EXECUTIVE SUMMARY

Inventory of Existing Conditions

Table ES-1 (below) summarizes the existing Skyhaven Airport facilities and activity levels as they were in 2000 and compares them to current (2008) conditions.

- Skyhaven Airport is designated by the Federal Aviation Administration (FAA) and the New Hampshire Department of Transportation (NHDOT) as a general aviation (GA) airport.

- Based on the existing types and levels of aircraft operating at Skyhaven Airport, the current critical design aircraft is the multi-engine piston Beech Baron, which is representative of a group of aircraft in Airport Reference Code (ARC) B-I. The airport can accommodate aircraft as large as the Beech King Air 200, Cessna Citation CJ-3, and other aircraft in ARC B-II. Skyhaven Airport meets or exceeds most of the current FAA design criteria for ARC B-I, although there are penetrations to some imaginary surfaces on and in the vicinity of the airport.

- Based aircraft have increased from 53 in 2000 to 118 in 2008, and the airport is almost at capacity in terms of accommodating based aircraft.

- Estimated aircraft operations have decreased by approximately 8% since 2000, and the sale of both 100LL aviation fuel and Jet-A fuel have also declined. Jet-A is not currently available for sale at the airport.

- Flight tracking data indicates that there were 22 documented instrument operations by turboprop and jet aircraft at Skyhaven Airport between July 1, 2007 and June 30, 2008.

- There is no fixed base operator at Skyhaven Airport. The NHDOT and the Pease Development Authority (PDA) are responsible for day-to-day airport operations and management until another fixed base operator (FBO) locates at Skyhaven Airport.

Forecasts of Aviation Activity

- Three forecast scenarios were developed based on a variety of factors that could affect future aviation activity at Skyhaven Airport.

- Scenario A predicted that based aircraft and operations could experience modest growth through 2028. Under Scenario B, certain factors could trigger a short-term decline in based aircraft and operations through 2012, after which activity would gradually rebound. Scenario C follows FAA's forecasted aviation trends of flat growth.

- The forecasts conclude that corporate jets and turboprops could generate between 200 and 500 operations annually at Skyhaven Airport by 2028 if certain improvements were made to the airport. Providing transient parking space and Jet-A fuel would

eliminate constraints to turbine powered aircraft operations, in addition to the availability of FBO services.

Table ES-1 Summary of Existing Conditions - 2008 Compared to 2000

Skyhaven Airport (DAW)		
	2000	**2008**
Airport Reference Code (ARC)	B-II Small	B-I
Critical Design Aircraft	Beech King Air 200	Beech Baron
FAA NPIAS + NH SASP Role	General Aviation	General Aviation
Elevation above sea level	322’	322’
Mean maximum temperature	83^0F	83^0F
Area (acres)	195 +/-	195 +/-
Based Aircraft - Total	53	118
Single Engine Piston	47	97
Multi Engine Piston	6	6
Turboprop	0	0
Jet	0	1
Helicopter	0	2
Ultralight	0	12
Aircraft Operations Per Year (estimate)	18,592	17,000
Average Aircraft Operations Per Day (estimate)	51	46
Annual Service Volume (Operational Capacity)	230,000	230,000
Hourly Capacity - Operations	86	86
Non-precision instrument approach	Runway 33	Runway 33
Lowest instrument approach minimums	438’ HAT & 1 mile	305’ HAT & 1 mile*
Visual Runway	Runway 15	Runway 15
Air Traffic Control Tower	No	No
Unicom Radio	Yes	Yes
Automated Surface Observing System (ASOS)	No	Yes

Notes:
FAA 3-letter identifier for Skyhaven Airport is DAW.
Airport Reference Code (ARC): Approach Category A = <91 knots. Design Group I = wingspan <49’.
Approach Category B = 91knots - <121 knots. Design Group II = wingspan 49’ - <79’
Small = 12,500 lbs. maximum gross weight or less
FAA NPIAS = FAA National Plan of Integrated Airport Systems
NH SASP = New Hampshire State Airport System Plan
GPS = Global Positioning System
HAT = height above touchdown zone elevation (on runway)
Annual Service Volume & Hourly Capacity Source: FAA Advisory Circular 150/5060-5, Airport Capacity and Delay, Chapter 2
* In February 2010 FAA published a new GPS LPV instrument approach to Runway 33 with minimums of 305’ HAT.

