



LETTER OF TRANSMITTAL

Deliver To: Mark Alexander **From:** Daniel Hageman
Company: CTDOT - OEP **Voice/Fax:** (860)256-4917
Project: Sikorsky Airport Safety **Date:** September 18, 2013
 Area Improvements
Subject: Final Mitigation Checklist Responses

We are sending you:

- 1) **Two (2) hardcopies of the Final Mitigation Checklist responses dated September 18th, 2013. These responses address comments received from the USACE, and subsequent comments by Ms. Kim Lesay.**

These are transmitted as checked below:

For approval
 For your use
 As requested
 For review and comment

Remarks: This submittal is intended for direct transmittal to the USACE.

Copy To: Dale Spencer, CME
Micheal Grzywinski, CTDEEP
Fraser Walsh, URS
FHI file 812.04

Signed:

(If enclosures are not as noted, kindly notify us at once.)

1. OVERALL MITIGATION PLAN CHECKLIST

Project: Sikorsky Memorial Airport (BDR) – Runway Safety Area
State Project #15-336
File No: NAE – 2013-01089
City: Stratford
State: Connecticut
Plan Title: “U.S. Army Corps of Engineers Mitigation Checklist Runway Safety Area
Project Igor I. Sikorsky Memorial Airport Stratford, CT”
Preparer: Fitzgerald & Halliday, Inc
(Prepared For Connecticut Department of Transportation)
Plan Date: June 2013
Corps Project Manager: Susan K. Lee, CENAE-R-B

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A. General Information

1. [OK] Mitigation plan and documentation submitted as one complete package.
2. Site location:
 - a. [OK] Locus map(s)
 - b. [OK] Aerial photo(s)
 - c. [OK] Latitude/Longitude of mitigation site(s) in decimal format.
 - d. [OK] 8-digit Hydrologic Unit Code(s) for impact area(s) and mitigation area(s).

B. Impact area(s)

1. [OK] Wetland acreage at each impact site.
2. [OK] Cowardin classifications at each impact site.
3. [OK] HGM classifications at each impact site.
4. [OK] Other aquatic resources at each impact site.
 - a. [N/A] Vernal pools
 - b. [OK] Streams (Tidal channels)
 - c. [N/A] Submerged Aquatic Vegetation
 - d. [N/A] Mudflats
5. [OK] Describe both site specific and landscape level wetland and stream functions and values at each impact site.
6. [OK] Describe type and purpose of work at each impact site.
7. [OK] Relationship of impact area(s) to watershed or regional plans for the area discussed.

C. Mitigation area(s)

1. Background information
 - a. [OK] Mitigation alternatives.
 - b. [OK] Existing wildlife use.
 - c. [OK] Existing soil.
 - d. [OK] Existing vegetation.
 - e. [OK] Surrounding land uses.
 - f. [] USFWS and/or NOAA Clearance Letter or Biological Opinion.
USFWS Clearance letter in appendix B; NOAA states it will provide formal letter to Corps after the review of the Public Notice.
 - g. [] SHPO/THPO Cultural Resource Clearance Letter.
SHPO acknowledgement in Appendix B; No disclosure of coordination with any of the Tribal Historic Preservation Officers.
2. Mitigation proposed
 - a. [OK] Wetland acreage proposed at each site.
 - b. [OK] Cowardin classifications proposed at each site.
 - c. [OK] HGM classifications proposed at each site.
 - d. [N/A] Other aquatic resources proposed at each site.
 - i. [] Vernal pools
 - ii. [] Streams
 - iii. [] Submerged Aquatic Vegetation

- iv. Mudflats
 - e. Site-specific and landscape-level functions and values proposed at each site.
 - f. Target fish and/or wildlife species. Several avian species are the focus of some elements of the design. Hydraulic improvements to tidal channel and culvert are proposed. These modifications will undoubtedly present access and opportunities for some aquatic organisms including fish; however there are no specifics regarding which species potentially benefit or which may be adversely effected.
 - g. Reference site(s). There is general reference to the use of existing wetlands to derive hydrology information; however, the specific sites to be used for reference sites have not been disclosed. On Page 36, the plan states, "At least one reference site adjacent to or near each mitigation site will be described and shown on a locus map." ERS recommends that these sites be designated in the final plan.
 - h. Design Constraints.
 - i. Construction oversight.
 - j. Project construction timing.
 - k. Responsible parties for all aspects of project. CTDOT for construction, permits to be transferred to Town of Bridgeport for monitoring and stewardship.
 - l. Potential to attract waterfowl and other bird species that might pose a threat to aircraft? Good discussion! Note: BASH = Bird Aircraft Strike Hazard Program
3. Specific Aquatic Resource Checklist Information Appended
- a. Non-tidal wetlands
 - b. Tidal wetlands
 - c. Vernal pools
 - d. Streams – The project involves a tidal channel rehabilitation; such activities are not addressed in our current guidance. Future guidance will likely incorporate some relevant elements related to mudflats associated with such tidal features.
 - e. Submerged aquatic vegetation

D. Grading Plan

- 1. Plan View
 - a. Existing and proposed grading plans.
 - b. Microtopography
 - c. Scale is in the range of 1"=20' to 1"=100'.
 - d. All items on the plan are legible. Electronic documents are encouraged (e.g., PDF); otherwise plans should be on 8 ½ x 11" sheets.
 - e. Plans have a bar scale.
 - f. The drawings show the access for maintenance and monitoring.
- 2. Representative cross-sections.
- 3. Other - Specific staff recommendations related to grading.

E. Erosion Controls

[OK] Erosion control removal deadline is included.

F. Invasive Species

[OK] Invasive Species Control Plan (ISCP) is included.

- a. [OK] Risks – includes evaluation of the potential for unwanted species or varieties.
- b. [OK] Constraints – regulatory or environmental factors affecting control strategies.
- c. [OK] Addresses a scope commensurate with risk & constraints.

G. Off-Road Vehicle Use

- 1. [OK] No off-road vehicle use in immediate vicinity, or if so, control measures addressed.
- 2. [N/A] Control plan, if appropriate.

H. Preservation

- 1. [OK] Adequate buffers. – Constraints are disclosed and not expected to diminish the value of the mitigation strategies.
- 2. [N/A] Wetlands within subdivisions are protected along with appropriate buffers.
- 3. [OK] Required preservation language is included.
- 4. [OK] Plans of preservation area(s).
- 5. [OK] Form of legal means of preservation.
- 6. [OK] Documentation of acceptance by receiving agency (if applicable). A Letter of Consent and Assurances includes Construction and Post-Construction Stewardship, Maintenance, and Monitoring executed by City of Bridgeport and accepted by the Commissioner of CTDOT on 16 May 2013.

I. Monitoring

[OK] Appropriate monitoring is proposed and language included.

[] Project Overview Form will be included with each Annual Monitoring Report. – This requirement does not appear to have been specifically acknowledged and addressed.

[OK] Transmittal and Self-Certification Form will be included with each Annual Monitoring Report.

J. Assessment

[OK] An appropriate final assessment is proposed and language included.

K. Contingency

[OK] Plan for dealing with unanticipated site conditions or changes.

L. Long-term Stewardship

[OK] Plan for long-term stewardship is included. – Permits to be transferred to City of Bridgeport. The City has accepted the burdens associated with post-construction stewardship, monitoring, and maintenance.

[OK] Documentation of acceptance by the receiving steward (if applicable). A Letter of Consent and Assurances includes Construction and Post-Construction Stewardship, Maintenance, and Monitoring executed by City of Bridgeport and accepted by the Commissioner of CTDOT on 16 May 2013.

M. Financial Assurances

[] Appropriate financial assurances in place:

- a. [] Construction -- the plan states, “An obligation letter or commitment from CTDOT which includes funding for the mitigation construction may be submitted upon request.”
- b. [] Monitoring and remediation -- the plan states, “An obligation letter or commitment from the City of Bridgeport, which includes funding for the required number of years for monitoring, reporting requirements, and appropriate remedial actions may be submitted upon request.”
- c. [] Contingency (see above)
- d. [N/A] Long-term stewardship (endowment)

N. Other Comments

Overall Project Mitigation -- Table 4 summarizes activities related to some mitigating strategies to address potential project impacts to two plant species which warrant natural heritage/species diversity concern in the Corps NEPA evaluation. Additionally, several other strategies are described which will reduce bird and aircraft strike hazards while improving habitat for several non-flocking grassland species – also natural heritage/species diversity concerns. Those impact-lessening measures are not specifically addressed by Clean Water Act mitigation doctrine; however, as those measures will likely reduce the overall adverse effects of the project, we recommend that they remain as part of the mitigation plan which will be stipulated in the permit special conditions.

Appendix A Figures:

-- Figure 4 illustrates Listed Species Sub-Population Identification Numbers 1 thru 39; however, nothing in the plan apparently corresponds to those identification numbers.

-- Figure 6 illustrates a Tiger Beetle Exclusion Barrier. The plan includes no other disclosures related to such a barrier. I recommend that the design and effect of such a barrier be a matter of record, addressed in the Corps NEPA evaluation, and acknowledged in the permit.

Susan:

In my view, any omissions or items warranting clarification are simple disclosures that could easily be dealt with in a few additional pages to be inserted in the existing document. Ideally, the changes would be provided in a complete as a PDF with annotations to this checklist describing how and where matters were addressed. NOTE: The plan is very well organized and addresses matters in a fashion that facilitated the review by the Environmental Resources Section – please extend my personal thanks to CTDOT and their agents -- MJS

3. TIDAL WETLAND MODULE CHECKLIST

I. Hydrology

1. [OK] Evidence of adequate hydrology to support the desired wetland.
 - a. [OK] elevation of mean high water (MHW).
 - b. [OK] elevation of mean low water (MLW).
2. [OK] Salinity

II. Substrate

1. [OK] Proposed source of substrate supplements.
2. [OK] Organic content of substrate supplements (if necessary).

III. Planting Plan

1. [OK] Plans use scientific names.
2. [OK] Plant materials are native and indigenous to the area of the site(s); invasive species, nonnative species, and/or cultivars are not proposed for planting or seeding.
3. [OK] Vegetation community types or zones are classified in accordance with Cowardin, et al. (1979) or other similar classification system.
4. [OK] Plan view drawings show proposed locations of planted stock.
5. [OK] More than 50% of the plantings in each zone are appropriate for the community type designated for that zone.
6. [OK] Woody stock density is appropriate.
7. [OK] Herbaceous stock density is appropriate.
8. [OK] Seed mix composition is provided.
9. [OK] Representative cross section plans showing vegetative community zones in relation to MLW and MHW.
10. [OK] Relocation of plantings allowed when appropriate.
11. [OK] Other - Specific staff recommendations related to planting.

State Project #15-336
Runway Safety Area Improvements – Igor I. Sikorsky Memorial Airport
Mitigation Checklist Revisions
September 18, 2013

These revisions are in response to comments received from the USACE ERS on July 12, 2013.

Part C.1.f:
USFWS and/or NOAA Clearance Letter or Biological Opinion.

As stated in the NOAA letter attached to the mitigation checklist, NOAA has reserved the right to submit formal comments on the project once the application is submitted. To date, there have been no additional comments received from NOAA. Any comments received will be forwarded to the USACE and attached to the Mitigation Checklist.

Part C.1.g:
SHPO / THPO Cultural Resource Clearance Letter.

The Federal Aviation Administration (FAA) has coordinated with the tribes several times over the course of the project. The most recent coordination update took place in January 2013. Two response letters, from the Mohegan and Mashantucket Tribes, are provided in Attachment A of this response for your use.

Part C.2.f:
Target fish and/or wildlife species.

USACE Comment: *“Several avian species are the focus of some elements of the design. Hydraulic improvements to tidal channel and culvert are proposed. These modifications will undoubtedly present access and opportunities for some aquatic organisms including fish; however there are no specifics regarding which species potentially benefit or which may be adversely effected.”*

Response: The proposed mitigation will include the enhancement of existing tidal wetland and the restoration of an area of former tidal wetland. The enhancement areas will focus on the removal of *Phragmites australis* vegetation from these areas, and promotion of native vegetation growth, primarily *Spartina patens* and *Spartina alterniflora* and their typical native associate species. Likewise, the proposed tidal

wetland restoration area will promote growth of the same species, and increase both plant and animal diversity.

