



**US Army Corps
of Engineers®**
New England District
Vermont Project Office
11 Lincoln Street, Room 210
Essex Junction, Vermont 05452

PUBLIC NOTICE

Comment Period Begins: January 26, 2016
Comment Period Ends: February 26, 2016
File Number: NAE-2015-1225
In Reply Refer To: Michael S. Adams
Phone: (802) 872-2893
E-mail: Michael.s.adams@usace.army.mil

The District Engineer has received a permit application to conduct work in waters of the United States as described below.

APPLICANT: Hermitage Inn Real Estate Holding Company, LLC, ATTN: Mr. James Barnes,
P.O. Box 2210, West Dover, Vermont 05356

ACTIVITY: Place fill in 101,637 sq. ft. (2.33 acres) of waters of the U.S. in conjunction with the construction of improvements to the existing Deerfield Valley Airport off Airport Road in Dover, Vermont. An additional 66,519 sq. ft. (1.53 acres) of forested wetland will be cleared for the Runway Safety Area (RSA). A detailed description and plans of the activity are attached.

WATERWAY AND LOCATION OF THE PROPOSED WORK:

This work is proposed in various streams and wetlands adjacent to the existing Deerfield Valley Airport off Airport Road in Dover, Vermont (Latitude 42.92529 N, Longitude 72.8760 W).

AUTHORITY

Permits are required pursuant to:

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

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

The Corps of Engineers is soliciting comments from the public; Federal, state, and local agencies and officials; Indian Tribes; and other interested parties in order to consider and evaluate the impacts of this proposed activity. Any comments received will be considered by the Corps of Engineers to determine whether to issue, modify, condition or deny a permit for this proposal. To

make this decision, comments are used to assess impacts on endangered species, historic properties, water quality, general environmental effects, and the other public interest factors listed above. Comments are used in the preparation of an Environmental Assessment and/or an Environmental Impact Statement pursuant to the National Environmental Policy Act. Comments are also used to determine the need for a public hearing and to determine the overall public interest of the proposed activity.

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

NATIONAL HISTORIC PRESERVATION ACT

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

ENDANGERED SPECIES CONSULTATION

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

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

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

In order to properly evaluate the proposal, we are seeking public comment. Anyone wishing to comment is encouraged to do so. **Comments should be submitted in writing by the above date.** If you have any questions, please contact Michael Adams at (978) 318-8485 or (802) 872-2893.


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

CENAE-R
FILE NO. NAE-2015-1225

The initial determinations made herein will be reviewed in light of facts submitted in response to this notice.

All comments will be considered a matter of public record. Copies of letters of objection will be forwarded to the applicant who will normally be requested to contact objectors directly in an effort to reach an understanding.

THIS NOTICE IS NOT AN AUTHORIZATION TO DO ANY WORK.


Frank J. DelGiudice
Chief, Permits and Enforcement Branch
Regulatory Division

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

NAME: _____
ADDRESS: _____
PHONE: _____

PROPOSED WORK AND PURPOSE

Background: Deerfield Valley Airport was constructed in the 1960's. The 2650 ft. long, 250 ft. wide runway was constructed leaving some area to the south to accommodate future expansion of the runway. The width of the runway surrounding areas was constructed to be 250 ft. and designated as an FAA object free area for B-category planes. In the late 80's and early 90's, local and state permits were obtained for extending the runway to the south. The land on the south was cleared to approximately 4000 ft., and fill was added for an additional 1000 ft. The project was stopped due to lack of funds.

Several years ago, the airport was purchased by the applicant. In the summer for 2013 the runway was repaved, the object free area was cleared from trees and the existing lights were repaired. This maintenance work has greatly improved the safety of the airport, but the runway is still deficient in many of the fundamental FAA standards.

The applicants propose the following work to upgrade the airport and improve safety:

Runway, Approaches and Taxiway

- **Expand Runway 1/19 to 4400 ft. and Displace Thresholds by 240 ft.:** FAA Advisory Circular 150/5325-4B outlines the criteria for evaluating a runway length based on aircraft fleet mix (representative airplane), airport elevation, and temperature. The representative airplane for this airport is the DHC- 6 Series 100 (Twin Otter) – a B-1 aircraft. Based on the elevation (1953 ft.) and the daily temperature during the summer (82 degrees), the recommended runway length for B1 category planes is 4400 ft. Given the challenging crosswind present at the airport it is not advisable to have the runway any shorter than 4400 ft. The threshold of Runway 1 is proposed to be displaced by 240 ft. in order to provide proper approach and runway safety area. The south end of the runway would also have a paved displaced threshold of 240 ft. By providing paved runway safety areas by means of displaced thresholds, the safety of landing aircrafts would be increased. Besides the expansion of the runway length in order to meet FAA standard AC 150/5325-4B, the runway width would also be increased from 70 ft. to 75 ft.
- **Runway Safety Areas and Landing Approaches:** The runway threshold is proposed to be displaced to provide a level runway safety area, adequate object free area and unobstructed approach surface on the north end of the runway. Similarly a displaced threshold is proposed on the south end with a significant cut into the hillside to establish a new runway safety area, object free area and approach surface.
- **Partial Taxiway:** A partial taxiway would connect to the existing taxiway and apron, and provide an additional 2200 ft. to minimize the use of the runway for aircraft ground maneuvers. Due to private ownership of land to the north a full parallel taxiway is not feasible at this time. Turnaround bump-outs are proposed to provide a more easy and effective way for pilots to turn an aircraft around without risking getting stuck in the dirt on the sides of the runway. Six new 4800 sq. feet aircraft hangars and associated parking would be built alongside the taxiway.

- **Lighting:** New High Intensity Runway Lights would be installed alongside the runway way as per FAA standard AC 150/5340-30G.
- **Waterline and Hydrant.** A new waterline would provide fire safety to the airport, which currently has no fire hydrants on site. An existing pond to the northeast of the airport would be the water source, and the waterline would run underneath the current apron and proposed taxiway to the middle of the airport site, where there would be a fire hydrant.
- **Stormwater Management:** Stormwater runoff would be handled by a low impact grass disconnects on each side of the runway, while stormwater detention is included in an underground piping system on each side of the runway.
- **Automated Weather Observing System (AWOS):** This is a weather system that provides pilots with a report of the airport's current weather. The airport does not currently have any weather reporting capability and because of this the instrument approach procedure is not adequate to meet the needs of the airport and does not provide for a safe instrument approach. The FAA requires that a 500' radius footprint be kept clear of vegetation and obstructions.

This portion of the project will impact 94,370 sq. ft. (2.17 acres) of forested, scrub-shrub and emergent wetland and 618 sq. ft. (0.014 acre) of stream channel (below OHW). An additional 66,519 sq. ft. (1.53 acres) of forested wetland will be permanently cleared.

Second Access and Partial Perimeter Road: A second access through the East Tract is proposed which would also serve as a partial perimeter road. The majority of the road is existing and would be upgraded to a 20 ft. width, as requested by the local fire department. The perimeter road would connect to the proposed taxiway at two separate points. This portion of the project will impact 5,255 sq. ft. (0.12 acre) of forested, scrub-shrub and emergent wetland and 1,394 sq. ft. (0.03; acre) of stream channel (below OHW).

The basic purpose of the project is to construct improvements to allow Deerfield Valley Airport to play a regional role in the Vermont Airport System and serve the businesses and general aircraft needs of Southern Vermont.

The work is described on the enclosed plans entitled "WETLANDS & SURFACE WATER IMPACT AREAS", dated "September 24 2015", "December 7 2015", and "January 15, 2015".

Alternatives: Multiple alternatives have been considered for the improvement of the safety of the airport:

Alternative 1 - 5000 ft. Runway consists of expansion of the runway to 5000 ft. and construction of a parallel taxiway to connect the south end of the runway to the existing hangar area and apron on the north end. This alternative allows for ultimate aircraft safety for landing and takeoff during difficult weather conditions. This alternative would directly impact 5.81 acres of wetland.

Alternative 2 - Expansion to the North 5000 ft. Runway would minimize the wetland impact to the south of the runway by extending the paved runway to the north onto private property for a total of 5000 ft. Similar to alternative 1, this alternative allows for ultimate aircraft safety for landing and takeoff during unsafe weather conditions by providing a runway length of 5000 feet. However, there would be no taxiway. The property owner to the north is not willing to sell. In addition, this alternative would directly impact 5.84 acres of wetland.

Alternative 3 - Expansion to the South 5000 ft. Runway would shift the runway completely to the south of the existing runway. The runway would be 5000 feet long and 75 feet wide. This design enhances aircraft safety for landing and takeoff by providing aircraft with a longer runway during unsafe weather conditions. It would directly impact 6.76 acres of wetland.