Sources:
Airport Master Plan Update, 2000/2001, Hoyle Tanner & Associates; NHDOT; FAA Airport Master Record Form 5010; FAA Airport/Facility Directory; FAA Terminal Procedures Publication; FAA Advisory Circular 150/5300-13, Airport Design; FAA Advisory Circular 150/5060-5, Airport Capacity & Delay; field/visual inspections.

- The FAA's Terminal Area Forecast (TAF) represents a balance between the two forecast scenarios, and is the recommended forecast for this AMPU (i.e., no-growth). FAA's TAF projects that based aircraft will remain at 106[1], and there will be 17,000 aircraft operations annually, or an average of 46 aircraft operations per day through 2025.

- Based on the forecasts of demand, the future role of Skyhaven Airport will remain GA. In other words, no commercial passenger or cargo airline service is projected to operate at Skyhaven through the end of the forecast period.

- The existing critical design aircraft is represented by the Beech Baron, Piper Navajo, and Cessna 402, and fall within Airport Reference Code (ARC) B-I.

- The ultimate critical design aircraft will be the Beech King Air 200, which falls within ARC B-II.

Facility Requirements

- There is a need for additional T-hangars. NHDOT has a waiting list of 31 aircraft owners who expressed interest in renting a hangar. Some of the demand comes from aircraft presently on tiedowns at the airport.

- A more precise instrument approach with lower instrument approach minimums to Runway 33 would increase the utility of the airport for a variety of aircraft operators.

- There is a need for paved parking apron for transient aircraft. Such an apron should provide sufficient space for 2 to 3 parking positions for aircraft the size of a Beech King Air 200 and/or Cessna Citation CJ-3, as well as 3 to 4 positions for single and multi-engine piston aircraft, such as a Beech Baron, Piper Navajo, etc. The apron should also provide sufficient space to allow for power-in, power-out maneuvering.

- The 2001 Airport Master Plan Update (AMPU) recommended extending Runway 15-33 by 1,000 feet, if the High Growth scenario were realized. However, aircraft operations have not reached that level, and in fact have remained relatively flat.

- An analysis of runway length requirements for corporate aircraft concluded that the existing 4,000 foot Runway 15-33 can accommodate a large number of corporate jets currently in production. In addition, the forecasts do not anticipate that corporate jets will generate sufficient operations to justify an extension to the runway in the near term.

  However, FAA's criteria for instrument approaches with visibility minimums of ½ mile require a minimum runway length of 4,200 feet. As a result, Runway 15-33 should be extended by at least 200 feet when it is reconstructed in order to

[1] FAA did not count the 12 ultralights based at the airport. Total based aircraft = 118

accommodate visibility minimums of ½ mile, if and when all other criteria for such procedures are met in the future.

There is space on the airport to accommodate a longer runway, and any additional runway length would provide operational benefits for certain aircraft, specifically by allowing them to takeoff with additional payload (passengers, baggage, in addition to fuel).

- Some imaginary surfaces over and in the vicinity of the airport have penetrations, primarily vegetation, which should be removed, marked, or lighted, as determined by FAA.

- Some existing facilities, such as the based aircraft parking apron, Runway 15-33, and the auto parking lot, need rehabilitation or reconstruction in the near future.

- There is a need for improved access to the aircraft fueling facilities.