As discussed in Section 2.1 of the mitigation plan, the overall airport mowing regime will provide increased habitat for specific listed grassland bird species, while discouraging other wildlife from the airport. The removal of Phragmites in Mitigation Sites 1 and 2, which promote flocking bird species such as European Starlings and Red-winged Blackbirds and exceed obstruction heights, will encourage a shift to species which do not promote flocking bird species and do not exceed obstruction heights. Rather than attracting flocking species, spartina marsh will attract non-flocking, native species, many of which could be state-listed avian species. These species already inhabit adjacent tidal wetlands. Mitigation Site 1 is proposed to have a Barn Owl box installed within the native plantings of cedar and gray birch. This Owl Box is located out of the RSA (approximately 700 feet from the RSA), and will not affect air space. The presence of this species, if it inhabits the box, may actually discourage other avian species from using the area.

Due to their direct connection to tidal waters through tidal channels, both Mitigation Sites 1 and 2 will also improve habitat for aquatic species, which prefer native spartina tidal marsh over Phragmites-dominated wetlands. It is anticipated that virtuously every level of the ecosystem will benefit from the proposed mitigation on some level. An increase in macro-invertebrates, crustaceans, and avian species is expected. Also, an increase in fish habitat, including feeding, spawning, and cover is also expected, benefitting all life stages.

Aquatic species expected to benefit from the proposed mitigation include:

- Crustaceans (isopods, amphipods, fiddler crabs, marsh crabs, blue crab, hermit crabs, etc.)
- Gastropods and bivalves (periwinkle, ribbed mussel, various clams, etc.)
- Fish species (such as Atlantic silverside, mummichogs, sheepshead, killifish, and larvae of many other fish)
- Macro-invertebrates (such as segmented worms, cone worms, coiled worms, blood worms, various insects, state-listed mudflat tiger beetle, etc.)

Several groups of avian species will benefit from the proposed mitigation, including:

- wading birds (such as Herons, Egrets, Bitterns, Night Herons, Rails, etc.)
- passerines (such as Marsh Wrens, Sparrows, Swallows, etc.)
- waterfowl (such as Mallard, Black Duck, Widgeon, Mergansers, etc.)
- flying waterbirds (such as Seagulls and Terns)

- raptors (such as Osprey, Northern Harrier, *Buteos*, and *Accipiters*)

Tables 1 and 2 in Attachment B of this response list many of the state-listed and conservation concern avian species that are expected to benefit from these mitigation sites.

The Mudflat Tiger Beetle (*Cicindela marginata*) will, a state species of special concern, will benefit from the proposed project. This species lay eggs in the sediment of tidal channels near the high tide mark, and prefers saline mudflat habitats including the fine sediments and organics that are deposited at rivermouths. Based on the salt marsh/mudflat habitat preference, the large area of intertidal salt marsh within the existing cordgrass community and the proposed wetland enhancement and restoration will likely provide to Mudflat Tiger Beetle habitat.

The sole focus of Mitigation Site 3 will consist only of seeding of the listed coast violet in existing mowed lawn areas, with continued mowing of this area into the future. This will promote the continued growth of the native coast violet on the site, but will also continue to be maintained as lawn area. Other than the state endangered coast violet, few native species of vegetation or wildlife will be enhanced at this site. No fish or aquatic species will benefit from this mitigation site.

The sole focus of Mitigation Site 4 is habitat creation for the state-endangered salt pond grass, which will be impacted by realignment of Route 113. Creation of this habitat will likely also enhance other native vegetation, especially with the adjacent planting of native shrub species. Since this mitigation site is located slightly above the HTL elevation, there will be little habitat created for fish species, however other aquatic species such as crabs may benefit.

Part C.2.g:
Reference Sites.

USACE Comment: *“There is general reference to the use of existing wetlands to derive hydrology information; however, the specific sites to be used for reference sites have not been disclosed. On Page 36, the plan states, “At least one reference site adjacent to or near each mitigation site will be described and shown on a locus map.” ERS recommends that these sites be designated in the final plan.”*

Response: These sites were chosen as reference points because of their health and vigor and their juxtaposition to the sites we are proposing to enhance and restore. Reference sites used are depicted on the attached revised Figure 8.

Control Site #1

An existing tidal *Spartina patens* wetland surface elevation was surveyed at this site to establish a control elevation for nearby wetland enhancement and restoration work at Mitigation Site No. 1. The elevation in this control area was 2.8 feet (NGVD 29).

Control Site #2

An existing tidal *Spartina patens* wetland surface elevation was surveyed at this site to establish a control elevation for nearby wetland enhancement work at Mitigation Site No. 2. The elevation in this control area was 3.4 feet (NGVD 29).

Control Site #3

An existing tidal *Spartina patens* wetland surface elevation was surveyed at this site to establish a control elevation for nearby wetland plantings in the vicinity of the new tidal Channel to the north of Route 113. The elevation in this control area was 3.3 feet (NGVD 29).

Part I, Monitoring: Project Overview Form.

A Project Overview Form will be provided with each Annual Monitoring Report.

Part M, Financial Assurances:

The City of Bridgeport, Connecticut Department of Transportation, and Town of Stratford have all entered into a Memorandum of Understanding (MOU) outlining agreements and commitments regarding the Igor I. Sikorsky Memorial Airport Runway Safety Area Improvement Project. Among an assortment of commitments, the MOU lists mitigation as a major component of the project, and commits the CTDOT to construct the mitigation areas and the City of Bridgeport to take over monitoring and maintenance of the mitigation areas immediately after construction. See the attached MOU for details. The CTDOT will conduct all construction oversight activities.

In addition, the City of Bridgeport is currently in the process of contracting the Connecticut Department of Energy and Environmental Protection Wetland Habitat and Mosquito Management division (WHAMM) to treat and mow invasive common reed in

Fall of 2013, and conduct various improvements to tidal flow within the wetland enhancement and restoration areas in 2014. The CTDEEP WHAMM treatment of common reed will be re-applied in Fall of 2014.

Part N, Other Comments:

USACE Comment: “Figure 4 illustrates Listed Species Sub-Population Identification Numbers 1 thru 39; however, nothing in the plan apparently corresponds to those identification numbers.”

Response: Figure 4 illustrates all sub-populations of listed plant species on the airport property. The majority of these populations are not impacted. The attached Incidental Take Report (ITR) Executive Summary provides information on which species and sub-populations are impacted and which are not. There will be no impacts to any federally-listed species. Several state-listed plant species will be impacted as a result of the project, however, the greatest impact will be to the state-endangered saltpond grass (*Leptochloa fusca* ssp. *Fascicularis*), as outlined in the ITR Executive Summary.

The following sub-populations of three state-listed plant species will be impacted by the proposed project:

- *Leptochloa fusca* ssp. *Fascicularis* – direct impacts to sub-populations 1 and 2 resulting from Route 113 realignment
- Coast Violet (*Viola brittoniana*) potential indirect impacts to Sub-populations 4 and 10 from minor changes in drainage
- Needlegrass (*Aristida longespica*) permanent impacts:
 - Subpopulation 1, located within Raymark zone, will be permanently impacted during Raymark Waste removal; the top soil in this area must be removed and properly disposed of due to contamination, and cannot be re-used as top soil.
 - A portion of Subpopulation 2 will be permanently impacted due to its location in the path of the EMAS.
 - All of Subpopulation 6 and a portion of Subpopulation 7 will be permanently impacted due to their location in the path of the new Route 113 alignment.
 - Subpopulations 5 and 29 will be permanently impacted by the development of a detention basin associated with the new, re-aligned Route 113.
- Needlegrass (*Aristida longespica*) temporary impacts:
 - Subpopulations 3, 4, 5, a portion of 7, 27, 28, 29, and 39 will be temporarily impacted by the Route 113 re-alignment.

- A portion of subpopulation 2 and subpopulation 3 will be temporarily impacted by the Runway 6-24 safety improvements and the placement of the EMAS system.
- Temporary Impacts to subpopulations 45, 46, and 50 are from proposed runway pavement removal, which is anticipated to have a net beneficial impact on *Aristida longespica*, as it will ultimately create additional habitat for the species. Following pavement removal, the soil will be replaced, and seeds embedded in the soil may germinate and develop into new plants.

If you would like a full copy of the Incidental Take Report, we would be happy to provide one upon your request.

USACE Comment: *“Figure 6 illustrates a Tiger Beetle Exclusion Barrier. The plan includes no other disclosures related to such a barrier. I recommend that the design and effect of such a barrier be a matter of record, addressed in the Corps NEPA evaluation, and acknowledged in the permit.”*

Response: The attached Incidental Take Report provides detail on this exclusion area and how it is integrated into the project design. In addition, please refer to the NOTICE TO CONTRACTOR – SPECIAL CONDITIONS FOR WORK IN ENVIRONMENTALLY SENSATIVE AREAS, bullet No. 6, in Appendix E – Specifications for additional language on Invertebrate protection. This specification is also attached to this response for your reference. Habitat for this species is located near the approach of Runway 6. During construction, orange construction fence will be placed in the field to exclude construction vehicles from habitat areas. If possible, work should be conducted from the pavement in the vicinity of these habitat areas. Work taking place off the pavement in the vicinity of these habitat areas should be limited to the flight time of the beetle, June through August, so that the larval stage of this species is avoided in habitat areas.

The Tiger Beetle Exclusion Barrier will be addressed in the Corps NEPA evaluation, and acknowledged in the permit application materials.

Attachments

Attachment A: THPO Coordination

RE: Airport Project,Sirkorsky Memorial Airport, Stratford, Connecticut

James Quinn to: Richard Doucette

Cc: Barbara Travers-Wright

From: James Quinn <jquinn@moheganmail.com>

To: Richard Doucette/ANE/FAA@FAA

Cc: Barbara Travers-Wright/ANE/FAA@FAA

Mr. Doucette,

I have reviewed the information you submitted to my office regarding the proposed project at Sirkorsky Memorial Airport in Stratford, Connecticut. Based on the information you provided, it is the opinion of the Mohegan Tribal Historic Preservation Office that no properties of cultural, religious or historic significance will be adversely impacted by the project as it is proposed. As with all projects, the Mohegan Tribe requests that in the advent of any inadvertent discoveries of human remains or archaeological resources during the course of construction, the project be halted and your office contact the my office directly to consult on the proper path forward. If you have any further questions please feel free to contact me. The Mohegan Tribe appreciates the opportunity to comment on this project pursuant to the National Historic Preservation Act.

Best regards,
James

James Quinn
The Mohegan Tribe
Tribal Historic Preservation Officer
13 Crow Hill Rd.
Uncasville, CT 06382
Cell # (860) 367-1573
Office# (860) 862-6893
Fax# (860) 862-6395

Mr. Richard P. Doucette,
Manager of Environmental Programs, Airports Division
U.S. Dept. of Transportation
Federal Aviation Administration
New England Region Ane-610
12 New England Executive Park
Burlington, MA 01803

Re: FAA / CT DOT RUNWAY SAFETY AREA PROJECT
RELOCATION OF A PORTION OF A ROAD
IGOR I. SIKORSKY MEMORIAL AIRPORT
STRATFORD, CT

Based on a review of the information provided, there does not appear to be any impact to potentially significant religious and cultural resources for the Mashantucket Pequot Tribe.
The Mashantucket Pequot Tribe appreciates the opportunity to review and comment on this proposed project.