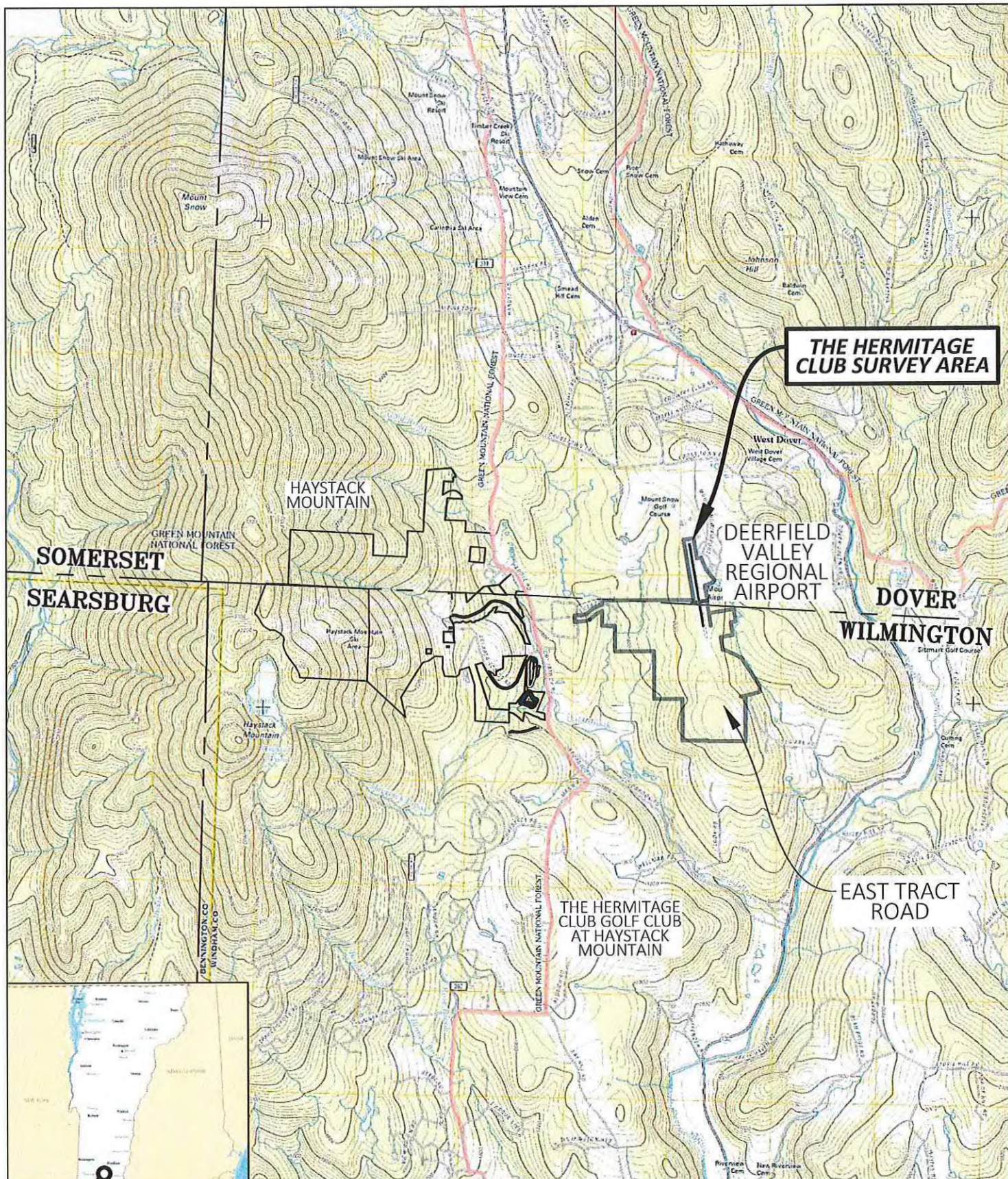
Alternative 4 - Modified Design 5000 ft Runway is a modified version of Alternative 1. The runway length would be 5000 feet, while the taxiway would be completely redesigned to minimize wetland impacts. This would allow for improved aircraft safety for landing and takeoff to the north during unsafe weather conditions. This alternative would directly impact 4.45 acres of wetland.

Alternative 5 Modified Design 4050 ft Runway is a modified version of Alternative 4 that provides only 4050 feet of runway. According to FAA standards, a safe runway length for all B-I airplanes is at least 4400 ft. Unlike any of the previous alternatives, this design does not provide the safety needed for aircraft using the airport during unsafe weather conditions. This alternative would directly impact 3.38 acres of wetland.

Alternative 6 - Modified Taxiway and Hangars 5000 ft Runway is a modified version of Alternative 1 that provides a much shorter taxiway. Runway 1 would have a full 5000 ft. when landing from the north; but Runway 19 would have a displaced threshold allowing for only 4800 ft. when landing from the south. This alternative allows for improved aircraft safety for landing and takeoff to the north during unsafe weather conditions and would directly impact 4.51 acres of wetland.

Alternative 7- Runway Extension to 4400 ft., 480 ft. Paved Safety Area is the preferred alternative. It consists of extending the runway to 4400 ft., constructing a parallel taxiway, and paving the 240 ft. safety areas on each runway end. Displaced thresholds would be provided at both ends with a total pavement length of 4880 feet. This alternative meets the minimum FAA safety standards for runway length. With paved runway safety areas this also meets the current need of the airport operator. This alternative would directly impact 3.91 acres of wetland.

To compensate for unavoidable impacts to waters of the U.S. of the proposed project the applicant proposes to make a payment to the Ducks Unlimited – Vermont In-Lieu Fee Program.



**SITE LOCATION
IN VERMONT**

3960 0 1980 3960

SCALE: 1"= 3960'(3/4 mile)

HARRINGTON ENGINEERING, INC.
P.O. BOX 248
NORTH POMFRET, VT 05053
(802) 457-3151



DEERFIELD VALLEY

Airport

Operated by Deerfield Valley Regional Airport, LLC

PROJECT:
DEERFIELD VALLEY REGIONAL
AIRPORT /
EAST TRACT ROAD

SHEET TITLE:

WETLANDS & SURFACE
WATER IMPACT AREAS

December 7 2015

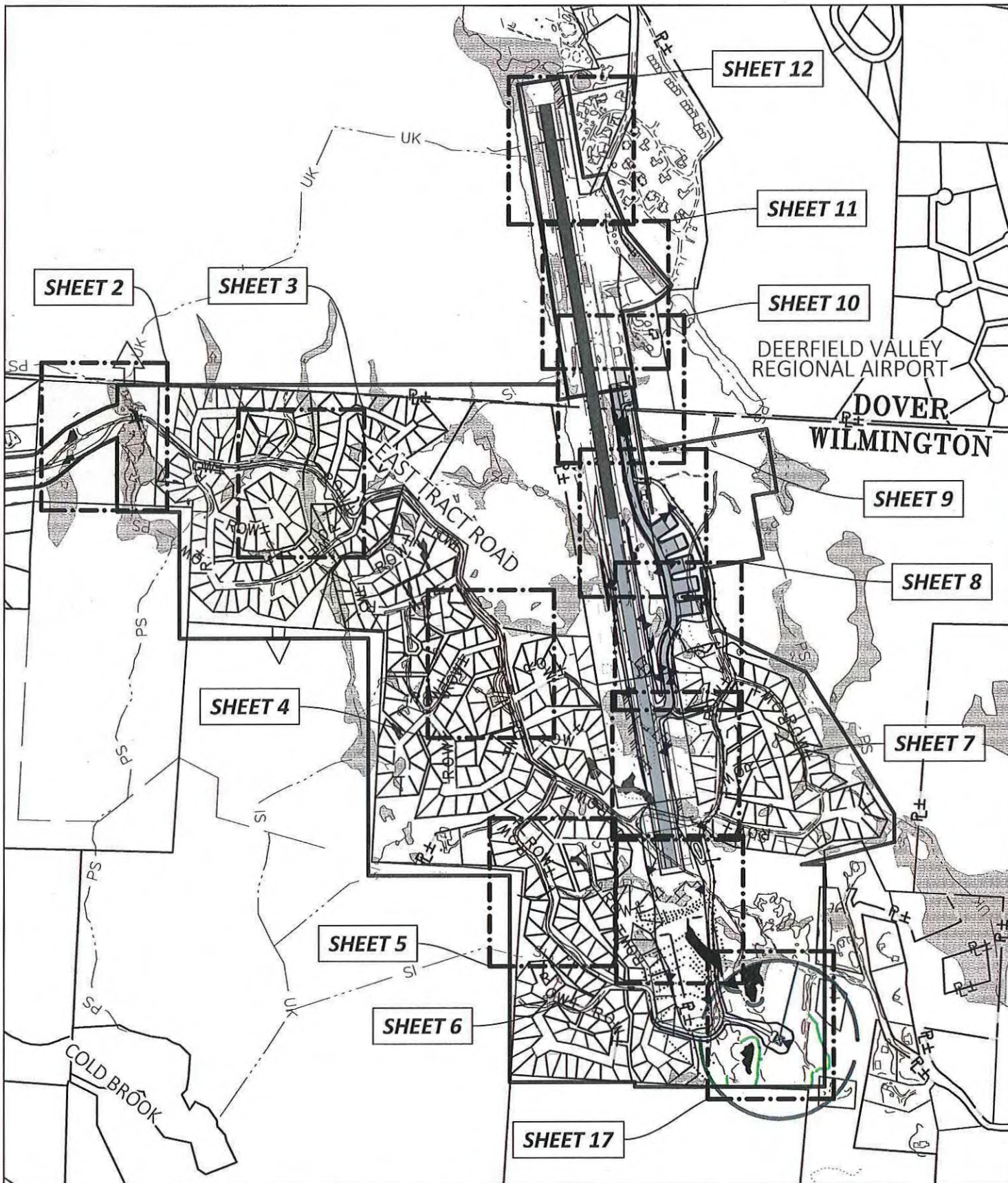
Site Location Map EXHIBIT 24

EXISTING LEGEND

	Existing Contours
	Existing % Slope
	Wetland Boundary (Class II & III)
	Wetland Buffer (50' Class II, 25' Class III)
	Stream Buffer (75' unless field located)
	River / Stream / Water Body
	Intermittent Stream / Ditch
	Perennial Stream / Ditch
	Unassessed Stream / Ditch
	Top of Bank
	Ordinary High Water (Approximate)
	Right-Of-Way
	Property Line
	Hermitage Owned Property
	Tree Line
	Building
	Road / Drive / Parking / Trail
	Fence
	Stone / Retaining Wall
	Culvert
	Drilled Bedrock Well
	Well Shield (100' Downhill, 200' Uphill)
	Water Line (size as indicated)
	6" Fire Hydrant w/Valve
	Overhead Power w/ Pole & Guy
	Sewer Main / Manhole (size as indicated)
	Pressure Sewer (size as indicated)
	Vernal Pool
	Existing Lot Numbers
	Privately Owned Property
	Bear Scarred Beech Trees
	Existing Runway Lighting
	Existing Runway Pavement

