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Technical Memorandum

Project: Igor I. Sikorsky Memorial Airport Runway 6-24 Safety Improvements and State Route 113 Re-alignment (State Project No. AIP-3-09-00-2-19)

To: Gerry D'Amico, Project Manager, URS Corporation

Date: November 17, 2010 **Report By:** Daniel A. Hageman, PSS

Purpose: Tidal Assessment

Introduction

The City of Bridgeport is currently undertaking runway safety improvements at the Igor I. Sikorsky Memorial Airport in Stratford, Connecticut. Some of the safety improvements will take place at the northeastern end of Runway 6-24. The improvements will require the relocation of the existing State Route 113 (Main Street) to the northeast of its existing location (State Project No. AIP-3-09-00-2-19). The result will be an alignment that impacts tidal wetlands and the existing tidal creek in this area.

There is an existing culvert that connects the tidal creek on the eastern side of Main Street to the wetlands on the western side of Main Street, located on the Airport. The tidal creek is connected to Marine Basin, located further to the east, by a non-functioning tide gate. Marine Basin is directly connected to the Housatonic River. A shared gravel/dirt driveway leads eastward from Main Street to three homes located on the shore of the Housatonic River. The driveway is located on property that is owned by the City of Bridgeport, which is part of the Airport. Approximately 385 feet east of Main Street, the driveway crosses a man-made tidal ditch, which stems from the main tidal creek. The existing culvert at this crossing consists of approximately 25 feet of 24" CMP. Exhibit 2.2-1 shows the project area and approximate locations of the proposed runway improvements and relocation of Main Street.

Purpose

The purpose of this tidal assessment was to determine the elevation of the seasonal high tide, and also determine to what extent, if at all, the existing culverts and tidal gate allow tidal flow to pass.

Methodology

Tidal Elevation

Prior to conducting any fieldwork, it was important to first investigate the date and time of the seasonal high tide. This was determined by reviewing existing National Oceanic and Atmospheric Administration (NOAA) tide charts for Sniffens Point, Stratford Connecticut. Based upon this review, the seasonal high tide was determined to occur at the site on October 8th, 2010 at approximately 12:09 PM (see attached tide charts). The chart predicts a seasonal high tide of 8.4 feet as referenced to mean lower low water (MLLW).

FHI Staff then visited the site on October 7th, 2010 during the regular low tide at approximately 5:44 PM and placed wire flags along the edge of water at low tide throughout the project area (see attached Figure 1). The site was then re-visited the following day during the timeframe of the seasonal high tide and wire flags were placed at key locations along the edge of water. A measurement was also taken from the top of the existing tide gate structure within the Marine Basin (shown in Photo No. 1) to the water elevation during the peak seasonal high tide.

Finally, a survey crew from URS Corporation visited the site and obtained the elevations of the flags placed along the edge of water during the seasonal high tide survey.

Salinity Testing

At the request of the Connecticut Department of Environmental Protection Office of Long Island Sound Programs (OLISP), salinity testing was conducted at key locations within the project area. One measurement was taken at each of the following locations:

Table 1: Locations of Salinity Measurements

Sample No.	Sample Location Description
SAL-1	Within the Marine Basin adjacent to tidal gate structure
SAL-2	Within the tidal creek on opposite side of berm and tidal gate from Marine Basin
SAL-3	Within the tidal creek on south side of driveway culvert crossing
SAL-4	Within the tidal creek on north side of driveway culvert crossing
SAL-5	Within the tidal creek on northeast side of Route 113 culvert crossing
SAL-6	Within the tidal creek on southwest side of Route 113 culvert crossing (Airport side)

Measurements were taken with a YSI Model 63 meter, which measures conductance, temperature and salinity.

Tidal Flow

To determine if tidal exchange/flow occurs between Marine Basin and the tidal creek, as well as through other pipes/culverts within the project area, tidal observations and salinity data were used. First, wire flags were placed along the edge of water throughout the project area (see Figure 1) during low tide on the afternoon of October 7th, 2010. Wire flags were then placed along the edge of water during the seasonal high tide on October 8th, 2010 in key locations. The difference in elevation between the low-tide flags and the high-tide flags was then assessed in the field to determine whether or not tidal exchange was actively occurring through the Marine Basin tide gate and various pipes/culverts on site. Salinity measurements at various locations throughout the project area were also used to determine if tidal exchange/flow was occurring by comparing differences in salinity values.

Results

High Tide Elevation

The water elevation during the peak seasonal high tide was observed on October 8, 2010 and measured 3.9 inches below the concrete top of the tidal structure at the western shore of the marine basin (east side of existing berm). Field survey performed by URS Corporation following the field observation determined that this seasonal high tide is at elevation 5.75 feet based on the NGVD 1929 datum.

Salinity Testing

The results of these salinity measurements are included in Table 2 below:

Table 2: Measured Salinity and Water Temperatures

Sample No.	Salinity (ppt)	Temperature (°C)
SAL-1	12.6	18.6
SAL-2	10.4	17.1
SAL-3	9.8	18.3
SAL-4	0.6	17.4
SAL-5	11.3	18.8
SAL-6	0.4	18.6

Note: ppt = parts per thousand

Tidal Flow

During the field work conducted on October 8th, 2010, no tidal flow was observed through the tide gate between the Marine Basin and the tidal creek to the west. In fact, the water elevation on the western side of the tidal gate within the creek was slightly lower than during the low tide cycle on the afternoon of October 7th, when the low-tide flag was placed. Likewise, no tidal flow was observed through any of the culverts within the project area.

Conclusions

Tidal Elevation

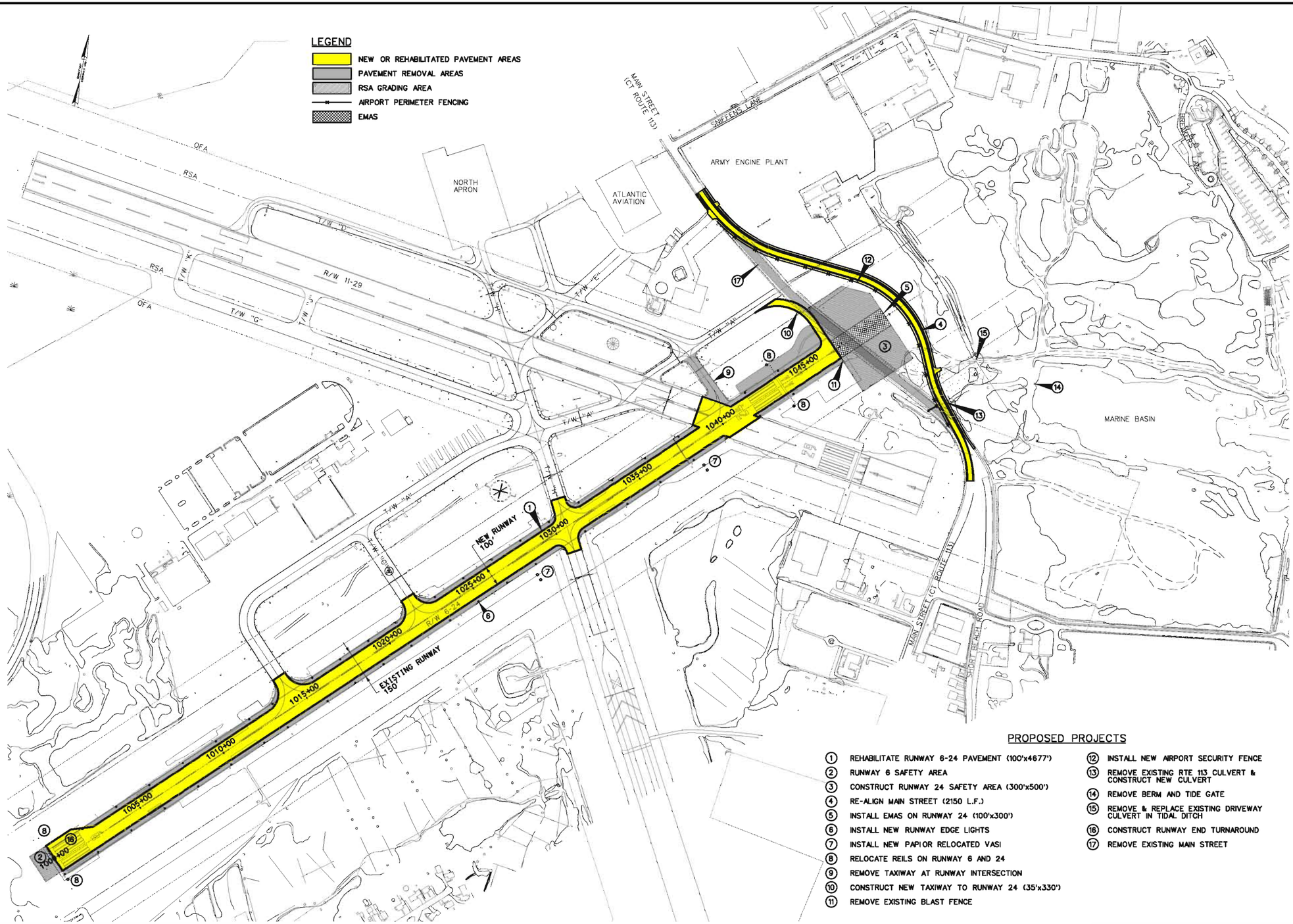
The observed seasonal high tide was consistent with NOAA's predicted seasonal high tide elevation.

Salinity Testing

Salinity measurements revealed that the tidal creek does have a similar salinity, although lower, than Marine Basin, which is connected directly to the Housatonic River. The tidal creek segments on the west side of Main Street and on the north side of the driveway culvert would be classified as fresh water due to very low salinity measurements. It is concluded that there is currently no tidal influence to these portions of the project area under existing site conditions. Since the berm where the tidal gate is located is overtopped during flooding, it is likely that the salinity values measured within this segment of the tidal creek are due to flood overflow, rather than tidal exchange through the tidal gate. It is anticipated that once the proposed improvements have been completed, tidal exchange/flow, which is currently impeded by the dysfunctional tidal gate and culverts, will be restored to all portions of the tidal creek from the Marine Basin.

Tidal Flow

During the field work conducted on October 8th, 2010, no tidal flow was observed through the tide gate between Marine Basin and the tidal creek to the west. In fact, the water elevation on the western side of the tidal gate within the creek was slightly lower than during the low tide cycle on the afternoon of October 7th, when the low-tide flag was placed (See photograph No. 4). Based on this observation, we conclude that there is little to no tidal flow occurring through the tide gate located within the berm between the Marine Basin and the tidal creek to the west.



PROPOSED PROJECTS

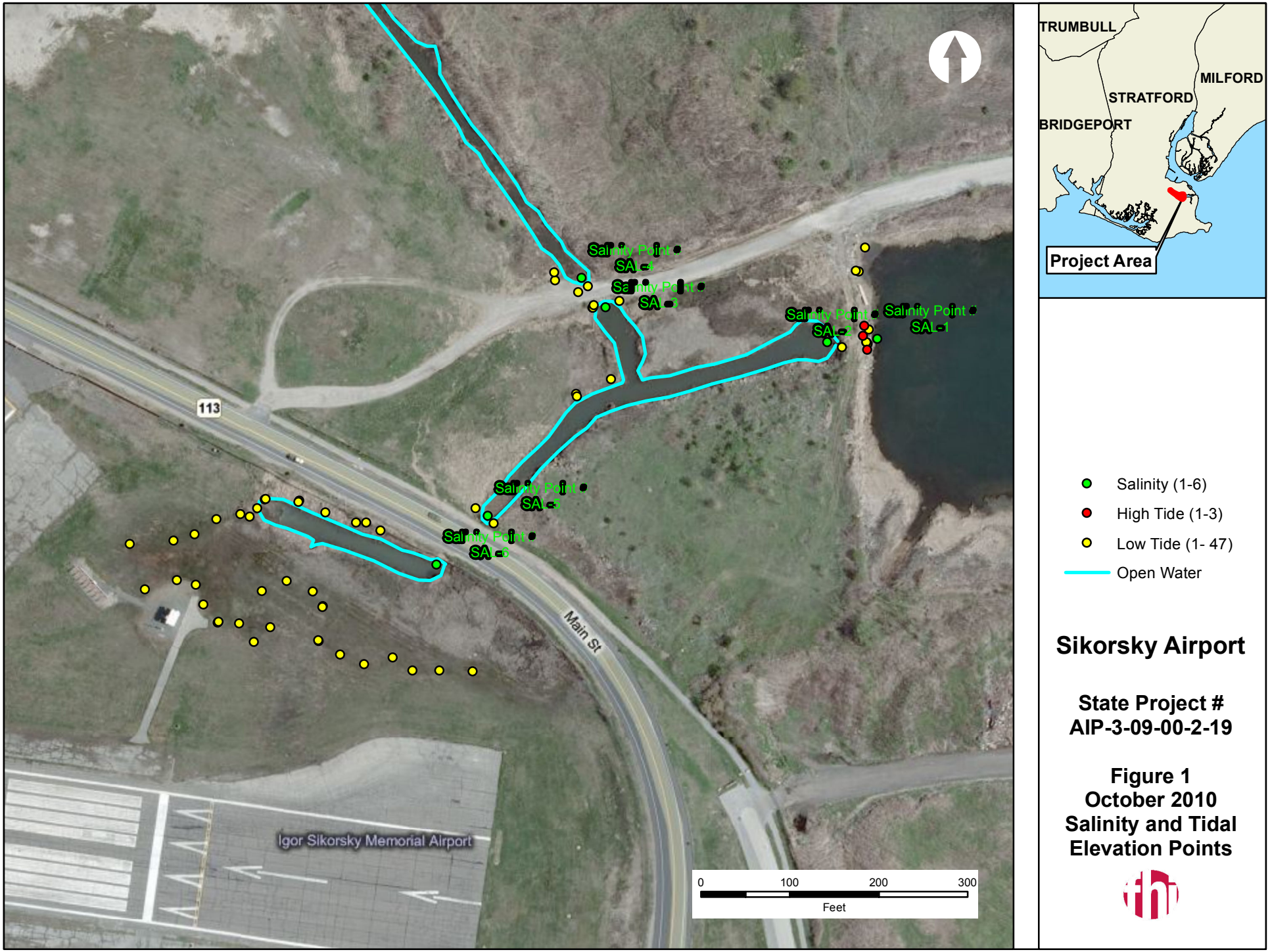
1. REHABILITATE RUNWAY 6-24 PAVEMENT (100'x4677')
2. RUNWAY 6 SAFETY AREA
3. CONSTRUCT RUNWAY 24 SAFETY AREA (300'x500')
4. RE-ALIGN MAIN STREET (2150 L.F.)
5. INSTALL EMAS ON RUNWAY 24 (100'x300')
6. INSTALL NEW RUNWAY EDGE LIGHTS
7. INSTALL NEW PAPI OR RELOCATED VASI
8. RELOCATE REILS ON RUNWAY 6 AND 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 BERM AND TIDE GATE
15. REMOVE & REPLACE EXISTING DRIVEWAY CULVERT IN TIDAL DITCH
16. CONSTRUCT RUNWAY END TURNAROUND
17. REMOVE EXISTING MAIN STREET

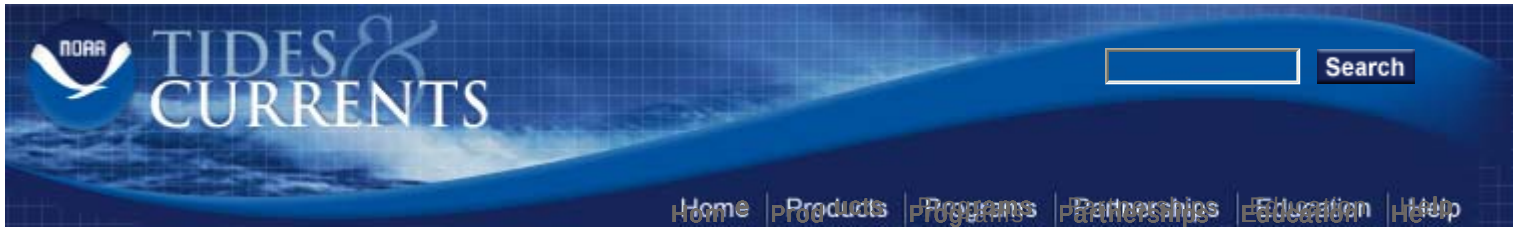
IGOR I. SIKORSKY MEMORIAL AIRPORT
STRATFORD, CONNECTICUT

URS

ALTERNATIVE 1G MODIFIED WITH INSTALLATION OF EMAS

EXHIBIT
2.2-1


TRUMBULL
MILFORD
STRATFORD
BRIDGEPORT
Project Area
Salinity Point SAL-4
Salinity Point SAL-5
Salinity Point SAL-2
Salinity Point SAL-1
Salinity Point SAL-3
Salinity Point SAL-6
113
Main St
Igor Sikorsky Memorial Airport
0
100
200
300
Feet
Salinity (1-6)
High Tide (1-3)
Low Tide (1- 47)
Open Water
Sikorsky Airport
State Project #
AIP-3-09-00-2-19
Figure 1
October 2010
Salinity and Tidal
Elevation Points



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2010 NOAA Tide Predictions: Sniffens Point

(Reference station: Bridgeport, Corrections Applied: Times: High +0 hr. 10 min., Low +0 hr. 9 min., Heights: High *0.96, Low *1.00)