Kathleen Knowles
Tribal Historic Preservation Officer
Natural Resources Protection & Regulatory Affairs

Mashantucket Pequot Tribal Nation

[550 Trolley Line Blvd., P.O. Box 3202, Mashantucket, CT 06338-3202](mailto:kknowles@mptn-nsn.gov)

TEL: 860-396-6887 FAX: 860-396-6914

kknowles@mptn-nsn.gov

**Attachment B: State-listed and Conservation
Concern Avian Species Benefiting from
Mitigation**

Table 1: CT-ESA Listed Species Observed (*in bold*) or Expected at BDR

Common Name (<i>Scientific name</i>) (observed species in bold)	CT / Federal ESA Status	Preferred Habitat/Habitat Attributes
Blue-winged Teal <i>Anas discors</i>	T (nesting pop.) / --	Shallow areas of estuarine marshes provide migratory stopover habitat
Pied-billed Grebe <i>Podilymbus podiceps</i>	E / --	Open water areas underlain by submerged aquatic vegetation provide potential winter foraging habitat
Least Bittern <i>Ixobrychus exilis</i>	T/ --	Freshwater and brackish marshes with dense, tall growths of emergent vegetation (e.g. <i>Typha</i> , <i>phragmites</i>). Occasionally in salt marshes.
American Bittern <i>Botaurus lentiginosus</i>	E / --	Salt and Brackish Marsh/ Secluded marshes with little to no human disturbance
Great Egret <i>Ardea alba</i>	T/ --	Streams, ponds, lakes, rice fields, freshwater and saltwater marshes, mud flats
Snowy Egret <i>Egretta thula</i>	T/ --	Lives around fresh, brackish, and salt water, sometimes dry agricultural fields in association with cattle
Little Blue Heron <i>Egretta caerulea</i>	SC / --	Prefers freshwater marshes, ponds, lakes and marshy borders of streams; also frequents salt or brackish water marshes
Yellow-crowned Night-Heron <i>Nyctanassa violacea</i>	SC / --	Lush riverine swamps and marshes the tidal creeks within the IBA are important foraging areas for this species.
Glossy Ibis <i>Plegadis falcinellus</i>	SC / --	Salt Marsh/ Salt Pannes and grassy areas of high marsh for feeding
Northern Harrier <i>Circus cyaneus</i>	E / --	Salt marshes and other extensive grasslands. Other open areas provide foraging habitat during migration
Sharp-shinned Hawk <i>Accipiter striatus</i>	E / --	Woodland edges and paths, brushy fields and meadows, and other small openings in vegetation provide suitable hunting during migration
American Kestrel <i>Falco sparverius</i>	T/ --	Wide variety of open to semi-open habitats, including meadows, grasslands, and early successional communities
Peregrine Falcon <i>Falco peregrinus</i>	T/ --	Flat, open, sandy, coastal beaches and associated bays, estuaries, and ocean
Piping Plover <i>Charadrius melodus</i>	T/ T	Barrier Beach Strand (<i>Crepidula madden</i>) helps to disguise and camouflage eggs, Wrack lines contain an abundance of marine amphipods and other invertebrates that are important prey items for Piping Plovers

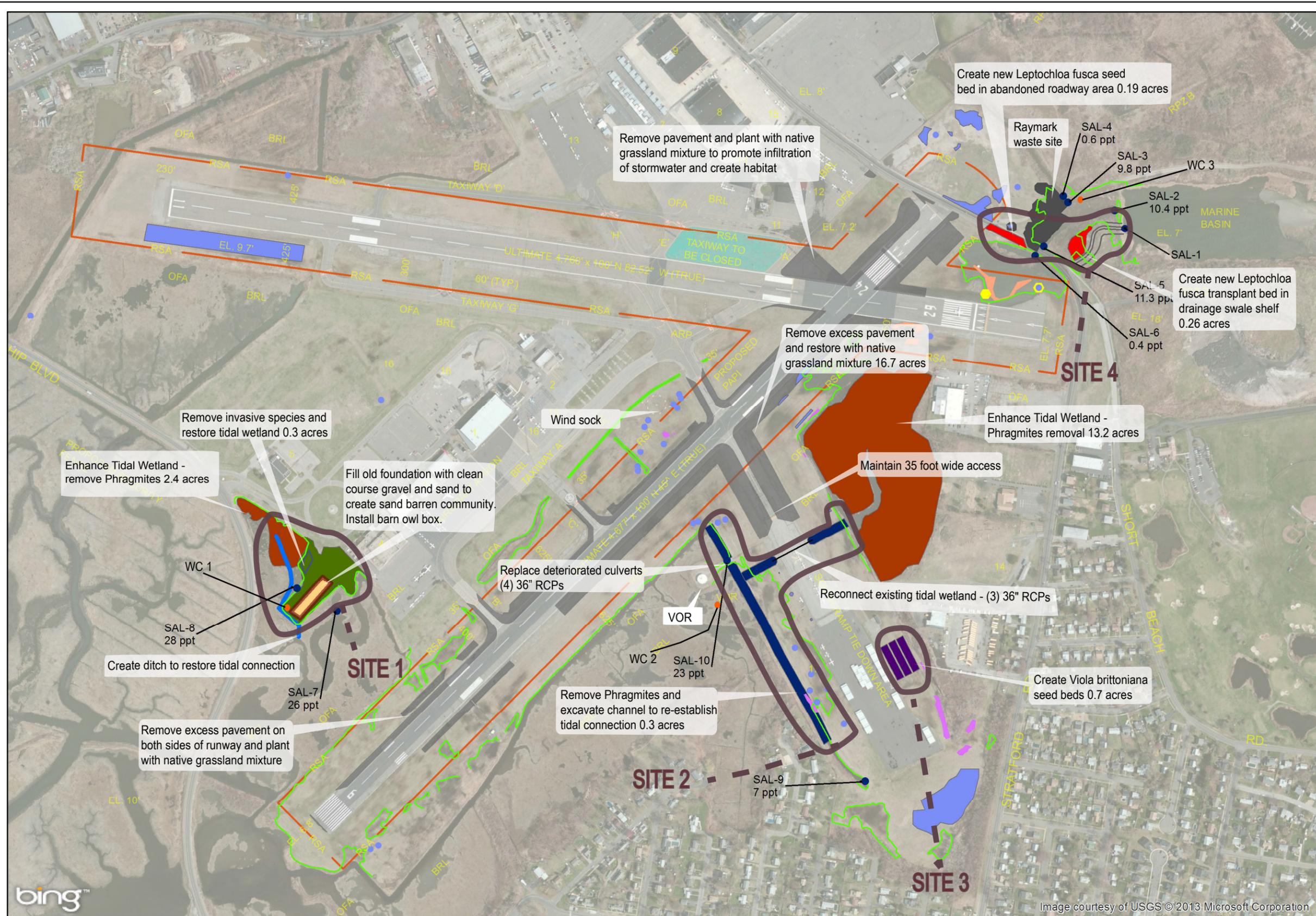
Least Tern <i>Sterna antillarum</i>	T/ --	Flat, open, sandy, coastal beaches and associated bays, estuaries, and ocean
Common Tern <i>Sterna hirundo</i>	SC / --	Nests in colonies near extremity of some beach sandpits, isolated islands of sand and oyster shells, dredge spoil bank, or ledges.
American Oystercatcher <i>Haematopus palliatus</i>	SC / --	Barrier beach and sandy shoals/jetties. Sand spits in IBA used for roosting and foraging
Barn Owl <i>Tyto alba</i>	E / --	Open areas (salt marsh and coastal upland grasslands) provide productive foraging areas; IBA could provide potential breeding habitat with proper nest box installation
Northern Saw-whet Owl <i>Aegolius acadicus</i>	SC / --	Dense thickets provide migration and winter foraging habitat and cover
Long-eared Owl <i>Asio otus</i>	E / --	Dense conifers and other vegetation provide potential winter roost sites; open marshlands provide suitable foraging sites
Short-eared Owl <i>Asio flammeus</i>	T (wintering pops.) / --	Dunes and salt marsh areas provide migration and winter foraging habitat and cover
Savannah Sparrow <i>Passerculus sandwichensis</i>	SC / --	Open grassy areas; field margins provide migration foraging habitat and cover
Saltmarsh Sparrow <i>Ammodramus caudacutus</i>	SC / --	Salt Marsh/ High marsh zones dominated by Salt Meadow Cordgrass, Spike Grass, and Black Grass for nesting and cover, tidal mudflats for foraging
Seaside Sparrow <i>Ammodramus savannarum</i>	T/ --	Salt Marsh/use low marsh zones for breeding

Table 2: CCWCS Greatest Conservation Need Species Observed at BDR

Common Name (<i>Scientific name</i>)	Preferred Habitat/Habitat Attributes
American Black Duck <i>Anas rubripes</i>	A variety of freshwater and coastal habitats including brackish marshes
Great Blue Heron <i>Ardea herodias</i>	A variety of freshwater and coastal habitats including marshes, open water or wetland habitats
Green Heron <i>Butorides virescens</i>	A variety of freshwater and saltwater habitats; primarily in marshes, salt marshes, mud flats and human-created canals and ditches (requires shallow waters for feeding)
Black-crowned Night-Heron <i>Nycticorax nycticorax</i>	A wide variety of freshwater, saltwater, and brackish water wetlands and wooded areas near coastal marshes
Osprey <i>Pandion haliaetus</i>	A wide range of habitats in close proximity to large waterbodies and coastal waters; elevated nest perches next to abundant fish supply
Clapper Rail <i>Rallus longirostris</i>	Coastal brackish and saltwater marshes with abundant vegetation
Virginia Rail <i>Rallus limnicola</i>	Primarily shallow freshwater marshes occasionally brackish and salt marshes with robust stands of emergent vegetation
Sora (Rail) <i>Porzana carolina</i>	Prefers freshwater marshes but also inhabits brackish marshes with shallow to intermediate water depths and dominated by emergent vegetation
Spotted Sandpiper <i>Actitis macularia</i>	Edges of ponds, lakes, and streams, or at the edges of tidal creeks and salt marshes
Willet <i>Catoptrophorus semipalmatus</i>	Salt marshes, marshy lake edges, tidal creek banks, exposed mudflats, dry uplands near water
Ruddy Turnstone <i>Arenaria interpres</i>	Stony, rocky, or sandy beaches; muddy banks of tidal creeks, and open marshes
Sanderling <i>Calidris alba</i>	Sandy beaches, sandbars, flats of bays and inlets, rocks covered with seaweed
Semipalmated Sandpiper <i>Calidris pusilla</i>	Salt hay meadows, inland shores, and intertidal zones
White-rumped Sandpiper <i>Calidris fuscicollis</i>	Intertidal zones, wet grassy areas, tidal pools
Chimney Swift <i>Chaetura pelagic</i>	Nesting sites (unused chimneys of buildings in cities, towns and farms)

Belted Kingfisher <i>Ceryle alcyon</i>	Occurs near ponds, streams, estuaries, and harbors; requires vertical banks for nesting; prefers small clear bodies of water for foraging
Willow Flycatcher <i>Empidonax traillii</i>	Prefers open brushy fields, edges of wetlands, damp to dry upland fields and dense roadside growth
Northern Rough-winged Swallow <i>Stelgidopteryx serripennis</i>	Open country, feeds over freshwater and saltwater marshes and scrub/shrub wetlands
Bank Swallow <i>Riparia riparia</i>	Grasslands, open areas adjacent to water
Marsh Wren <i>Cistothorus palustris</i>	Large brackish and saltwater marshes with abundant tall emergent vegetation

Attachment C: Figure 8 (revised)



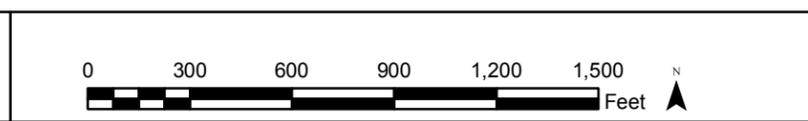
Listed Species	
●	<i>Atriplex glabriuscula</i>
●	<i>Aristida longispira</i>
■	<i>Leptochloa fusca</i> ssp. <i>Fascicularis</i>
■	<i>Viola brittoniana</i>
■	<i>Aristida longispira</i>
■	<i>Leptochloa fusca</i> Mitigation
■	<i>Viola brittoniana</i> Mitigation
Wetlands	
—	Tidal Vegetation Line
■	<i>Phragmites australis</i> Area
■	Low-Growing Native Species
■	Sand Barren Community
●	Salinity Test Point
●	Wetland Control Point
Project Improvements	
■	Deepen Channel
	Structure
■	Runway Pavement Demolition
■	Raymark Waste Site (2013)
—	Connection Ditch
—	Proposed Drainage Swale
—	Runway Safety Area



Map Title:
Conceptual Mitigation Plan

Project No.
15-336
Date:
Feb. 2013

Project Title:
Runway Safety Area Project
Igor I. Sikorsky Memorial Airport
Stratford, Connecticut



Town:
Stratford, CT
Figure 8



Attachment D: MOU

City of Bridgeport's Consent and Assurances Regarding
Post-Construction Stewardship, Maintenance and Monitoring Related to Coastal
Resources on City of Bridgeport property for the Runway Safety Project at Sikorsky
Airport, Stratford, Connecticut
State Project: 15-336

May 16, 2013

The Igor I. Sikorsky Memorial Airport ("Airport") is a municipal facility owned by the City of Bridgeport ("Owner"). It is located in the Lordship section of the Town of Stratford, adjacent to State Highway 113.

In order to improve safety at the Airport, and in response to requirements from the Federal Aviation Administration (FAA), the Airport has proposed that a runway safety area be constructed at the northeast end of Runway 6-24 that will include an "EMAS" system to provide an additional factor of safety for stopping an aircraft overrunning or undershooting the runway.

Route 113 is presently located adjacent to the Runway 24 threshold, and must be relocated to the northeast to provide sufficient area for the construction of the runway safety area and EMAS system. The City of Bridgeport and the State of Connecticut Department of Transportation ("CT DOT") have agreed that the most practical and expeditious means for reconstructing Route 113 to a new alignment is to have the project undertaken by CT DOT. Plans for the reconstruction of Route 113, the construction of the EMAS safety area, and reconstruction of the runways are being prepared for the City of Bridgeport by their consulting engineer, URS Corporation, using funding provided by the FAA, with some funding from the City of Bridgeport and the State of Connecticut ("Project").