PROPOSED LEGEND

	Contours
	Top/Toe of Slope
	Building / Envelope / Hangar
	Road / Drive / Parking / Trail
	Grass Ditch / Swale
	Stone Ditch / Swale
	Water Line w/ valve (size as indicated)
	6" Fire Hydrant w/Valve
	Well Shield (100' Downhill, 200' Uphill)
	Gravity Sewer Connection (PVC SDR 35) w/ Cleanout (Size as indicated)
	Gravity Sewer Line (PVC SDR 35) w/ Manhole (Size as indicated)
	Pressure Sewer Force Main (Size as indicated)
	Underground Common Trench
	Precast Catch Basin (48") w/ ADS Pipe (size as indicated)
	ADS Smooth Lined Culvert w/ Tee and Grate (Drop Inlet)
	Top of Berm (Pond & Forebay)
	Open Bottom Arch Culvert (size as indicated)
	Level Spreader
	Tree Line (Limit Of Disturbance)
	Limit Of Disturbance
	Limit Of Disturbance (Future Utilities)
	Proposed Combined Lots & Numbers
	Property Line
	Right of Way
	Property Easement
	Zoning Setback
	Proposed Runway/Taxiway Pavement
	FAA Runway Protection Zone RPZ B-I
	FAA Runway Safety Area RSA B-I
	FAA Object Free Area OFA B-I
	Proposed Runway Lighting



	Wetland
	PS Perennial Stream
	IS Intermittant Stream
	UK Unassessed Stream
	Vernal Pool
FILE NAME: Wetlands ACOE DVA ET	
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800 0 400 800

SCALE: 1"= 800'

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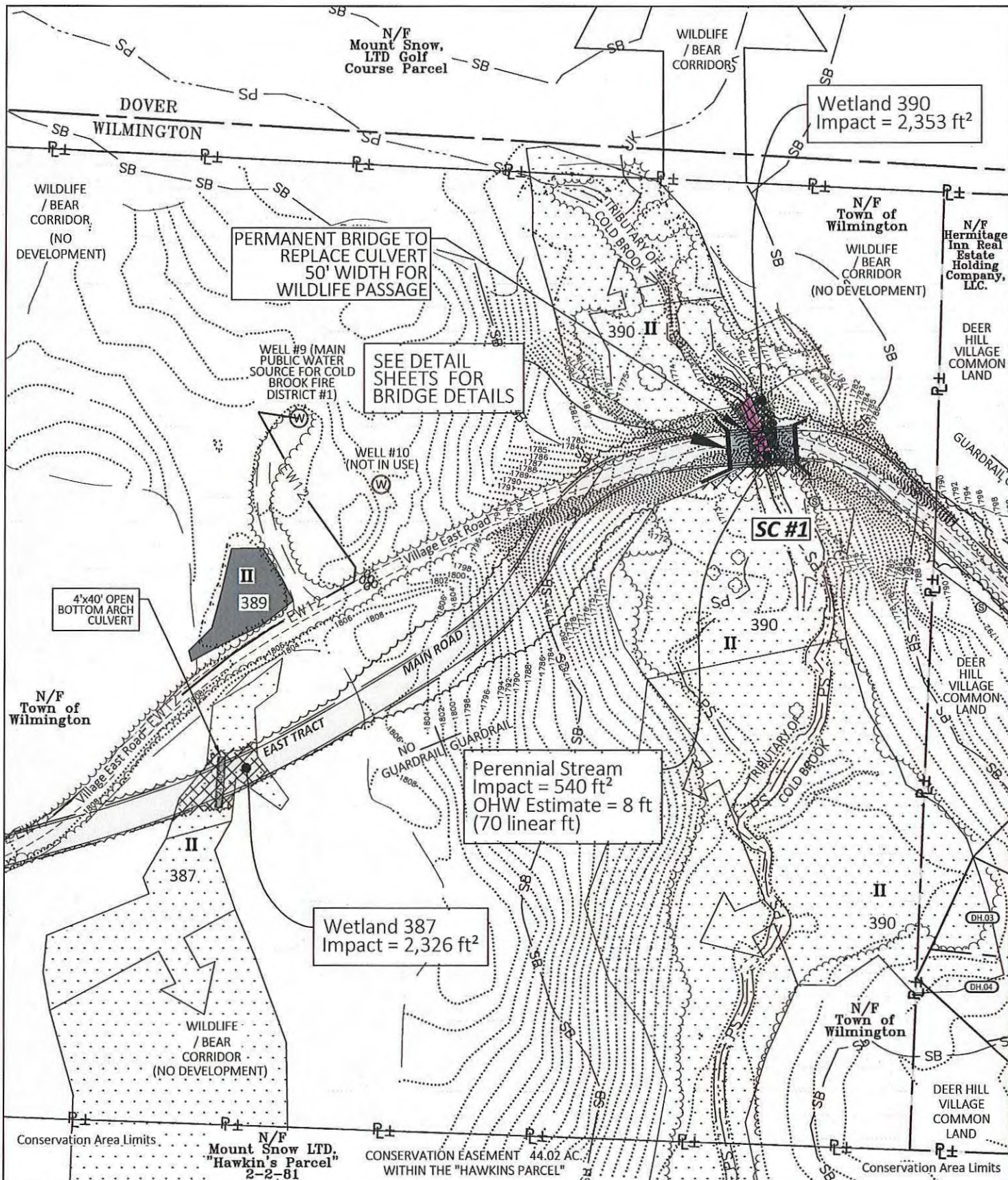
DEERFIELD VALLEY
Airport

Operated by Deerfield Valley Regional Airport, LLC

PROJECT:
DEERFIELD VALLEY
REGIONAL AIRPORT
/ EAST TRACT ROAD

SHEET TITLE:
WETLANDS & SURFACE
WATER IMPACT AREAS

December 7 2015
SHEET #1 EXHIBIT 24



PS	Wetland
IS	Perennial Stream
UK	Intermittent Stream
	Unassessed Stream
OHW	OHW (TOSB)
	Primary Impacted (Grading) Area
	Secondary (Clearing) Impacted Area
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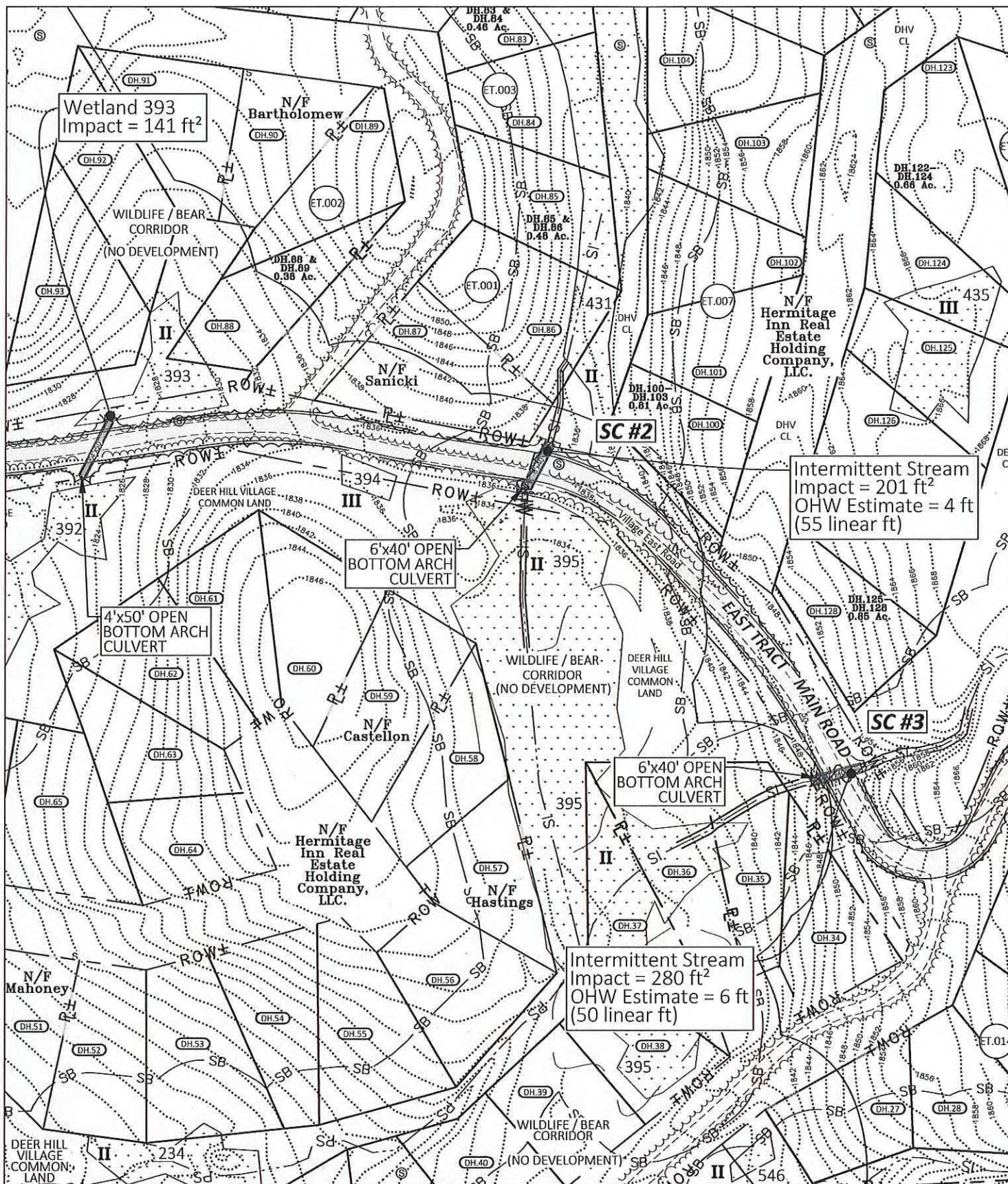
SCALE: 1"= 100'