January - Sniffens Point

Date	Day	Time	Height		Time	Height		Time	Height		Time	Height		Time	Height
01/01/2010	Fri	05:10AM LST	-0.5	L	11:21AM LST	7.8	H	05:51PM LST	-1.1	L	11:56PM LST	6.9	H		
01/02/2010	Sat	06:03AM LST	-0.7	L	12:13PM LST	7.7	H	06:41PM LST	-1.1	L					
01/03/2010	Sun	12:47AM LST	7.1	H	06:56AM LST	-0.7	L	01:05PM LST	7.6	H	07:31PM LST	-1.1	L		
01/04/2010	Mon	01:38AM LST	7.2	H	07:52AM LST	-0.6	L	01:59PM LST	7.2	H	08:22PM LST	-0.9	L		
01/05/2010	Tue	02:31AM LST	7.2	H	08:49AM LST	-0.5	L	02:54PM LST	6.8	H	09:15PM LST	-0.6	L		
01/06/2010	Wed	03:27AM LST	7.1	H	09:49AM LST	-0.2	L	03:52PM LST	6.4	H	10:10PM LST	-0.3	L		
01/07/2010	Thu	04:24AM LST	6.9	H	10:51AM LST	0.0	L	04:54PM LST	6.0	H	11:08PM LST	0.1	L		
01/08/2010	Fri	05:23AM LST	6.8	H	11:54AM LST	0.1	L	05:56PM LST	5.8	H					
01/09/2010	Sat	12:07AM LST	0.3	L	06:23AM LST	6.6	H	12:57PM LST	0.1	L	06:59PM LST	5.7	H		
01/10/2010	Sun	01:07AM LST	0.5	L	07:21AM LST	6.6	H	01:55PM LST	0.1	L	07:58PM LST	5.7	H		
01/11/2010	Mon	02:03AM LST	0.5	L	08:17AM LST	6.5	H	02:49PM LST	0.0	L	08:52PM LST	5.8	H		
01/12/2010	Tue	02:56AM LST	0.5	L	09:08AM LST	6.6	H	03:37PM LST	0.0	L	09:40PM LST	5.9	H		
01/13/2010	Wed	03:44AM LST	0.4	L	09:54AM LST	6.6	H	04:20PM LST	-0.1	L	10:24PM LST	6.0	H		
01/14/2010	Thu	04:27AM LST	0.3	L	10:37AM LST	6.6	H	05:00PM LST	-0.1	L	11:04PM LST	6.1	H		
01/15/2010	Fri	05:08AM LST	0.3	L	11:17AM LST	6.6	H	05:37PM LST	-0.1	L	11:43PM LST	6.2	H		
01/16/2010	Sat	05:47AM LST	0.2	L	11:55AM LST	6.5	H	06:12PM LST	-0.1	L					
01/17/2010	Sun	12:20AM LST	6.2	H	06:25AM LST	0.2	L	12:33PM LST	6.4	H	06:47PM LST	-0.1	L		
01/18/2010	Mon	12:56AM LST	6.3	H	07:03AM LST	0.3	L	01:10PM LST	6.3	H	07:22PM LST	0.0	L		
01/19/2010	Tue	01:33AM LST	6.3	H	07:43AM LST	0.3	L	01:48PM LST	6.1	H	07:58PM LST	0.1	L		
01/20/2010	Wed	02:10AM LST	6.2	H	08:25AM LST	0.4	L	02:29PM LST	5.9	H	08:37PM LST	0.3	L		
01/21/2010	Thu	02:50AM LST	6.2	H	09:10AM LST	0.5	L	03:14PM LST	5.7	H	09:20PM LST	0.5	L		
01/22/2010	Fri	03:34AM LST	6.2	H	10:00AM LST	0.6	L	04:04PM LST	5.5	H	10:09PM LST	0.7	L		
01/23/2010	Sat	04:23AM LST	6.1	H	10:57AM LST	0.6	L	05:01PM LST	5.4	H	11:04PM LST	0.8	L		
01/24/2010	Sun	05:19AM LST	6.2	H	11:58AM LST	0.5	L	06:02PM LST	5.4	H					
01/25/2010	Mon	12:04AM LST	0.8	L	06:20AM LST	6.3	H	01:00PM LST	0.3	L	07:05PM LST	5.5	H		
01/26/2010	Tue	01:07AM LST	0.6	L	07:22AM LST	6.6	H	02:01PM LST	0.0	L	08:05PM LST	5.8	H		
01/27/2010	Wed	02:08AM LST	0.3	L	08:22AM LST	6.9	H	02:58PM LST	-0.4	L	09:02PM LST	6.1	H		
01/28/2010	Thu	03:06AM LST	-0.1	L	09:20AM LST	7.3	H	03:51PM LST	-0.7	L	09:55PM LST	6.5	H		
01/29/2010	Fri	04:01AM LST	-0.6	L	10:14AM LST	7.6	H	04:42PM LST	-1.1	L	10:46PM LST	7.0	H		
01/30/2010	Sat	04:55AM LST	-0.9	L	11:06AM LST	7.8	H	05:31PM LST	-1.3	L	11:36PM LST	7.3	H		
01/31/2010	Sun	05:48AM LST	-1.1	L	11:57AM LST	7.7	H	06:18PM LST	-1.3	L					

All times are listed in Local Standard Time(LST) or, Local Daylight Time (LDT) (when applicable). All heights are in feet referenced to Mean Lower Low Water (MLLW).

Click

February - Sniffens Point

Date	Day	Time	Height		Time	Height		Time	Height		Time	Height	
02/01/2010	Mon	12:25AM LST	7.5	H	06:40AM LST	-1.1	L	12:47PM LST	7.5	H	07:06PM LST	-1.2	L
02/02/2010	Tue	01:15AM LST	7.6	H	07:33AM LST	-1.0	L	01:38PM LST	7.2	H	07:55PM LST	-0.9	L
02/03/2010	Wed	02:05AM LST	7.5	H	08:27AM LST	-0.7	L	02:31PM LST	6.8	H	08:45PM LST	-0.6	L
02/04/2010	Thu	02:57AM LST	7.2	H	09:23AM LST	-0.4	L	03:27PM LST	6.3	H	09:39PM LST	-0.1	L
02/05/2010	Fri	03:53AM LST	6.9	H	10:23AM LST	0.0	L	04:25PM LST	6.0	H	10:36PM LST	0.3	L
02/06/2010	Sat	04:51AM LST	6.5	H	11:25AM LST	0.3	L	05:28PM LST	5.6	H	11:38PM LST	0.6	L
02/07/2010	Sun	05:53AM LST	6.3	H	12:28PM LST	0.4	L	06:31PM LST	5.5	H			
02/08/2010	Mon	12:40AM LST	0.8	L	06:55AM LST	6.1	H	01:29PM LST	0.5	L	07:33PM LST	5.5	H
02/09/2010	Tue	01:41AM LST	0.8	L	07:54AM LST	6.1	H	02:24PM LST	0.4	L	08:28PM LST	5.7	H
02/10/2010	Wed	02:36AM LST	0.7	L	08:48AM LST	6.2	H	03:13PM LST	0.3	L	09:17PM LST	5.9	H
02/11/2010	Thu	03:24AM LST	0.5	L	09:35AM LST	6.3	H	03:55PM LST	0.1	L	10:01PM LST	6.0	H
02/12/2010	Fri	04:08AM LST	0.3	L	10:17AM LST	6.4	H	04:34PM LST	0.0	L	10:40PM LST	6.2	H
02/13/2010	Sat	04:47AM LST	0.2	L	10:56AM LST	6.5	H	05:09PM LST	-0.1	L	11:17PM LST	6.4	H
02/14/2010	Sun	05:25AM LST	0.1	L	11:33AM LST	6.5	H	05:43PM LST	-0.1	L	11:52PM LST	6.5	H
02/15/2010	Mon	06:02AM LST	0.0	L	12:08PM LST	6.4	H	06:17PM LST	-0.1	L			
02/16/2010	Tue	12:26AM LST	6.6	H	06:38AM LST	0.0	L	12:44PM LST	6.3	H	06:50PM LST	0.0	L
02/17/2010	Wed	01:00AM LST	6.6	H	07:15AM LST	0.0	L	01:21PM LST	6.2	H	07:26PM LST	0.1	L
02/18/2010	Thu	01:35AM LST	6.6	H	07:54AM LST	0.1	L	02:00PM LST	6.0	H	08:03PM LST	0.3	L
02/19/2010	Fri	02:12AM LST	6.5	H	08:37AM LST	0.2	L	02:43PM LST	5.9	H	08:45PM LST	0.5	L
02/20/2010	Sat	02:55AM LST	6.4	H	09:26AM LST	0.3	L	03:32PM LST	5.7	H	09:34PM LST	0.7	L
02/21/2010	Sun	03:45AM LST	6.3	H	10:23AM LST	0.5	L	04:29PM LST	5.5	H	10:31PM LST	0.8	L
02/22/2010	Mon	04:45AM LST	6.3	H	11:27AM LST	0.5	L	05:32PM LST	5.5	H	11:36PM LST	0.8	L
02/23/2010	Tue	05:51AM LST	6.3	H	12:33PM LST	0.4	L	06:38PM LST	5.6	H			
02/24/2010	Wed	12:44AM LST	0.6	L	06:59AM LST	6.6	H	01:37PM LST	0.1	L	07:41PM LST	6.0	H
02/25/2010	Thu	01:49AM LST	0.2	L	08:03AM LST	6.9	H	02:35PM LST	-0.3	L	08:40PM LST	6.3	H
02/26/2010	Fri	02:50AM LST	-0.2	L	09:02AM LST	7.2	H	03:29PM LST	-0.6	L	09:34PM LST	6.9	H
02/27/2010	Sat	03:46AM LST	-0.7	L	09:57AM LST	7.5	H	04:19PM LST	-1.0	L	10:25PM LST	7.4	H
02/28/2010	Sun	04:40AM LST	-1.0	L	10:49AM LST	7.6	H	05:07PM LST	-1.1	L	11:14PM LST	7.8	H

All times are listed in Local Standard Time(LST) or, Local Daylight Time (LDT) (when applicable). All heights are in feet referenced to Mean Lower Low Water (MLLW).

March - Sniffens Point

Date	Day	Time	Height		Time	Height		Time	Height		Time	Height		Time	Height
03/01/2010	Mon	05:31AM LST	-1.3	L	11:39AM LST	7.6	H	05:54PM LST	-1.2	L					
03/02/2010	Tue	12:02AM LST	7.9	H	06:22AM LST	-1.3	L	12:28PM LST	7.4	H	06:40PM LST	-1.0	L		
03/03/2010	Wed	12:49AM LST	7.9	H	07:12AM LST	-1.1	L	01:17PM LST	7.1	H	07:27PM LST	-0.7	L		
03/04/2010	Thu	01:38AM LST	7.7	H	08:03AM LST	-0.8	L	02:07PM LST	6.7	H	08:16PM LST	-0.3	L		
03/05/2010	Fri	02:27AM LST	7.3	H	08:56AM LST	-0.3	L	03:00PM LST	6.3	H	09:08PM LST	0.2	L		
03/06/2010	Sat	03:21AM LST	6.8	H	09:51AM LST	0.1	L	03:56PM LST	6.0	H	10:05PM LST	0.6	L		
03/07/2010	Sun	04:18AM LST	6.4	H	10:51AM LST	0.5	L	04:56PM LST	5.7	H	11:07PM LST	1.0	L		
03/08/2010	Mon	05:20AM LST	6.0	H	11:53AM LST	0.8	L	05:59PM LST	5.5	H					
03/09/2010	Tue	12:11AM LST	1.1	L	06:24AM LST	5.9	H	12:54PM LST	0.8	L	07:01PM LST	5.6	H		
03/10/2010	Wed	01:13AM LST	1.0	L	07:25AM LST	5.9	H	01:50PM LST	0.8	L	07:57PM LST	5.8	H		
03/11/2010	Thu	02:09AM LST	0.9	L	08:20AM LST	6.0	H	02:39PM LST	0.6	L	08:46PM LST	6.0	H		
03/12/2010	Fri	02:58AM LST	0.6	L	09:08AM LST	6.1	H	03:22PM LST	0.4	L	09:30PM LST	6.2	H		
03/13/2010	Sat	03:42AM LST	0.4	L	09:50AM LST	6.3	H	04:00PM LST	0.3	L	10:10PM LST	6.5	H		
03/14/2010	Sun	05:22AM LDT	0.2	L	11:30AM LDT	6.4	H	05:37PM LDT	0.2	L	11:46PM LDT	6.7	H		
03/15/2010	Mon	06:00AM LDT	0.0	L	12:07PM LDT	6.4	H	06:11PM LDT	0.1	L					
03/16/2010	Tue	12:21AM LDT	6.8	H	06:37AM LDT	-0.1	L	12:43PM LDT	6.5	H	06:46PM LDT	0.1	L		
03/17/2010	Wed	12:55AM LDT	6.9	H	07:13AM LDT	-0.1	L	01:19PM LDT	6.4	H	07:21PM LDT	0.2	L		
03/18/2010	Thu	01:28AM LDT	6.9	H	07:50AM LDT	-0.1	L	01:57PM LDT	6.3	H	07:57PM LDT	0.3	L		
03/19/2010	Fri	02:04AM LDT	6.9	H	08:30AM LDT	-0.1	L	02:36PM LDT	6.2	H	08:36PM LDT	0.4	L		
03/20/2010	Sat	02:43AM LDT	6.9	H	09:13AM LDT	0.0	L	03:20PM LDT	6.0	H	09:20PM LDT	0.6	L		
03/21/2010	Sun	03:28AM LDT	6.7	H	10:03AM LDT	0.2	L	04:10PM LDT	5.9	H	10:12PM LDT	0.8	L		
03/22/2010	Mon	04:21AM LDT	6.6	H	11:00AM LDT	0.4	L	05:07PM LDT	5.8	H	11:11PM LDT	0.9	L		
03/23/2010	Tue	05:23AM LDT	6.5	H	12:04PM LDT	0.5	L	06:11PM LDT	5.8	H					
03/24/2010	Wed	12:18AM LDT	0.8	L	06:31AM LDT	6.5	H	01:10PM LDT	0.4	L	07:16PM LDT	6.0	H		
03/25/2010	Thu	01:27AM LDT	0.6	L	07:40AM LDT	6.6	H	02:13PM LDT	0.2	L	08:19PM LDT	6.3	H		
03/26/2010	Fri	02:33AM LDT	0.2	L	08:44AM LDT	6.8	H	03:11PM LDT	-0.1	L	09:18PM LDT	6.8	H		
03/27/2010	Sat	03:34AM LDT	-0.2	L	09:44AM LDT	7.1	H	04:04PM LDT	-0.4	L	10:12PM LDT	7.3	H		
03/28/2010	Sun	04:31AM LDT	-0.7	L	10:39AM LDT	7.3	H	04:54PM LDT	-0.7	L	11:02PM LDT	7.8	H		
03/29/2010	Mon	05:24AM LDT	-1.0	L	11:30AM LDT	7.4	H	05:42PM LDT	-0.8	L	11:51PM LDT	8.1	H		
03/30/2010	Tue	06:14AM LDT	-1.1	L	12:19PM LDT	7.4	H	06:29PM LDT	-0.7	L					
03/31/2010	Wed	12:37AM LDT	8.1	H	07:02AM LDT	-1.1	L	01:07PM LDT	7.2	H	07:15PM LDT	-0.5	L		

All times are listed in Local Standard Time(LST) or, Local Daylight Time (LDT) (when applicable). All heights are in feet referenced to Mean Lower Low Water (MLLW).

April - Sniffens Point

Date	Day	Time	Height		Time	Height		Time	Height		Time	Height		Time	Height
04/01/2010	Thu	01:24AM LDT	8.0	H	07:50AM LDT	-0.9	L	01:55PM LDT	7.0	H	08:01PM LDT	-0.2	L		
04/02/2010	Fri	02:11AM LDT	7.7	H	08:38AM LDT	-0.5	L	02:44PM LDT	6.7	H	08:49PM LDT	0.2	L		
04/03/2010	Sat	02:59AM LDT	7.2	H	09:28AM LDT	-0.1	L	03:34PM LDT	6.3	H	09:40PM LDT	0.6	L		
04/04/2010	Sun	03:50AM LDT	6.8	H	10:20AM LDT	0.3	L	04:27PM LDT	6.0	H	10:34PM LDT	0.9	L		
04/05/2010	Mon	04:45AM LDT	6.3	H	11:15AM LDT	0.7	L	05:23PM LDT	5.8	H	11:33PM LDT	1.2	L		
04/06/2010	Tue	05:44AM LDT	6.0	H	12:13PM LDT	1.0	L	06:22PM LDT	5.7	H					
04/07/2010	Wed	12:35AM LDT	1.3	L	06:46AM LDT	5.9	H	01:10PM LDT	1.1	L	07:21PM LDT	5.8	H		
04/08/2010	Thu	01:36AM LDT	1.3	L	07:46AM LDT	5.8	H	02:05PM LDT	1.0	L	08:17PM LDT	6.0	H		
04/09/2010	Fri	02:33AM LDT	1.1	L	08:42AM LDT	5.9	H	02:54PM LDT	0.9	L	09:07PM LDT	6.2	H		
04/10/2010	Sat	03:24AM LDT	0.8	L	09:31AM LDT	6.0	H	03:39PM LDT	0.8	L	09:52PM LDT	6.5	H		
04/11/2010	Sun	04:10AM LDT	0.5	L	10:16AM LDT	6.1	H	04:20PM LDT	0.6	L	10:33PM LDT	6.7	H		
04/12/2010	Mon	04:52AM LDT	0.3	L	10:58AM LDT	6.2	H	04:59PM LDT	0.5	L	11:11PM LDT	6.9	H		
04/13/2010	Tue	05:31AM LDT	0.1	L	11:38AM LDT	6.4	H	05:37PM LDT	0.4	L	11:47PM LDT	7.1	H		
04/14/2010	Wed	06:10AM LDT	-0.1	L	12:17PM LDT	6.4	H	06:15PM LDT	0.4	L					
04/15/2010	Thu	12:23AM LDT	7.2	H	06:48AM LDT	-0.2	L	12:55PM LDT	6.5	H	06:53PM LDT	0.4	L		
04/16/2010	Fri	01:00AM LDT	7.2	H	07:28AM LDT	-0.2	L	01:35PM LDT	6.4	H	07:33PM LDT	0.5	L		
04/17/2010	Sat	01:39AM LDT	7.2	H	08:11AM LDT	-0.2	L	02:18PM LDT	6.4	H	08:16PM LDT	0.6	L		
04/18/2010	Sun	02:23AM LDT	7.2	H	08:57AM LDT	-0.1	L	03:04PM LDT	6.3	H	09:04PM LDT	0.7	L		
04/19/2010	Mon	03:12AM LDT	7.0	H	09:48AM LDT	0.1	L	03:56PM LDT	6.2	H	09:59PM LDT	0.8	L		
04/20/2010	Tue	04:07AM LDT	6.9	H	10:45AM LDT	0.2	L	04:53PM LDT	6.1	H	11:00PM LDT	0.8	L		
04/21/2010	Wed	05:09AM LDT	6.7	H	11:45AM LDT	0.3	L	05:54PM LDT	6.2	H					
04/22/2010	Thu	12:06AM LDT	0.8	L	06:15AM LDT	6.6	H	12:47PM LDT	0.3	L	06:57PM LDT	6.5	H		
04/23/2010	Fri	01:14AM LDT	0.5	L	07:22AM LDT	6.6	H	01:48PM LDT	0.2	L	07:58PM LDT	6.8	H		
04/24/2010	Sat	02:18AM LDT	0.2	L	08:25AM LDT	6.7	H	02:45PM LDT	0.0	L	08:55PM LDT	7.3	H		
04/25/2010	Sun	03:19AM LDT	-0.2	L	09:25AM LDT	6.8	H	03:38PM LDT	-0.1	L	09:49PM LDT	7.6	H		
04/26/2010	Mon	04:15AM LDT	-0.5	L	10:20AM LDT	7.0	H	04:29PM LDT	-0.2	L	10:39PM LDT	7.9	H		
04/27/2010	Tue	05:07AM LDT	-0.7	L	11:11AM LDT	7.0	H	05:18PM LDT	-0.2	L	11:28PM LDT	8.0	H		
04/28/2010	Wed	05:56AM LDT	-0.8	L	12:00PM LDT	7.0	H	06:05PM LDT	-0.2	L					
04/29/2010	Thu	12:14AM LDT	8.0	H	06:43AM LDT	-0.7	L	12:48PM LDT	6.9	H	06:51PM LDT	0.0	L		
04/30/2010	Fri	01:00AM LDT	7.8	H	07:29AM LDT	-0.5	L	01:34PM LDT	6.8	H	07:37PM LDT	0.3	L		

All times are listed in Local Standard Time(LST) or, Local Daylight Time (LDT) (when applicable). All heights are in feet referenced to Mean Lower Low Water (MLLW).