The site is located adjacent to Long Island Sound, and is within the 100 year and 500 year flood plain limits. There are several threatened and endangered as well as plant and animal species of special concern known to exist in the area. The presence of these species and the environmental laws governing the Project construction, have resulted in a requirement for mitigation. In addition, there are several pre-existing areas of environmental contamination, since the area was historically filled and used as a solid waste landfill. The most significant environmental concern is related to an area of documented Raymark Waste, which has been identified as a Federal Superfund site.

- Several Environmental Permits are expected to have requirements for post-construction maintenance and/or monitoring and stewardship and have been identified in relation to the Project.

Although CTDOT is obtaining the permits on behalf of the Project, and CTDOT will complete the construction and remediation work associated with these permits as part of the Project, the City of Bridgeport will be responsible for post-construction maintenance, monitoring, and stewardship that are related to environmental mitigation as required by the permits and the EPA-

Owner's Consent
City of Bridgeport: State Project 15-336
May 16, 2013

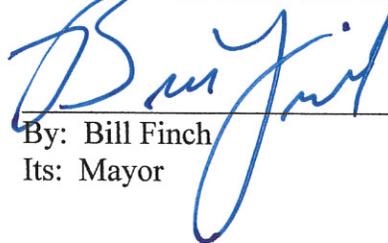
approved Removal Work Plan ("Plan") for the Raymark Waste removal connected with the Project. These responsibilities, as may be directed in the permits and Plan, are anticipated to include, but are not necessarily limited to:

1. Maintenance of remediation areas relative to re-establishing vegetation cover;
2. Maintenance of vegetated areas associated with the mitigation plans;
3. Post-remediation groundwater monitoring required for the Raymark Waste remediation; and,
4. Reporting associated with the above activities.

Stormwater management facilities that are being constructed as part of the Project, and located with the proposed CTDOT easements and CTDOT drainage rights-of-way, will be maintained by the CTDOT ("Storm Water Management Facilities").

Moreover, in preparation for and in completing the Project, CTDOT, its employees, agents, invitees and contractors are hereby granted full permitted access to those City owned Airport properties northwest of Route 113, south of Lordship Boulevard and within the general public access areas of the Airport; and with prior notice and approval of the Airport Manager in conjunction with the FAA, permitted access within the area of the Airport restricted to flight operations as may be necessary in conjunction with the Project. This Owner's Consent and Assurance is to confirm the Owner's understanding and approval that CTDOT will pursue the permits required for the Project, that CTDOT and its contractors, employees, and invitees have access to Airport properties as outlined above, and that it is the City Of Bridgeport's intent to assume responsibility for the post-construction stewardship, maintenance, monitoring and associated reporting related to the environmental mitigation associated with the Project, exclusive of the Stormwater Management Facilities which responsibilities will remain with CTDOT. The actual requirements of the on-going mitigation efforts will be identified in the Plan and the relevant permit approvals and as anticipated in the permit applications

Respectfully,
THE CITY OF BRIDGEPORT


By: Bill Finch
Its: Mayor

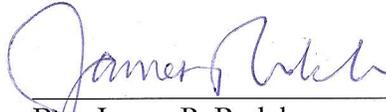
5/16/13
Date

The above Owner's Consent and Assurances, acknowledged by the Applicant:

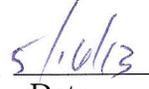
Owner's Consent
City of Bridgeport: State Project 15-336
May 16, 2013

The above Owner's Consent and Assurances, acknowledged by the Applicant:

CONNECTICUT DEPARTMENT OF
TRANSPORTATION



By: James P. Redeker
Its: Commissioner



Date

**Attachment E: Incidental Take Report
Executive Summary**



Connecticut Department of

ENERGY &
ENVIRONMENTAL
PROTECTION

July 2, 2013

Benjamin Barnes; Secretary
Office of Policy and Management
450 Capital Avenue
Hartford, CT 06106

RE: Incidental Take Consultation for Igor I. Sikorsky Memorial Airport (BDR) Safety Improvements and Route 113 Realignment in Stratford, CT.

Dear Secretary Barnes:

In response to your letter of May 28, 2013 and in accordance with section 26-310(d) of the Connecticut General Statutes, I've attached the final "Basis for Determination for Taking" concerning the runway safety project at the Igor I. Sikorsky Memorial Airport being undertaken by the Connecticut Department of Transportation and the city of Bridgeport in Stratford, Connecticut. This project includes the realignment of State Route 113 and will result in unavoidable, direct and permanent impacts to two sub-populations of the State Endangered saltpond grass (*Leptochloa fusca* ssp. *fascicularis*).

This letter confirms that, after review of all documentation including a comprehensive mitigation plan, I have concluded that the project will not compromise the recovery of *Leptochloa fusca* ssp. *fascicularis*.

In keeping with your letter of May 28, 2013, please provide your office's findings as to whether the proposed actions 'would not appreciably reduce the likelihood of the survival or recovery of an endangered or threatened species,' but would result in the incidental taking of such species.

Once received, I will notify the project proponent of the determination.

Should you have any questions, please contact me at (860) 424-3005.

Sincerely,

A handwritten signature in black ink that reads "Susan K. Whalen".

Susan K. Whalen
Deputy Commissioner

Cc: Bill Hyatt
Rick Jacobson

Basis for Determination of Incidental Taking
Pursuant to C.G.S. Section 26-310(d)

Igor I. Sikorsky Memorial Airport; Stratford, Connecticut (2013)

1. Impact of the Incidental Taking on the Endangered Species

The Connecticut Department of Transportation (CTDOT) and the city of Bridgeport are currently undertaking a runway safety area project at Igor I. Sikorsky Memorial Airport (BDR) in Stratford, Connecticut. The project involves safety improvements to the runway safety area (RSA) and will include the installation of an Emergency Materials Arresting System (EMAS) at the north end of runway 6-24 to reduce the frequency and severity of aircraft incidents at the airport. This work will require the realignment of State Route 113 which will result in unavoidable, direct, permanent impacts to two sub-populations of the State endangered Saltpond grass (*Leptochloa fusca ssp. fascicularis*).

Additionally, a second State Endangered plant species; two plant species of State Special Concern; twenty-two bird species on the Connecticut list of endangered, threatened, or species of special concern; one moth species of special concern, and one tiger beetle species of special concern were located on airport property and documented in this and supporting technical reports. Through avoidance and best management practices, these species will not be permanently impacted by the proposed activities.

Saltpond grass is an annual grass species with a wide geographic distribution, though its populations are considered vulnerable or imperiled in seven states and the District of Columbia. *Leptochloa fusca ssp. fascicularis* was documented at BDR during biological surveys conducted at the airport in 2012. Currently, only three populations of *Leptochloa fusca ssp. fascicularis* have been documented within Connecticut, with the population at BDR being the largest.

The project is anticipated to impact approximately 46% of the airport's population of *Leptochloa fusca ssp. fascicularis*. Those plants growing alongside the existing roadway and within the path of the proposed realignment of Route 113 would be impacted by pavement milling, removal of the existing roadway, installation of a new culvert, and construction of a new sidewalk, bikeway, and the new roadway. Since the EMAS bed cannot be relocated, there is no feasible alternative to the proposed road realignment that would avoid impacts to *Leptochloa fusca ssp. fascicularis*. Other documented sub-populations of the species will not be impacted as they are located outside the project area.

CTDEEP by November of each year for five years following the completion of construction activities.

CTDEEP believes that the proposed mitigation has been planned to ensure the recovery of the *Leptochloa fusca* ssp. *fascicularis* sub-populations which will be impacted by the realignment of Route 113 in Stratford. In addition to carefully ordering the sequence of construction activities, the collection of seeds and the use of an appropriate substrate should enhance the survival and continued persistence of *Leptochloa fusca* ssp. *fascicularis* at the airport.

3. Terms and Conditions to Ensure Compliance

In order to ensure that all components of the proposed mitigation are addressed to the satisfaction of the Commissioner of Energy and Environmental Protection (Commissioner), all work shall be overseen by CTDOT's Office of Environmental Planning and CTDEEP staff.

Once construction of the project is complete, the CTDOT will transfer all permits to the City of Bridgeport for monitoring and maintenance responsibilities associated with said permits. The City of Bridgeport will allow CTDEEP access to the sites and will work with CTDEEP to ameliorate any problems found at the sites.

Failure to comply with conditions set forth in the "Incidental Take Report" or within this document may result in permit revocation and/or civil penalties levied against the responsible party. The "Incidental Take Report," prepared for the CTDOT by Fitzgerald & Halliday, Inc. of 72 Cedar Street in Hartford, CT, was submitted to Mr. Dimple Desai (Connecticut Office of Policy and Management) on May 17, 2013 by Mr. Nelson DeBarros (CTDEEP).

Incidental Take Report - Executive Summary

Vegetation • Birds • Invertebrates

Runway Safety Area Project

Igor I. Sikorsky Memorial Airport
Stratford, CT



Prepared for:



Connecticut Department of Transportation
2800 Berlin Turnpike
Newington, Connecticut 06131-7546

Prepared by:



Fitzgerald & Halliday, Inc.
72 Cedar Street
Hartford, CT 06106

Executive Summary

The Connecticut Department of Transportation (CTDOT) and the City of Bridgeport are currently undertaking a runway safety area project at Igor I. Sikorsky Memorial Airport (BDR) in Stratford, Connecticut (State CTDOT Project No. 15-336) (see Figure ES-1 for airport location). The project involves safety improvements to the runway safety area (RSA) at Runway 6-24 and relocation of State Route 113 to facilitate these safety improvements (see Figure ES-2 for project overview). The purpose of the Sikorsky Runway Safety Project is, in part, to install an Emergency Materials Arresting System (EMAS) at the north end of Runway 6-24 to reduce the frequency and severity of aircraft incidents at the airport.

In 2012, biological surveys were conducted at Igor I. Sikorsky Memorial Airport (BDR) in conjunction with the Project. Two state-listed endangered plant species; two-state listed plant species of special concern; twenty-two bird species on the Connecticut list of endangered, threatened, or species of special concern; one moth species of special concern, and one tiger beetle species of special concern were found on airport property and are documented in this and supporting technical reports. Through avoidance, minimization, and best management practices, the majority of these species will not be adversely permanently impacted by the proposed project.

This report concludes that the Sikorsky Airport Runway Safety Project will have only minor temporary impacts to most of these species, with one exception. The project is anticipated to impact approximately 46 percent of the airport’s population of state-endangered saltpond grass (*Leptochloa fusca ssp. fascicularis*). The population on Sikorsky airport property is one of only three known populations in the state, and is therefore of high conservation importance. Impacts to subpopulations of *Leptochloa fusca ssp. fascicularis* are summarized in Table ES-1. Proposed mitigation is summarized in Table ES-2.

Table ES-1: Summary of Sikorsky Runway Safety Area Project Impacts to Subpopulations of *Leptochloa fusca ssp. fascicularis*

Subpopulation No.	Estimated Subpopulation Size	Area (SF)	Area (Acres)	Area (SF) Impacted	Percent of Subpopulation Impacted	No. Plants Impacted
1	38*	97	0.00	97	100%	38
2	850	2,528	0.06	2,528	100%	850
3	21*	10,368	0.24	0	No direct impact	0
4	1,000	4,136	0.09	0	No direct impact	0
5	15	2,058	0.05	0	No direct impact	0
TOTALS	1,924	19,187	0.44	2,630	46%	888

Note: Subpopulation numbers correspond to Figure 3.

SF – square feet

* Actual field count.

Table ES-2: Sikorsky Runway Safety Area Project Mitigation for *Leptochloa fusca ssp. fascicularis*

Mitigation Site	Location	Activity	Proposed Timeframe	Area of Mitigation (acres)
Transplant Bed (Area A)	Adjacent to new tidal channel	Relocate soil within impacted sub-population areas to the transplant bed before start of construction	Fall/winter 2014; outside the growing season, when transplanting will result in the least disruption to plants	0.26
Seeding Bed (Area B)	Within Abandoned Route 113 Roadway Area	Plant collected seeds in constructed seed bed	Fall 2015, after new roadway is opened, to allow the seeds to overwinter	0.19
Total				0.45

Saltpond Grass

Five sub-populations of saltpond grass (*Leptochloa fusca ssp. fascicularis*) were observed during a 2012 survey of Sikorsky airport. Two of the *Leptochloa fusca ssp. fascicularis* sub-populations are located along the shoulder of Route 113 and on the northeast side of Runway 11-29 (see Figure ES-3). The other three populations are located outside the project area, to the south of Runway 11-29. The total population at the airport is estimated to be approximately 1,920 individuals distributed over approximately 0.44 acres. Approximately 46 percent of the total population is expected to be directly and permanently impacted by the Sikorsky Runway Safety Project.