Alternatives

- Four runway options were identified and analyzed:
  - 1. No runway extension;
  - 2. Extend Runway 33 by 200 feet and Runway 15 by 500 feet;
  - 3. Extend Runway 15 by 500 feet;
  - 4. Extend Runway 15 by 500 feet and displace Runway 33 threshold to the north by 300 feet.
- The fourth runway option was chosen as the preferred alternative. The extension of Runway 15 and the displacement of Runway 33 would not occur until the end of the 20-year planning period, and only if there is evidence that overall aviation activity and demand by corporate operators has grown sufficiently to justify the extension.
- The pros and cons of the installation of an Omni-Directional Approach Lights (ODALS) to Runway 33 were identified. It was decided that ODALS, which are comprised of 5 light poles, would be included on the Airport Layout Plan (ALP) because of the operational benefit of reducing the current instrument approach minimums to Runway 33 from 1 mile visibility to ¾ mile. By displacing the Runway 33 threshold 300 feet, all of the ODALS light poles can be situated on airport property.
- Alternative layouts were examined for the proposed new based aircraft tiedown apron, which is shown south of the terminal building. The new apron will be approximately 154,000 s.f. in size and will accommodate approximately 33 based aircraft tiedowns. Adjacent to the tiedown apron will be an aircraft runup pad that can accommodate two Beech King Airs simultaneously, approximately 12,600 s.f. in size.
- Alternative layouts for a new transient aircraft parking apron were identified and evaluated, and the preferred option reconfigures the existing based aircraft tiedown apron so that it will accommodate four Beech King Air (Design Group II) parking positions as well as six piston-engine (Design Group I) parking positions.
- The existing self-serve fuel pumps are old, and their current location in the middle of the ramp disrupts traffic flow and limits the amount of available transient parking.

Several alternative locations for new self-serve fuel pumps, and the preferred location was identified in the corner of the future transient parking apron, near the terminal building. There is sufficient space to allow aircraft to taxi and taxi out by the pumps without interfering with other traffic flows or parking positions.

- The 2001 Airport Master Plan identified a layout for additional T-hangars and a conventional hangar, all of which were carried forward on this Airport Layout Plan (ALP) as shown in that study.

Preferred Option

Considering the forecasts of demand, environmental conditions, the potential operational benefits as well as potential drawbacks, the fourth runway alternative (described above) was selected as the preferred option. In summary, the recommended airport improvements include:

- Rehabilitate Runway 15-33 4,000' x 75' by 2014.
- Construct new paved based aircraft tiedown apron south of the terminal building.
- Construct new aircraft runup pad adjacent to the parallel taxiway, in the vicinity of the Runway 33 threshold.
- Rehabilitate the existing based aircraft tiedown apron and convert it to a transient parking apron. Construct an aircraft washpad.
- Remove existing self-serve fuel pumps and install new pumps in corner of transient parking apron.
- Reconstruct and stripe auto parking lot.
- Complete installation of airport perimeter fencing.
- Displace the Runway 33 threshold by 300 feet to the north. Relocate the existing Runway End Identifier Lights (REILS) and Precision Approach Path Indicator (PAPI) lights adjacent to displaced threshold.
- Install an Omni-directional Approach Light System (ODALS) to Runway 33 after the 33 threshold has been displaced. Note that if visibility minimums are reduced to ¾ mile, the Runway 33 protection zone increases in size (as shown on the attached Airport Layout Plan).
- Construct new conventional hangar (approximately 60' x 60' in size) adjacent to and south of the terminal building.
- Construct approximately 87 new T-hangar units (actual number and timing based on commitments from aircraft owners).
- Extend Runway 15 by 500 feet to the north, as well as the parallel taxiway, and construct aircraft runup pad adjacent to new threshold, when demand justifies the extension.