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(802) 457-3151

DEERFIELD VALLEY
Airport

Operated by Deerfield Valley Regional Airport, LLC

PROJECT:	
EAST TRACT ROAD	
SHEET TITLE:	
WETLANDS & SURFACE WATER IMPACT AREAS	
December 7	2015
SHEET #2	EXHIBIT 24



PS	Perennial Stream
IS	Intermittent Stream
UK	Unassessed Stream
OHW	OHW (TOSB)
Primary Impacted (Grading) Area	
Secondary (Clearing) Impacted Area	
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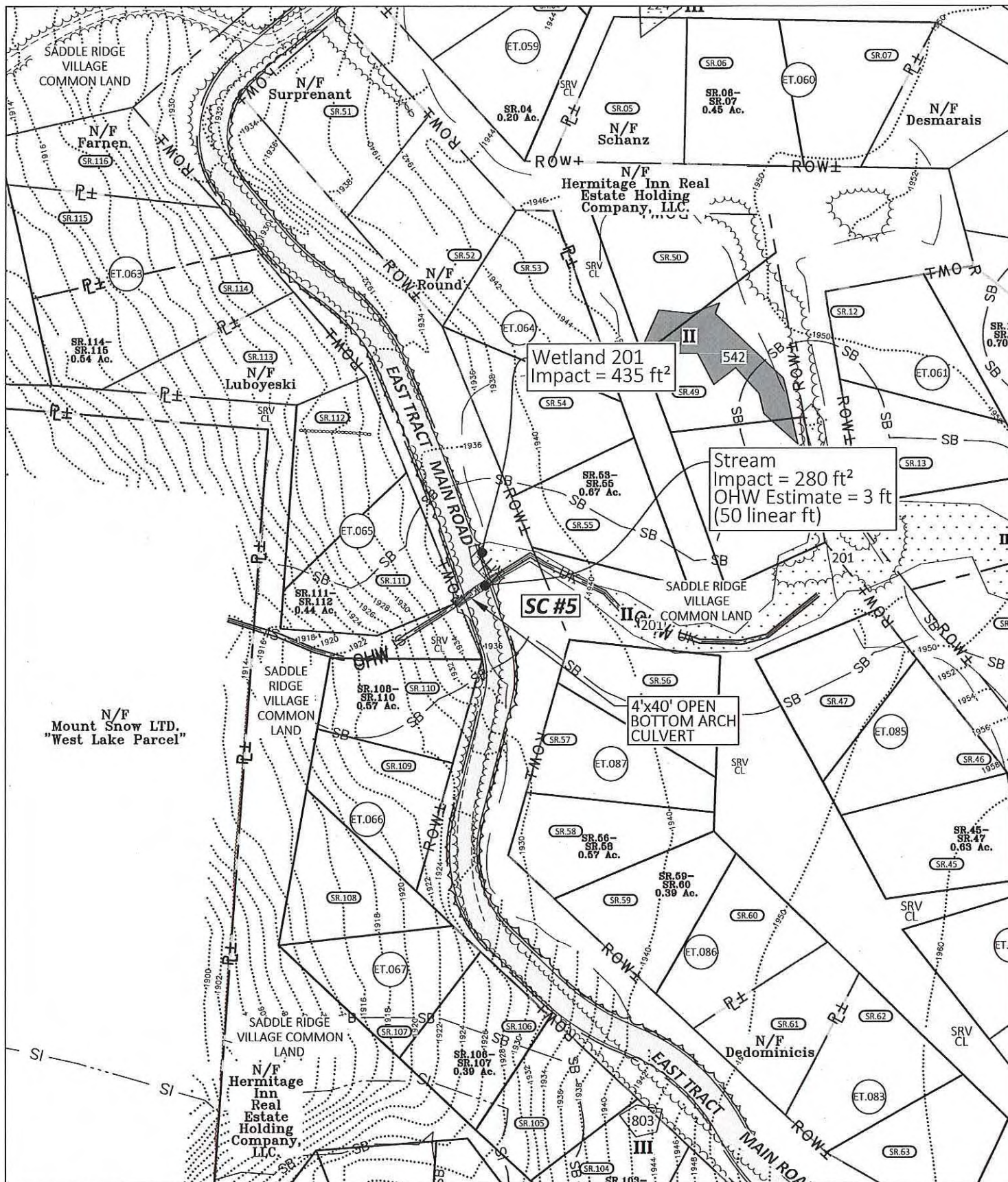
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DEERFIELD VALLEY
Airport

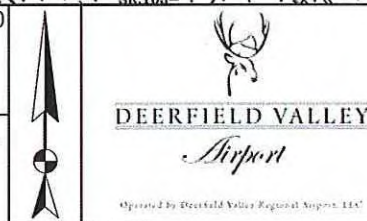
Operated by Deerfield Valley Regional Airport, LLC

PROJECT:	EAST TRACT ROAD
SHEET TITLE:	WETLANDS & SURFACE WATER IMPACT AREAS
December 7 2015	
SHEET #3	EXHIBIT 24

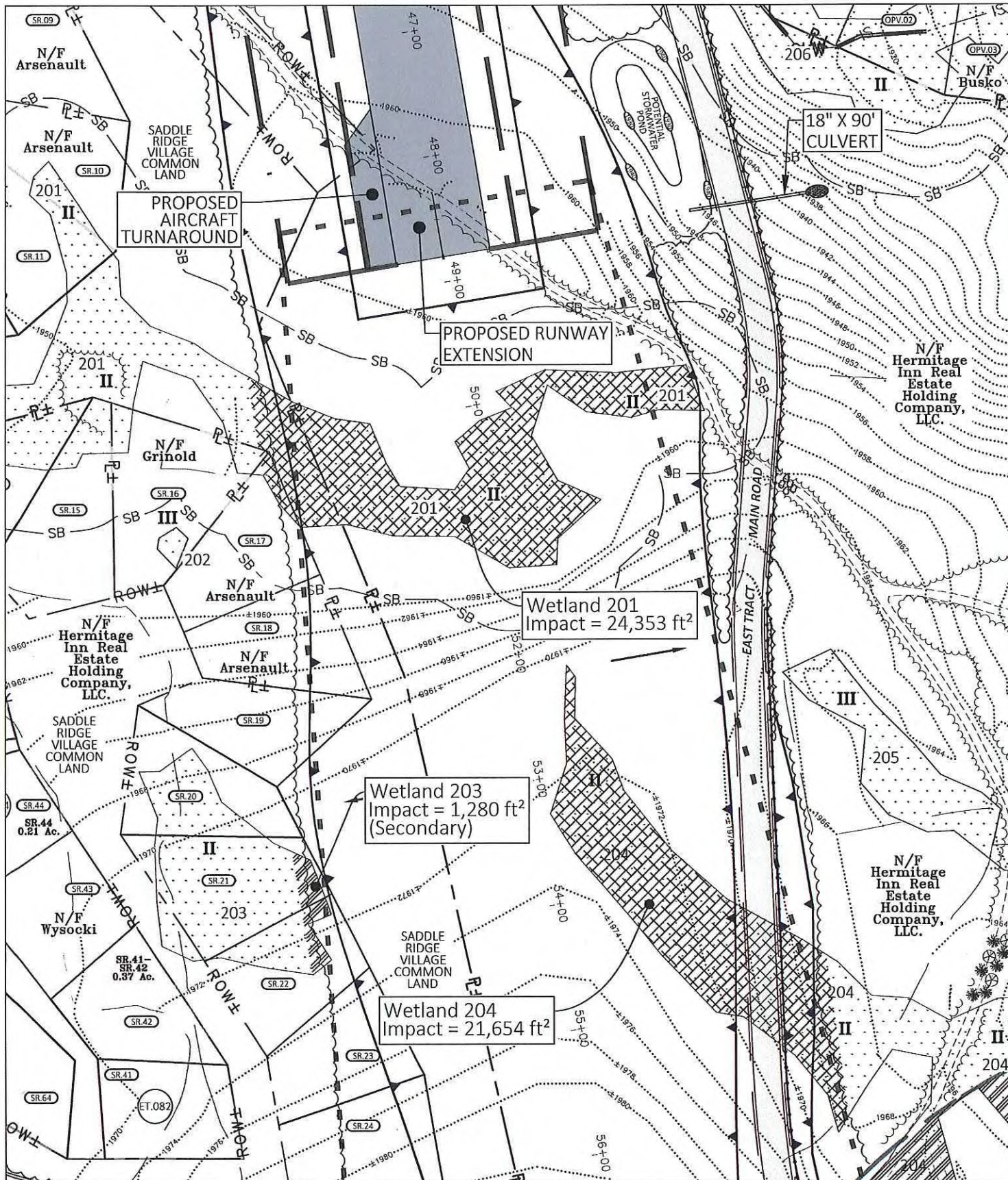


PS	Wetland
IS	Perennial Stream
UK	Intermittent Stream
	Unassessed Stream
OHW	OHW (TOSB)
	Primary Impacted (Grading) Area
	Secondary (Clearing) Impacted Area
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SCALE: 1"= 100'
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PROJECT:
EAST TRACT ROAD
SHEET TITLE:
WETLANDS & SURFACE
WATER IMPACT AREAS
December 7 2015
SHEET #5 EXHIBIT 24