Leptochloa fusca ssp. fascicularis will be directly impacted because they are growing alongside the existing roadway and within the path of the proposed new alignment of Route 113. The path of the roadway is being shifted to the north to make room for the proposed runway EMAS. The plants would be impacted by pavement milling and removal of the existing roadway, installation of a new culvert, and sidewalk, bikeway and construction of the new roadway along a new alignment. Since the location of the EMAS bed cannot be relocated, the roadway relocation is also fixed. There is no feasible alternative roadway alignment which would completely avoid impacts to these *Leptochloa fusca ssp. fascicularis* populations and the impact is therefore considered unavoidable.

Project mitigation of impacts to *Leptochloa fusca ssp. fascicularis* consists of a two-phased approach involving both transplantation of existing sub-populations and planting of new seeding beds (see attached Plan Sheets MIT-7, MIT-11, and MIT-16). The first phase will consist of excavation of the existing soils supporting the two sub-populations of *Leptochloa fusca ssp. fascicularis* located along Route 113. Excavation of populations will take place prior to roadway construction. These populations will be relocated to a 11,468-square foot (0.26-acre) transplant bed situated along the north side of a proposed new drainage channel between Route 113 and Marine Basin. Since this plant is an annual,

these populations will be relocated outside the growing season when transplanting the population will result in the least disruption and damage to plants. Temporary orange construction fencing will be placed around the transplant bed and remain until the transplant bed is stabilized and *Leptochloa fusca* ssp. *fascicularis* becomes established. The transplant bed has been designed to mimic the conditions in which the plants currently grow, which will maximize success of the site. All work will be overseen by CTDOT Office of Environmental Planning and CTDEEP staff.

Leptochloa fusca ssp. *fascicularis* prefers brackish waters and is less tolerant of highly saline waters. The ponded area in which they are currently located is tending toward brackish water, caused, in part, by the existing non-functioning culvert which does not allow for regular tidal flushing to this area. The installation of a new culvert under Route 113 and a new channel to the Marine Basin, will again allow regular tidal flushing by saline water to this ponded area.

The new channel will be partially-constructed before the roadway is constructed (and activities occur in the vicinity of the existing population) to allow the population to be transplanted to final grade. As shown on the plans in Appendix B (Sheets MIT-7 and MIT-11; cross sections shown on Sheets MIT-21 and MIT-22), the eastern end of the culvert will not be connected to the Marine Basin when the populations are transplanted. The transplant bed will not, initially, receive tidal flows. Also, one section of culvert pipe and the new headwall at the western end of the channel near Route 113 will be installed prior to transplant of the populations. In this way, the portion of the channel where the *Leptochloa fusca* spp. *fascicularis* soil material will be placed will not be disturbed again. Later in the construction sequencing, the culvert will be completed under the realigned Route 113, and the last step will be to complete the hydraulic connection to the Marine Basin. This connection to Marine Basin will be established prior to the 2015 growing season to allow the transplant bed to receive tidal flow. This approach will minimize direct potential impacts to the species, and maximize success of the proposed mitigation site.

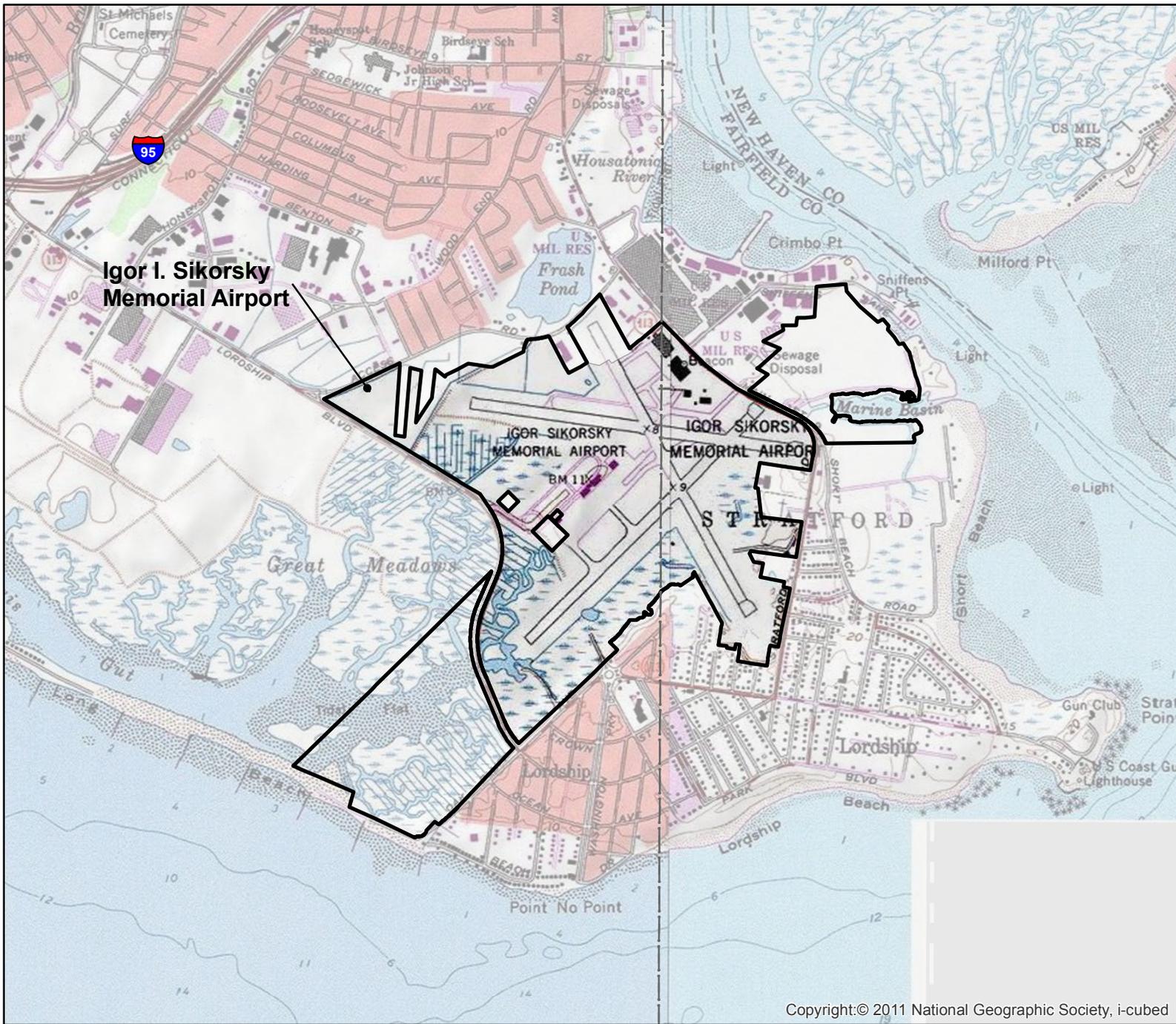
The second phase of proposed mitigation consists of preparation of a new 8,450-square foot seeding bed for this species within the footprint of the abandoned roadway. Once the new road is constructed and traffic diverted off the existing section of road, pavement will be removed from the abandoned roadway section, and a seeding bed prepared. The seeding bed has been designed to encompass a range of elevations similar to those at which current populations are found. Soil samples have been taken at the existing locations of this plant to determine the physical and chemical parameters under which it is currently growing. This data will be used to re-create the soil conditions (in regard to sieve size, pH, etc.) this species requires to successfully propagate and reproduce at the seeding bed area. Temporary orange construction fencing will be placed around the seeding bed and remain until the bed is stabilized and *Leptochloa fusca* spp. *fascicularis* is established, as determined by a qualified botanist approved by the CTDEEP.

In excess of 3,000 seeds were collected by CTDEEP on airport property during autumn 2012 and are being properly stored. Additional seeds will be collected during the 2013 season and added to the seed stock for planting within the proposed seeding bed. Half of the seeds will be planted in fall 2015 to allow the seeds to overwinter. The other half of the seeds will be properly stored for contingency, in case additional seeding is needed or amendments are determined to be needed to the seeding bed. All work will be overseen by CTDOT Office of Environmental Planning and CTDEEP staff.

Following construction, a qualified botanist, approved by CTDEEP, will monitor the mitigation area every June for five years. The program will monitor germination and plant growth. The approximate number of plants growing will be estimated and pictures taken to document the transplant and seed bed mitigation areas. Once construction is completed, the City of Bridgeport will assume monitoring and stewardship of these beds and will allow CTDEEP access to the sites. The City of Bridgeport will take responsibility for monitoring and maintenance of all mitigation areas after construction of the project and will work with CTDEEP to ameliorate any problems found at the sites.

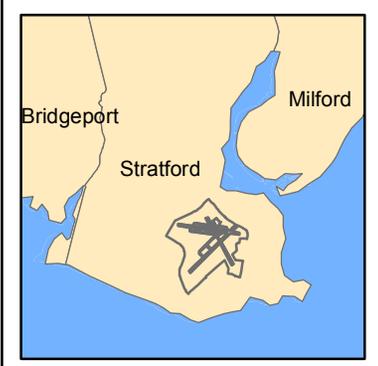
The monitoring program will have the added benefit of enhancing the overall understanding of the habitat needs of *Leptochloa fusca ssp. fascicularis*. The scientific data can be shared with other concerned parties, improving the long-range conservation, statewide, for the species.

In summary, the purpose of the project is to reduce the frequency and severity of aircraft safety incidents at the airport by re-aligning Route 113 and installing an EMAS at the north end of Runway 6-24. The proposed project will result in unavoidable, direct, permanent impacts to two sub-populations of *Leptochloa fusca ssp. fascicularis*. These impacts are unavoidable due to the close proximity of these two populations to the existing roadway and the proposed work. An area of approximately 0.06 acres of *Leptochloa fusca ssp. fascicularis* will be impacted by the project. Approximately 0.45 acres of mitigation is provided to offset these impacts. To mitigate for project impacts to *Leptochloa fusca spp. fascicularis*, a two phased approach is proposed involving both transplantation of two existing subpopulations and planting of a new seeding bed. The transplant bed and seeding bed have been carefully designed to best mimic existing conditions and ensure success of the mitigation areas. Oversight by CTDEEP and CTDOT's Office of Environmental Planning during construction will aid in likelihood of mitigation success, as well as the City of Bridgeport's commitment to the long term protection of the species.



