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## Appendix D

### Technical Advisory Committee

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[date]

[name and address]

Dear [name]:

The Rhode Island Airport Corporation (RIAC) would like to invite you to join the Technical Advisory Committee (TAC) that will assist us in preparing the Airport Master Plan Update (AMPU) and related Airport Layout Plan (ALP) for the Block Island Airport.

The role of the TAC will be to provide local input to the decisions to be reached in the AMPU process, which is intended to plot the development of the airport for the next 15-20 years. Among the major topics to be discussed are: size and location of the new terminal, reconfiguration of the terminal area, analysis of the aircraft parking apron, analysis of the runway safety areas, and reconfiguration of the auto parking lot.

Membership of the TAC is intended to reflect the diversity of the island and airport community itself; accordingly, representatives of the island's elected officials, environmental organizations, airport tenants, airport users, and residents are being solicited.

The time commitment is envisioned as four or five committee meetings, one public hearing and review of materials provided in advance of meetings. While we understand the volunteer nature of this commitment and promise not to inundate you with reading material, please understand that we take your involvement and input very seriously and trust that you will give the TAC the attention that it deserves.

**The first meeting of the TAC will be held on Tuesday, September 9<sup>th</sup>, at 5pm, at the Community Center.** If you accept our invitation, please reply by email to Rick Domas, our Consultant Team Project Manager, at [rdomas@hta-ma.com](mailto:rdomas@hta-ma.com), by Tuesday, September 2<sup>nd</sup>. Please do not hesitate to contact me with any questions you may have at 737-4000 x488.

Thank you in advance for your consideration. We are all looking forward to a great project, and your involvement on the TAC will help us reach that goal.

Yours truly,

Michael Mini  
Manager of Airport Planning  
Rhode Island Airport Corporation

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## Technical Advisory Committee (TAC) Membership

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### Block Island Airport Master Plan

RIAC Contract No. 16228

AIP No. 3-44-0001-09

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Additional Information:	Rick Domas, HTA	(617) 423-3600 x14	rdomas@hta-ma.com
	Michael Mini, RIAC	(401) 737-4000 x488	MMini@pvdairport.com

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### Airport Master Plan

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Town of New Shoreham  
P.O. Box 307  
Block Island, RI 02807  
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Michael Mini  
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2000 Post Road  
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Gail Lattrell  
Federal Aviation Administration  
New England Region ANE-600  
12 New England Executive Park  
Burlington, MA 01803-5299  
(781) 238-7615

RIAC

# Agenda

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## TAC Mtg #1 Introduction

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Block Island Community Center Tuesday, September 9, 2003 5 PM

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Additional Information:	Rick Domas, HTA	(617) 423-3600 x14	rdomas@hta-ma.com
	Michael Mini, RIAC	(401) 737-4000 x488	MMini@pvdairport.com

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### Airport Master Plan

## Agenda Items

1. Introductions/Role of TAC
2. Scope of Study
3. Airport 101
4. Environmental Overview
5. Issues Identification
6. Where do we go from here?

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# memorandum

to:	TAC	hta project no.: 30100323
from:	Rick Domas	subject: Attachments
date:	Feb 24, 2004	no. of pages: 1 plus attachments

Technical Advisory Committee Members,

After some delay, we'd like to pick-up where we left off back in September 2003 and jump-start the Block Island Airport Master Plan study effort again. The enclosed packet is for your master plan binders handed out at our last meeting. The packet consists of background/reference materials and is comprised of the following:

1. Revised/corrected TAC membership list.
2. Technical Memorandum containing an inventory of natural habitats on BID.
3. List of acronyms used in the aviation field.
4. A glossary of terms used in aviation.
5. Agenda from TAC Mtg #1 held September 9, 2003.
6. "Slides" from the presentation made at TAC Mtg #1.
7. Draft of a BID graphic developed from recent aerial photography.

By the time you receive this you will have received either an e-mail and/or a phone call requesting your participation in TAC Mtg #2 on Wednesday, March 3 (time and place to be announced). We have some preliminary runway alternatives addressing runway safety areas we'd like to discuss with you and hope to have a depiction of an all-weather approach to the airfield for medevac helicopters to show you as well. An agenda for this meeting will be issued shortly.

If you have any questions on the attached materials, please do not hesitate to contact me or Michael Mini (contact info on TAC membership list).

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# Agenda

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## TAC Mtg #2 Introduction

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Block Island Community Center    Thursday, March 25, 2004    5 PM

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Additional Information:	Rick Domas, HTA	(617) 423-3600 x14	rdomas@hta-ma.com
	Michael Mini, RIAC	(401) 737-4000 x488	MMini@pvdairport.com

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## Agenda Items

1. Phase I Draft Report
2. Runway Alternatives [1]
3. Preliminary Layout of Medevac Helicopter Access
4. TAC Views on New Terminal
5. Solicitation from TAC of Community Uses of Airport Land
6. Upcoming Airport Project: Security Fencing/Lighting

RIAC

Note: 1. Runway alternatives address so-called runway safety areas off the runway ends and do not entail any runway extension/lengthening. The runway alternatives address safety enhancements at BID.

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# Memorandum

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to: BID TAC Members  
BID Client Group

hta project no.: 30100323.00

from: Rick Domas

subject: TAC Mtg #3

date: April 30, 2004

no. of pages: 1 (plus attachments)

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TAC Members, Client Group,

Enclosed please find a packet of material for your review prior to our TAC Mtg #3, which has been rescheduled for Tuesday, May 11, at 5 PM. The location will be confirmed but more than likely will be the Community Room where we've held our last several meetings.

The materials included herein consist of the following:

1. Three (3) runway scenarios;
2. Three (3) schemes for the terminal area; and, for some of you, a
3. Draft Phase I Report.

Regarding Item #3 above, those of you who attended our last TAC meeting received this report then; thus, your review packet does not contain this report. For those of you who were unable to attend our last meeting, copies of the draft Phase I report are provided for your review and comment.

RIAC

Concerning the use of the terms "Phase I" and "Phase II," this terminology refers to the structure of the master plan study effort. Phase I included a compilation and review of the inventory of the airport's infrastructure and the aviation forecasts for the airport from the Rhode Island Aviation System Plan Update (ASPU) study effort now underway, and an identification of key issues facing the airport. Our first TAC meeting spent some time identifying the key issues you felt faced the airport in the future. The issues are developed in the Phase I report and we invite your review to see that we accurately captured your listing of key issues.

Phase II, which we are now in, takes these data and the identified key issues and begins to plan for the future of the airport. Items #1 and #2 above are our efforts to date on this future. These materials are described briefly as follows:

## Runway Scenarios

The three scenarios all serve to enhance safety margins at the airport, particularly the **runway safety areas (RSA's)**– areas running alongside and off the ends of the runways. These areas are intended to provide a level, cleared area for aircraft that land short of the

# Memorandum

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paved runway, for those which have to abort a takeoff and happen to run off the paved runway and/or for aircraft that perhaps blow a tire on landing and veer off to the side of the runway. The safety area off the approach end to Runway 28 presently is designed to the FAA standards applicable to the airport (300 feet long by 150 feet wide); the safety area off the Runway 10 end is not. The three scenarios are different means of providing a so-called "standard" runway safety area off the approach end to Runway 10.

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The scenarios also show taxiways being extended to both runway ends, a desired safety enhancement. Presently, aircraft must "back-taxi" along the runway to get to the runway end before turning and positioning for takeoff. "Back-taxiing" requires an aircraft to be on the runway longer, thus increasing the chances of a conflict between the aircraft on the runway and an aircraft approaching to land. Providing taxiway to the runway ends removes this potential conflict and enhances safety margins at the airport.

Please note that all three scenarios **keep the runway at its present length**. As stated many times before, **there is no intent on the part of RIAC to lengthen the runway at BID** ('BID' is the short-hand code for the Block Island Airport).

Furthermore, the provision of standard runway safety areas at BID does not allow larger aircraft or even more aircraft in general to fly in to BID. The specific intent in these scenarios is to **enhance safety margins at the airport** by providing standard RSA's off the runway ends.

The three scenarios are briefly described as follows:

## Scenario 2 Build to Standard

Builds a 150-foot-by-300-foot RSA of the Rwy 10 end. Requires Center Road to be located to the north. Extends taxiways to both runway ends. [Note: Scenario 1, not provided, is exactly the same as Scenario 2 but keeps the terminal in its existing position. For all intents and purposes, the location of the terminal has nothing to do with the runway scenarios.]

RIAC

## Scenario 3 New Runway Alignment and Shift

This scenario realigns the runway to the south and shifts it to the east, allowing the RSA off the approach of Rwy 10 to fit within the existing graded area off Rwy 10. Center Road is NOT relocated. Construction shifts to the Rwy 28 end where fill is placed to create a standard RSA. Taxiways are extended to the runway ends.

One key advantage to this scenario is that it shifts the runway away from the terminal, thus increasing the area in front of the terminal available for aircraft parking.

## Scenario 4 Runway Shift

Runway 10-28 stays in its present alignment but shifts 105 feet to the east. This scenario is similar to Scenario 3 but does not provide the additional width in front of the terminal.

# Memorandum

Already you may be forming opinions about the pros and cons of each alternative. We will share our views on each of these scenarios at our next meeting and look forward to hearing your views as well.

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## Airport Site Layouts

Our architectural team member, Fennick|McCredie Architecture Ltd., has come up with some interesting and thought-provoking schemes for the arrangement of a new terminal and related access roadway, curb and auto parking on the landside of the airport. Jonathan McCredie, a principal of Fennick|McCredie, will attend TAC Mtg #3 and will present the three schemes in detail.

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I'll defer to Jonathan for the formal presentation of these schemes but I'll note the following:

1. All three schemes involve a new main entry to the airport.
2. All three schemes relocate varying amounts of peak season, long term auto parking to the airport-owned land opposite Center Road.
3. All schemes provide additional amounts of aircraft parking.
4. All schemes maintain the existing terminal while the new terminal is constructed alongside, thus minimizing disruption to airport operations.

You may have to look closely but the footprints of the existing terminal and hangar are shown as dashed lines in each of the three drawings. I believe Scheme C shows these footprints most clearly of the three drawings. By studying Scheme C I think you'll be able to pick out the dashed lines in Schemes A and B more easily.

## Community Uses of Airport Land

RIAC

One of the purposes of an airport master plan is to identify potential aviation and non-aviation uses of airport land. Accordingly, now is a good time for the TAC and other island authorities and agencies to propose community uses of airport land for RIAC to consider. This is an agenda item carried over from TAC Mtg #2, and RIAC is looking forward to hearing from the community.

I will note here in passing (more details to be provided at the meeting) that the non-aviation use of airport land is governed by a complex set of FAA regulations and requires prior FAA approval. Most importantly, the non-aviation use of airport land entails fair market value: rents in the instances of long term leases, sales \$ in the infrequent instance of a sale of airport land. In other words, it is not RIAC's land "to give away."

Michael and I are looking forward to seeing you on the 11<sup>th</sup>. Please do not hesitate to contact either one of us if you have any questions on the upcoming meeting.

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October 5, 2004

Ilonka G. Todd  
Librarian  
Island Free Library  
Box 1830, Dodge Street  
Block Island, Rhode Island 02807

Dear Ms. Todd:

Re: Application for Use of Library Meeting Room

Enclosed please find a completed Application for Use of Library Meeting Room on Thursday, October 21, 2004, for the period 3 PM – 8 PM. During that period two meetings would be held: a Technical Advisory Committee meeting (3-5 PM) and a Public Information Meeting (6-8 PM). Both meetings are public meetings and address components of the Block Island Airport Master Plan which Hoyle, Tanner & Associates, Inc. (HTA) is preparing for the Rhode Island Airport Corporation (RIAC) and the island community.

The Technical Advisory Committee is comprised of island representatives, including Martha Ball, Jack Savoie, Dennis Heinz, Chief McCombe, Jennifer Brady-Brown and others.

I have read the "Conditions Controlling the Use of Library Facilities" and agree to comply with all of the stated conditions.

If you require any additional from HTA, please do not hesitate to contact me via phone at 617-423-3600 Ext. 14 or via e-mail at [rdomas@hta-ma.com](mailto:rdomas@hta-ma.com).

Thank you.

Yours truly,

HOYLE, TANNER & ASSOCIATES, INC.

Richard K. Domas  
Vice President/Senior Project Manager

Attachment

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# Background Materials

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## TAC Mtg #4 Runway/Terminal Alternatives II

Island Free Library    Thursday, October 21    3-5 PM

Additional Information:	Rick Domas, HTA	(617) 423-3600 x14	rdomas@hta-ma.com
	Michael Mini, RIAC	(401) 737-4000 x488	MMini@pvdairport.com

### 1. Runway Safety Area Alternatives

At a recent meeting with RIAC and FAA officials, a number of runway safety area (RSA) alternatives were considered. After an extensive discussion of purpose and need, environmental impacts, costs and other factors, three alternatives or scenarios were recommended for further analysis by HTA. The three alts are depicted in an attached graphic and the following table.

Scenario	Rwy 10 RSA (feet)	Rwy 10-28 (feet)	Rwy 28 RSA (feet)	Total Length (feet)
5	240+/-	2,501	300	3,041
6	300	2,501	240	3,041
7	270	2,501	270	3,041

As you will note from the above table, the three scenarios fit within a 3,041-foot-long "corridor," the approximate length of the distance between the Center Road right-of-way (the eastern boundary, closest to the runway end) and the end of the existing RSA off the approach end to Rwy 28 (allowing for a small setback between the right-of-way and the RSA for construction purposes). Also note that the runway length remains the same in all scenarios and that the proposed safety areas will be turf, i.e., no added pavement.

**Scenario 5** would concentrate all RSA construction at the Rwy 10 approach end as the Rwy 28 RSA meets FAA standards as presently configured. (Note: The FAA RSA standard for Block Island Airport is 300 feet long by 150 feet wide.) To maximize the length of the RSA off Rwy 10, given the sloping land between the runway and Center Road, a 10-to-12-foot-high vertical wall would be needed to support fill brought to a designed proper slope. The grading of the proposed RSA must meet FAA standards for slopes and alignments.

The RSA off the Rwy 28 approach end would not be touched.

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**Scenario 6** essentially is the reverse of Scenario 5 in that it provides the full standard safety area off the Rwy 10 approach end. In this scenario, the paved runway length of 2,501 feet would be shifted approximately 60 feet to the east to provide 300 feet between the Center Rd. right-of-way and the paved runway end. The RSA off the approach end to Rwy 28 would be shortened by 60 feet to 240 feet.

Again, a supporting wall would be needed at the Rwy 10 end but not at the Rwy 28 end.

**Scenario 7** splits the difference and provides 270 feet of RSA at both runway ends. The paved runway would be shifted 30 feet to the east, providing an additional 30 feet of RSA length on the Rwy 10 approach end while shortening the existing RSA on the Rwy 28 end by 30 feet.

As in the two previous scenarios, a supporting wall would be needed at the Rwy 10 end but not at the Rwy 28 end.

HTA presently is analyzing these three scenarios and will be in a position to discuss a preferred scenario at the TAC meeting on the 21<sup>st</sup>. In our technical analyses, we are examining

- which runway end gets the most activity, i.e., are there more landings on Rwy 28 than on Rwy 10? more takeoffs?
- whether the approach lighting system to the Rwy 10 end can be “shifted” to the east along with the runway in two of the scenarios and avoid landing in the middle of Center Road while staying within FAA design standards for the proper spacing of the light stations
- what is the ROW associated with Center Road
- effects of the rwy shifts on the length of taxiways and whether the shifts impact aircraft parking areas
- effects on something called “back-taxiing,” which occurs when an aircraft uses the runway to “taxi” to the runway end (see additional discussion below) and
- other issues.

As to “back-taxiing,” this is an everyday occurrence at BID since no taxiway presently extends completely to the runway end. Runways are meant for takeoffs and landings and taxiways are meant for aircraft ground movements. Requiring aircraft to move along runways instead of taxiways to get to or from a runway end places that aircraft in a potential conflict with another aircraft either taking off or landing. Safety margins are reduced. We hope to address this condition at BID by extending a taxiway from the main paved aircraft parking area in front of the existing/proposed terminal to the Rwy 10 approach end. Unfortunately, very steep grades and environmental impacts prevent a full taxiway extension to the Rwy 28 end. Thus, while we will be able to reduce back-taxiing at BID – always a good thing – we will not be able to eliminate it entirely.

## 2. Proposed Terminal Plan

We're excited about the proposed terminal plan and general layout (see enclosed graphic). We've incorporated comments and requirements from the community, RIAC and FAA. Key aspects of the plan/layout are:

- new terminal located to the west of the existing terminal, which permits existing terminal to remain in operation while new terminal is being built
- new access road in a different location along Center Road
- new parking layout which, while new, closely mimics existing layout (and maintains parking layout which maximizes views to the airfield)
- new parking layout which *reduces* number of long term parking spaces
- expanded curb in front of the terminal which will decrease congestion, particularly in peak periods, i.e., summer Friday evenings, summer Sunday evenings/Monday mornings
- an expanded dedicated area for taxis and
- expanded aircraft parking, a key RIAC objective.

We carefully examined using the airport land across Center Road for long term parking but couldn't make the area work for parking using handicap accessible guidelines and maintaining high service levels for air passengers through RIAC. Remote parking here also would have increased activity at the curb, with a baggage drop-off at the curb first. As situated now, the long term parking area is in good proximity to the terminal; thus, a long term parker can go directly to the long term parking area without first having to drop-off baggage at the curb. Some obviously will but certainly fewer than with the long term parking located across the street.

## 3. Other Proposed Projects

We're also working closely with RIAC planners and engineers on other projects at the airport, and we'll be able to elaborate on these in the period prior to the TAC meeting plus at the meeting itself. For instance, the runway pavement itself is severely degraded and badly in need of rehabilitation. An environmental assessment of this project (and others within the overall master plan) will begin later this year, and engineering design for the runway rehabilitation project, an early priority project, will begin in calendar year (CY) 2005. The actual construction/rehabilitation of the runway is programmed to occur in CY 2006.

A major part of the environmental assessment of the master plan projects will address the impacts of construction activity on Block Island. As you well know, an island presents considerable construction "challenges." We will be working closely with the New

Shoreham town and state governments to see if there are any economies of scale we can achieve by coordinating other infrastructure improvements on the island.

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#### 4. Public Information Meeting

As a TAC we'll be meeting from 3-5 PM on October 21 in one of the basement meeting rooms at the Island Free Library on Dodge St. Later that evening, from 6-8 PM at the same location, we will be holding a Public Information Meeting for the entire island community. As I believe I've previously noted, we will have the room set up in three stations, each addressing one of three topics: airport-wide development program, terminal area plan and environmental issues/impacts. Each station will be manned by team members, including a number of RIAC officials, knowledgeable in that particular subject.

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Members of the island community can come and go between the hours of 6-8 PM and can either go directly to the subject of their interest or mill from station to station. We've found this format very effective and we've received considerable positive feedback from participants in meetings like this held elsewhere. It's a very flexible format and one that allows an individual to ask direct questions and receive direct answers.

In addition, we will have a comment sheet available if an island resident wants to comment in writing on the proposed master plan. We also will advertise phone numbers, mailing and e-mail addresses for those islanders who want to use one or more of these means. In total, RIAC and FAA want to insure that island residents have every opportunity to comment on the proposed BID master plan.

I'm looking forward to seeing all of you on the 21<sup>st</sup>. Please spread the word among your neighbors re: the Public Information Meeting scheduled for the evening of the 21<sup>st</sup>.

Rick Domas  
HTA Boston

**RIAC**

Enclosures

Hoyle, Tanner & Associates, Inc.

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# Notice

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Additional Information:	Rick Domas, HTA	(617) 423-3600 x14	rdomas@hta-ma.com
	Michael Mini, RIAC	(401) 737-4000 x488	MMini@pvdairport.com

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## **Airport Master Plan**

The final **TAC meeting** and an island-wide  
**Public Information Meeting**  
on the  
**Block Island Airport Master Plan**  
are scheduled for  
Thursday, October 21,  
at the  
Island Free Library, Dodge Street.

The TAC meeting will be held 3-5 PM  
and the  
public information meeting will be from 6-8 PM.

Additional information for your review  
will be forwarded  
in the near future.

RIAC

Hoyle, Tanner & Associates, Inc.

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# PUBLIC NOTICE

## Public Information Meeting Block Island Airport Master Plan

### Airport Master Plan

**Where:** Island Free Library, Dodge St.

**Date:** Thursday, October 21, 2004

**Time:** 6 – 8 PM [On-going]

Members of the Rhode Island Airport Corporation (RIAC) and its airport master plan study team will hold a Public Information Meeting for the Block Island community on Thursday, October 21, at the Island Free Library.

The basement meeting room will be set up in three stations, each addressing one of three topics: airport-wide development program, terminal area plan and environmental issues/impacts. Knowledgeable RIAC and/or study team members will man each station.

The meeting format is informal and island residents can come and go between the hours of 6-8 PM. The meeting is structured such that a party can either go directly to the subject of his or her interest or mill from station to station. The format is intended to be flexible and to allow individuals to ask direct questions and receive direct answers from the study team members.

In addition, a comment sheet will be available if an island resident wants to comment in writing on the proposed master plan.

In summary, RIAC and the Federal Aviation Administration (FAA) want to insure that island residents have every opportunity to comment on the proposed airport master plan. Please consider attending and voicing your views on your community airport.

For additional information, please contact either of the following:

Rick Domas, HTA (617) 423-3600 x14 rdomas@hta-ma.com

Michael Mini, RIAC (401) 737-4000 x488 MMini@pvdairport.com

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Hoyle, Tanner & Associates, Inc.

# Public Information Meeting

## Block Island Airport Master Plan

**Where:** Island Free Library, Dodge St.

**Date:** Thursday, October 21, 2004

**Time:** 6 – 8 PM [On-going]

### Airport Master Plan

Good evening and welcome to an informal public meeting on the current status of the Block Island Airport Master Plan.

The meeting room is set up in three stations, each addressing one topic:

1. Airport-wide development program
2. Terminal area plan
3. Environmental issues/ impacts

Knowledgeable RIAC and/or study team members are positioned at each station. Please feel free to wander from station to station and to ask as many questions as you like.

A comment sheet is attached if you would like to put your comments/concerns down in writing. A mailing address is provided at the bottom of the comment sheet, or you can simply hand your written comments to any RIAC or study team member.

## RIAC

If you would like to forward your comments/concerns via phone and/or e-mail, or be placed on a contact list for future information regarding the airport master plan, please contact either of the following two individuals:

Rick Domas, HTA (617) 423-3600 x14 [rdomas@hta-ma.com](mailto:rdomas@hta-ma.com)

Michael Mini, RIAC (401) 737-4000 x488 [MMini@pvdairport.com](mailto:MMini@pvdairport.com)

Thank you for attending!

