



**US Army Corps
of Engineers**®
New England District
696 Virginia Road
Concord, MA 01742-2751

PUBLIC NOTICE

Comment Period Begins: October 13, 2015
Comment Period Ends: November 12, 2015
File Number: NAE-2006-4281
In Reply Refer To: Crystal I. Gardner
Phone: (978) 318-8332
E-mail: crystal.i.gardner@usace.army.mil

The District Engineer has received a permit application to conduct work in waters of the United States from the Provincetown Airport Commission, 176 Race Point Road, Provincetown, Massachusetts. This work is proposed in at 176 Race Point Road, Provincetown, Massachusetts. The site coordinates are: Latitude 42 04 19 N Longitude 70 13 19 W.

The work involves the discharge of dredged or fill material for Capital Improvements at the airport. These improvements consist of a total of five project elements that involve impacts to wetlands and waters of the United States. They include safety improvements consisting of the relocation and reconfiguration of the existing taxiway system, the construction of a vehicle turn around to the approach light system, construction of a service road to access to weather station, installation of a safety/security fence and other safety improvements that will bring the airport into compliance with current safety and security standards. Approximately 1.35 acres of wetlands will be altered for direct fill activities and 0.56 acres will be impacted for vegetation cutting. Table #9 providing a detailed breakdown of the impacts associated with this project is attached.

The purpose of this project is to provide operational safety and security improvements in order to comply with current Federal Aviation Administration (FAA), Massachusetts Department of Transportation (Mass DOT) Aeronautics Division and Transportation Security Administration (TSA) safety and security design standards.

The work is shown on the attached plans entitled "PROVINCETOWN MUNICIPAL AIRPORT CAPITAL IMPROVEMENT PLAN," on fifteen sheets, and dated "MAY 2015."

Mitigation of the impacts to vegetated wetlands will be provided by restoration at a ratio of 2:1 this includes the removal of fill, including pavement, at both ends of the airport (Mitigation Areas A, B, and C). The total area to be restored to Palustrine Scrub Shrub (PSS) will be 85,000 square feet. The remaining areas will be compensated for using the Massachusetts In-Lieu-Fee Program at \$14.26 per square foot.

The preferred development alternatives in the EA/EIR were modified to reduce wetland impacts wherever feasible considering site constraints of the airport infrastructure being surrounded by wetlands.

AUTHORITY

Permits are required pursuant to:

- Section 10 of the Rivers and Harbors Act of 1899
- Section 404 of the Clean Water Act
- Section 103 of the Marine Protection, Research and Sanctuaries Act.

CENAE-R
FILE NO. NAE-2006-4281

The decision whether to issue a permit will be based on an evaluation of the probable impact of the proposed activity on the public interest. That decision will reflect the national concern for both protection and utilization of important resources. The benefit which may reasonably accrue from the proposal must be balanced against its reasonably foreseeable detriments. All factors which may be relevant to the proposal will be considered, including the cumulative effects thereof; among those are: conservation, economics, aesthetics, general environmental concerns, wetlands, cultural value, fish and wildlife values, flood hazards, flood plain value, land use, navigation, shoreline erosion and accretion, recreation, water supply and conservation, water quality, energy needs, safety, food production and, in general, the needs and welfare of the people.

The Corps of Engineers is soliciting comments from the public; Federal, state, and local agencies and officials; Indian Tribes; and other interested parties in order to consider and evaluate the impacts of this proposed activity. Any comments received will be considered by the Corps of Engineers to determine whether to issue, modify, condition or deny a permit for this proposal. To make this decision, comments are used to assess impacts on endangered species, historic properties, water quality, general environmental effects, and the other public interest factors listed above. Comments are used in the preparation of an Environmental Assessment and/or an Environmental Impact Statement pursuant to the National Environmental Policy Act. Comments are also used to determine the need for a public hearing and to determine the overall public interest of the proposed activity.

Where the activity involves the discharge of dredged or fill material into waters of the United States or the transportation of dredged material for the purpose of disposing it in ocean waters, the evaluation of the impact of the activity in the public interest will also include application of the guidelines promulgated by the Administrator, U.S Environmental Protection Agency, under authority of Section 404(b) of the Clean Water Act, and/or Section 103 of the Marine Protection Research and Sanctuaries Act of 1972, as amended.

NATIONAL HISTORIC PRESERVATION ACT

Based on his initial review, the District Engineer has determined that the proposed work may impact properties listed in, or eligible for listing in, the National Register of Historic Places. Additional review and consultation to fulfil requirements under Section 106 of the National Historic Preservation Act of 1966, as amended, will be ongoing as part of the permit review process.

ENDANGERED SPECIES CONSULTATION

The New England District, Army Corps of Engineers has reviewed the list of species protected under the Endangered Species Act of 1973, as amended, which might occur at the project site. It is our preliminary determination that the proposed activity for which authorization is being sought is designed, situated or will be operated/used in such a manner that it is not likely to adversely affect any federally listed endangered or threatened species or their designated critical habitat. By this Public Notice, we are requesting that the appropriate Federal Agency concur with our determination.

COASTAL ZONE MANAGEMENT

The States of Connecticut, Maine, Massachusetts, New Hampshire and Rhode Island have approved Coastal Zone Management Programs. Where applicable, the applicant states that any proposed activity will comply with and will be conducted in a manner that is consistent with the approved Coastal Zone Management Program. By this Public Notice, we are requesting the State concurrence or objection to the applicant's

consistency statement.

The following authorizations have been applied for, or have been, or will be obtained:

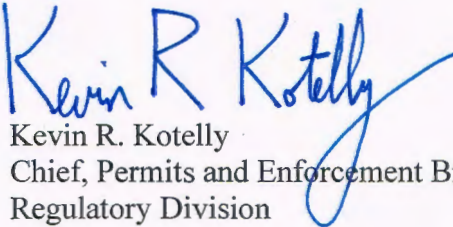
- (X) Permit, License or Assent from State.
- (X) Permit from Local Wetland Agency or Conservation Commission.
- (X) Water Quality Certification in accordance with Section 401 of the Clean Water Act.

In order to properly evaluate the proposal, we are seeking public comment. Anyone wishing to comment is encouraged to do so. Comments should be submitted in writing by the above date. If you have any questions, please contact Crystal Gardner at (978) 318-8332, (800) 343-4789 or (800) 362-4367, if calling from within Massachusetts.

Any person may request, in writing, within the comment period specified in this notice, that a public hearing be held to consider the application. Requests for a public hearing shall specifically state the reasons for holding a public hearing. The Corps holds public hearings for the purpose of obtaining public comments when that is the best means for understanding a wide variety of concerns from a diverse segment of the public.

The initial determinations made herein will be reviewed in light of facts submitted in response to this notice. All comments will be considered a matter of public record. Copies of letters of objection will be forwarded to the applicant who will normally be requested to contact objectors directly in an effort to reach an understanding.

THIS NOTICE IS NOT AN AUTHORIZATION TO DO ANY WORK.


Kevin R. Kotelly
Chief, Permits and Enforcement Branch
Regulatory Division

If you would prefer not to continue receiving Public Notices by email, please contact Ms. Tina Chaisson at (978) 318-8058 or e-mail her at bettina.m.chaisson@usace.army.mil. You may also check here () and return this portion of the Public Notice to: Bettina Chaisson, Regulatory Division, U.S. Army Corps of Engineers, 696 Virginia Road, Concord, MA 01742-2751.

NAME: _____
ADDRESS: _____
PHONE: _____

Table 9. Direct and indirect wetland impacts by resource area and individual wetland area

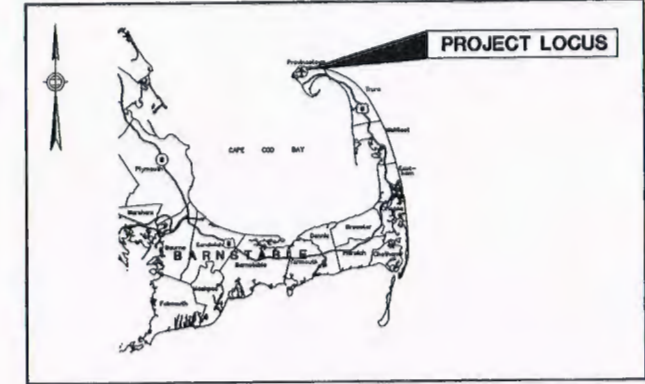
Wetland Type	Project Element																					
	West End TW System		East End Taxiway		MALS Access Road		AWOS Access Road		Fence Posts		Vegetation Cutting		(No Cutting)		TOTAL WETLAND IMPACTS							
	(Direct Impact)		(Direct Impact)		(Direct Impact)		(Direct Impact)		(Direct Impact)		(Direct Impact)		(Indirect Impact)		DIRECT IMPACT		TOTAL DIRECT IMPACT		TOTAL INDIRECT IMPACT			
	(SF)	(ac)	(SF)	(ac)	(SF)	(ac)	(SF)	(ac)	(SF)	(ac)	(SF)	(ac)	(SF)	(ac)	(SF)	(ac)	(SF)	(ac)	(SF)	(ac)		
BVW																						
Wetland Fill:																						
Wetland C/J/FK	274	0.01	-	-	238	0.01	-	-	-	-	-	-	9,728	0.22	512	0.01	-	-	-	-	9,728	0.22
Vegetation cutting (pitch pine removal)																						
Phragmites	-	-	-	-	-	-	-	-	14	40	5,208	0.12	-	-	-	-	5,208	0.12	-	-	-	-
NET TOTAL BVW	274	0.01	-	-	238	0.01	-	-	54	0.00	1,152	0.03	9,728	0.22	512	0.01	1,152	0.03	1,664	0.04	9,728	0.22
IVW																						
Wetland Fill:																						
Wetland I	29,191	0.67	-	-	-	-	-	-	-	-	-	-	-	-	29,191	0.67	-	-	-	-	29,191	0.67
Wetland B	-	-	28,110	0.65	-	-	-	-	-	-	-	-	-	-	28,110	0.65	-	-	-	-	28,110	0.65
Wetland H	-	-	-	-	-	-	335	0.01	-	-	-	-	-	-	335	0.01	-	-	-	-	335	0.01
Vegetation cutting (dense shrubs)																						
Wetland B	-	-	-	-	-	-	-	-	10	2E-04	115	3E-03	-	-	10	0.00	115	3E-03	125	0.00	-	-
Wetland C	-	-	-	-	-	-	-	-	191	4E-03	5,241	1E-01	14,360	0.33	191	0.00	5,241	1E-01	5,432	0.12	14,360	0.33
Wetland CC	-	-	-	-	-	-	-	-	4	9E-05	570	1E-02	-	-	4	0.00	570	1E-02	574	0.01	-	-
Vegetation cutting (pitch pine removal)																						
Wetland DM	-	-	-	-	-	-	-	-	1	3E-05	36	8E-04	48	0.00	1	0.00	36	8E-04	37	0.00	48	0.00
Wetland BC/F	-	-	-	-	-	-	-	-	6	1E-04	400	9E-03	960	0.02	6	0.00	400	9E-03	406	0.01	960	0.02
Wetland E/DD	-	-	-	-	-	-	-	-	11	3E-04	832	2E-02	872	0.02	11	0.00	832	2E-02	843	0.02	872	0.02
Wetland DB	-	-	-	-	-	-	-	-	29	7E-04	2,340	5E-02	2,344	0.05	29	0.00	2,340	5E-02	2,369	0.05	2,344	0.05
Wetland L	-	-	-	-	-	-	-	-	200	5E-03	12,942	3E-01	12,992	0.30	200	0.00	12,942	3E-01	13,142	0.30	12,992	0.30
Vegetation cutting (pitch pine w/shrubs)																						
Wetland L	-	-	-	-	-	-	-	-	200	5E-03	728	2E-02	(see above)	(see above)	(see above)	(see above)	728	2E-02	728	0.02	(see above)	(see above)
Total IVW	29,191	0.67	28,110	0.65	-	0.00	335	0.01	652	0.01	23,204	0.53	31,576	0.72	58,088	1.33	23,204	0.53	81,292	1.87	31,576	0.72
TOTAL WETLAND ALTERATION	29,465	0.68	28,110	0.65	238	0.01	335	0.01	706	0.02	24,356	0.56	41,304	0.95	58,600	1.35	24,356	0.56	82,956	1.90	41,304	0.95

*Impact Area Calculations and Assumptions for Fence

1. BVW = Wetland C/J/FK
2. Direct Impacts for the Fence area calculated in terms of 1 SF per fence post. Fence post spacing = 1 post every 10 linear feet
Number of fence posts are rounded to the next integer to calculate direct impacts.
3. Direct impacts for the Fence area also include cutting of vegetation communities as indicated (PSS or PFO)
4. Indirect Impacts associated with Fence calculated based upon an 8-foot wide swath - no initial vegetation management required
5. Of the total amount of cutting within BVW, 1,152 SF are of forested wetlands, while 5,208 SF are of a *Phragmites* monoculture

TOWN OF PROVINCETOWN MASSACHUSETTS

PERMITTING PLANS
NOT FOR CONSTRUCTION



VICINITY PLAN

PROVINCETOWN MUNICIPAL AIRPORT

AIP NO. 3-25-0043-36-2013

INDEX OF DRAWINGS

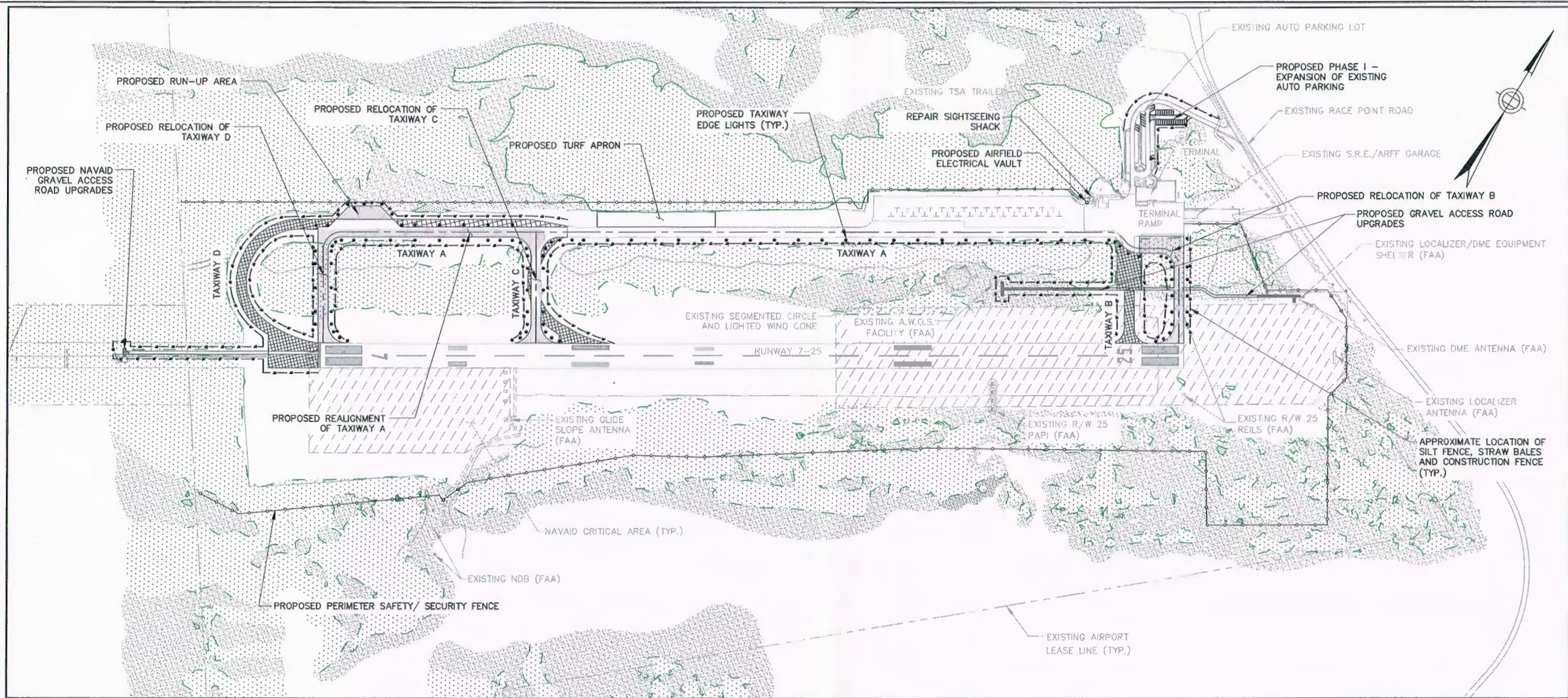
SHEET NUMBER	TITLE
1	TITLE SHEET
2	ENVIRONMENTAL DELINEATION PLAN
3	PROPOSED AIRFIELD IMPROVEMENT PLAN
4	PROPOSED AIRFIELD IMPROVEMENT PLAN, SHEET 1 OF 4
5	PROPOSED AIRFIELD IMPROVEMENT PLAN, SHEET 2 OF 4
6	PROPOSED AIRFIELD IMPROVEMENT PLAN, SHEET 3 OF 4
7	PROPOSED AIRFIELD IMPROVEMENT PLAN, SHEET 4 OF 4
8	PROPOSED FENCE PLAN
9	PROPOSED PHASE 1 PARKING LOT GRADING AND DRAINAGE
10	PROPOSED PHASE 1 GRADING AND DRAINAGE DETAILS 1
11	PROPOSED PHASE 1 GRADING AND DRAINAGE DETAILS 2
12	WETLAND MITIGATION - WEST END TAXIWAY
13	WETLAND MITIGATION - EAST END TAXIWAY
14	MITIGATION AREA DETAILS
15	EROSION CONTROL AND SEDIMENTATION DETAILS