- Legend**
-  Igor I. Sikorsky Memorial Airport Property Boundary
 -  USGS Topographic Boundary

1:24,000
USGS Quadrangles
Milford, Bridgeport

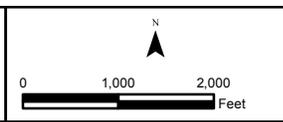


Copyright:© 2011 National Geographic Society, i-cubed

Map Title:
Vicinity Map

Project No.
15-336
Date:
March 2013

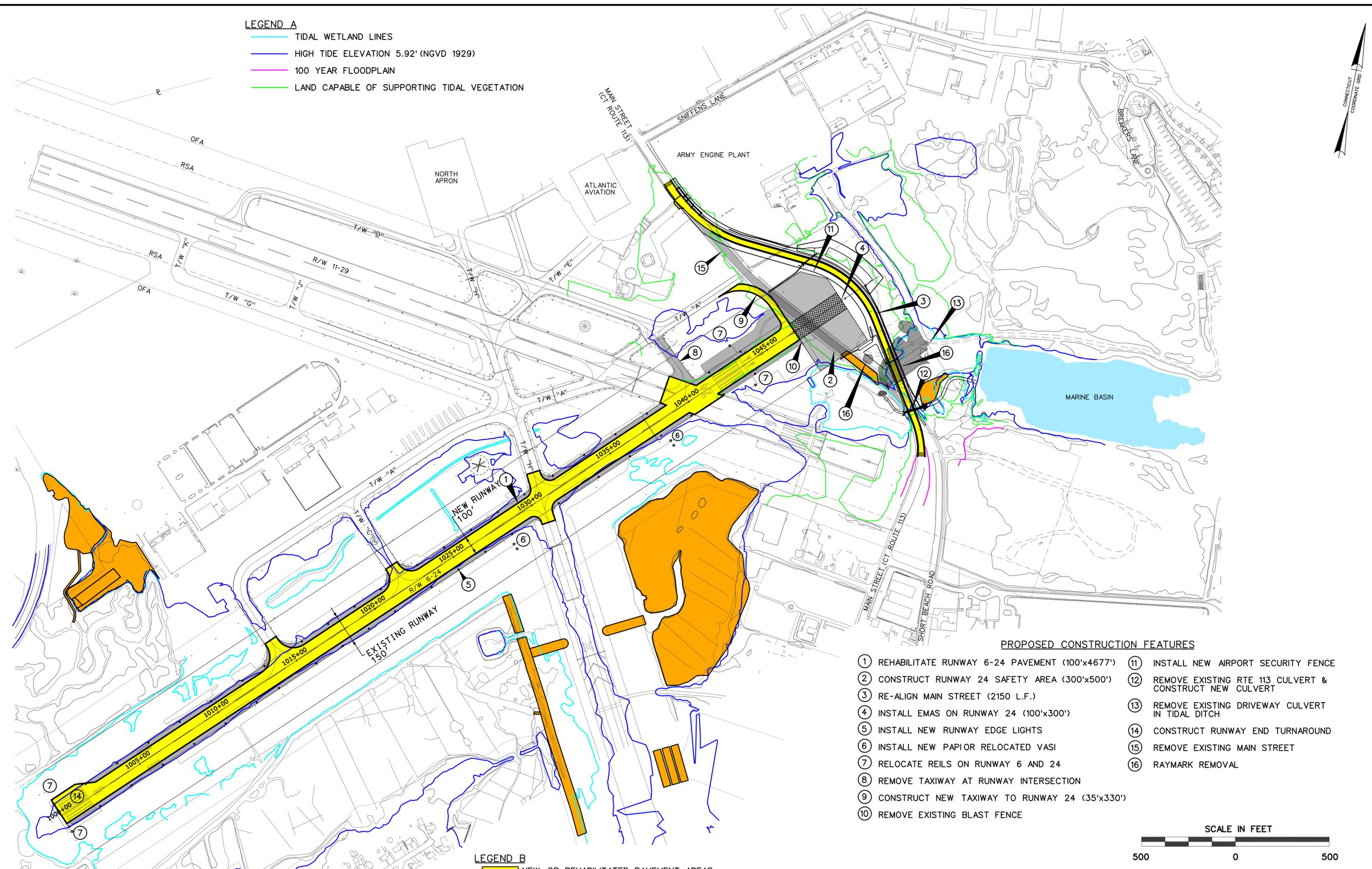
Project Title:
Runway Safety Area Project
Igor I. Sikorsky Memorial Airport
Stratford, Connecticut



Town:
Stratford, CT
Figure ES-1

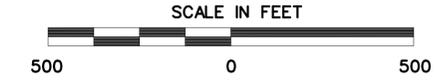


- LEGEND A**
- TIDAL WETLAND LINES
 - HIGH TIDE ELEVATION 5.92' (NGVD 1929)
 - 100 YEAR FLOODPLAIN
 - LAND CAPABLE OF SUPPORTING TIDAL VEGETATION



PROPOSED CONSTRUCTION FEATURES

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



- LEGEND B**
- NEW OR REHABILITATED PAVEMENT AREAS
 - PAVEMENT REMOVAL AREAS
 - RSA GRADING AREA
 - AIRPORT PERIMETER FENCING
 - EMAS
 - MITIGATION AREAS

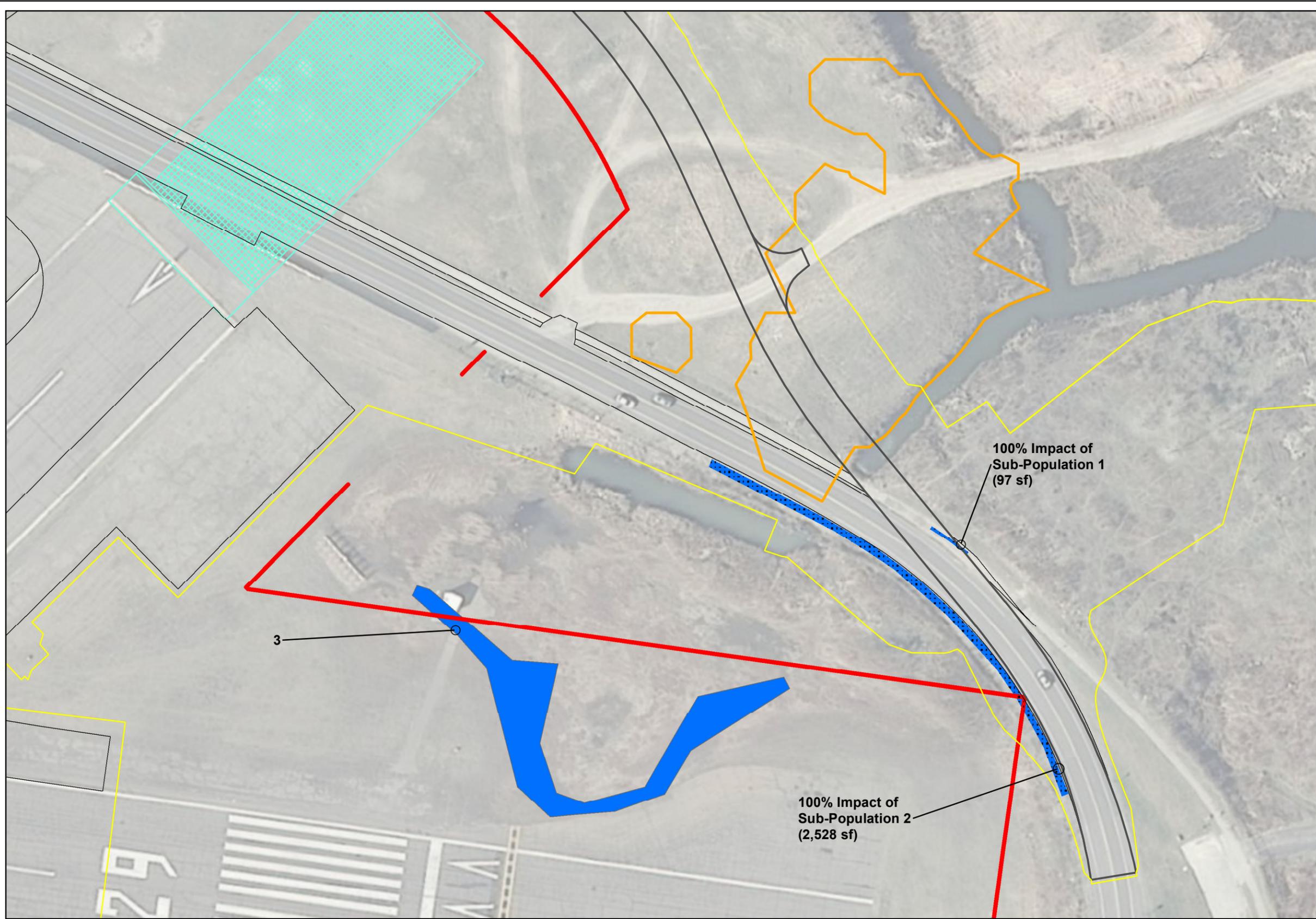


**IGOR I. SIKORSKY MEMORIAL AIRPORT
STRATFORD, CONNECTICUT**



**RUNWAY SAFETY AREA PROJECT
DOT 15-336
IGOR I. SIKORSKY MEMORIAL AIRPORT
PROPOSED CONSTRUCTION FEATURES**

**FIGURE
ES-2**



Project Features

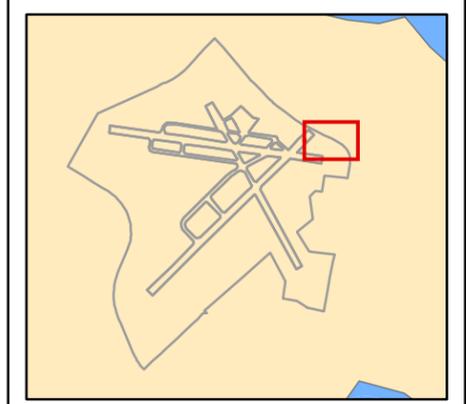
- Runway Safety Area
- ▨ Proposed Engineered Material Arresting System (EMAS)
- Limits of Project Disturbance
- Proposed Rte. 113 Alignment
- ▭ Limits of Raymark Waste Site (2013)

Resources

- Listed Species Sub-Population Identification Number
- ▭ *Leptochloa fusca* ssp. *Fascicularis* (Salt Pond Grass) (CT Endangered)

Impacts

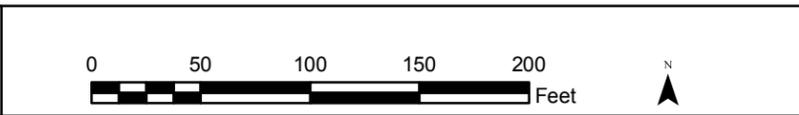
- ▨ Impacts from Route 113 Proposed Realignment
- Limits of Pavement Removal



Map Title: ES-1: Saltpond Grass: Existing Populations and Anticipated Impacts

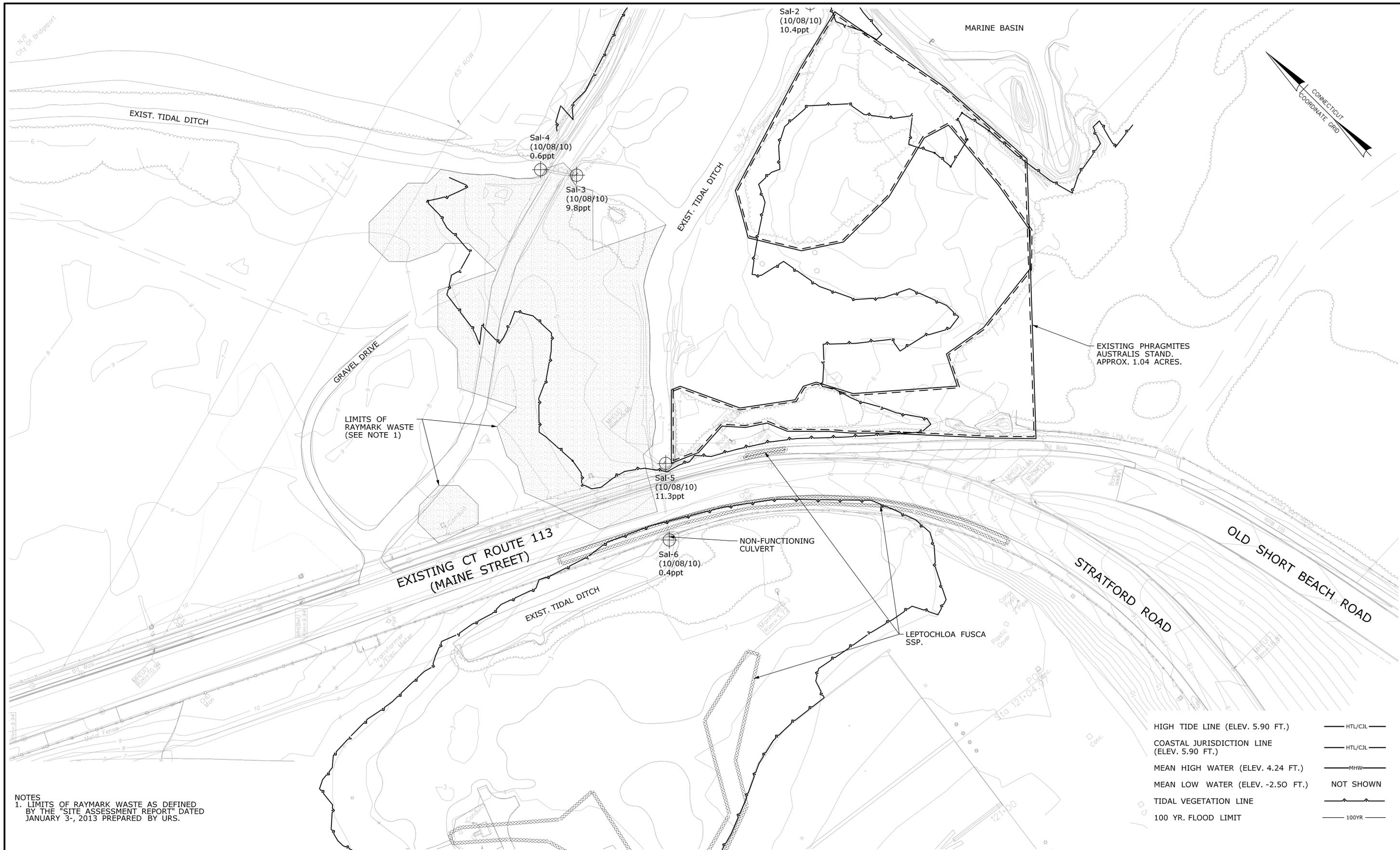
Project No. 15-336
Date: March 2013

Project Title: Runway Safety Area Project
Igor I. Sikorsky Memorial Airport
Stratford, Connecticut



Town: Stratford, CT
Figure ES-3



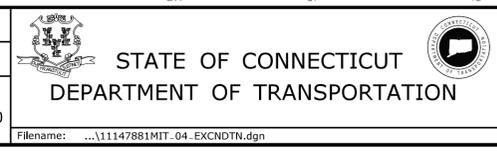


NOTES
 1. LIMITS OF RAYMARK WASTE AS DEFINED BY THE "SITE ASSESSMENT REPORT" DATED JANUARY 3-, 2013 PREPARED BY URS.