Hoyle, Tanner & Associates, Inc.

## Key Items Being Considered in the Block Island Airport Master Plan

### Airport Master Plan

1. New terminal located to the west of the existing terminal, which permits existing terminal to remain in operation while new terminal is being built
2. New access road in a different location along Center Road
3. New parking layout which, while new, closely mimics existing layout (and maintains parking layout which maximizes views to the airfield)
4. New parking layout which *reduces* number of long term parking spaces
5. Expanded curb in front of the new terminal
6. An expanded dedicated area for taxis
7. Expanded aircraft parking
8. Rehabilitation/reconstruction of existing Runway 10-28
9. Provision of Runway Safety Areas to the maximum practicable extent feasible
10. New taxiway to the end of Runway 10

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# COMMENT SHEET

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**Use back of Comment Sheet if necessary**

Please hand your comment sheet to a RIAC or study member, or mail to:

Richard K. Domas  
Hoyle, Tanner & Assoc., Inc.  
45 Bromfield St., 10<sup>th</sup> Floor  
Boston, MA 02108

Hoyle, Tanner & Associates, Inc.

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## Appendix E

### Environmental Issues

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(Cite as: 49 FR 2952)

## NOTICES

### ENVIRONMENTAL PROTECTION AGENCY

[OW-FRL-2508-6]

#### **Final Determination; Sole Source Aquifer Determinations:** Nantucket Island Aquifer, Block Island Aquifer

Tuesday, January 24, 1984

**\*2952 AGENCY:** U.S. Environmental Protection Agency.

**ACTION:** Notice.

**SUMMARY:** Pursuant to Section 1424(e) of the Safe Drinking Water Act, the Administrator of the U.S. Environmental Protection Agency (EPA) has determined that the Nantucket Island aquifer and the Block Island aquifer, respectively, are the sole or principal sources of drinking water for Nantucket, Massachusetts, and New Shoreham, Rhode Island, and that the aquifers, if contaminated, would create a significant hazard to public health. As a result of this action, Federal financially assisted projects proposed to be constructed on Nantucket Island or Block Island will be subject to EPA review to ensure that these projects are designed and constructed so that they do not create a significant hazard to public health.

**EFFECTIVE DATE:** February 23, 1984.

**ADDRESSES:** The data on which these findings are based is available to the public and may be inspected during normal business hours at the U.S. Environmental Protection Agency, Region 1, Water Supply Branch, J. F. Kennedy Federal Building, Boston, Massachusetts 02203.

**FOR FURTHER INFORMATION CONTACT:** Steven J. Koorse, Water Supply Branch, U.S. Environmental Protection Agency, Region 1, at (617) 223-6688.

**SUPPLEMENTARY INFORMATION:** Notice is hereby given that pursuant to Section 1424(e) of the Safe Drinking Water Act (42 U.S.C. 300f, 300h-3(e), Pub. L. 93- 523) the Administrator of the U.S. Environmental Protection Agency (EPA) has determined that the Nantucket Island aquifer and the Block Island aquifer, respectively, are the sole or principal sources of drinking water for Nantucket, Massachusetts, and New Shoreham, Rhode Island. Pursuant to Section 1424(e), Federal financially assisted projects proposed to be constructed anywhere on Nantucket or Block Island will be subject to EPA review.

Section 1424(e) of the Safe Drinking Water Act states:

(e) If the Administrator determines, on his own initiative or upon petition, that an area has an aquifer which is the sole or principal drinking water source for the area and which, if contaminated, would create a significant hazard to public health, he shall publish notice of that determination in the Federal Register. After the publication of any such notice, no commitment for Federal financial assistance (through a grant, contract, loan guarantee, or otherwise) may be entered into for any project which the Administrator determines may contaminate such aquifer

through a recharge zone so as to create a significant hazard to public health, but a commitment for Federal financial assistance may, if authorized under another provision of law, be entered into to plan or design the project to assure that it will not so contaminate the aquifer. On December 2, 1982, EPA received a petition submitted jointly by the Nantucket Planning and Economic Development Commission and the Wannacommet Water Company requesting EPA to designate the Nantucket Island aquifer as a sole source aquifer. On February 18, 1983, EPA received a petition from the New Shoreham, Rhode Island, Town Clerk requesting EPA to designate the Block Island aquifer as a sole source aquifer.

\*2953 In response to these two petitions, EPA published a combined notice in the Federal Register on June 13, 1983 (48 FR 27146). The notice served to publish the petitions and to request public comments on each petition.

## **Basis for Determination**

Among the factors to be considered by the Administrator in connection with the designation of an area under Section 1424(e) are: (1) whether the aquifer is the area's sole or principal source of drinking water and (2) whether contamination of the aquifer would create a significant hazard to public health. On the basis of information available to EPA, the Administrator has made the following findings, which are the bases for the determinations noted above.

1. The Nantucket Island aquifer is a single continuous aquifer which currently serves as a source of drinking water for approximately 7,000 permanent residents and 27,000 peak seasonal residents of Nantucket.
2. The Block Island aquifer is a single continuous aquifer which currently serves as a source of drinking water for approximately 550 permanent residents and 12,000 peak seasonal residents of New Shoreham.
3. There is no existing alternative drinking water source or combination of sources which provide fifty percent or more of the drinking water to either of the designated areas, nor are there any reasonably available alternative future sources capable of meeting the drinking water demands of the two areas.
4. The Nantucket and Block Island aquifers are glacial in origin and are composed of unconsolidated sand, gravel, silt and clay deposits. As a result of their highly permeable soil characteristics, the aquifers are susceptible to contamination from a number of sources, including but not limited to, chemical spills, highway runoff, septic tanks, leaking storage tanks and leachate from open dumps. Since ground-water contamination can be difficult or impossible to reverse and since the Nantucket Island aquifer and the Block Island aquifer are relied on for drinking water purposes by the general population, contamination of either aquifer could pose a significant hazard to public health.

## **Description of the Aquifers and Their Recharge Zones**

Nantucket Island: The Island of Nantucket is the largest of the group of islands that form the Town of Nantucket, Massachusetts. Nantucket is located about 25 miles south of Cap Cod and 15 miles east of Martha's Vineyard. The area in which Federal financially assisted projects will be subject to review is the area that includes the Nantucket Island aquifer, its stream flow source zone and its recharge area, which are one and the same.

Block Island: Block Island is the popular name for the Town of New Shoreham, Rhode Island. The Island is located about 10 miles south of Rhode Island and 14 miles east of Long Island, New York. The area in which Federal financially assisted projects will be subject to review includes the Block Island aquifer, its stream flow source zone and its recharge area, which are one and the same.

For purposes of these designations the Nantucket Island aquifer and the Block Island aquifer are considered single continuous aquifers, with the Atlantic Ocean forming the lateral boundaries of each aquifer. Similarly, the recharge zone boundaries of each aquifer will be regarded as coextensive with the lateral boundaries of the aquifers.



## **Information Utilized in the Determinations**

The information utilized in this determination includes the petitions, a ground-water resources study conducted by the U.S. Geological Survey (Water Resources of Nantucket Island, Massachusetts, Atlas HA-615), a ground-water resources study conducted by the U.S. Geological Survey in cooperation with the Rhode Island Water Resources Coordinating Board (Ground-Water Resources of Block Island, Rhode Island, Rhode Island Geological Bulletin No. 14) and U.S. Environmental Protection Agency technical publications. The above data are available to the public and may be inspected during normal business hours at the U.S. Environmental Protection Agency, Region 1, Water Supply Branch, J. F. Kennedy Federal Building, Boston, Massachusetts 02203.

## **Project Review**

EPA Region I is working with the Federal agencies that may in the future provide financial assistance to projects in the area of concern. Interagency procedures are being developed in which EPA will be notified of proposed commitments by Federal agencies for projects which could contaminate the Nantucket or Block Island aquifers. EPA will evaluate such projects and, where necessary, conduct an in-depth review, including soliciting public comments where appropriate. Should the Administrator determine that a project may contaminate either aquifer through its recharge zone so as to create a significant hazard to public health, no commitment for Federal financial assistance may be entered into. However, a commitment for Federal financial may, if authorized under another provision of law, be entered into to plan or design the project to assure that it will not so contaminate the aquifer. Although the project review process cannot be delegated, the EPA will rely to the maximum extent possible on any existing or future State and local control mechanisms in protecting the ground-water quality of the designated aquifers. EPA Region I will coordinate the review of any Federal financially assisted project with State and local agencies. Their comments will be given full consideration and the Federal review process will attempt to complement and support State and local groundwater protection mechanisms.

## **Summary of Public Comments**

No written comments, pro or con, were received during the public comment period. In view of the apparent lack of controversy over the proposed designations, EPA did not schedule public hearings.

## **Regulatory Flexibility Act and Executive Order 12291 Requirements**

Pursuant to the provisions of the Regulatory Flexibility Act (RFA), 5 U.S.C. Section 605(b), I hereby certify that the attached rule will not have a significant impact on a substantial number of small entities. For purposes of this Certification, the term "small entity" shall have the same meaning as given in Section 601 of the RFA. This action is only applicable to Nantucket Island and Block Island, as formerly delineated in this notice. The only affected entities will be those Nantucket or Block Island businesses, organizations or governmental jurisdictions that request Federal financial assistance for projects which have the potential for contaminating the aquifer so as to create a significant hazard to public health.

For those small entities which are subject to review, the impact of today's action will not be significant. Most projects subject to this review will be preceded by a ground-water impact assessment required pursuant to other Federal laws, such as the National Environmental Policy Act, as amended (NEPA), 42 U.S.C. 4321 et seq. Integration of those related review procedures with sole source aquifer review will allow EPA and other Federal agencies to avoid delay or duplication of effort in approving financial assistance, thus minimizing any adverse effect on those small entities which are affected. \*2954 Finally, today's action does not prevent grants of Federal

financial assistance which may be available to any affected small entity in order to pay for the redesign of the project to assure protection of the aquifer.

Under Executive order 12291, EPA must judge whether a regulation is "major" and, therefore, subject to the requirement of a Regulatory Impact Analysis. This regulation is not major because it will not have an annual effect of \$100 million or more on the economy, will not cause any major increase in costs or prices, and will not have significant adverse effects on competition, employment, investment, productivity, innovation, or the ability of United States enterprises to compete in domestic or export markets. Today's action only affects Nantucket Island and Block Island. It provides an additional review of ground-water protection measures, incorporating State and local measures whenever possible, for only those projects which request Federal financial assistance.

**Dated:** January 12, 1983.

William D. Ruckelshaus,  
Administrator.

[FR Doc. 84-1896 Filed 1-23-84; 8:45 am]

BILLING CODE 6560-50-M

49 FR 2952-01, 1984 WL 128394 (F.R.)

## MEMORANDUM


Date: October 15, 2003

To: Rick Domas, HTA

From: John Vieira, Epsilon Associates

cc: Sam Mygatt, Epsilon Associates

**Subject: Technical Memorandum  
Block Island Airport – Inventory of Natural Habitats**



As part of the effort to update Block Island Airport's Master Plan, Epsilon Associates has completed an inventory of the natural environment on Airport property. The objective of the inventory was to identify areas of sensitive habitat and/or areas where rare, threatened, or endangered flora/fauna species are located. This Technical Memorandum presents findings and observations of this inventory.

In completing this inventory, Epsilon reviewed available environmental information on Block Island Airport and areas immediately surrounding the Airport. This information included existing reports, studies, resource inventories, permitting documents, and existing correspondence from the Rhode Island Natural Heritage Program (RINHP), and U.S. Fish & Wildlife Service (USFWS). References that were reviewed are listed at the end of this memorandum.

Two individuals particularly knowledgeable about the Airport and its environs were also consulted. These are George Bogdanffy of Hawthorne Aviation, and Scott Comings of The Nature Conservancy. Mr. Bogdanffy provided information on Airport operations and mowing activities. Mr. Comings is considered to be an expert on Block Island's natural environment and has direct knowledge of rare species and unique vegetation communities found on Airport property.

In addition to a review of existing information the Airport was visited on three occasions (5/9/03, 6/6/03 and 6/27/03) to observe and to document existing vegetation community types and environmentally sensitive areas, and document the presence and locations of any rare plants and/or animals on Airport property. During the initial site visit to the Airport on 5/9/03, Scott Comings was present. During a portion of that visit, Mr. Comings acted as a guide to some of the important natural features found on Airport property. During each site visit a GPS unit was used to record location coordinates of important observations. Digital photographs were taken to document observations.

Following the completion of field observations, a map of Airport property was developed illustrating locations of vegetation community types, locations of sensitive/unique habitats, and known locations of rare species.

Wetland resources on Airport property are mapped based on field observations, and on existing soil and wetland maps. The information below provides a summary of observations and findings.

## **OBSERVATIONS AND FINDINGS**

### **Vegetation Communities**

Based on a review of available information from published and non-published sources, GIS data, discussions with Scott Comings, and three visits to the Airport, five vegetation community types have been identified on Airport property (Figure 1). These are:

1. Wetland Habitat;
2. Forest;
3. Maritime Shrubland;
4. Grassland; and
5. Developed Land.

Representative photographs of each community type are provided at the end of this memorandum. General descriptions of all the vegetation community types found on Airport property and why some are regarded as sensitive are provided below: (Note: Letters in brackets relate to Legend in Figure 1.)

#### Type 1: Wetland Habitat (Photographs 1 & 2)

Wetland habitats [WH] are dominated by hydrophytic vegetation, contain hydric soils and exhibit groundwater at or near the surface for significant periods during the growing season. Wetland habitats include forested swamps, shrub swamps, marshes, wet meadows, and shallow areas of open water. Wetland areas generally occur at the western and eastern side of Airport property. Three streams (1 perennial and 2 presumed intermittent) flow into one wetland area located on the southeast corner of the property.

Wetland Habitats are regarded as sensitive since activities in and around these habitat types are generally regulated by Federal, state and sometimes local regulations.

#### Type 2: Forest (Photograph 3)

The only area of Forest [F] on Airport property is a small tract of natural forest dominated by American beech and black gum. This vegetation community type occurs in one localized area in the southeast corner of Airport property. This area is regarded as sensitive since forests are rare occurrences on Block Island. Several plants rare to the island but not listed statewide are known to occur here. The RI Natural Heritage Program regards this area as unique to the island.

### Type 3: Maritime Shrubland (Photograph 4)

Maritime Shrubland [MS] is the principal upland vegetation type on Block Island and the dominant natural vegetation community on Airport property. This vegetation type characteristically has low species diversity. Common species in these areas include Northern Bayberry, Arrowwood, Shadbush, and Multiflora Rose.

### Type 4: Grassland

Both natural and manmade grasslands occur on Airport property. Descriptions of the four grassland subtypes occurring on the Airport are as follows:

a. Morainal Grassland (Photograph 5) Morainal grasslands [MG] are natural grasslands that are primarily found on crests and slopes of hills that are exposed to the prevailing winds and generally exhibit poor soil development. Morainal grasslands are relatively small and sparsely vegetated with a ground cover of mosses, lichens, and scattered grasses and forbs. Two areas of Morainal Grassland occur on Airport property: one on the western side of the property immediately north of the lighting system, and the other at the southeastern edge of the property. This vegetation community has been recognized by The Nature Conservancy as a natural community of special interest since the early 1990s and is regarded as sensitive.

b. Managed Grasslands These areas [G-1, -2, -3; see below] are maintained as open lands by mowing. Most of these areas occur within the fenced portion of the active Airport facilities. One exception is the area west of Center Road, around Airport lighting structures. Dominant vegetation includes native and introduced grasses, and a variety of herbs.

Annually Mowed Grassland (Photograph 6) This Managed Grassland type is mowed annually during the late autumn [G-1]. It is located within the southwestern corner of the fenced area. This area is currently managed for Northern Blazing Star, a state endangered plant species, and is regarded as sensitive.

Infrequently Mowed Grassland (Photograph 7) This Managed Grassland type is mowed infrequently during the year [G-2]. Grasses and other herbaceous plants may grow up to 3 feet tall. These areas are generally located within the southern third of the fenced portions of Airport property.

Frequently Mowed Grassland (Photograph 8) This Managed Grassland type is mowed frequently during the growing season for Airport operations [G-3]. These areas are located within the northern two-thirds of the fenced portions of Airport property. There is also one area located around lighting structures at the western side of the property. In general, grass in these areas is maintained short.

### Type 5: Developed/Disturbed Land (Photograph 8)

These areas [D] contain buildings, mowed lawns, paved or gravel roads, paved runways, and land disturbed by humans. In general, these areas are located within the northern two-thirds of the fenced portions of Airport property.

## Rare Species

Based on correspondence from the USFWS, RINHP and conversations with Scott Comings of The Nature Conservancy, two rare species are known to occur on Airport property. These are American Burying Beetle (*Nicrophorus americanus*) and Northern Blazing Star (*Liatris scariosa* var. *novae angliae*). These species are discussed below.

American Burying Beetle The USFWS, in a letter dated March 31, 2000, states that the American Burying Beetle is the only federally listed or proposed threatened or endangered species known to occur in or near the Block Island Airport. This insect historically ranged from eastern Canada to South Dakota, south to Texas and northern Florida. The species only survives naturally on Block Island and a few small populations in Oklahoma and Nebraska. Due to its marked decline, the American Burying Beetle is listed by the USFWS as a Federally Endangered Species.

The USFWS states that the American Burying Beetle is somewhat of a habitat generalist, but on Block Island, it occurs more readily in grassy fields and meadows than in shrub thickets or wooded habitats. It is nocturnal and remains hidden in soil and leaf litter during daylight hours. The beetle requires carcasses of dead vertebrate animals that are buried as a food supply for their young. The beetles requires carrion of a minimum size of 100 grams. Currently, animals occurring on the island in excess of this size limitation are few, but the more common ones include ring-necked pheasant, American woodcock, and Norway rat. On Block Island, the pheasant occurs at very high population densities and may constitute the beetle's most important source of carrion.

Northern Blazing Star RINHP, in a letter dated March 8, 2000, notes that a population of northern blazing star, a state endangered species, is found on Airport property. Based on conversations with George Bogdanffy and Scott Comings, the population has been identified as occurring in a managed grassland within the southwestern corner of the fenced portion of the Airport. RINHP also states that the population benefits from routine mowing. Mowing in the area where Northern Blazing Star occurs takes place in the autumn following seed set.

Northern Blazing Star generally grows in coastal sandplain grasslands. On Block Island, it is generally found on Morainal Grasslands. Northern Blazing Star is an early successional species that responds well to disturbance events, particularly fire. On Block Island, fire does not seem to be an important factor for the plant species. The species does not appear to compete well with other plants in shade. Populations are known to decline when later successional species colonize areas where the plant is growing. Major threats to this species include loss of habitat to development and succession, destructive mowing regimes, extensive deer grazing, seed predation, herbicide use, collection and lack of public awareness.

## References

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**[Note: For Figure 1, please see Figure 7-1 in the main narrative. For the eight photographs listed in the Epsilon memorandum, please see the back of Chapter 7 in the main narrative.]**




## MEMORANDUM

Date: December 8, 2003

To: Rick Domas, HTA

From: John Vieira, Epsilon Associates

Subject: **Technical Memorandum, Block Island Airport – Inventory of Natural Habitats, Map Revisions**



Since Epsilon's development of the Draft Block Island Airport Vegetation Community Map, we have reevaluated available site information including topography. Based on this review, we have refined the boundaries of some vegetation community types to be more consistent with site topography and general site observations. Figure 1 (attached) is the most current version of the Block Island State Airport Vegetation Community Types map.

The most significant change to the map occurs on the east side of airport property, immediately east of the 28 end of the runway. In this location, the Managed Grassland Community (G3) has been expanded eastward from its former location. The eastern most limit of this community type here is now located at the bottom of the fill embankment that slopes east from the end of the runway. The expansion of Managed Grassland in this location has resulted in a reduction of Wetland Habitat (WH) located immediately east of the Managed Grassland community.

Other smaller refinements have been made to other areas of mapped Wetland Habitat on airport property. These changes are merely fine tuning exercises and are based primarily on interpretation of site topography information. It should be noted that the limits of Wetland Habitat as shown on the provided map are merely approximations based on interpretation of existing site information and some field observation. The delineation of Wetland Habitat as depicted on the provided map are primarily intended for planning purposes and have not been derived using wetland delineation methodologies typically required by the Rhode Island Department of Environmental Management or the U.S. Army Corps of Engineers for permitting purposes.

BLOCK  
ISLAND  
AIRPORT

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**Airport  
Master  
Plan**

RIAC


## MEMORANDUM

Date: December 17, 2003

To: Rick Domas, HTA

From: John Vieira, Epsilon Associates

Subject: **Technical Memorandum, Block Island Airport – Inventory of Natural Habitats, Obstructions, Figure Revisions, Impacts, and Mitigation**



### **Inventory of Natural Habitats, Obstructions, and Figure Revisions**

Epsilon's has recently received from Mr. Christopher S. Spaulding of Dufresne-Henry (DH), a copy of a plan that identifies locations on and around Block Island Airport where woody vegetation obstructions have been removed. The Vegetation Community map that Epsilon provided to you earlier has been updated to include this information. Please refer to the attached figure.

Based on a telephone conversation with Mr. Spaulding, he indicated that DH did not delineate wetlands on airport property. However, he did indicate that no clearing activity occurred within or within 50 feet of any wetland resource area. Based on this information, the wetland lines as depicted on the Vegetation Community map have been slightly modified to be consistent with Mr. Spaulding's statement.

DH's Obstruction Removal Plan identified four categories of obstruction removal. These include:

1. Upland Tree Clearing
2. Upland Shrub/Sapling Clearing
3. Upland Clearing, Grubbing, and Grading
4. Drop and Lop

As depicted on the revised Vegetation Community Map, categories 1, 2, and 3 have been lumped into one category based on future management. In this combined category, all woody vegetation has been removed. Based on my conversation with Mr. Spaulding, these areas will be mowed

annually to promote grassland habitat similar to G1 habitat. Category 4 remains as one category and includes an area where tall woody vegetation has been cut and loped by hand. This area will require periodic hand removal.

Additional information provided by Mr. Spaulding includes specific timing restrictions for work performed in obstruction removal areas to avoid impacts to the American Burying Beetle a federally listed endangered species. Based on this information no construction activities such as clearing, grubbing, or grading which involves the use of construction equipment shall commence prior to October 1<sup>st</sup> or performed after May 1<sup>st</sup> except for staging or removing construction equipment and or conducting handwork.

## **Impacts and Mitigation**

In response to questions about possible impacts and mitigation, I have provided a summary below. This summary is primarily focused on impacts to American Burying Beetle habitat.

