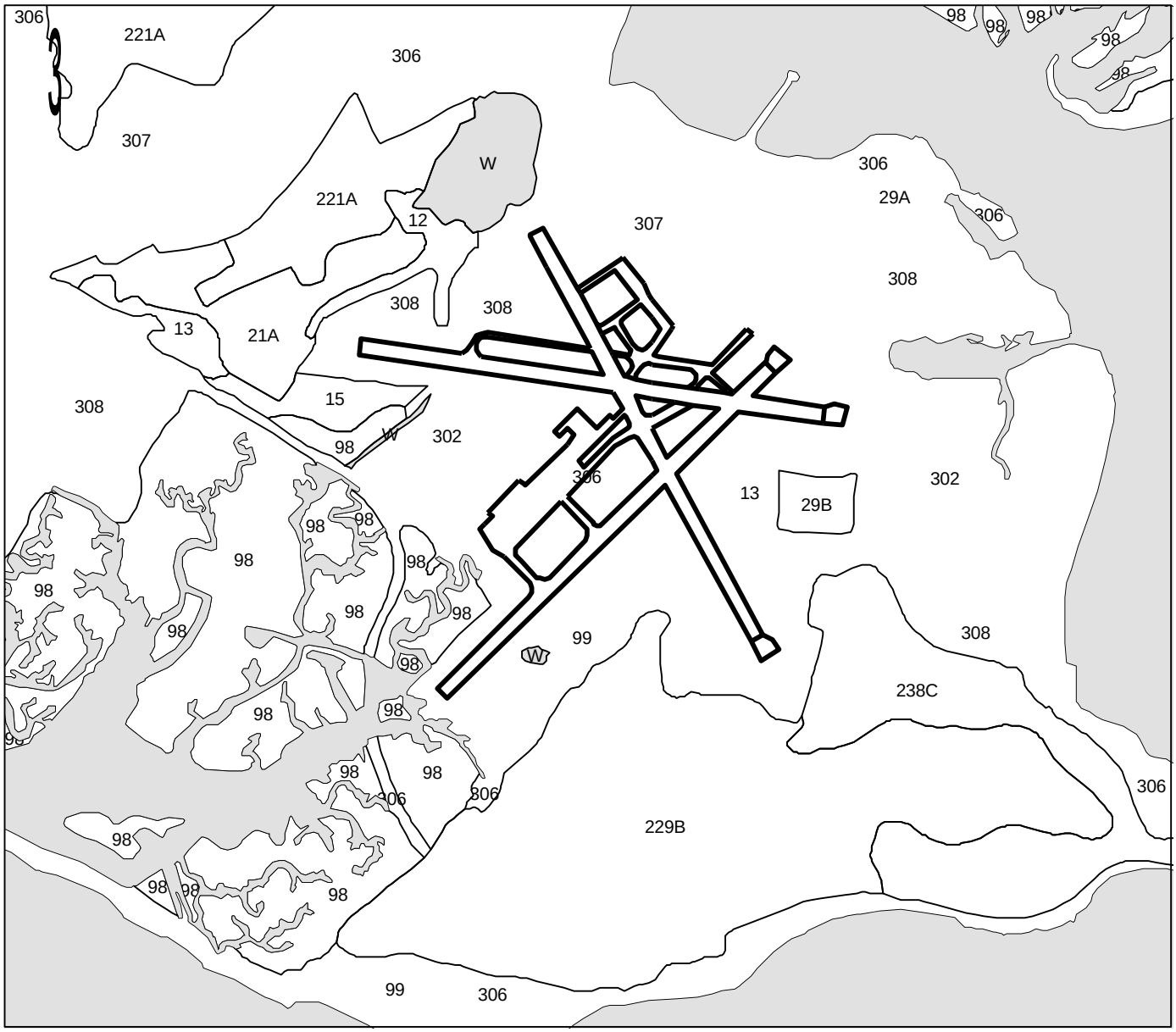
3000’ 0 3000’

Source: Reprinted from Final Environmental Impact Statement / Environmental Impact Evaluation for the Proposed Improvements to Runway 6-24, May 1999.

IGOR I. SIKORSKY MEMORIAL AIRPORT
STRATFORD, CONNECTICUT
URS

SECTION 4(f) RESOURCES

EXHIBIT
3.5-1



Legend

12 - Raypol Silt Loam
13 - Walpole Sandy Loam
15 - Scarboro Muck
21A - Ninigret and Tisbury Soils, 0 to 5 Percent Slopes
29A - Agawam Fine Sandy Loam, 0 to 3 Percent Slopes
29B - Agawam Fine Sandy Loam, 3 to 8 Percent Slopes
98 - Westbrook Mucky Peat
99 - Westbrook Mucky Peat, Low Salt
221A - Ninigret-Urban Land Complex, 0 to 5 Percent Slopes
229B - Agawam-Urban Land Complex, 0 to 8 Percent Slopes
238C - Hinckley-Urban Land Complex, 3 to 15 Percent Slopes
302 - Dump Soils
306 - Udorthent - Urban Land Complex
307 - Urban Land
308 - Udorthent, Smoothed
W - Water

0 800 1,600 3,200 Feet

Source: Soil Survey Geographic (SSURGO) database for the State of Connecticut, U.S. Department of Agriculture, Natural Resources Conservation Service, March 22, 2007.

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STRATFORD, CONNECTICUT
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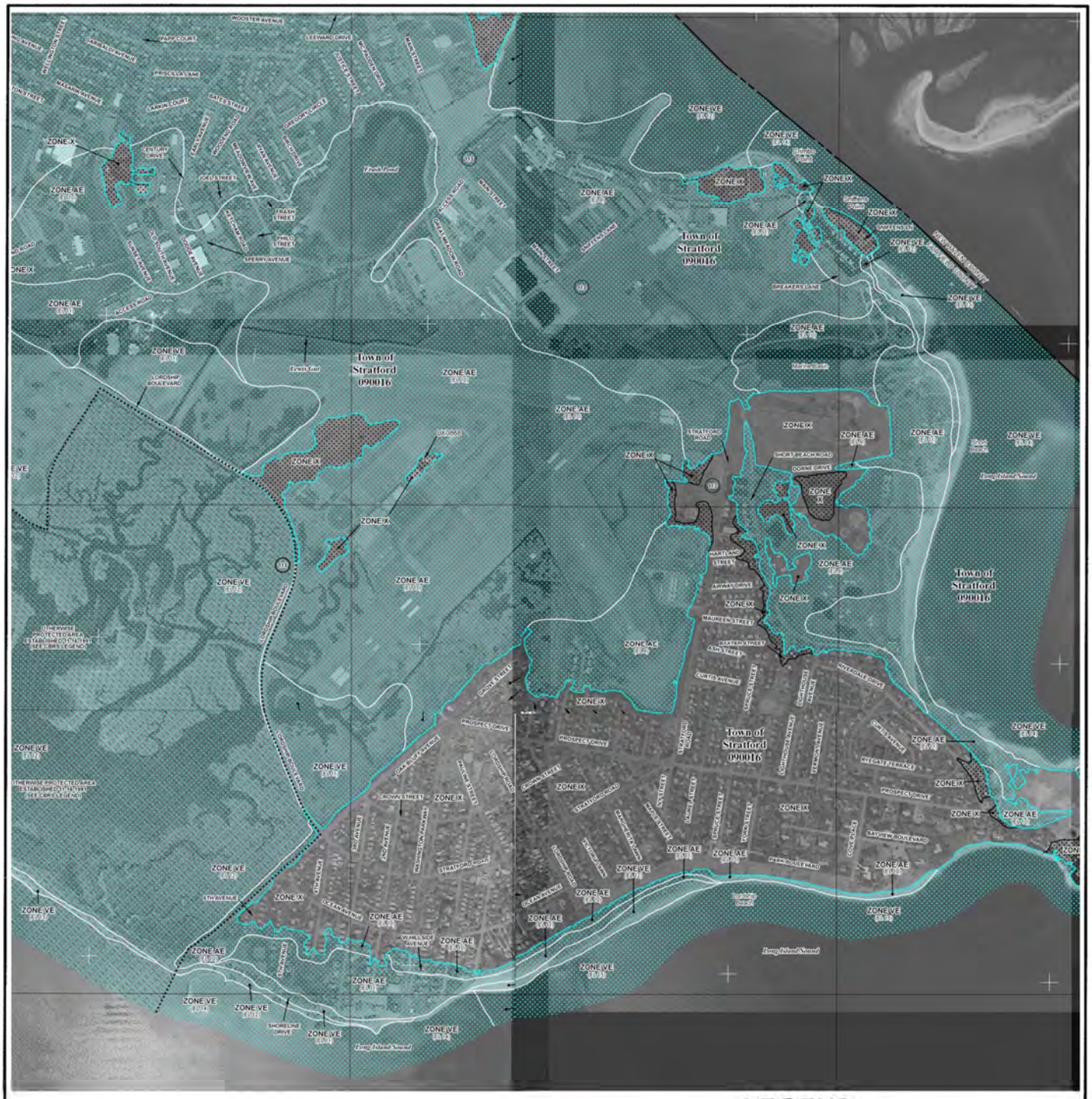
SOILS

EXHIBIT
3.7-1



LEGEND

ZONE AE ZONE VE	SPECIAL FLOOD HAZARD AREAS SUBJECT TO INUNDATION BY THE 1% ANNUAL CHANCE FLOOD Base Flood Elevations determined. Coastal flood zone with velocity hazard (wave action); Base Flood Elevations determined.
ZONE X	Areas of 0.2% annual chance flood
ZONE X	Areas determined to be outside the 0.2% annual chance floodplain

Source: FEMA Flood Insurance Rate Maps: 09001C0442F, 09001C0444F, 09001C0461F, and 09001C0463F all effective dated June 18, 2010.