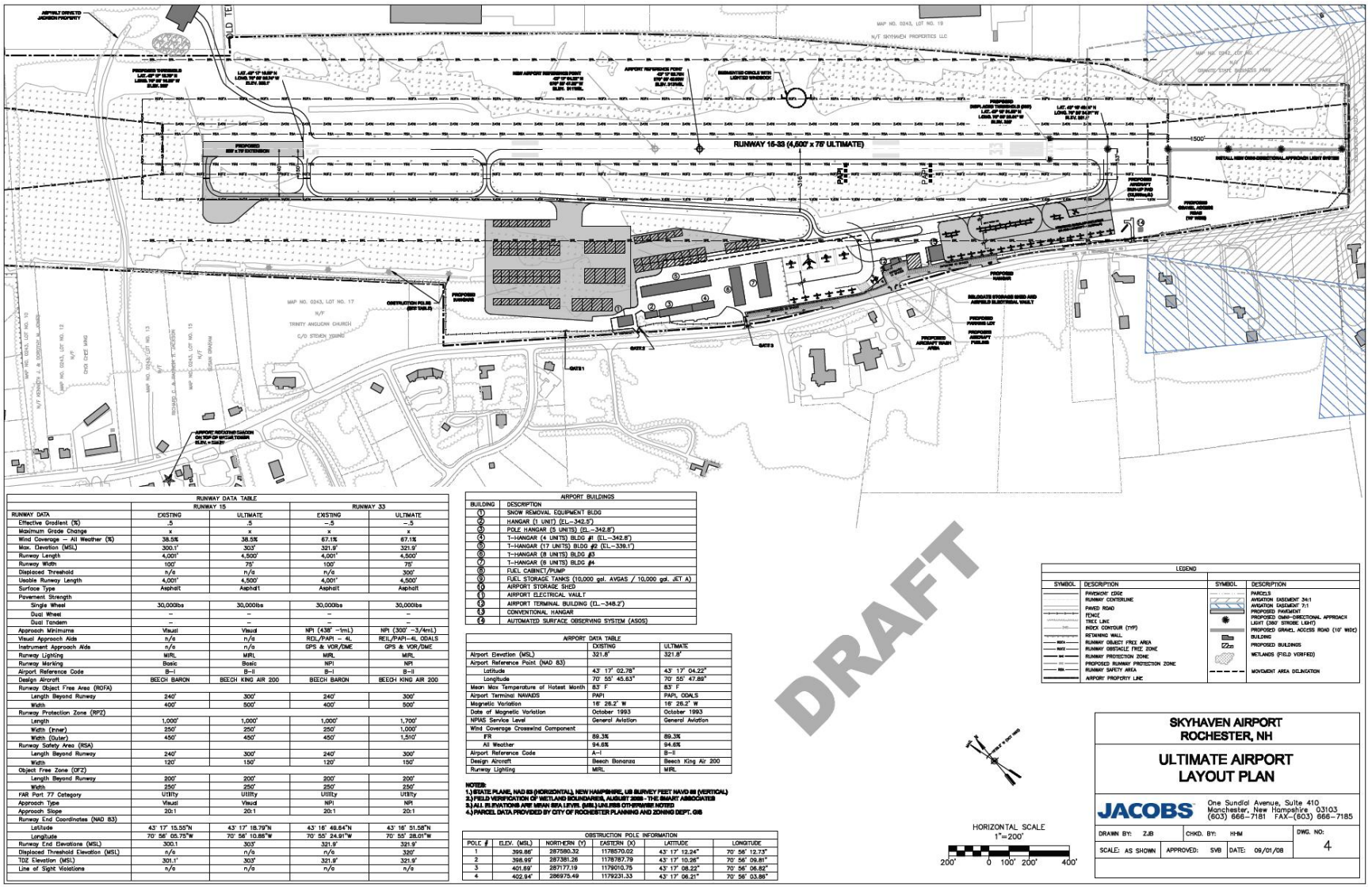
Environmental Conditions

- The primary environmental issue on Skyhaven Airport is wetlands. Wetlands mapping had been accomplished by the Smart Associates for the 2003 Environmental Assessment (EA), and was the mapping was updated in 2008 for this master plan. A mitigation agreement was signed between NHDOT and NHDES in 2004 that identified wetlands impacts from improvement projects shown on the 2001/2003 ALP. Since that agreement was executed, the parallel taxiway to Runway 15-33 was realigned and reconstructed, which results in more wetlands impacts than originally

anticipated in the agreement. Under the agreement, a total of 11.84 acres of wetlands were allowed to be disturbed, and the taxiway projected impacted approximately 5.4 acres of wetlands, which leaves approximately 6.4 acres of wetlands. Calculations of potential impacts from the projects shown on this ALP would result in less than 6 acres of wetlands impacts, so that all of the projects shown should be accomplished within the limits of the agreement.