PS	Perennial Stream
IS	Intermittent Stream
UK	Unassessed Stream
OHW	OHW (TOSB)
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XXXX	Secondary (Clearing) Impacted Area
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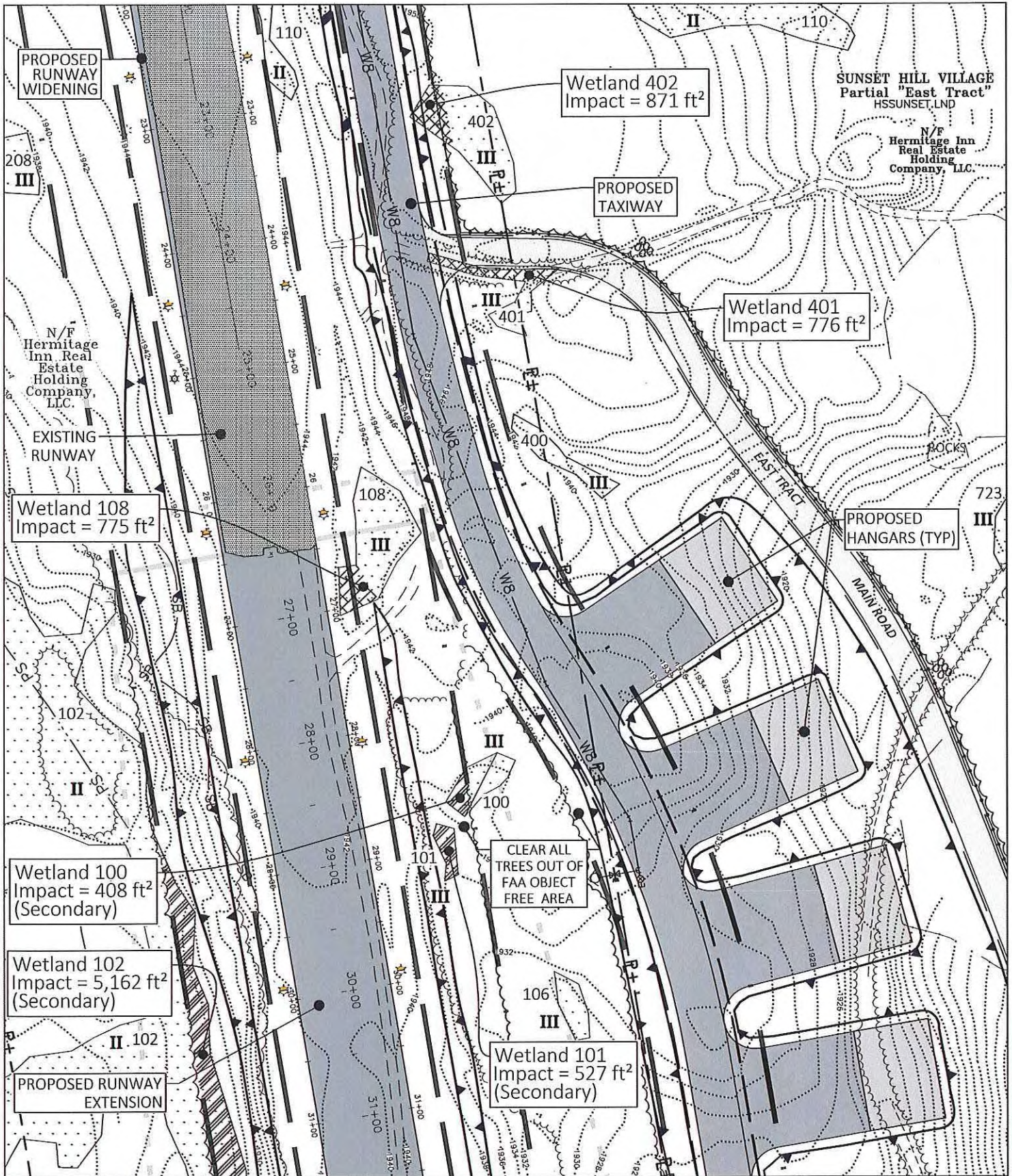
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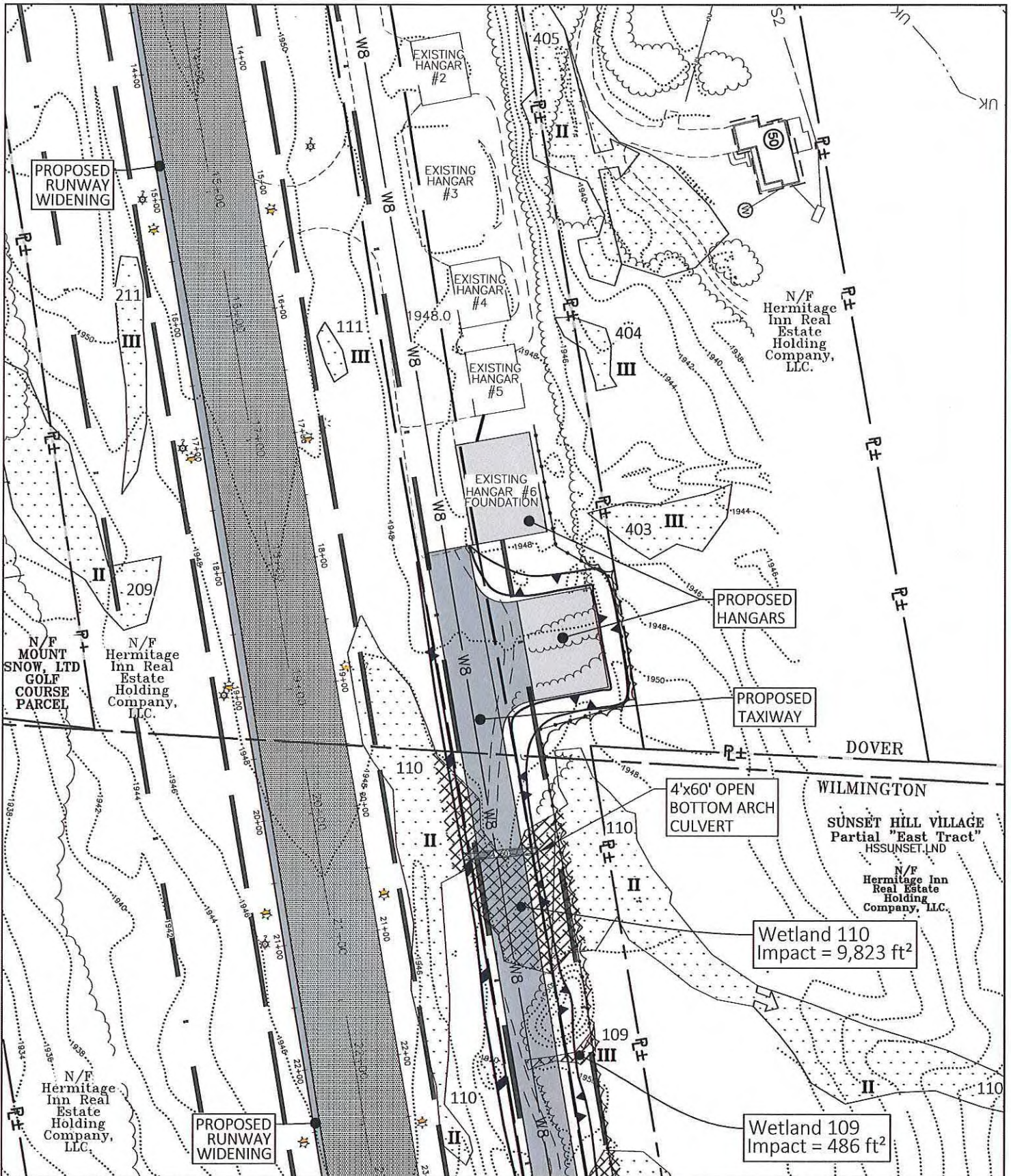
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DEERFIELD VALLEY
Airport

Approved By Deerfield Valley Regional Airport, LLC

PROJECT: DEERFIELD VALLEY REGIONAL AIRPORT / EAST TRACT ROAD	
SHEET TITLE: WETLANDS & SURFACE WATER IMPACT AREAS	
December 7	2015
SHEET #6	EXHIBIT 24