250 0 500 1000 FEET

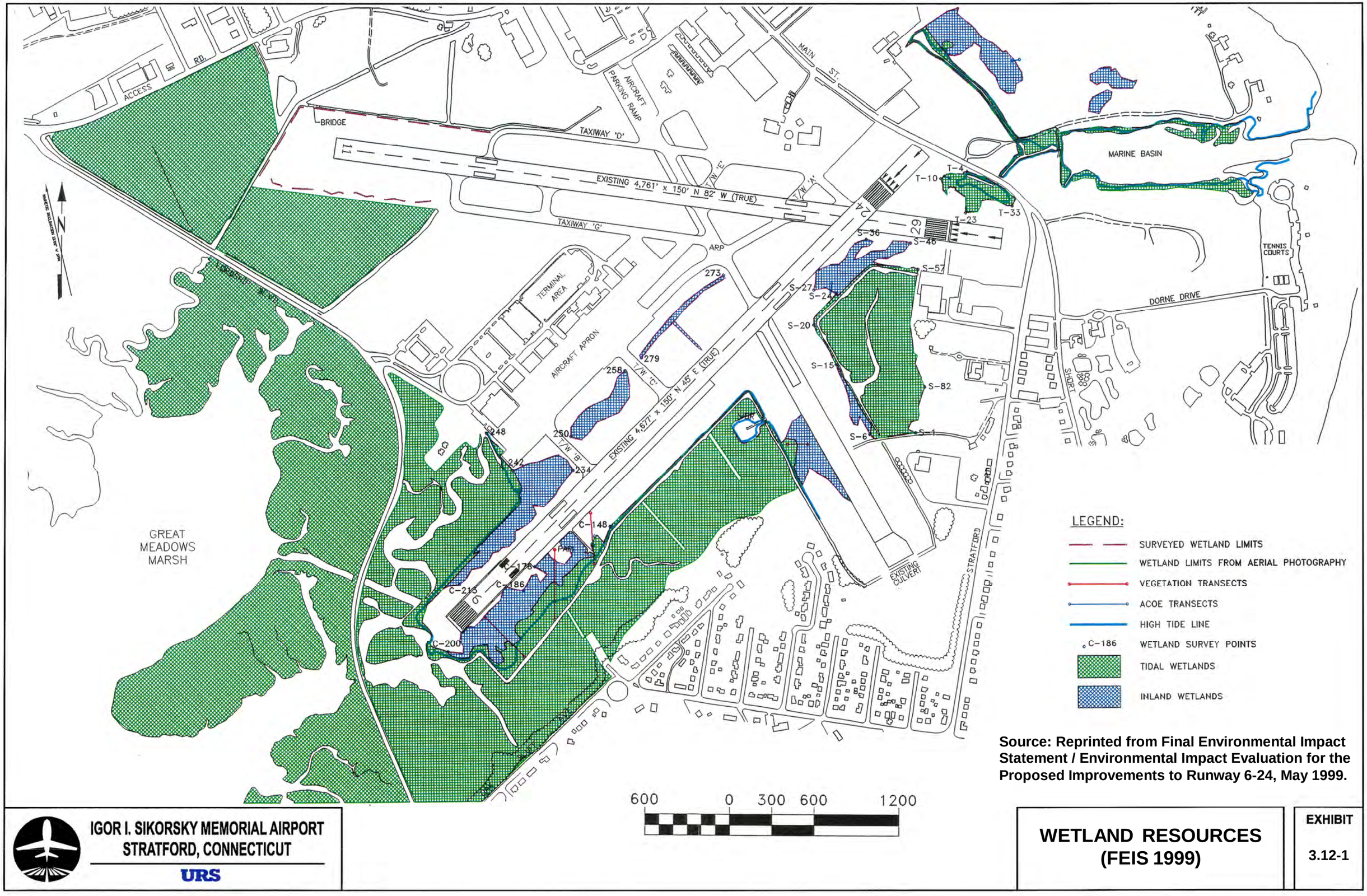
IGOR I. SIKORSKY MEMORIAL AIRPORT
STRATFORD, CONNECTICUT

URS

FLOODPLAINS

EXHIBIT

3.11-1



LEGEND:

- SURVEYED WETLAND LIMITS
- WETLAND LIMITS FROM AERIAL PHOTOGRAPHY
- VEGETATION TRANSECTS
- ACOE TRANSECTS
- HIGH TIDE LINE
- C-186 WETLAND SURVEY POINTS
- TIDAL WETLANDS
- INLAND WETLANDS

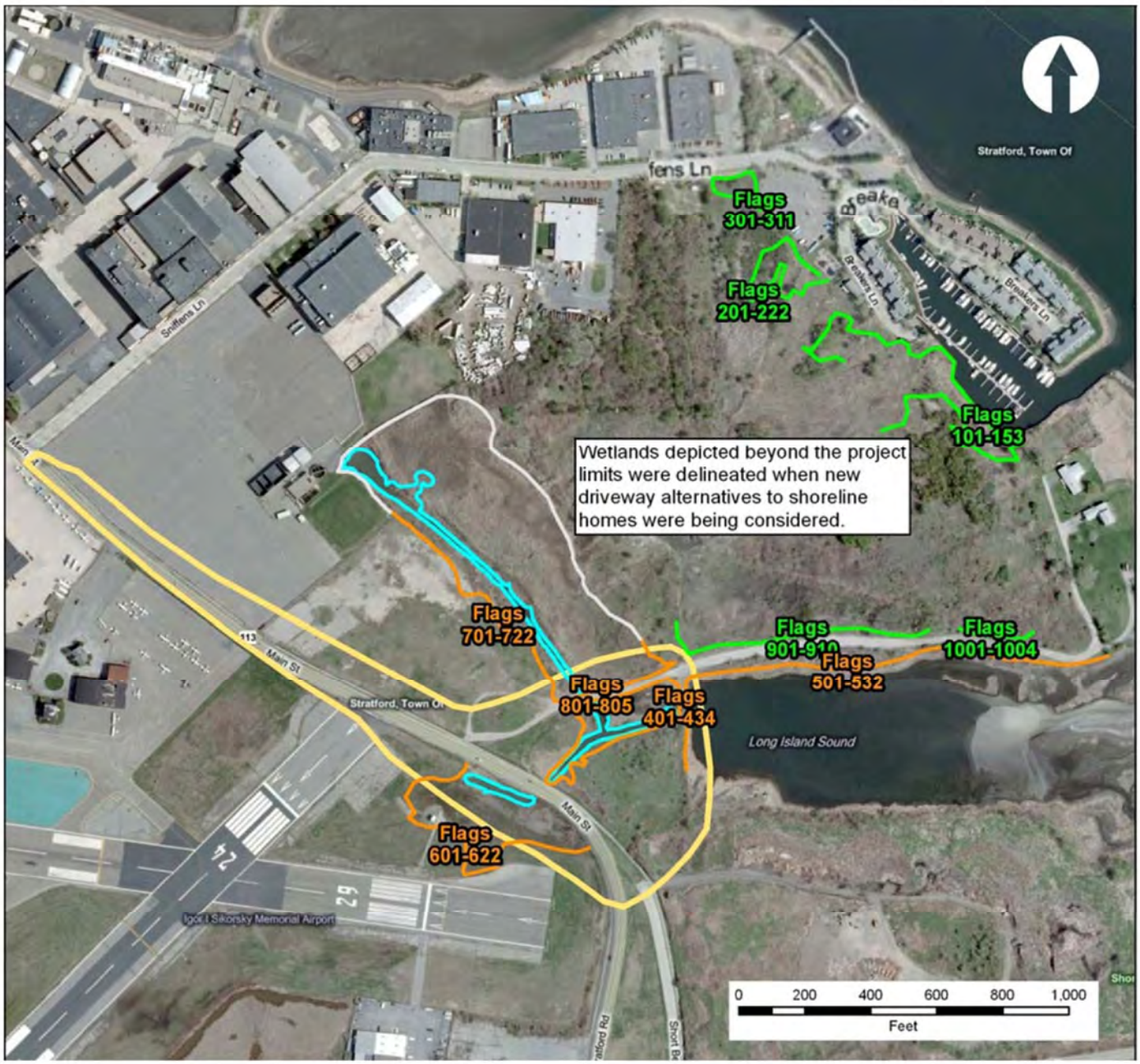
Source: Reprinted from Final Environmental Impact Statement / Environmental Impact Evaluation for the Proposed Improvements to Runway 6-24, May 1999.