The American Burying Beetle is somewhat of a habitat generalist, but on Block Island, it occurs more readily in grassy fields and meadows than in shrub thickets or wooded habitats. Reproduction depends on the availability of carrion of a specific size. On Block Island, Ring-Necked Pheasant chicks are important prey. Grasslands are valuable habitats for pheasants, especially young feeding chicks. Frequent and regular mowing of grassy areas to maintain an area of short grass reduces the value of an area for pheasant and similarly American Burying beetle.

Of the grassland types that occur on the Airport MG (Morainel Grassland) and G1 (Annually Mowed) should be regarded as the most important habitat for the beetle.

G2 Grassland (infrequently mowed) also provides habitat, however depending on the frequency of mowing its value may be reduced. I have seen knee-high grass in G2 areas within the fenced portion of the property. I have also seen adult pheasants using these areas.

G3 Grassland (frequently mowed) has limited value in my opinion since grasses in these areas are maintained very short. During the most active grass growing periods, I would imagine that the grass is mowed at least once a week.

With regard to grassland impacts, I would consider loss of G1 or G2 habitats an impact. A mitigation strategy for habitat loss could include annual mowing of a MS habitat to create G1 habitat. As a mitigation strategy for disturbance of G1 or G2 caused by surface regrading, I would also recommend the conversion of MS to G1 habitat. For disturbance of G1 or G2 habitat caused by use as a staging area, timing the activity based on USFWS recommendations may be a viable mitigation approach. If the timing window is too restrictive then conversion of MS to G1 habitat

may be the mitigation approach of choice. For any mitigation approach, the USFWS should be consulted.

MS, while not the favored habitat type of the American Burying Beetle it does provide some value. Clearing and maintenance to promote grassland is beneficial, providing the work is done during the time window identified in my last memo. Loss of this type of habitat by converting it to bare gravel, buildings, paving etc will probably be regarded as an impact.

USFWS has put forth the timing limitation for clearing of MS because they feel that there is a chance the beetle may be using this type of habitat. Since this is the case, loss of this type of habitat in my opinion should be considered an impact. The bottom line is that USFWS should be consulted directly if this area is being considered for development. As for mitigation, I would recommend clearing of MS in other areas to create grassland. They may require ratios greater than 1:1 for an actual loss of habitat to provide a benefit greater than the loss.

**[Note: For the figure referenced in this memorandum, please see Figure 7-2 in the main narrative report.]**

# MEMORANDUM

**Date:** April 29, 2004  
**To:** Rick Domas  
**From:** John Vieira  
**Subject:** Potential Permitting Requirements

Epsilon has been asked to prepare a listing of possible environmental permitting requirements for further development at the Block Island Airport. Based on what is currently known about the Airport and habitats that occur there, Epsilon has developed a list that identifies possible permit requirements should some of the resources be affected. Included with this information are permit thresholds, triggers, and permit review schedules. Since specific projects have yet to be identified, we have made the general assumption that there will be some earth disturbance and building construction. Once more is known about actual projects the listing can be refined. Based on the general assumptions and what is known about the airport, potential permitting requirements are as follows;

## **Wetlands and Water Resources**

Several wetland resource areas have been identified on Block Island Airport Property. These include a band of wetlands east of the 28 end of the runway and two other wetlands located west of Center Road. Regulatory requirements that govern work in and adjacent to wetlands and protect water quality are identified below.

## **U.S. Army Corps of Engineers**

The New England District of the U.S. Army Corps of Engineers (ACOE) has issued a statewide Programmatic General Permit (PGP) for dredge and fill activities in Waters of the United States (including wetlands) within the state of Rhode Island. These activities are regulated by the ACOE pursuant to Section 404 of the Federal Clean Water Act and Section 10 of the Rivers and Harbors Act. As part of the PGP, the ACOE identifies three categories of permit review. The three categories are as follows;

## **Category 1**

Category 1 applies to wetlands or waterways impacts of less than 5,000 square feet. Impacts covered by Category 1 include fill and secondary impacts that include draining, flooding or clearing. The impact area includes all temporary impacts and permanent fill and excavation. Impacts covered under this category are non-reporting to the ACOE providing any required approval listed below is obtained.

1. Rhode Island Department of Environmental Management (RIDEM) approval under the Freshwater Wetland Act, Rhode Island General Laws (RIGL).
2. RIDEM approval under RIGL Section 45-19-1 *et seq.* entitled "Inspection of Dams and Reservoirs".
3. RIDEM approval under the "Water Quality Regulations for Water Pollution Control" pursuant to RIGL Section 42-17.1 and Section 46-12-1 *et seq.*
4. RIDEM approval under the "Rules and Regulations for Solid Waste Management Facilities" pursuant to RIGL Chapter 23-18.9, and Chapter 23-19.
5. Rhode Island Coastal Resource Management Council (CRMC) approval under RIGL Title 46, Chapter 46-23-1 *et seq.*

## **Category 2**

Category 2 is a screening category and applies to impacts greater than 5,000 square feet to one acre of inland waterway and/or wetland fill and secondary impacts including areas drained, flooded, or cleared. The impact area includes all temporary impacts and permanent fill and excavation. Other required approvals listed in Category 1 must be obtained. As part of the screening process, an interagency review team will review the project and determine if further permitting is required. The interagency review team typically includes representatives from the ACOE, U.S. Fish and Wildlife Service, U.S. Environmental Protection Agency, The National Marine Fisheries Service and Rhode Island resource agencies. Pending review by the interagency review team, a project may or may not require additional permitting. Category 2 screening meetings are held monthly. During the screening process, the ACOE will determine in consultation with the Rhode Island resource agencies and the federal resource agencies if applications for Category 2 Work:

1. require additional information,
2. are eligible under the PGP as proposed,
3. are ineligible under the terms and/or conditions of the PGP,



4. will require project modification, mitigation or other special conditions to minimize impacts and protect the aquatic environment to be eligible for authorization under the PGP, or
5. will require individual permit review irrespective of whether the terms and conditions of this PGP are met, based on concerns for the aquatic environment or any other factor of the public interest.

If additional individual permitting is required by the agencies, the review will follow Category 3 review detailed below.

### **Category 3 – Individual Permit**

Individual permits are required for projects that result in greater than one acre of impact to an inland waterway and/or wetland caused by fill and secondary impacts. As with Category 1 and 2 impacts, this includes temporary and permanent fill and excavation. Individual Water Quality Certification and/or Coastal Zone Consistency concurrence will be required from the appropriate Rhode Island resource agency. Depending on the size and nature of a project, the review process (including public notice) for an individual permit can take from a few months to a year.

### **Rhode Island Freshwater Wetlands Act**

Through the Freshwater Wetlands Act (FWA)(RIGL Sections 2-1-18 *et seq.*) and the Rules and Regulations that govern the Act, DEM regulates activities within and near freshwater wetlands. The Rules and Regulations define all regulated areas, and in some cases, size is a determining factor. Specifically, ponds must be at least  $\frac{1}{4}$  acre in size and hold water for more than 6 months; swamps must be at least 3 acres in size; marshes must be 1 acre or greater and bogs can be any size. If a wetland meets the size criteria, DEM regulates not only the main body of the wetland but also the area of land within 50 feet of the wetland as perimeter wetland. If a wetland area falls below the size that triggers designation of the 50-foot perimeter wetland, DEM regulates the main body of the wetland only and not any adjacent perimeter wetland. These undersized wetlands are referred to as submergent plant communities, special aquatic sites, shrub wetlands, forested wetlands, and emergent plant communities. DEM also regulates a 100-foot “riverbank wetland” adjacent to both sides of rivers and streams that are on average less than 10 feet wide and a 200-foot “riverbank wetland” adjacent to rivers and streams that are on average 10 feet or greater in width.

Activities that are regulated in wetlands resources include excavation, draining, filling, diverting water into or out of, diking, damming, diverting, clearing, grading, constructing in, adding to, taking from, or otherwise changing the character of any freshwater wetland in any way without obtaining a permit. Projects taking place

outside of freshwater wetlands, which in all likelihood due to their close proximity to wetlands or due to the size or nature of the project or activity will result in an alteration of the natural character of any freshwater wetland, also require a permit. Such projects include those that result in a change in normal surface run-off characteristics, result in diversions of groundwater, and/or result in a modification to the quality of water reaching freshwater wetlands. Upon submission of an Application to Alter a Freshwater Wetland, the application undergoes an administrative and technical review. The administrative review for completeness of the submission varies in length and is subject to delays pending DEM's review and subsequent requests for additional information. Once an application is deemed complete, it will be publicly noticed by DEM within 14 days of the day the application is determined complete. Once the public notice is issued, the public comment period is 45 days. If during the 45 day public notice period no objections substantive in nature are received, DEM may issue a permit after the comment period ends. If a substantive comment is received, the project may be subject to a public hearing if the applicant wishes to proceed. Following the Public Hearing, DEM may issue the permit. The review period from Public Hearing through permit issuance is variable and can take up to several months or more.

### **Water Quality Certification**

Section 401 of the Federal Clean Water Act requires applicants for Federal permits for projects, that will result in a discharge to waters (including wetlands) of the State of Rhode Island, to obtain a State Water Quality Certification (WQC). Projects that fall under the ACOE PGP and require a RIDEM Freshwater Wetlands Permit receive the WQC through the PGP review process. Projects that require an individual Permit from the ACOE and require a RIDEM FWA permit the WQC will be issued through the FWA review process

Applicable activities that may require approval in the form of certification by DEM include filling of the waters of the state. The time frame for permit issuance generally follows the schedule identified for issuance of a FWA permit identified above.

### **Storm Water Management**

Construction projects that disturb one acre or more of land, and where storm water runoff drains to waters of the United States, are required to seek coverage under a Rhode Island Pollution Elimination System (RIPDES) storm water permit (Chapter 46-12, 42-17.1 & 42-35 of the RIGL as amended). To receive coverage under the permit, an applicant must complete and certify a Notice of Intent (NOI) and implement a Storm Water Pollution Prevention Plan (SWPPP) to control sedimentation and erosion under the following circumstances. Construction activities which disturb five or more acres of land and require a CRMC Permit, RIDEM Water Quality Certification approval and/or Qualifying Local Program (QLP)

approval will be automatically granted authorization from RIPDES upon departmental receipt of the CRMC permit or the QLP approval and the RIDEM Water Quality Certification (if applicable) and a completed and certified NOI (*i.e.*, SWPPP not required). For activities that disturb between one and five acres of land, approval will be automatically granted authorization from RIPDES upon applicant receipt of the CRMC permit or the QLP approval and the RIDEM Water Quality Certification (if applicable) (*i.e.*, no NOI or SWPPP). For all construction activities equal to or greater than one acre and require a RIDEM Freshwater Wetlands permit, authorization from RIPDES will be automatically granted upon applicant's receipt of the Freshwater Wetlands permit (*i.e.*, no NOI or SWPPP). For all other construction activities that disturb five acres or greater of land, authorization will only be granted upon notification from the Director after RIPDES review of the NOI and SWPPP.

Airport operations are regulated by the US EPA under the (National Pollution Discharge Elimination System (NPDES) Stormwater Multi-Sector General Permit (MSGP) due to activities that have the potential to cause stormwater pollution. Specific activities at Airports subject to NPDES include aircraft maintenance, cleaning, and deicing. All Airports must complete a NOI and develop a SWPPP to be implemented by Airports to ensure that operations and maintenance activities do not result in stormwater pollution.

### **Sole Source Aquifer**

The US EPA has designated Block Island as a Sole Source Aquifer (SSA), under Section 1424(e) of the Federal Safe Drinking Water Act (SDWA). A Sole Source Aquifer is defined as one that supplies at least 50 percent of the drinking water consumed in the area overlying the aquifer. This designation gives EPA authority to review all proposed federal financially assisted projects that have the potential to contaminate the area of the SSA. Under the SDWA, EPA has the authority to withhold use of federal funding for construction of any proposed project within a designated SSA that it believes poses a significant threat of contamination to an aquifer. EPA has developed Memoranda of Understandings with other federal agencies including the FAA which specify review responsibilities under the SSA Program. The EPA's review of a project for consistency with the SSA Program is completed through existing permitting processes such as NEPA.

### **Coastal Resource Management Council**

The Coastal Resource Management Council (CRMC) claims jurisdiction over projects within 200 feet of a coastal feature. They also claim jurisdiction over projects that affect freshwater wetlands that are contiguous with a coastal feature, and any project resulting in 20,000 s.f. of impervious area located in a designated watershed of poorly flushed estuaries. Finally, they review some specific projects

due to potential impact on coastal areas regardless of where in the state they are located (power plants, petroleum storage facilities of 2,400 barrel capacity or greater, chemical or petroleum processing, minerals extraction, desalination projects, etc.). It does not appear that the CRMC would have jurisdiction over activities at the Airport. To insure that this is the case, it is recommend that the CRMC be contacted to verify that potential airport activities do not require their review.

### **Rare Species**

Two rare species occur on Airport property. These are the American Burying Beetle (*Nicrophorus americanus*), a federally listed endangered species, and Northern Blazing Star (*Liatris scariosa* var. *novae Anglia*), a state endangered species. With regard to the American Burying Beetle, the U.S. Fish and Wildlife Service (USFWS) in a letter dated March 31, 2000, stated that the beetle occurs both within and immediately outside the fence at the Airport. The USFWS also stated that the beetle occurs more readily in grassy fields and meadows than in thickets and wooded habitats. In addition to the American Burying Beetle, the RI Natural Heritage Program (RINHP) in a letter dated March 8, 2000 noted that a population of Northern Blazing Star occurs on Airport property. This population occurs in a grassy area south of the 10 end of the runway. Limited annual mowing in this area has benefited the species. Other rare species may occur on airport property particularly within the morainal grasslands known to occur on the airport property. Additional requests are being made of USFWS and RINHP to provide any updated information regarding additional rare species that may be known to occur on airport property.

### **Federal Endangered Species Act**

As a Federally listed endangered species, the American burying beetle is protected under the Federal Endangered Species Act (ESA). Section 7 of the ESA charges federal agencies to aid in the conservation of listed species (Section 7(a)(1)) and requires that their activities will not jeopardize the continued existence of listed species or adversely modify designated critical habitat (Section 7(a)(2)). Section 7(a)(2) requires federal agencies to consult with USFWS to ensure that actions they fund, authorize, permit, or otherwise carry out will not jeopardize the continued existence of any listed species or adversely modify designated critical habitat. To initiate the consultation process, the Federal action agency (the agency planning a specific action) or its non-Federal permit applicant, must ask the USFWS to provide a list of threatened, endangered, proposed and candidate species and designated critical habitats that may be present in the project area. If the USFWS responds that there are no species or critical habitats present, then the Federal action agency has no further ESA obligation under Section 7(a)(2) and consultation is concluded.

If a species is present, then the Federal action agency must determine whether the project may affect a listed species. If so, consultation is required. There is a designated period of 90 days to consult. Beyond the 90-day period, the USFWS has 45 days to prepare a biological opinion. The determination of whether or not a proposed action would likely jeopardize the species or adversely modify its critical habitat is contained in the biological opinion. If a jeopardy or adverse modification determination is made, the biological opinion must identify any reasonable and prudent alternatives that could allow the project to move forward. If the USFWS issues either a non-jeopardy opinion or a jeopardy opinion that contains reasonable and prudent alternatives, it may include an incidental take statement. "Take" is defined as harassing, harming, pursuing, hunting, shooting, wounding, killing, trapping, capturing, or collecting or attempting to engage in any such conduct. "Harm" is further defined to include significant habitat modification or degradation that results in death or injury to a listed species by significantly impairing behavioral patterns such as breeding, feeding, or sheltering. "Incidental take" is defined as a take that is incidental to, and not the purpose of, any otherwise lawful activity. The USFWS must anticipate the take that may result from the proposed project and, providing such take will not jeopardize the listed species, describe that take in the incidental take statement. The latter contains clear terms and conditions designated to reduce the impact of the anticipated take to the species: these terms are binding on the action agency.

The vast majority of evaluated actions have no effect on listed species or their designated critical habitat. Similarly, a large percentage of projects that would have (at least as initially planned) adverse impacts to listed species are dealt with through informal consultations in which the Federal action agency makes changes to the project design so that impacts to listed species are avoided.

### **Rhode Island Endangered Species Act**

The Rhode Island Endangered Species Act (RIESA) (Title 20, Chapter 20-37, Sections 1-5) regulates the buying, selling, offering for sale, storing, transporting, importing, exporting or trafficking of any animal or plant or any part of any animal or plant whether living, dead, processed, manufactured, preserved, or raw if the animal or plant has been declared to be an endangered species by either the United States secretaries of the interior or commerce or the director of RIDEM. The RIESA does not specifically protect a listed species or its habitat from destruction caused by development or building activities.

Some protection may be provided to designated rare species occurring within wetland resource areas through the FWA. As part of the FWA, freshwater wetland functions and values are protected. One of the Functions and Values listed in Rule 10.00 of the FWA Rules and Regulations is Wildlife and Wildlife Habitat. Specifically it is stated that wetlands provide critical habitat for some plant and animal species, and provide habitat for rare animal and rare plant species. It should

be noted that the two rare species identified by the USFWS and RIDEM are not typically regarded as wetland species.

## MEMORANDUM


Date: December 20, 2004

To: Rick Domas, HTA

From: John Vieira, Epsilon Associates

Cc: Sam Mygatt, Epsilon Associates

**Subject: Technical Memorandum, Block Island Airport Identification of Potential Impacts**



Epsilon Associates has been provided a number of figures depicting alternative layouts of improvements that are being considered at Block Island State Airport (BID). We been asked to evaluate these layouts for their potential to cause environmental impact. For the purpose of this evaluation, environmental impact will result if the following situation(s) occur:

- o Direct loss of a federal or state protected plant or animal species.

At BID, two protected species are known to occur. These are the federally endangered American Burying Beetle (*Nicrophorus americanus*) and the state endangered Northern Blazing Star (*Liatris scariosa* var. *novae angliae*).

- o Disturbance, alteration, or loss of a preferred vegetation community type known to be used by a federal or state plant or animal species.

The American Burying Beetle is somewhat of a habitat generalist, but on Block Island, it occurs more readily in grassy fields and meadows than in shrub thickets or wooded habitats.

Northern Blazing Star generally grows in coastal sandplain grasslands. On Block Island, it is generally found on a unique vegetation community called Morainal Grasslands. At BID Northern Blazing Star grows on managed grassland (mowed once annually, late autumn in the southeast corner of the fenced portion of airport property).

- o Disturbance, alteration, or loss of a unique or important vegetation community type.

Two vegetation community types occur at BID that are considered unique or important these include Forest and Morainial Grassland.

The only area of Forest on BID is a small tract of natural forest dominated by American Beech and Black Gum. This vegetation community type occurs in one localized area in the southeast corner of Airport property. This area is regarded as sensitive since forests are rare on Block Island. Several plants rare to the island but not listed statewide are known to occur here. The RI Natural Heritage Program regards this area as unique to the Island.

Morainial Grasslands are natural grasslands that are primarily found on crests and slopes of hills that are exposed to the prevailing winds and generally exhibit poor soil development. Two areas of Morainial Grassland occur on BID: one on the western side of the property immediately north of the lighting system, and the other at the southeastern edge of the property. This vegetation community has been recognized by The Nature Conservancy as a natural community of special interest since the early 1990s and is regarded as sensitive.

- o Disturbance, alteration, or loss of federal or state protected wetland habitats.

Wetland habitats are dominated by hydrophytic vegetation, contain hydric soils and exhibit groundwater at or near the surface for significant periods during the growing season. Wetland habitats include forested swamps, shrub swamps, marshes, wet meadows, and shallow areas of open water. Wetland areas generally occur at the western and eastern side of Airport property. Three streams (one perennial and two presumed intermittent) flow into one wetland area located on the southeast corner of the property.

The state of Rhode Island also regulates activities within 50 feet of some wetland habitats. These areas are referred to as Perimeter Wetland. For the purpose of this evaluation, disturbance or alteration of any area within 50 feet of a wetland habitat is considered an impact.

To identify potential environmental impacts, ACAD figures depicting the various alternative layouts were overlaid with a figure of vegetation community types occurring prior to an obstruction removal project completed in 2004. When as a result of a layout scenario there would be a possible change to a vegetation community type, this change was identified and quantified. Based on the criteria identified above, impacts were also identified.



Alternative layouts were provided in four groupings. These groupings include Early Alternatives, (Scenarios 1, 2, and 3), Scenarios 1 and 2 – Grading Trials, Holding Bay Options – Runway 28 (Scenarios 5, 5A, 5B, 5C, 5D, 5E, 5F, and 5G), and Holding Bay / Runway Configurations Options – Runway 28. The evaluation of potential impacts for each of these groupings are provided below:

### **Early Alternatives (Table 1)**

All three of the scenarios evaluated would result in major impacts to Wetland Habitat or Perimeter Wetland or both, requiring permits from Rhode Island Department of Environmental Management (RIDEM) or the U. S. Army Corps of Engineers (ACOE), or both.

Scenario 1, 2 and 3 would also result in some impacts to Maritime Scrubland. This is considered a minor impact since this habitat is not the preferred habitat used by American Burying Beetle. Consultation with the U.S. Fish and Wildlife service will be required.

Scenario 3 would result in a major impact to Annually Mowed Grassland a significant habitat for the state endangered Northern Blazing Star. This area would also be considered habitat for the American Burying Beetle. Consultation with the U.S. Fish and Wildlife Service and the RI Natural Heritage Program will be required.

### **Scenario 1 and 2 – Grading Trials (Table 2)**

Scenario 1, with 4:1 fill associated with taxiway construction will result in major impacts to Wetland Habitat (0.28 acres) and Perimeter Wetland (0.38 acres) necessitating permits from RIDEM and ACOE.

Scenario 2, with 2:1 fill associated with taxiway construction will result in major impacts to Wetland Habitat (0.01 acres) and Perimeter Wetland (0.11 acres). This same scenario, with 4:1 fill associated with taxiway construction will result in major impacts to Wetland Habitat (0.64 acres) and Perimeter Wetland (0.63 acres). Both options will require permits from RIDEM, or the ACOE, or both.

Both Scenarios 1 and 2 will result in some impact to Maritime Shrubland. Depending on the taxiway fill option considered (2:1 or 4:1), construction impact amounts for Scenario 1 are 1.26, or 2.97 acres respectively. For Scenario 2, impact amounts are 1.7 or 3.48 acres respectively. Retaining wall option impacts to Maritime Shrubland for taxiway construction are similar for Scenarios 1 and 2, being 0.34 and 0.36 acres respectively. These impacts are considered minor impacts since this habitat is not the preferred habitat used by American Burying Beetle. Some consultation with the US Fish and Wildlife service will be required

### **Holding Bay Options – Runway 28 (Scenarios 5, 5A, 5B, 5C, 5D, 5E, 5F, AND 5G)(Table 3)**

Scenarios 5, 5A and 5C would impact Perimeter Wetland requiring a permit from RI DEM. This is regarded as a major impact.