PS	Wetland
IS	Perennial Stream
UK	Intermittent Stream
	Unassessed Stream
OHW	OHW (TOSB)
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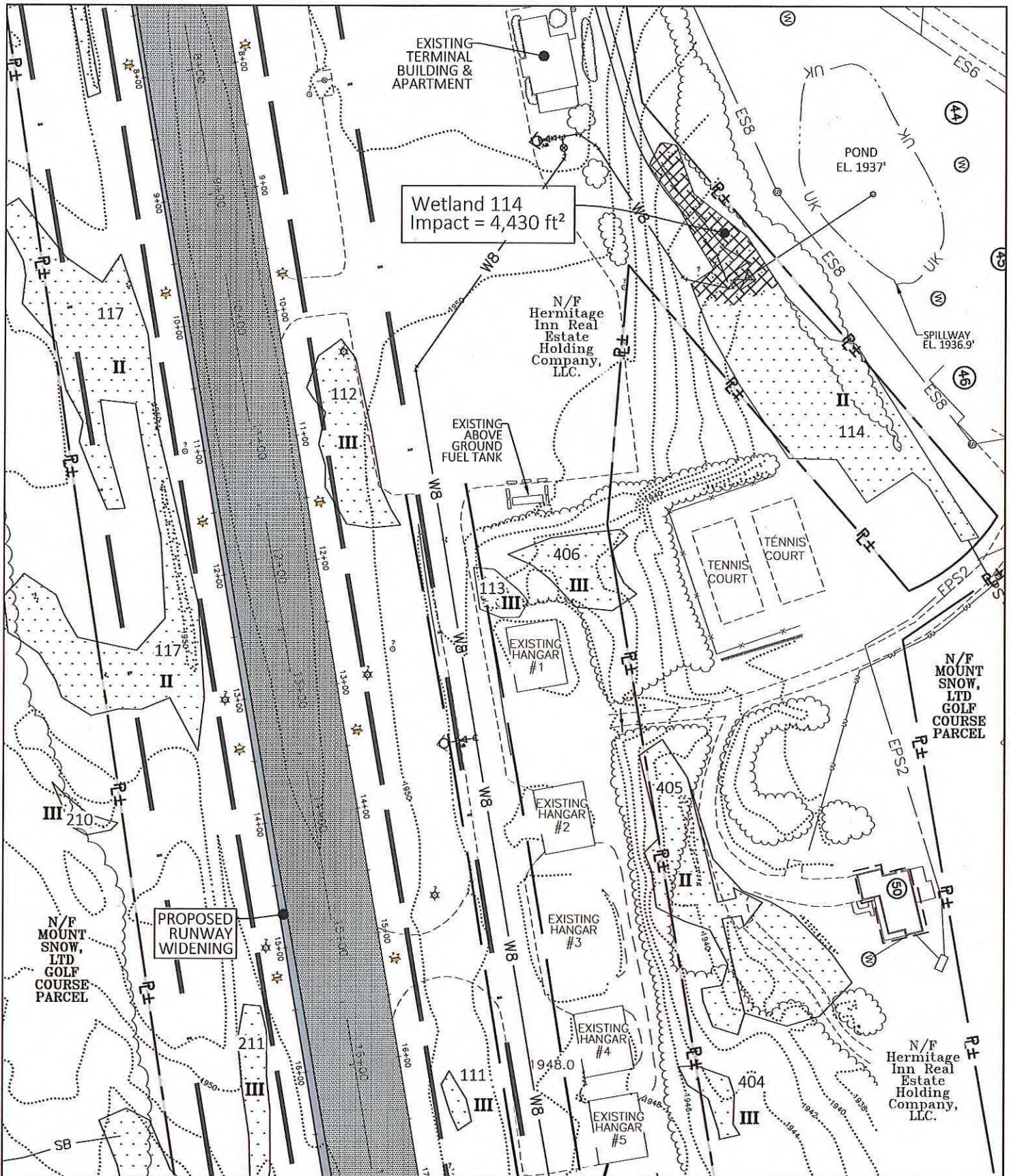
SCALE: 1"= 100'

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DEERFIELD VALLEY
Airport

Operated by Deerfield Valley Regional Airport, LLC

PROJECT:	DEERFIELD VALLEY REGIONAL AIRPORT / EAST TRACT ROAD
SHEET TITLE:	WETLANDS & SURFACE WATER IMPACT AREAS
December 7 2015	
SHEET #10	EXHIBIT 24



PS Perennial Stream
IS Intermittent Stream
UK Unassessed Stream
OHW OHW (TOSB)
OHW (TOSB)
Primary Impacted (Grading) Area
Secondary (Clearing) Impacted Area

FILE NAME: Wetlands ACOE DVA ET
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SCALE: 1" = 100'
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DEERFIELD VALLEY
Airport
Operated by Deerfield Valley Regional Airport, LLC

PROJECT: DEERFIELD VALLEY REGIONAL AIRPORT / EAST TRACT ROAD
SHEET TITLE: WETLANDS & SURFACE WATER IMPACT AREAS
December 7 2015
SHEET #11 EXHIBIT 24

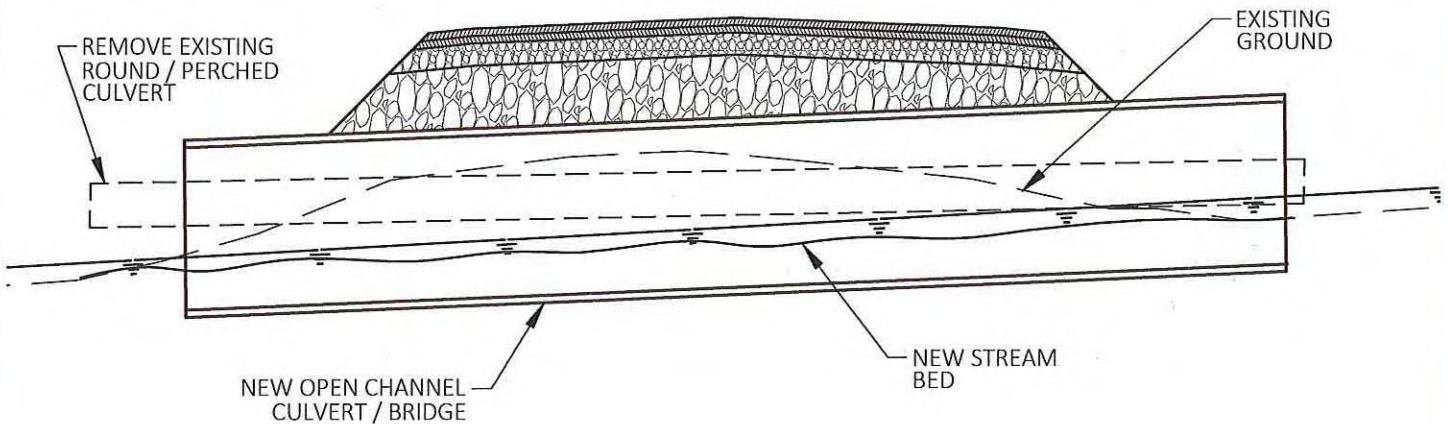
TYPICAL ROUND CULVERT REPLACEMENT WITH OPEN CHANNEL STREAM CROSSING NTS

NOTES:

1. PRECAST CONCRETE BOX CULVERT WITH BAFFLES WHERE SLOPE ALLOWS.
2. ALL CROSSINGS TO BE INDIVIDUALLY ENGINEERED.

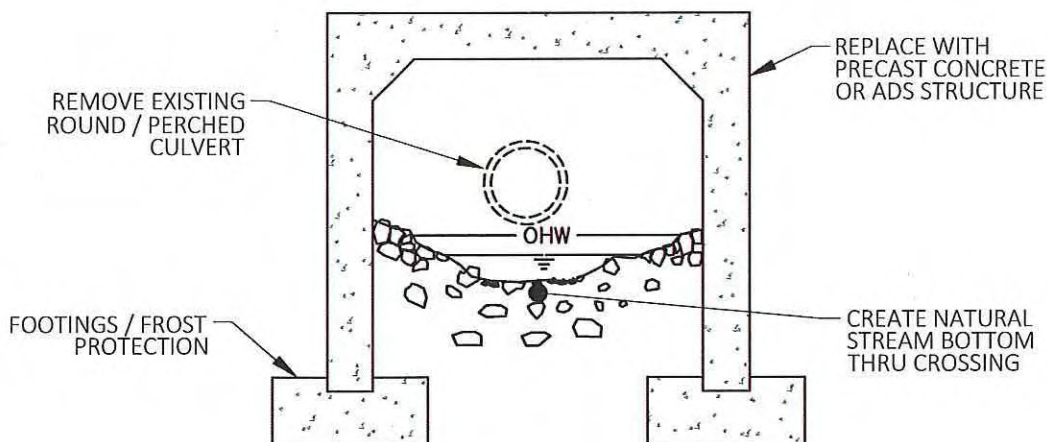
PROFILE

PROPOSED ROAD



CROSS SECTION

EXISTING GROUND



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FILE NAME: Wetlands ACOE DVA ET
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PROJECT:
DEERFIELD VALLEY
REGIONAL AIRPORT / EAST
TRACT ROAD

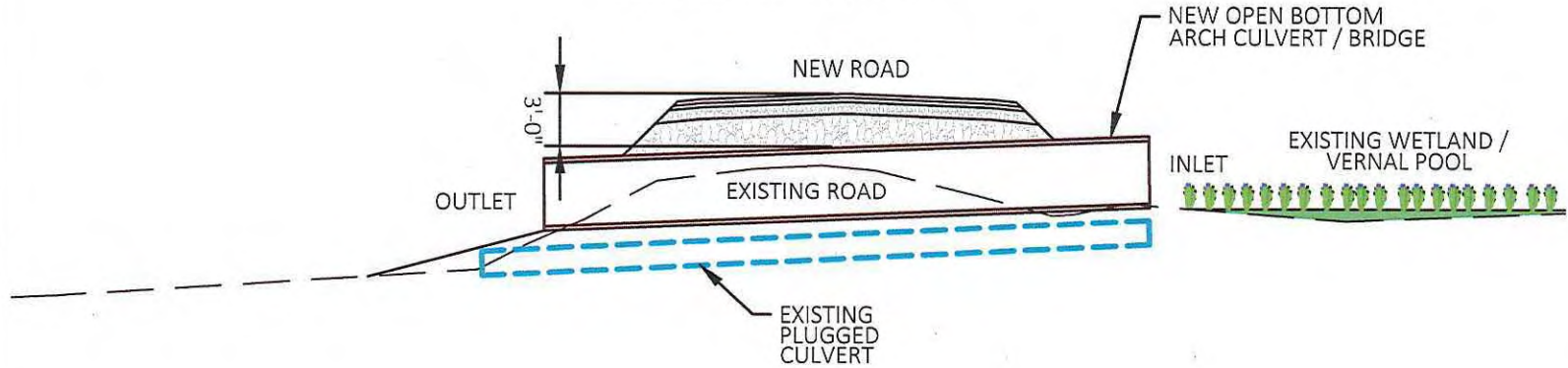
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STREAM CROSSING
DETAILS