REV.	DATE	REVISION DESCRIPTION	SHEET NO.

THE INFORMATION, INCLUDING ESTIMATED QUANTITIES OF WORK SHOWN ON THESE SHEETS IS BASED ON LIMITED INVESTIGATIONS BY THE STATE AND IS IN NO WAY WARRANTED TO INDICATE THE CONDITIONS OF ACTUAL QUANTITIES OF WORK WHICH WILL BE REQUIRED.

DESIGNER/DRAFTER:
 CHECKED BY:
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 SCALE 1"=40'



SIGNATURE/
 BLOCK:

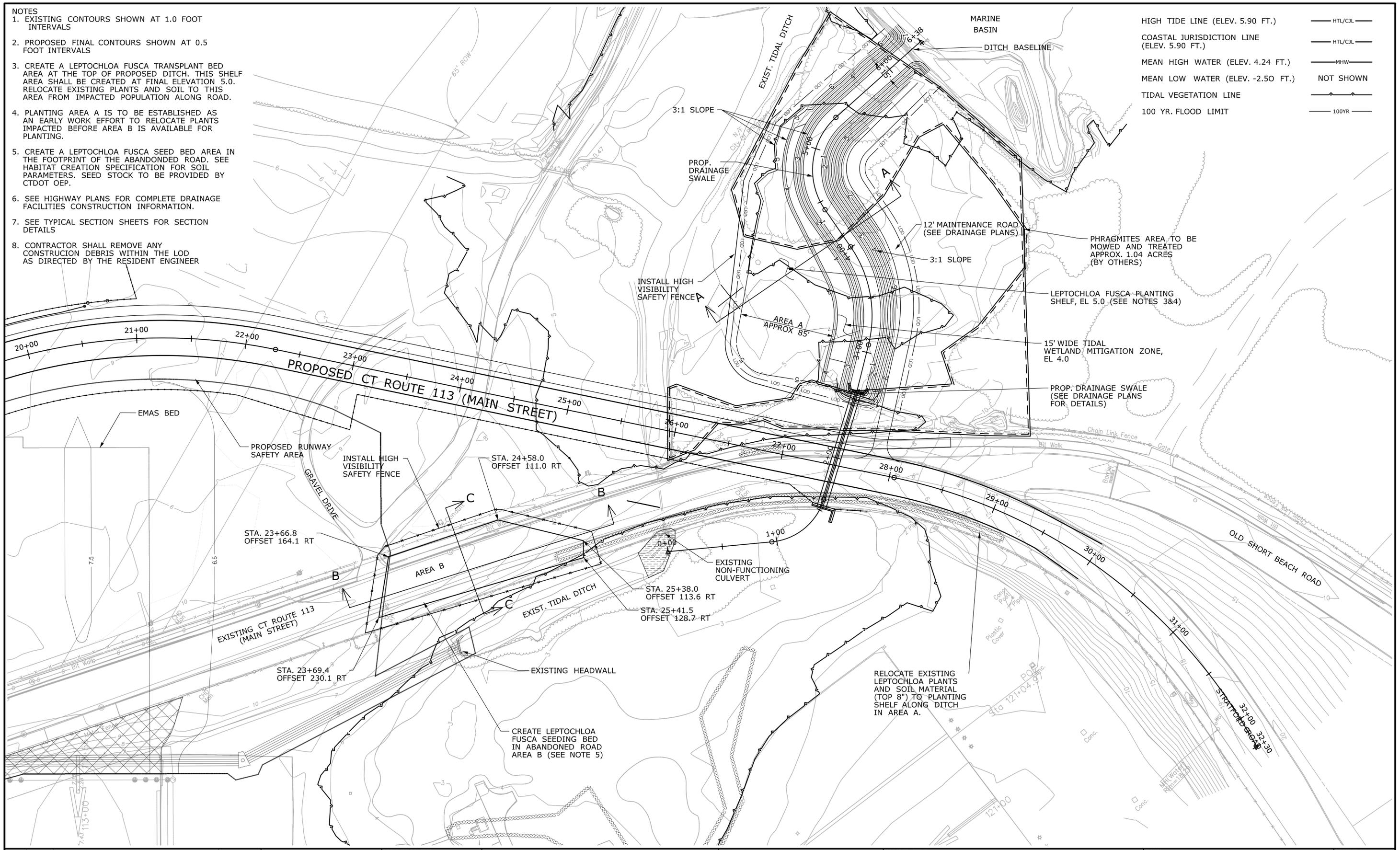
PROJECT TITLE:
 RUNWAY SAFETY AREA PROJECT
 IGOR. I. SIKORSKY MEMORIAL AIRPORT

TOWN:
 STRATFORD
 DRAWING TITLE:
 EXISTING CONDITIONS
 ROUTE 113 ROADWAY
 MITIGATION SITE 4

PROJECT NO.
 15-336
 DRAWING NO.
 MIT-7
 SHEET NO.
 7.007

- NOTES
- EXISTING CONTOURS SHOWN AT 1.0 FOOT INTERVALS
 - PROPOSED FINAL CONTOURS SHOWN AT 0.5 FOOT INTERVALS
 - CREATE A LEPTOCHLOA FUSCA TRANSPLANT BED AREA AT THE TOP OF PROPOSED DITCH. THIS SHELF AREA SHALL BE CREATED AT FINAL ELEVATION 5.0. RELOCATE EXISTING PLANTS AND SOIL TO THIS AREA FROM IMPACTED POPULATION ALONG ROAD.
 - PLANTING AREA A IS TO BE ESTABLISHED AS AN EARLY WORK EFFORT TO RELOCATE PLANTS IMPACTED BEFORE AREA B IS AVAILABLE FOR PLANTING.
 - CREATE A LEPTOCHLOA FUSCA SEED BED AREA IN THE FOOTPRINT OF THE ABANDONDED ROAD. SEE HABITAT CREATION SPECIFICATION FOR SOIL PARAMETERS. SEED STOCK TO BE PROVIDED BY CTDOT OEP.
 - SEE HIGHWAY PLANS FOR COMPLETE DRAINAGE FACILITIES CONSTRUCTION INFORMATION.
 - SEE TYPICAL SECTION SHEETS FOR SECTION DETAILS
 - CONTRACTOR SHALL REMOVE ANY CONSTRUCTION DEBRIS WITHIN THE LOD AS DIRECTED BY THE RESIDENT ENGINEER

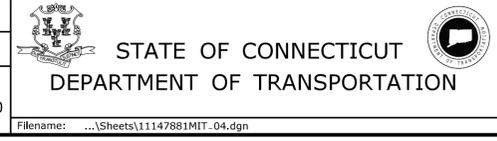
- HIGH TIDE LINE (ELEV. 5.90 FT.) 
- COASTAL JURISDICTION LINE (ELEV. 5.90 FT.) 
- MEAN HIGH WATER (ELEV. 4.24 FT.) 
- MEAN LOW WATER (ELEV. -2.50 FT.) 
- TIDAL VEGETATION LINE 
- 100 YR. FLOOD LIMIT 



REV.	DATE	REVISION DESCRIPTION	SHEET NO.

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DESIGNER/DRAFTER:
CHECKED BY:
SCALE IN FEET
0 40 80
SCALE 1"=40'



SIGNATURE/
BLOCK:

PROJECT TITLE:
**RUNWAY SAFETY AREA PROJECT
IGOR. I. SIKORSKY MEMORIAL AIRPORT**

TOWN:
STRATFORD

DRAWING TITLE:
**MITIGATION PLAN
ROUTE 113 ROADWAY
MITIGATION SITE 4**

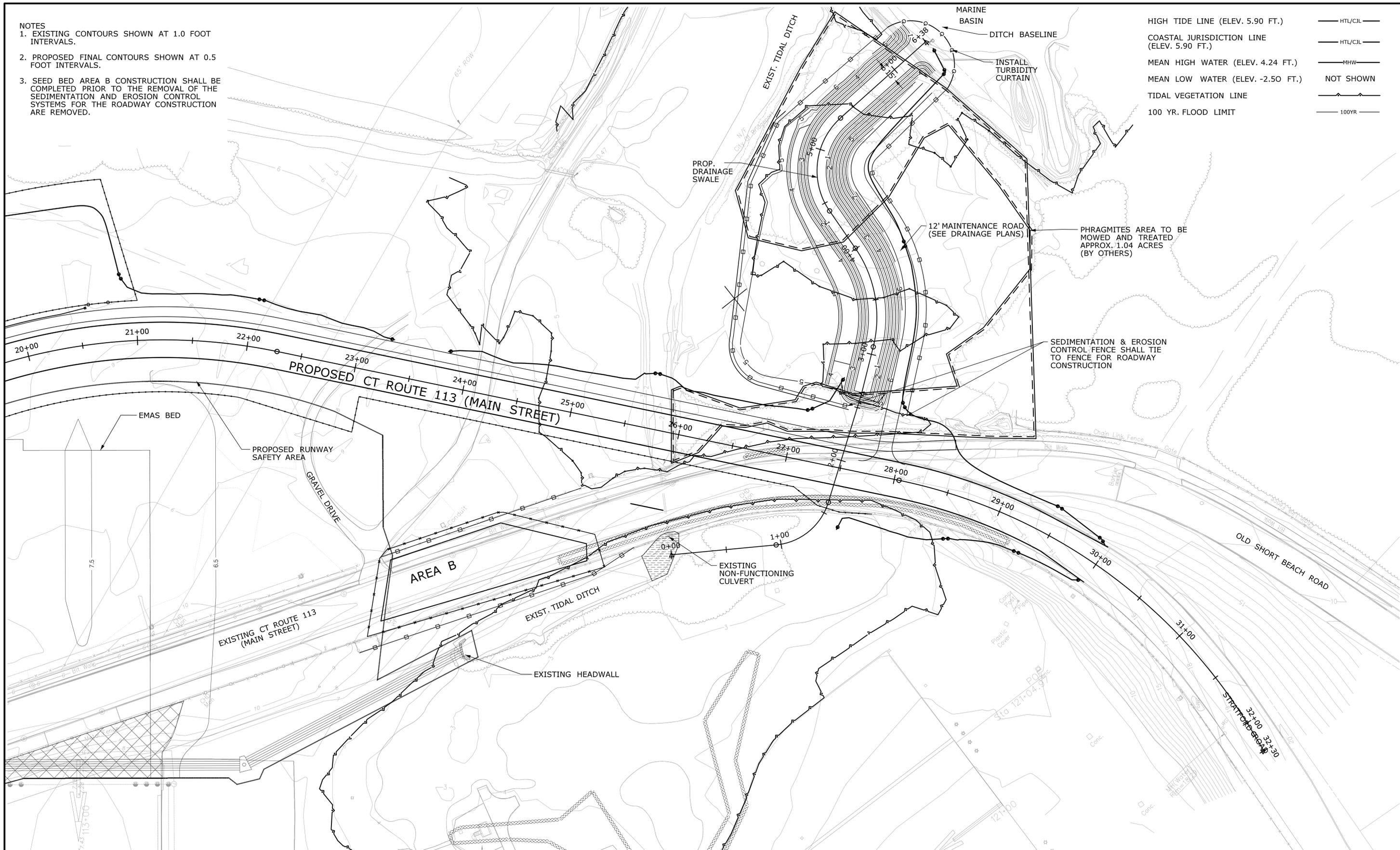
PROJECT NO.
15-336

DRAWING NO.
MIT-11

SHEET NO.
7.011

- NOTES
- EXISTING CONTOURS SHOWN AT 1.0 FOOT INTERVALS.
 - PROPOSED FINAL CONTOURS SHOWN AT 0.5 FOOT INTERVALS.
 - SEED BED AREA B CONSTRUCTION SHALL BE COMPLETED PRIOR TO THE REMOVAL OF THE SEDIMENTATION AND EROSION CONTROL SYSTEMS FOR THE ROADWAY CONSTRUCTION ARE REMOVED.