Scenarios 5, 5A, 5B, 5C, 5E and 5F will affect both Infrequently Mowed Grassland and Maritime Shrubland. With regard to American Burying Beetle habitat, the impact to Maritime Shrubland is considered minor. However, the impact to Infrequently Mowed Grassland is considered a moderate impact. While these areas are managed, the infrequent mowing of these areas may allow some use by American Burying Beetle. Impacts to Infrequently Mowed Grassland caused by Scenarios 5, 5A, 5B, 5C, 5E, and 5F range from 0.11 to 1.34 acres. Maritime Shrubland impacts range from 0.08 to 0.66 acres.

### **Holding Bay Options – Runway 28 (5E, 5F, 5D-1 and 5G1)(Table 4)**

Impacts that would result from Scenarios 5E and 5F are the same as those identified in Table 3 and discussed above.

Implementation of Scenarios 5D-1 and 5G-1 will result in no impacts.

### **MALSF Relocation**

Runway shifts for various scenarios will also result in shifts of MALSF lighting structures. MALSF structures will only be located on the west side of the airport. Scenarios where MALSF changes will result in impacts are identified below:

- Scenario 2 (Runway shift 105' East)

This shift will require construction of four structures in Maritime Shrubland. This is considered a minor impact since this habitat is not the preferred habitat of the American Burying Beetle. Some consultation with the US Fish and Wildlife service will be required.

This Shift will also require the construction of one structure in Perimeter Wetland requiring a permit from RI DEM.

- Scenario 3 (Runway shift 130' East and 100' South)

This shift will require construction of five structures in Maritime Shrubland. This is considered a minor impact since this habitat is not the preferred habitat of the American Burying Beetle. Some consultation with the US Fish and Wildlife service will be required.

This Shift will also require the construction of one structure in Wetland and Perimeter Wetland requiring a permit from RI DEM, or the ACOE, or both.

This shift will also affect Annually Mowed Grassland south of the Runway. This is a major impact to the only location on the Airport where Northern Blazing Star is found. Consultation with the RI Natural Heritage is required. This habitat would also be considered habitat for the American Burying Beetle, consequently consultation with the US fish and wildlife service will also be necessary.

- Runway shift 60' East – Scenarios 5, 5A, 5B, 5C, 5D, 5E, 5F, AND 5

This shift will require construction of four structures in Maritime Shrubland. This is considered a minor impact since this habitat is not the preferred habitat used by American Burying Beetle. Some consultation with the US Fish and Wildlife service will be required.

This Shift will also require the construction of one structure in Wetland and Perimeter Wetland requiring a permit from RI DEM, or the ACOE, or both.

## **Mitigation**

Unavoidable environmental impacts typically require some form of mitigation. For the impacts identified above the following general mitigation, strategies are appropriate to consider:

- Impacts to areas providing habitat for American Burying Beetle

Loss of Annually Mowed and Infrequently Mowed Grassland, and to some degree Maritime Shrubland will result in a loss of American Burying Beetle Habitat. Creation of new grassland habitat is an approach to offset this loss. Annual mowing of an area of Maritime Shrubland is a means to create new grassland habitat. Such mowing activities are best done during the winter months when the beetle is wintering underground. Any mitigation strategies considered to offset beetle habitat impacts must be done in consultation with the US Fish and Wildlife Service.

- Impact to areas providing habitat for Northern Blazing Star

Loss of Annually Mowed Grassland will result in impact to Northern Blazing Star Habitat. As a means to offset this impact, a mitigation approach would be to create grassland habitat by annually mowing areas of Maritime Shrubland similar to what is described above for mitigation of American Burying Beetle Habitat. As part of this mitigation approach, it will also be necessary to encourage propagation of the plant in

the created grassland. Methods to do so may include seeding with native seed or transplantation of native seedlings (either collected on the Island from select locations or propagated from native seed). Any mitigation strategies considered to offset Northern Blazing Star impacts must be done in consultation with the RI Natural Heritage Program and the US Fish and Wildlife Service.

- Impact to Wetland Habitat

Loss or disturbance of wetland habitat generally requires permits from RI DEM and or the Army Corps of Engineers or both. The typical mitigation strategy allowed by permit for wetland loss includes the creation of a wetland of similar type in the same general location where the impact(s). Other mitigation measures generally required include the implementation of erosion and sedimentation control best management practices.

**Table 1 Early Alternative Impacts**

Scenario	Impact Element / Vegetation Community Affected										Comments
	Relocate MALSF	Relocate Center Road and Discontinue Portion of Center Road	Future Apron	Future Taxi Ways	Future Short Term Parking	RW 10 Grading Beyond Threshold	RW 28 Regrading / or Retaining Wall	Existing Terminal Removed	Runway Shift	Taxiway Removal	
<b>1</b>	MS	MS/WH/ PW/G3	G3	D/G3	D/G3	G3/MS	-	-	-	G3/D	Scenario will result in major impact to WH and PW necessitating permits from RI DEM and ACOE. Impact caused by road shift. Impact to MS considered minor impact to American Burying Beetle habit.
<b>2</b>	G3/WH /MS	-	G3	D/G3	D/G3	G3	WH/ PW	-	G3	-	Scenario will result in major impact to Wetland Habitat and Perimeter Wetland necessitating permits from RI DEM and ACOE. Impact caused by RW 28 regrading or retaining wall. Impact caused by road shift. Impact to MS considered minor impact to American Burying Beetle habit.
<b>3</b>	G3/WH /MS	-	G3	D/G3	D/G3	G3	WH/ PW	D	G1/G3 / MS	G3/D	Scenario will result in major impact to Wetland Habitat and Perimeter Wetland necessitating permits from RI DEM and ACOE. Impact caused by RW 28 regrading or retaining wall. Impact also caused by road shift. Major impact to N. Blazing Star habit caused by runway shift.

MS - Maritime Shrubland is the principal upland vegetation type on Block Island and the dominant natural vegetation community on Airport property. This vegetation type characteristically has low species diversity. Common species in these areas include Northern Bayberry, Arrowwood, Shadbush, and Multiflora Rose. This Vegetation Cover type may be used by the American Burying Beetle a federally protected insect species, however the USFWS states that it occurs more readily in grassy fields and meadows than in shrub thickets or wooded habitats.

WH - Wetland habitats are dominated by hydrophytic vegetation, contain hydric soils and exhibit groundwater at or near the surface for significant periods during the growing season. Wetland habitats include forested swamps, shrub swamps, marshes, wet meadows, and shallow areas of open water. Activities in wetlands are regulated by RI DEM and the Army Corps of Engineers.

PW (Perimeter Wetland) - RI DEM regulates activities within and near freshwater wetlands. In general, if a wetland meets a certain size criteria (greater than 3 acres) DEM regulated not only the main body of the wetland but also the area of land within 50 feet of the wetland as perimeter wetland.

G1 (Annually Mowed Grassland) This Managed Grassland type is mowed annually during the late autumn. It is located within the southwestern corner of the fenced area. This area is currently managed for Northern Blazing Star, a state endangered plant species, and is regarded as sensitive.

G3 (Frequently Mowed Grassland) – This Managed Grassland type is mowed frequently during the growing season for Airport operations. These areas are located within the northern two thirds of the fenced portions of Airport property. It is presumed that this habitat as little value for American burying beetle because of the frequency of maintenance. Northern blazing star does not occur within this vegetation community on airport property.

D (Developed Land) Developed land contains buildings, mowed lawns, paved or gravel roads, paved runways, and land disturbed by humans. In general, these areas are located within the northern two thirds of the fenced portions of Airport property. These areas do not provide habitat to either the American burying beetle of the Northern blazing star.

**Table 2 Scenario 1 and 2 - Grading Trials**

Scenario	Vegetation Community Type Affected (Acres)				Comments
	MS	WH	Perimeter WH	G3	
<b>1</b>	1.26	-	-	0.16	Impact to MS considered minor impact to American Burying Beetle habit
<b>New Taxiway</b>					
<b>2:1 Fill</b>					
<b>1</b>	2.97	0.28	0.38	0.37	Scenario will result in major impact to WH and PW necessitating permits from RI DEM and ACOE. Impact to MS considered minor impact to American Burying Beetle habitat
<b>New Taxiway</b>					
<b>4:1 Fill</b>					
<b>1</b>	0.34	-	-	0.33	Impact to MS considered minor impact to American Burying Beetle habit
<b>New Taxiway</b>					
<b>Retaining Wall<sup>1</sup></b>					
<b>2</b>	1.7	0.01	0.11	0.13	Scenario will result in major impact to WH and PW necessitating permits from RI DEM. Impact to MS considered minor impact to American Burying Beetle habitat
<b>New Taxiway</b>					
<b>2:1 Fill</b>					
<b>2</b>	3.48	0.64	0.63	0.21	Scenario will result in major impact to WH and PW necessitating permits from RI DEM and ACOE. Impact to MS considered minor impact to American Burying Beetle habit
<b>New Taxiway</b>					
<b>4:1 Fill</b>					
<b>2</b>	0.36	-	-	0.11	Impact to MS considered minor impact to American Burying Beetle habitat
<b>New Taxiway</b>					
<b>Retaining Wall<sup>1</sup></b>					
<b>2</b>	-	-	-	0.14	No Impacts
<b>60' Runway</b>					
<b>Shift East</b>					

MS - Maritime Shrubland is the principal upland vegetation type on Block Island and the dominant natural vegetation community on Airport property. This vegetation type characteristically has low species diversity. Common species in these areas include Northern Bayberry, Arrowwood, Shadbush, and Multiflora Rose. This Vegetation Cover type may be used by the American Burying Beetle a federally protected insect species, however the USFWS states that it occurs more readily in grassy fields and meadows than in shrub thickets or wooded habitats.

WH - Wetland habitats are dominated by hydrophytic vegetation, contain hydric soils and exhibit groundwater at or near the surface for significant periods during the growing season. Wetland habitats include forested swamps, shrub swamps, marshes, wet meadows, and shallow areas of open water. Activities in wetlands are regulated by RI DEM and the Army Corps of Engineers.

Perimeter WH (Perimeter Wetland) - RI DEM regulates activities within and near freshwater wetlands. In general, if a wetland meets a certain size criteria (greater than 3 acres) DEM regulated not only the main body of the wetland but also the area of land within **50 feet** of the wetland as perimeter wetland.

G3 (Frequently Mowed Grassland) – This Managed Grassland type is mowed frequently during the growing season for Airport operations. These areas are located within the northern two thirds of the fenced portions of Airport property. It is presumed that this habitat has little value for American burying beetle because of the frequency of maintenance. Northern blazing star does not occur within this vegetation community on airport property.

<sup>1</sup> Assumes 20' of disturbance beyond the face of the retaining wall

**Table 3 Holding Bay Options, Runway 28 (Scenarios 5, 5A, 5B, 5C, 5D, 5E, 5F, AND 5G)**

Scenario	Scenario Element	Vegetation Community Type Affected (Acres)					Comments
		MS	WH	Perimeter WH	G2	G3	D
5*	Terminal					0.73	1.53
	60 ' Runway Shift					0.14	
	10 End Taxiway					0.74	
	28 End Taxiway	0.55		0.05	0.41	0.31	
	TOTAL	0.55		0.05	0.41	1.92	
5A*	Terminal					0.73	1.53
	60 ' Runway Shift					0.74	
	10 End Taxiway					0.39	
	28 End Taxiway	0.55		0.07	0.2	0.31	
	TOTAL	0.55		0.07	0.2	1.86	1.53
5B*	Terminal					0.73	1.53
	60 ' Runway Shift					0.14	
	10 End Taxiway						
	28 End Taxiway	0.08			0.44	0.31	
	TOTAL	0.08			0.44	1.18	1.53
5C*	Terminal					0.73	1.53
	60 ' Runway Shift						
	10 End Taxiway						
	28 End Taxiway	0.66		0.07	1.32	0.3	
	TOTAL	0.66		0.07	1.32	1.03	1.53
5D	Terminal					0.73	1.53
	60 ' Runway Shift					0.14	
	10 End Taxiway						
	28 End Taxiway					0.39	
	TOTAL					1.26	1.53
5E*	Terminal					0.73	1.53
	60 ' Runway Shift						
	10 End Taxiway						
	28 End Taxiway	0.13			0.11	0.31	
	TOTAL	0.13			0.11	1.04	1.53

**Table 3 Holding Bay Options, Runway 28 (Scenarios 5, 5A, 5B, 5C, 5D, 5E, 5F, AND 5G)**

Scenario	Scenario Element	Vegetation Community Type Affected (Acres)					Comments
		MS	WH	Perimeter WH	G2	G3	D
5F*	Terminal					0.73	1.53
	60' Runway Shift					0.14	
	10 End Taxiway						
	28 End Taxiway	0.09			1.34	0.36	
	<b>TOTAL</b>	<b>0.09</b>			<b>1.34</b>	<b>1.23</b>	<b>1.53</b>
5G	Terminal					0.73	1.53
	60' Runway Shift					0.14	
	10 End Taxiway						
	28 End Taxiway					0.19	
	<b>TOTAL</b>					<b>1.06</b>	<b>1.53</b>

MS - Maritime Shrubland is the principal upland vegetation type on Block Island and the dominant natural vegetation community on Airport property. This vegetation type characteristically has low species diversity. Common species in these areas include Northern Bayberry, Arrowwood, Shadbush, and Multiflora Rose. This Vegetation Cover type may be used by the American Burying Beetle a federally protected insect species, however the USFWS states that it occurs more readily in grassy fields and meadows than in shrub thickets or wooded habitats.

WH - Wetland habitats are dominated by hydrophytic vegetation, contain hydric soils and exhibit groundwater at or near the surface for significant periods during the growing season. Wetland habitats include forested swamps, shrub swamps, marshes, wet meadows, and shallow areas of open water. Activities in wetlands are regulated by RI DEM and the Army Corps of Engineers.

Perimeter WH (Perimeter Wetland) - RI DEM regulates activities within and near freshwater wetlands. In general, if a wetland meets a certain size criteria (greater than 3 acres) DEM regulated not only the main body of the wetland but also the area of land within **50 feet** of the wetland as perimeter wetland.

G2 (Infrequently Mowed Grassland) This Managed Grassland type is mowed infrequently during the year. Grasses and other herbaceous plants may grow up to 3 feet tall. These areas are generally located within the southern third of the fenced portions of Airport property

G3 (Frequently Mowed Grassland) - This Managed Grassland type is mowed frequently during the growing season for Airport operations. These areas are located within the northern two thirds of the fenced portions of Airport property. It is presumed that this habitat as little value for American burying beetle because of the frequency of maintenance. Northern blazing star does not occur within this vegetation community on airport property.

D (Developed Land) Developed land contains buildings, mowed lawns, paved or gravel roads, paved runways, and land disturbed by humans. In general, these areas are located within the northern two thirds of the fenced portions of Airport property. These areas do not provide habitat to either the American burying beetle of the Northern blazing star.

\* Assumes 20' of disturbance beyond the face of the retaining wall



**Table 4 Holding Bay/Runway Configuration Options, Runway 28 (Options 5E, 5F, 5D-1, AND 5G-1)**

Scenario	Scenario Element	Vegetation Community Type Affected (Acres)				Comments
		MS	G2	G3	D	
5E	Terminal			0.73	1.53	G2 and MS will be affected. Impact to G2 is considered a moderate American Burying Beetle habitat impact. Impact to MS is considered a minor American Burying Beetle habitat impact.
	60' Runway Shift			0.14		
	10 End Taxiway					
	28 End Taxiway	0.13	0.11	0.31		
	<b>TOTAL</b>	<b>0.13</b>	<b>0.11</b>	<b>1.18</b>	<b>1.53</b>	
5F	Terminal			0.73	1.53	G2 and MS will be affected. Impact to G2 is considered a moderate American Burying Beetle habitat impact. Impact to MS is considered a minor American Burying Beetle habitat impact.
	60' Runway Shift			0.14		
	10 End Taxiway					
	28 End Taxiway	0.09	1.34	0.36		
	<b>TOTAL</b>	<b>0.09</b>	<b>1.34</b>	<b>1.23</b>	<b>1.53</b>	
5D-1	Terminal			0.73		No Impact
	60' Runway Shift			0.14		
	10 End Taxiway			0.74		
	28 End Taxiway			0.45		
	<b>TOTAL</b>			<b>2.06</b>		
5G-1	Terminal			0.73		No Impact
	60' Runway Shift			0.14		
	10 End Taxiway			0.74		
	28 End Taxiway			0.16		
	<b>TOTAL</b>			<b>1.77</b>		

MS - Maritime Shrubland is the principal upland vegetation type on Block Island and the dominant natural vegetation community on Airport property. This vegetation type characteristically has low species diversity. Common species in these areas include Northern Bayberry, Arrowwood, Shadbush, and Multiflora Rose. This Vegetation Cover type may be used by the American Burying Beetle a federally protected insect species, however the USFWS states that it occurs more readily in grassy fields and meadows than in shrub thickets or wooded habitats.

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BLOCK  
ISLAND  
AIRPORT

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**Airport  
Master  
Plan**

RIAC

BLOCK  
ISLAND  
AIRPORT

**Airport  
Master  
Plan**

## Appendix F

### Miscellaneous Engineering Plans

RIAC

BLOCK  
ISLAND  
AIRPORT

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**Airport  
Master  
Plan**

RIAC

# General Aviation Aircraft Dimensions

Sort by *Wingspan*

Aircraft Type	Seating Capacity	Wingspan	Max Gross Weight (pounds)	Length	Aircraft Reference Code/Design Category
Piper Seminole	4	38'6"	3,800	27'6"	A-I
<b>Beech 76 Duchess (Multi-Engine)</b>	<b>4</b>	<b>38'0"</b>	<b>3,900</b>	<b>29'0"</b>	<b>A-I</b>
Cessna 172	4	36'2"	2,300	26'6"	A-I
Cessna 182	4	36'0"	2,550	26'0"	A-I
Diamond Katana	2	35'8"	1,654	23'6"	A-I
Cessna 172SP	4	35'10"	2,550	27'2"	A-I
Cessna 172SP/R	4	35'10"	2,550	27'2"	A-I
Cessna 182T	4	35'10"	3,100	28'5"	A-I
Cessna T182T	4	35'10"	3,100	28'5"	A-I
Piper PA28-161 Warrior	4	35'0"	2,325	23'8"	A-I
Piper Tomahawk	2	34'0"	1,670	23'1"	A-I
Cessna 152	2	33'2"	1,670	24'1"	A-I
Beech C24R Sierra (Complex)	4	32'9"	2,750	25'9"	A-I
Piper Cherokee Six-300	6-7	32'8"	3,400	27'7"	-I
Decathlon (Aerobatic Trainer)	2	32'0"	1,800	22'11"	A-I
Piper Arrow	4	32'0"	2,650	24'6"	A-I
Robinson R22 Helicopter	2	25'2" (Rotor Diameter)	1,370	28'9"	-

Source: [various]

General Aviation Aircraft Dimensions

Sort by Aircraft Type

Aircraft Type	Seating Capacity	Wingspan	Max Gross Weight (pounds)	Length	Airport Reference Code/ Design Category
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Beech C24R Sierra (Complex)	4	32'9"	2,750	25'9"	A-I
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Cessna 172	4	36'2"	2,300	26'6"	A-I
Cessna 172SP	4	35'10"	2,550	27'2"	A-I
Cessna 172SP/R	4	35'10"	2,550	27'2"	A-I
Cessna 182	4	36'0"	2,550	26'0"	A-I
Cessna 182T	4	35'10"	3,100	28'5"	A-I
Cessna T182T	4	35'10"	3,100	28'5"	A-I
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Piper Tomahawk	2	34'0"	1,670	23'1"	A-I
Robinson R22 Helicopter	2	25'2" (Rotor Diameter)	1,370	28'9"	-

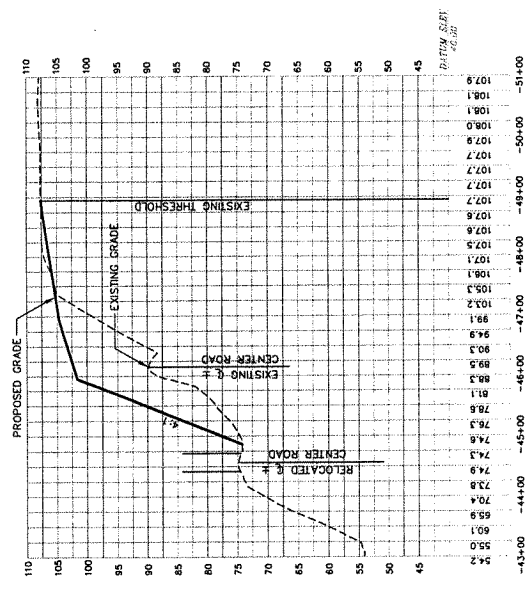
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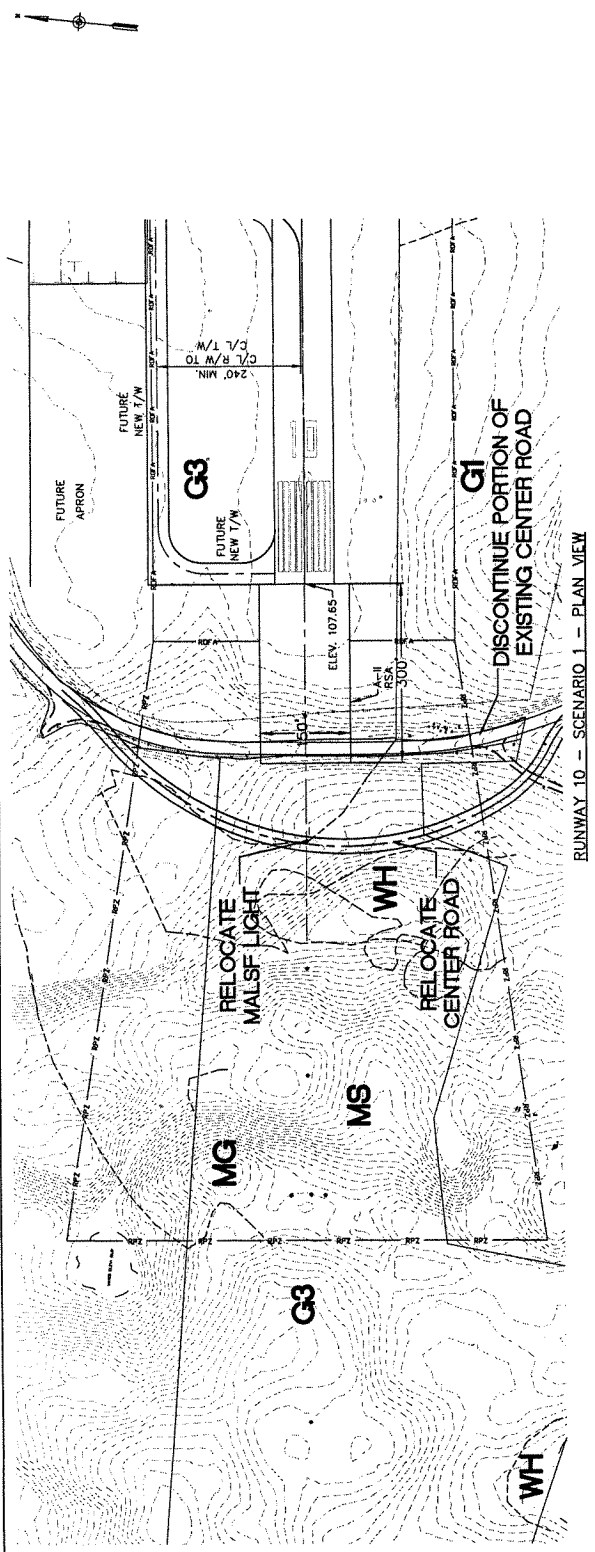
GRAPHIC SCALE  
(IN FEET)  
1 inch = 100 ft.