December 7 2015
SHEET #13 EXHIBIT 24

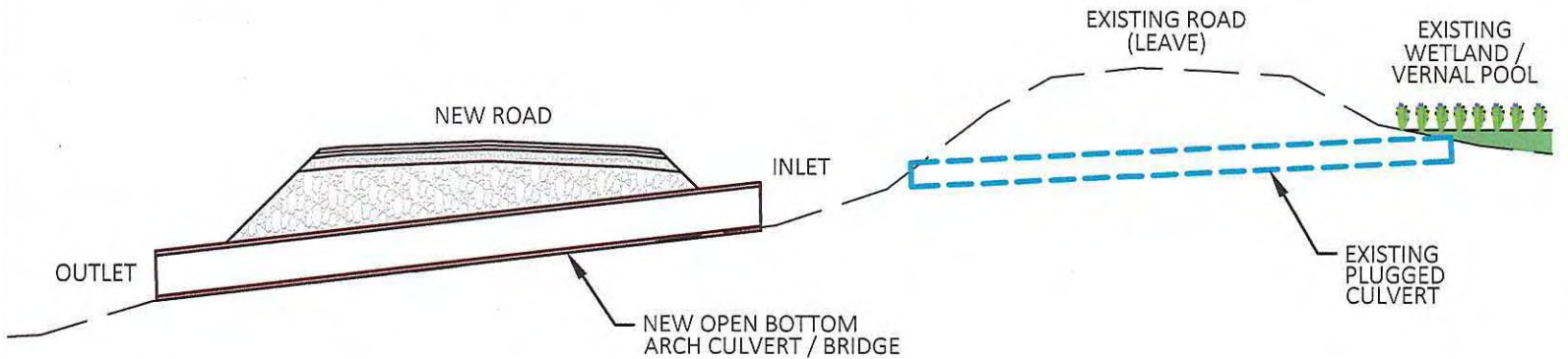
AMPHIBIAN ROAD CROSSING - EAST TRACT ROAD
(ALL STREAMS & DRAINAGE WITH WETLANDS ABOVE ROADWAY)

METHOD A - ROAD BUILDUP

INSTALL ARCH CULVERT, BUILD ROAD UP 3 FEET,
FEATHER OUT OVER 200 FEET.



METHOD B - MOVE ROAD DOWNHILL, LEAVE EXISTING



General Notes:

- 9020 (Erosion Control) and 9015 (Stormwater) Permits required prior to construction
- No treatment or direct discharges to any wetlands or vernal pools
- Post-development runoff same or less than pre-development runoff. No open detention ponds.

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DEERFIELD VALLEY
Shipton

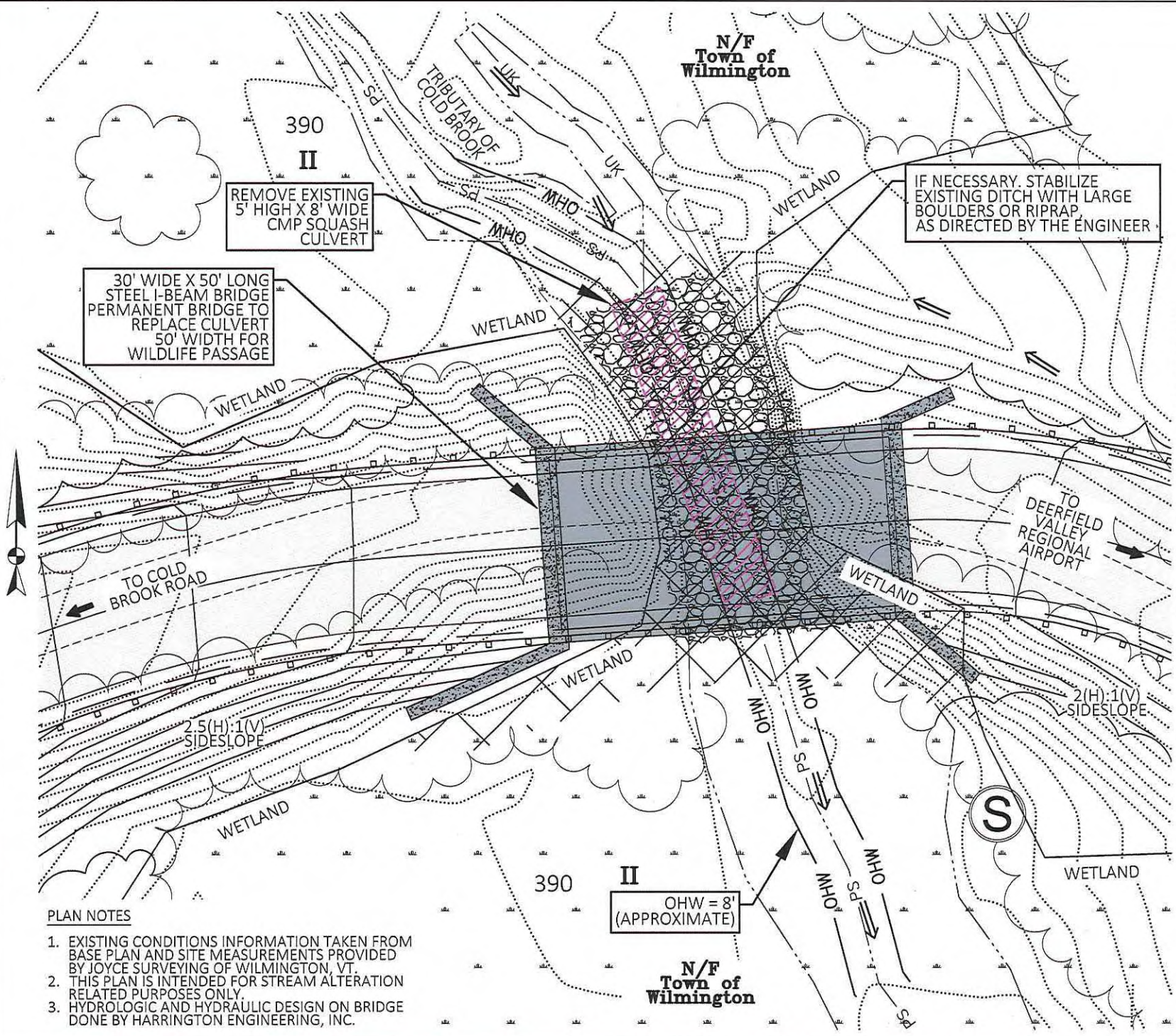
Approved: Richard A. Vail Regional Engineer, LLC

PROJECT:
DEERFIELD VALLEY
REGIONAL AIRPORT / EAST
TRACT ROAD

SHEET TITLE:
AMPHIBIAN ROAD
CROSSING DETAILS

December 7 2015
SHEET #14 EXHIBIT 24

EAST TRACT ROAD BRIDGE SITE PLAN



PLAN NOTES

1. EXISTING CONDITIONS INFORMATION TAKEN FROM BASE PLAN AND SITE MEASUREMENTS PROVIDED BY JOYCE SURVEYING OF WILMINGTON, VT.
2. THIS PLAN IS INTENDED FOR STREAM ALTERATION RELATED PURPOSES ONLY.
3. HYDROLOGIC AND HYDRAULIC DESIGN ON BRIDGE DONE BY HARRINGTON ENGINEERING, INC.

HARRINGTON ENGINEERING, INC.

P.O. BOX 248
NORTH POMFRET, VT 05053
(802) 457-3151



SCALE: 1" = 20'

DEERFIELD VALLEY



Xylocopa, Meloidae, Vireonae, Buprestidae, Scolytidae, etc.

PROJECT:	
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REGIONAL AIRPORT / EAST TRACT ROAD

SHEET TITLE:

SITE PLAN - BRIDGE REPLACEMENT

December 7 2015

SHEET #15 EXHIBIT 24

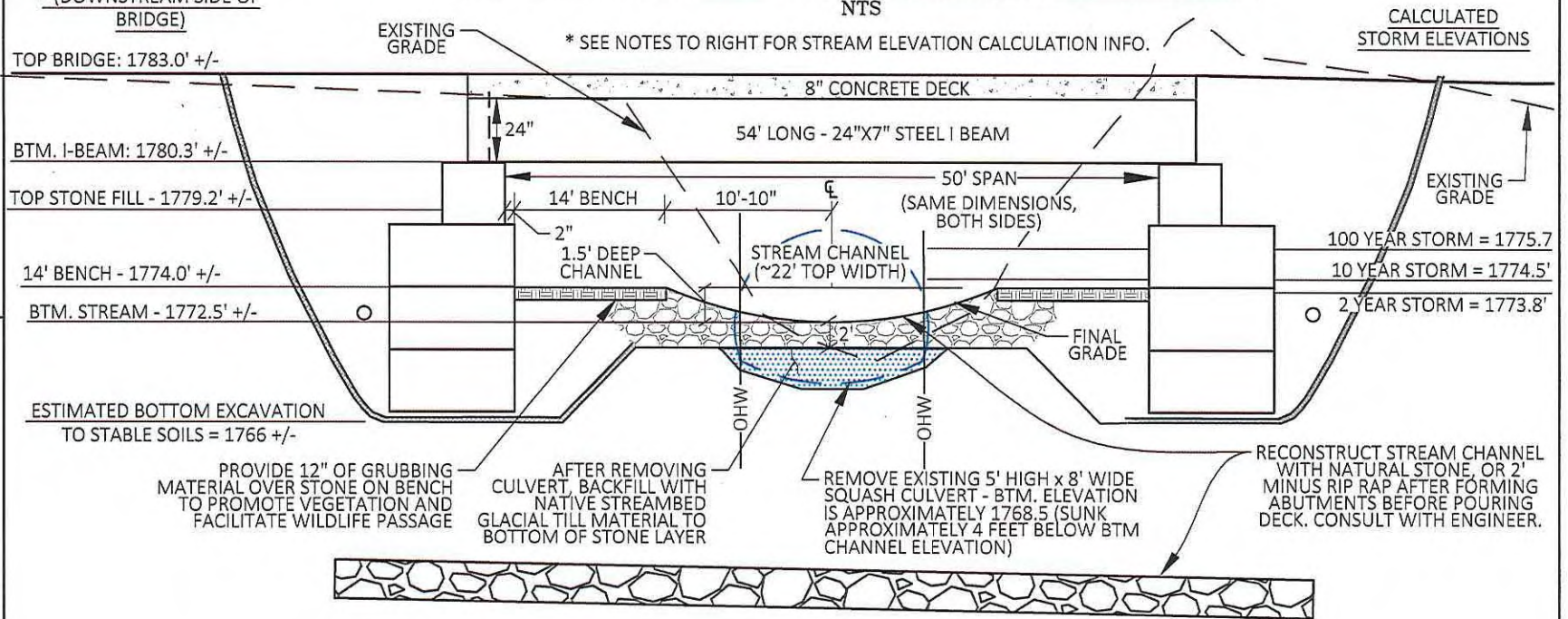
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 (802) 457-3151