PROVINCETOWN MUNICIPAL AIRPORT CAPITAL IMPROVEMENT PLAN



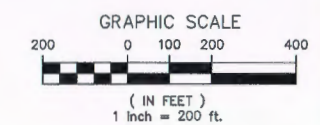
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MAY, 2015



ENVIRONMENTAL DELINEATION PLAN
SCALE: 1"=200'

LEGEND	
PROPOSED	EXISTING
	[Stippled Pattern]
	[Dotted Pattern]
	[Dashed Line]
[Dashed Line]	
[Line with 8.6]	[Line with 7.8]
[Cross-hatched Pattern]	
[Solid Grey Pattern]	
[Diagonal Line Pattern]	
[Dashed Line]	
[Line with Circle]	
[Dot]	



REV. NO.	DATE	DESCRIPTION	BY

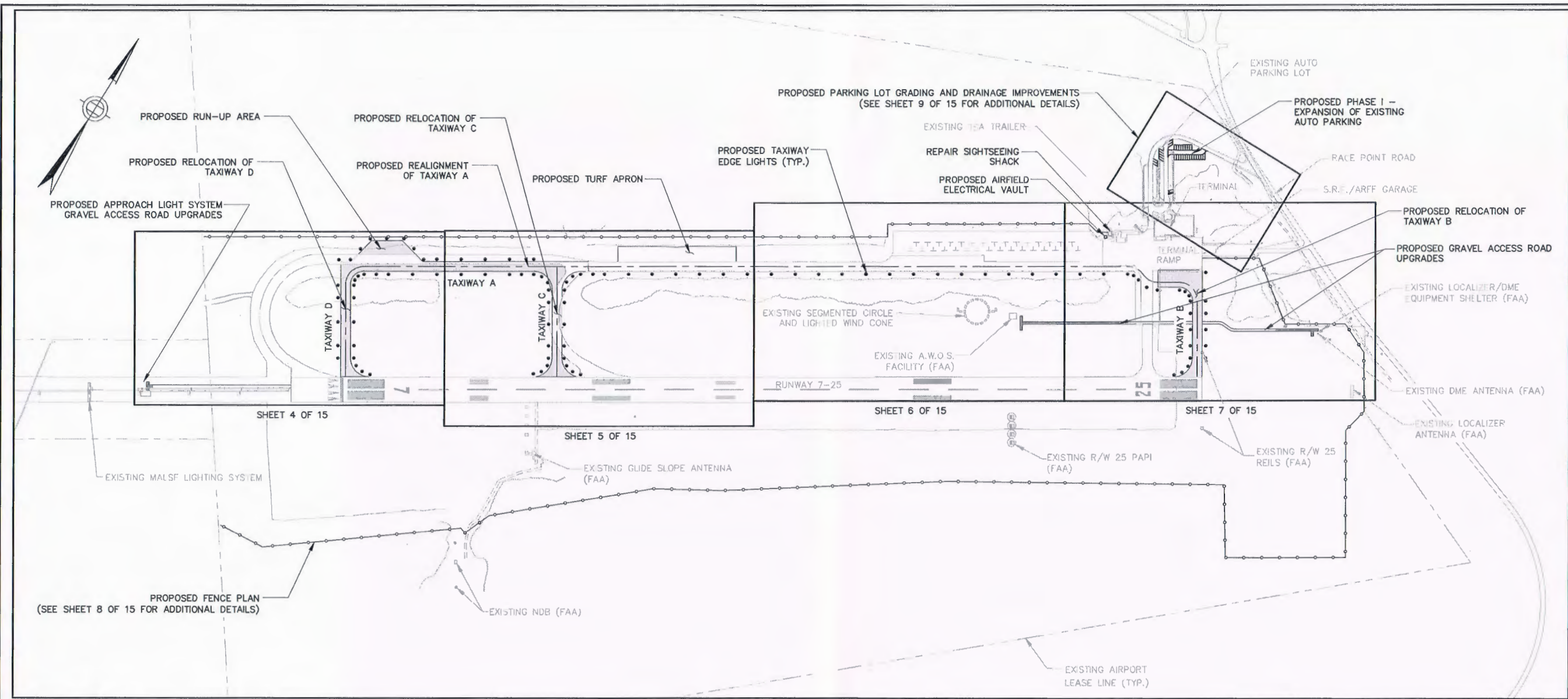
343 CONGRESS STREET BOSTON, MA 02210 Tel: 617-242-9222 Fax: 617-242-9224 WWW.JACOBS.COM	DESIGNED BY SHD	CHECKED BY S&F
JACOBS	DATE: MAY 2015	DRAWN BY SHD
SCALE: AS NOTED		

ENVIRONMENTAL DELINEATION PLAN

JACOBS PROJ. NO.:
AIP NO. 3-25-0043-36-2013

DRAWING NO.

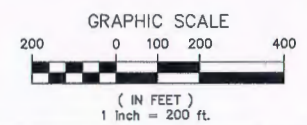
Jacobs - P:\PROVINCETOWN AIRPORT\2011\2257800\700 CAD\740-WORK\W01 - PERMIT SET\02EROSION CONTROL PLAN.dwg May 07, 2015



PROPOSED AIRFIELD IMPROVEMENT PLAN
SCALE: 1"=200'

- NOTE:**
- EXISTING CONDITIONS SHOWN THROUGHOUT THESE DRAWINGS ARE BASED ON AN ON-THE-GROUND INSTRUMENT SURVEY CONDUCTED ON MAY 3, 2012.
 - THE HORIZONTAL COORDINATE SYSTEM FOR THIS SURVEY IS TIED TO THE COORDINATE SYSTEM FOR THE AIRPORT PRIMARY CONTROL POINTS PVC A, PVC B & PVC C.
 - ELEVATION REFERS TO AN ASSUMED ELEVATION DATUM. ORIGIN OF THE VERTICAL DATUM IS PRIMARY AIRPORT CONTROL STATION PVC A WITH A DISK ELEVATION OF 7.94' (ASSUMED).

LEGEND		
PROPOSED	EXISTING	
	[Pattern]	EXISTING WETLAND AREA
	[Pattern]	EXISTING DUNE AREA
	[Line]	WETLANDS BOUNDARY
	[Line]	PROPOSED EROSION CONTROL - STRAW FIBER ROLLS ONLY
[Line]	[Line]	CONTOUR
	[Pattern]	EXISTING IMPERVIOUS AREA TO BE REMOVED
	[Pattern]	PROPOSED IMPERVIOUS PAVED AREA
	[Pattern]	PROPOSED APPROACH LIGHT SYSTEM GRAVEL ACCESS ROAD UPGRADES
	[Pattern]	EXISTING GLIDE SLOPE CRITICAL AREA
	[Line]	EXISTING LEASE LIMITS
[Line]		PROPOSED SECURITY FENCE
[Dot]		PROPOSED TAXIWAY EDGE LIGHT



REV. NO.	DATE	DESCRIPTION	BY

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PROVINCETOWN MUNICIPAL AIRPORT
PROVINCETOWN, MASSACHUSETTS

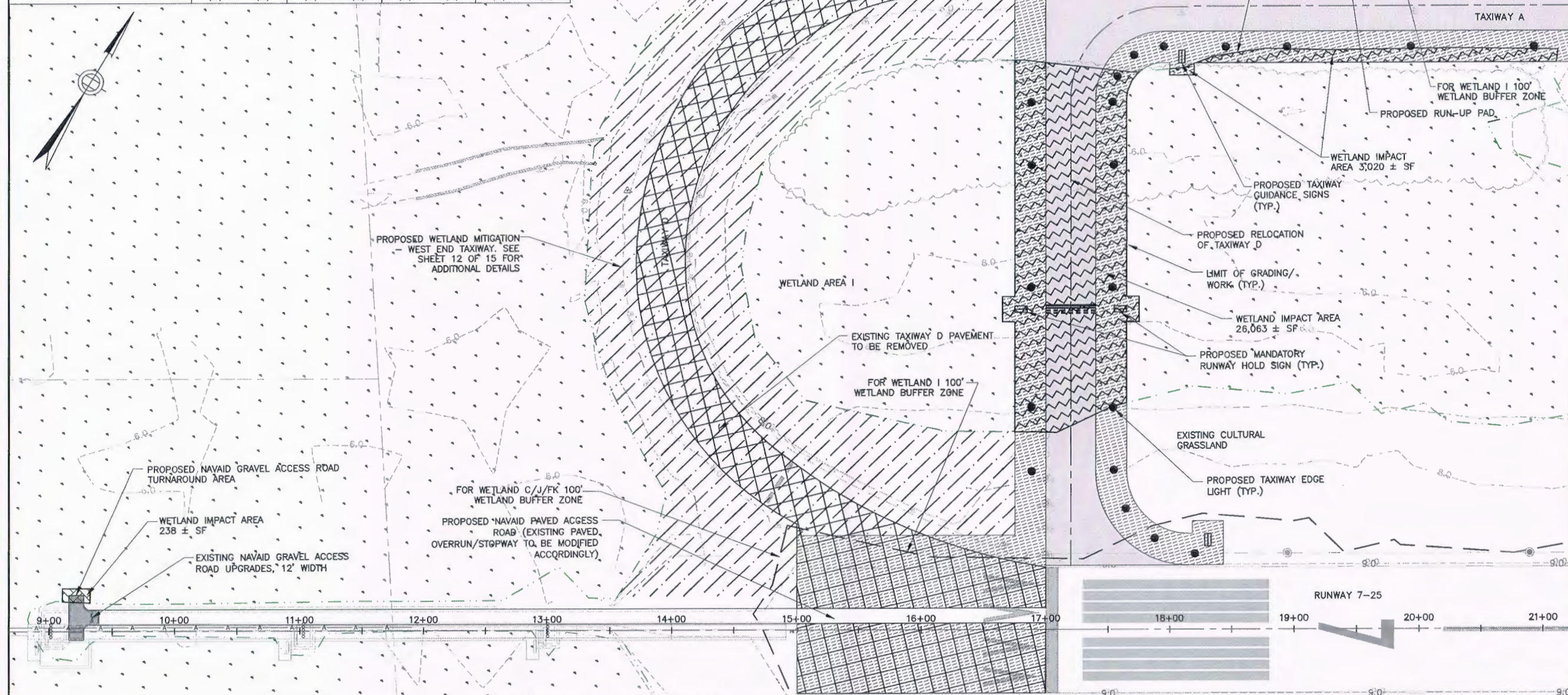
PROPOSED AIRFIELD IMPROVEMENT PLAN

JACOBS PROJ. NO.:
AIP NO. 3-25-0043-38-2013

DRAWING NO.

SHEET 3 OF 15

PROPOSED ALTERATIONS	CIP PROJECT ELEMENT							
	Proposed NAVAID Gravel Access Road Upgrade		Proposed Run-Up Area		Proposed Relocation of Taxiway D		Proposed Realignment of Taxiway A	
	Sheet 4 of 14		Sheet 4 of 14		Sheet 4 of 14		Sheet 4 of 14	
	(SF)	(ac)	(SF)	(ac)	(SF)	(ac)	(SF)	(ac)
Bordering Vegetated Wetland	238	0.00546373	274	0.00629017	0	0	0	0
Isolated Freshwater Wetland	0	0	0	0	26,063	0.59832415	3,020	0.06932966
Coastal Dune	0	0	5,567	0.12780073	0	0	0	0
Cultural Grasslands (Proposed)	0	0	7,802	0.17910927	44,662	1.02529844	15,644	0.35913682
TOTAL DIRECT ALTERATION:	238	0.00546373	13,643	0.31320018	70,725	1.62362259	18,664	0.42846648
	(SF)	(ac)	(SF)	(ac)	(SF)	(ac)	(SF)	(ac)



PROPOSED AIRFIELD IMPROVEMENT PLAN
SHEET 1 OF 4
 SCALE 1"=40'

PROPOSED		EXISTING		PROPOSED		EXISTING	
[Symbol]	[Symbol]	[Symbol]	[Symbol]	[Symbol]	[Symbol]	[Symbol]	[Symbol]
[Symbol]	[Symbol]	[Symbol]	[Symbol]	[Symbol]	[Symbol]	[Symbol]	[Symbol]
[Symbol]	[Symbol]	[Symbol]	[Symbol]	[Symbol]	[Symbol]	[Symbol]	[Symbol]
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[Symbol]	[Symbol]	[Symbol]	[Symbol]	[Symbol]	[Symbol]	[Symbol]	[Symbol]

REVISIONS

REV. NO.	DATE	DESCRIPTION

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 DRAWN BY: SNA
 CHECKED BY: SF

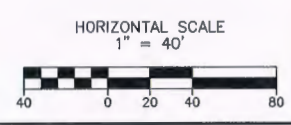
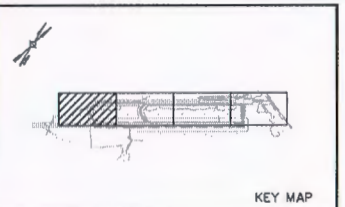
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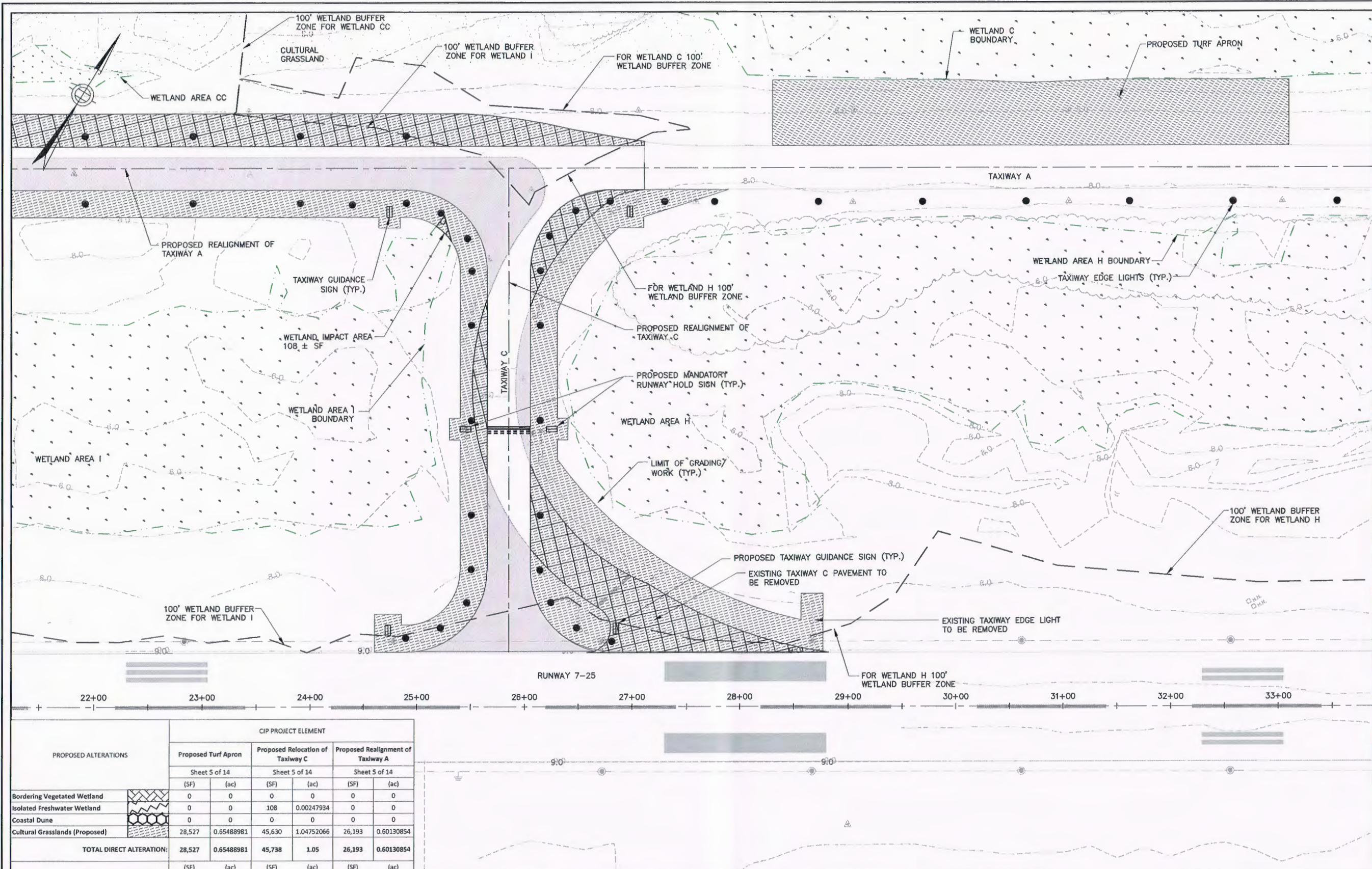
PROVINCETOWN MUNICIPAL AIRPORT
 PROVINCETOWN, MASSACHUSETTS

PROPOSED AIRFIELD IMPROVEMENT PLAN
SHEET 1 OF 4

JACOBS PROJ. NO.:
 AIP NO. 3-25-0043-36-2013

DRAWING NO.