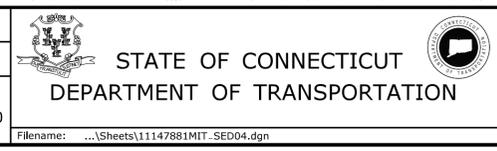
- HIGH TIDE LINE (ELEV. 5.90 FT.) 
- COASTAL JURISDICTION LINE (ELEV. 5.90 FT.) 
- MEAN HIGH WATER (ELEV. 4.24 FT.) 
- MEAN LOW WATER (ELEV. -2.50 FT.) 
- TIDAL VEGETATION LINE 
- 100 YR. FLOOD LIMIT 



REV.	DATE	REVISION DESCRIPTION	SHEET NO.

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DESIGNER/DRAFTER:
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SCALE 1"=40'

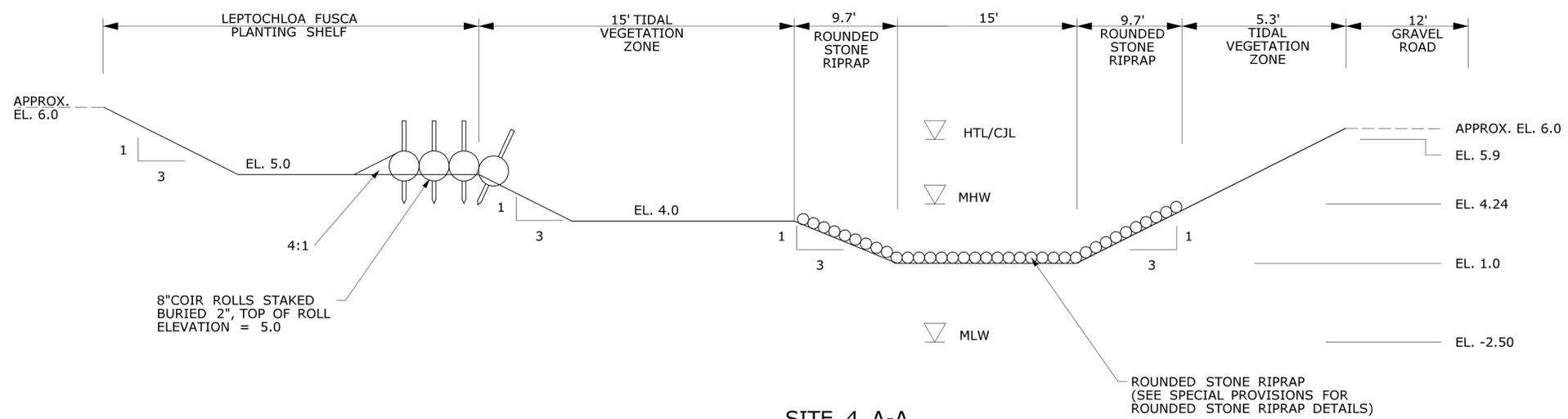


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BLOCK:

PROJECT TITLE:
RUNWAY SAFETY AREA PROJECT
IGOR. I. SIKORSKY MEMORIAL AIRPORT

TOWN:
STRATFORD
DRAWING TITLE:
SEDIMENTATION & EROSION CONTROL
SITE 4

PROJECT NO.
15-336
DRAWING NO.
MIT-16
SHEET NO.
7.016

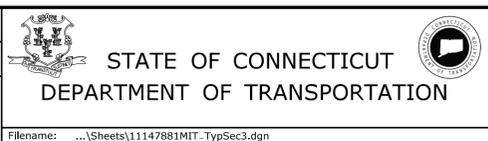


SITE 4 A-A
TYPICAL CHANNEL
N.T.S.

REV.	DATE	REVISION DESCRIPTION	SHEET NO.

THE INFORMATION, INCLUDING ESTIMATED QUANTITIES OF WORK SHOWN ON THESE SHEETS IS BASED ON LIMITED INVESTIGATIONS BY THE STATE AND IS IN NO WAY WARRANTED TO INDICATE THE CONDITIONS OF ACTUAL QUANTITIES OF WORK WHICH WILL BE REQUIRED.

DESIGNER/DRAFTER:
CHECKED BY:

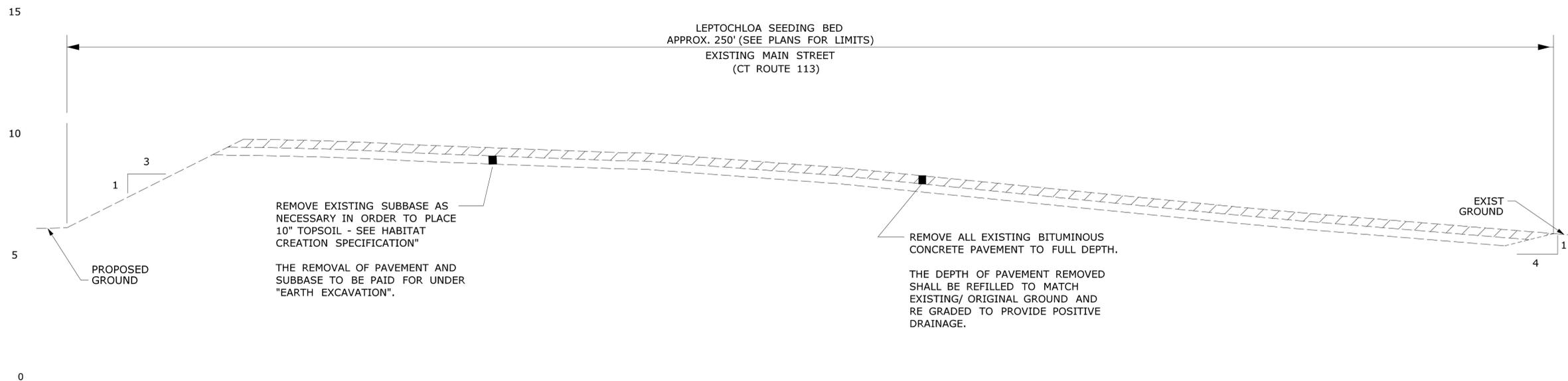


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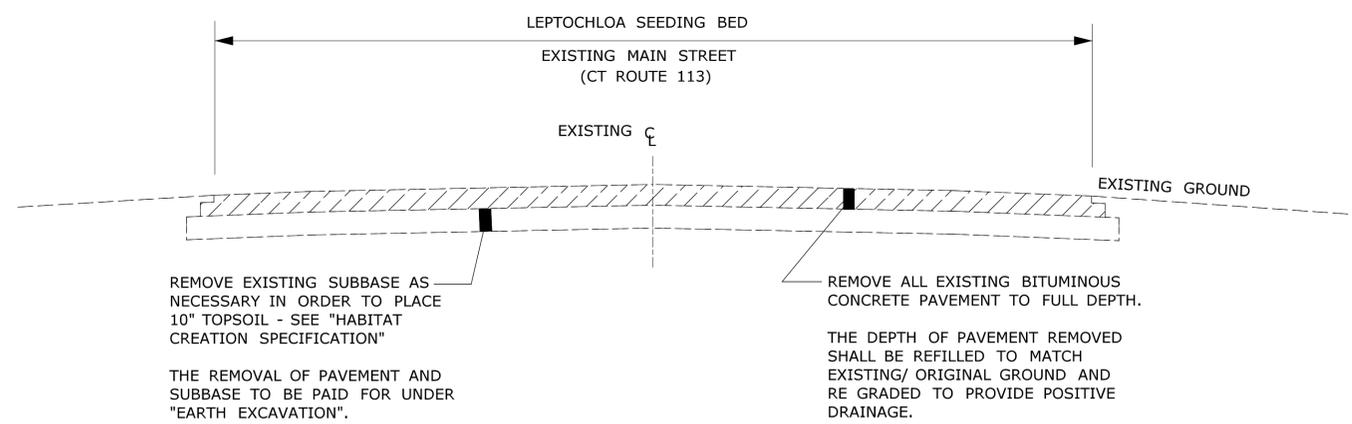
PROJECT TITLE:
RUNWAY SAFETY AREA PROJECT
IGOR. I. SIKORSKY MEMORIAL AIRPORT

TOWN:
STRATFORD
DRAWING TITLE:
TYPICAL SECTIONS
MITIGATION SITE 3 & 4

PROJECT NO.
15-336
DRAWING NO.
MIT-21
SHEET NO.
7.021



**SITE 4 B-B
PAVEMENT REMOVAL DETAIL
N.T.S.**



**SITE 4 C-C
PAVEMENT REMOVAL DETAIL
N.T.S.**

THE INFORMATION, INCLUDING ESTIMATED QUANTITIES OF WORK, SHOWN ON THESE SHEETS IS BASED ON LIMITED INVESTIGATIONS BY THE STATE AND IS IN NO WAY WARRANTED TO INDICATE THE CONDITIONS OF ACTUAL QUANTITIES OF WORK WHICH WILL BE REQUIRED.		DESIGNER/DRAFTER: CHECKED BY:	 <p>STATE OF CONNECTICUT DEPARTMENT OF TRANSPORTATION</p>	SIGNATURE/ BLOCK:	PROJECT TITLE: RUNWAY SAFETY AREA PROJECT IGOR. I. SIKORSKY MEMORIAL AIRPORT	TOWN: STRATFORD	PROJECT NO. 15-336
REV. DATE REVISION DESCRIPTION SHEET NO.	Plotted: 3/22/2013	FILENAME: ...\\Sheets\11147881MIT_TypSec4.dgn		DRAWING TITLE: TYPICAL SECTIONS MITIGATION SITE 4	SHEET NO. 7.022		

Attachment F: Notice to Contractor

NOTICE TO CONTRACTOR – SPECIAL CONDITIONS FOR WORK IN ENVIRONMENTALLY SENSATIVE AREAS

General Requirements:

1. The Contractor is hereby notified that all permit and permit applications contained herein shall be made part of this Contract, and that the Contractor shall be bound to comply with all the requirements of such permits and permit applications as though the Contractor were the permittee. The Contractor is urged to make themselves familiar with all of the General and Special Conditions of all state and federal permits for this project. If at any time questions arise as to the intent or interpretation of permit applications or approvals, the DOT Office of Environmental Planning (OEP) shall be the governing office.
2. Notice is hereby given to all prospective bidders that this project contains numerous environmental concerns. The contractor(s) shall conduct all operations at the site in full compliance with all permits and, to the extent provided by law, may be held liable for any violation of the terms and conditions of those permits. Extensive coordination and full cooperation with OEP will be required for many aspects of the project. All prospective bidders are hereby notified that the project corridor contains protected plant and animal species, wetland mitigation sites, and will require strict adherence to the Best Management Practices as outlined in Section 1.10 of Form 816 as well as all general and special conditions in all permits.
3. Notice is hereby given that the following Amended Specifications apply to work within the mitigation areas and should be read and understood by the contractor:
 - Item #948422A - Habitat Creation Specification
 - Item #948013A - Tidal Wetland Creation Specification
 - Item #0950040A - Conservation Seeding for Slopes Specification
 - Item #0952051A - Control and Removal of Invasive Vegetation Specification
 - Item #0913850A - High Visibility Safety Fence Specification
 - Item #0949029A Furnishing and Planting Shrubs and Grasses Specification
 - Item #0703029A Rounded Stone Rip Rap Specification
4. Notice is hereby given that protected plant species are present in various areas of the airport. Therefore, work outside of areas specifically depicted on the plans shall not be allowed, including but not limited to temporary or

permanent haul roads and construction staging areas. Any areas which the contractor proposes to enter which are not depicted on the plans, must be submitted for review and approval to the OEP prior to any work commencing.

5. Notice is hereby given that numerous protected bird species and their habitats are present at the airport. To avoid potential construction impacts to Savannah Sparrows, construction will be subject to time-of-year restrictions. See Incidental Take Report in OLISP Structures and Dredging Application.
6. Notice is hereby given that protected invertebrate species are present in various areas of the airport. Therefore, work outside of areas specifically depicted on the plans shall not be allowed, including but not limited to temporary or permanent haul roads and construction staging areas. Any areas which the contractor wishes to enter which are not depicted on the plans, must be submitted for review and approval to the OEP prior to any work commencing.
7. Notice is hereby given that listed plant mitigation must be completed during specific times of year. The timing of seeding and transplanting is critical to the success of these areas.