May - Sniffens Point

Date	Day	Time	Height		Time	Height		Time	Height		Time	Height		Time	Height
05/01/2010	Sat	01:46AM LDT	7.5	H	08:15AM LDT	-0.2	L	02:21PM LDT	6.6	H	08:24PM LDT	0.5	L		
05/02/2010	Sun	02:33AM LDT	7.1	H	09:01AM LDT	0.1	L	03:08PM LDT	6.3	H	09:12PM LDT	0.8	L		
05/03/2010	Mon	03:21AM LDT	6.7	H	09:48AM LDT	0.5	L	03:57PM LDT	6.1	H	10:04PM LDT	1.1	L		
05/04/2010	Tue	04:12AM LDT	6.3	H	10:38AM LDT	0.8	L	04:49PM LDT	6.0	H	10:58PM LDT	1.3	L		
05/05/2010	Wed	05:07AM LDT	6.0	H	11:29AM LDT	1.0	L	05:43PM LDT	6.0	H	11:56PM LDT	1.4	L		
05/06/2010	Thu	06:03AM LDT	5.9	H	12:21PM LDT	1.1	L	06:37PM LDT	6.0	H					
05/07/2010	Fri	12:54AM LDT	1.3	L	07:00AM LDT	5.8	H	01:13PM LDT	1.1	L	07:30PM LDT	6.2	H		
05/08/2010	Sat	01:50AM LDT	1.2	L	07:56AM LDT	5.8	H	02:03PM LDT	1.1	L	08:20PM LDT	6.4	H		
05/09/2010	Sun	02:43AM LDT	1.0	L	08:48AM LDT	5.9	H	02:51PM LDT	1.0	L	09:07PM LDT	6.6	H		
05/10/2010	Mon	03:31AM LDT	0.7	L	09:37AM LDT	6.0	H	03:36PM LDT	0.9	L	09:51PM LDT	6.8	H		
05/11/2010	Tue	04:17AM LDT	0.4	L	10:23AM LDT	6.1	H	04:20PM LDT	0.8	L	10:33PM LDT	7.0	H		
05/12/2010	Wed	05:00AM LDT	0.2	L	11:06AM LDT	6.2	H	05:03PM LDT	0.7	L	11:13PM LDT	7.2	H		
05/13/2010	Thu	05:42AM LDT	-0.1	L	11:49AM LDT	6.4	H	05:45PM LDT	0.6	L	11:54PM LDT	7.4	H		
05/14/2010	Fri	06:25AM LDT	-0.2	L	12:32PM LDT	6.5	H	06:28PM LDT	0.5	L					
05/15/2010	Sat	12:36AM LDT	7.5	H	07:09AM LDT	-0.3	L	01:16PM LDT	6.5	H	07:13PM LDT	0.5	L		
05/16/2010	Sun	01:21AM LDT	7.5	H	07:55AM LDT	-0.3	L	02:02PM LDT	6.6	H	08:01PM LDT	0.5	L		
05/17/2010	Mon	02:09AM LDT	7.4	H	08:43AM LDT	-0.2	L	02:50PM LDT	6.6	H	08:53PM LDT	0.5	L		
05/18/2010	Tue	03:00AM LDT	7.3	H	09:35AM LDT	-0.1	L	03:43PM LDT	6.6	H	09:49PM LDT	0.6	L		
05/19/2010	Wed	03:56AM LDT	7.1	H	10:29AM LDT	0.0	L	04:39PM LDT	6.7	H	10:50PM LDT	0.6	L		
05/20/2010	Thu	04:56AM LDT	6.9	H	11:26AM LDT	0.1	L	05:37PM LDT	6.8	H	11:54PM LDT	0.5	L		
05/21/2010	Fri	05:59AM LDT	6.7	H	12:24PM LDT	0.2	L	06:37PM LDT	7.0	H					
05/22/2010	Sat	12:59AM LDT	0.4	L	07:03AM LDT	6.6	H	01:22PM LDT	0.2	L	07:36PM LDT	7.2	H		
05/23/2010	Sun	02:02AM LDT	0.2	L	08:05AM LDT	6.5	H	02:19PM LDT	0.2	L	08:33PM LDT	7.5	H		
05/24/2010	Mon	03:02AM LDT	0.0	L	09:05AM LDT	6.5	H	03:14PM LDT	0.2	L	09:27PM LDT	7.7	H		
05/25/2010	Tue	03:58AM LDT	-0.2	L	10:01AM LDT	6.6	H	04:06PM LDT	0.2	L	10:18PM LDT	7.8	H		
05/26/2010	Wed	04:50AM LDT	-0.4	L	10:53AM LDT	6.6	H	04:56PM LDT	0.3	L	11:07PM LDT	7.8	H		
05/27/2010	Thu	05:38AM LDT	-0.4	L	11:42AM LDT	6.7	H	05:44PM LDT	0.3	L	11:54PM LDT	7.7	H		
05/28/2010	Fri	06:25AM LDT	-0.3	L	12:29PM LDT	6.6	H	06:31PM LDT	0.4	L					
05/29/2010	Sat	12:39AM LDT	7.5	H	07:09AM LDT	-0.2	L	01:14PM LDT	6.6	H	07:16PM LDT	0.6	L		
05/30/2010	Sun	01:24AM LDT	7.3	H	07:52AM LDT	0.0	L	01:58PM LDT	6.5	H	08:01PM LDT	0.7	L		
05/31/2010	Mon	02:09AM LDT	7.0	H	08:34AM LDT	0.2	L	02:42PM LDT	6.4	H	08:46PM LDT	0.9	L		

All times are listed in Local Standard Time(LST) or, Local Daylight Time (LDT) (when applicable). All heights are in feet referenced to Mean Lower Low Water (MLLW).

June - Sniffens Point

Date	Day	Time	Height		Time	Height		Time	Height		Time	Height		Time	Height
06/01/2010	Tue	02:54AM LDT	6.7	H	09:17AM LDT	0.5	L	03:27PM LDT	6.3	H	09:33PM LDT	1.1	L		
06/02/2010	Wed	03:40AM LDT	6.4	H	10:00AM LDT	0.7	L	04:13PM LDT	6.3	H	10:23PM LDT	1.2	L		
06/03/2010	Thu	04:29AM LDT	6.1	H	10:45AM LDT	0.8	L	05:01PM LDT	6.3	H	11:15PM LDT	1.3	L		
06/04/2010	Fri	05:19AM LDT	6.0	H	11:32AM LDT	1.0	L	05:50PM LDT	6.3	H					
06/05/2010	Sat	12:09AM LDT	1.3	L	06:13AM LDT	5.8	H	12:21PM LDT	1.1	L	06:40PM LDT	6.4	H		
06/06/2010	Sun	01:04AM LDT	1.2	L	07:07AM LDT	5.7	H	01:11PM LDT	1.1	L	07:30PM LDT	6.5	H		
06/07/2010	Mon	01:58AM LDT	1.0	L	08:01AM LDT	5.7	H	02:01PM LDT	1.1	L	08:19PM LDT	6.6	H		
06/08/2010	Tue	02:50AM LDT	0.8	L	08:54AM LDT	5.8	H	02:51PM LDT	1.1	L	09:08PM LDT	6.8	H		
06/09/2010	Wed	03:40AM LDT	0.5	L	09:45AM LDT	6.0	H	03:41PM LDT	0.9	L	09:55PM LDT	7.0	H		
06/10/2010	Thu	04:28AM LDT	0.2	L	10:34AM LDT	6.1	H	04:30PM LDT	0.8	L	10:41PM LDT	7.3	H		
06/11/2010	Fri	05:15AM LDT	0.0	L	11:21AM LDT	6.3	H	05:18PM LDT	0.6	L	11:28PM LDT	7.5	H		
06/12/2010	Sat	06:02AM LDT	-0.3	L	12:08PM LDT	6.5	H	06:06PM LDT	0.4	L					
06/13/2010	Sun	12:16AM LDT	7.6	H	06:50AM LDT	-0.4	L	12:56PM LDT	6.7	H	06:56PM LDT	0.3	L		
06/14/2010	Mon	01:05AM LDT	7.7	H	07:38AM LDT	-0.5	L	01:44PM LDT	6.9	H	07:47PM LDT	0.2	L		
06/15/2010	Tue	01:55AM LDT	7.7	H	08:27AM LDT	-0.5	L	02:34PM LDT	7.0	H	08:41PM LDT	0.2	L		
06/16/2010	Wed	02:48AM LDT	7.6	H	09:17AM LDT	-0.4	L	03:26PM LDT	7.1	H	09:38PM LDT	0.2	L		
06/17/2010	Thu	03:43AM LDT	7.3	H	10:09AM LDT	-0.3	L	04:21PM LDT	7.2	H	10:37PM LDT	0.2	L		
06/18/2010	Fri	04:41AM LDT	7.0	H	11:03AM LDT	-0.1	L	05:17PM LDT	7.3	H	11:39PM LDT	0.3	L		
06/19/2010	Sat	05:41AM LDT	6.7	H	11:59AM LDT	0.1	L	06:14PM LDT	7.4	H					
06/20/2010	Sun	12:42AM LDT	0.3	L	06:43AM LDT	6.4	H	12:57PM LDT	0.3	L	07:13PM LDT	7.4	H		
06/21/2010	Mon	01:44AM LDT	0.2	L	07:45AM LDT	6.3	H	01:55PM LDT	0.4	L	08:10PM LDT	7.4	H		
06/22/2010	Tue	02:44AM LDT	0.1	L	08:45AM LDT	6.2	H	02:51PM LDT	0.5	L	09:06PM LDT	7.4	H		
06/23/2010	Wed	03:40AM LDT	0.1	L	09:42AM LDT	6.2	H	03:46PM LDT	0.6	L	09:59PM LDT	7.4	H		
06/24/2010	Thu	04:33AM LDT	0.0	L	10:35AM LDT	6.3	H	04:38PM LDT	0.6	L	10:49PM LDT	7.4	H		
06/25/2010	Fri	05:21AM LDT	0.0	L	11:24AM LDT	6.4	H	05:26PM LDT	0.6	L	11:36PM LDT	7.3	H		
06/26/2010	Sat	06:06AM LDT	0.0	L	12:10PM LDT	6.4	H	06:12PM LDT	0.7	L					
06/27/2010	Sun	12:21AM LDT	7.2	H	06:48AM LDT	0.1	L	12:53PM LDT	6.5	H	06:55PM LDT	0.7	L		
06/28/2010	Mon	01:03AM LDT	7.1	H	07:27AM LDT	0.2	L	01:34PM LDT	6.5	H	07:38PM LDT	0.8	L		
06/29/2010	Tue	01:45AM LDT	6.9	H	08:06AM LDT	0.3	L	02:15PM LDT	6.5	H	08:20PM LDT	0.8	L		
06/30/2010	Wed	02:26AM LDT	6.7	H	08:44AM LDT	0.4	L	02:55PM LDT	6.5	H	09:03PM LDT	0.9	L		

All times are listed in Local Standard Time(LST) or, Local Daylight Time (LDT) (when applicable). All heights are in feet referenced to Mean Lower Low Water (MLLW).

July - Sniffens Point

Date	Day	Time	Height		Time	Height		Time	Height		Time	Height		Time	Height
07/01/2010	Thu	03:08AM LDT	6.4	H	09:23AM LDT	0.6	L	03:36PM LDT	6.5	H	09:47PM LDT	1.0	L		
07/02/2010	Fri	03:52AM LDT	6.2	H	10:03AM LDT	0.7	L	04:19PM LDT	6.5	H	10:35PM LDT	1.1	L		
07/03/2010	Sat	04:38AM LDT	6.0	H	10:46AM LDT	0.9	L	05:04PM LDT	6.5	H	11:25PM LDT	1.1	L		
07/04/2010	Sun	05:27AM LDT	5.8	H	11:32AM LDT	1.0	L	05:51PM LDT	6.5	H					
07/05/2010	Mon	12:18AM LDT	1.1	L	06:20AM LDT	5.7	H	12:22PM LDT	1.1	L	06:41PM LDT	6.5	H		
07/06/2010	Tue	01:13AM LDT	1.0	L	07:16AM LDT	5.7	H	01:16PM LDT	1.2	L	07:33PM LDT	6.6	H		
07/07/2010	Wed	02:09AM LDT	0.9	L	08:13AM LDT	5.7	H	02:11PM LDT	1.1	L	08:27PM LDT	6.8	H		
07/08/2010	Thu	03:04AM LDT	0.6	L	09:09AM LDT	5.9	H	03:06PM LDT	1.0	L	09:21PM LDT	7.0	H		
07/09/2010	Fri	03:58AM LDT	0.3	L	10:03AM LDT	6.1	H	04:01PM LDT	0.7	L	10:14PM LDT	7.3	H		
07/10/2010	Sat	04:50AM LDT	0.0	L	10:54AM LDT	6.4	H	04:54PM LDT	0.5	L	11:06PM LDT	7.6	H		
07/11/2010	Sun	05:40AM LDT	-0.3	L	11:45AM LDT	6.7	H	05:46PM LDT	0.2	L	11:58PM LDT	7.8	H		
07/12/2010	Mon	06:28AM LDT	-0.6	L	12:34PM LDT	7.0	H	06:39PM LDT	-0.1	L					
07/13/2010	Tue	12:48AM LDT	7.9	H	07:17AM LDT	-0.7	L	01:23PM LDT	7.3	H	07:32PM LDT	-0.2	L		
07/14/2010	Wed	01:40AM LDT	7.9	H	08:05AM LDT	-0.7	L	02:14PM LDT	7.5	H	08:26PM LDT	-0.3	L		
07/15/2010	Thu	02:32AM LDT	7.7	H	08:55AM LDT	-0.6	L	03:05PM LDT	7.7	H	09:22PM LDT	-0.2	L		
07/16/2010	Fri	03:26AM LDT	7.4	H	09:45AM LDT	-0.4	L	03:58PM LDT	7.7	H	10:19PM LDT	0.0	L		
07/17/2010	Sat	04:22AM LDT	7.0	H	10:38AM LDT	-0.1	L	04:53PM LDT	7.6	H	11:19PM LDT	0.1	L		
07/18/2010	Sun	05:20AM LDT	6.6	H	11:34AM LDT	0.2	L	05:50PM LDT	7.4	H					
07/19/2010	Mon	12:21AM LDT	0.3	L	06:22AM LDT	6.3	H	12:33PM LDT	0.5	L	06:49PM LDT	7.3	H		
07/20/2010	Tue	01:24AM LDT	0.4	L	07:25AM LDT	6.1	H	01:33PM LDT	0.7	L	07:49PM LDT	7.1	H		
07/21/2010	Wed	02:25AM LDT	0.4	L	08:26AM LDT	6.0	H	02:33PM LDT	0.8	L	08:48PM LDT	7.1	H		
07/22/2010	Thu	03:22AM LDT	0.4	L	09:24AM LDT	6.1	H	03:29PM LDT	0.8	L	09:43PM LDT	7.0	H		
07/23/2010	Fri	04:14AM LDT	0.3	L	10:17AM LDT	6.2	H	04:21PM LDT	0.8	L	10:33PM LDT	7.0	H		
07/24/2010	Sat	05:01AM LDT	0.3	L	11:05AM LDT	6.3	H	05:09PM LDT	0.7	L	11:19PM LDT	7.0	H		
07/25/2010	Sun	05:44AM LDT	0.3	L	11:48AM LDT	6.4	H	05:53PM LDT	0.7	L					
07/26/2010	Mon	12:01AM LDT	7.0	H	06:23AM LDT	0.2	L	12:28PM LDT	6.6	H	06:34PM LDT	0.7	L		
07/27/2010	Tue	12:41AM LDT	6.9	H	06:59AM LDT	0.3	L	01:07PM LDT	6.6	H	07:13PM LDT	0.7	L		
07/28/2010	Wed	01:20AM LDT	6.8	H	07:35AM LDT	0.3	L	01:44PM LDT	6.7	H	07:52PM LDT	0.7	L		
07/29/2010	Thu	01:58AM LDT	6.7	H	08:10AM LDT	0.4	L	02:21PM LDT	6.7	H	08:32PM LDT	0.7	L		
07/30/2010	Fri	02:37AM LDT	6.5	H	08:45AM LDT	0.5	L	02:58PM LDT	6.7	H	09:13PM LDT	0.8	L		
07/31/2010	Sat	03:17AM LDT	6.3	H	09:23AM LDT	0.7	L	03:37PM LDT	6.7	H	09:56PM LDT	0.9	L		

All times are listed in Local Standard Time(LST) or, Local Daylight Time (LDT) (when applicable). All heights are in feet referenced to Mean Lower Low Water (MLLW).