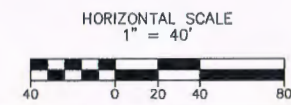
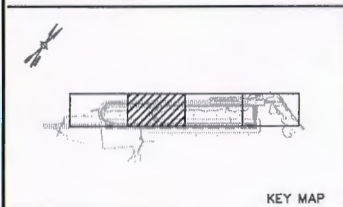




PROPOSED ALTERATIONS	CIP PROJECT ELEMENT					
	Proposed Turf Apron		Proposed Relocation of Taxiway C		Proposed Realignment of Taxiway A	
	Sheet 5 of 14		Sheet 5 of 14		Sheet 5 of 14	
	(SF)	(ac)	(SF)	(ac)	(SF)	(ac)
Bordering Vegetated Wetland	0	0	0	0	0	0
Isolated Freshwater Wetland	0	0	108	0.00247934	0	0
Coastal Dune	0	0	0	0	0	0
Cultural Grasslands (Proposed)	28,527	0.65488981	45,630	1.04752066	26,193	0.60130854
TOTAL DIRECT ALTERATION:	28,527	0.65488981	45,738	1.05	26,193	0.60130854
	(SF)	(ac)	(SF)	(ac)	(SF)	(ac)

**PROPOSED AIRFIELD IMPROVEMENT PLAN
SHEET 2 OF 4
SCALE 1"=40'**

NOTE:
1. FOR LEGEND, SEE SHEET 4 OF 15 - PROPOSED AIRFIELD IMPROVEMENT PLAN; SHEET 1 OF 4.



REV. NO.	DATE	DESCRIPTION	BY

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DRAWN BY	SNA
CHECKED BY	SF

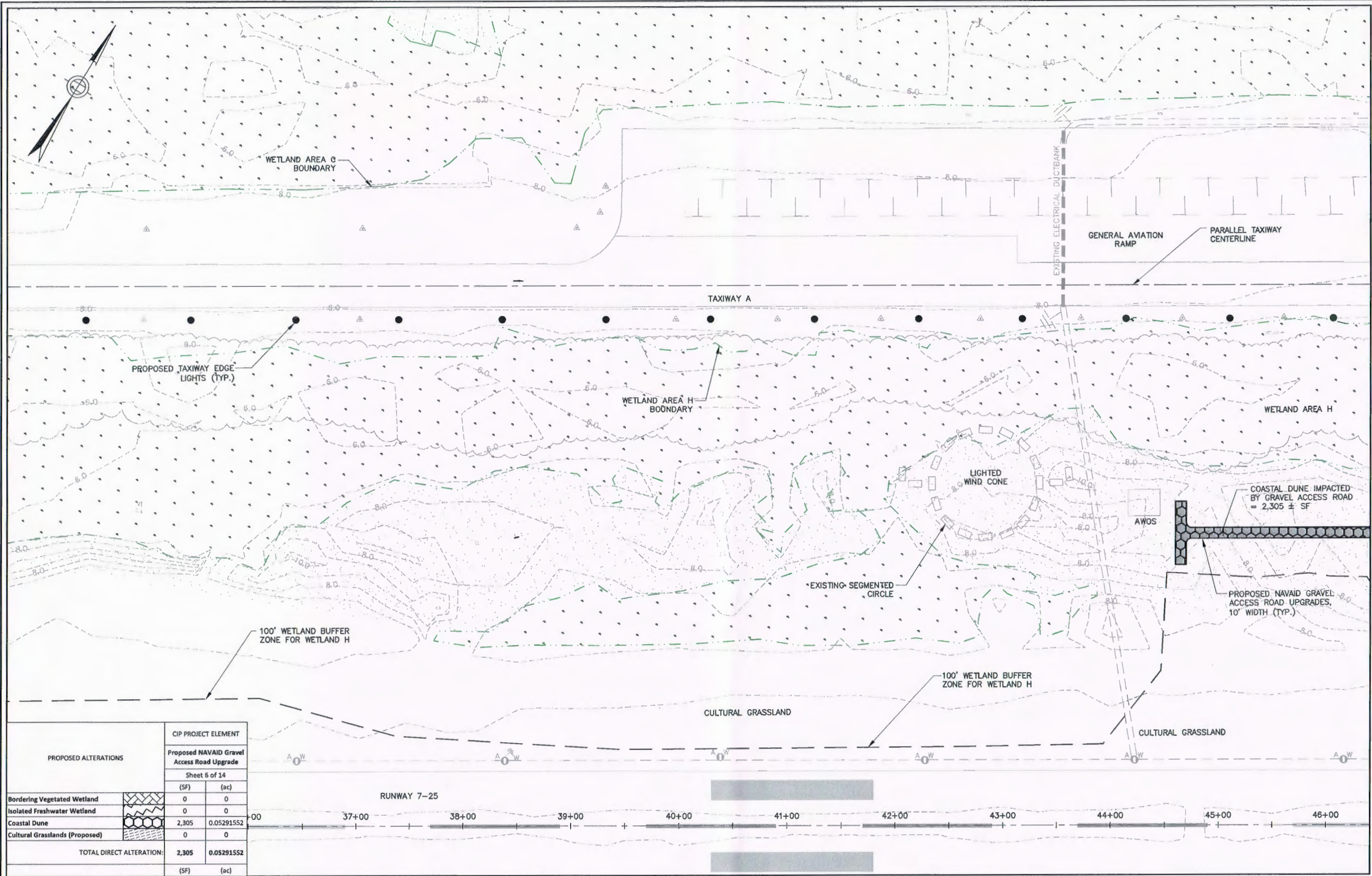
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**PROPOSED AIRFIELD IMPROVEMENT PLAN
SHEET 2 OF 4**

JACOBS PROJ. NO.:
AIP NO. 3-25-0043-36-2013

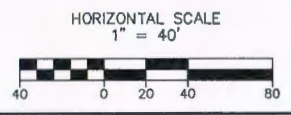
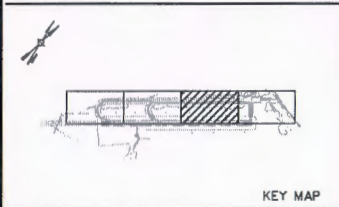
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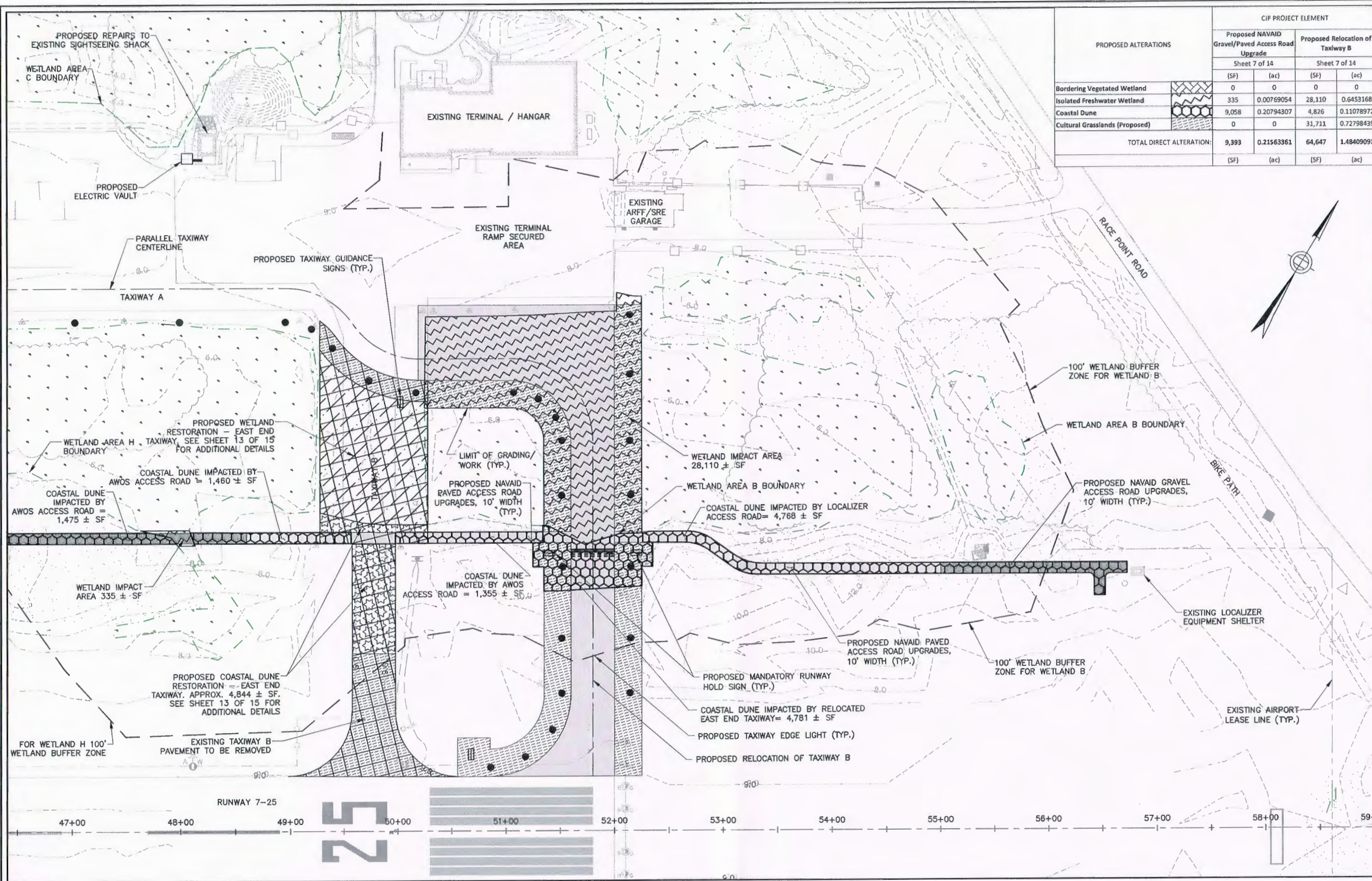
PROPOSED ALTERATIONS	CIP PROJECT ELEMENT	
	(SF)	(ac)
Proposed NAVAID Gravel Access Road Upgrade		
Sheet 6 of 14		
Bordering Vegetated Wetland	0	0
Isolated Freshwater Wetland	0	0
Coastal Dune	2,305	0.05291552
Cultural Grasslands (Proposed)	0	0
TOTAL DIRECT ALTERATION:	2,305	0.05291552
	(SF)	(ac)

PROPOSED AIRFIELD IMPROVEMENT PLAN
SHEET 3 OF 4
 SCALE 1"=40'

NOTE:
 1. FOR LEGEND, SEE SHEET 4 OF 15 - PROPOSED AIRFIELD IMPROVEMENT PLAN; SHEET 1 OF 4.



REVISIONS	BY	
	DATE	
REV. NO.		
DESIGNED BY	SNA	
CHECKED BY	SFA	
DATE:	MAY 2015	
SCALE:	AS NOTED	
343 CONGRESS STREET BOSTON, MA 02210 Tel 617-242-9222 Fax 617-242-9624 WWW.JACOBS.COM		
PROVINCE TOWN MUNICIPAL AIRPORT PROVINCE TOWN, MASSACHUSETTS		
PROPOSED AIRFIELD IMPROVEMENT PLAN SHEET 3 OF 4		
JACOBS PROJ. NO.: AIP NO. 3-25-0043-36-2013		
DRAWING NO.		
SHEET 6 OF 15		



PROPOSED ALTERATIONS	CIP PROJECT ELEMENT			
	Proposed NAVAID Gravel/Paved Access Road Upgrade		Proposed Relocation of Taxiway B	
	Sheet 7 of 14		Sheet 7 of 14	
	(SF)	(ac)	(SF)	(ac)
Bordering Vegetated Wetland	0	0	0	0
Isolated Freshwater Wetland	335	0.00769054	28,110	0.6453168
Coastal Dune	9,058	0.20794307	4,826	0.11078972
Cultural Grasslands (Proposed)	0	0	31,711	0.72798439
TOTAL DIRECT ALTERATION:	9,393	0.21563361	64,647	1.48409091
	(SF)	(ac)	(SF)	(ac)

REV. NO.	DATE	DESCRIPTION

DESIGNED BY: SNA
 DRAWN BY: SNA
 CHECKED BY: S.F.

343 CONGRESS STREET
 BOSTON, MA 02210
 Tel 617-242-9222
 Fax 617-242-9624
 WWW.JACOBS.COM



DATE: MAY 2015
 SCALE: AS NOTED

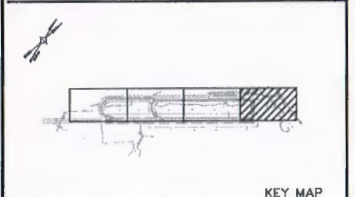
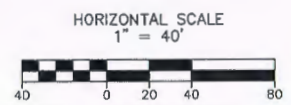
PROVINCETOWN MUNICIPAL AIRPORT
 PROVINCETOWN, MASSACHUSETTS
PROPOSED AIRFIELD IMPROVEMENT PLAN
SHEET 4 OF 4

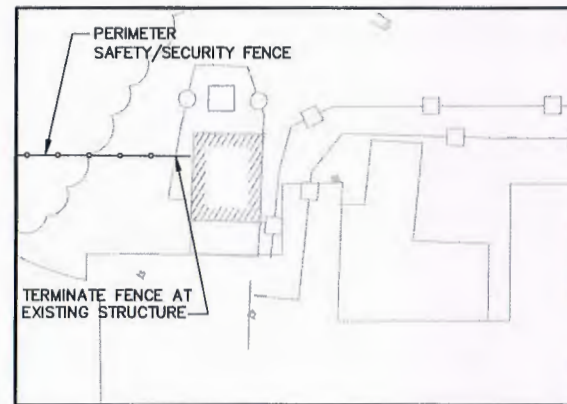
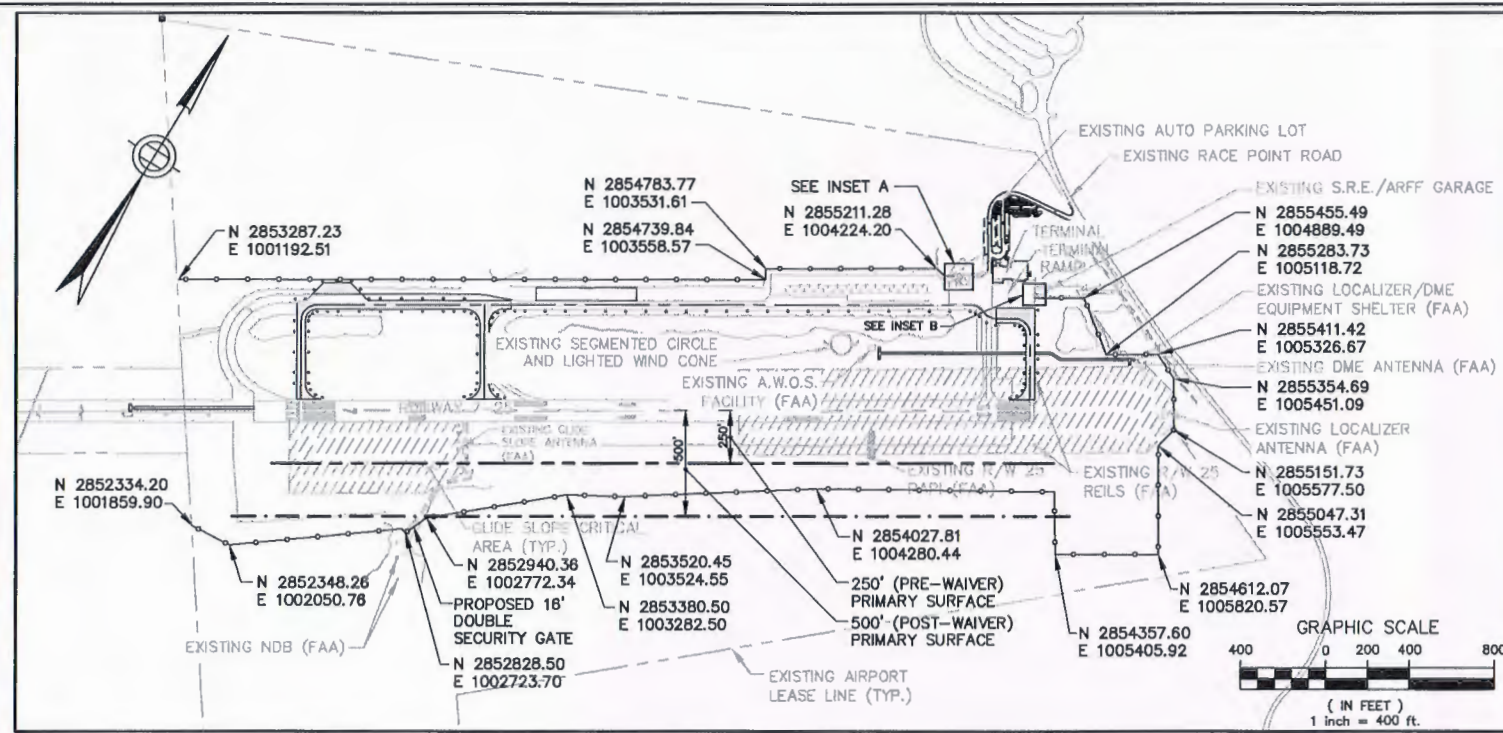
JACOBS PROJ. NO.:
 AIP NO. 3-25-0043-36-2013

DRAWING NO.

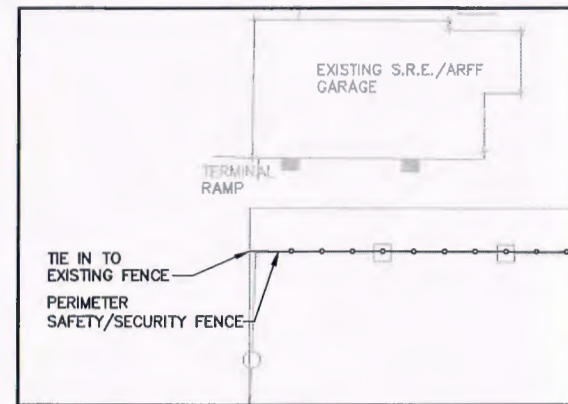
PROPOSED AIRFIELD IMPROVEMENT PLAN
SHEET 4 OF 4
 SCALE 1"=40'

NOTE:
 1. FOR LEGEND, SEE SHEET 4 OF 15 - PROPOSED AIRFIELD IMPROVEMENT PLAN; SHEET 1 OF 4.