RUNWAY 10 END-SCENARIO 1 - PROFILE

SCALE: 1"=100' HORIZ.  
1"=10' VERT.



Vegetation Communities	
WH	Wetland Habitat
F	Forest
MS	Maritime Shrubland
D	Developed/Disturbed Land
Grassland	
MG	Marine Grassland
G-1	Managed Grassland, mowed annually in late autumn
G-2	Managed Grassland, mowed infrequently through the year
G-3	Managed Grassland, regularly mowed for airport operations



RUNWAY 10 - SCENARIO 1 - PLAN VIEW

SCALE: 1"=100'

RELOCATE CENTER ROAD  
HABITAT MAP AND  
SCENARIO 1 - R/W 10

RHODE ISLAND AIRPORT CORPORATION

PROJECT DESIGNER  
Hoyle, Tanner & Associates, Inc.

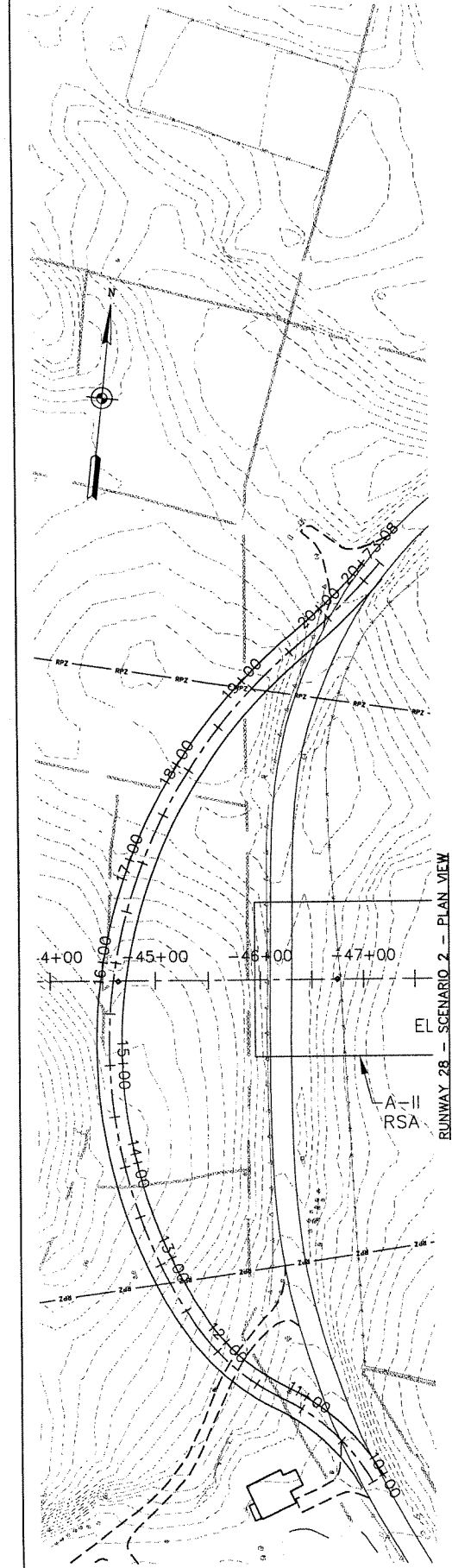
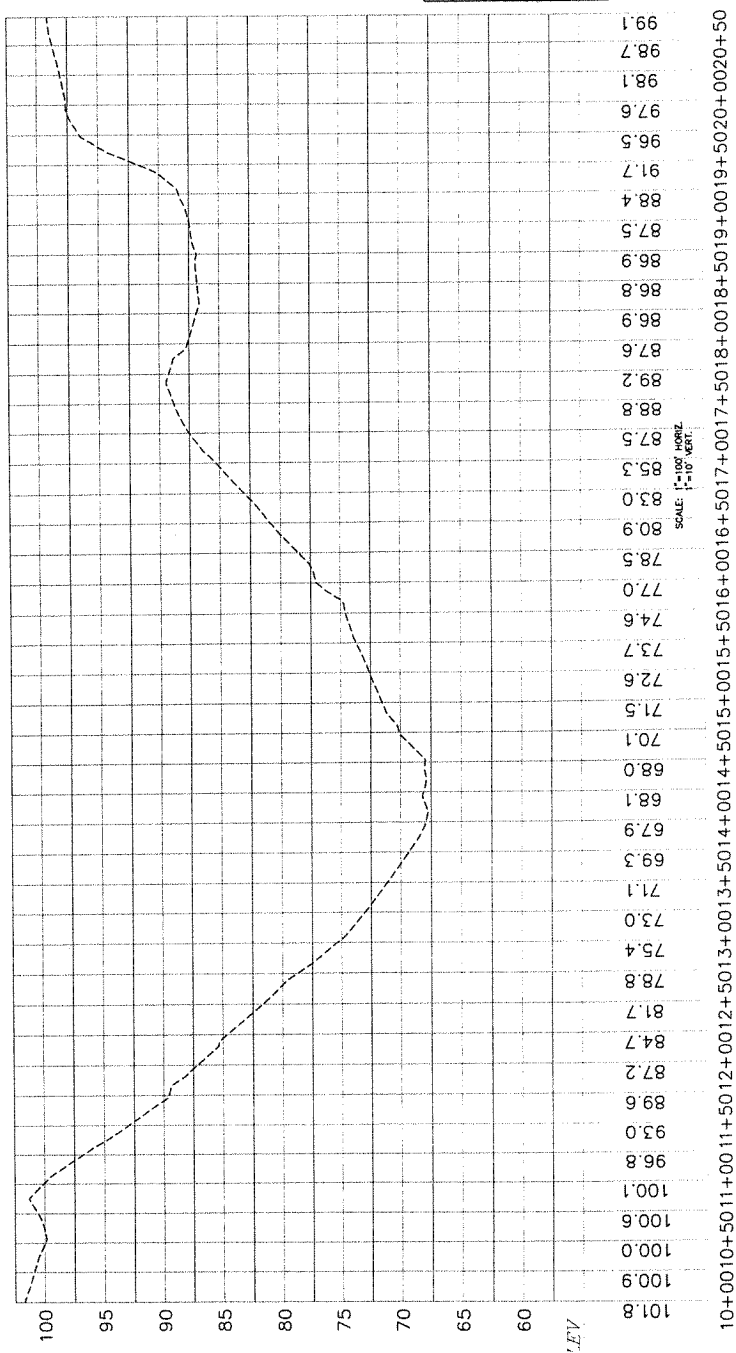
PROJECT NO.  
STATE  
PROJECT NO.  
DATE

DESIGNER  
Hoyle, Tanner & Associates, Inc.

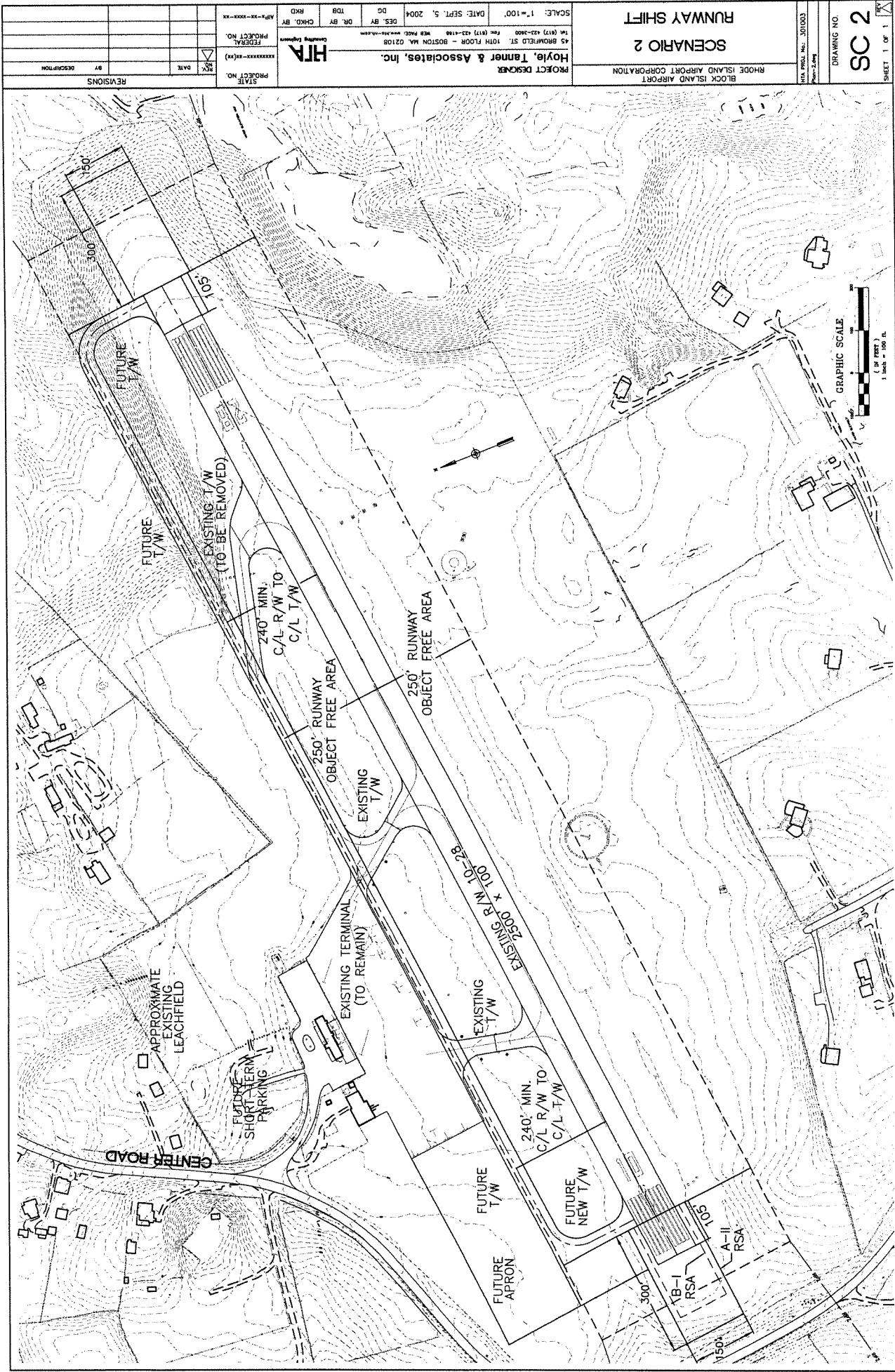
DATE: SEPT. 5, 2004

SCALE: 1"=100'	DATE: SEPT. 5, 2004
PROJECT NO.	STATE
PROJECT NO.	DATE
DESCRIPTION	BY
REVISIONS	DATE

G-3 Managed Grassland, regularly mowed for airport operations

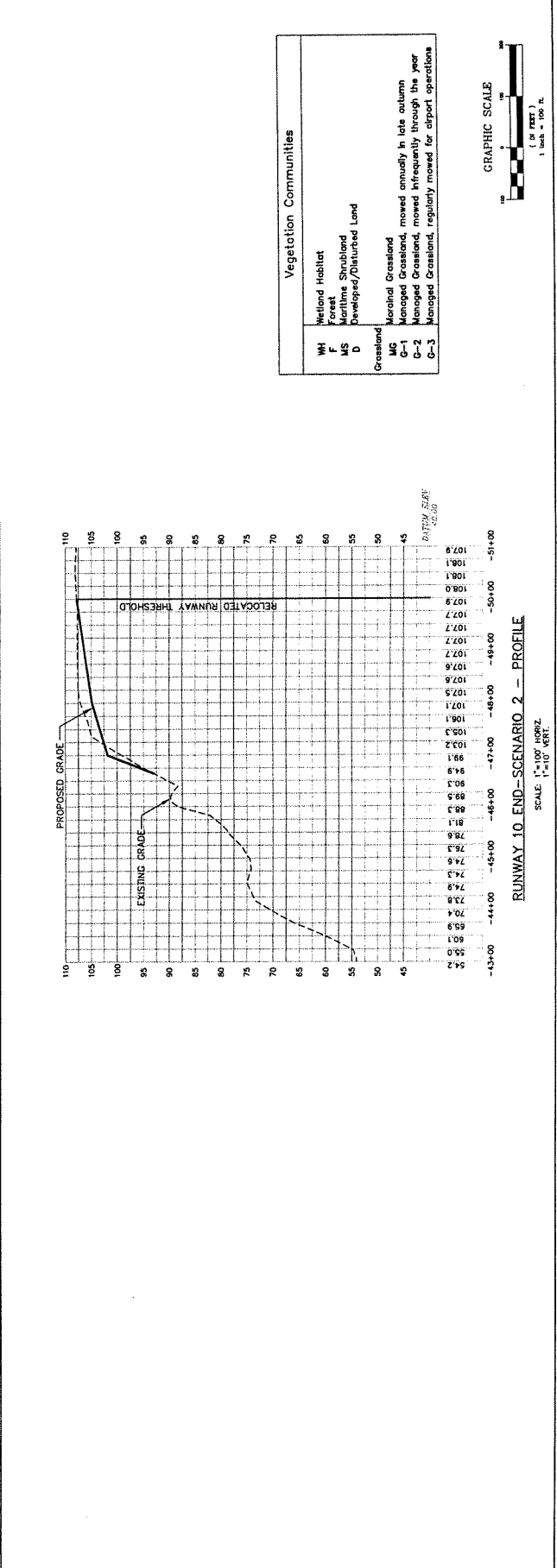
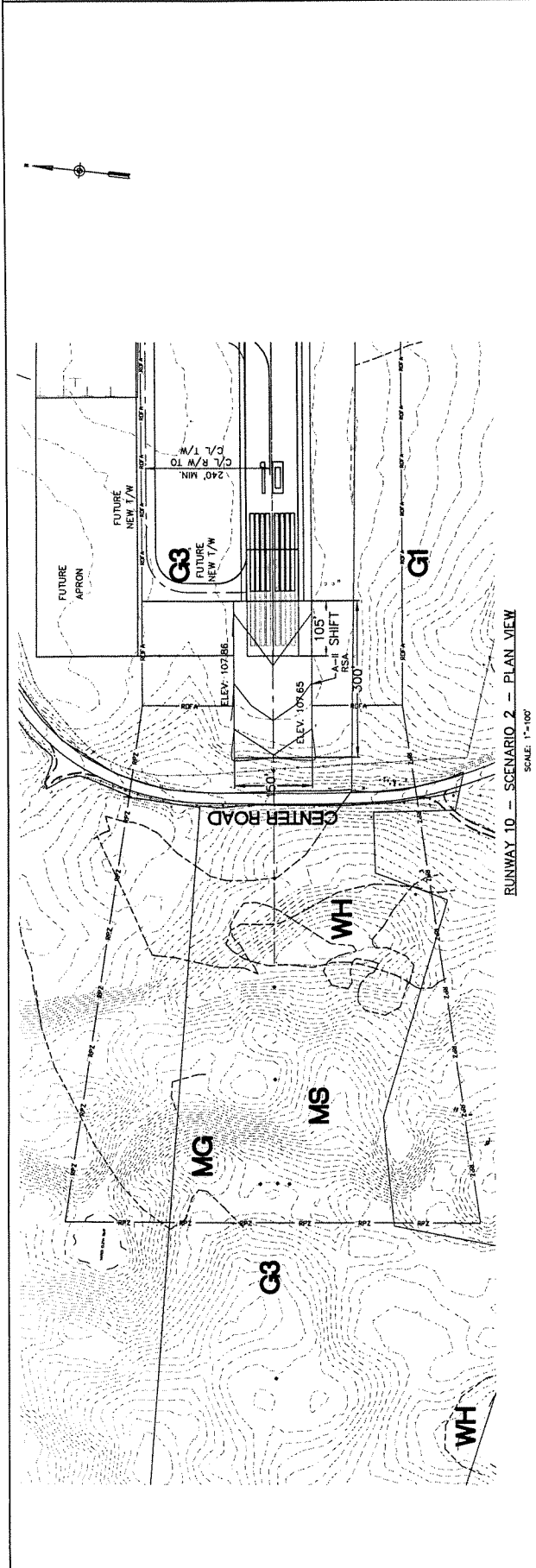






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RHODE ISLAND AIRPORT CORPORATION		PROJECT NO. XXXXXX-XX		CONTRACT NO. XXXXXX-XX		SHEET 1 OF 1	
STATE		FEDERAL		LOCAL		REVISIONS	
NO.		DATE		BY		DESCRIPTION	

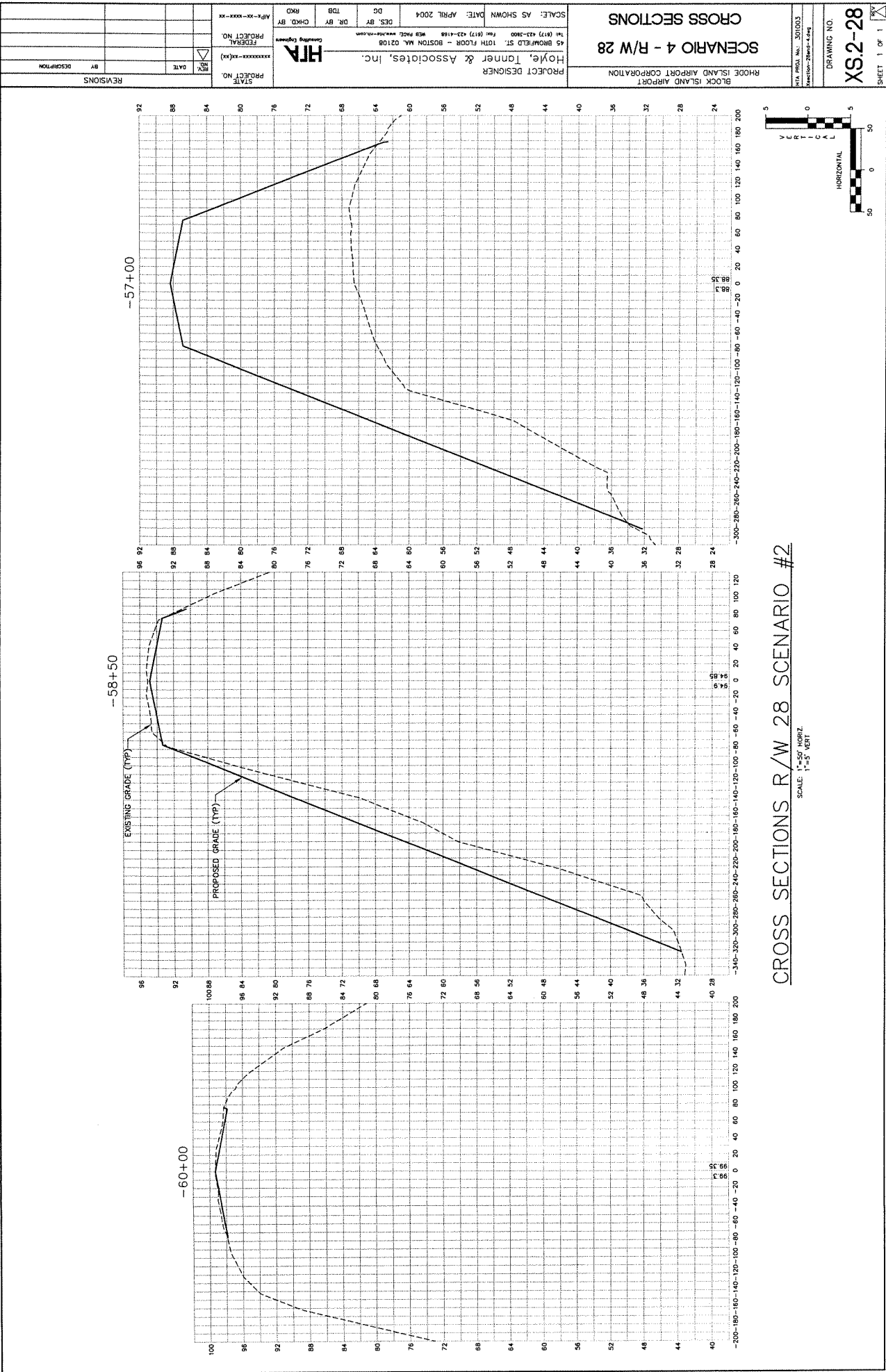
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Vegetation Communities	
WH	Wetland Habitat
MS	Managed Grassland
MG	Managed Grassland
D	Developed/Disturbed Land