IGOR I. SIKORSKY MEMORIAL AIRPORT
STRATFORD, CONNECTICUT
URS

WETLAND RESOURCES (FEIS 1999)

EXHIBIT

3.12-1

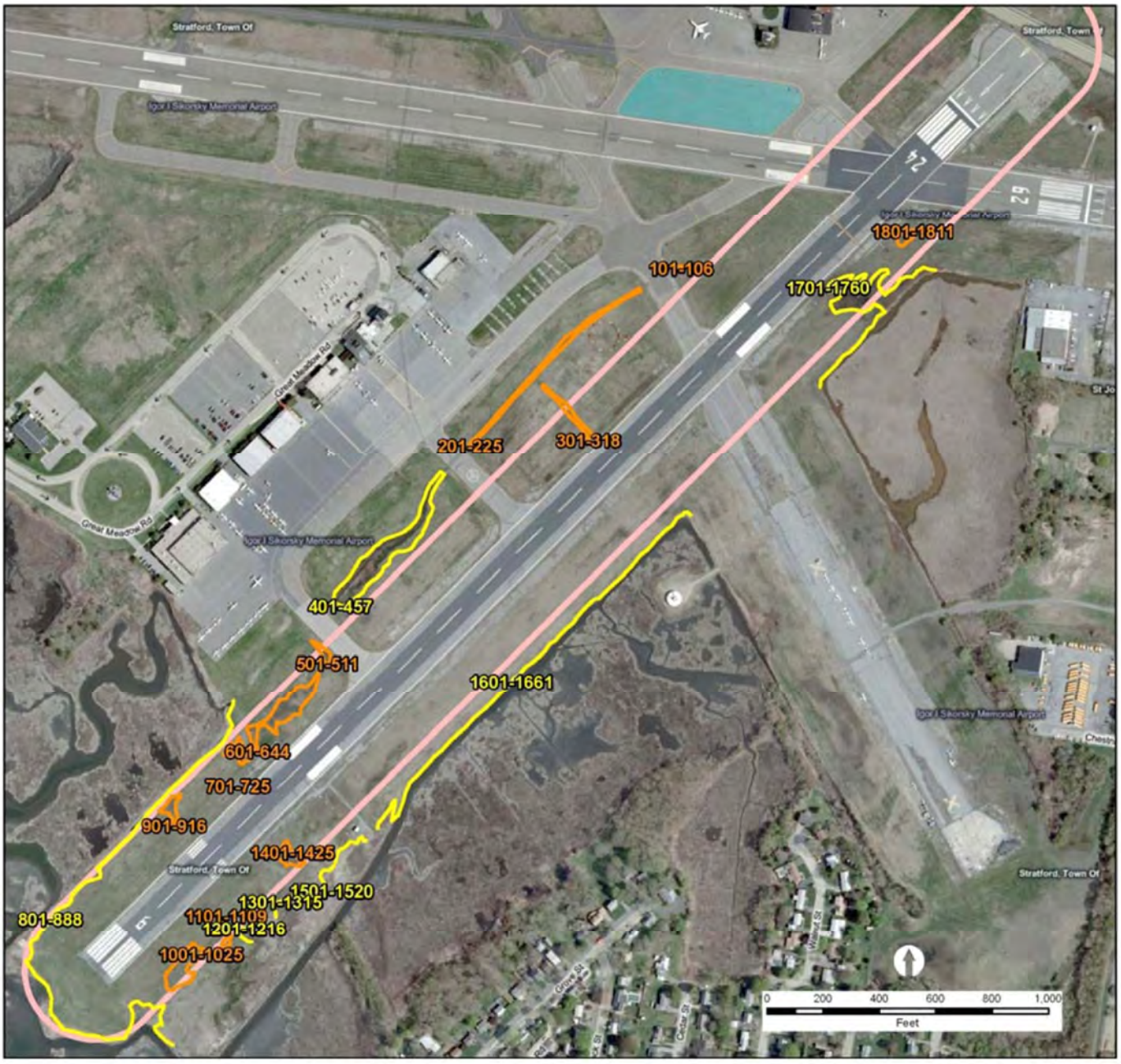


Delineated Wetlands

- Inland
- Tidal
- Approximated Tidal Boundary (06/07/10)
- Open Water
- Approximate Project Area

Source: Wetland Field Investigation and Delineation for Route 113 Relocation, State Project 15-336, Fitzgerald & Halliday, November 2010

IGOR I. SIKORSKY MEMORIAL AIRPORT STRATFORD, CONNECTICUT URS	**WETLAND RESOURCES – ROUTE 113 DELINEATION**	**EXHIBIT** **3.12-2**

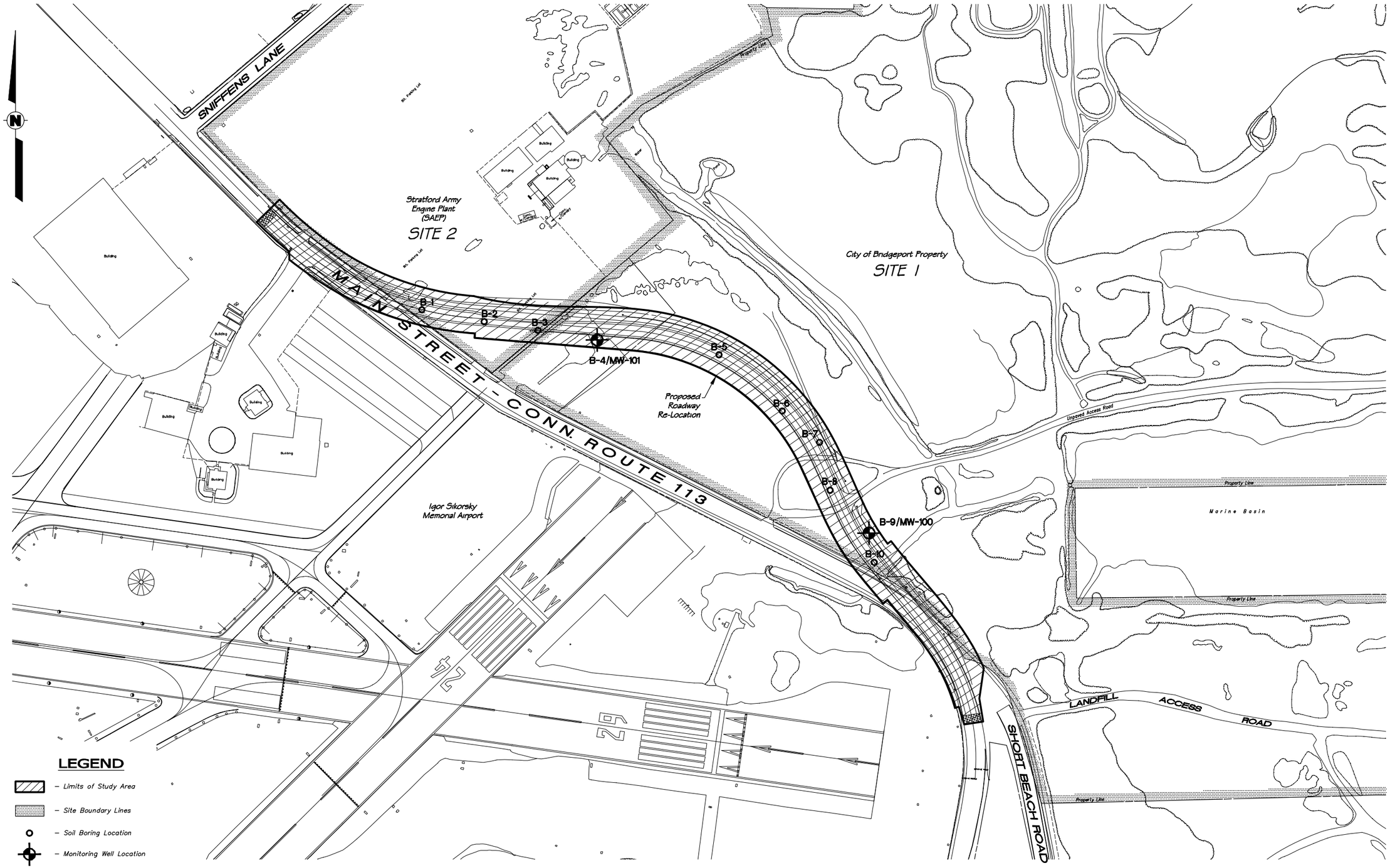


Wetland Sketches Nov

- Inland Wetland Boundaries
- Tidal Wetland Boundaries
- Study Area

Source: Wetland Field Investigation and Delineation for Runway 6-24, State Project 15-336, Fitzgerald & Halliday, November 2010

IGOR I. SIKORSKY MEMORIAL AIRPORT STRATFORD, CONNECTICUT URS	**WETLAND RESOURCES – RUNWAY 6-24 DELINEATION**	**EXHIBIT 3.12-3**



IGOR I. SIKORSKY MEMORIAL AIRPORT
STRATFORD, CONNECTICUT

URS

HAZARDOUS AREAS - STUDY AREA

EXHIBIT

3.14-1

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SECTION 4
ENVIRONMENTAL CONSEQUENCES

4.0 INTRODUCTION

This section presents an assessment of the potential environmental impacts associated with Alternative 1G-Modified as well as the No Build Alternative. In addition, mitigation strategies are described to avoid and minimize the identified impacts, where appropriate. Alternative 1-G Modified involves the rehabilitation of pavement on Runway 6-24; construction of a RSA that is 500 feet in width (250 feet on either side of the runway centerline) by 100 feet in length beyond the Runway 6 threshold; and construction of a RSA that is 500 feet in width (250 feet on either side of the runway centerline) by 300 feet in length beyond the Runway 24 threshold with the installation of an EMAS system (100 feet in width by 300 feet in length).