- The 2001 Airport Master Plan developed FAA approved noise contours (based on the Day-Night Noise metric, or LDN), for various activity forecast scenarios. The 65 LDN noise contour that was developed based on the forecast scenario closest to the projections presented in this master plan was overlaid on a land use map. The 65 LDN noise contour does not extend off airport property, and it does not impact any noise-sensitive land uses adjacent to the airport.

- Impact from the strobe lights on the ODALS was examined, and it was noted that adjacent residents and car drivers on Route 108 may see the flashing lights at night and in poor weather (low cloud and/or mist) conditions. One option to mitigate the lights is to put shields adjacent to the lights on each pole, ensuring that the lights are clearly visible to pilots approaching to land on Runway 33. In addition, existing ambient lighting will mitigate the impact of the approach lights.



RUNWAY DATA TABLE				
	RUNWAY 15		RUNWAY 33	
RUNWAY DATA	EXISTING	ULTIMATE	EXISTING	ULTIMATE
Effective Gradient (%)	.5	.5	-.5	-.5
Maximum Grade Change	x	x	x	x
Wind Coverage - All Weather (%)	38.5%	38.5%	67.1%	67.1%
Max. Elevation (MSL)	300.1'	303'	321.9'	321.9'
Runway Length	4,001'	4,500'	4,001'	4,500'
Runway Width	100'	75'	100'	75'
Displaced Threshold	n/a	n/a	n/a	300'
Usable Runway Length	4,001'	4,500'	4,001'	4,500'
Surface Type	Asphalt	Asphalt	Asphalt	Asphalt
Pavement Strength				
Single Wheel	30,000lbs	30,000lbs	30,000lbs	30,000lbs
Dual Wheel	--	--	--	--
Dual Tandem			--	--
Approach Minimums	Visual	Visual	NPI (438' -1mi.)	NPI (300' -3/4mi.)
Visual Approach Aids	n/a	n/a	REIL/PAPI - 4L	REIL/PAPI-4L ODALS
Instrument Approach Aids	n/a	n/a	GPS & VOR/DME	GPS & VOR/DME
Runway Lighting	MIRL	MIRL	MIRL	MIRL
Runway Marking	Basic	Basic	NPI	NPI
Airport Reference Code	B-I	B-II	B-I	B-II
Design Aircraft	BEECH BARON	BEECH KING AIR 200	BEECH BARON	BEECH KING AIR 200
Runway Object Free Area (ROFA)				
Length Beyond Runway	240'	300'	240'	300'
Width	400'	500'	400'	500'
Runway Protection Zone (RPZ)				
Length	1,000'	1,000'	1,000'	1,700'
Width (Inner)	250'	250'	250'	1,000'
Width (Outer)	450'	450'	450'	1,510'
Runway Safety Area (RSA)				
Length Beyond Runway	240'	300'	240'	300'
Width	120'	150'	120'	150'
Object Free Zone (OFZ)				
Length Beyond Runway	200'	200'	200'	200'
Width	250'	250'	250'	250'
FAR Part 77 Category	Utility	Utility	Utility	Utility
Approach Type	Visual	Visual	NPI	NPI
Approach Slope	20:1	20:1	20:1	20:1
Runway End Coordinates (NAD 83)				
Latitude	43° 17' 15.55"N	43° 17' 18.79"N	43° 16' 49.64"N	43° 16' 51.58"N
Longitude	70° 56' 05.75"W	70° 56' 10.88"W	70° 55' 24.91"W	70° 55' 28.01"W
Runway End Elevations (MSL)	300.1	303'	321.9'	321.9'
Displaced Threshold Elevation (MSL)	n/a	n/a	n/a	320'
TDZ Elevation (MSL)	301.1'	303'	321.9'	321.9'
Line of Sight Violations	n/a	n/a	n/a	n/a