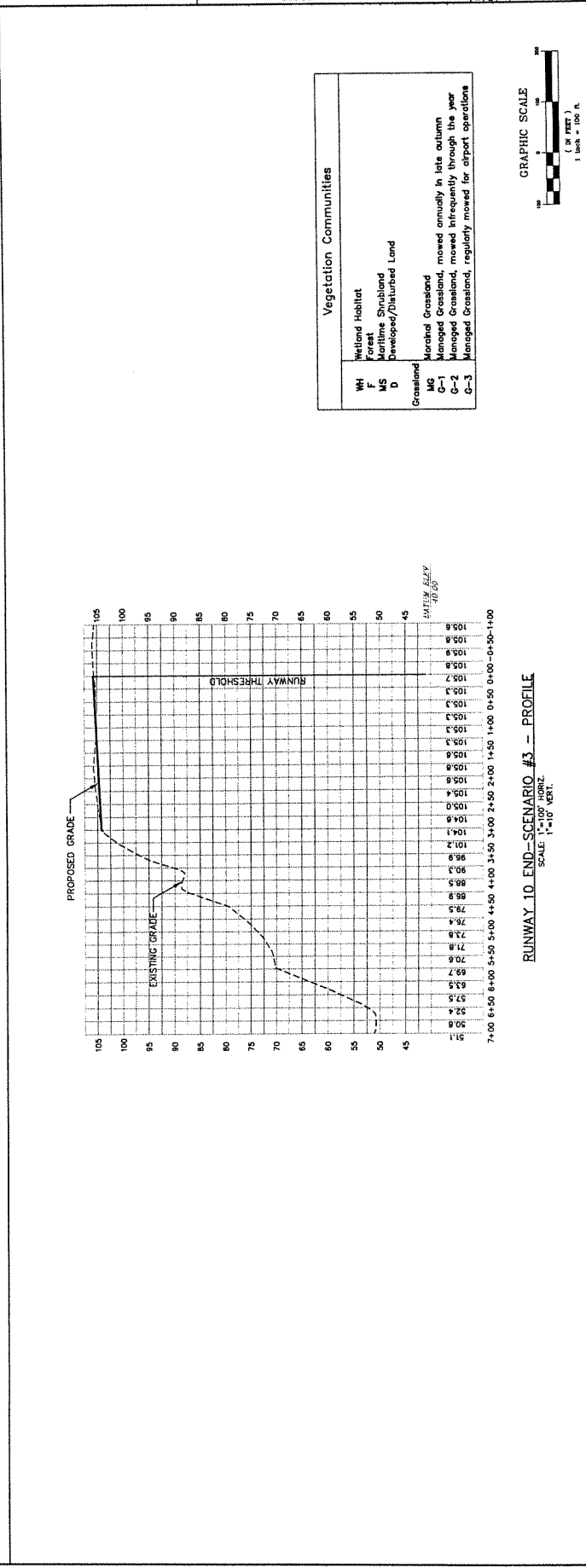


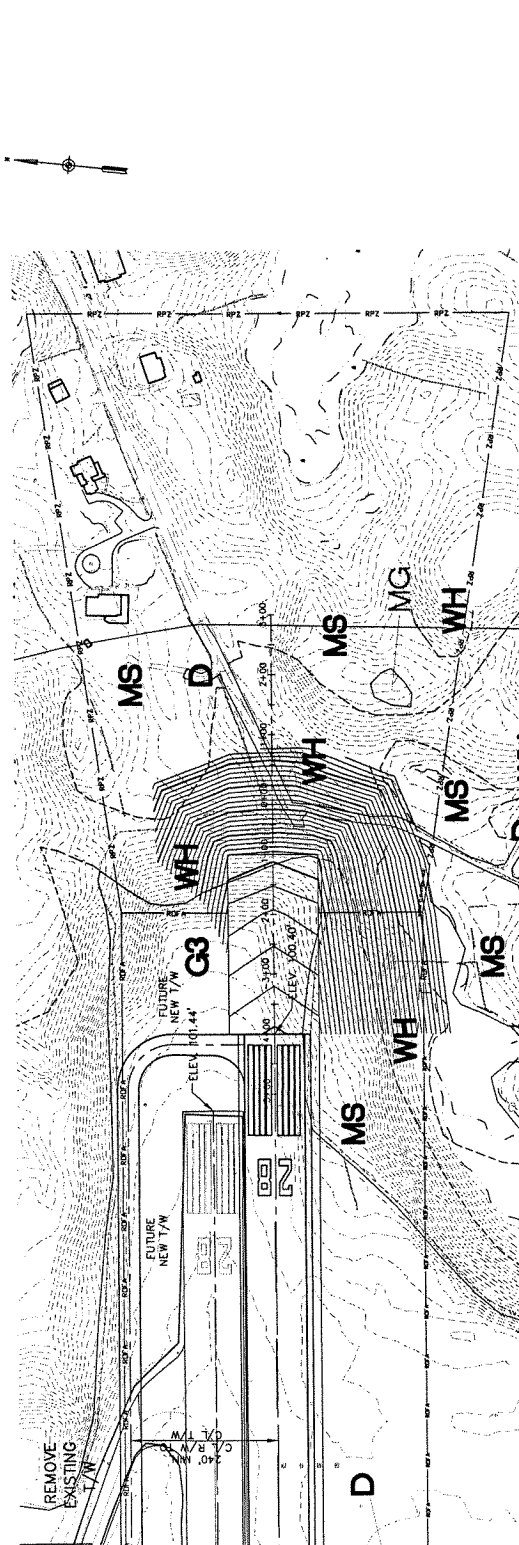


CROSS SECTIONS R/W 28 SCENARIO #2

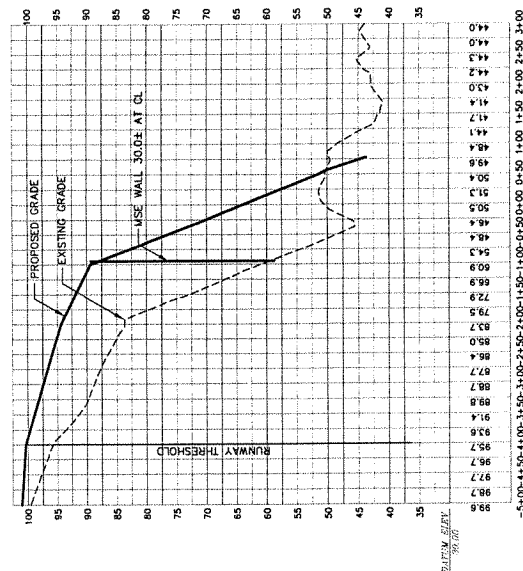
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PROJECT DESIGNER: Hoyle, Tanner & Associates, Inc. 45 BROWNFIELD ST. 10TH FLOOR - BOSTON MA 02108 TEL (617) 423-3600 FAX (617) 423-6168 WEB PAGE: www.hta-inc.com					
SCALE: AS SHOWN DATE: APRIL 2004					
DC	DES. BY	DR. BY	TDB	CHKD. BY	RKD
HFA Consulting Engineers					
PROJECT NO. XXXXXXXX-04(XX)					
FEDERAL PROJECT NO.					
STATE PROJECT NO.					
DATE					
REVISIONS					
BY DESCRIPTION					



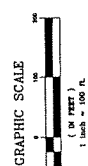


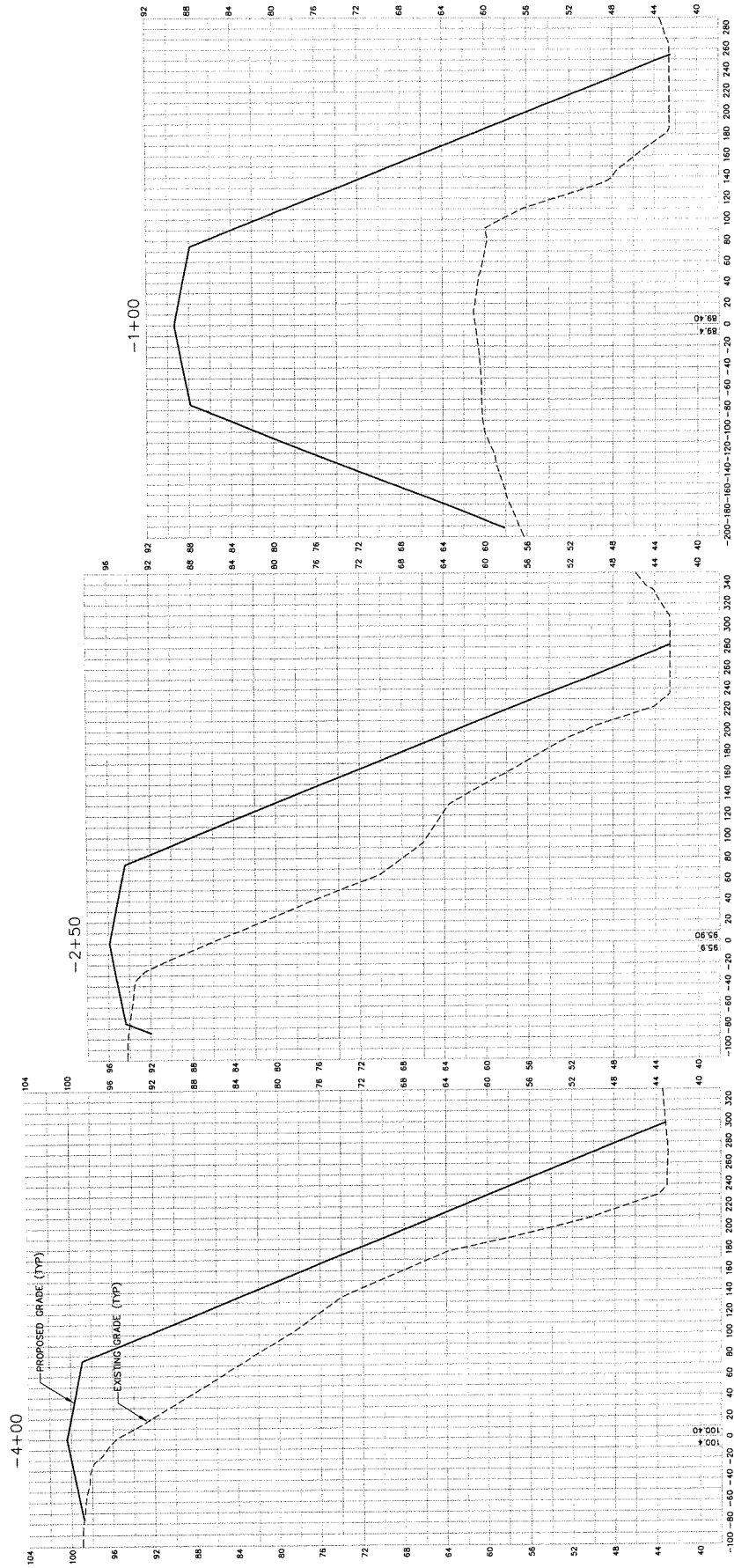


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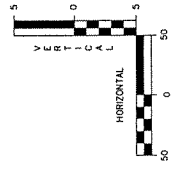
RUNWAY 28 END-SCENARIO #3 - PROFILE





CROSS SECTIONS R/W 28 SCENARIO #3

SCALE: 1"=50' HORIZ.  
1"=5' VERT.



HORIZONTAL

**X5.3-28**

1336  
SHEET 1 OF 1

SCENARIO 3 - R/W 28  
CROSS SECTIONS

PROJECT DESIGNER	HOYE, TANNER & ASSOCIATES, INC.
145 BROADFIELD ST. 10TH FLOOR - BOSTON MA. 02108	TEL: (617) 423-2800 FAX: (617) 423-4108 WEB PAGE: www.hta-
SCALE: AS SHOWN	DATE: APRIL 2004
	DWG. DES.

**HTA** Consulting Engineers

STATE  
PROJECT NO. XXXXXXXX--XX(XX)

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FEDERAL  
PROJECT NO. AIPX--XX--XXXX--XX

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SCENARIO 2  
GRADING TRIAL

BLOCK ISLAND AIRPORT  
MODE ISLAND AIRPORT CORPORATION

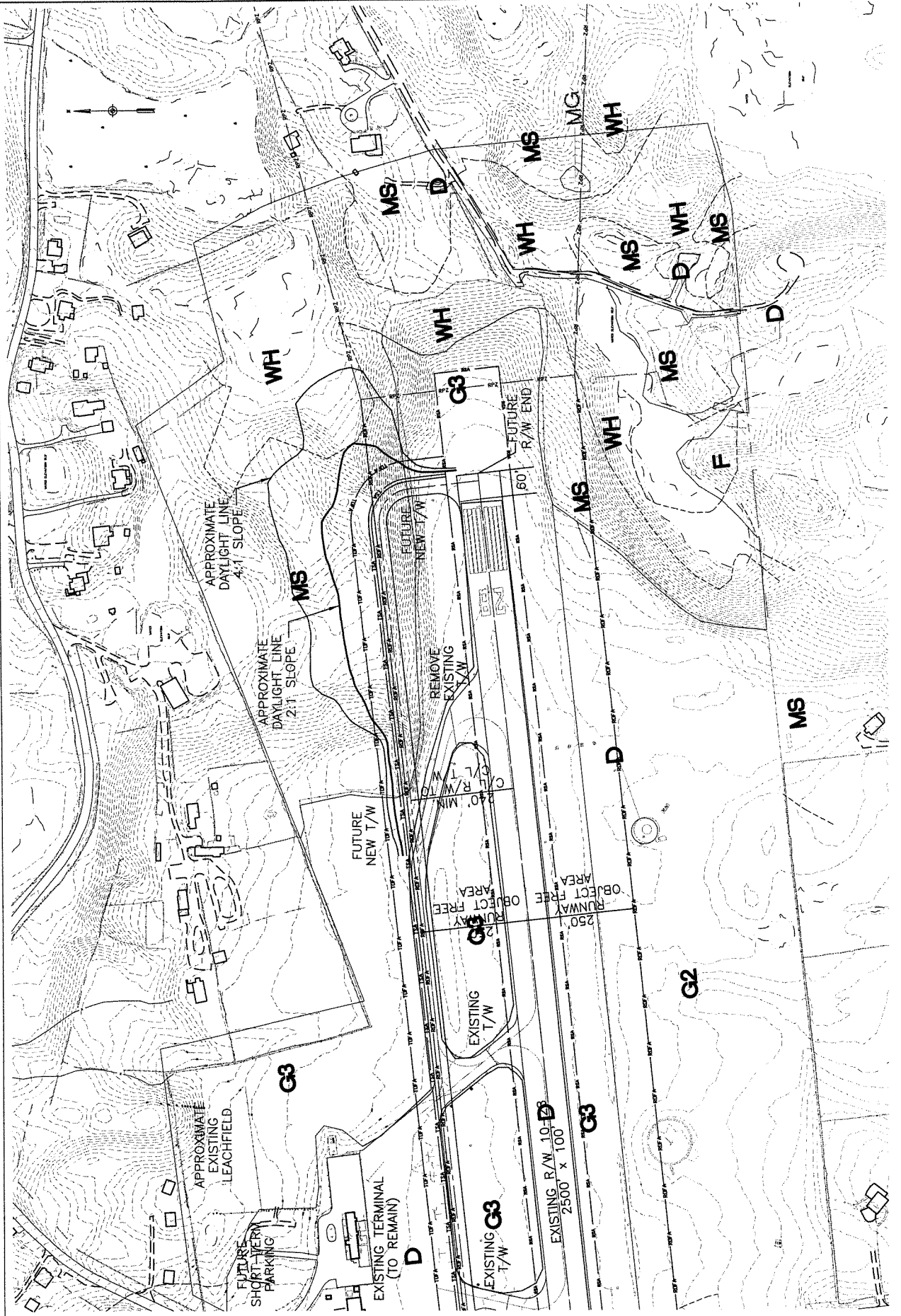
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**Hoyle, Tanner**  
45 BROMFIELD ST. 107  
TEL (817) 423-2800  
FAX (817) 423-2800  
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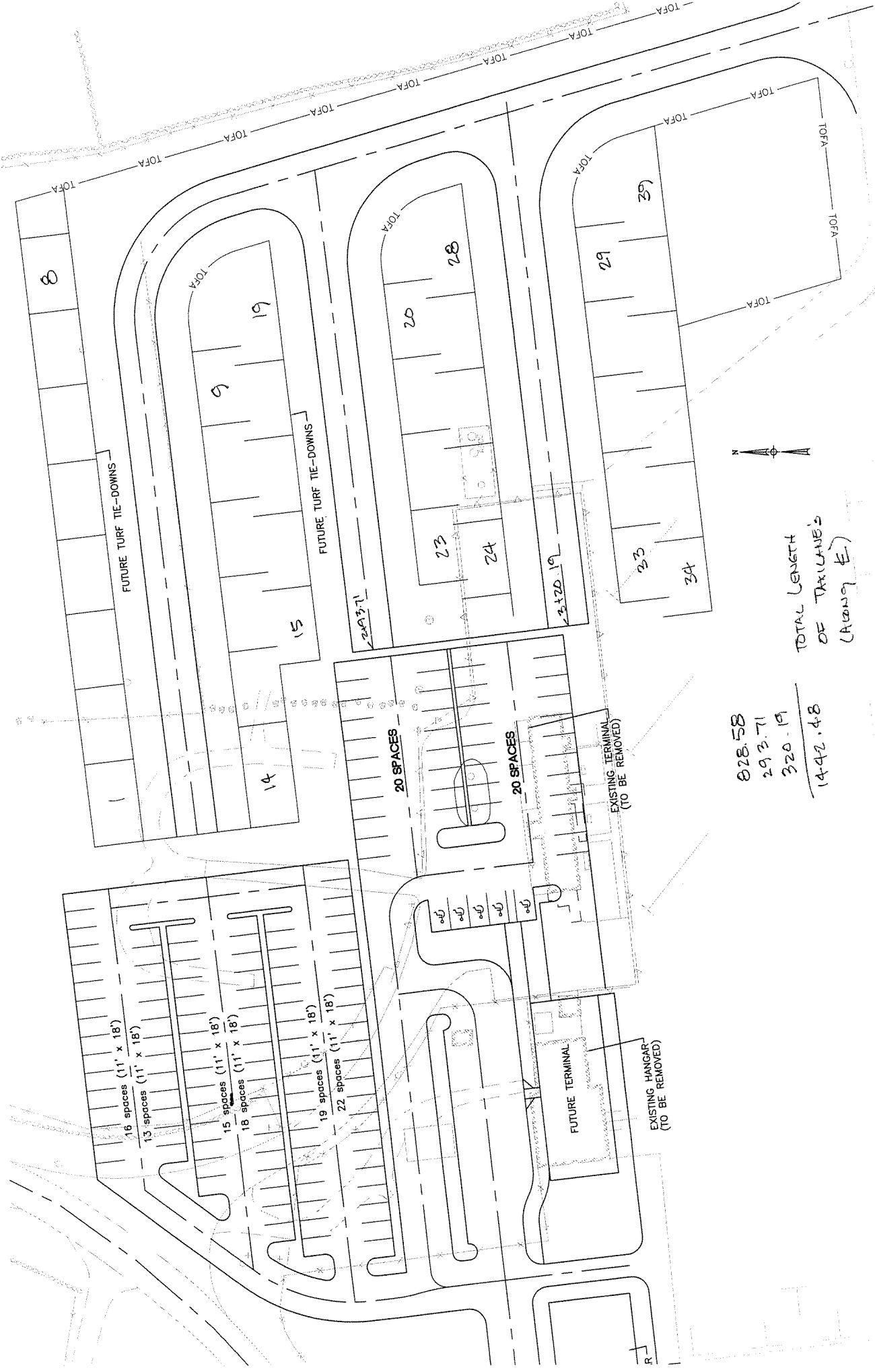
DATE: NOV. 18, 2004	DES. BY SGB	OR. BY SGB	CHECKD. BY RKD
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H FLOOR - BOSTON MA 02108  
 (617) 432-4188 FAX: www.kja-nj.com  
**& Associates, Inc.**  
**HTA**  
 Consulting Engineers

STATE PROJECT NO.	NO.	FEDERAL PROJECT NO.	AIP
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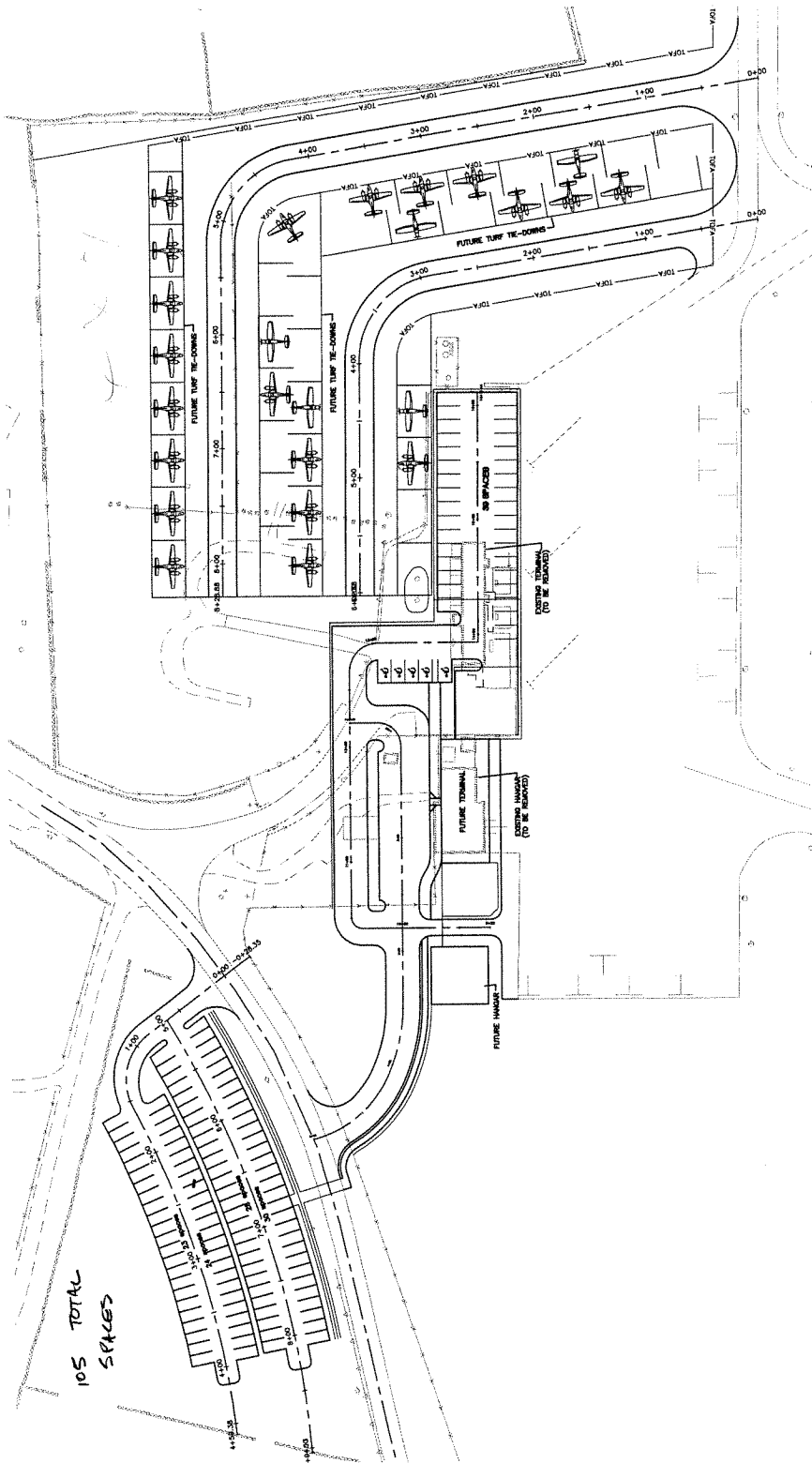
REV.	DATE	BY	DESCRIPTION





TOTAL LENGTH  
OF TRAILERS  
(Along E.)