August - Sniffens Point

Date	Day	Time	Height		Time	Height		Time	Height		Time	Height		Time	Height
08/01/2010	Sun	04:00AM LDT	6.0	H	10:04AM LDT	0.9	L	04:19PM LDT	6.6	H	10:44PM LDT	1.0	L		
08/02/2010	Mon	04:47AM LDT	5.9	H	10:49AM LDT	1.0	L	05:05PM LDT	6.6	H	11:36PM LDT	1.0	L		
08/03/2010	Tue	05:40AM LDT	5.8	H	11:41AM LDT	1.2	L	05:57PM LDT	6.6	H					
08/04/2010	Wed	12:33AM LDT	1.0	L	06:37AM LDT	5.7	H	12:38PM LDT	1.2	L	06:54PM LDT	6.6	H		
08/05/2010	Thu	01:34AM LDT	0.9	L	07:38AM LDT	5.8	H	01:38PM LDT	1.2	L	07:54PM LDT	6.8	H		
08/06/2010	Fri	02:33AM LDT	0.6	L	08:37AM LDT	6.0	H	02:39PM LDT	0.9	L	08:54PM LDT	7.1	H		
08/07/2010	Sat	03:30AM LDT	0.3	L	09:34AM LDT	6.2	H	03:37PM LDT	0.6	L	09:51PM LDT	7.4	H		
08/08/2010	Sun	04:24AM LDT	-0.1	L	10:28AM LDT	6.6	H	04:33PM LDT	0.2	L	10:46PM LDT	7.7	H		
08/09/2010	Mon	05:15AM LDT	-0.4	L	11:20AM LDT	7.1	H	05:28PM LDT	-0.2	L	11:38PM LDT	7.9	H		
08/10/2010	Tue	06:04AM LDT	-0.7	L	12:10PM LDT	7.5	H	06:21PM LDT	-0.5	L					
08/11/2010	Wed	12:30AM LDT	8.0	H	06:52AM LDT	-0.8	L	12:59PM LDT	7.9	H	07:14PM LDT	-0.6	L		
08/12/2010	Thu	01:21AM LDT	7.9	H	07:40AM LDT	-0.8	L	01:49PM LDT	8.0	H	08:07PM LDT	-0.6	L		
08/13/2010	Fri	02:12AM LDT	7.7	H	08:28AM LDT	-0.6	L	02:39PM LDT	8.1	H	09:01PM LDT	-0.4	L		
08/14/2010	Sat	03:05AM LDT	7.3	H	09:19AM LDT	-0.3	L	03:32PM LDT	7.9	H	09:58PM LDT	-0.2	L		
08/15/2010	Sun	04:00AM LDT	6.9	H	10:12AM LDT	0.0	L	04:26PM LDT	7.6	H	10:56PM LDT	0.1	L		
08/16/2010	Mon	04:58AM LDT	6.5	H	11:09AM LDT	0.4	L	05:25PM LDT	7.3	H	11:58PM LDT	0.4	L		
08/17/2010	Tue	06:00AM LDT	6.2	H	12:10PM LDT	0.8	L	06:26PM LDT	7.0	H					
08/18/2010	Wed	01:01AM LDT	0.6	L	07:03AM LDT	6.0	H	01:12PM LDT	1.0	L	07:28PM LDT	6.8	H		
08/19/2010	Thu	02:02AM LDT	0.7	L	08:05AM LDT	6.0	H	02:14PM LDT	1.0	L	08:28PM LDT	6.7	H		
08/20/2010	Fri	03:00AM LDT	0.7	L	09:03AM LDT	6.1	H	03:11PM LDT	1.0	L	09:24PM LDT	6.7	H		
08/21/2010	Sat	03:51AM LDT	0.6	L	09:55AM LDT	6.2	H	04:03PM LDT	0.9	L	10:13PM LDT	6.8	H		
08/22/2010	Sun	04:36AM LDT	0.5	L	10:40AM LDT	6.4	H	04:48PM LDT	0.7	L	10:58PM LDT	6.8	H		
08/23/2010	Mon	05:16AM LDT	0.4	L	11:22AM LDT	6.6	H	05:30PM LDT	0.6	L	11:38PM LDT	6.9	H		
08/24/2010	Tue	05:53AM LDT	0.4	L	12:00PM LDT	6.8	H	06:09PM LDT	0.5	L					
08/25/2010	Wed	12:16AM LDT	6.8	H	06:27AM LDT	0.4	L	12:36PM LDT	6.9	H	06:47PM LDT	0.5	L		
08/26/2010	Thu	12:53AM LDT	6.8	H	07:01AM LDT	0.4	L	01:11PM LDT	6.9	H	07:24PM LDT	0.5	L		
08/27/2010	Fri	01:30AM LDT	6.6	H	07:35AM LDT	0.5	L	01:46PM LDT	6.9	H	08:01PM LDT	0.5	L		
08/28/2010	Sat	02:07AM LDT	6.5	H	08:10AM LDT	0.6	L	02:21PM LDT	6.9	H	08:40PM LDT	0.6	L		
08/29/2010	Sun	02:45AM LDT	6.3	H	08:47AM LDT	0.8	L	02:58PM LDT	6.8	H	09:22PM LDT	0.7	L		
08/30/2010	Mon	03:27AM LDT	6.1	H	09:28AM LDT	1.0	L	03:39PM LDT	6.7	H	10:09PM LDT	0.8	L		
08/31/2010	Tue	04:14AM LDT	6.0	H	10:15AM LDT	1.1	L	04:27PM LDT	6.6	H	11:02PM LDT	0.9	L		

All times are listed in Local Standard Time(LST) or, Local Daylight Time (LDT) (when applicable). All heights are in feet referenced to Mean Lower Low Water (MLLW).

September - Sniffens Point

Date	Day	Time	Height		Time	Height		Time	Height		Time	Height		Time	Height
09/01/2010	Wed	05:08AM LDT	5.9	H	11:09AM LDT	1.3	L	05:22PM LDT	6.6	H					
09/02/2010	Thu	12:02AM LDT	1.0	L	06:07AM LDT	5.8	H	12:10PM LDT	1.3	L	06:24PM LDT	6.6	H		
09/03/2010	Fri	01:05AM LDT	0.9	L	07:10AM LDT	5.9	H	01:14PM LDT	1.1	L	07:29PM LDT	6.8	H		
09/04/2010	Sat	02:07AM LDT	0.6	L	08:11AM LDT	6.1	H	02:18PM LDT	0.8	L	08:32PM LDT	7.1	H		
09/05/2010	Sun	03:05AM LDT	0.3	L	09:09AM LDT	6.6	H	03:18PM LDT	0.4	L	09:31PM LDT	7.4	H		
09/06/2010	Mon	03:59AM LDT	-0.1	L	10:04AM LDT	7.1	H	04:15PM LDT	-0.1	L	10:26PM LDT	7.7	H		
09/07/2010	Tue	04:49AM LDT	-0.4	L	10:55AM LDT	7.6	H	05:10PM LDT	-0.5	L	11:19PM LDT	7.9	H		
09/08/2010	Wed	05:38AM LDT	-0.7	L	11:45AM LDT	8.0	H	06:03PM LDT	-0.8	L					
09/09/2010	Thu	12:10AM LDT	7.9	H	06:25AM LDT	-0.7	L	12:34PM LDT	8.3	H	06:54PM LDT	-0.8	L		
09/10/2010	Fri	01:00AM LDT	7.8	H	07:13AM LDT	-0.7	L	01:23PM LDT	8.3	H	07:46PM LDT	-0.8	L		
09/11/2010	Sat	01:50AM LDT	7.5	H	08:01AM LDT	-0.4	L	02:13PM LDT	8.2	H	08:39PM LDT	-0.5	L		
09/12/2010	Sun	02:42AM LDT	7.1	H	08:52AM LDT	-0.1	L	03:04PM LDT	7.9	H	09:33PM LDT	-0.1	L		
09/13/2010	Mon	03:36AM LDT	6.8	H	09:46AM LDT	0.3	L	03:59PM LDT	7.4	H	10:30PM LDT	0.3	L		
09/14/2010	Tue	04:34AM LDT	6.4	H	10:44AM LDT	0.7	L	04:57PM LDT	7.0	H	11:31PM LDT	0.6	L		
09/15/2010	Wed	05:35AM LDT	6.1	H	11:45AM LDT	1.0	L	06:00PM LDT	6.7	H					
09/16/2010	Thu	12:33AM LDT	0.9	L	06:38AM LDT	6.0	H	12:49PM LDT	1.2	L	07:03PM LDT	6.5	H		
09/17/2010	Fri	01:34AM LDT	0.9	L	07:39AM LDT	6.0	H	01:51PM LDT	1.2	L	08:04PM LDT	6.4	H		
09/18/2010	Sat	02:30AM LDT	0.9	L	08:36AM LDT	6.1	H	02:48PM LDT	1.0	L	08:59PM LDT	6.5	H		
09/19/2010	Sun	03:19AM LDT	0.8	L	09:26AM LDT	6.4	H	03:38PM LDT	0.9	L	09:47PM LDT	6.6	H		
09/20/2010	Mon	04:03AM LDT	0.7	L	10:10AM LDT	6.6	H	04:23PM LDT	0.7	L	10:31PM LDT	6.6	H		
09/21/2010	Tue	04:42AM LDT	0.6	L	10:50AM LDT	6.8	H	05:04PM LDT	0.5	L	11:11PM LDT	6.7	H		
09/22/2010	Wed	05:18AM LDT	0.5	L	11:28AM LDT	7.0	H	05:42PM LDT	0.4	L	11:49PM LDT	6.7	H		
09/23/2010	Thu	05:53AM LDT	0.5	L	12:03PM LDT	7.1	H	06:19PM LDT	0.3	L					
09/24/2010	Fri	12:26AM LDT	6.7	H	06:28AM LDT	0.5	L	12:37PM LDT	7.1	H	06:56PM LDT	0.3	L		
09/25/2010	Sat	01:02AM LDT	6.6	H	07:03AM LDT	0.6	L	01:12PM LDT	7.1	H	07:33PM LDT	0.3	L		
09/26/2010	Sun	01:39AM LDT	6.5	H	07:39AM LDT	0.7	L	01:47PM LDT	7.0	H	08:12PM LDT	0.4	L		
09/27/2010	Mon	02:19AM LDT	6.3	H	08:17AM LDT	0.9	L	02:25PM LDT	6.9	H	08:54PM LDT	0.5	L		
09/28/2010	Tue	03:01AM LDT	6.1	H	09:00AM LDT	1.0	L	03:08PM LDT	6.8	H	09:42PM LDT	0.7	L		
09/29/2010	Wed	03:49AM LDT	6.0	H	09:49AM LDT	1.2	L	03:59PM LDT	6.7	H	10:37PM LDT	0.8	L		
09/30/2010	Thu	04:44AM LDT	6.0	H	10:46AM LDT	1.2	L	04:57PM LDT	6.6	H	11:38PM LDT	0.8	L		

All times are listed in Local Standard Time(LST) or, Local Daylight Time (LDT) (when applicable). All heights are in feet referenced to Mean Lower Low Water (MLLW).

October - Sniffens Point

Date	Day	Time	Height		Time	Height		Time	Height		Time	Height		Time	Height
10/01/2010	Fri	05:44AM LDT	6.0	H	11:50AM LDT	1.2	L	06:02PM LDT	6.7	H					
10/02/2010	Sat	12:41AM LDT	0.7	L	06:47AM LDT	6.1	H	12:57PM LDT	1.0	L	07:08PM LDT	6.8	H		
10/03/2010	Sun	01:42AM LDT	0.5	L	07:49AM LDT	6.4	H	02:01PM LDT	0.6	L	08:12PM LDT	7.0	H		
10/04/2010	Mon	02:39AM LDT	0.2	L	08:46AM LDT	6.9	H	03:02PM LDT	0.1	L	09:11PM LDT	7.3	H		
10/05/2010	Tue	03:32AM LDT	-0.1	L	09:40AM LDT	7.5	H	03:59PM LDT	-0.3	L	10:06PM LDT	7.5	H		
10/06/2010	Wed	04:23AM LDT	-0.4	L	10:31AM LDT	8.0	H	04:53PM LDT	-0.7	L	10:59PM LDT	7.6	H		
10/07/2010	Thu	05:11AM LDT	-0.6	L	11:21AM LDT	8.3	H	05:44PM LDT	-0.9	L	11:49PM LDT	7.6	H		
10/08/2010	Fri	05:59AM LDT	-0.6	L	12:09PM LDT	8.4	H	06:35PM LDT	-0.9	L					
10/09/2010	Sat	12:39AM LDT	7.5	H	06:47AM LDT	-0.4	L	12:57PM LDT	8.3	H	07:25PM LDT	-0.8	L		
10/10/2010	Sun	01:29AM LDT	7.2	H	07:36AM LDT	-0.2	L	01:47PM LDT	8.0	H	08:15PM LDT	-0.4	L		
10/11/2010	Mon	02:20AM LDT	6.9	H	08:26AM LDT	0.2	L	02:37PM LDT	7.6	H	09:08PM LDT	-0.1	L		
10/12/2010	Tue	03:12AM LDT	6.6	H	09:19AM LDT	0.6	L	03:31PM LDT	7.2	H	10:02PM LDT	0.4	L		
10/13/2010	Wed	04:07AM LDT	6.3	H	10:16AM LDT	0.9	L	04:28PM LDT	6.7	H	10:59PM LDT	0.7	L		
10/14/2010	Thu	05:06AM LDT	6.0	H	11:17AM LDT	1.2	L	05:29PM LDT	6.4	H	11:58PM LDT	0.9	L		
10/15/2010	Fri	06:06AM LDT	6.0	H	12:20PM LDT	1.3	L	06:30PM LDT	6.2	H					
10/16/2010	Sat	12:56AM LDT	1.0	L	07:05AM LDT	6.0	H	01:20PM LDT	1.2	L	07:30PM LDT	6.1	H		
10/17/2010	Sun	01:50AM LDT	1.0	L	08:00AM LDT	6.2	H	02:16PM LDT	1.1	L	08:24PM LDT	6.1	H		
10/18/2010	Mon	02:38AM LDT	0.9	L	08:49AM LDT	6.4	H	03:07PM LDT	0.9	L	09:13PM LDT	6.2	H		
10/19/2010	Tue	03:22AM LDT	0.8	L	09:34AM LDT	6.7	H	03:52PM LDT	0.6	L	09:58PM LDT	6.3	H		
10/20/2010	Wed	04:03AM LDT	0.7	L	10:15AM LDT	6.9	H	04:34PM LDT	0.4	L	10:40PM LDT	6.4	H		
10/21/2010	Thu	04:41AM LDT	0.6	L	10:53AM LDT	7.0	H	05:13PM LDT	0.3	L	11:19PM LDT	6.4	H		
10/22/2010	Fri	05:19AM LDT	0.6	L	11:30AM LDT	7.1	H	05:51PM LDT	0.2	L	11:58PM LDT	6.5	H		
10/23/2010	Sat	05:56AM LDT	0.6	L	12:05PM LDT	7.1	H	06:29PM LDT	0.1	L					
10/24/2010	Sun	12:36AM LDT	6.4	H	06:33AM LDT	0.6	L	12:41PM LDT	7.1	H	07:08PM LDT	0.1	L		
10/25/2010	Mon	01:15AM LDT	6.4	H	07:12AM LDT	0.7	L	01:19PM LDT	7.1	H	07:49PM LDT	0.2	L		
10/26/2010	Tue	01:56AM LDT	6.3	H	07:54AM LDT	0.8	L	02:01PM LDT	7.0	H	08:34PM LDT	0.2	L		
10/27/2010	Wed	02:41AM LDT	6.2	H	08:40AM LDT	0.9	L	02:47PM LDT	6.9	H	09:23PM LDT	0.4	L		
10/28/2010	Thu	03:30AM LDT	6.1	H	09:32AM LDT	1.0	L	03:40PM LDT	6.8	H	10:18PM LDT	0.5	L		
10/29/2010	Fri	04:25AM LDT	6.0	H	10:31AM LDT	1.0	L	04:40PM LDT	6.7	H	11:17PM LDT	0.5	L		
10/30/2010	Sat	05:25AM LDT	6.1	H	11:35AM LDT	0.9	L	05:44PM LDT	6.6	H					
10/31/2010	Sun	12:17AM LDT	0.4	L	06:26AM LDT	6.4	H	12:41PM LDT	0.7	L	06:49PM LDT	6.6	H		

All times are listed in Local Standard Time(LST) or, Local Daylight Time (LDT) (when applicable). All heights are in feet referenced to Mean Lower Low Water (MLLW).