APPROXIMATE ELEVATIONS
 - (DOWNSTREAM SIDE OF
 BRIDGE)

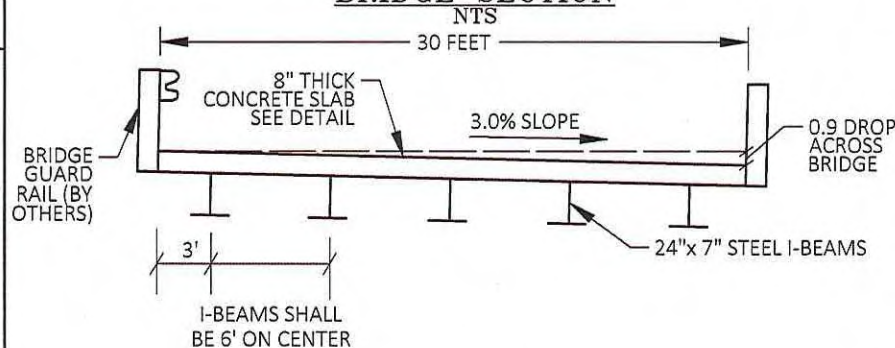
BRIDGE PROFILE - STREAM ELEVATIONS* & DETAIL

NTS



BRIDGE SECTION

NTS



GENERAL NOTES

1. THIS IS A REPAIR DUE TO DAMAGE CAUSED BY TROPICAL STORM IRENE. THE MATERIAL AROUND THE EXISTING CULVERT (REPORTED TO BE 5' HIGH X 8' WIDE) AND THE ROADWAY WAS WASHED OUT. AS A RESULT THE CULVERT SETTLED DOWN BELOW THE BOTTOM OF THE STREAM BED. THE OBJECTIVE IS TO REPLACE THE CULVERT WITH A NEW STEEL I-BEAM BRIDGE TO PROVIDE A 50' SPAN AND RESTORE THE SITE BACK TO ITS ORIGINAL PRE-IRENE CONDITION, AND PROVIDE STABILIZATION AS NECESSARY

GENERAL CONSTRUCTION NOTES

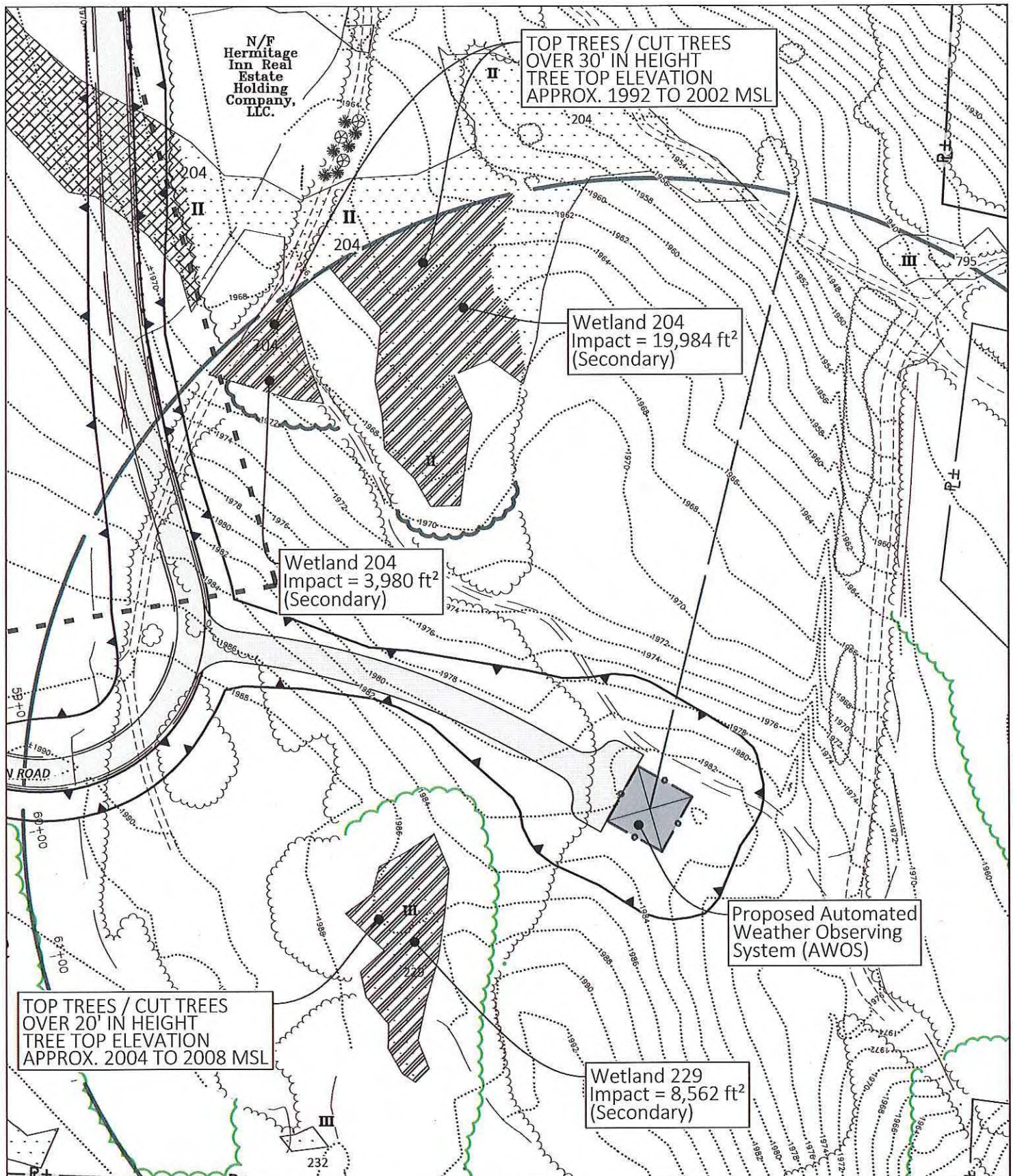
1. CONTRACTOR SHALL COORDINATE WITH ENGINEER PRIOR TO CONSTRUCTION TO DISCUSS CONSTRUCTION PROCEDURES AND SCHEDULING. ENGINEER SHALL BE PRESENT DURING ALL CONSTRUCTION.
2. CONTRACTOR IS RESPONSIBLE FOR TAKING NECESSARY EROSION CONTROL MEASURES TO PREVENT TURBID WATERS DURING CONSTRUCTION. THIS INCLUDES DIVERTING STREAM WATERS AROUND WORK SITE DURING CONSTRUCTION.
3. STREAM WORK SHALL BE DONE DURING LOW FLOW CONDITIONS AND IN AN EXPEDITIOUS MANNER, WITH WORK IN STREAM BEING FINISHED PRIOR TO ANY FORECASTED RAIN EVENTS. STREAM WATER SHALL BE DIVERTED AROUND WORK SITE DURING CONSTRUCTION.

PRELIMINARY BRIDGE DESIGN

1. BRIDGE TO BE DESIGNED FOR A 12 TON BRIDGE CAPACITY
2. PRELIMINARY SIZING IS, $F_y = 36$ ksi, 100 #/FT, ALLOWABLE UNIFORM LOAD IN KIPS IS 63 KIPS, PAGE 2-34 OF AISC MANUAL, SIXTH EDITION

HYDROLOGIC AND HYDRAULIC CALCULATIONS

1. CONTRIBUTING DRAINAGE AREA = 670 ACRES = 1.04 SQUARE MILES
2. FLOWS OBTAINED USING THE USGS STREAMSTATS WEBSITE, BASED ON THIS, ESTIMATED 100 YEAR STORM FLOW = 206 CFS. FLOWS FROM HYDROCAD = 798 CFS. FLOWS USED FOR MODELING STORM FLOWS WERE TAKEN FROM HYDROCAD TO BE CONSERVATIVE.
3. FLOOD LEVELS FOR PROPOSED CONDITIONS (AS SHOWN ON THIS SHEET) WERE CALCULATED USING HYDROCAD® STORMWATER MODELING PROGRAM AND ASSUMED THE FOLLOWING:
 PARABOLIC CHANNEL 22' WIDE AT TOP, AND A TOTAL OF 5.5 FEET DEEP
 MANNING N = 0.035 (BOULDERS)
 SLOPE CHANNEL ASSUMED = 0.02 (2%)



PS
IS
UK
OHW
Primary Impacted (Grading) Area
Secondary (Clearing) Impacted Area
FILE NAME: Wetlands ACOE DVA ET
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100 0 50 100
SCALE: 1"= 100'
HARRINGTON ENGINEERING, INC.
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DEERFIELD VALLEY
Airport
Operated by Deerfield Valley Regional Airport, LLC

PROJECT:
DEERFIELD VALLEY
REGIONAL AIRPORT
/ AWOS
SHEET TITLE:
WETLANDS & SURFACE
WATER IMPACT AREAS
December 7 2015
SHEET #17 EXHIBIT 24