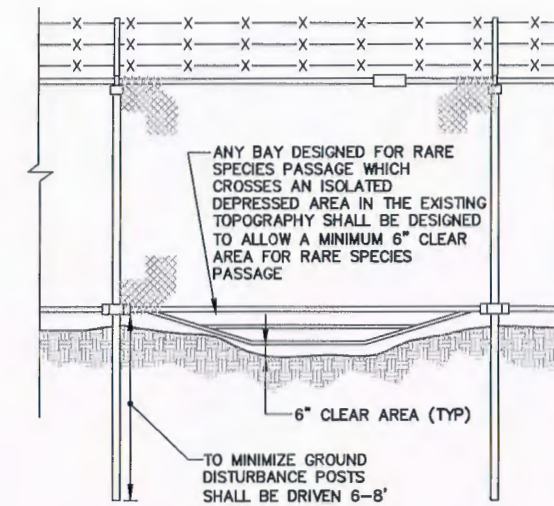


INSET A
SCALE = 1"=20'

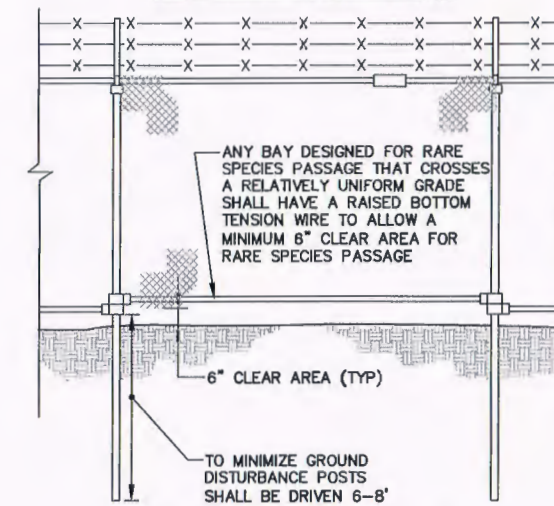


INSET B
SCALE = 1"=20'

NOTE:
1. FOR LEGEND, SEE SHEET 3 OF 15,
PROPOSED AIRFIELD IMPROVEMENT PLAN.

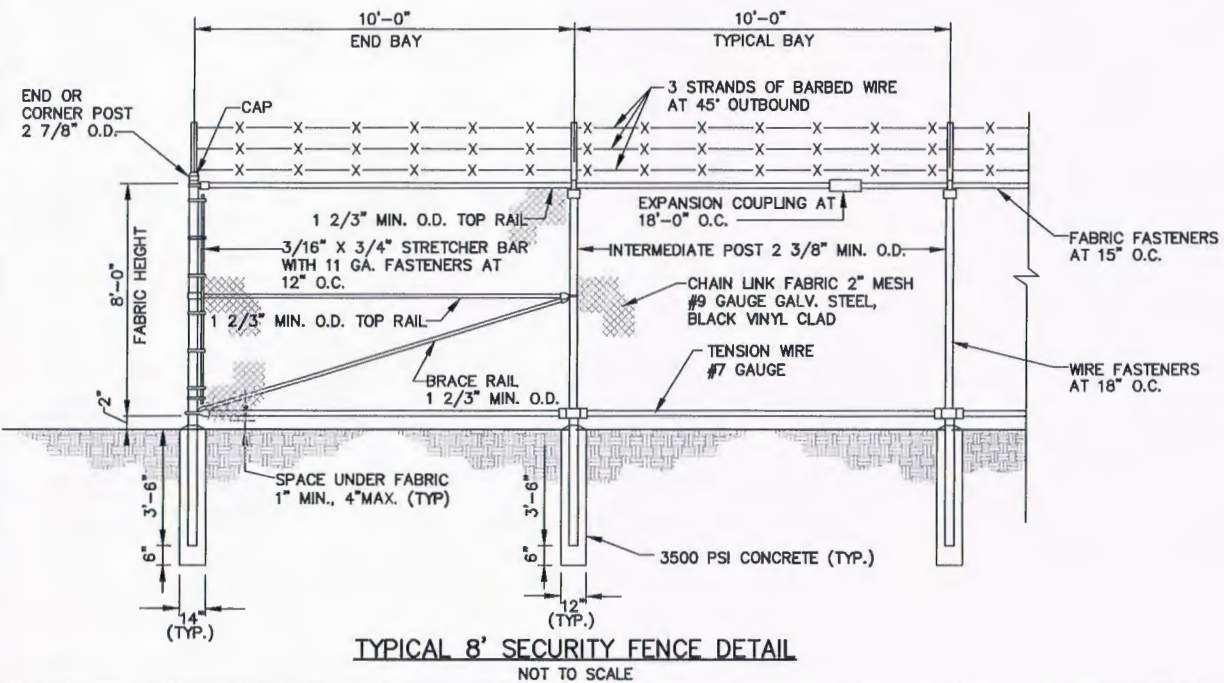


MITIGATING CONDITION A

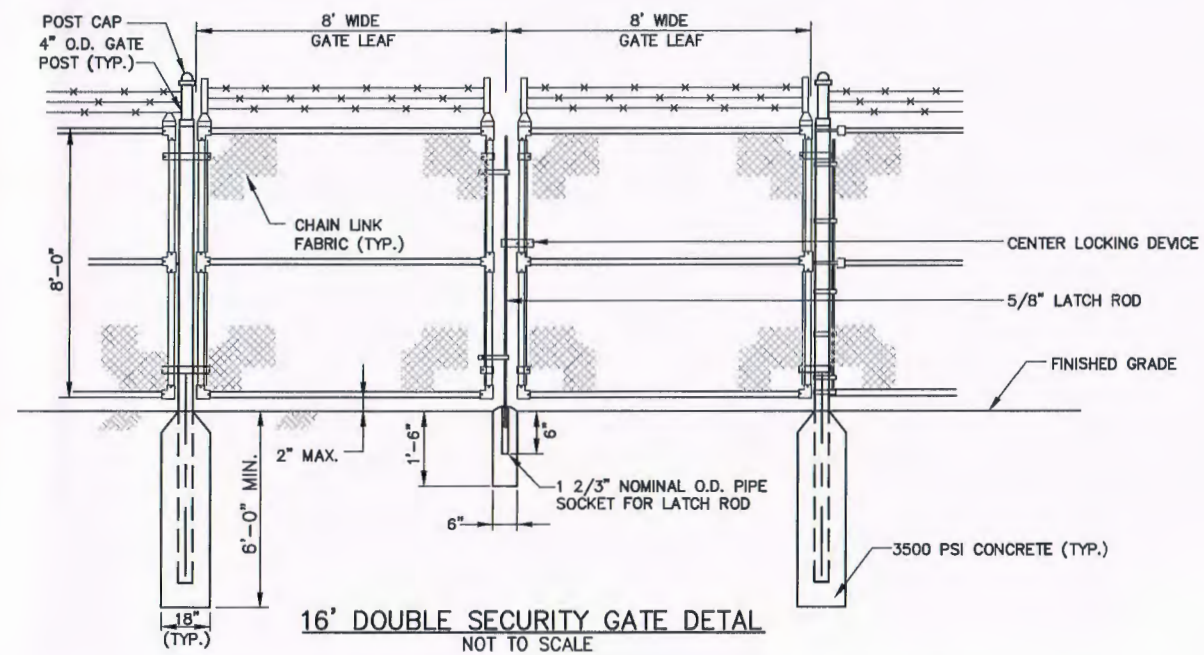


MITIGATING CONDITION B

SECURITY FENCE ENVIRONMENTAL MITIGATION DETAILS
(EVERY 100 LINEAR FEET IN BOX TURTLE HABITAT)
NOT TO SCALE



TYPICAL 8' SECURITY FENCE DETAIL
NOT TO SCALE



16' DOUBLE SECURITY GATE DETAIL
NOT TO SCALE

REV. NO.	DATE	DESCRIPTION	BY

CHECKED BY: SF
DRAWN BY: SNA

DESIGNED BY: SNA
DATE: MAY 2015
SCALE: AS NOTED

343 CONGRESS STREET
BOSTON, MA 02210
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JACOBS

PROVINCETOWN MUNICIPAL AIRPORT
PROVINCETOWN, MASSACHUSETTS

PROPOSED FENCE PLAN

JACOBS PROJ. NO.:
AIP NO. 3-25-0043-36-2013

DRAWING NO.

SHEET 8 OF 15

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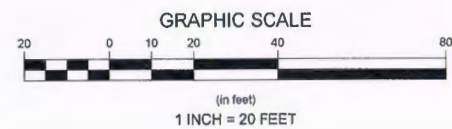
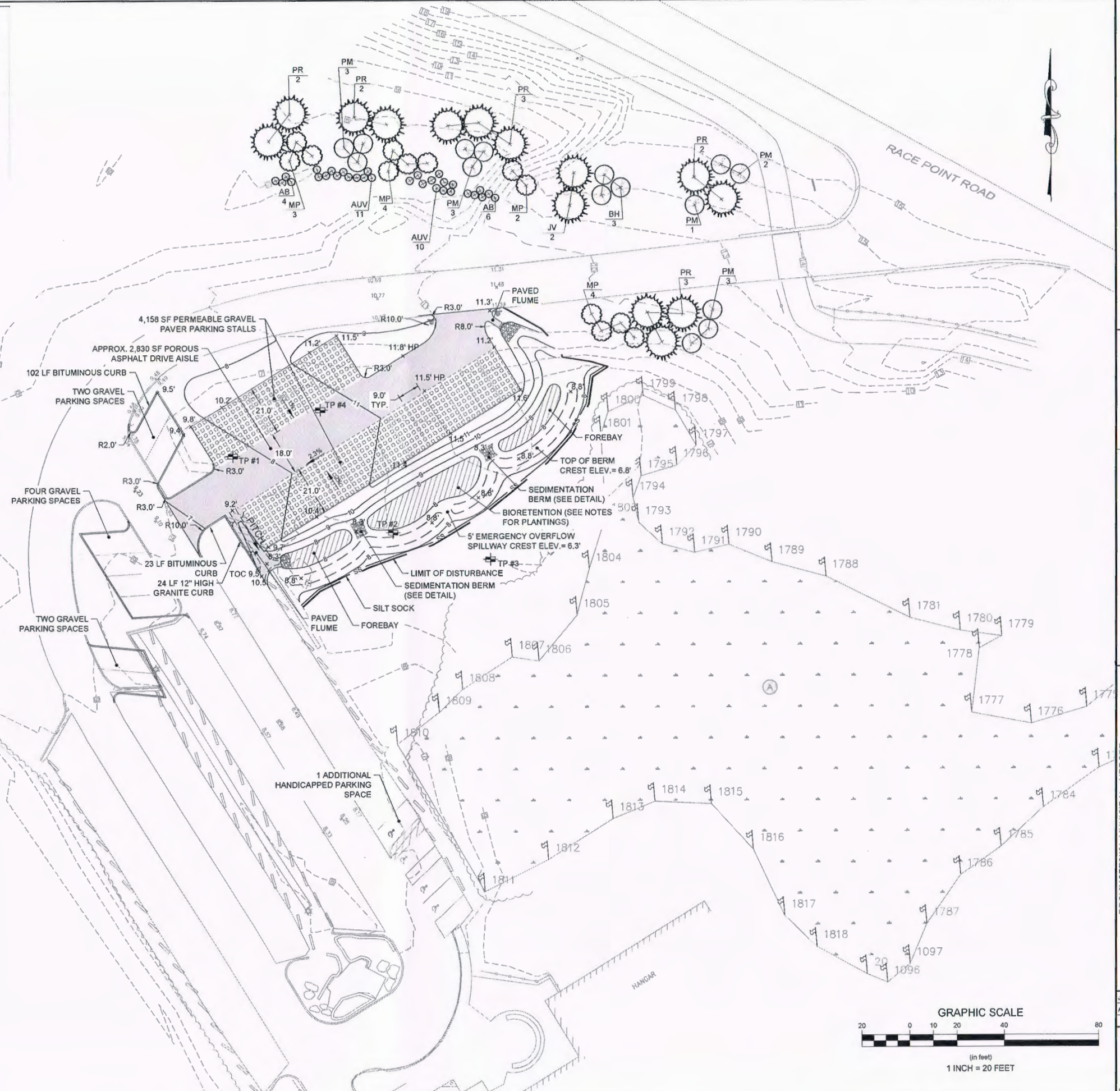
Key	Qty	Botanical Name	Common Name	Size	Spacing
Planting Schedule for Parking Lot (Phase 1)					
Evergreens					
JV	2	<i>Juniperus virginiana</i>	Eastern red cedar	8' - 10' h.	As Shown
PR	12	<i>Pinus rigida</i>	Pitch Pine	6/7 B&B	As Shown
Shrubs					
BH	3	<i>Baccharis halimifolia</i>	Groundsel	#1	As Shown
MP	13	<i>Morella pensylvanica</i>	Northern bayberry	24"/30" B&B	As Shown
PM	12	<i>Prunus maritima</i>	Beach Plum	3'/4' B&B	As Shown
Groundcovers/Grasses					
AB	10	<i>Ammophila breviligulata</i>	American Beach Grass	3" av pots	12"-18" O.C.
AUV	21	<i>Arctostaphylos uva-ursi</i>	Bearberry	#2	2" O.C.

BIORETENTION AND FOREBAY PLANTINGS (IN HATCHED AREA) TO INCLUDE:

- NORTHERN BAYBERRY (MORELLA PENSYLVANICA)
- VIRGINIA ROSE (ROSA VIRGINIANA)
- SWITCH GRASS (PANICUM VIRGATUM)
- DWARF HUCKLEBERRY (GAYLUSSACIA DUMOSA)

BIORETENTION SIDE SLOPE PLANTINGS TO INCLUDE:

- AMERICAN BEACHGRASS (AMMOPHILA BREVILIGULATA)
- BEARBERRY (ARCTOSTAPHYLOS UVA-URSI)
- SEASIDE GOLDENROD (SOLIDAGO SEMPERVIRENS)
- BEACH HEATH (HUDSONIA TOMENTOSA)
- LITTLE BLUESTEM (SCHIZACHYRIUM SCOPARIUM)



REV. NO.	DATE	DESCRIPTION

Horley Witten Group, Inc.
 343 CONGRESS STREET
 BOSTON, MA 02210
 Tel: (617) 617-9222
 Fax: (617) 242-9824
 WWW.JACOBS.COM