828.58
293.71
320.19
<hr/> 1442.48



105 TOTAL  
SPACES

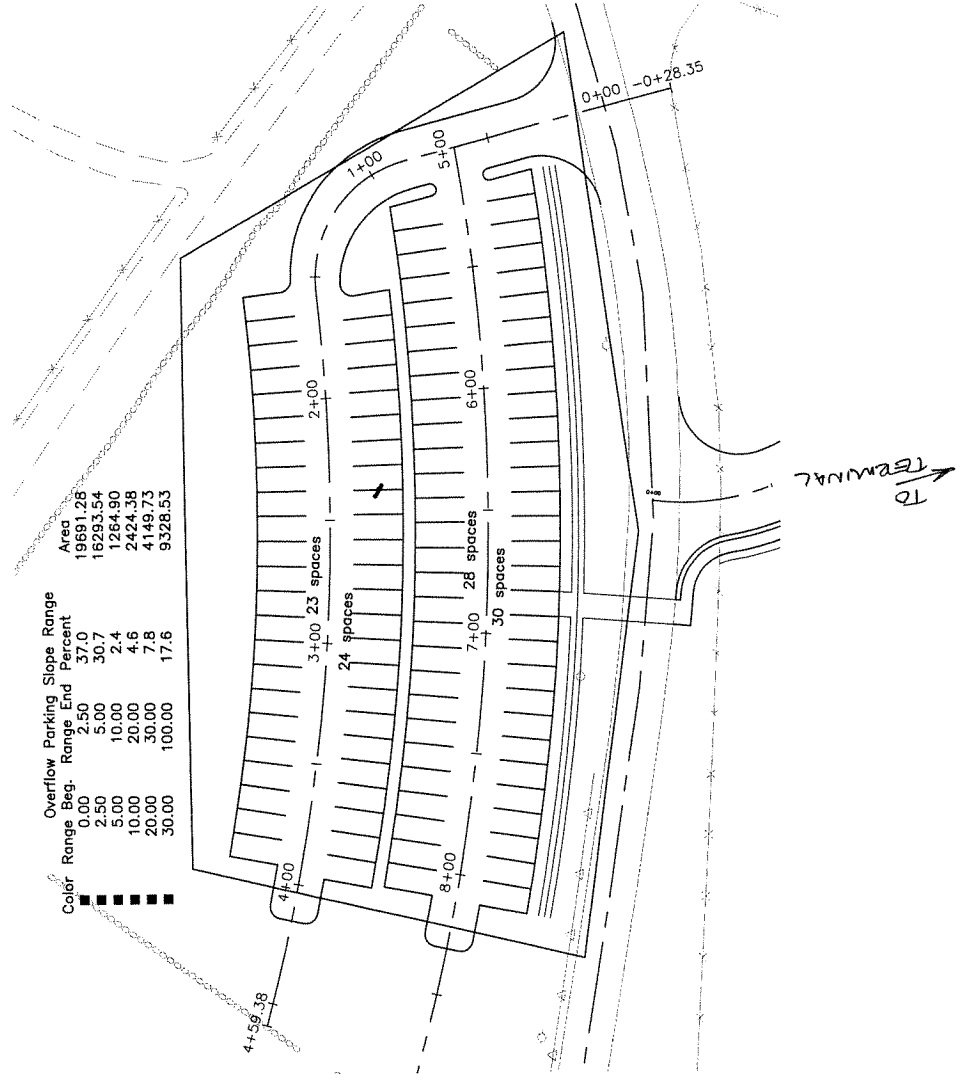
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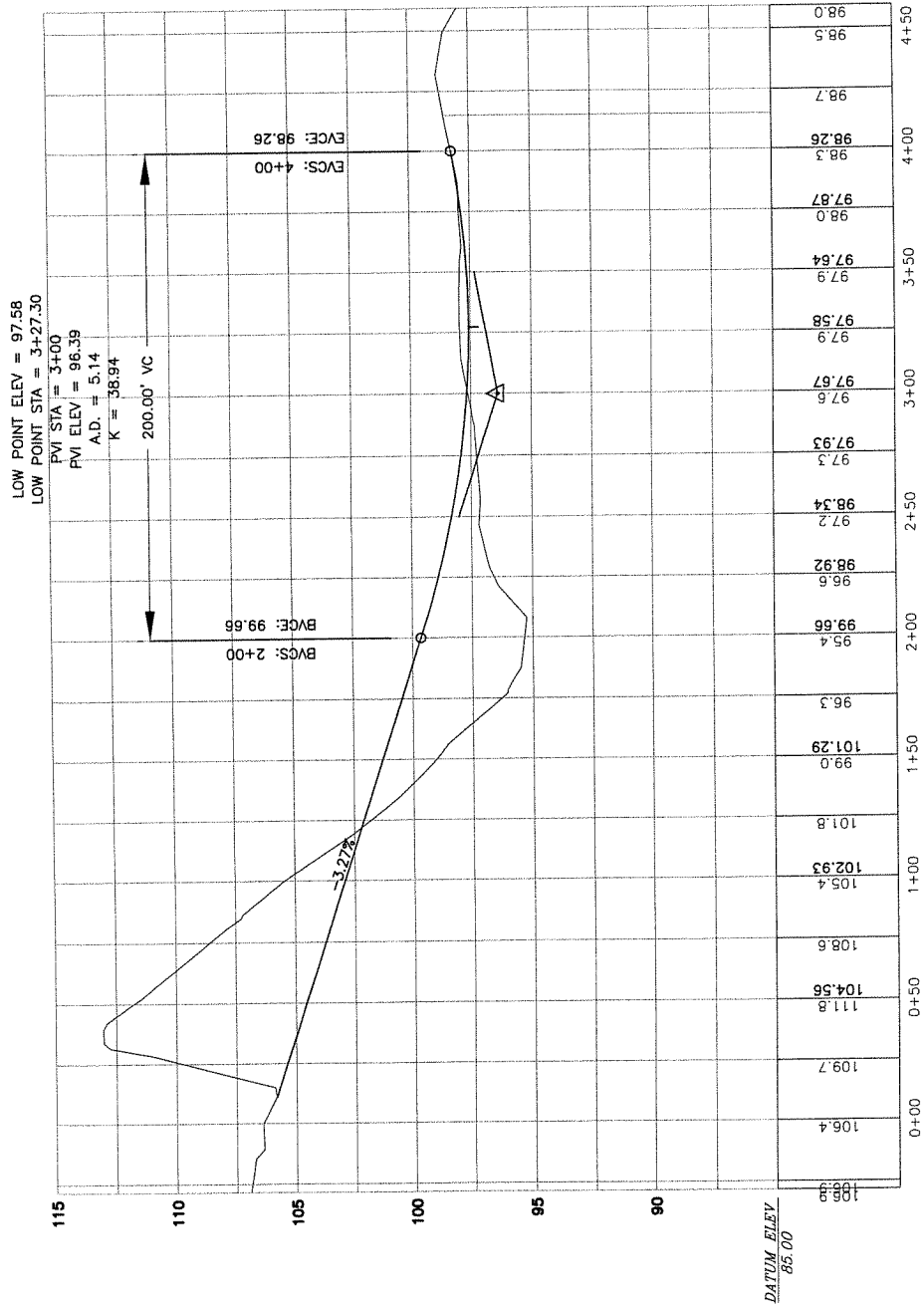
4300 Cut  
 1415 Fill  
 2886 Cut Net

55510 of

could come up  
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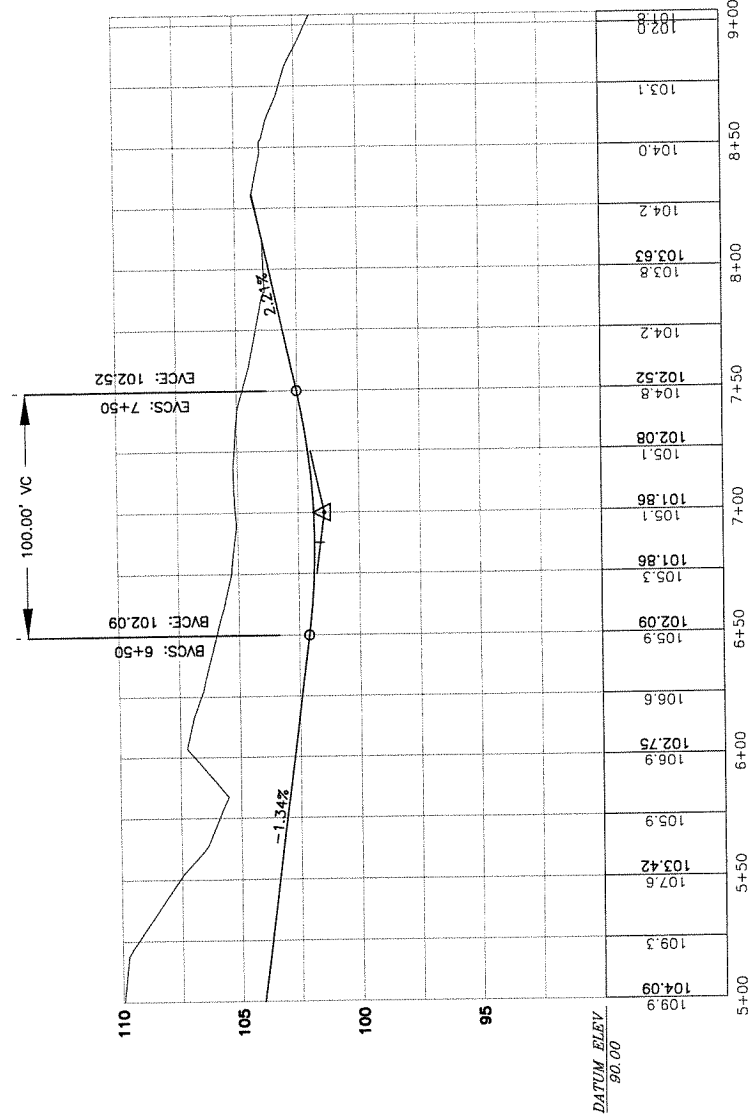
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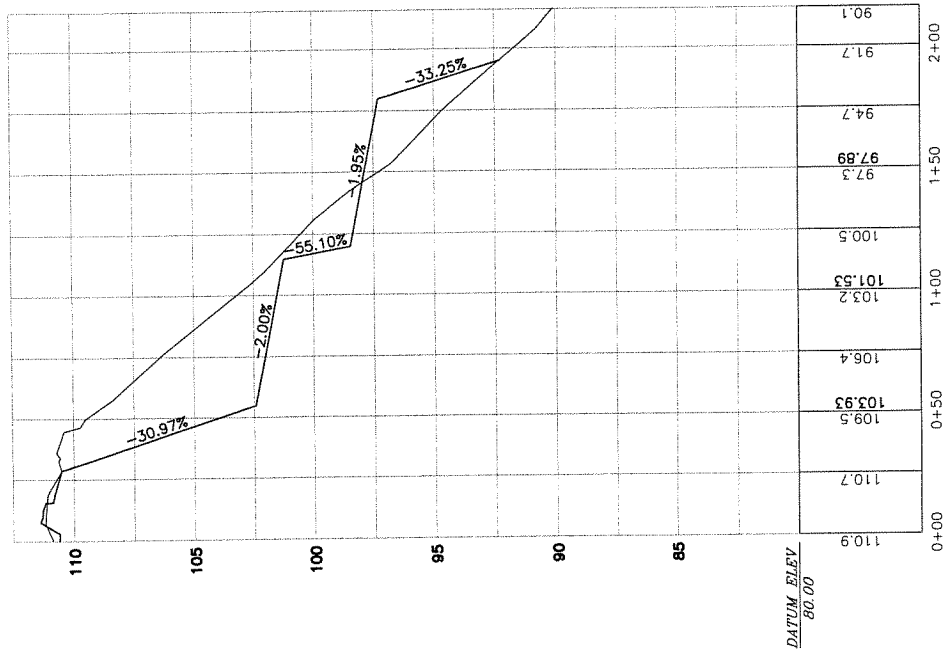


ENTRANCE TO  
 OVERFLOW  
 PARKING  
 50/5

LOW POINT ELEV = 101.84  
 LOW POINT STA = 6+87.67  
 PVI STA = 7+00  
 PVI ELEV = 101.42  
 A.D. = 3.54  
 K = 28.22



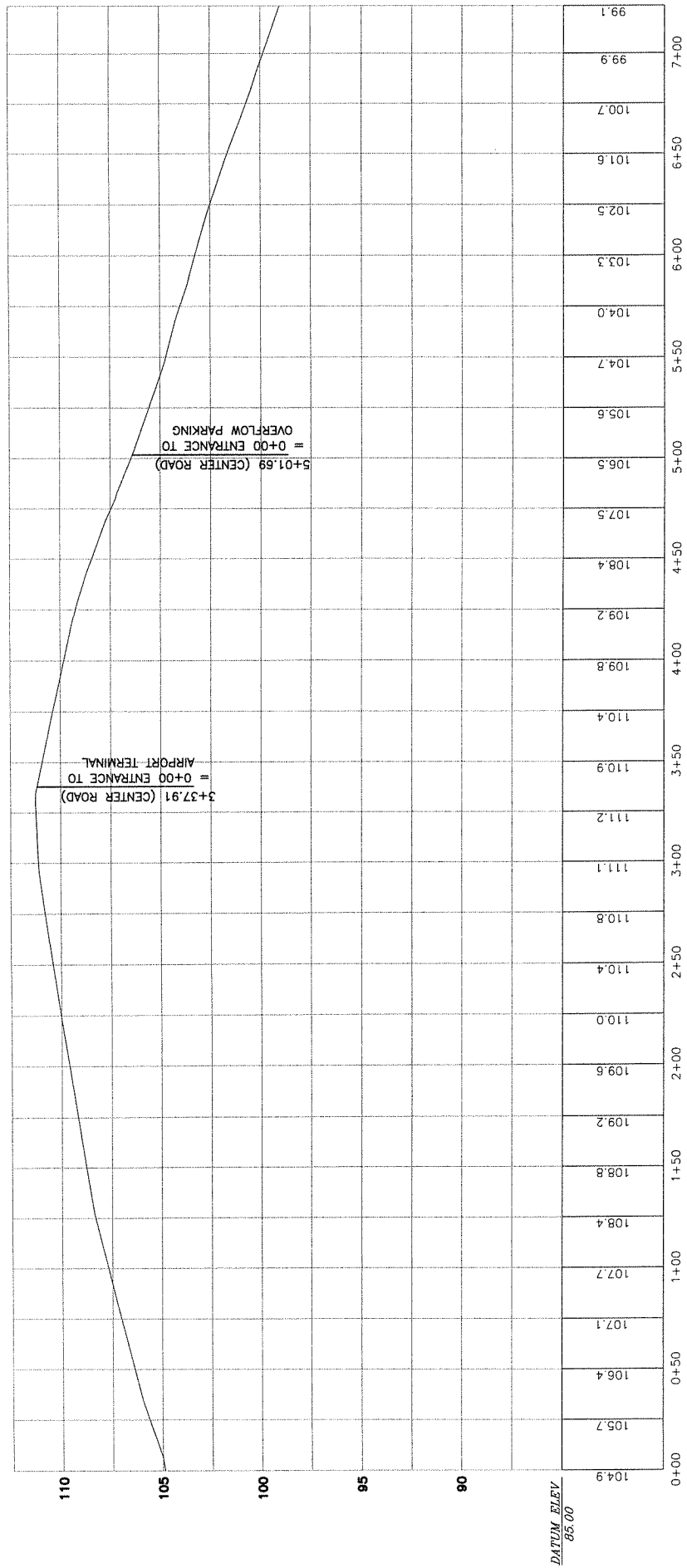
OVERFLOW  
 Row 1  
 50/5



WALKWAY TO  
OVERFLOW PARKING  
5/5/15



CENTER ROAD  
50/5



SCENARIO 5  
HOLDING BAY OPTION  
RWY 28

BLOCK ISLAND AIRPORT  
RHODE ISLAND CORPORATION

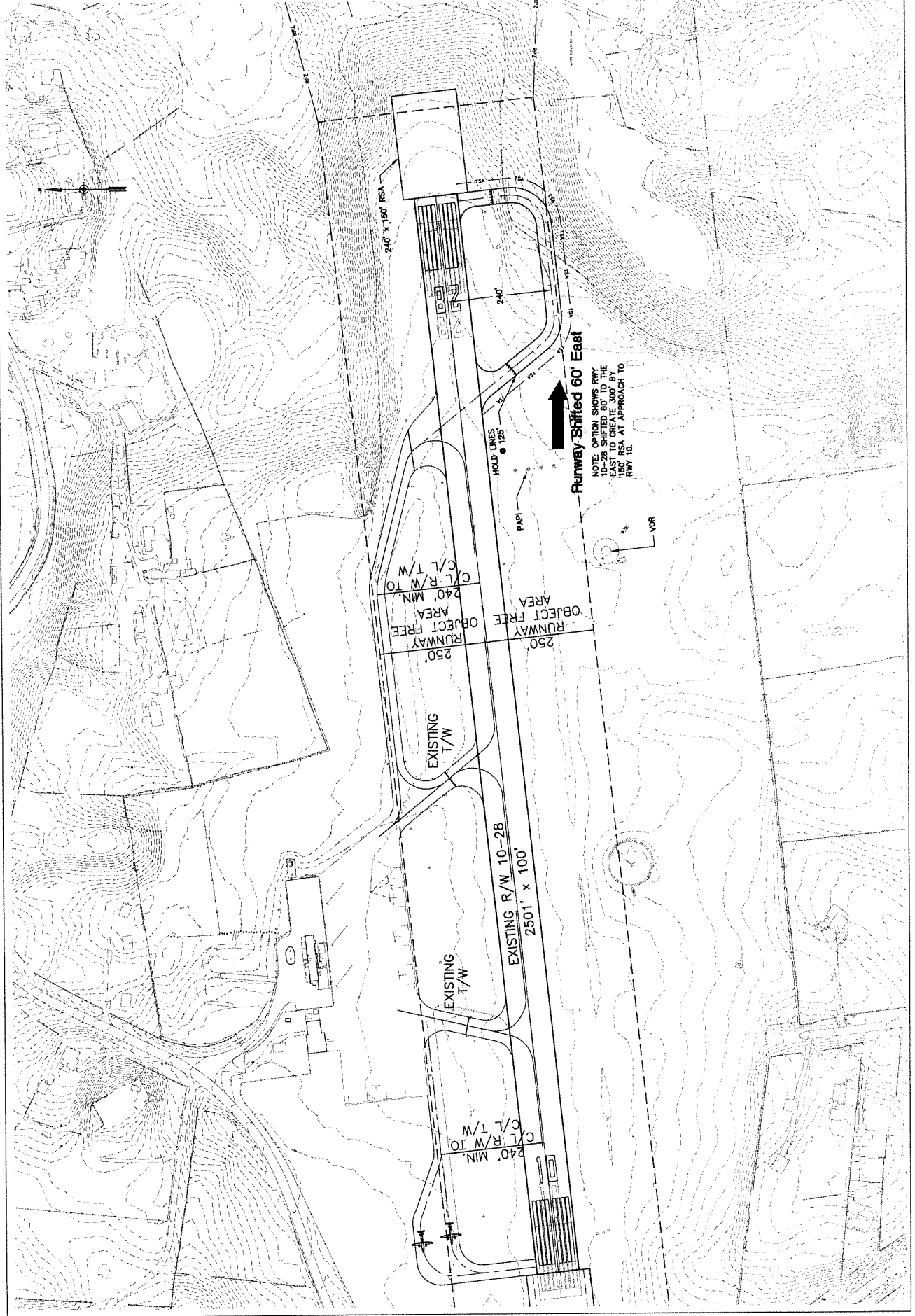
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Hoyle, Tanner & Associates, Inc.  
45 BROWNFIELD ST., 10TH FLOOR - BOSTON MA, 02108  
Tel: (617) 423-3800 Fax: (617) 423-4188 WEB PAGE: www.hta.com

HRA  
Consulting Engineers

STATE  
PROJECT NO.  
FEDERAL  
PROJECT NO.