In accordance with FAA Order 1050.1E, the following environmental resource categories were assessed:

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

4.0.1 RESOURCES NOT AFFECTED

The following resource categories were determined not to be affected by the proposed projects at BDR:

- Noise
- Socioeconomic Impacts, Environmental Justice, and Children's Environmental Health and Safety Risks
- Secondary (Induced) Impacts
- Compatible Land Use
- Historic, Architectural, Archaeological, and Cultural Resources
- Department of Transportation Act: Section 4(f)
- Farmlands
- Fish, Wildlife, and Plants
- Wild and Scenic Rivers
- Light Emissions and Visual Impacts
- Natural Resources and Energy Supply

Therefore, no further impact analyses were conducted for these categories beyond the evaluations that follow in this subsection:

● **NOISE:** The proposed improvements would not result in an increase in the number of aircraft operations, a change in aircraft types, or a change in day/night operational splits, which are factors that could result in a change in noise exposure, no noise analysis was conducted.

● **SOCIOECONOMIC IMPACTS, ENVIRONMENTAL JUSTICE, AND CHILDREN'S HEALTH AND SAFETY RISKS:** With implementation of the Build Alternative, 2,150 linear feet of Main Street would be relocated (see **Exhibit 2.2-1**). The relocation would occur on land already owned by the Airport except for 1.075 acres recently transferred to the FAA from the Army, which is expected to also be transferred to the City in the future. There would be no relocation of residences or businesses. Therefore, the proposed projects would not cause relocation of residences without sufficient available replacement housing; extensive relocation of community businesses creating a severe economic hardship for the community; disruption of local traffic patterns that would substantially reduce the Level of Service of roads serving the Airport and its surrounding communities; and a substantial loss in community tax base. Therefore, there would be no adverse socioeconomic impacts. In addition, the Census Block Group in which the Airport and proposed project area are located is not considered to be low-income areas, based on the 2000 census information. Thus, no impacts would result to minority and/or low income populations. Also, no health and safety risks to children would result with implementation of the proposed improvements.

● **SECONDARY IMPACTS:** The analysis of potential secondary (induced) impacts is intended to determine whether the proposed projects would cause shifts in patterns of population movements and growth, public service demands, and changes in business and economic activity to the extent influenced by airport development. The implementation of the proposed improvements would not cause shifts in patterns of population movements and growth, public service demands, and changes in business and economic activity to the extent influenced by Airport development. However, a temporary increase in economic activity in both the construction and building material supply sectors of the local economy is anticipated with the Build Alternative. These jobs generated by construction activities would be of a relatively short duration; however, the proposed projects could potentially stimulate secondary economic impacts through increased aviation related employment opportunities as the Airport continues to improve its facilities.

● **COMPATIBLE LAND USE:** The compatibility of existing and planned land uses in the vicinity of an airport is usually associated with the extent of the airport's noise impacts and the potential for disruption of communities, relocation as a result of property acquisition, and induced socioeconomic impacts. As noted above, the proposed improvements would not result in a change in noise exposure and there would be no disruption of communities, relocation as a result of property acquisition, and induced socioeconomic impacts. Coordination with the Town of Stratford planning has indicated that no new development is located within the proposed project area (see **Appendix B**). It can be concluded that the proposed improvements would be compatible with existing and proposed land uses and would be consistent with local plans.

● **DEPARTMENT OF TRANSPORTATION ACT: SECTION 4(f)**: Within the project area, there are no public parks and recreation areas, wildlife and waterfowl refuges and management areas of national, state, or local significance, as well as historic sites of state and local significance that are on or have been determined

to be eligible for listing the NRHP. A shared use path for bicycles and pedestrians is located along the east side of Route 113. This will be maintained during construction.

● **HISTORIC, ARCHITECTURAL, ARCHAEOLOGICAL, AND CULTURAL RESOURCES**: There are no historic, architectural, archaeological, or cultural resources within the project area.

● **FARMLANDS:** While prime farmland soils are located within the proposed project area, this land is committed to urban development. Under the FPPA, lands that are committed to urban development are not subject to the provisions of the FPPA.

● **FISH, WILDLIFE, AND PLANTS:** As discussed in **Section 3.13**, the FWS indicated that piping plovers consistently nest in the vicinity of the project area (see **Appendix B**). However, since the revised alternative would not include a MALSF, the piping plovers would not be impacted by the increased light levels. The FWS recommended that the approach elevation over Milford Point remain at 200 feet above mean sea level or greater. In addition, the FWS reiterated the implementation of minimization measures: runway modifications and change in approach elevations must be in place prior to March 15. No other federally-listed or proposed threatened or endangered species under the jurisdiction of the FWS are known to occur in the vicinity of the project area.

According to the DEP Natural Diversity Data Base, numerous records of populations of species listed by the State, pursuant to section 26-306 of the CGS, as endangered, threatened or special concern are within the vicinity of the Airport (see **Appendix B**). However, the proposed improvements are not anticipated to impact any of these species. According to recent coordination, CT DEP will review the Final Written Reevaluation and provide additional comment, if necessary (see **Appendix B**).

In addition, coordination with the NMFS has indicated that particular attention should be focused on the winter flounder habitat. An Essential Fish Habitat (EFH) Assessment was submitted to the NMFS (see **Appendix B**). The EFH Assessment stated that the only impact to the marine basin would occur during the removal of the tide gate at the head of the tidal ditch. The removal of the culvert and tide gate is not associated with either the reconstruction of Runway 6-24 or the re-alignment of Main Street, but rather is being proposed in response to a CTDEP NOV stating that the unauthorized culvert and tide gate structures are in poor condition and have resulted in poor tidal exchange between the tidal lagoon and the upstream creeks. In order to minimize any impact on potential fisheries habitat, BMPs would be implemented during the culvert and tide gate removal, including siltation controls and mitigation including compatible plantings on disturbed areas. This work would occur during times outside normal fish spawning periods and all work would be coordinated with the NMFS. Thus, no fisheries impacts are anticipated.

● **WILD AND SCENIC RIVERS**: There are no listed or potentially-listed Federal or State, nor potentially eligible, Wild and Scenic Rivers in the vicinity of the Airport.

● **LIGHT EMISSIONS AND VISUAL IMPACTS:** Runway edge lights would be constructed under the Build Alternative. These lights would provide visual guidance to pilots by altering them to the location of the pavement edge so as to avoid maneuvering their aircraft off the hardened surface. These lights would only be illuminated during periods of reduced visibility. Runway edge lights are usually white in color, spaced 200 feet apart, and are mounted approximately two feet above the pavement. Adverse light emissions to the natural and social environments are not expected to occur. The light emissions that would be emitted do not significantly scatter light in levels sufficient to cause adverse visual impacts and are not expected to create an adverse additive effect when coupled with the existing light emissions a the Airport. The proposed Build Alternative would create both temporary visual disturbance during construction and long-term impacts to the existing viewscape of the area. Improvements associated with the proposed RSA/EMAS construction would visually impact persons traveling along Main Street. These visual impacts are considered minor in nature, as the changes are small and will be assimilated into the already urbanized viewshed with the passage of time.

● **NATURAL RESOURCES AND ENERGY SUPPLY**: The construction, operation, and maintenance of the proposed projects as well as the No Build Alternative would not exceed available or future (project year) natural resources or energy supply.

4.1 AIR QUALITY

This section includes a description of Airport air emissions sources; a description of the No Build Alternative and proposed project; an overview of the methodology used to estimate the project-related emissions; the results of the emissions inventory; and any required actions that would result as a consequence of General Conformity or Transportation Conformity regulations within the CAA. The full report can be found in **Appendix C**.

Historically, BDR has serviced a significant level of commercial service carriers for an airport its size, although currently most activity at the airport is classified as General Aviation (GA). Further, because the level of annual GA operations currently occurring at BDR is less than 180,000, no quantitative assessment of air quality is required by the NEPA per FAA Order 5050.4B.