JACOBS

DESIGNED BY: RAC
 DATE: APRIL 2015
 SCALE: AS NOTED

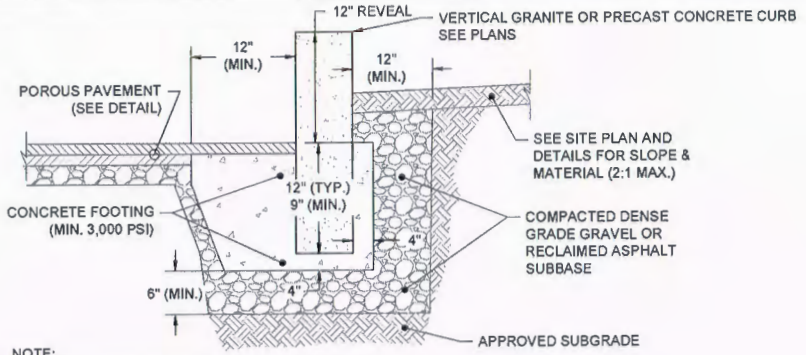
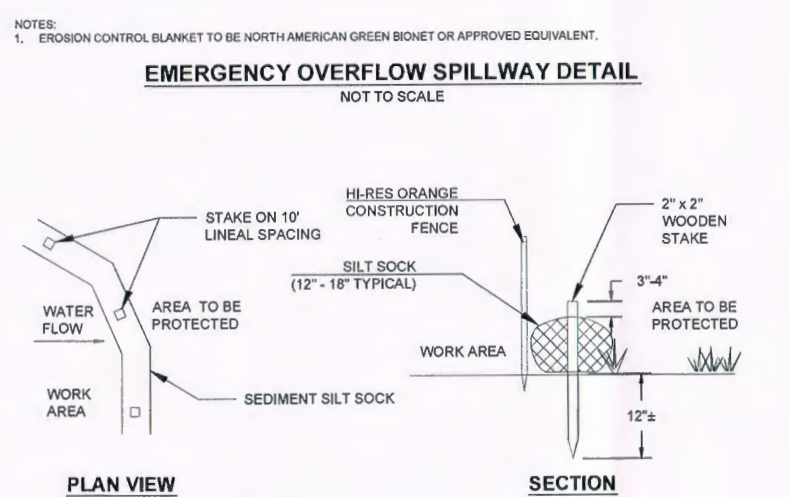
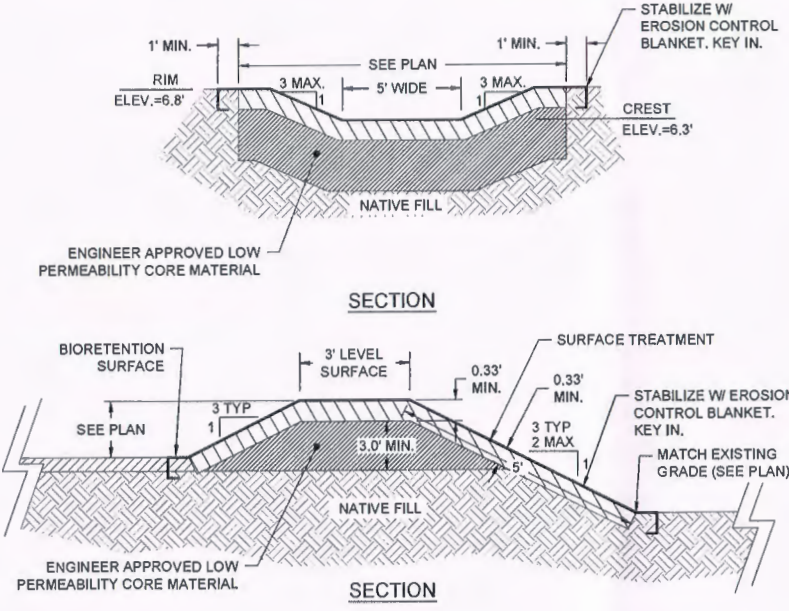
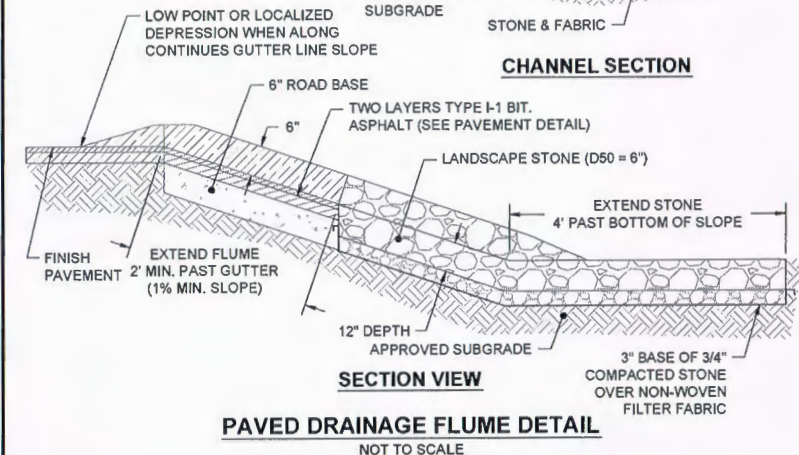
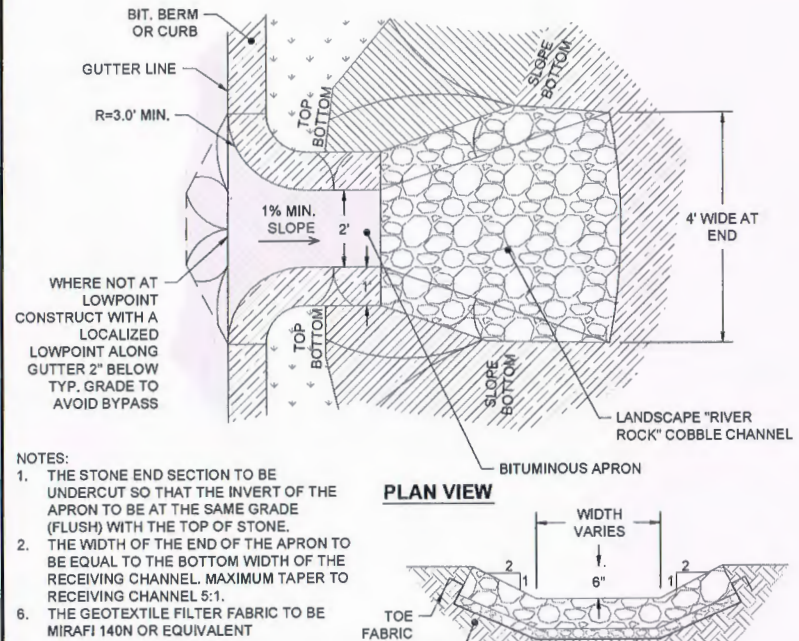
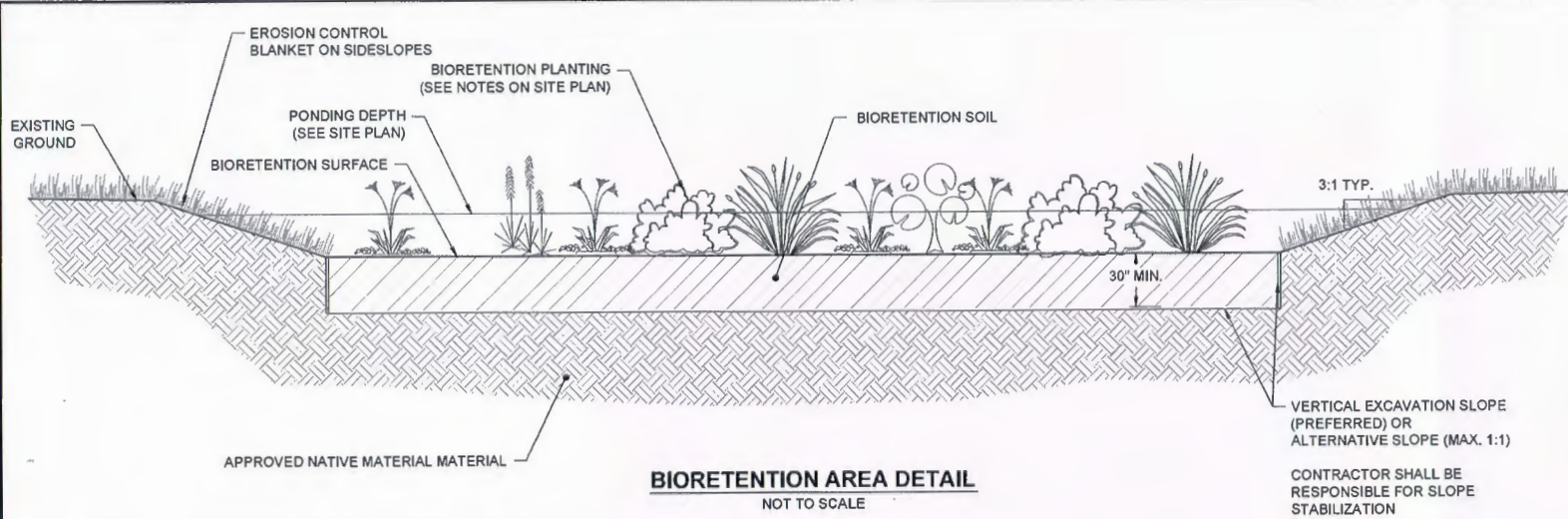
PROVINCETOWN MUNICIPAL AIRPORT
 PROVINCETOWN, MASSACHUSETTS

**PROPOSED PHASE 1
 PARKING LOT GRADING AND DRAINAGE**

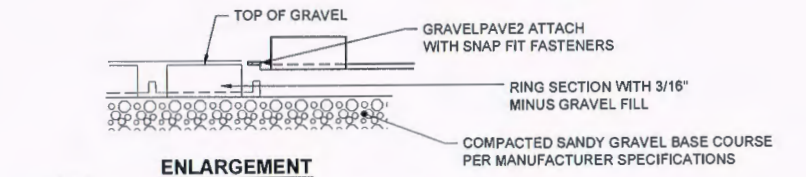
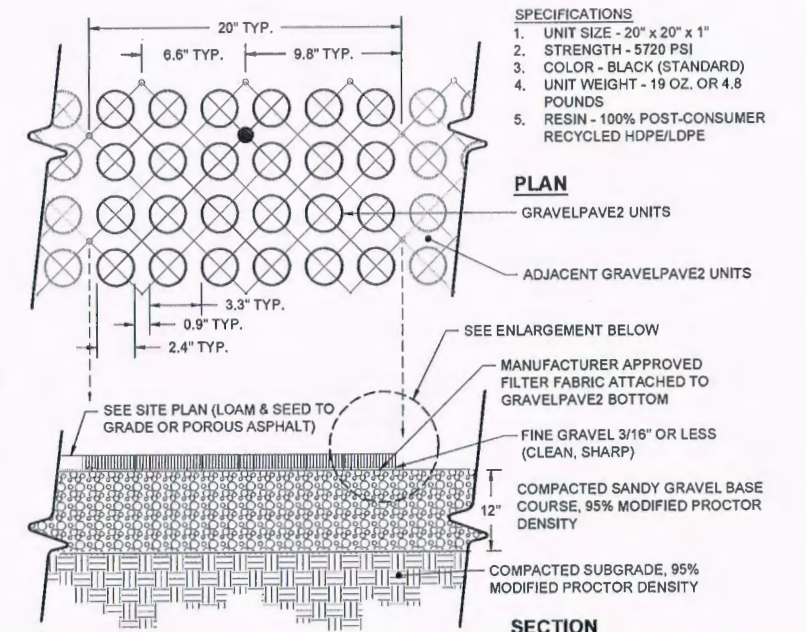
JACOBS PROJ. NO.:
 AP NO. 3-25-0043-36-2013

DRAWING NO.

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- NOTE:
1. VERTICAL CURB MIN. HEIGHT = 24" MIN. WIDTH = 6"
 2. VERTICAL CURBING TO BE INSTALLED AS SHOWN ON THE SITE PLAN.
 3. PROVIDE CURB EXPANSION JOINTS AT 5'-0" TO 6'-0" O.C.
 4. CURB REPLACEMENT IN EXISTING PAVEMENT - SAWCUT EDGE MIN. 12" FROM CURB.
 5. CONCRETE CURB - PROVIDE 1" CHAMFER OF EDGE ALONG PAVEMENT SIDE FACE FOR CONCRETE CURB.
 6. CONCRETE CURB - TO HAVE A MINIMUM CONCRETE STRENGTH OF 4,000 PSI
 7. CEMENT MORTAR JOINTS & INSTALL PREFORMED (1/2") EXPANSION JOINT WHERE REQUIRED.



- NOTE:
1. GRAVELPAVE2 PAVERS SHALL BE MANUFACTURED BY INVISIBLE STRUCTURES, INC. OR AN ENGINEER APPROVED EQUAL.
 2. SANDY GRAVEL ROAD BASE MATERIAL SHALL PASS THE FOLLOWING SIEVE ANALYSIS:
- | % PASSING | SIEVE SIZE |
|-----------|------------|
| 100 | 3/4" |
| 85 | 3/8" |
| 60 | #4 |
| 30 | #40 |
| <3 | #200 |
3. EXTERIOR EDGE SHALL BE ANCHORED PER MANUFACTURER'S REQUIREMENTS OR AS APPROVED BY THE ENGINEER.

REV. NO.	DATE	DESCRIPTION

343 CONGRESS STREET
BOSTON, MA 02210
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Fax: 617-242-9824
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DESIGNED BY: RAC
CHECKED BY: RAC
DRAWN BY: GSC
SCALE: AS NOTED
DATE: APRIL 2015

PROVINCETOWN MUNICIPAL AIRPORT
PROVINCETOWN, MASSACHUSETTS

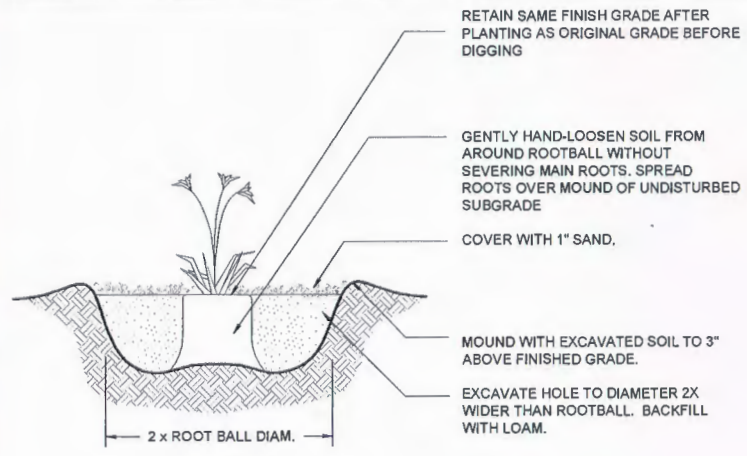
**PROPOSED PHASE 1
GRADING AND DRAINAGE DETAILS 1**

JACOBS PROJ. NO.:
AIP NO. 3-25-0043-36-2013

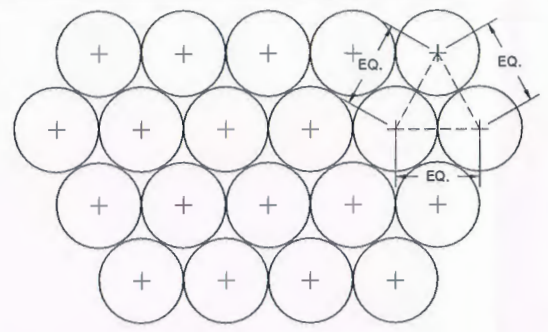
DRAWING NO.

SHEET 10 OF 15

last modified: 04/28/15 printed: 05/07/15 by ca P:\PROVINCETOWN AIRPORT\2011E2X57800\700 CADD\740-WORK\10-11 - HW-4027_DE.dwg

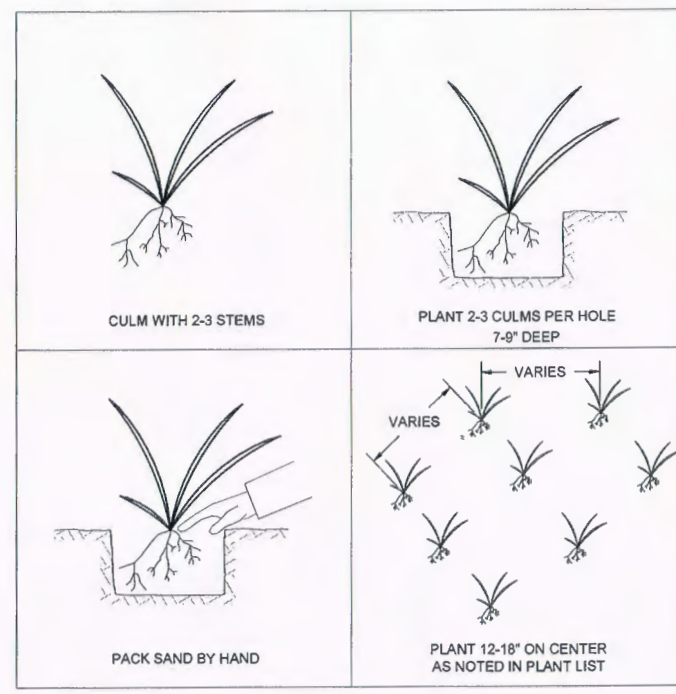


PERENNIAL PLANTING DETAIL
NOT TO SCALE



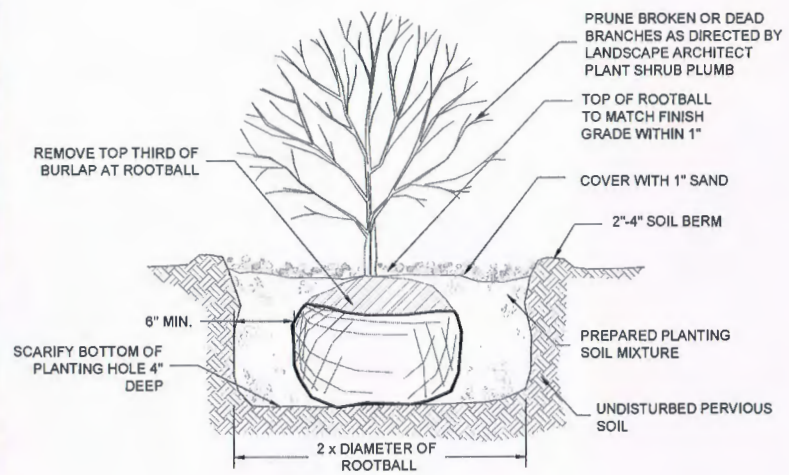
USE EQUIDISTANT TRIANGULAR SPACING FOR PLANTS - FOR ACTUAL SPACING SEE PLANS OR PLANTING SCHEDULE