REVISIONS

REV. NO.	DATE	BY	DESCRIPTION



SCENARIO 5A  
HOLDING BAY OPTION  
RUNWAY 28

BLOCK ISLAND AIRPORT  
RHODE ISLAND AIRPORT CORPORATION

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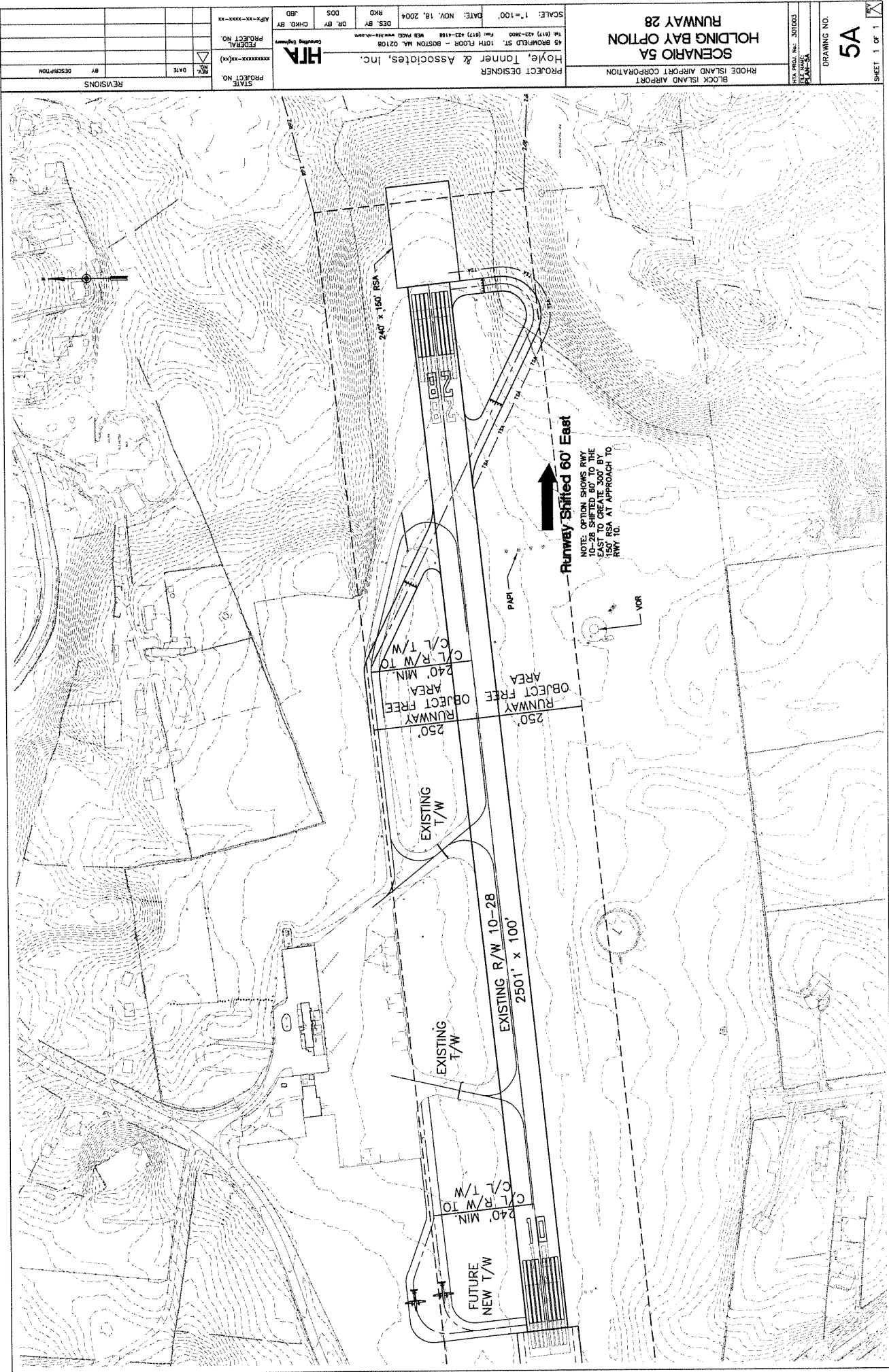
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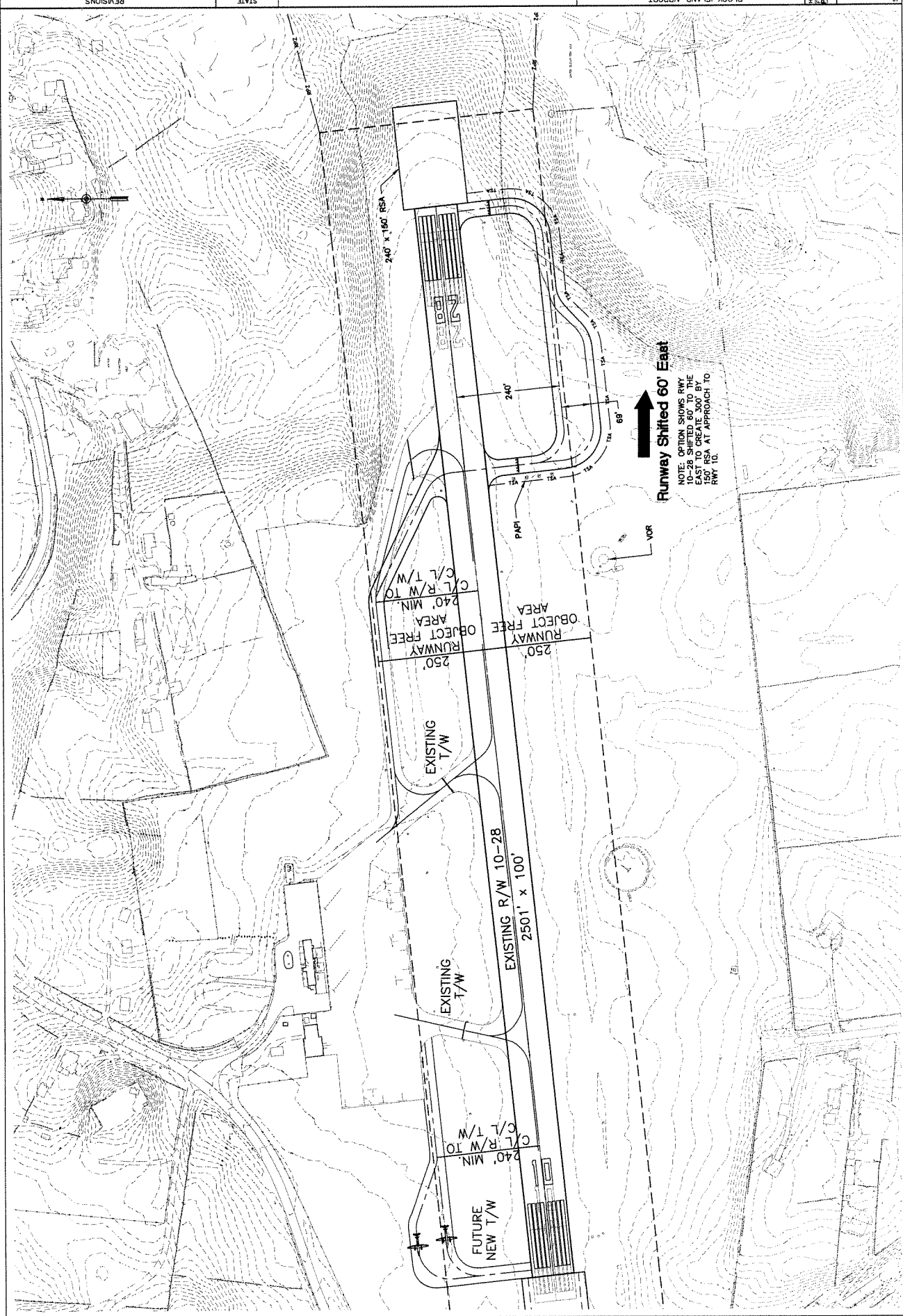
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19







SCENARIO 5D  
HOLDING BAY OPTION  
RUNWAY 28

BLOCK ISLAND AIRPORT  
RHODE ISLAND AIRPORT CORPORATION

## Highway Smiled 60' East

NOTE: OPTION SHOWS RWY 10-28 SHIFTED 60' TO THE EAST TO CREATE 300' BY 150' RSA AT APPROACH TO RWY 10.

EXISTING R/W 10'-28'  
2501' x 100'

240' MIN. C/L R/W TO C/L T/W


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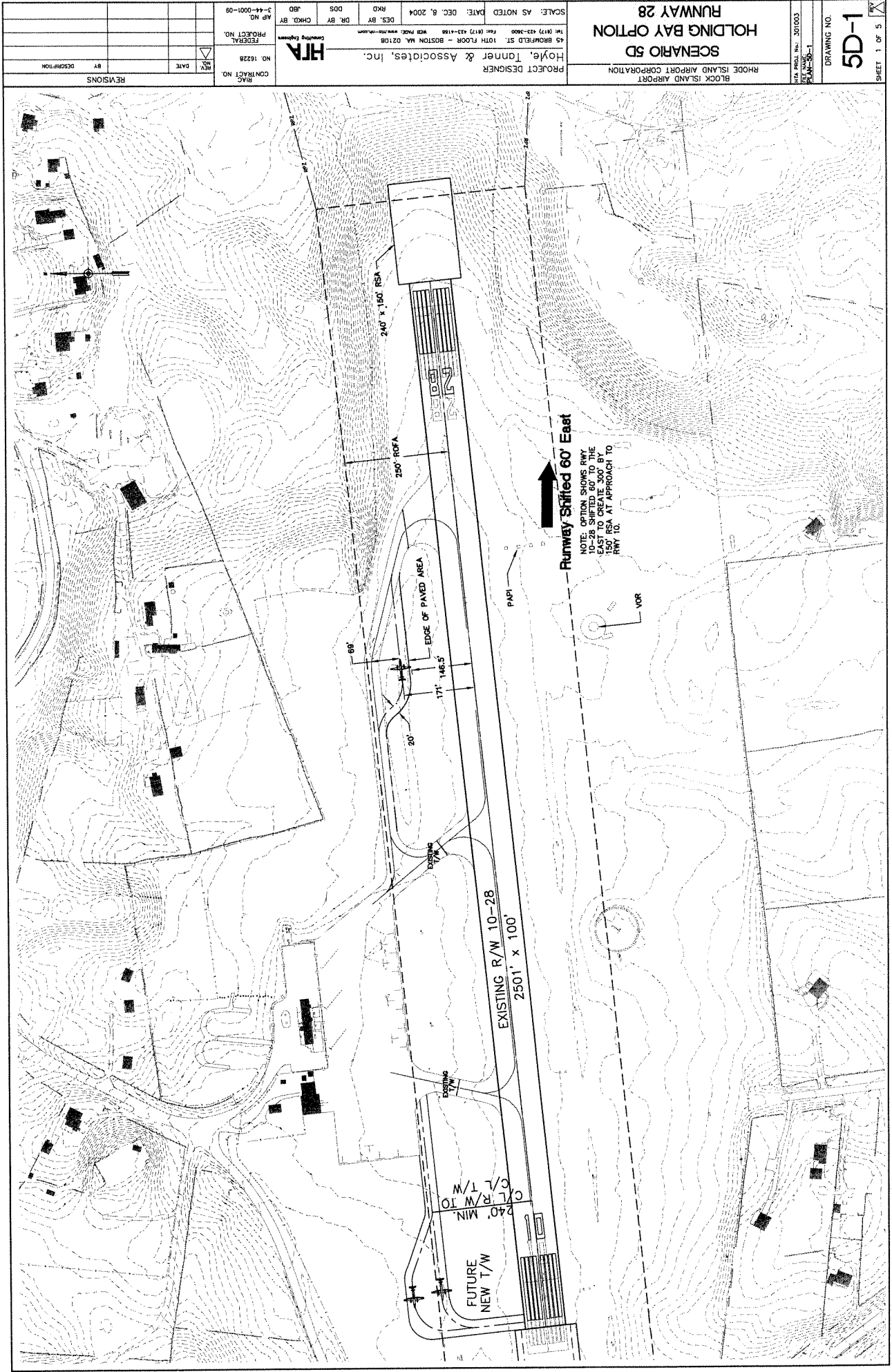
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1999

PROJECT DESIGNER Hoye, Toner & Associates, Inc.				45 BOWDOEN ST. 10TH FLOOR - BOSTON MA 02108 TEL: (617) 337-3500 FAX: (617) 337-1188 WWW: WWW.HOYE-TONER-ASSOCIATES.COM		SCALE: 1" = 100' DATE: NOV. 18, 2004		RMD DDB JBD		CHKD. BY DDB		APPR. BY: 10000-XXXX-XXXX PROJECT NO. 10000-XXXX-XXXX		STATE PROJECT NO. 10000-XXXX-XXXX	
REVISIONS		REV. NO.		DATE		BY		DESCRIPTION							



PROJECT DESIGNER Hoyte, Tinner & Associates, Inc.	DATE: DEC. 8, 2004	SCALE: AS NOTED
PROJECT NO. 16228	DES. BY JBD	DATE: DEC. 8, 2004
CONTRACT NO.	CHKD. BY JBD	DATE: DEC. 8, 2004
REVISIONS	REV. NO.	DATE

SCENARIO 5D  
 HOLDING BAY OPTION  
 RUNWAY 28

PROJECT NO. 16228  
 CONTRACT NO.

DRAWING NO. 5D-1  
 SHEET 1 OF 5



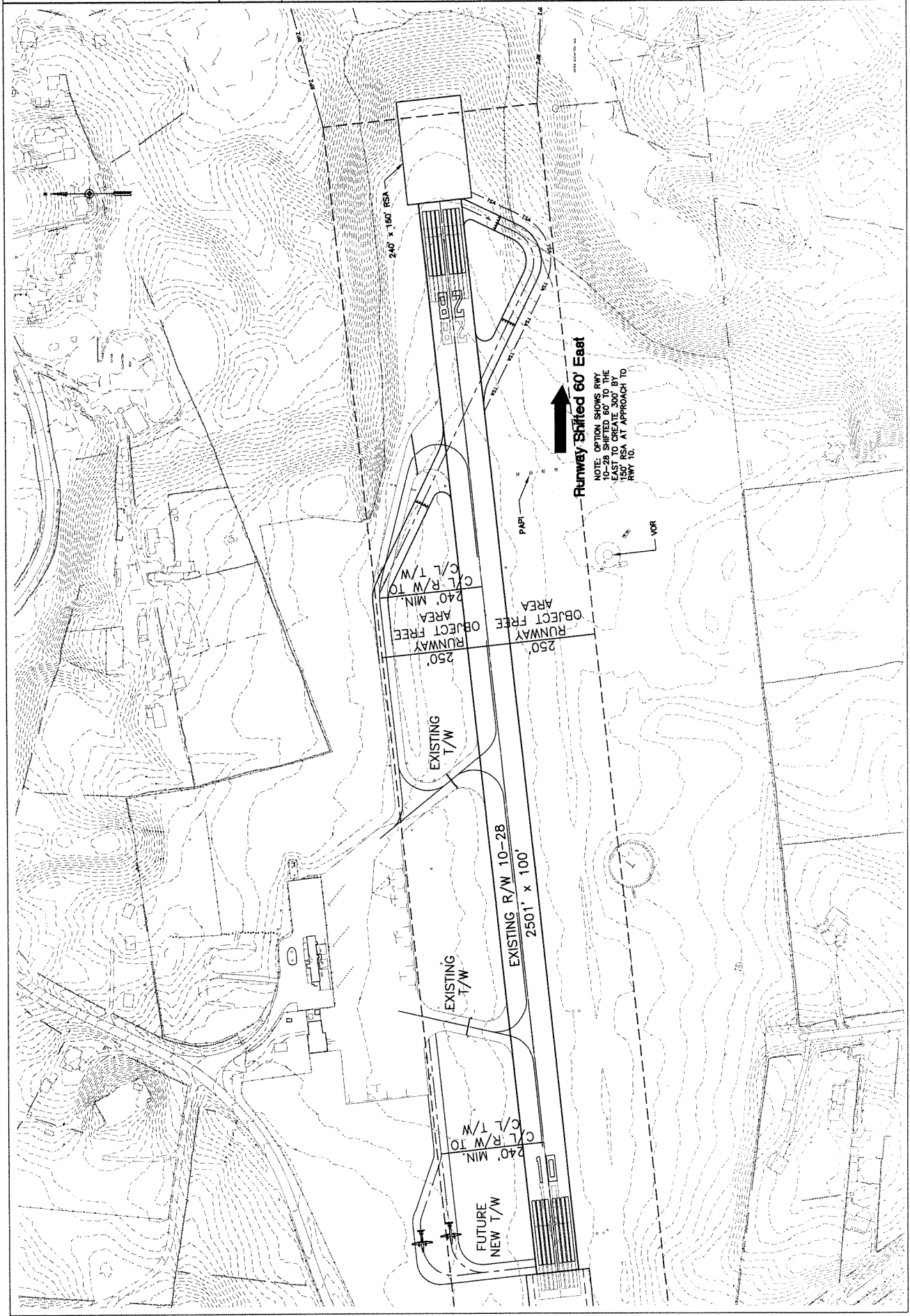
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Hoye, Tanner & Associates, Inc.  
45 BROWNFIELD ST. 10TH FLOOR - BOSTON MA 02108  
Tel: (617) 423-3800 Fax: (617) 423-1188 Web: www.hta-inc.com

HTA  
Civil Engineering

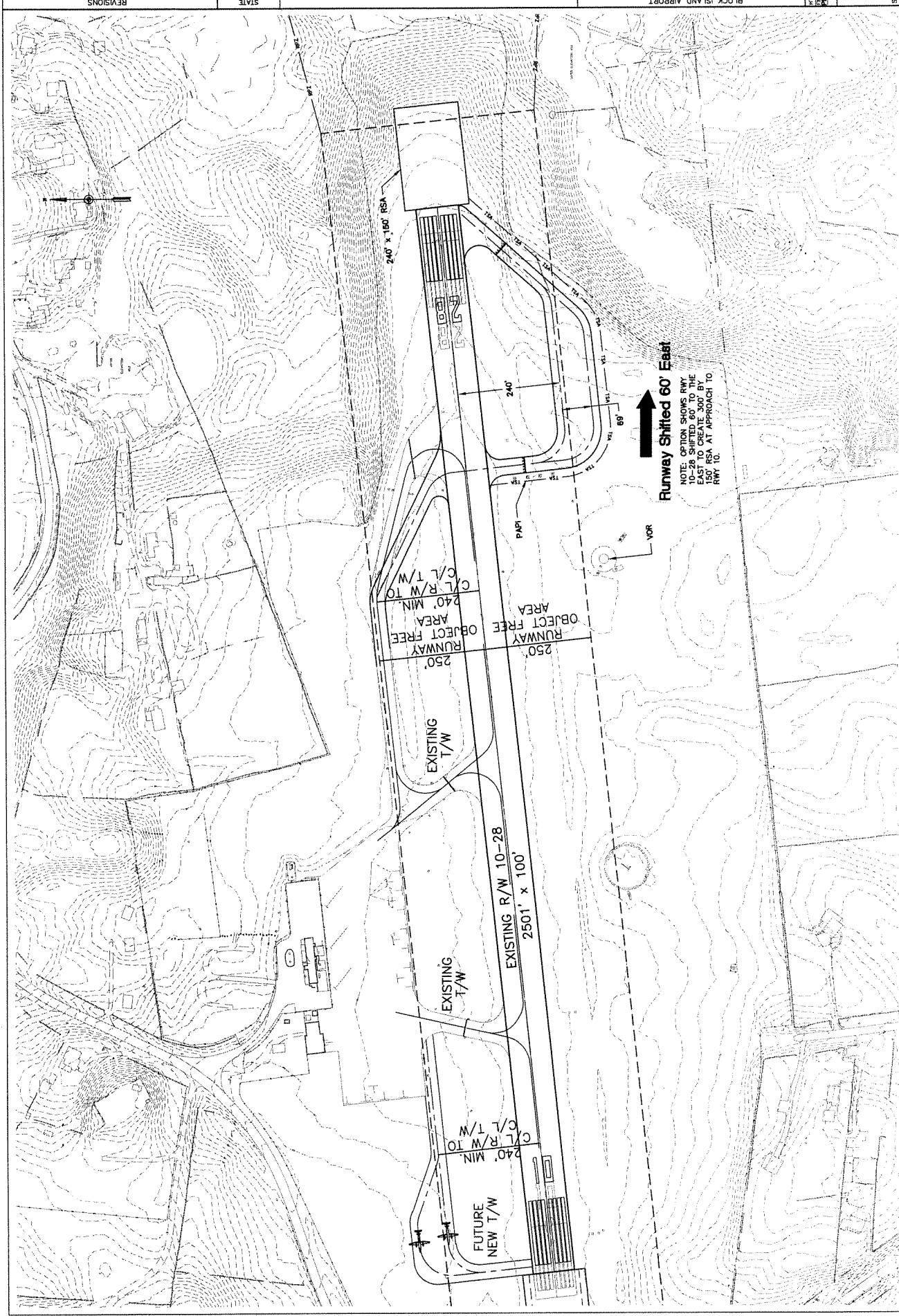
PROJECT NO.  
STATE  
FEDERAL  
PROJECT NO.

REVISIONS

REV	DATE	DESCRIPTION









SCENARIO 5G  
HOLDING BAY OPTION  
RUNWAY 28

BLOCK ISLAND AIRPORT  
RHODE ISLAND AIRPORT CORPORATION

PROJECT DESIGNER  
Hoyle, Tanner & Associates, Inc.

DATE: AS NOTED  
DEC. 8, 2004

DES. BY  
CHKD. BY  
DTS. BY  
JBD

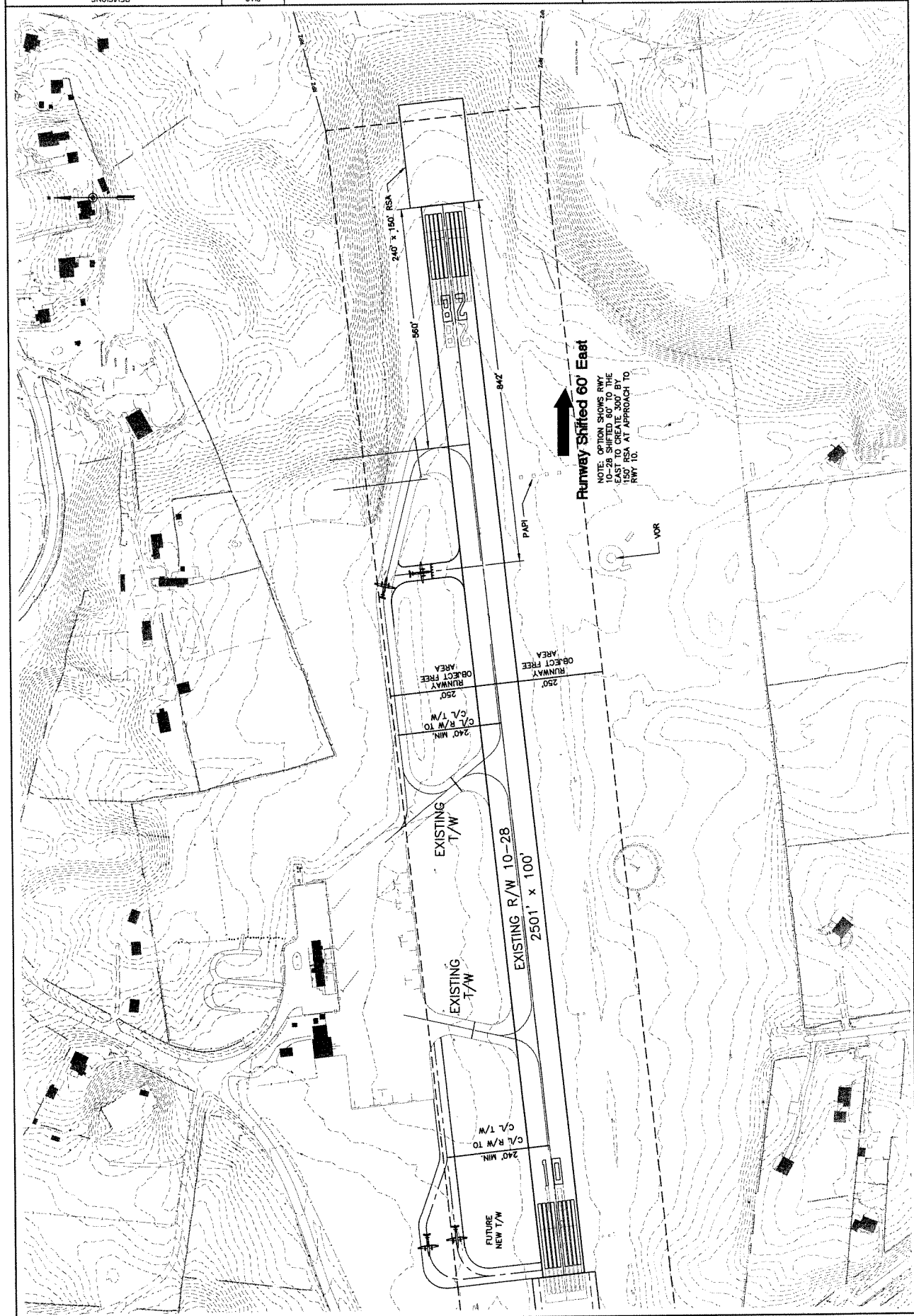


AP NO.  
3-44-0001-09

PROJECT NO.  
NO. 16228

CONTRACT NO.

REVISIONS	DATE	BY	DESCRIPTION



BLOCK  
ISLAND  
AIRPORT

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**Airport  
Master  
Plan**

RIAC