November - Sniffens Point

Date	Day	Time	Height		Time	Height		Time	Height		Time	Height		Time	Height
11/01/2010	Mon	01:16AM LDT	0.3	L	07:26AM LDT	6.8	H	01:46PM LDT	0.3	L	07:52PM LDT	6.7	H		
11/02/2010	Tue	02:13AM LDT	0.1	L	08:23AM LDT	7.2	H	02:46PM LDT	-0.1	L	08:52PM LDT	6.9	H		
11/03/2010	Wed	03:07AM LDT	-0.1	L	09:18AM LDT	7.7	H	03:43PM LDT	-0.5	L	09:48PM LDT	7.0	H		
11/04/2010	Thu	03:58AM LDT	-0.3	L	10:09AM LDT	8.0	H	04:36PM LDT	-0.7	L	10:40PM LDT	7.1	H		
11/05/2010	Fri	04:48AM LDT	-0.4	L	10:59AM LDT	8.2	H	05:27PM LDT	-0.9	L	11:31PM LDT	7.1	H		
11/06/2010	Sat	05:37AM LDT	-0.3	L	11:47AM LDT	8.2	H	06:17PM LDT	-0.8	L					
11/07/2010	Sun	12:20AM LDT	7.0	H	05:25AM LST	-0.2	L	11:36AM LST	8.0	H	06:05PM LST	-0.7	L		
11/08/2010	Mon	12:09AM LST	6.9	H	06:13AM LST	0.0	L	12:24PM LST	7.7	H	06:53PM LST	-0.4	L		
11/09/2010	Tue	12:57AM LST	6.7	H	07:03AM LST	0.3	L	01:13PM LST	7.3	H	07:42PM LST	0.0	L		
11/10/2010	Wed	01:47AM LST	6.4	H	07:54AM LST	0.6	L	02:04PM LST	6.9	H	08:32PM LST	0.3	L		
11/11/2010	Thu	02:39AM LST	6.2	H	08:47AM LST	0.9	L	02:57PM LST	6.5	H	09:23PM LST	0.6	L		
11/12/2010	Fri	03:32AM LST	6.0	H	09:43AM LST	1.1	L	03:52PM LST	6.1	H	10:16PM LST	0.9	L		
11/13/2010	Sat	04:27AM LST	6.0	H	10:42AM LST	1.2	L	04:50PM LST	6.0	H	11:09PM LST	1.0	L		
11/14/2010	Sun	05:22AM LST	6.0	H	11:40AM LST	1.2	L	05:47PM LST	5.8	H					
11/15/2010	Mon	12:01AM LST	1.0	L	06:15AM LST	6.1	H	12:36PM LST	1.0	L	06:42PM LST	5.8	H		
11/16/2010	Tue	12:50AM LST	1.0	L	07:06AM LST	6.3	H	01:28PM LST	0.8	L	07:33PM LST	5.9	H		
11/17/2010	Wed	01:37AM LST	0.9	L	07:52AM LST	6.5	H	02:16PM LST	0.6	L	08:21PM LST	6.0	H		
11/18/2010	Thu	02:21AM LST	0.8	L	08:36AM LST	6.7	H	03:01PM LST	0.4	L	09:06PM LST	6.0	H		
11/19/2010	Fri	03:04AM LST	0.7	L	09:17AM LST	6.9	H	03:43PM LST	0.2	L	09:49PM LST	6.1	H		
11/20/2010	Sat	03:46AM LST	0.6	L	09:57AM LST	7.0	H	04:24PM LST	0.0	L	10:31PM LST	6.2	H		
11/21/2010	Sun	04:27AM LST	0.5	L	10:37AM LST	7.1	H	05:05PM LST	-0.1	L	11:12PM LST	6.3	H		
11/22/2010	Mon	05:08AM LST	0.5	L	11:17AM LST	7.1	H	05:47PM LST	-0.2	L	11:54PM LST	6.3	H		
11/23/2010	Tue	05:51AM LST	0.5	L	11:59AM LST	7.1	H	06:31PM LST	-0.2	L					
11/24/2010	Wed	12:37AM LST	6.3	H	06:36AM LST	0.5	L	12:44PM LST	7.1	H	07:17PM LST	-0.2	L		
11/25/2010	Thu	01:23AM LST	6.3	H	07:25AM LST	0.5	L	01:33PM LST	7.0	H	08:06PM LST	-0.1	L		
11/26/2010	Fri	02:13AM LST	6.3	H	08:19AM LST	0.5	L	02:26PM LST	6.9	H	08:59PM LST	0.0	L		
11/27/2010	Sat	03:07AM LST	6.4	H	09:17AM LST	0.5	L	03:24PM LST	6.7	H	09:54PM LST	0.1	L		
11/28/2010	Sun	04:04AM LST	6.5	H	10:20AM LST	0.5	L	04:26PM LST	6.5	H	10:52PM LST	0.1	L		
11/29/2010	Mon	05:04AM LST	6.7	H	11:25AM LST	0.3	L	05:29PM LST	6.4	H	11:50PM LST	0.1	L		
11/30/2010	Tue	06:03AM LST	7.0	H	12:29PM LST	0.1	L	06:33PM LST	6.3	H					

All times are listed in Local Standard Time(LST) or, Local Daylight Time (LDT) (when applicable). All heights are in feet referenced to Mean Lower Low Water (MLLW).

December - Sniffens Point

Date	Day	Time	Height		Time	Height		Time	Height		Time	Height		Time	Height
12/01/2010	Wed	12:48AM LST	0.0	L	07:01AM LST	7.2	H	01:30PM LST	-0.2	L	07:33PM LST	6.4	H		
12/02/2010	Thu	01:43AM LST	0.0	L	07:57AM LST	7.5	H	02:28PM LST	-0.5	L	08:31PM LST	6.5	H		
12/03/2010	Fri	02:37AM LST	-0.1	L	08:50AM LST	7.7	H	03:22PM LST	-0.6	L	09:24PM LST	6.5	H		
12/04/2010	Sat	03:29AM LST	-0.2	L	09:41AM LST	7.7	H	04:12PM LST	-0.7	L	10:15PM LST	6.6	H		
12/05/2010	Sun	04:19AM LST	-0.1	L	10:30AM LST	7.7	H	05:00PM LST	-0.7	L	11:04PM LST	6.6	H		
12/06/2010	Mon	05:07AM LST	-0.1	L	11:18AM LST	7.5	H	05:47PM LST	-0.6	L	11:50PM LST	6.5	H		
12/07/2010	Tue	05:55AM LST	0.1	L	12:04PM LST	7.3	H	06:32PM LST	-0.4	L					
12/08/2010	Wed	12:36AM LST	6.4	H	06:41AM LST	0.2	L	12:50PM LST	7.0	H	07:16PM LST	-0.1	L		
12/09/2010	Thu	01:21AM LST	6.3	H	07:28AM LST	0.4	L	01:36PM LST	6.6	H	08:00PM LST	0.1	L		
12/10/2010	Fri	02:07AM LST	6.2	H	08:16AM LST	0.6	L	02:24PM LST	6.3	H	08:44PM LST	0.4	L		
12/11/2010	Sat	02:54AM LST	6.1	H	09:06AM LST	0.8	L	03:13PM LST	6.0	H	09:30PM LST	0.6	L		
12/12/2010	Sun	03:43AM LST	6.0	H	09:58AM LST	1.0	L	04:04PM LST	5.8	H	10:17PM LST	0.8	L		
12/13/2010	Mon	04:33AM LST	6.0	H	10:53AM LST	1.0	L	04:58PM LST	5.5	H	11:06PM LST	0.9	L		
12/14/2010	Tue	05:25AM LST	6.0	H	11:49AM LST	1.0	L	05:53PM LST	5.4	H	11:57PM LST	1.0	L		
12/15/2010	Wed	06:16AM LST	6.1	H	12:43PM LST	0.8	L	06:48PM LST	5.4	H					
12/16/2010	Thu	12:48AM LST	0.9	L	07:06AM LST	6.2	H	01:36PM LST	0.6	L	07:41PM LST	5.5	H		
12/17/2010	Fri	01:39AM LST	0.9	L	07:55AM LST	6.4	H	02:25PM LST	0.4	L	08:31PM LST	5.7	H		
12/18/2010	Sat	02:27AM LST	0.7	L	08:42AM LST	6.5	H	03:12PM LST	0.1	L	09:18PM LST	5.9	H		
12/19/2010	Sun	03:15AM LST	0.6	L	09:27AM LST	6.7	H	03:58PM LST	-0.1	L	10:04PM LST	6.0	H		
12/20/2010	Mon	04:01AM LST	0.4	L	10:12AM LST	7.0	H	04:42PM LST	-0.3	L	10:48PM LST	6.2	H		
12/21/2010	Tue	04:47AM LST	0.2	L	10:56AM LST	7.1	H	05:27PM LST	-0.5	L	11:33PM LST	6.3	H		
12/22/2010	Wed	05:33AM LST	0.0	L	11:42AM LST	7.3	H	06:12PM LST	-0.6	L					
12/23/2010	Thu	12:18AM LST	6.5	H	06:21AM LST	-0.1	L	12:29PM LST	7.3	H	06:59PM LST	-0.7	L		
12/24/2010	Fri	01:05AM LST	6.6	H	07:11AM LST	-0.1	L	01:19PM LST	7.2	H	07:46PM LST	-0.6	L		
12/25/2010	Sat	01:54AM LST	6.7	H	08:05AM LST	-0.1	L	02:11PM LST	7.0	H	08:37PM LST	-0.5	L		
12/26/2010	Sun	02:46AM LST	6.8	H	09:02AM LST	-0.1	L	03:07PM LST	6.7	H	09:29PM LST	-0.3	L		
12/27/2010	Mon	03:41AM LST	6.9	H	10:03AM LST	0.0	L	04:06PM LST	6.4	H	10:25PM LST	-0.2	L		
12/28/2010	Tue	04:39AM LST	6.9	H	11:07AM LST	0.0	L	05:09PM LST	6.1	H	11:24PM LST	0.0	L		
12/29/2010	Wed	05:39AM LST	6.9	H	12:11PM LST	-0.1	L	06:13PM LST	6.0	H					
12/30/2010	Thu	12:24AM LST	0.1	L	06:39AM LST	7.0	H	01:14PM LST	-0.2	L	07:16PM LST	6.0	H		
12/31/2010	Fri	01:24AM LST	0.1	L	07:39AM LST	7.1	H	02:13PM LST	-0.3	L	08:15PM LST	6.0	H		

All times are listed in Local Standard Time(LST) or, Local Daylight Time (LDT) (when applicable). All heights are in feet referenced to Mean Lower Low Water (MLLW).

Technical Memorandum

IGOR I. SIKORSKY MEMORIAL AIRPORT
Stratford, Connecticut

Wetland Field Investigation and Delineation
For Route 113 Relocation

State Project 15-336

Prepared under contract to:

URS Corporation

For:

THE CITY OF BRIDGEPORT, CT
CONNECTICUT DEPARTMENT OF TRANSPORTATION

By:

FITZGERALD & HALLIDAY, INC.
72 Cedar Street
Hartford, CT 06106

November 2010

INTRODUCTION

Fitzgerald & Halliday, Inc. (FHI) was retained by URS Corporation (URS) to identify and delineate inland and tidal wetlands within the limits of the Route 113 Relocation Project study area. Additionally, FHI was asked to identify and delineate inland and tidal wetlands associated with design alternatives to address a Notice of Violation (NOV) associated with an existing driveway and culvert to the east of the Route 113 Realignment Project. The existing driveway, which is on airport property, crosses a tidal ditch. Connecticut Department of Environmental Protection (CTDEP) Office of Long Island Sound Programs (OLISP) has issued an NOV to the airport owner (City of Bridgeport) requesting that the existing tidal wetland impact be rectified. Alternatives consisted of replacement of the existing culvert and a potential new driveway from Sniffens Lane to three homes located along the Housatonic River shoreline. Therefore, the requested wetland investigation was conducted as part of the effort to resolve the NOV as well as to support subsequent permit applications being filed by the City of Bridgeport for the project. The project limit of the preferred alternative is located along the existing Route 113 road and to the east of the driveway impacts identified by OLISP (refer to Figure 1).

On December 11, 2009 FHI field-delineated the boundaries of the inland and tidal wetlands proximate to the proposed areas of construction/earthwork within the project limits. On June 7, 2010 FHI extended the delineations of several wetlands in order to more accurately demonstrate the hydraulic connectivity of the wetland systems beyond the study area. On October 8, 2010 FHI made minor revisions to the delineated boundary of one of the tidal wetland systems, based on review comments from staff at the CTDEP.

The 2009 and 2010 wetland delineations were conducted according to both the federal and State of Connecticut definitions. Documents used to support the inland wetland boundary determinations included: Natural Resources Conservation Service (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* (U.S. Army Corps of Engineers [ACOE], 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 State of Connecticut (CGS Section 22a-29) and ACOE definitions and requirements.

FHI flagged the boundaries of five (5) inland wetlands and five (5) tidal wetlands, each identified by a separate flag series number. The following flag series numbers were used during the delineation effort: 100; 200; 300; 400; 500; 600; 700; 800; 900; and 1000. In some cases two or more of the wetlands were found to be hydraulically connected, but were flagged with different series numbers because the connection takes place beyond the project's proposed limits of work.

Although the project limit is not located within a heavily urbanized area, there is evidence of disturbance and fill to the native soils and, therefore, the majority of the soils in the project corridor are classified by the NRCS as Udorthents and Urban Land Complexes (refer to Figure 2). The urban soils encountered within the project limits are typical of coastal filled and developed lands in Connecticut. Some of the fill material within the project area is currently under study to determine if any contaminants exist and where those locations may be.

The following section contains more detailed descriptions of the individual delineated wetland areas. Supplemental materials attached to this report include project figures, a flag series graphic, photographs of each wetland system, and an out-of-season delineation release agreement.

WETLAND DESCRIPTIONS BASED ON 2009 & 2010 FIELD-DELINEATIONS

Wetland 1 (Flag Series 101 to 153) – Inland Wetland

Wetland 1 is located to the northwest of the existing residential driveway off Route 113 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. There are several deer trails cutting through the wetland but very little cover, open water, or food sources. The principal functions of this wetland include groundwater recharge and shoreline stabilization. CTDEP Natural Diversity Database (December 2009) indicates that there is a potential presence of threatened or endangered species or their habitat, further correspondence with CTDEP will be required once project plans are in place.

Wetland 2 (Flag Series 201 to 222) – Inland Wetland

Wetland 2 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. There are several deer trails cutting through the wetland. The principal functions of this wetland include groundwater recharge in the emergent portion and wildlife habitat in the forested portion. CTDEP Natural Diversity Database (December 2009) indicates that there is a potential presence of threatened or endangered species or

their habitat, further correspondence with CTDEP will be required once project plans are in place.

Wetland 3 (Flag Series 301 to 311) – Inland Wetland

Wetland 3 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. The principal function of this wetland is groundwater recharge. CTDEP Natural Diversity Database (December 2009) indicates that there is a potential presence of threatened or endangered species or their habitat, further correspondence with CTDEP will be required once project plans are in place.

Wetland 4 (Flag Series 401 to 434) – Tidal Wetland

Wetland 4 is located to the east of Route 113, 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 underlain by black grass (*Juncus gerardiI)* inland from the ditch. There are groundsel trees (*Baccharis halimifolia*) and marsh elder (*Iva frutescens*) growing throughout this wetland.

Wetland 5 (Flag Series 501 to 532) – Tidal Wetland

The delineated portion of wetland 5 is located just south of the existing residential driveway off Route 113, east of wetland 4. This emergent tidal wetland is hydraulically connected to wetland 4 and extends to the south of flag 501 and to the east of flag 532.

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 to 622) – Tidal Wetland

Wetland 6 is located to the west of Route 113, 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 Route 113 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.*) and rushes. At the time of delineation this area was flooded.

Wetland 7 (Flag Series 701 to 722) – Tidal Wetland

Wetland 7 is located to the east of Route 113, just north of the existing residential driveway off Route 113. This emergent tidal wetland is hydraulically connected to wetland 4 and extends to the northwest of flag 722.

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.

Wetland 8 (Flag Series 801 to 805) – Tidal Wetland

The delineated portion of wetland 8 is located just north of the existing residential driveway off Route 113, 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, 7, 9, and 10.

Wetland vegetation is dominated by common reed, which forms a dense monoculture throughout most of the wetland. The common reed is underlain by black grass throughout this wetland.

Wetland 9 (Flag Series 901 to 910) – Inland Wetland

The delineated portion of wetland 9 is located just north of the existing residential driveway off Route 113, 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 principal function of this wetland is groundwater

recharge. CTDEP Natural Diversity Database (December 2009) indicates that there is a potential presence of threatened or endangered species or their habitat, further correspondence with CTDEP will be required once project plans are in place in order to determine what species may be in this area.

Wetland 10 (Flag Series 1001 to 1004) – Inland Wetland

The delineated portion of wetland 10 is located just north of the existing residential driveway off Route 113, 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. The principal function of this wetland is groundwater recharge. CTDEP Natural Diversity Database (December 2009) indicates that there is a potential presence of threatened or endangered species or their habitat, further correspondence with CTDEP will be required once project plans are in place in order to determine what species may be in this area.

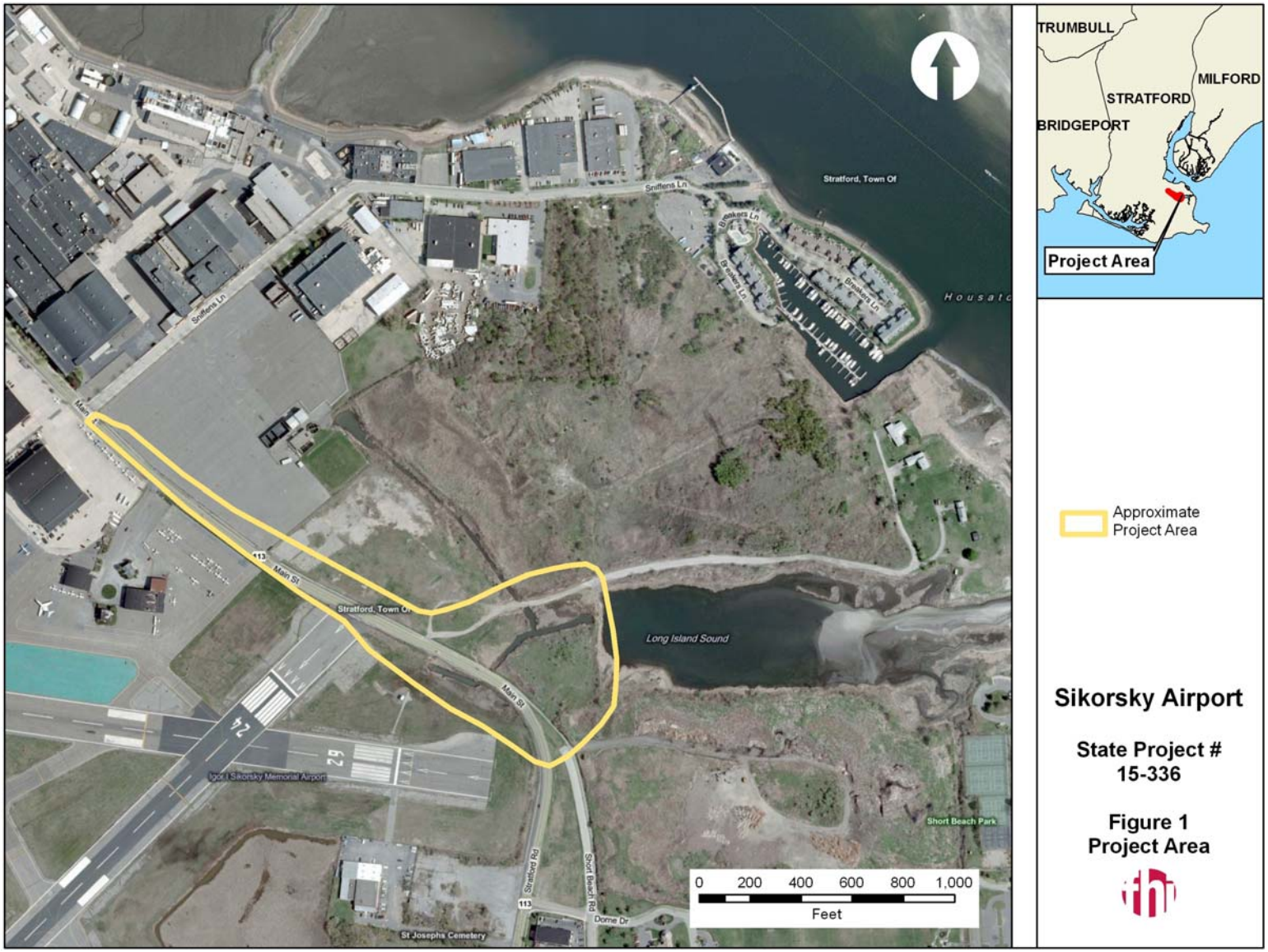
Attached to this report are the following supporting materials:

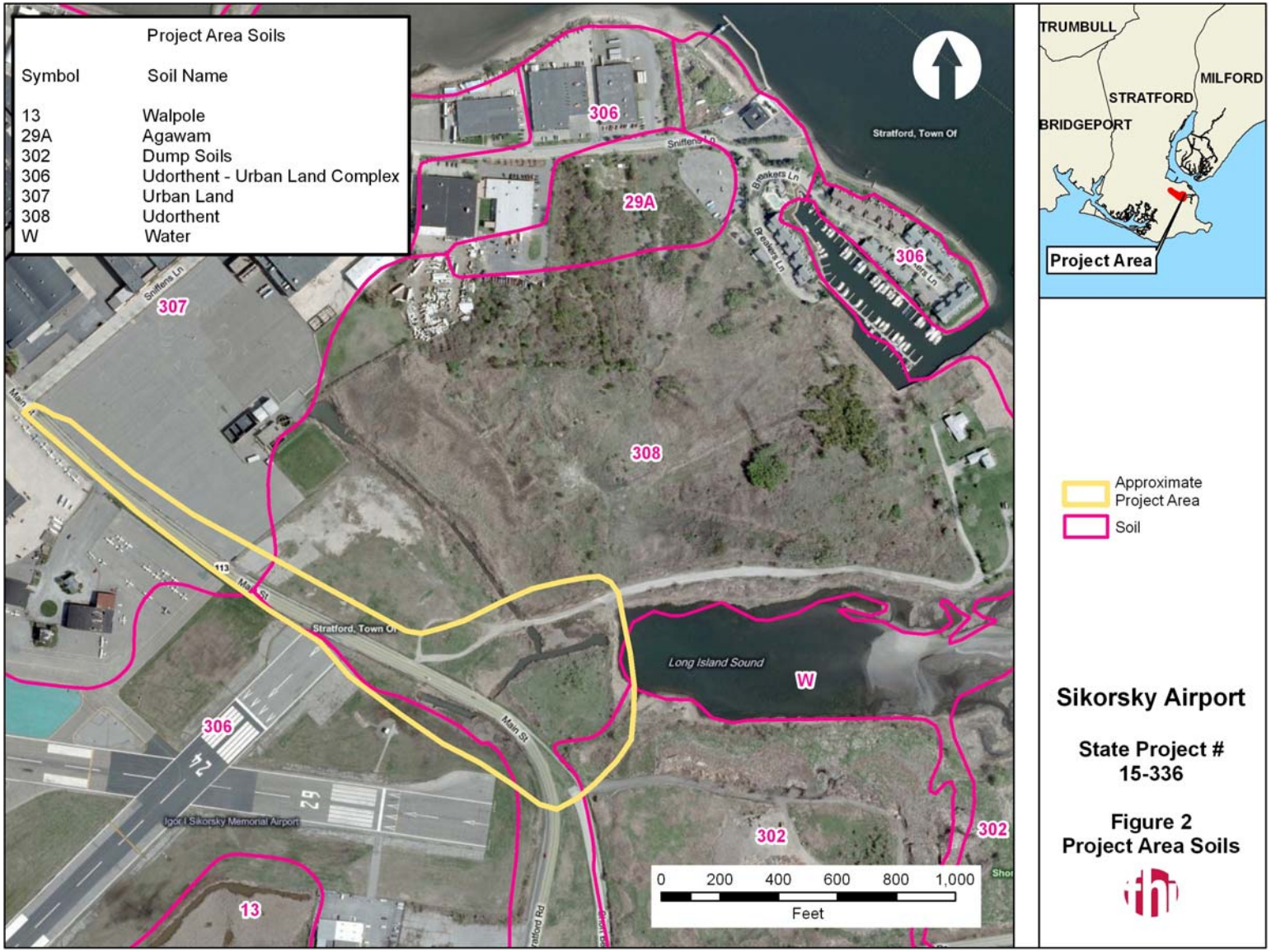
- Figure 1 showing the project area
- Figures 2 showing the NRCS soils mapping in the project area
- A flag series graphic of the delineated wetlands (on aerial photograph base)
- Photographs of each wetland system
- Out-of-season wetland delineation release agreement

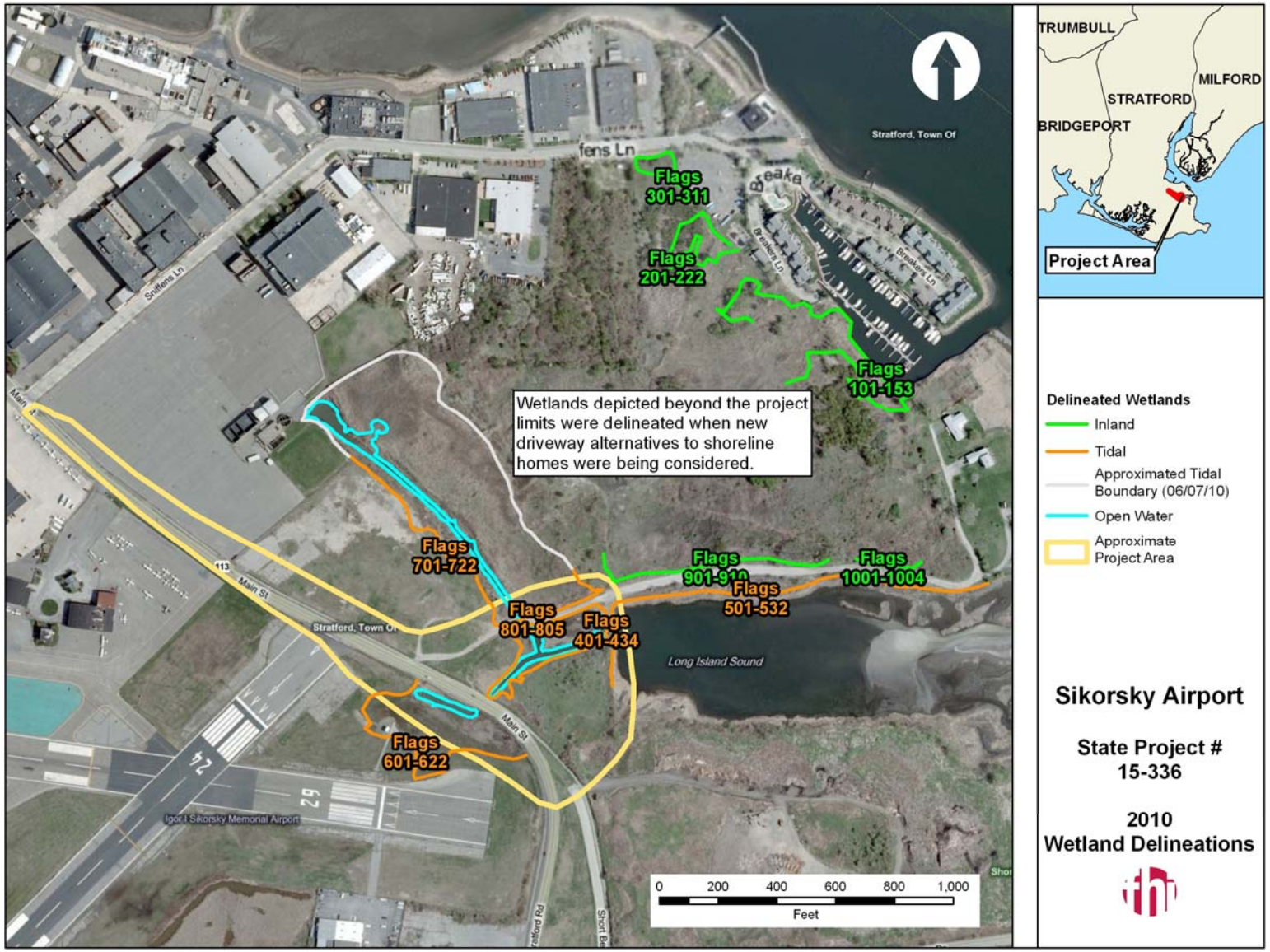
Respectfully submitted,

David Laiuppa

David Laiuppa
Certified Soil Scientist
Fitzgerald & Halliday, Inc


TRUMBULL
MILFORD
STRATFORD
BRIDGEPORT
Project Area
Stratford, Town Of
Sniffens Ln
Brookers Ln
Main St
113
Long Island Sound
Igor I Sikorsky Memorial Airport
Short Beach Park
Stratford Rd
Short Beach Rd
Dome Dr
St Josephs Cemetery
0 200 400 600 800 1,000
Feet
Approximate Project Area
Sikorsky Airport
State Project # 15-336
Figure 1
Project Area


Project Area Soils
Symbol Soil Name
13 Walpole
29A Agawam
302 Dump Soils
306 Udorthent - Urban Land Complex
307 Urban Land
308 Udorthent
W Water
306
29A
306
307
308
306
302
302
13
W
Long Island Sound
Stratford, Town Of
Igor I Sikorsky Memorial Airport
Main St
Sniffens Ln
Brookers Ln
0 200 400 600 800 1,000
Feet
TRUMBULL
MILFORD
STRATFORD
BRIDGEPORT
Project Area
Approximate Project Area
Soil
Sikorsky Airport
State Project # 15-336
Figure 2
Project Area Soils


Flags 301-311
Flags 201-222
Flags 101-153
Wetlands depicted beyond the project limits were delineated when new driveway alternatives to shoreline homes were being considered.
Flags 701-722
Flags 801-805
Flags 401-434
Flags 901-910
Flags 501-532
Flags 1001-1004
Flags 601-622
Long Island Sound
Main St
Stratford, Town Of
Igor I Sikorsky Memorial Airport
0 200 400 600 800 1,000
Feet
TRUMBULL
MILFORD
STRATFORD
BRIDGEPORT
Project Area
Delineated Wetlands
Inland
Tidal
Approximated Tidal Boundary (06/07/10)
Open Water
Approximate Project Area
Sikorsky Airport
State Project # 15-336
2010 Wetland Delineations

Wetland Photographs

Wetland 1

Wetland 2

Wetland 3

Wetland 4

Wetland 5

Wetland 6

Wetland 7

Wetland 8

Wetland 9

Wetland 10

Out-of-season wetland delineation release agreement

URS

In reply, please refer to: **38397152**

8. December, 2009

Paul Stanton, Project Manager
Fitzgerald & Halliday, Inc.
72 Cedar Street
Hartford, Ct, 06106

RE: Final Design & Permitting for Runway 6-24
Notice of Violations & Wetland Delineation
Igor I. Sikorsky Memorial Airport, Stratford, Connecticut

Dear Paul,

As discussed at yesterday's meeting with Kevin Zawoy, CT DEP Environmental Analyst, we will need to obtain/update wetland delineation of the project site for Route 113 and the proposed relocated driveway to ascertain the existing wetland limits in order to expedite the permit applications that will affect both the inland and tidal wetlands for the proposed work. We recognized that this delineation will occur outside the normal growing season; however, the delineation is required in order for the permit applications to proceed. Note that the permit applications are time sensitive.

We concur that the delineation should be revisited this spring (April, 2010) for verification.

If you need additional information or have any questions on the attached, please contact me.

Sincerely,
URS Corporation

Gerald W. D'Amico, P.E.
Senior Airport Engineer

cc: John Ricci, Igor Sikorsky Memorial Airport
Roger Krahn, URS

[sikorsky/7152/subcontracts/fhi/environmental/120809]

Technical Memorandum

IGOR I. SIKORSKY MEMORIAL AIRPORT
Stratford, Connecticut

Wetland Field Investigation and Delineation
For Runway 6-24 Rehabilitation

Prepared under contract to:

URS Corporation

For:

CITY OF BRIDGEPORT, CT
CONNECTICUT DEPARTMENT OF TRANSPORTATION

By:

FITZGERALD & HALLIDAY, INC.
72 Cedar Street
Hartford, CT 06106

February 2011

INTRODUCTION

Fitzgerald & Halliday, Inc. (FHI) was retained by URS Corporation (URS) to identify and delineate wetland resources within the limits of the Runway 6-24 Rehabilitation study area. The limits of the study area extend out 250 feet from either side of Runway 6-24. The study area, as defined by URS, is depicted below (see Figure 1). The study area extends a sufficient distance to encompass the town of Stratford upland review area of 100 feet.

FHI delineated the boundaries of wetlands within the study area in accordance with both federal and State of Connecticut definitions and guidelines. This fieldwork occurred on November 19 and 22, 2010. Documents used to support the inland wetland boundary determinations included: Natural Resources Conservation Service (NRCS) soil 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); the U.S. Army Corps of Engineers (ACOE) 1987 *Wetland Delineation Manual*; the ACOE 2009 *Interim Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Northcentral and Northeast Region*; and the ACOE *Highway Methodology Workbook Supplement: Wetland Functions and Values A Descriptive Approach*. Tidal wetland delineations were conducted based on the estimated elevation of the high tide line and extent of tidal wetland vegetation in accordance with State of Connecticut (CGS Section 22a-29) and ACOE definitions and requirements.

FHI flagged the boundaries of eighteen (18) wetlands, each identified by a separate flag series number. The following flag series numbers were used during the delineation effort: 100; 200; 300; 400; 500; 600; 700; 800; 900; 1000; 1100; 1200; 1300; 1400; 1500; 1600; 1700; and 1800. In some cases two or more of the wetlands were found to be hydraulically connected, but were flagged with different series numbers because the hydraulic connection takes place beyond the study area. Because the study area is flat with an elevation that is roughly at or above sea level and the ground water level, the wetland boundaries are greatly influenced by microtopographical changes. Additionally, many of the delineated wetlands exhibit transitional characteristics between inland wetlands (located closer to the runway) to tidal wetlands (located further from the runway).

Evidence of fill and disturbance to the native soils was observed during the delineation fieldwork. This confirms and supports the NRCS mapped designation of Udorthents and Urban Land Complex soils in much of the project study area (see Figure 2).

The following section contains a detailed description of each of the delineated wetland areas. Supplemental materials attached to this report include project figures, a flag series graphic, photographs of each wetland system, and regulatory documentation forms.

WETLAND DESCRIPTIONS BASED ON NOVEMBER 2010 FIELD-DELINEATIONS

Wetland 1 (Flag Series 101 to 106) – Inland Wetland

Wetland 1 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 (see Figure 3). 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

Wetland 2 is located in the infield area on the northwest side of Runway 6-24, between the northernmost taxiway and the middle taxiway (see Figure 3). 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

Wetland 3 is located in the infield area on the northwest side of Runway 6-24 (see Figure 3). 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

Wetland 4 is located in the infield area on the northwest side of Runway 6-24, between the middle taxiway and the southernmost taxiway (see Figure 3). 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

Wetland 5 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

Wetland 6 is located on the northwest side of Runway 6-24, southwest of the southern taxiway, near the Runway 6 end (see Figure 3). 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

Wetland 7 is located on the northwest side of Runway 6-24, southwest of the southern 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 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

Wetland 8 is located along the periphery of the airfield, along the southwestern end of Runway 6, on the west and east sides of the runway (see Figure 3). 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

Wetland 9 is located on the northwest side of Runway 6-24, southwest of the southern 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 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

Wetland 10 is located on the southeast side of Runway 6-24 (see Figure 3). 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

Wetland 11 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

Wetland 12 is located on the southeast side of Runway 6-24 (see Figure 3). 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

Wetland 13 is located on the southeast side of Runway 6-24 (see Figure 3). 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

Wetland 14 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 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

Wetland 15 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

Wetland 16 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

Wetland 17 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 (see Figure 3). 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

Wetland 18 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 (see Figure 3). 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.

Natural Diversity Database

The Connecticut Department of Environmental Protection's (CTDEP) Natural Diversity Database (GIS mapping December 2010) indicates the potential presence of either threatened or endangered species or their habitat within the project limits. Further correspondence with CTDEP will be required during the project permitting phase to determine whether or not the project will have an adverse effect on listed species and/or critical habitats.

NRCS MAPPED SOILS

The Natural Resource Conservation Service (NRCS) has published a series of soil surveys for most of the United States. The soil surveys contain, among other things, taxonomic descriptions of soil series and soil maps, which depict soil map units. Utilization of the NRCS's soil surveys helps to aid in the description and understanding of a particular geographic area.

Soils in the project area are classified by the NRCS and are depicted on Figure 2. The following soils are mapped within the limits of the project area. The NRCS's soil surveys are used to gain an understanding of, and to help describe a particular geographic area.

Walpole Sandy Loam (soil figure map number 13)

The Walpole Series consists of very deep, poorly drained sandy soils formed in outwash and stratified drift. They are nearly level to gently sloping soils in low-lying positions on terraces and plains. Slope ranges from 0 to 8 percent. Permeability is moderately rapid in the surface layer and subsoil, and rapid or very rapid in the substratum. Surface runoff is slow. Walpole soils have a water table at or near the surface much of the year.

Thickness of the solum and depth to sand or loamy sand substratum layers range from 18 to 28 inches. Rock fragments range from 0 to 25 percent by volume in the solum and from 0 to 50 percent in individual layers of the substratum. Typically, 70 percent or more of the rock fragments are rounded gravel.

Westbrook Mucky Peat (soil figure map numbers 98 & 99)

The Westbrook series consists of very deep, very poorly drained soils formed in organic deposits over loamy mineral material. These soils are in tidal marshes subject to inundation by salt water twice daily unless protected. Saturated hydraulic conductivity is moderately high to very high in the organic layers and low to high in the underlying mineral sediments. Runoff is very slow.