PLANTING SPACING DETAIL
NOT TO SCALE

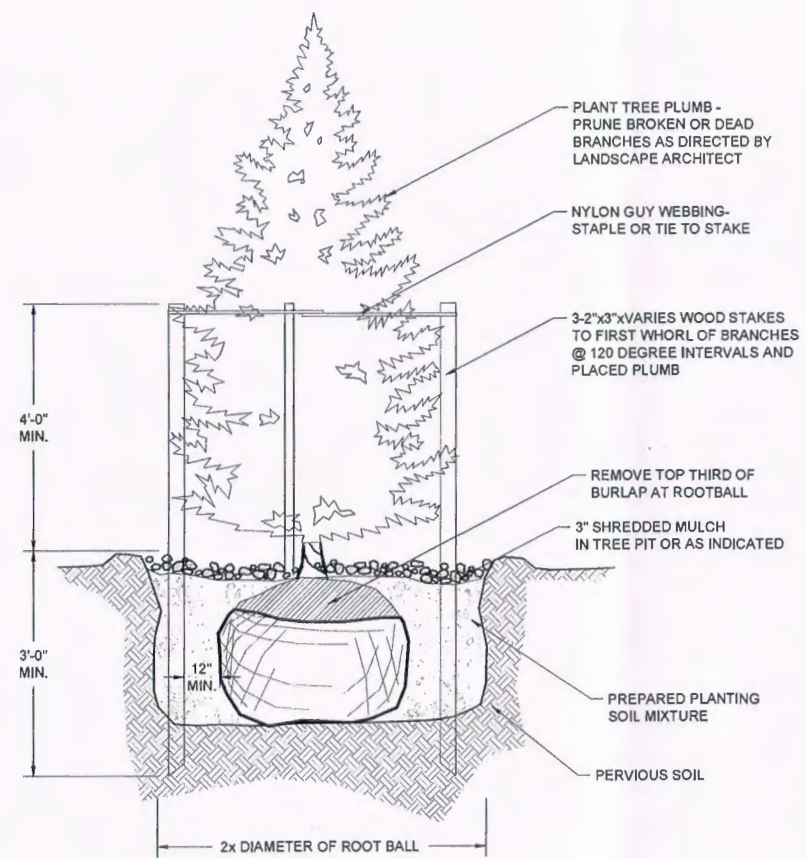


NOTES:
 1. ONLY PLANT FROM OCTOBER 1 TO APRIL 30 WHICH BEACH GRASS IS DORMANT
 2. STORE CULMS IN MOIST SHADE

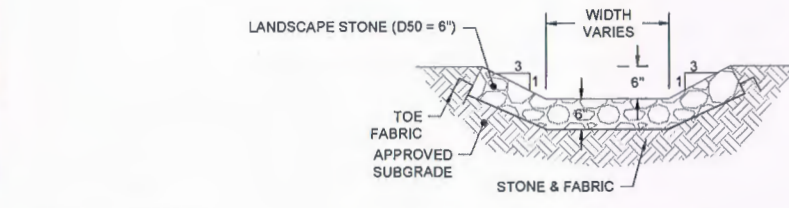
BEACH GRASS PLANTING DETAIL
NOT TO SCALE



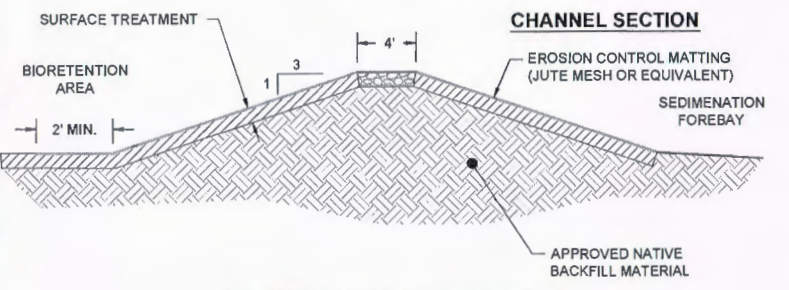
SHRUB PLANTING DETAIL
NOT TO SCALE



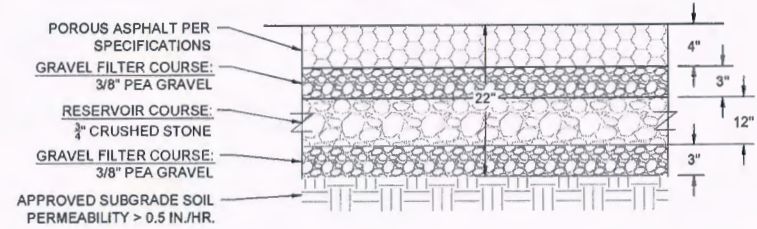
EVERGREEN TREE PLANTING DETAIL
NOT TO SCALE



CHANNEL SECTION

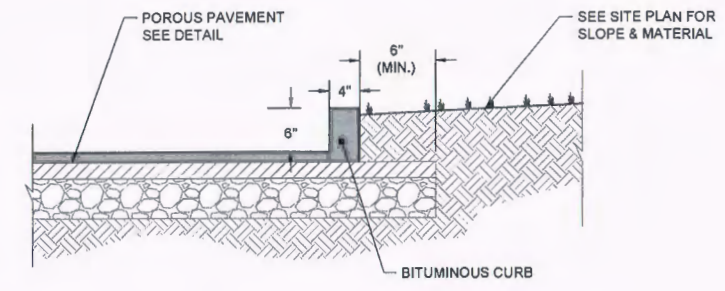


SEDIMENTATION BERM DETAIL
NOT TO SCALE

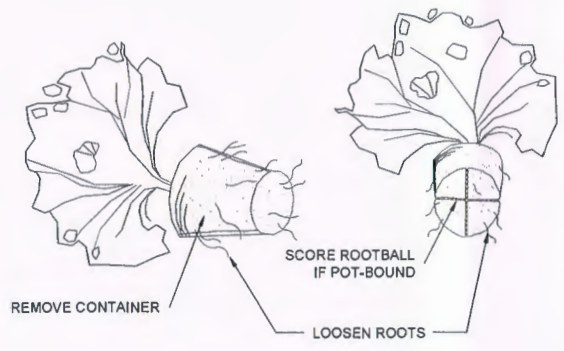


TYPICAL POROUS ASPHALT CROSS-SECTION
NOT TO SCALE

GENERAL NOTES:
 1. SANDY-LOAM AND/OR LOAMY-SAND TOPSOIL MATERIAL SHALL BE EXCAVATED FROM ALL PAVED AREAS PRIOR TO SUB-BASE INSTALLATION.
 2. SUB-GRADE (EXISTING MATERIAL) SHALL CONSIST OF INERT MATERIAL THAT IS HARD, DURABLE STONE AND/OR COARSE SAND, FREE FROM LOAM AND CLAY TO A DEPTH NOT LESS THAN 4-FT BELOW THE FINISH PAVEMENT SURFACE.
 3. SUBGRADE FILL SHALL BE COMPACTED TO 95% COMPACTION UNLESS OTHERWISE DIRECTED BY THE ENGINEER.
 4. SEE SITE LAYOUT PLAN FOR PAVEMENT WIDTH AND LOCATION.
 5. SEE GRADING PLANS FOR PAVEMENT SLOPE AND CROSS SLOPE.



TYPICAL BITUMINOUS CURB DETAIL
NOT TO SCALE



CONTAINER PLANT ROOTBALL TREATMENT
NOT TO SCALE

REV. NO.	DATE	DESCRIPTION

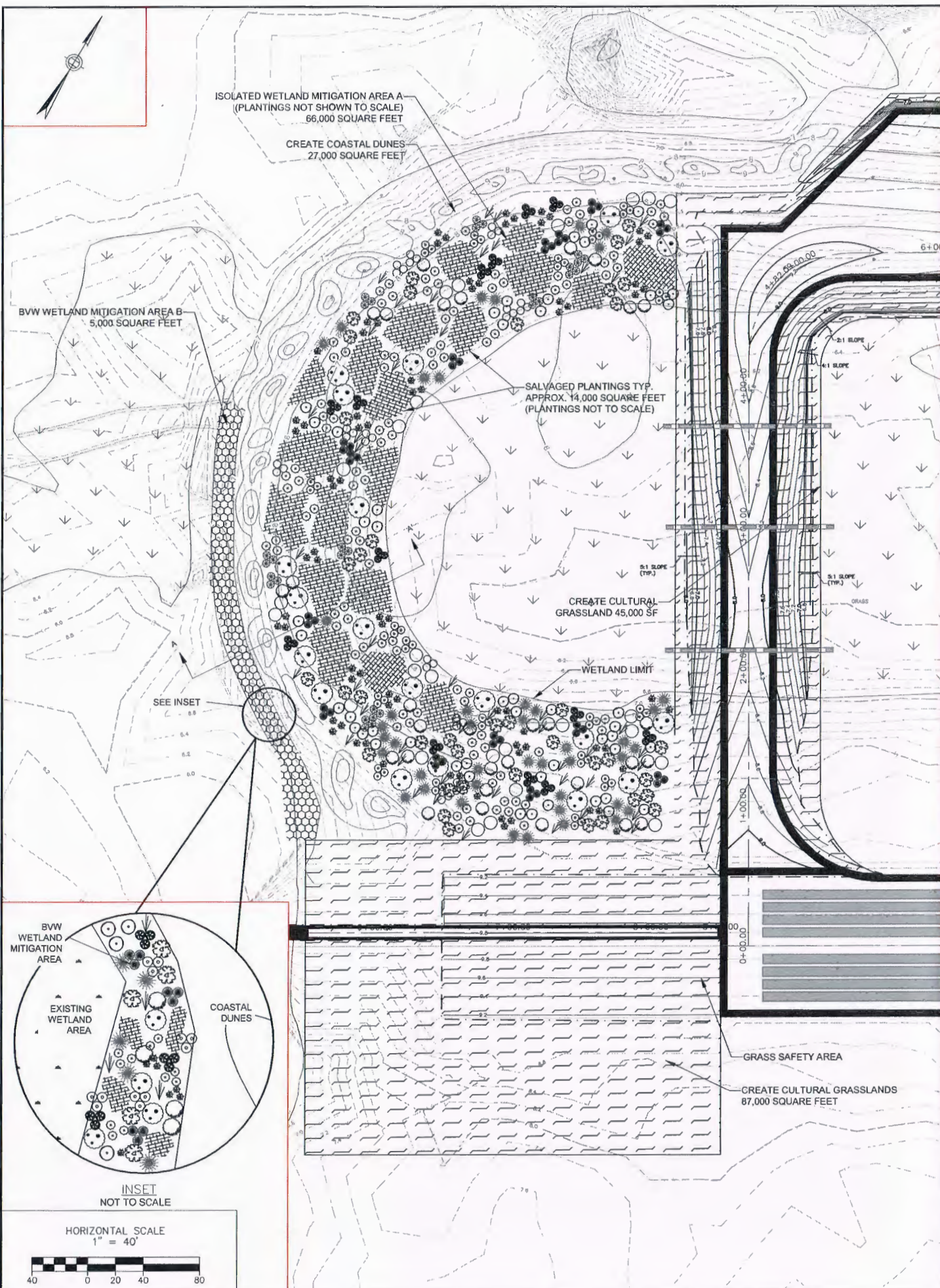
Hensley Wilton Group, Inc.
 343 CONGRESS STREET
 BOSTON, MA 02210
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 WWW.JACOBS.COM

DESIGNED BY: RAC
 CHECKED BY: RAC
 DRAWN BY: GSC
 DATE: APRIL 2015
 SCALE: AS NOTED

PROVINCETOWN MUNICIPAL AIRPORT
 PROVINCETOWN, MASSACHUSETTS
**PROPOSED PHASE 1
 GRADING AND DRAINAGE DETAILS 2**

JACOBS PROJ. NO.:
 AIP NO. 3-25-0043-36-2013

DRAWING NO.



MITIGATION AREA PLANTINGS

Mitigation Area A - Isolated Vegetated Wetland

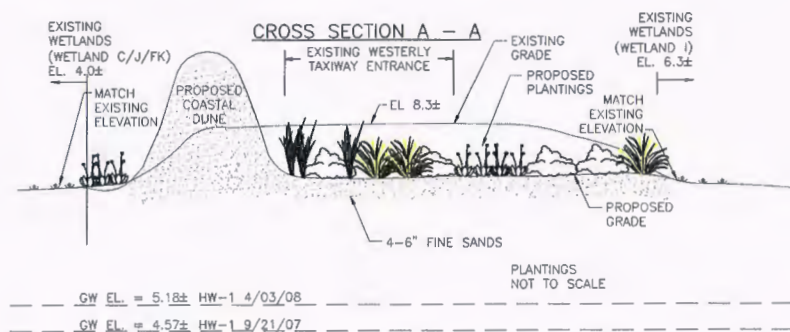
Symbol	No.	Species and Indicator Status	Size & Form	Size	Root	Planting Specifications
Shrub Species						
⊙	36	Highbush Blueberry (<i>Vaccinium corymbosum</i>) — FACW	Med Sized Decid. Shrub (6-12 ft)	2-3 feet tall (min.)	CG	Planted in clusters; spaced approx. 5-6 ft. apart
⊙	48	Maleberry (<i>Lyonia ligustrina</i>) — FACW	Med Sized Decid. Shrub (6-12 ft)	2-3 feet tall (min.)	CG	Planted in clusters; spaced approx. 5-6 ft. apart
⊙	28	Arrowwood (<i>Viburnum dentatum</i>) — FAC	Med Sized Decid. Shrub (6-12 ft)	2-3 feet tall (min.)	CG	Planted in clusters; spaced approx. 5-6 ft. apart
⊙	44	Meadowsweet (<i>Spiraea latifolia</i>) — FAC+	Small Deciduous Shrub (2-4 ft)	18-24 inches tall (min.)	CG	Planted in clusters; spaced approx. 3-5 ft. apart
⊙	48	Steeplebush (<i>Spiraea tomentosa</i>) — FACW	Small Deciduous Shrub (2-4 ft)	18-24 inches tall (min.)	CG	Planted in clusters; spaced approx. 3-5 ft. apart
⊙	40	Bayberry (<i>Myrica pensylvanica</i>) — FAC	Med Sized Decid. Shrub (6-12 ft)	2-3 feet tall (min.)	CG	Planted in clusters; spaced approx. 5-10 ft. O.C.; Along upper elevations
⊙	52	Dwarf Huckleberry (<i>Gaylussacia dumosa</i>) — FAC	Small Deciduous Shrub (1-2 ft)	1 gal. container	CG	Planted in clusters; spaced approx. 5-6 ft. apart
⊙	38	Sea Myrtle (<i>Baccharis halimifolia</i>) — FACW	Med Sized Decid. Shrub (6-12 ft)	2-3 feet tall (min.)	CG	Planted in clusters; spaced approx. 5-6 ft. apart
Herbaceous Species						
⊙	80	Cinnamon Fern (<i>Osmunda cinnamomea</i>) — FACW	Tall Perennial Fern (up to 5 ft)	1 gal. container	CG	Planted in clusters; spaced approx. 18-24 in. O.C.; Along lower-mid elevations
⊙	40	Sensitive Fern (<i>Onoclea sensibilis</i>) — FACW	Perennial Fern (up to 3.5 ft)	1 gal. container	CG	Planted in clusters; spaced approx. 18-24 in. O.C.; Along lower-mid elevations
⊙	80	Royal Fern (<i>Osmunda regalis</i>) — OBL	Tall Perennial Fern (up to 5 ft)	1 gal. container	CG	Planted in clusters; spaced approx. 18-24 in. O.C.; Along lower-mid elevations
⊙	48	Switchgrass (<i>Panicum virgatum</i>) — FAC	bunch-forming grass	1 gal. container	CG	Planted in clusters; Spaced approx. 18 in. O.C.; planted along upper reaches
⊙	300	Woolgrass (<i>Scirpus cyperinus</i>) — OBL	bunch-forming grass	2-inch plugs	tubes	planted in masses, 12-18 inches O.C. (3x3 ft ² patches)
⊙	260	Soft Rush (<i>Juncus effusus</i>) — OBL	bunch-forming rush	2-inch plugs	tubes	planted in masses, 12-18 inches O.C. (3x3 ft ² patches)

MITIGATION AREA PLANTINGS

Mitigation Area B - Bordering Vegetated Wetland

Symbol	No.	Species and Indicator Status	Size & Form	Size	Root	Planting Specifications
Shrub Species						
⊙	6	Maleberry (<i>Lyonia ligustrina</i>) — FACW	Med Sized Decid. Shrub (6-12 ft)	2-3 feet tall (min.)	CG	Planted in clusters; spaced approx. 5-6 ft. apart
⊙	6	Meadowsweet (<i>Spiraea latifolia</i>) — FAC+	Small Deciduous Shrub (2-4 ft)	18-24 inches tall (min.)	CG	Planted in clusters; spaced approx. 3-5 ft. apart
⊙	8	Bayberry (<i>Myrica pensylvanica</i>) — FAC	Med Sized Decid. Shrub (6-12 ft)	2-3 feet tall (min.)	CG	Planted in clusters; spaced approx. 5-10 ft. O.C.; Along upper elevations
⊙	6	Sea Myrtle (<i>Baccharis halimifolia</i>) — FACW	Med Sized Decid. Shrub (6-12 ft)	2-3 feet tall (min.)	CG	Planted in clusters; spaced approx. 5-6 ft. apart
Herbaceous Species						
⊙	30	Switchgrass (<i>Panicum virgatum</i>) — FAC	bunch-forming grass	1 gal. container	CG	Planted in clusters; Spaced approx. 18 in. O.C.; planted along upper reaches
⊙	36	Woolgrass (<i>Scirpus cyperinus</i>) — OBL	bunch-forming grass	2-inch plugs	tubes	planted in masses, 12-18 inches O.C. (3x3 ft ² patches)
⊙	36	Soft Rush (<i>Juncus effusus</i>) — OBL	bunch-forming rush	2-inch plugs	tubes	planted in masses, 12-18 inches O.C. (3x3 ft ² patches)

NOTE: SEE SHEET 13 FOR COASTAL DUNE PLANTING SCHEDULE



NOTE: MEASURED GROUND WATER ELEVATIONS HAVE BEEN ADJUSTED TO BE CONSISTENT WITH AND RELATIVE TO THE ASSUMED BENCHMARK ELEVATIONS FOR THE AIRPORT.