4.1.1 AIRPORT EMISSIONS SOURCES

The principal emissions sources currently operating at BDR include aircraft, minimal auxiliary power units (APUs), a small fleet of ground support equipment (GSE), and fuel storage and transfer facilities. Construction of the RSAs at BDR will also involve temporary emissions from construction equipment, asphalt paving, and the generation of fugitive dust during land clearing and pavement demolition. **Appendix C** describes sources of air emissions typically occurring at BDR, including the source type, description of activity, and a listing of the pollutants emitted.

4.1.2 CONSTRUCTION EMISSIONS

The NEPA recommends disclosure of construction related emissions resulting from airport improvements during air quality impact evaluation. Moreover, the General Conformity Rule of the CAA mandates that all indirect emissions associated with an action occurring in a non-attainment area, including construction emissions, be compared against the appropriate de minimis thresholds in the General Conformity applicability test.

Construction emissions represent a temporary source of air emissions, occurring from the operation of fossil-fueled construction equipment, service vehicles, and worker vehicles accessing and leaving the site; pavement of newly constructed areas; and disturbance of unpaved land areas during the construction process. Activities anticipated to occur during the RSA construction include land clearing, earthworks and excavation, concrete and pavement installation, and finishing work.

To estimate air emissions of EPA criteria pollutants from construction equipment exhaust, activity data taken from the proposed RSA construction schedule, including equipment activity factors, expected hours of use or miles travelled, and brake-specific horsepower, were applied to emissions rates generated using EPA's approved emissions rate models NONROAD2008a (for off-road equipment) and MOBILE6.2 (for on-road motor vehicles). Emissions rates for calendar year 2012 were developed using area-specific input parameters consistent with those applied in recent SIP emissions inventories, including area meteorological data, fuel parameters, and equipment population distributions. Emissions model default parameters were applied wherever area specific data was unavailable. VOC emissions from asphalt paving and PM emissions from disturbance of unpaved areas were quantified using the estimated dimensions of the project area as reported in provided plans, and emissions rates taken from EPA guidance and other relevant publications.

4.1.3 IMPACT POTENTIAL

Table 4.1-1 presents the results of the BDR construction emissions inventory by pollutant and by project component, representing the estimated level of emissions expected to occur as a result of the proposed construction in calendar year 2012. For ease of evaluation of these emissions against the General Conformity regulations, the appropriate de minimis thresholds are also included for each applicable pollutant. As shown, the project is expected to generate 0.84 tons of VOC, 4.29 tons of CO, 5.95 tons of NO_x, 0.02 tons of SO_2, 19.53 tons of PM_{10} and 2.32 tons of $PM_{2.5}$.

TABLE 4.1-1
2012 CONSTRUCTION EMISSIONS INVENTORY

	2012 Construction Emissions (tons per year)					
	VOC	**CO**	**NO_x**	**SO_2**	**PM_{10}**	**$PM_{2.5}$**
Off-Road Equipment	0.43	2.49	5.89	0.02	0.42	0.41
On-Road Vehicles	0.07	1.80	0.06	<0.01	<0.01	<0.01
Asphalt Paving	0.34	--	--	--	--	--
Fugitive Dust	--	--	--	--	19.11	1.91
TOTAL	0.84	4.29	5.95	0.02	19.53	2.32
"Moderate" O_3 De minimis Level	50		100			
$PM_{2.5}$ De minimis Level			100	100		100

Source: KB Environmental Sciences, 2010.

As shown above, the total project-related emissions of CO are well below the applicable de minimis thresholds for CO maintenance areas. VOC and NO_x emissions are also well below the applicable de minimis thresholds for "moderate" O_3 non-attainment area, signifying that project emissions do not interfere with the air quality goals of the area's O_3 SIP, and that the project is therefore considered a de minims action.

In addition, because the CTDEP evaluates emissions of $PM_{2.5}$ precursors NO_x and SO_2 in addition to directly emitted $PM_{2.5}$ in their $PM_{2.5}$ Attainment Demonstration SIP, the project emissions are also compared against the applicable $PM_{2.5}$ de minimis thresholds for these pollutants. Again, as shown on **Table 4.1-1**, project-related emissions of NO_x, SO_2 and directly emitted $PM_{2.5}$ are well below the applicable de minimis thresholds. Accordingly, the project is considered a de minimis action and conforms to the area's $PM_{2.5}$ SIP.

Notably, in revisions to the General Conformity regulations finalized in April 2010, EPA removed the regional significance test from the applicability requirements of the General Conformity Rule. Hence, no regional significance analysis was conducted on the project-related construction emissions. However, it is not expected that these emissions would constitute greater than ten percent of the regional emissions budget in either applicable SIP, the criteria for regional significance under the previous regulations.

4.1.4 MITIGATION MEASURES

Although the improvements to BDR are considered de minimis actions with respect to the General Conformity Regulations and no emissions mitigation is required to demonstrate conformity with area air quality plans, the following mitigation measures can be implemented to reduce the overall air quality impacts expected to occur:

- Reduce equipment idling times,

- Use cleaner burning or low emissions fuels in equipment,
- Encourage employee carpooling,
- Limit construction activities when atmospheric conditions are conducive to O_3 formation (i.e. "high ozone days"),
- Limit construction activities during high wind events to prevent dust generation,
- Utilize warm-mix asphalt during paving operations,
- Water or apply dust suppressants to unpaved areas regularly,
- Cover materials stockpiles,
- Install pads to deter track-out as vehicles enter and leave the work site, and
- Reduce vehicle speeds on unpaved roads.

4.1.5 TRANSPORTATION CONFORMITY

Installation of the Runway 24 RSA requires the relocation of a portion of Main Street bordering the Airport property. Accordingly, because the action shall occur in a non-attainment area, the relocation could be subject to the CAA's Transportation Conformity Rule.

The Rule states that Transportation Conformity is not applicable to individual projects that are not FHWA or Federal Transit Authority (FTA) projects unless they are considered "regionally significant" for the purpose of regional emissions analysis. Coordination with the GBRPA is pending to determine whether the relocation of Main Street associated with the BDR improvements is considered "regionally significant".

4.2 WATER RESOURCES

4.2.1 IMPACT POTENTIAL - SURFACE WATER QUALITY

Based on the existing surface and ground water quality classifications within the project area, it is not anticipated that the project would have negative impacts to surface water quality. The removal of the tide gate structure and culvert at the head of the marine basin is being proposed by the City of Bridgeport as a separate project in response to a CTDEP NOV. The re-establishment of tidal flow as a result of the removal of the culvert and tide gate structure would likely improve water quality in the wetlands with restricted tidal action due to more regular flushing of those wetlands.

4.2.2 IMPACT POTENTIAL - GROUNDWATER QUALITY

Based on the existing surface and ground water quality classifications within the project area, it is not anticipated that the project will have negative impacts to groundwater quality.

4.2.3 IMPACT POTENTIAL - DRAINAGE AND STORMWATER

The proposed drainage system for this project would be a combination of vegetative swales, closed drainage systems, and overland sheet flow. This runoff ultimately would drain to the Marine Basin. There

are two proposed 12:1 – 2:1 rounded bottom swales on either side of the RSA. Both of these swales flow easterly into the roadside swale that runs along the west side of the roadway.

The realignment of State Route 113 project will incorporate primary (infiltration basins, water quality swales) and secondary stormwater treatment practices (dry detention ponds, grass drainage channels, catch basins).

The proposed roadway profile low point (Elev. 7.3) would be raised approximately 1.5 feet above the existing low point of the roadway profile (Elev. 5.8), which would help to reduce the frequency of roadway flooding in this area.

As a result of the proposed drainage improvements and inclusion of primary and secondary stormwater treatment practices consistent with the 2004 CT Stormwater Quality Manual, it is anticipated that the quality of stormwater would slightly improve. In addition, the separate projects to correct the two CTDEP Notice of Violations (NOVs); 1) culvert replacement under the driveway and 2) removal of the culvert and tide gate structure at the head of the tidal lagoon, would also improve stormwater drainage and flow in the project area.

4.2.4 PERMITTING AND MITIGATION MEASURES

Permits and mitigation measures related to water resources and wetlands are included in **Section 4.5**.

4.3 FLOODPLAINS

Executive Order 11988 directs Federal agencies to take action to reduce the risk of flood loss; minimize the impacts of floods 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 that there is no practicable alternative before taking action that would encroach on a base floodplain based on a 100-year flood. Impacts to the 100-year floodplain can occur in two forms: directly through the changes to volumetric capacity of the floodplain or indirectly through an increase in the total volume of water arriving at and being conveyed by the floodplain.

4.3.1 IMPACT POTENTIAL

Since the majority of the proposed activities occur within floodplain areas, there would be both temporary and permanent impacts below the 100-year floodplain elevation. Impacts would include permanent placement of fill materials to raise the elevation of Main Street within the proposed realignment section and small areas of fill associated with light post foundations for the Runway 24 project. Temporary fill may also be required for the construction of Main Street to facilitate construction vehicle access and for maintenance and protection of traffic.

With implementation of the No Build Alternative, no development would occur; therefore, there would be no impact to floodplains.

4.3.2 PERMITTING AND MITIGATION MEASURES

Work associated with the proposed activities at the Airport would be almost entirely located within the 100-year floodplain limits on the site. Coordination with the appropriate regulatory agencies early on in the design and permitting process will be important to help to identify potential priority issues which may affect acquisition of environmental permits and approvals relating to work within the floodplain.

Since state funding is involved with these projects, a Flood Management Certification (FMC) from the CTDEP would be required for both projects. This program requires approval of a certification for all State actions in or affecting floodplains or natural or man-made storm drainage facilities. Approval is predicated on whether the proposed activity:

- is consistent with state standards and criteria for preventing flood hazards to human life, health or property and with the provisions of the National Flood Insurance Program (NFIP) and municipal floodplain regulations;
- does not adversely affect fish populations or fish passage; and,
- does not promote intensive use and development of flood prone areas.

It is not anticipated that there will be any negative impacts to human health or property, fish populations or passage, or promotion of development in flood prone areas. In fact, correction of the NOVs, as discussed in **Section 4.5**, would likely improve fish populations and passage Therefore, no mitigation is anticipated for floodplain impacts.

4.4 COASTAL RESOURCES

4.4.1 IMPACT POTENTIAL

Coastal Resources in the vicinity of the relocated portion of Main Street and proposed RSA include tidal wetlands as well as CFHA. Tidal wetlands in the project area were formally delineated, surveyed, and mapped in 2009 and 2010 for this project. As the project advances into the permitting stage, more detailed investigations will be conducted to gain a better understanding of the exact tidal wetland vegetation impacts and the need for and type of mitigation required.

Only CFHA A-zones are found within the project study area.

4.4.2 PERMITTING AND MITIGATION MEASURES

The proposed projects are subject to the provisions of the CCMA, sections 22a-90 through 22a-112 and any activities at or waterward of the high tide line and/or in tidal wetlands would require permits from the CT DEP - OLISP in accordance with CGS sections 22a-361 and 22a-32, respectively.

Consistency with the CCMA will be addressed for the project as part of the tidal wetlands permit application. Consistency is derived based on a detailed assessment of the project's impact on the coastal use policies associated with each of the coastal resources located within the project study area.

Once the wetland vegetation impacts are quantified in the permitting process, mitigation measures will be defined.

4.5 WETLANDS

4.5.1 IMPACT POTENTIAL – RUNWAY 6-24 REHABILITATION PROJECT

The rehabilitation of Runway 6-24 project would result in permanent and temporary impacts to inland wetlands resources (see **Exhibit 4.5-1**). Note that the Runway 24 RSA touches the tidal wetland boundary on **Exhibit 4.5-1**; however, the actual proposed construction grading might not extend to the limit of this tidal wetland area. The overall project impact area was estimated to be contained within a 25-foot offset from existing edge of the runway pavement.

4.5.2 IMPACT POTENTIAL – REALIGNMENT OF MAIN STREET (STATE PROJECT NO. 15-336)

The realignment of Main Street (State Project No. 15-336) would result in permanent and temporary tidal wetland impacts (see **Exhibit 4.5-1**). The replacement of a clogged driveway culvert and removing the berm (tide gate) associated two NOVs, are anticipated to be performed under separate Certificates of Permission applications being submitted to OLISP by the City of Bridgeport. The driveway culvert replacement is anticipated to be performed prior to the construction of State Project No. 15-336. The construction scheduled for the tide gate structure and berm removal will be coordinated with the construction of State Project 15-336 to address hydraulic flows in the tidal ditch and roadway cross culvert.

The major outlet of the Main Street drainage system is a channel (approximately 16 feet wide) located south of Runway 24 which outlets to the Marine Basin and Long Island Sound. This culvert is submerged, even under low tide conditions, and survey of the exact size and invert has not been obtained, however one record plan from a utility drawing shows a 15-inch diameter pipe.

The overall drainage system is influenced by a berm and non-functioning gated drainage structure at the north end of Marine Basin. The gate mechanism, inside a concrete structure, has deteriorated over the years and has been completely removed. Field observations suggest that it was a manually controlled

vertical gate, controlling flow through a culvert under the earth berm. Observed debris at the east end of the berm that indicates the Marine Basin overtops the berm, in that location, during higher than normal tide events. A segment of the berm (approximately 80-foot long) and concrete drainage structure will be removed to correct the CTDEP NOV. Proposed slopes and soil materials will allow for reestablishment of tidal ditch vegetation. Preliminary hydraulic analysis shows the water elevation during the Mean Higher High Water (Spring High Tide) condition, will increase approximately 0.5 feet (6 inch) in the tidal channel upstream of the existing berm and the vicinity of the existing unpaved driveway.

The proposed Main Street roadway profile low point (Elevation 7.3) in the vicinity of the cross culvert is approximately 1.5 feet above the existing low point of the roadway profile (Elevation 5.8), which will help to reduce the frequency of roadway flooding. This segment of roadway at the culvert is known to flood during major storm events. A hydraulic analysis report of the drainage system including the culvert, channel, and Marine Basin structure, is being prepared by URS Corporation, and will be submitted to CT DOT for review and approval, and will provide information associated with CTDEP permit applications. It is anticipated that OLISP will require improvement of the existing flow conditions (flushing of tidal waterways and wetlands) since the existing Main Street cross culvert is clogged. Preliminary analysis indicates that a 24 inch diameter RCP will pass the 50 year rainfall event. The construction of this culvert will be staged to allow for roadway traffic to be maintained on Main Street during construction. This will require the existing culvert flows to be maintained during installation of a proposed culvert, which is offset approximately 25 feet north of the existing culvert. Minor re-channelization of approximately 50 feet of the existing ditch, at both the inlet and outlet of the culvert will be required. The area of impact, both permanent and temporary, to various tidal ditch open water and tidal wetland resources in the vicinity of the Main Street culvert construction will be determined after additional review and discussion of the proposed drainage design with CT DOT, and review of tidal resources with OLISP. The design team discussed initial design concepts and conducted a field walk, with OLISP staff on May 18, 2010. The design and review of the stormwater drainage system is ongoing.

An existing shared use path for bicycles and pedestrians located along the east side of Main Street will need to be restructured. A temporary path will be constructed, as needed, to maintain bike and pedestrian traffic, along this segment immediately south of the Main Street culvert crossing. The temporary drainage facilities (culverts, endwalls, swales, etc.) will be needed to maintain vehicle traffic and allow relocation of underground utilities (water, phone, electric, gas, sanitary, TV) at the proposed culvert crossing. These temporary construction features will result in temporary tidal resource impacts.

The proposed Main Street drainage system will be a combination of vegetative swales, overland sheet flow, and closed drainage systems with oversized sumps to facilitate settlement of sediment and treatment. It will be designed in accordance with CT Stormwater Quality Manual and E&S Control Manual.

4.5.3 IMPACT POTENTIAL – SUMMARY

As a result of the proposed activities, there would be both permanent and temporary impact to wetland resources within the project area (see **Exhibit 4.5-1** and **Table 4.5-1**). **Exhibit 4.5-1** lists many different construction features, and all but two features, will be included in either the Rehabilitate Runway 6-24 Project or the Realignment of Main Street State Project 15-336. The removal of the berm and tide gate, and the replacement of the driveway culvert, will be separate projects constructed by the City, and performed in accordance with CT DEP Certificates of Permission that are being applied for in response to NOVs issued by CT DEP. **Exhibit 4.5-1** and **Table 4.5-1** show these two projects separately. The CT DOT requested that the berm and tide gate project be constructed by the City of Bridgeport, separate from State Project 15-336. The City of Bridgeport recommended that the driveway culvert replacement project be constructed separately by the City, separate from State Project 15-336 to allow for a timely response and resolution of NOV issues, and this also received concurrence by CT DOT.

The tidal wetland resource impacts estimated for State Project 15-336 are based on the September 2009 Revised Semi-Final Plans submission. An updated stormwater drainage design submission is being prepared by URS Corporation for submission to CT DOT for review and approval. It is expected that estimated impact areas are likely to change as the final design and permit application process advances.

The wetland resource impacts for the Runway 6-24 project was estimated based on preliminary plans. The wetland resource impacts for the driveway culvert replacement, and the berm and tide gate removal were estimated from plans being prepared in conjunction with Certificates of Permission applications to CT DEP.

The implementation of the No Build alternative would not impact waters or wetland resource and would, therefore, not require mitigation.

TABLE 4.5-1
PROPOSED WETLAND IMPACTS (ACRES)

Proposed Projects	Tidal Wetlands				Inland Wetlands		Inland Wetland Buffer (50')	
	Perm Wetland	Perm Open Water	Temp Wetland	Temp Open Water	Temp	Perm	Temp	Perm
1. Rehabilitate RW 6-24 Project	0.0	0.0	0.0	0.0	0.0	0.13	4.00	1.79
2. Realignment of Main St.	0.12	0.04	0.01	0.01	0.0	0.0	0.0	0.0
3. Berm & Tide Gate	0.0	0.0	0.04	0.01	0.0	0.0	0.0	0.0
4. Driveway Culvert Replacement	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
TOTAL	**0.12**	**0.04**	**0.05**	**0.02**	**0.0**	**0.13**	**4.0**	**1.79**

Source: URS Corporation (2010).

1. Rehabilitate Runway 6-24
   a. Temporary Impact Areas are based on a 25' offset from the edge of the existing runway.
2. CT DOT State Project No. 15-336 Realignment of Main Street
   a. Impact areas shown are based on Revised Semi-Final Plans submission dated September 2009.
3. Berm & Tide Gate Removal (shown as Feature 14 on Exhibit 4.5-1)
4. Driveway Culvert Replacement (shown as Feature 15 on Exhibit 4.5-1 (temporary and permanent impacts are less than 0.01 acres)

4.5.4 PERMITTING AND MITIGATION MEASURES

Permitting

Work associated with the proposed activities at the Airport would be partially located within regulated resource areas including tidal wetlands and potentially inland wetlands and upland review areas. As a result, it is imperative that coordination be conducted with the appropriate regulatory agencies early on in the design and permitting process. Early coordination with the regulatory agencies will help to identify potential priority issues which may affect acquisition of environmental permits and approvals.

Federal jurisdictional tidal wetlands and inland wetlands are regulated by the COE; however, only state jurisdiction inland wetlands, and activities within the 100 feet of the inland wetland boundary, are regulated by the City of Stratford. Based on the anticipated impacts, Federal, state and local permits and approvals will likely be required, as listed below:

Runway 6-24 Rehabilitation Project

- COE Section 10 and Section 404 Programmatic General Permit
- CTDEP IWRD Section 401 Water Quality Certification
- CTDEP IWRD Flood Management Certification
- CTDEP IWRD General Permit Registration Form for the Discharge of Stormwater and Dewatering Wastewaters from Construction Activities
- City of Stratford Inland Wetlands and Watercourses Permit

Realignment of CT Route 113 (State Project No.15-336)

- COE Section 10 and Section 404 Programmatic General Permit
- CTDEP IWRD Section 401 Water Quality Certification
- CTDEP OLISP Structures and Dredging / Tidal Wetlands Permit
- CTDEP IWRD Flood Management Certification
- CTDEP IWRD General Permit Registration Form for the Discharge of Stormwater and Dewatering Wastewaters from Construction Activities

Note that approval of the OLISP permits listed above will be reviewed by CT DEP in coordination with OLISP Certificates of Permission to correct two CT DEP NOVs that have been issued to the City of Bridgeport (and other property owners). One violation was issued for an unauthorized culvert and tide gate structure located on-site at the head of the tidal lagoon. Removal of the berm would eliminate the problem of poor tidal exchange between the marine basin and the upstream tidal creeks and result in a permanent gain in tidal wetland area. The schedule for construction of the tide gate and berm removal project will be coordinated with the State Project 15-336, Realignment of Route 113 Main Street.

The second violation concerns an existing 24-inch culvert under an unpaved driveway to three residences that has been filled and thereby results in restriction of tidal flushing to an upstream creek area. The replacement of the existing 24-inch CMP culvert with a 24-inch RCP culvert and flared concrete end sections is proposed. Removal of excess roadway material that has entered the adjacent tidal wetland due to driveway maintenance will also be corrected. This improvement will correct the restricted tidal flushing to the upstream tidal creak area, and is currently planned to be constructed by the City in advance of State Project 15-336 Realignment of Route 113 Main Street.

Mitigation

Compensatory mitigation will likely include several methods to achieve full compensation. The mitigation strategy could include wetland creation, restoration, enhancement, preservation, or a combination of these methods. The location, size and type of compensatory mitigation would be based on multiple factors, including, but not limited to:

- Type and quantity of the wetlands impacted
- Quality and functions and values of the wetlands impacted
- Type and quantity of wetland required for compensation
- Available land for compensation

The COE Highway Methodology will be used as a guidance document for development of the mitigation plan. This document sets forth a process by which compensatory mitigation is established based on the characteristics of existing wetlands, the impacts to wetland functions and values, and finally a collaborative effort between the regulatory agencies and the applicant to determine the mitigation efforts required for full compensation of impacts.

Based on preliminary coordination at a site walk with OLISP, potential mitigation opportunities were identified on site south of the existing marine basin to the east of the Airport. It is anticipated that most, if not all, mitigation will be possible on-site. Mitigation plans will be developed in detail upon further review with CTDOT and CTDEP during pre-application meetings, site visits, and throughout the final design review process with CTDOT. Additional mitigation options include improving quality of wetlands along the tidal ditch between the berm and the Main Street cross culvert by removing chunks of reinforced concrete and other debris along the banks of the ditch. Other options include grading and establishing additional wetland vegetation along tidal ditches within the project limits. There are many opportunities for mitigation on the project site, including site/watercourse cleanup and plantings. The Airport will work with the CTDOT and CT DEP/OLISP to implement satisfactory mitigation measures during the permit process.

4.6 HAZARDOUS WASTE, POLLUTION PREVENTION, AND SOLID WASTE

4.6.1 IMPACT POTENTIAL - HAZARDOUS MATERIALS

The proposed project has the potential to encounter, disturb and generate contaminated soil, toxic (or hazardous) soil/waste and possibly contaminated groundwater. This conclusion is based on the results of the Subsurface Investigation conducted on a portion of the study area. A portion of the project area is identified as a portion of the Raymark Waste National Priorities List (NPL) (Superfund) site. Information provided by the US EPA Raymark Superfund Remedial Project Manager indicated that there is no formal approval or permit process necessary for the proposed roadway construction activities within the NPL areas (see **Appendix E**). CTDEP indicated that the study area may be subject to the Connecticut Property Transfer Law a/k/a the Property Transfer Act (PTA) due to the presence of hazardous waste and that the portion of the Raymark Waste site would require remediation in accordance with the CT DEP RSRs (see **Appendix E**). However, since that time, the City of Bridgeport has indicated that in accordance with CGS 22a-134(1)(M), the transfer of the FAA land to the City of Bridgeport would be exempt from the PTA for several reasons: there is no indication that the portion of land has been used for anything other than a parking lot; no hazardous waste has been generated since November 18, 1980; there is no indication that there has been any discharge of hazardous waste on the portion of land; and the contaminants detected are generally associated with asphalt.

Based upon the review by the City of Bridgeport outside legal counsel, the presence of PCBs in the site soils does not meet the definition of PCB Remediation Waste found in 40 CFR 761.3 and would not require investigation or remediation. Excess contaminated soil, hazardous soil/waste and/or contaminated groundwater generated during construction activities will require proper off-site disposal.

4.6.2 IMPACT POTENTIAL - SOLID WASTE

Construction wastes associated with the proposed project are expected to be typical of those normally generated by land clearing, earthwork, roadway construction, and paving projects. These wastes may include, but not be limited to, demolition waste such as concrete; site clearing debris such as vegetation; and wastes generated by construction workers. Based on the known fill material present with portions of the study area, solid waste consisting of demolition debris, concrete asphalt, wood, etc may be generated

during construction activities. Excavated solid waste will require off-site disposal in accordance with Connecticut Solid Waste Regulations.

4.7 CONSTRUCTION IMPACTS

The summary of construction impacts has been provided in accordance with FAA Order 1050.1E. For the Build Alternative, mitigation measures would be implemented to reduce or avoid potentially significant impacts from construction, which would reduce the impacts below their thresholds of significance. However, there would be unavoidable temporary construction impacts on air quality, equipment noise, and water quality. The No Build Alternative includes no construction activities and would, therefore, result in no construction impacts.

AIR QUALITY: Fugitive dust emissions from construction activities and equipment would occur with the implementation of the Build Alternative. However, contractors would exercise required fugitive dust control measures to reduce dust during the construction phases. An air quality emission inventory for the construction period of the proposed actions indicated that the construction-related emissions would be well below the de minimis thresholds during construction.

EQUIPMENT NOISE: Noise from equipment and related activities on the site would be regulated through development of a construction noise specification to minimize exposure outside of the construction area.

WATER QUALITY: All construction-related water quality impacts from implementation of any of the proposed projects would be temporary and indirect, and would result from the removal of vegetation and grading activities and the operation of earth-moving equipment. These temporary and indirect water quality impacts would likely result from soil erosion/sedimentation and the introduction of pollutants from construction machinery. Potential temporary water degradation due to erosion and sedimentation would be mitigated through the utilization of appropriate BMPs and containment devices, such as silt fences. Appropriate erosion and sediment control plans will be prepared prior to construction for review and approval by appropriate regulatory agencies.

SOLID WASTE: Excavated solid waste will require off-site disposal in accordance with Connecticut Solid Waste Regulations.

4.8 CUMULATIVE IMPACTS

Cumulative impacts are defined by the CEQ in 40 CFR 1508.7 as “impacts on the environment which result from the incremental impacts of the action when added to the other past, present, and reasonably foreseeable future actions regardless of what agency (Federal or non-Federal) or person undertakes such other actions.” The CEQ regulations also state that the cumulative impacts addressed should not be limited to those from actual proposals, but must be impacts from actions being contemplated or that are reasonably foreseeable. The CEQ regulations further require that NEPA environmental analyses analyze

connected, cumulative, and similar actions in the same document. This requirement prohibits segmentation of the project into smaller components to avoid required environmental analysis.

CEQ suggest analyzing only those resources that are incrementally affected by the proposed action and other actions within the same geographic area and time period. The geographic area of concern for the cumulative impacts analysis is typically defined by the context of the proposed actions and its alternatives. The geographic limits for this cumulative impact analysis have been identified as the Airport and vicinity to the northeast generally bound by Sniffens Lane to the north and Breakers Lane to the northeast.

The cumulative impacts associated with the proposed projects and other improvement projects located within the immediate vicinity of BDR were assessed from 2005 and 2023. Year 2005 was selected as the past year as this was the year that Taxiway D was reconstructed. Year 2023 is the out-year selected for development in the most recent ALP Update.

To identify and describe past, present, and reasonably foreseeable actions, CEQ suggests the use of "best available information." Thus, the recently completed ALP Update (2009) was used as a guide and the planning department of the Town of Stratford was consulted. In addition, the Town of Stratford's comprehensive plan, *Update to Town Plan of Conservation and Development* (December 2003) was reviewed. For purposes of describing the past, present, and reasonably foreseeable actions, the projects will be discussed in terms of Airport-related and non-Airport related projects.

4.8.1 AIRPORT RELATED PROJECTS

Previous planning efforts at BDR identified the need for a range of airside and landside improvements. The most sizable improvement at BDR was the construction of the Taxiway D improvements between 2005 and 2006. An Environmental Assessment was completed in 2004 and a Finding of No Significant Impact was issued on September 20, 2004.

The current approved ALP (2009) proposes a range of needed improvement projects for Near Term (2008-2013), Intermediate Term (2013-2018), and Long Term (2018-2023). Within the near term, with the exception of the projects proposed within this written reevaluation, planned projects include the construction of the remaining T-hangars on the South Apron, redevelopment of the FBO terminal area (Phase II), and the reconstruction of the terminal apron.

4.8.2 NON-AIRPORT RELATED PROJECTS

The Town of Stratford Planning department has been contacted to determine planned non-Airport related actions that are reasonably foreseeable within the geographic area defined for this analysis. No new development has been proposed within the vicinity of the Airport. Therefore, the potential impacts below only address Airport-related impacts.

4.8.3 POTENTIAL IMPACTS

Only Airport-related past projects that are to occur within the reasonably foreseeable future can be quantitatively assessed, as specific impact data for these projects are available. Therefore, the potential cumulative impacts of the proposed projects in conjunction with other past, present, and future planned projects in the analysis study area cannot be fully assessed quantitatively, as specific impact data for all non-Airport related projects is either not available or are not yet developed. In addition, the impacts discussed below are limited to those resource categories under which some degree of effect was identified for the proposed actions proposed within this written reevaluation, since those projects would not contribute cumulatively to the other resource categories.

Development plans for non-Airport actions will need to be reviewed, and all required environmental will need to be issued by appropriate regulatory agencies before they can be constructed. Therefore, the projects are not anticipated to contribute to a cumulatively significant impact to environmental resources identified in **Section 4**, as they will also be required to provide an acceptable level of impact mitigation.

4.8.3.1 Water Quality

As stated in **Section 4.2**, each project component was evaluated for water quality and quantity impacts and mitigation measures were addressed. The potential water quality effects of all projects identified in the cumulative scenario either have been, are, or will be subject to numerous review, approval, and permitting processes mandated under a regulatory framework established by a range of Federal, State, and local resource agencies. Each project must undergo individual review for compliance with this framework to assure that it does not contribute to the overall physical and chemical degradation of area receiving waters. As such, the potential for adverse cumulative effects is minimal since each proposed project is required to provide their own mitigation measures, as required, to assure compliance.

4.8.3.2 Floodplains

All work at the Airport would encroach upon the 100-year floodplain. A FMC from the CTDEP would be required for all proposed projects. This program ensures that the proposed projects are consistent with state standards and criteria for preventing flood hazards to human life, health or property and with the provisions of the NFIP and municipal floodplain regulations; does not adversely affect fish populations or fish passage; and, does not promote intensive use and development of flood prone areas. As a result, cumulative floodplain impacts should not be significant.

4.8.3.3 Wetland Resources

Impacts to wetland resources, associated permits and appropriate mitigation measures are included in **Section 4.5**. Potential wetland impacts associated with non-Airport related projects are dealt with by Federal, State, and local regulatory agencies on a case-by-case basis. Each proposed project would need to present information, which quantifies potential wetland impacts, and proposed mitigation

measures which are subject to agency review and approval to ensure that the overall function and values of the wetlands are maintained consistent with the national “no net loss” policy. As a result, cumulative wetland impacts should not be significant, should any wetlands be impacted by any future planned projects.

LEGEND A

TIDAL WETLAND

INLAND WETLAND

HIGH TIDE ELEVATION 5.75' (NGVD 1929)

CONNECTICUT COORDINATE GRID

OFA

RSA

R/W 11-29

T/W "K"

T/W "G"

T/W "F"

T/W "A"

T/W "A1"

T/W "C"

NORTH APRON

ATLANTIC AVIATION

MAIN STREET (CT ROUTE 113)

SWEENS LANE

ARMY ENGINE PLANT

NEW RUNWAY 100'

EXISTING RUNWAY 150'

R/W 6-24

1045+00

1040+00

1035+00

1030+00

1025+00

1020+00

1015+00

1010+00

1005+00

1000+00

WETLAND DELINEATION LIMIT NOT FLAGGED

WETLAND DELINEATION LIMIT NOT FLAGGED

WETLAND DELINEATION LIMIT NOT FLAGGED

MARINE BASIN

TIDAL WETLAND IMPACTS

MAIN STREET (CT ROUTE 113)

STORY BROOK ROAD

PROPOSED CONSTRUCTION FEATURES

1. REHABILITATE RUNWAY 6-24 PAVEMENT (100'x4677')
2. RUNWAY 6 SAFETY AREA
3. CONSTRUCT RUNWAY 24 SAFETY AREA (300'x500')
4. RE-ALIGN MAIN STREET (2150 L.F.)
5. INSTALL EMAS ON RUNWAY 24 (100'x300')
6. INSTALL NEW RUNWAY EDGE LIGHTS
7. INSTALL NEW PAPI OR RELOCATED VASI
8. RELOCATE REILS ON RUNWAY 6 AND 24
9. REMOVE TAXIWAY AT RUNWAY INTERSECTION
10. CONSTRUCT NEW TAXIWAY TO RUNWAY 24 (35'x330')
11. REMOVE EXISTING BLAST FENCE
12. INSTALL NEW AIRPORT SECURITY FENCE
13. REMOVE EXISTING RTE 113 CULVERT & CONSTRUCT NEW CULVERT
14. REMOVE CULVERT AND TIDE GATE STRUCTURE
15. REMOVE & REPLACE EXISTING DRIVEWAY CULVERT IN TIDAL DITCH
16. CONSTRUCT RUNWAY END TURNAROUND
17. REMOVE EXISTING MAIN STREET

SCALE IN FEET

500 0 500

LEGEND B

NEW OR REHABILITATED PAVEMENT AREAS

PAVEMENT REMOVAL AREAS

RSA GRADING AREA

AIRPORT PERIMETER FENCING

EMAS

GRAVEL DRIVEWAY

NOTES:

1. CONSTRUCTION FEATURES INCLUDED IN RTE 113 REALIGNMENT STATE PROJECT NO.15-336 INCLUDE ④ ⑪ ⑫ ⑬ ⑰ .
2. CONSTRUCTION FEATURE ⑮ , DRIVEWAY CULVERT REPLACEMENT, TO BE COMPLETED BY THE CITY OF BRIDGEPORT IN A CONSTRUCTION CONTRACT SEPARATE FROM STATE PROJECT NO. 15-336.
3. CONSTRUCTION FEATURE ⑭ , REMOVE CULVERT AND TIDE GATE STRUCTURE TO BE COMPLETED BY THE CITY OF BRIDGEPORT IN A CONSTRUCTION CONTRACT SEPARATE FROM STATE PROJECT NO.15-336.

IGOR I. SIKORSKY MEMORIAL AIRPORT
STRATFORD, CONNECTICUT

URS

WETLAND IMPACTS FOR ALTERNATIVE 1G MODIFIED WITH INSTALLATION OF EMAS

EXHIBIT 4.5-1

SECTION 5
LIST OF PREPARERS

The following personnel have had primary responsibilities in the preparation of this document. This list includes people affiliated with the Federal Aviation Administration (FAA), Connecticut Department of Transportation (CT DOT), City of Bridgeport, URS Corporation (URS), KB Environmental Sciences, Inc. (KB), and Fitzgerald & Halliday, Inc. (FHI).

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