AIRPORT BUILDINGS	
BUILDING	DESCRIPTION
1	SNOW REMOVAL EQUIPMENT BLDG
2	HANGAR (1 UNIT) (EL.-342.5')
3	POLE HANGAR (5 UNITS) (EL.-342.8')
4	T-HANGAR (4 UNITS) BLDG #1 (EL.-342.8')
5	T-HANGAR (17 UNITS) BLDG #2 (EL.-339.1')
6	T-HANGAR (8 UNITS) BLDG #3
7	T-HANGAR (8 UNITS) BLDG #4
8	FUEL CABINET/PUMP
9	FUEL STORAGE TANKS (10,000 gal. AVGAS / 10,000 gal. JET A)
10	AIRPORT STORAGE SHED
11	AIRPORT ELECTRICAL VAULT
12	AIRPORT TERMINAL BUILDING (EL.-348.2')
13	CONVENTIONAL HANGAR
14	AUTOMATED SURFACE OBSERVING SYSTEM (ASOS)

AIRPORT DATA TABLE		
	EXISTING	ULTIMATE
Airport Elevation (MSL)	321.8'	321.8'
Airport Reference Point (NAD 83)		
Latitude	43° 17' 02.78"	43° 17' 04.22"
Longitude	70° 55' 45.63"	70° 55' 47.86"
Mean Max Temperature of Hotest Month	83° F	83° F
Airport Terminal NAVAIDS	PAPI	PAPI, ODALS
Magnetic Variation	16° 26.2' W	16° 26.2' W
Date of Magnetic Variation	October 1993	October 1993
NPIAS Service Level	General Aviation	General Aviation
Wind Coverage Crosswind Component		
IFR	89.3%	89.3%
All Weather	94.6%	94.6%
Airport Reference Code	A-I	B-II
Design Aircraft	Beech Bonanza	Beech King Air 200
Runway Lighting	MIRL	MIRL

NOTES:
1.) STATE PLANE, NAD 83 (HORIZONTAL), NEW HAMPSHIRE, US SURVEY FEET NAVD 88 (VERTICAL)
2.) FIELD VERIFICATION OF WETLAND BOUNDARIES, AUGUST 2008 - THE SMART ASSOCIATES
3.) ALL ELEVATIONS ARE MEAN SEA LEVEL (MSL) UNLESS OTHERWISE NOTED
4.) PARCEL DATA PROVIDED BY CITY OF ROCHESTER PLANNING AND ZONING DEPT. GIS

OBSTRUCTION POLE INFORMATION					
POLE #	ELEV. (MSL)	NORTHERN (Y)	EASTERN (X)	LATITUDE	LONGITUDE
1	399.86'	287580.32	1178570.02	43° 17' 12.24"	70° 56' 12.73"
2	398.99'	287381.26	1178787.79	43° 17' 10.26"	70° 56' 09.81"
3	401.69'	287177.19	1179010.75	43° 17' 08.22"	70° 56' 06.82"
4	402.94'	286975.49	1179231.33	43° 17' 06.21"	70° 56' 03.86"

LEGEND			
SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION
	PAVEMENT EDGE		PARCELS
	RUNWAY CENTERLINE		AVIGATION EASEMENT 34:1
	PAVED ROAD		AVIGATION EASEMENT 7:1
	FENCE		PROPOSED PAVEMENT
	TREE LINE		PROPOSED OMNI-DIRECTIONAL APPROACH LIGHT (360' STROBE LIGHT)
	INDEX CONTOUR (TYP)		PROPOSED GRAVEL ACCESS ROAD (10' WIDE)
	RETAINING WALL		BUILDING
RSA	RUNWAY OBJECT FREE AREA		PROPOSED BUILDINGS
ROFA	RUNWAY OBSTACLE FREE ZONE		WETLANDS (FIELD VERIFIED)
RPZ	RUNWAY PROTECTION ZONE		
POFZ	PROPOSED RUNWAY PROTECTION ZONE		
RSA	RUNWAY SAFETY AREA		MOVEMENT AREA DELINEATION
	AIRPORT PROPERTY LINE		

HORIZONTAL SCALE
1"=200'
200' 0 100' 200' 400'

SKYHAVEN AIRPORT
ROCHESTER, NH

ULTIMATE AIRPORT LAYOUT PLAN

JACOBS
One Sundial Avenue, Suite 410
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DRAWN BY: ZJB	CHKD. BY: HHM	DWG. NO: 4
SCALE: AS SHOWN	APPROVED: SVB	DATE: 09/01/08