REV. NO.	DATE	DESCRIPTION

Horsley Witten Group, Inc.
Sustainable Environmental Solutions
90 Route 1A
Salem, MA 01968
Tel: 978-242-9222
Fax: 978-242-9624
WWW.HORSLEYWITTEN.COM

JACOBS
343 CONGRESS STREET
BOSTON, MA 02210
Tel: 617-242-9222
Fax: 617-242-9624
WWW.JACOBS.COM

PROVINCETOWN MUNICIPAL AIRPORT
PROVINCETOWN, MASSACHUSETTS

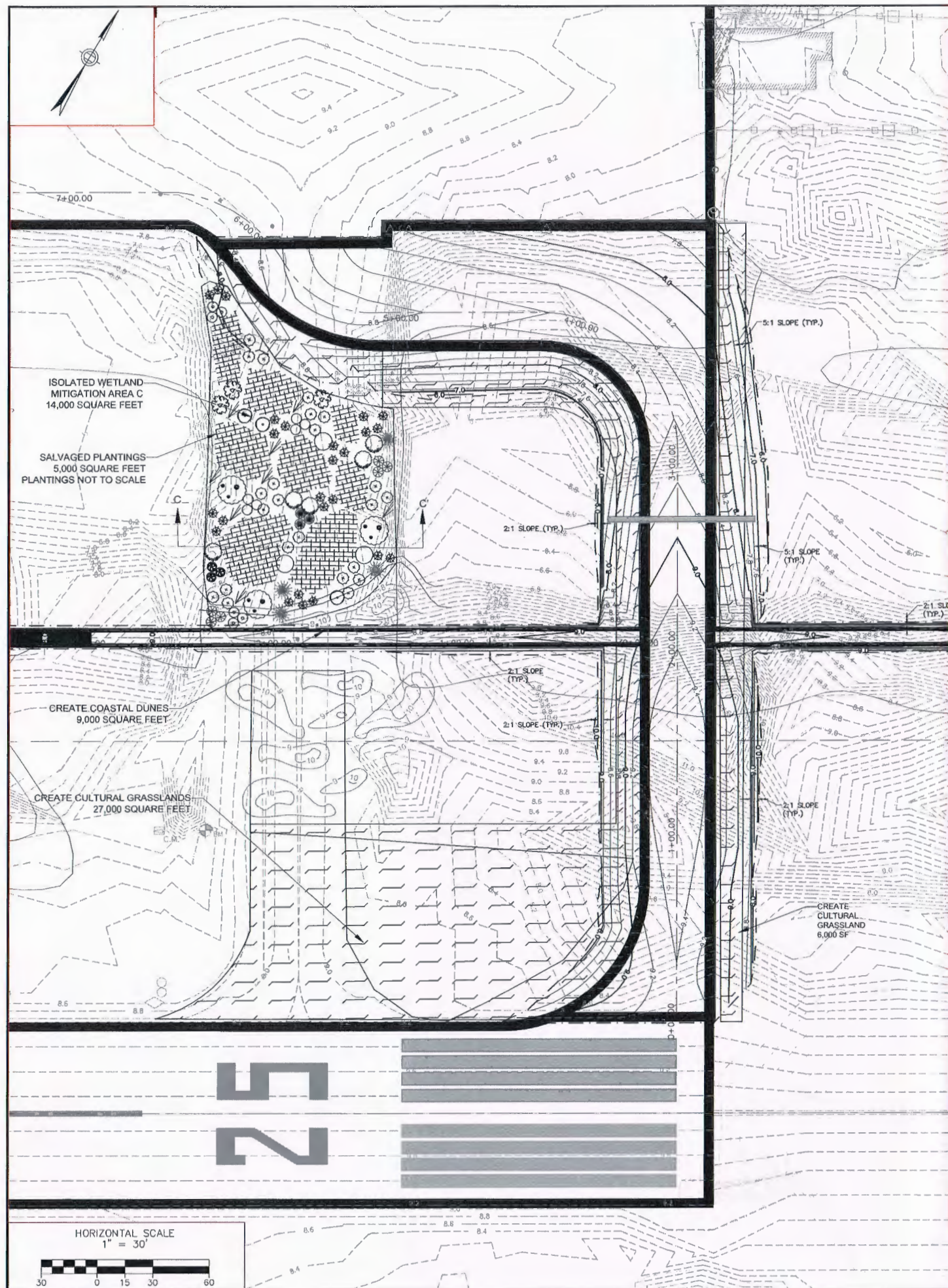
DESIGNED BY: DATE: MAY 2015
CHECKED BY: DATE: AS NOTED
DRAWN BY: DATE: AS NOTED

WETLAND MITIGATION - WEST END TAXIWAY

JACOBS PROJ. NO.:
AIP NO. 3-25-0043-KK-2015

DRAWING NO.:

SHEET 12 OF 15



MITIGATION AREA PLANTINGS

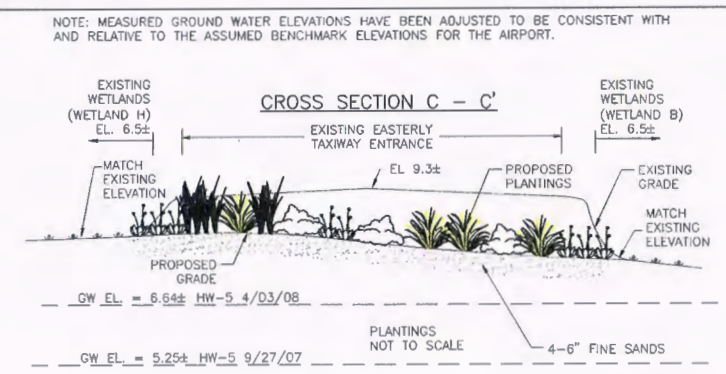
Mitigation Area C - Isolated Vegetated Wetland

Symbol	No.	Species and Indicator Status	Size & Form	Size	Root	Planting Specifications
Shrub Species						
⊙	12	Highbush Blueberry (<i>Vaccinium corymbosum</i>) — FACW-	Med Sized Decid. Shrub (6-12 ft)	2-3 feet tall (min.)	CG	Planted in clusters; spaced approx. 5-6 ft. apart
⊙	8	Maleberry (<i>Lyonia ligustrina</i>) — FACW	Med Sized Decid. Shrub (6-12 ft)	2-3 feet tall (min.)	CG	Planted in clusters; spaced approx. 5-6 ft. apart
⊙	12	Meadowsweet (<i>Spiraea latifolia</i>) — FAC+	Small Deciduous Shrub (2-4 ft)	18-24 inches tall (min.)	CG	Planted in clusters; spaced approx. 3-5 ft. apart
⊙	12	Steepclimb (<i>Spiraea tomentosa</i>) — FACW	Small Deciduous Shrub (2-4 ft)	18-24 inches tall (min.)	CG	Planted in clusters; spaced approx. 3-5 ft. apart
⊙	12	Bayberry (<i>Myrica pensylvanica</i>) — FAC	Med Sized Decid. Shrub (6-12 ft)	2-3 feet tall (min.)	CG	Planted in clusters; spaced approx. 5-10 ft. O.C.; Along upper elevations
⊙	6	Pussy Willow (<i>Salix discolor</i>) — FACW	Med Sized Decid. Shrub (6-12 ft)	3-4 feet tall (min.)	CG	Planted singly; spaced approx. 10-12 ft. apart; Along lower slopes
Herbaceous Species						
⊙	24	Cinnamon Fern (<i>Damuda cinnamomea</i>) — FACW	Tall Perennial Fern (up to 5 ft)	1 gal. container	CG	Planted in clusters; spaced approx. 18-24 in. O.C.; Along lower-mid elevations
⊙	20	Sensitive Fern (<i>Onoclea sensibilis</i>) — FACW	Perennial Fern (up to 3.5 ft)	1 gal. container	CG	Planted in clusters; spaced approx. 18-24 in. O.C.; Along lower-mid elevations
⊙	36	Switchgrass (<i>Panicum virgatum</i>) — FAC	bunch-forming grass	1 gal. container	CG	Planted in clusters; Spaced approx. 18 in. O.C.; planted along upper reaches
⊙	80	Woolgrass (<i>Scirpus cyperinus</i>) — OBL	bunch-forming grass	2-inch plugs		planted in masses, 12-18 inches O.C. (3x3 ft ² patches)
⊙	96	Soft Rush (<i>Juncus effusus</i>) — OBL	bunch-forming rush	2-inch plugs		planted in masses, 12-18 inches O.C. (3x3 ft ² patches)

MITIGATION AREA PLANTINGS

Coastal Dune Mitigation Areas

No.	Species and Indicator Status	Size & Form	Size	Root	Planting Specifications
Shrub Species					
36	Bayberry (<i>Myrica pensylvanica</i>) — FAC	Med Sized Decid. Shrub (6-12 ft)	18-24 inches tall (min.)	CG	Planted in clusters; spaced approx. 5-10 ft. O.C.; Along lower reaches to mid-slope of dune
36	Beach Plum (<i>Prunus maritima</i>) — UPL	small-med Decid. Shrub (4-6 ft)	18-24 inches tall (min.)	CG	Planted in clusters; spaced approx. 5-10 ft. O.C.; Along lower reaches to mid-slope of dune
Herbaceous Species					
15,000	American beachgrass (<i>Ammophila breviflora</i>) — FACU-	grass	bare root plugs	CG	Planted in clusters; Spaced approx. 12-18 in. O.C. in grid pattern
120	Beach Pea (<i>Lathyrus japonicus</i>) — FACU-	perennial herb	1 gal. container	CG	planted in clusters of 3-5, 18-24 inches O.C.
60	Beach Heather (<i>Hudsonia tomentosa</i>) — NI	low-growing subshrub, perennial	1 gal. container	CG	planted in clusters of 3-5, 18-24 inches O.C.



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PROVINCETOWN MUNICIPAL AIRPORT
PROVINCETOWN, MASSACHUSETTS

WETLAND MITIGATION—EAST END TAXIWAY

JACOBS PROJ. NO.:
AIP NO. 3-25-0243-XX-2015

DRAWING NO.

SHEET 13 OF 15

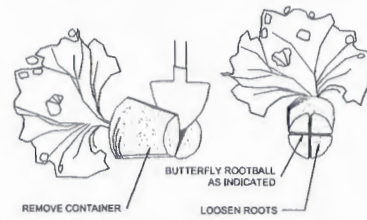
DESIGNED BY: DATE: MAY 2015

DRAWN BY: CHECKED BY:

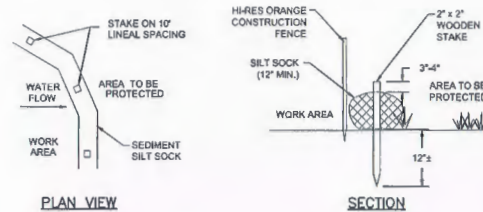
REVISIONS

REV. NO. DATE DESCRIPTION

Horsley Witten Group, Inc.
Environmental Solutions
90 Route 6A
Sandwich, MA 02563
508-833-8800 voice
508-833-7187 fax

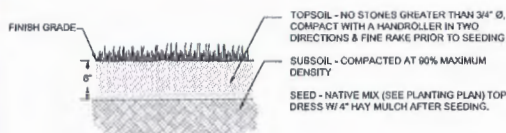


CONTAINER PLANT ROOTBALL TREATMENT
NOT TO SCALE

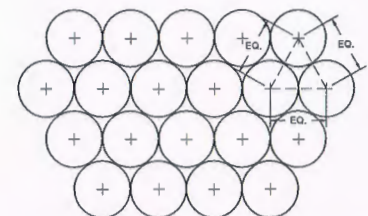


- NOTES:**
- NO DISTURBANCE BEYOND SILT SOCK.
 - ALL MATERIAL TO MEET MANUFACTURER'S SPECIFICATIONS.
 - SEDIMENT SILT SOCK TO BE FILLED WITH COMPOST AND MEET APPLICATION REQUIREMENTS.
 - COMPOST MATERIAL TO BE DISPERSED ON SITE, AS DETERMINED BY THE ENGINEER.

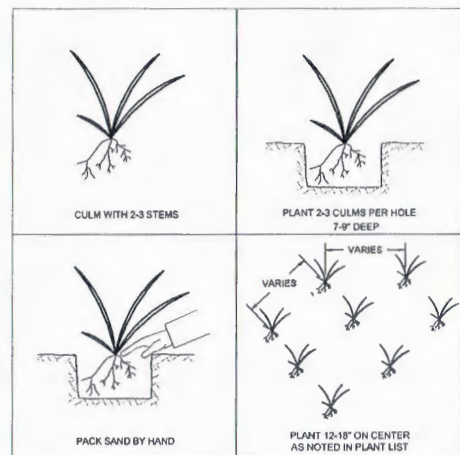
TYPICAL SEDIMENT SILT SOCK DETAIL
NOT TO SCALE



LOAM AND SEED DETAIL
NOT TO SCALE

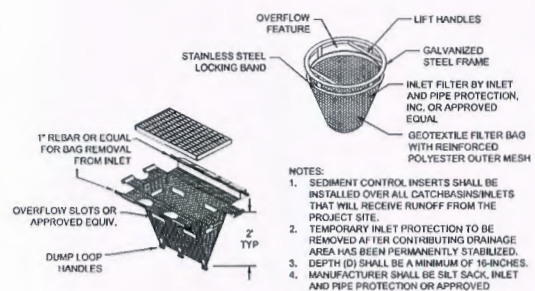


PLANTING SPACING DETAIL
NOT TO SCALE



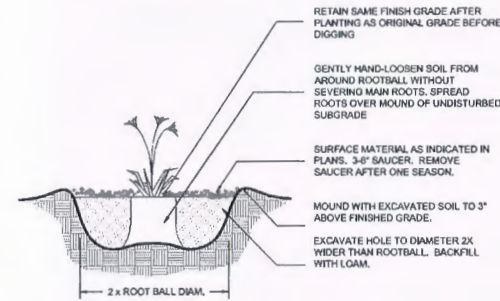
- NOTES:**
- ONLY PLANT FROM OCTOBER 1 TO APRIL 30 WHICH BEACH GRASS IS DORMANT
 - STORE CULMS IN MOIST SHADE

BEACH GRASS PLANTING DETAIL
NOT TO SCALE

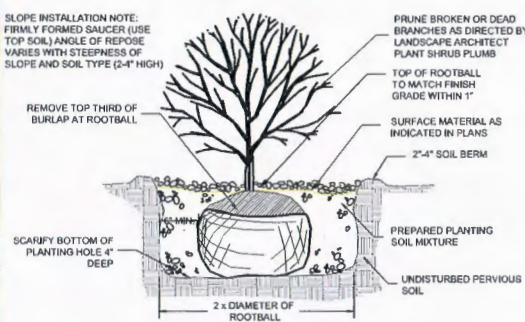


- NOTES:**
- SEDIMENT CONTROL INSERTS SHALL BE INSTALLED OVER ALL CATCHBASIN INLETS THAT WILL RECEIVE RUNOFF FROM THE PROJECT SITE.
 - TEMPORARY INLET PROTECTION TO BE REMOVED AFTER CONTRIBUTING DRAINAGE AREA HAS BEEN PERMANENTLY STABILIZED. DEPTH (D) SHALL BE A MINIMUM OF 16-INCHES.
 - MANUFACTURER SHALL BE SILT SACK, INLET AND PIPE PROTECTION OR APPROVED EQUIVALENT.

TEMPORARY CATCHBASIN INSERT
NOT TO SCALE



PERENNIAL PLANTING DETAIL
NOT TO SCALE



SHRUB PLANTING DETAIL
NOT TO SCALE

GENERAL PLANTING NOTES:

- THE FOLLOWING NOTES ARE PROVIDED AS GENERAL PLANTING GUIDELINES ONLY. THOROUGHLY REVIEW THE PROJECT SPECIFICATIONS FOR ALL LANDSCAPE REQUIREMENTS PRIOR TO THE COMMENCEMENT OF ANY LANDSCAPE WORK. SUBMIT IN WRITING TO THE LANDSCAPE ARCHITECT ANY QUESTIONS OR CLARIFICATIONS REQUIRED AT A MINIMUM OF 30 DAYS PRIOR TO ORDERING ANY MATERIALS OR BEGINNING ANY LANDSCAPE CONSTRUCTION.
- SUBMIT TO THE LANDSCAPE ARCHITECT FOR REVIEW AND APPROVAL ALL REQUIRED LANDSCAPE SUBMITTALS AS DESCRIBED IN THE SPECIFICATIONS INCLUDING A PLANT LIST WITH PLANT SIZE AND QUANTITIES TO BE ORDERED PRIOR TO DELIVERY TO THE PROJECT SITE.
- FURNISH AND INSTALL ALL PLANTS AS SHOWN ON THE DRAWINGS AND IN THE SIZE AND QUANTITIES SPECIFIED ON THE PLANTING SCHEDULE. PLANT SUBSTITUTION SELECTION MUST BE APPROVED BY BIOLOGIST OR LANDSCAPE ARCHITECT PRIOR TO INSTALLATION.
- ALL PLANTS TO COMPLY WITH APPLICABLE REQUIREMENTS OF ANSI Z60.1 "AMERICAN STANDARD FOR NURSERY STOCK," LATEST EDITION, PUBLISHED BY THE AMERICAN NURSERY AND LANDSCAPE ASSOCIATION INC.
- PLANTS TO BE GROWN UNDER CLIMATIC CONDITIONS SIMILAR TO THOSE IN THE LOCALITY OF THE PROJECT FOR AT LEAST TWO (2) YEARS. USE HEALTHY NURSERY GROWN PLANTS, FREE OF DISEASE, INSECTS, AND PESTS, EGGS OR LARVAE, AND HAVE A WELL DEVELOPED ROOT SYSTEM.
- INSTALL PLANTS WITHIN ONE (1) WEEK OF PURCHASE. IF PLANTS ARE TO BE STORED AT THE SITE PRIOR TO PLANTING, IT IS THE CONTRACTOR'S RESPONSIBILITY TO ENSURE THEY ARE PROPERLY MAINTAINED, WATERED, AND REMAIN HEALTHY.
- PROCEED WITH PLANTING ONLY WHEN EXISTING AND FORECASTED WEATHER CONDITIONS PERMIT. SUBMIT TO THE LANDSCAPE ARCHITECT IN WRITING THE PROPOSED PLANTING SCHEDULE. OBTAIN APPROVAL OF PLANTING SCHEDULE FROM THE LANDSCAPE ARCHITECT PRIOR TO PERFORMING ANY WORK.
- SEASONS FOR PLANTING:

SPRING:	DECIDUOUS:	APRIL 1 TO JUNE 15
	EVERGREEN:	APRIL 1 TO JUNE 15
	PERENNIALS:	APRIL 15 TO JUNE 1
	GROUNDCOVERS:	APRIL 15 TO JUNE 1
FALL:	DECIDUOUS:	SEPTEMBER 15 TO NOVEMBER 15
	EVERGREEN:	SEPTEMBER 15 TO NOVEMBER 15
	PERENNIALS:	SEPTEMBER 15 TO NOVEMBER 15
	GROUNDCOVERS:	SEPTEMBER 15 TO NOVEMBER 15

BEACH GRASS CULMS:
PLANTS WHILE DORMANT FROM OCTOBER 1ST THROUGH APRIL 30TH

GENERAL SEEDING NOTES:

- SEND A REPRESENTATIVE SAMPLE OF THE TOPSOIL TO A TESTING LABORATORY FOR STANDARD SOIL ANALYSIS AS DESCRIBED IN THE SPECIFICATIONS. SUBMIT TO THE LANDSCAPE ARCHITECT AND ENGINEER TEST RESULTS WITH RECOMMENDED SOIL TREATMENTS TO PROMOTE PLANT AND GRASS GROWTH. CORRECT DEFICIENCIES IN THE LOAM AND STOCKPILED TOPSOIL AS DIRECTED BY THE TESTING AGENCY.
- ALL AREAS THAT ARE DISTURBED AND/OR GRADED DURING CONSTRUCTION ARE TO BE BROUGHT TO FINISHED GRADE WITH AT LEAST 8" MINIMUM DEPTH OF GOOD QUALITY LOAM AND SEEDED WITH A QUICK GERMINATING GRASS SEED SUCH AS NEW ENGLAND EROSION CONTROL RESTORATION MIX OR AS SPECIFIED ON THE PLANS.
- PRIOR TO THE PLACEMENT OF TOP SOIL, LOOSEN THE SUBGRADE OF ALL PROPOSED SEEDING AREAS TO A DEPTH OF 6" AND RAKE TO REMOVE STONES LARGER THAN 1 INCH, STICKS, ROOTS, RUBBISH AND OTHER EXTRANEOUS MATTER AND LEGALLY DISPOSE TO AN OFF-SITE LOCATION.
- DO NOT SPREAD TOPSOIL IF THE SUBGRADE IS FROZEN, EXCESSIVELY WET, COMPACTED OR NOT PROPERLY PREPARED PER THE NOTES AND SPECIFICATIONS.

WATERING NOTES:

- PROVIDE PROPER PLANT CARE, MAINTENANCE AND WATERING ON SITE UNTIL SUCH TIME AS THE LANDSCAPING IS ACCEPTED BY THE PROPERTY OWNER AS SATISFACTORY PER THE SPECIFICATIONS OR AS DETERMINED BY ANY WRITTEN AGREEMENTS BETWEEN THE CONTRACTOR AND PROPERTY OWNER.
- ESTABLISH AN APPROPRIATE WATERING SCHEDULE FOR ALL PLANT MATERIAL BASED UPON PLANT SPECIES REQUIREMENTS AND PROVIDE IN WRITING TO THE LANDSCAPE ARCHITECT AND OWNER FOR REVIEW AND APPROVAL. ADHERE TO THE APPROVED SCHEDULE UNTIL PLANTS ARE FULLY ESTABLISHED.

REV. NO.	DATE	DESCRIPTION

Horsley Witten Group, Inc.
Sustainable Environmental Solutions
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Sandwich, MA 02883
508-833-0000 voice
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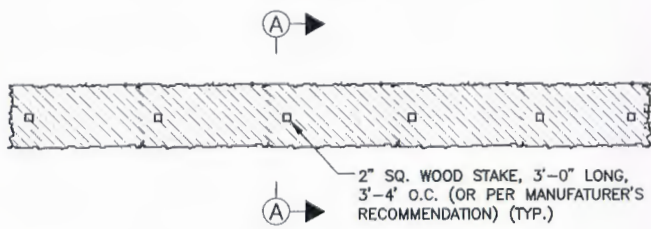
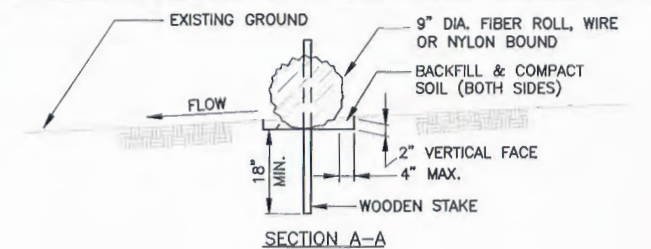
PROVINCETOWN MUNICIPAL AIRPORT
PROVINCETOWN, MASSACHUSETTS

MITIGATION AREA DETAILS

JACOBS PROJ. NO.:
AIP NO. 3-25-0043-XX-2015

DRAWING NO.

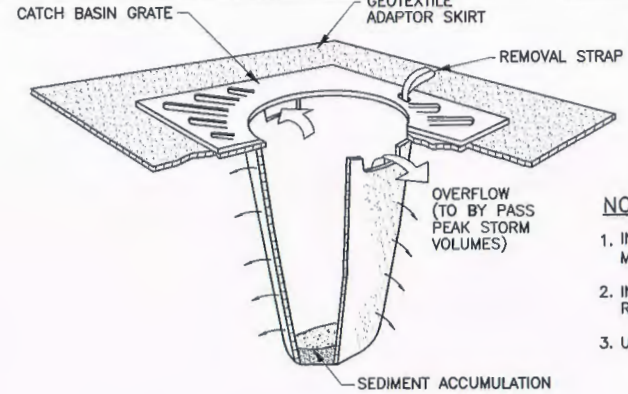
SHEET 14 OF 15



NOTE

1. AREAS DISTURBED BY EROSION BARRIERS SHALL BE RESTORED AND STABILIZED AFTER REMOVAL TO THE SATISFACTION OF THE ENGINEER AND AIRPORT.

STRAW FIBER ROLL DETAIL
NOT TO SCALE



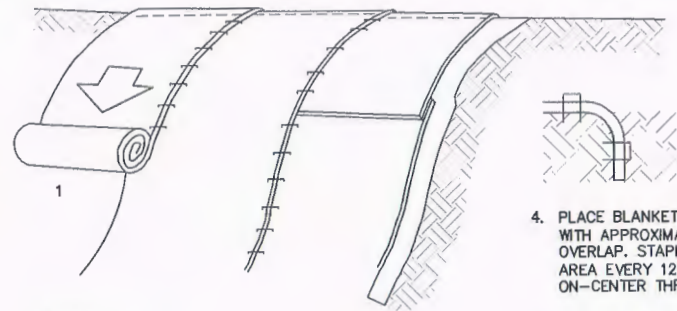
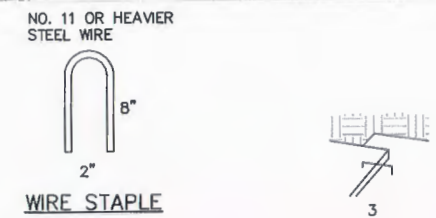
NOTES

1. INSERT TO BE EMPTIED IN AN APPROVED MANNER WHEN IT IS 1/2 FULL OF SEDIMENT.
2. INSPECT INSERT AFTER ALL RAINFALL EVENTS, REPAIR AND MAINTAIN AS REQUIRED.
3. USE AT ALL EXISTING CATCH BASINS.

DRAIN INLET PROTECTION
NOT TO SCALE

DEWATERING SEDIMENT CONTROL NOTES:

1. ALL DISCHARGE DEWATERING SHALL BE IN ACCORDANCE WITH CONSERVATION ORDER OF CONDITION, OR AS SHOWN ON PLANS OR AS DIRECTED BY THE ENGINEER, INSTALL CATCH BASIN PROTECTION AND FIBER ROLL EROSION CONTROL MEASURES.
2. THE CONTRACTOR SHALL ANTICIPATE DEWATERING ALL TRENCHES AND EXCAVATIONS. CONTRACTOR SHALL FURNISH ALL LABOR, EQUIPMENT, EROSION CONTROL, MATERIAL AND INCIDENTALS NECESSARY FOR DEWATERING. DEWATERING SHALL NOT BE SEPARATELY MEASURED, BUT SHALL BE CONSIDERED INCIDENTAL TO THE VARIOUS PAY ITEMS.
3. ADVISE THE OWNER IF ANY CONTAMINATED WATER IS FOUND. PROCESS CONTAMINATED WATER IN ACCORDANCE WITH GROUNDWATER MANAGEMENT AND HEALTH AND SAFETY PLAN.

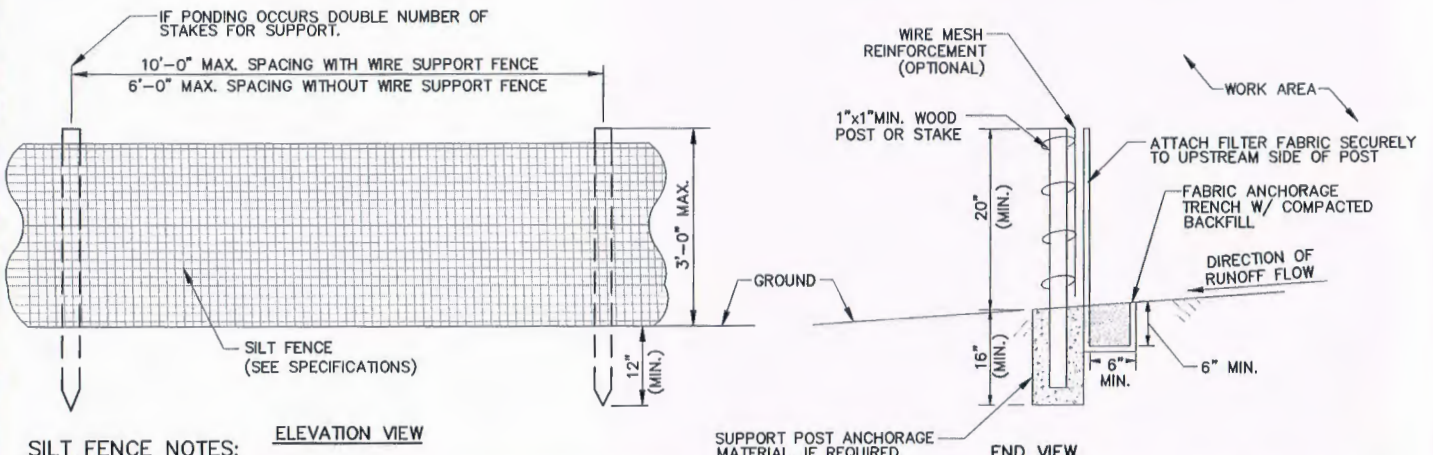


NOTE:
INDIVIDUAL MATERIALS SHALL BE INSTALLED IN ACCORDANCE WITH MANUFACTURER'S INSTRUCTIONS.

1. PREPARE SOIL BEFORE INSTALLING BLANKET, INCLUDING SUBGRADE, LOAM SEED AND A LIGHT APPLICATION OF MULCH
2. BEGIN AT THE TOP OF THE SLOPE WITH A 6" EDGE OF THE BLANKET TUCKED AND STAPLED INTO THE LOAM
3. OVERLAP EDGE OF PARALLEL BLANKETS APPROXIMATELY 2" AND STAPLE EVERY 12"

4. PLACE BLANKETS END-OVER-END WITH APPROXIMATELY 6" OF OVERLAP. STAPLE OVERLAPPED AREA EVERY 12" AND 18-24" ON-CENTER THROUGHOUT
5. ANCHOR TERMINAL END OF BLANKET IN 6" TRENCH, STAPLE AND BACKFILL

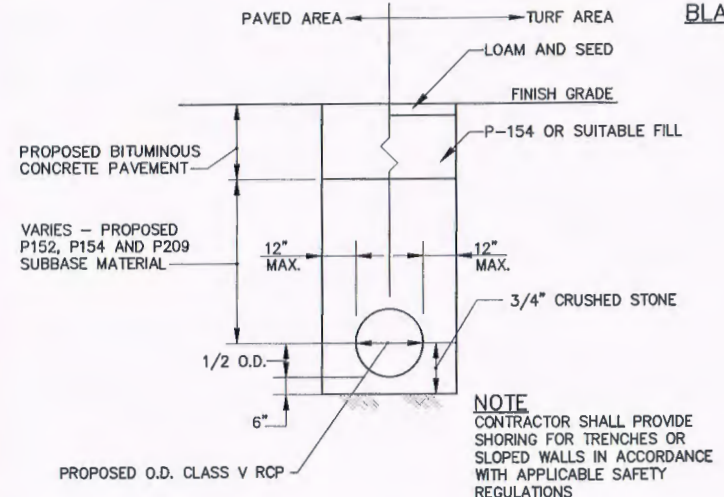
EROSION CONTROL BLANKET - ON SLOPES
NOT TO SCALE



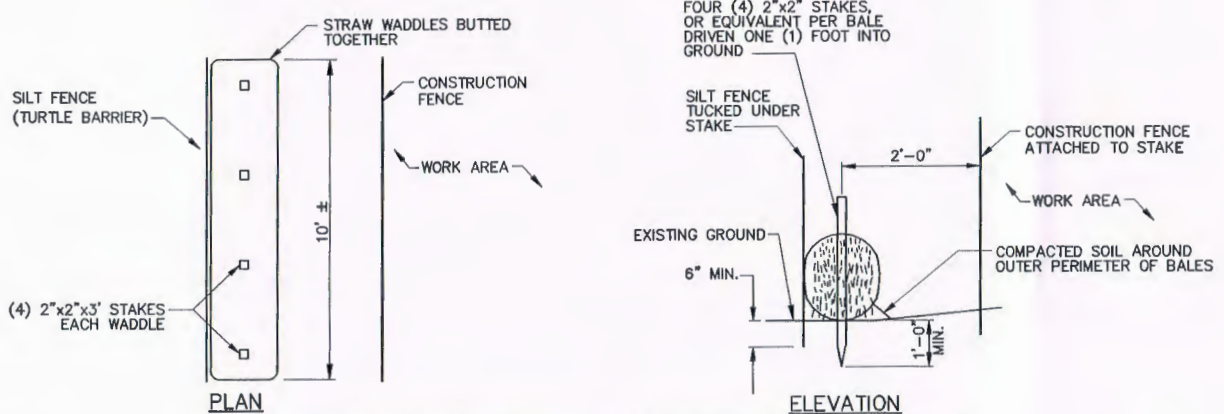
SILT FENCE NOTES:

1. SILT FENCE SHALL BE INSTALLED BEFORE ANY EXCAVATION OR OTHER WORK BEGINS. SILT FENCE SHALL BE INSTALLED AT THE LOCATIONS SHOWN ON DRAWINGS.
2. PRE-FABRICATED SILT FENCE MUST BE ASSEMBLED IN THE FIELD ACCORDING TO THE MANUFACTURER'S INSTRUCTIONS. WIRE MESH REINFORCEMENT AND/OR CLOSER POST SPACING MAY BE ORDERED BY THE ENGINEER IN AREAS WHERE HIGH RUNOFF VOLUMES ARE ANTICIPATED, OR IN LOW SPOTS WHERE SEDIMENT WILL COLLECT.
3. INSPECT AND REPAIR FENCE WEEKLY AND AFTER EACH STORM EVENT OF 1/2" OR GREATER OF PRECIPITATION AND REMOVE SEDIMENT WHEN NECESSARY. (9" MAXIMUM STORAGE HEIGHT)
4. IN ADDITION, MAINTENANCE OF SILT FENCE SHALL BE AS NEEDED AND AS ORDERED BY THE ENGINEER. MATERIALS WILL BE REMOVED WHEN BULGES DEVELOP AND THE FENCE REPLACED AS NECESSARY. REMOVED MATERIALS SHALL NOT BE DISCARDED NEAR WETLANDS OR WATERCOURSES AND SHALL BE REMOVED FROM THE JOB SITE. REMOVED SEDIMENT SHALL BE DEPOSITED TO AN AREA THAT CAN BE PERMANENTLY STABILIZED.
5. WOVEN WIRE FENCE SHALL BE SECURELY FASTENED TO POSTS/STAKES WITH WIRE TIES OR STAPLES AT TOP, MIDPOINT AND BOTTOM AT A MINIMUM.
6. MAINTENANCE AND REMOVAL SHALL NOT BE PAID FOR SEPARATELY BUT RATHER WILL BE CONSIDERED INCIDENTAL TO THE INITIAL INSTALLATION.

SILT FENCE DETAIL
NOT TO SCALE



DRAIN PIPE TRENCH DETAIL
NOT TO SCALE



SILT FENCE, STRAW WADDLE & CONSTRUCTION FENCE DETAIL
(EROSION CONTROL AND TURTLE BARRIER FENCE)
NOT TO SCALE

REV. NO.	DATE	DESCRIPTION

DESIGNED BY	SHD
CHECKED BY	SJF
DRAWN BY	SHD
DATE	MAY 2015
SCALE	AS NOTED

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JACOBS

PROVINCETOWN MUNICIPAL AIRPORT
PROVINCETOWN, MASSACHUSETTS

EROSION CONTROL AND SEDIMENTATION DETAILS

JACOBS PROJ. NO.:
AIP NO. 3-25-0043-38-2013

DRAWING NO.