Thickness of the organic deposits ranges from 16 to 51 inches. The soil is strongly acid to slightly alkaline and very slightly saline to strongly saline. Total salt content ranges from 1.6 to 62.5 dS/m. Thin lenses of silt and very fine sand are common in the organic horizons. Westbrook soils developed in partially decomposed organic material from salt tolerate herbaceous plants over loamy sediments.

Udorthents Urban Land Complex

Udorthents (soil figure map number 308)

Udorthents consist of earthy materials that have been shaped or otherwise disturbed by man. Slopes range from 0 to 25 percent. Onsite investigations are required for interpretations.

Urban Lands (soil figure map number 306)

Urban land is land mostly covered by streets, parking lots, buildings, and other structures of urban areas. Slopes range from 0 to 45 percent. Onsite investigations are required for interpretations.

Attached to this report are the following supporting materials:

- Figure 1 showing the project area
- Figure 2 showing the NRCS soils mapping in the project area
- Figure 3 showing flag series of the delineated wetlands (on aerial photograph base)
- Photographs of each wetland system
- Function and value assessment forms

Respectfully submitted,

David Laiuppa

David Laiuppa
Certified Soil Scientist
Fitzgerald & Halliday, Inc

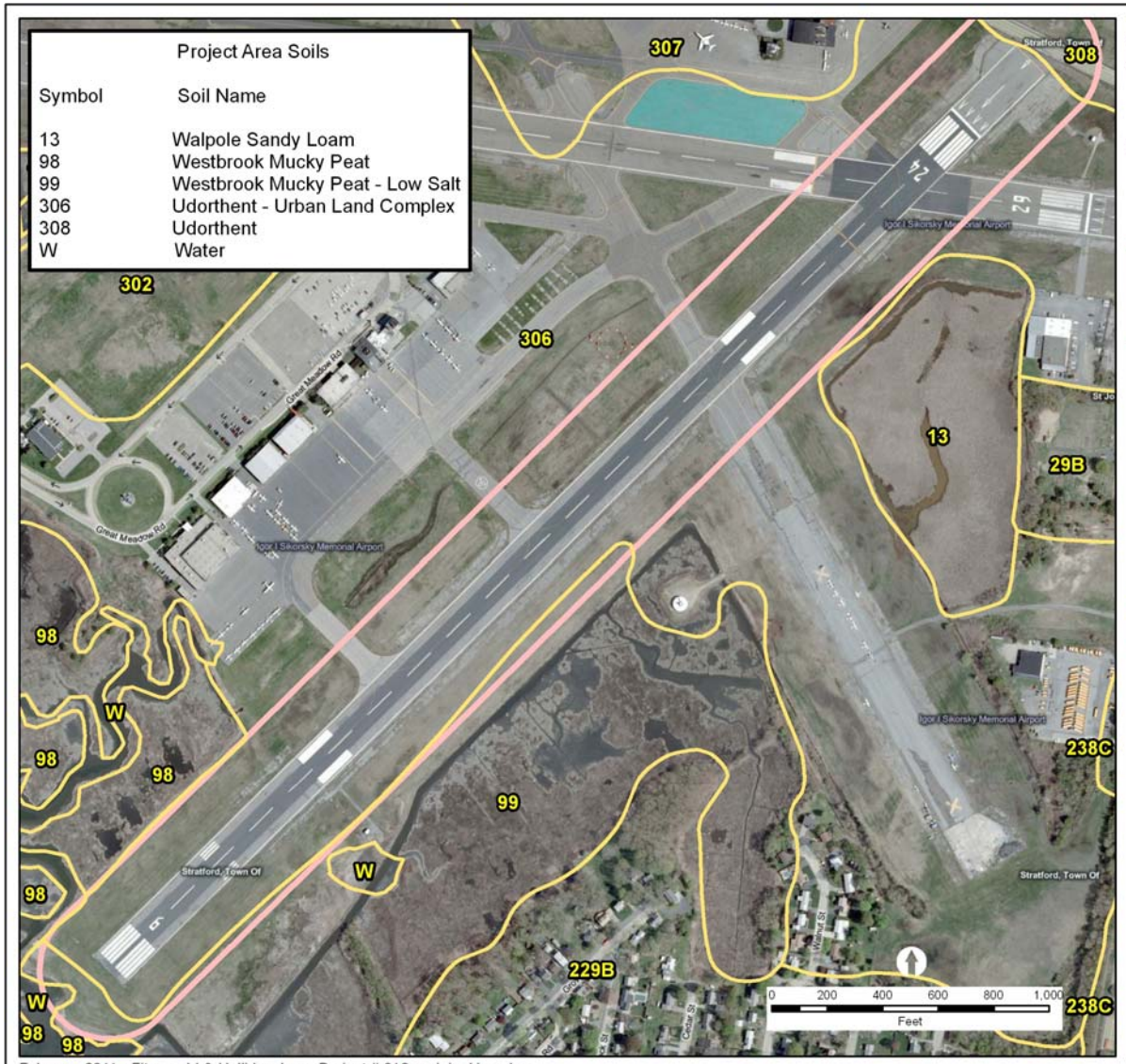
Study Area

Igor I. Sikorsky Memorial Airport

Runway 6-24 Rehabilitation Project

Figure 1
Project Area

February 2011 - Fitzgerald & Halliday, Inc. - Project # 812 - original in color



NRCS Soil Boundaries

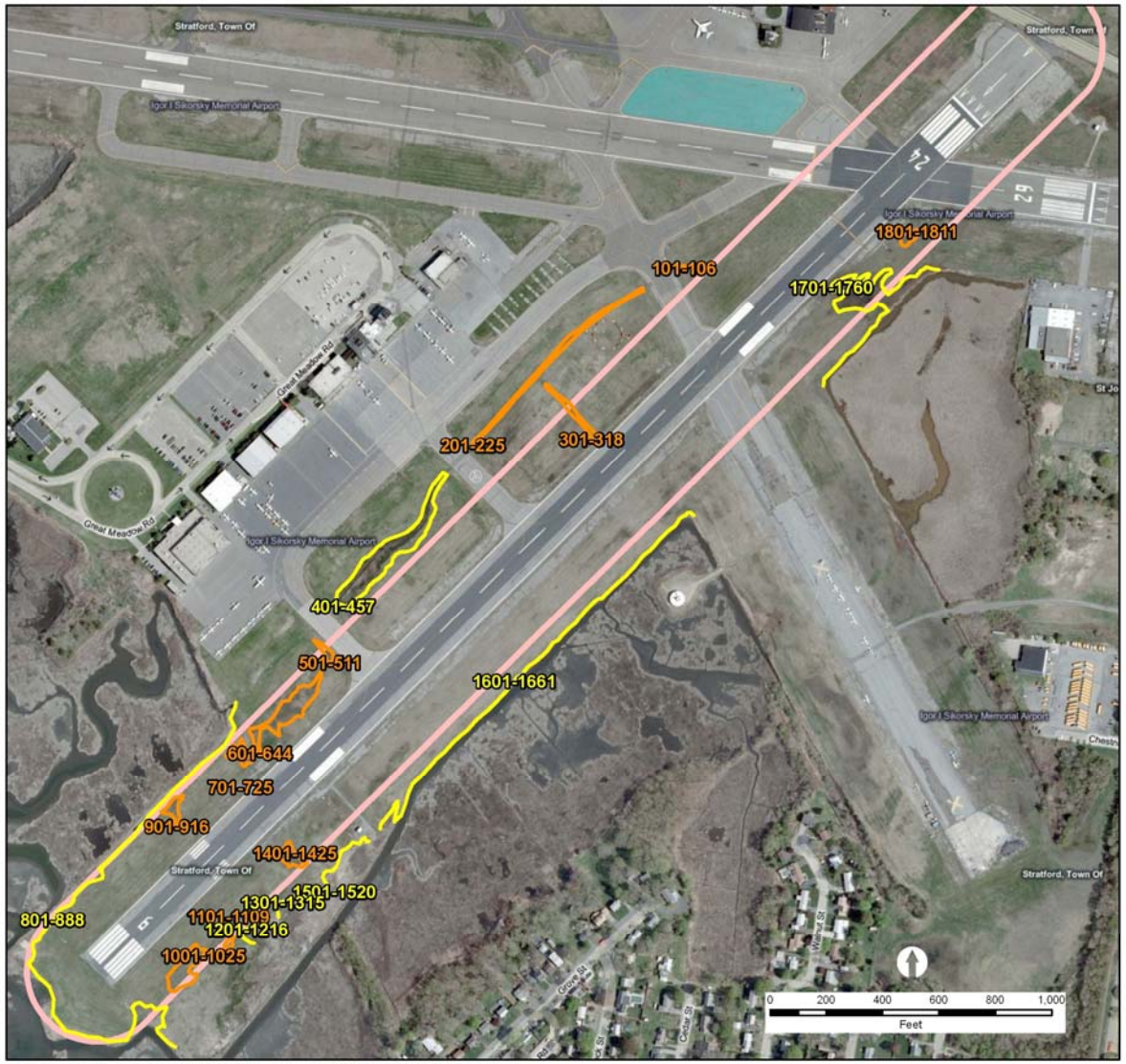
Study Area

Igor I. Sikorsky Memorial Airport

Runway 6-24 Rehabilitation Project

Figure 2
Project Area
NRCS Soils

February 2011 - Fitzgerald & Halliday, Inc. - Project # 812 - original in color



Wetland Sketches Nov

- Inland Wetland Boundaries
- Tidal Wetland Boundaries
- Study Area

Igor I. Sikorsky Memorial Airport

Runway 6-24 Rehabilitation Project

Figure 3
November 2010
Wetland Delineations

February 2011 - Fitzgerald & Halliday, Inc. - Project # 812 - original in color

Wetland Photographs

Wetland 1

Wetland 2

Wetland 3

Wetland 4

Wetland 5

Wetland 6

Wetland 7

Wetland 8

Wetland 9

Wetland 10

Wetland 11

Wetland 12

Wetland 13

Wetland 14

Wetland 15

Wetland 16

Wetland 17

Wetland 18

Function and Value Assessment Forms

Igor I Sikorsky Airport - Runway 6-24 Rehabilitation Project
WETLANDS EVALUATION

WETLAND FUNCTION-VALUE ASSESSMENTS

WETLAND I.D. 100

Prepared by: David Laiuppa DATE: 11/19/10

TOTAL APPROXIMATE AREA OF WETLAND: 250 sq ft

IS WETLAND PART OF A WILDLIFE CORRIDOR? No

OR A "HABITAT ISLAND"? No

ADJACENT LAND USE? Airport

MAN MADE? No

DISTANCE TO NEAREST ROADWAY OR OTHER DEVELOPMENT ~10 ft

DOMINANT WETLAND SYSTEMS PRESENT PEM

CONTIGUOUS UNDEVELOPED BUFFER ZONE PRESENT No

IS THE WETLAND A SEPARATE HYDRAULIC SYSTEM? No

IF NOT, WHERE DOES THE WETLAND LIE IN THE DRAINAGE BASIN? Lower

HOW MANY TRIBUTARIES CONTRIBUTE TO THE WETLAND? 1

AQUATIC DIVERSITY/ABUNDANCE No

VEGETATIVE DIVERSITY/ABUNDANCE No

WILDLIFE DIVERSITY/ABUNDANCE No

ANTICIPATED IMPACTS Unknown

WETLAND AREA IMPACTED: Unknown

FUNCTION	Occurrence Y	Occurrence N	Rationale (NUMBER)	Principal Function(s)	Comments	ACOE
Groundwater Recharge/Discharge	X		4,7,8,9,15	X	Opportunity for recharge	
Floodflow Alteration		X	4,5,6,7,9		Wetland too smal to significantly alter flooding	
Sediment/Shoreline Stabilization		X			No open water associated with wetland	
Sediment/Toxicant Retention		X	2,4,5		Wetland area too small to retain significant amounts of toxins	
Nutrient Removal (Retention/Transformation)		X	5,7,8,9		Few upslope sources of nutrients	
Production Export (Nutrient)		X	7		No food producing plants	
Fish & Shellfish Habitat		X			No open water associated with wetland	
Wildlife Habitat		X	13		No food, water, shelter available for animals	
Endangered Species Habitat	X				Potential endangered species or habitat (per DEP December 2010)	
Visual Quality/Aesthetics		X			No public access	
Educational Scientific Value		X			No public access	
Recreation ((Non)Consumptive)		X			No public access	
Uniqueness/Heritage		X	1,22		Not unique or historic & no public access	

NOTES:

Igor I Sikorsky Airport - Runway 6-24 Rehabilitation Project
WETLANDS EVALUATION

WETLAND FUNCTION-VALUE ASSESSMENTS

WETLAND I.D. 200

Prepared by: David Laiuppa DATE: 11/19/10

TOTAL APPROXIMATE AREA OF WETLAND: 0.2 acres IS WETLAND PART OF A WILDLIFE CORRIDOR? No OR A "HABITAT ISLAND"? No

ADJACENT LAND USE? Airport MAN MADE? No DISTANCE TO NEAREST ROADWAY OR OTHER DEVELOPMENT ~10 ft

DOMINANT WETLAND SYSTEMS PRESENT PEM CONTIGUOUS UNDEVELOPED BUFFER ZONE PRESENT No

IS THE WETLAND A SEPARATE HYDRAULIC SYSTEM? No IF NOT, WHERE DOES THE WETLAND LIE IN THE DRAINAGE BASIN? Middle

HOW MANY TRIBUTARIES CONTRIBUTE TO THE WETLAND? 1 AQUATIC DIVERSITY/ABUNDANCE No VEGETATIVE DIVERSITY/ABUNDANCE No

WILDLIFE DIVERSITY/ABUNDANCE No ANTICIPATED IMPACTS Unknown WETLAND AREA IMPACTED: Unknown

FUNCTION	Occurrence Y	Occurrence N	Rationale (NUMBER)	Principal Function(s)	Comments	ACOE
Groundwater Recharge/Discharge	X		4,7,8,9,15	X	Opportunity for recharge	
Floodflow Alteration		X	4,5,6,7,9		Narrow wetland along ditch of intermittent watercourse (wetland too narrow to affect flood storage)	
Sediment/Shoreline Stabilization		X	9,12,15		Narrow wetland bordering intermittent ditch	
Sediment/Toxicant Retention		X	2,4,5,6		Wetland area too small to retain significant amounts of toxins	
Nutrient Removal (Retention/Transformation)		X	5,7,8,9,14		Few upslope sources of nutrients	
Production Export (Nutrient)		X	7		No food producing plants	
Fish & Shellfish Habitat		X			No perenially open water associated with wetland	
Wildlife Habitat		X	13		No food, water, shelter available for animals	
Endangered Species Habitat	X				Potential endangered species or habitat (per DEP December 2010)	
Visual Quality/Aesthetics		X			No public access	
Educational Scientific Value		X			No public access	
Recreation ((Non)Consumptive)		X			No public access	
Uniqueness/Heritage		X	1,22		Not unique or historic & no public access	

NOTES:

Igor I Sikorsky Airport - Runway 6-24 Rehabilitation Project
WETLANDS EVALUATION

WETLAND FUNCTION-VALUE ASSESSMENTS

WETLAND I.D. 300

Prepared by: David Laiuppa DATE: 11/19/10

TOTAL APPROXIMATE AREA OF WETLAND: 0.1 acres IS WETLAND PART OF A WILDLIFE CORRIDOR? No OR A "HABITAT ISLAND"? No

ADJACENT LAND USE? Airport MAN MADE? No DISTANCE TO NEAREST ROADWAY OR OTHER DEVELOPMENT ~20 ft

DOMINANT WETLAND SYSTEMS PRESENT PEM CONTIGUOUS UNDEVELOPED BUFFER ZONE PRESENT No

IS THE WETLAND A SEPARATE HYDRAULIC SYSTEM? Yes IF NOT, WHERE DOES THE WETLAND LIE IN THE DRAINAGE BASIN? N/A

HOW MANY TRIBUTARIES CONTRIBUTE TO THE WETLAND? 0 AQUATIC DIVERSITY/ABUNDANCE No VEGETATIVE DIVERSITY/ABUNDANCE No

WILDLIFE DIVERSITY/ABUNDANCE No ANTICIPATED IMPACTS Unknown WETLAND AREA IMPACTED: Unknown

FUNCTION	Occurrence Y	Occurrence N	Rationale (NUMBER)	Principal Function(s)	Comments	ACOE
Groundwater Recharge/Discharge	X		4,8,15	X	Opportunity for recharge	
Floodflow Alteration		X	4,5,6,9		Wetland too smal to significantly alter flooding	
Sediment/Shoreline Stabilization		X			No open water associated with wetland	
Sediment/Toxicant Retention		X	2,4,5		Wetland area too small to retain significant amounts of toxins	
Nutrient Removal (Retention/Transformation)		X	5,7,8,9		Few upslope sources of nutrients	
Production Export (Nutrient)		X	7		No food producing plants	
Fish & Shellfish Habitat		X			No open water associated with wetland	
Wildlife Habitat		X	13		No food, water, shelter available for animals	
Endangered Species Habitat	X				Potential endangered species or habitat (per DEP December 2010)	
Visual Quality/Aesthetics		X			No public access	
Educational Scientific Value		X			No public access	
Recreation ((Non)Consumptive)		X			No public access	
Uniqueness/Heritage		X	1,22		Not unique or historic & no public access	

NOTES:

Igor I Sikorsky Airport - Runway 6-24 Rehabilitation Project
WETLANDS EVALUATION

WETLAND FUNCTION-VALUE ASSESSMENTS

WETLAND I.D. 500

Prepared by: David Laiuppa DATE: 11/19/10

TOTAL APPROXIMATE AREA OF WETLAND: 0.1 acres IS WETLAND PART OF A WILDLIFE CORRIDOR? No OR A "HABITAT ISLAND"? No

ADJACENT LAND USE? Airport MAN MADE? No DISTANCE TO NEAREST ROADWAY OR OTHER DEVELOPMENT ~20 ft

DOMINANT WETLAND SYSTEMS PRESENT PEM CONTIGUOUS UNDEVELOPED BUFFER ZONE PRESENT No

IS THE WETLAND A SEPARATE HYDRAULIC SYSTEM? Yes IF NOT, WHERE DOES THE WETLAND LIE IN THE DRAINAGE BASIN? N/A

HOW MANY TRIBUTARIES CONTRIBUTE TO THE WETLAND? 0 AQUATIC DIVERSITY/ABUNDANCE No VEGETATIVE DIVERSITY/ABUNDANCE No

WILDLIFE DIVERSITY/ABUNDANCE No ANTICIPATED IMPACTS Unknown WETLAND AREA IMPACTED: Unknown

FUNCTION	Occurrence Y	Occurrence N	Rationale (NUMBER)	Principal Function(s)	Comments	ACOE
Groundwater Recharge/Discharge	X		4,8,15	X	Opportunity for recharge	
Floodflow Alteration		X	4,5,6,9		Wetland too smal to significantly alter flooding	
Sediment/Shoreline Stabilization		X			No open water associated with wetland	
Sediment/Toxicant Retention		X	2,4,5		Wetland area too small to retain significant amounts of toxins	
Nutrient Removal (Retention/Transformation)		X	5,7,8,9		Few upslope sources of nutrients	
Production Export (Nutrient)		X	7		No food producing plants	
Fish & Shellfish Habitat		X			No open water associated with wetland	
Wildlife Habitat		X	13		No food, water, shelter available for animals	
Endangered Species Habitat	X				Potential endangered species or habitat (per DEP December 2010)	
Visual Quality/Aesthetics		X			No public access	
Educational Scientific Value		X			No public access	
Recreation ((Non)Consumptive)		X			No public access	
Uniqueness/Heritage		X	1,22		Not unique or historic & no public access	

NOTES:

Igor I Sikorsky Airport - Runway 6-24 Rehabilitation Project
WETLANDS EVALUATION

WETLAND FUNCTION-VALUE ASSESSMENTS

WETLAND I.D. 600

Prepared by: David Laiuppa DATE: 11/19/10

TOTAL APPROXIMATE AREA OF WETLAND: 0.35 acres IS WETLAND PART OF A WILDLIFE CORRIDOR? No OR A "HABITAT ISLAND"? No

ADJACENT LAND USE? Airport MAN MADE? No DISTANCE TO NEAREST ROADWAY OR OTHER DEVELOPMENT ~20 ft

DOMINANT WETLAND SYSTEMS PRESENT PEM CONTIGUOUS UNDEVELOPED BUFFER ZONE PRESENT No

IS THE WETLAND A SEPARATE HYDRAULIC SYSTEM? Yes IF NOT, WHERE DOES THE WETLAND LIE IN THE DRAINAGE BASIN? N/A

HOW MANY TRIBUTARIES CONTRIBUTE TO THE WETLAND? 0 AQUATIC DIVERSITY/ABUNDANCE No VEGETATIVE DIVERSITY/ABUNDANCE No

WILDLIFE DIVERSITY/ABUNDANCE No ANTICIPATED IMPACTS Unknown WETLAND AREA IMPACTED: Unknown

FUNCTION	Occurrence Y	Occurrence N	Rationale (NUMBER)	Principal Function(s)	Comments	ACOE
Groundwater Recharge/Discharge	X		4,8,15	X	Opportunity for recharge	
Floodflow Alteration		X	4,5,6,9		Wetland too smal to significantly alter flooding	
Sediment/Shoreline Stabilization		X			No open water associated with wetland	
Sediment/Toxicant Retention		X	2,4,5		Wetland area too small to retain significant amounts of toxins	
Nutrient Removal (Retention/Transformation)		X	5,7,8,9		Few upslope sources of nutrients	
Production Export (Nutrient)		X	7		No food producing plants	
Fish & Shellfish Habitat		X			No open water associated with wetland	
Wildlife Habitat		X	13		No food, water, shelter available for animals	
Endangered Species Habitat	X				Potential endangered species or habitat (per DEP December 2010)	
Visual Quality/Aesthetics		X			No public access	
Educational Scientific Value		X			No public access	
Recreation ((Non)Consumptive)		X			No public access	
Uniqueness/Heritage		X	1,22		Not unique or historic & no public access	

NOTES:

Igor I Sikorsky Airport - Runway 6-24 Rehabilitation Project
WETLANDS EVALUATION

WETLAND FUNCTION-VALUE ASSESSMENTS

WETLAND I.D. 700

Prepared by: David Laiuppa DATE: 11/19/10

TOTAL APPROXIMATE AREA OF WETLAND: 0.1 acres IS WETLAND PART OF A WILDLIFE CORRIDOR? No OR A "HABITAT ISLAND"? No

ADJACENT LAND USE? Airport MAN MADE? No DISTANCE TO NEAREST ROADWAY OR OTHER DEVELOPMENT ~20 ft

DOMINANT WETLAND SYSTEMS PRESENT PEM CONTIGUOUS UNDEVELOPED BUFFER ZONE PRESENT No

IS THE WETLAND A SEPARATE HYDRAULIC SYSTEM? Yes IF NOT, WHERE DOES THE WETLAND LIE IN THE DRAINAGE BASIN? N/A

HOW MANY TRIBUTARIES CONTRIBUTE TO THE WETLAND? 0 AQUATIC DIVERSITY/ABUNDANCE No VEGETATIVE DIVERSITY/ABUNDANCE No

WILDLIFE DIVERSITY/ABUNDANCE No ANTICIPATED IMPACTS Unknown WETLAND AREA IMPACTED: Unknown

FUNCTION	Occurrence Y	Occurrence N	Rationale (NUMBER)	Principal Function(s)	Comments	ACOE
Groundwater Recharge/Discharge	X		4,8,15	X	Opportunity for recharge	
Floodflow Alteration		X	4,5,6,9		Wetland too smal to significantly alter flooding	
Sediment/Shoreline Stabilization		X			No open water associated with wetland	
Sediment/Toxicant Retention		X	2,4,5		Wetland area too small to retain significant amounts of toxins	
Nutrient Removal (Retention/Transformation)		X	5,7,8,9		Few upslope sources of nutrients	
Production Export (Nutrient)		X	7		No food producing plants	
Fish & Shellfish Habitat		X			No open water associated with wetland	
Wildlife Habitat		X	13		No food, water, shelter available for animals	
Endangered Species Habitat	X				Potential endangered species or habitat (per DEP December 2010)	
Visual Quality/Aesthetics		X			No public access	
Educational Scientific Value		X			No public access	
Recreation ((Non)Consumptive)		X			No public access	
Uniqueness/Heritage		X	1,22		Not unique or historic & no public access	

NOTES:

Igor I Sikorsky Airport - Runway 6-24 Rehabilitation Project
WETLANDS EVALUATION

WETLAND FUNCTION-VALUE ASSESSMENTS

WETLAND I.D. 900

Prepared by: David Laiuppa DATE: 11/19/10

TOTAL APPROXIMATE AREA OF WETLAND: 0.1 acres IS WETLAND PART OF A WILDLIFE CORRIDOR? No OR A "HABITAT ISLAND"? No

ADJACENT LAND USE? Airport MAN MADE? No DISTANCE TO NEAREST ROADWAY OR OTHER DEVELOPMENT ~20 ft

DOMINANT WETLAND SYSTEMS PRESENT PEM CONTIGUOUS UNDEVELOPED BUFFER ZONE PRESENT No

IS THE WETLAND A SEPARATE HYDRAULIC SYSTEM? Yes IF NOT, WHERE DOES THE WETLAND LIE IN THE DRAINAGE BASIN? N/A

HOW MANY TRIBUTARIES CONTRIBUTE TO THE WETLAND? 0 AQUATIC DIVERSITY/ABUNDANCE No VEGETATIVE DIVERSITY/ABUNDANCE No

WILDLIFE DIVERSITY/ABUNDANCE No ANTICIPATED IMPACTS Unknown WETLAND AREA IMPACTED: Unknown

FUNCTION	Occurrence Y	Occurrence N	Rationale (NUMBER)	Principal Function(s)	Comments	ACOE
Groundwater Recharge/Discharge	X		4,8,15	X	Opportunity for recharge	
Floodflow Alteration		X	4,5,6,9		Wetland too smal to significantly alter flooding	
Sediment/Shoreline Stabilization		X			No open water associated with wetland	
Sediment/Toxicant Retention		X	2,4,5		Wetland area too small to retain significant amounts of toxins	
Nutrient Removal (Retention/Transformation)		X	5,7,8,9		Few upslope sources of nutrients	
Production Export (Nutrient)		X	7		No food producing plants	
Fish & Shellfish Habitat		X			No open water associated with wetland	
Wildlife Habitat		X	13		No food, water, shelter available for animals	
Endangered Species Habitat	X				Potential endangered species or habitat (per DEP December 2010)	
Visual Quality/Aesthetics		X			No public access	
Educational Scientific Value		X			No public access	
Recreation ((Non)Consumptive)		X			No public access	
Uniqueness/Heritage		X	1,22		Not unique or historic & no public access	

NOTES:

Igor I Sikorsky Airport - Runway 6-24 Rehabilitation Project
WETLANDS EVALUATION

WETLAND FUNCTION-VALUE ASSESSMENTS

WETLAND I.D. 1000

Prepared by: David Laiuppa DATE: 11/19/10

TOTAL APPROXIMATE AREA OF WETLAND: 0.25 acres IS WETLAND PART OF A WILDLIFE CORRIDOR? No OR A "HABITAT ISLAND"? No

ADJACENT LAND USE? Airport MAN MADE? No DISTANCE TO NEAREST ROADWAY OR OTHER DEVELOPMENT ~75 ft

DOMINANT WETLAND SYSTEMS PRESENT PEM CONTIGUOUS UNDEVELOPED BUFFER ZONE PRESENT No

IS THE WETLAND A SEPARATE HYDRAULIC SYSTEM? Yes IF NOT, WHERE DOES THE WETLAND LIE IN THE DRAINAGE BASIN? N/A

HOW MANY TRIBUTARIES CONTRIBUTE TO THE WETLAND? 0 AQUATIC DIVERSITY/ABUNDANCE No VEGETATIVE DIVERSITY/ABUNDANCE No

WILDLIFE DIVERSITY/ABUNDANCE No ANTICIPATED IMPACTS Unknown WETLAND AREA IMPACTED: Unknown

FUNCTION	Occurrence Y	Occurrence N	Rationale (NUMBER)	Principal Function(s)	Comments	ACOE
Groundwater Recharge/Discharge	X		4,8,15	X	Opportunity for recharge	
Floodflow Alteration		X	4,5,6,9		Wetland too smal to significantly alter flooding	
Sediment/Shoreline Stabilization		X			No open water associated with wetland	
Sediment/Toxicant Retention		X	2,4,5		Wetland area too small to retain significant amounts of toxins	
Nutrient Removal (Retention/Transformation)		X	5,7,8,9		Few upslope sources of nutrients	
Production Export (Nutrient)		X	7		No food producing plants	
Fish & Shellfish Habitat		X			No open water associated with wetland	
Wildlife Habitat		X	13		No food, water, shelter available for animals	
Endangered Species Habitat	X				Potential endangered species or habitat (per DEP December 2010)	
Visual Quality/Aesthetics		X			No public access	
Educational Scientific Value		X			No public access	
Recreation ((Non)Consumptive)		X			No public access	
Uniqueness/Heritage		X	1,22		Not unique or historic & no public access	

NOTES:

Igor I Sikorsky Airport - Runway 6-24 Rehabilitation Project
WETLANDS EVALUATION

WETLAND FUNCTION-VALUE ASSESSMENTS

WETLAND I.D. 1100

Prepared by: David Laiuppa DATE: 11/19/10

TOTAL APPROXIMATE AREA OF WETLAND: 850 sq ft IS WETLAND PART OF A WILDLIFE CORRIDOR? No OR A "HABITAT ISLAND"? No

ADJACENT LAND USE? Airport MAN MADE? No DISTANCE TO NEAREST ROADWAY OR OTHER DEVELOPMENT ~75 ft

DOMINANT WETLAND SYSTEMS PRESENT PEM CONTIGUOUS UNDEVELOPED BUFFER ZONE PRESENT No

IS THE WETLAND A SEPARATE HYDRAULIC SYSTEM? Yes IF NOT, WHERE DOES THE WETLAND LIE IN THE DRAINAGE BASIN? N/A

HOW MANY TRIBUTARIES CONTRIBUTE TO THE WETLAND? 0 AQUATIC DIVERSITY/ABUNDANCE No VEGETATIVE DIVERSITY/ABUNDANCE No

WILDLIFE DIVERSITY/ABUNDANCE No ANTICIPATED IMPACTS Unknown WETLAND AREA IMPACTED: Unknown

FUNCTION	Occurrence Y	Occurrence N	Rationale (NUMBER)	Principal Function(s)	Comments	ACOE
Groundwater Recharge/Discharge	X		4,8,15	X	Opportunity for recharge	
Floodflow Alteration		X	4,5,6,9		Wetland too smal to significantly alter flooding	
Sediment/Shoreline Stabilization		X			No open water associated with wetland	
Sediment/Toxicant Retention		X	2,4,5		Wetland area too small to retain significant amounts of toxins	
Nutrient Removal (Retention/Transformation)		X	5,7,8,9		Few upslope sources of nutrients	
Production Export (Nutrient)		X	7		No food producing plants	
Fish & Shellfish Habitat		X			No open water associated with wetland	
Wildlife Habitat		X	13		No food, water, shelter available for animals	
Endangered Species Habitat	X				Potential endangered species or habitat (per DEP December 2010)	
Visual Quality/Aesthetics		X			No public access	
Educational Scientific Value		X			No public access	
Recreation ((Non)Consumptive)		X			No public access	
Uniqueness/Heritage		X	1,22		Not unique or historic & no public access	

NOTES:

Igor I Sikorsky Airport - Runway 6-24 Rehabilitation Project
WETLANDS EVALUATION

WETLAND FUNCTION-VALUE ASSESSMENTS

WETLAND I.D. 1400

Prepared by: David Laiuppa DATE: 11/22/10

TOTAL APPROXIMATE AREA OF WETLAND: 0.1 acres IS WETLAND PART OF A WILDLIFE CORRIDOR? No OR A "HABITAT ISLAND"? No

ADJACENT LAND USE? Airport MAN MADE? No DISTANCE TO NEAREST ROADWAY OR OTHER DEVELOPMENT ~75 ft

DOMINANT WETLAND SYSTEMS PRESENT PEM CONTIGUOUS UNDEVELOPED BUFFER ZONE PRESENT No

IS THE WETLAND A SEPARATE HYDRAULIC SYSTEM? Yes IF NOT, WHERE DOES THE WETLAND LIE IN THE DRAINAGE BASIN? N/A

HOW MANY TRIBUTARIES CONTRIBUTE TO THE WETLAND? 0 AQUATIC DIVERSITY/ABUNDANCE No VEGETATIVE DIVERSITY/ABUNDANCE No

WILDLIFE DIVERSITY/ABUNDANCE No ANTICIPATED IMPACTS Unknown WETLAND AREA IMPACTED: Unknown

FUNCTION	Occurrence Y	Occurrence N	Rationale (NUMBER)	Principal Function(s)	Comments	ACOE
Groundwater Recharge/Discharge	X		4,8,15	X	Opportunity for recharge	
Floodflow Alteration		X	4,5,6,9		Wetland too smal to significantly alter flooding	
Sediment/Shoreline Stabilization		X			No open water associated with wetland	
Sediment/Toxicant Retention		X	2,4,5		Wetland area too small to retain significant amounts of toxins	
Nutrient Removal (Retention/Transformation)		X	5,7,8,9		Few upslope sources of nutrients	
Production Export (Nutrient)		X	7		No food producing plants	
Fish & Shellfish Habitat		X			No open water associated with wetland	
Wildlife Habitat		X	13		No food, water, shelter available for animals	
Endangered Species Habitat	X				Potential endangered species or habitat (per DEP December 2010)	
Visual Quality/Aesthetics		X			No public access	
Educational Scientific Value		X			No public access	
Recreation ((Non)Consumptive)		X			No public access	
Uniqueness/Heritage		X	1,22		Not unique or historic & no public access	

NOTES:

Igor I Sikorsky Airport - Runway 6-24 Rehabilitation Project
WETLANDS EVALUATION

WETLAND FUNCTION-VALUE ASSESSMENTS

WETLAND I.D. 1800

Prepared by: David Laiuppa DATE: 11/22/10

TOTAL APPROXIMATE AREA OF WETLAND: 0.05 acres IS WETLAND PART OF A WILDLIFE CORRIDOR? No OR A "HABITAT ISLAND"? No

ADJACENT LAND USE? Airport MAN MADE? No DISTANCE TO NEAREST ROADWAY OR OTHER DEVELOPMENT ~15 ft

DOMINANT WETLAND SYSTEMS PRESENT PEM CONTIGUOUS UNDEVELOPED BUFFER ZONE PRESENT No

IS THE WETLAND A SEPARATE HYDRAULIC SYSTEM? Yes IF NOT, WHERE DOES THE WETLAND LIE IN THE DRAINAGE BASIN? N/A

HOW MANY TRIBUTARIES CONTRIBUTE TO THE WETLAND? 0 AQUATIC DIVERSITY/ABUNDANCE No VEGETATIVE DIVERSITY/ABUNDANCE No

WILDLIFE DIVERSITY/ABUNDANCE No ANTICIPATED IMPACTS Unknown WETLAND AREA IMPACTED: Unknown

FUNCTION	Occurrence Y	Occurrence N	Rationale (NUMBER)	Principal Function(s)	Comments	ACOE
Groundwater Recharge/Discharge	X		4,8,15	X	Opportunity for recharge	
Floodflow Alteration		X	4,5,6,9		Wetland too smal to significantly alter flooding	
Sediment/Shoreline Stabilization		X			No open water associated with wetland	
Sediment/Toxicant Retention		X	2,4,5		Wetland area too small to retain significant amounts of toxins	
Nutrient Removal (Retention/Transformation)		X	5,7,8,9		Few upslope sources of nutrients	
Production Export (Nutrient)		X	7		No food producing plants	
Fish & Shellfish Habitat		X			No open water associated with wetland	
Wildlife Habitat		X	13		No food, water, shelter available for animals	
Endangered Species Habitat	X				Potential endangered species or habitat (per DEP December 2010)	
Visual Quality/Aesthetics		X			No public access	
Educational Scientific Value		X			No public access	
Recreation ((Non)Consumptive)		X			No public access	
Uniqueness/Heritage		X	1,22		Not unique or historic & no public access	

NOTES: