Valkaria Airport

Airport Master Plan and Airport Layout Plan Update

FDOT Item No. 435317-1-94-01

FAA AIP No. 3-12-0144-007-2014

Master Plan Update

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INTRODUCTION

The Vision for Valkaria Airport is to be a premier General Aviation Airport in Central Florida meeting the needs of its stakeholders in an efficient, safe, secure, compatible, and financially stable manner. To help Brevard County achieve their vision for the Airport, this master plan update was authorized by the Brevard County Board of County Commissioners, with funding assistance from the Federal Aviation Administration (FAA) and the Florida Department of Transportation (FDOT).

The previous Airport Master Plan for Valkaria Airport (X59) was completed in 2006. Due to the improvements made following the document, the airport currently accommodates 127 based aircraft. This well exceeds the high forecast for 86 aircraft in 2026 made in it. Aircraft operations have also significantly increased.

This update evaluates the current airport facilities for their capability to accommodate the growth in operations at the Airport. It also addresses compliance with evolving FAA and FDOT design standards to identify any needed improvements. This evaluation assesses opportunities to increase the availability of the Airport during periods of darkness and poor visibility, especially marginal visual conditions. The outcome of this master plan update is to identify the necessary facility improvements to support the community's vision for Valkaria Airport and to develop an implementation plan to accomplish the needed facility improvements.

The information presented in this master plan update was gathered in a variety of ways including review of published data and reports provided by airport management and staff, data contained in the Florida Aviation System Plan (FASP), on-site inspections, in-person meetings and interviews with airport staff, airport tenants and users, and agency contacts. This master plan update is consistent with the FAA and the FDOT guidelines, including those described in:

- FAA Advisory Circular 150/5300-13A, *Airport Design*
- FAA Advisory Circular 150/5070-6B, *Airport Master Plans*
- FDOT's *Guidebook for Airport Master Planning*
- Code of Federal Regulations Title 14 Part 77 *Safe, Efficient Use, And Preservation Of The Navigable Airspace*

In the recent months, the following projects that were identified in the 2006 Airport Master Plan recommended capital improvement program have been completed, and include:

- Installation of an airport beacon and runway threshold/end lights
- Reconstruction of Taxiway B and the aircraft parking apron
- An Environmental Assessment, design, and construction of a 4,000-foot-long Taxiway A parallel to primary Runway 14/32
- Construction of two 8-unit T-hangars with connecting box hangars, including needed stormwater and drainage improvements and addition of Skyman Park
- Runway Safety Area improvements, including hazard removal or mitigation

- Facility safety improvements as a result of a Wildlife Hazard Assessment
- Implementation of a Wildlife Hazard Management Plan completion
- Rehabilitation of secondary Runway 10/28, including installation of a precision approach path indicator (PAPI) approach aids
- Security Enhancements

The Airport is subject to licensing requirements contained in Rule 14-60.007, Florida Administrative Code (F.A.C.), per the requirements of Ch. 330.30, Florida Statutes (F.S.). The facility is inspected and licensed by the FDOT Aviation and Spaceports Office (ASO) on an annual basis. The most recent inspection of the facility was conducted on August 6, 2015, and resulted in a positive outcome. FDOT identified trees off the ends of Runway 10 and 14 that should to be addressed to improve the approach slope. Previous inspections also identified runway marking improvements needs that will be addressed in a future planned runway rehabilitation project.

1 Existing Conditions

1.1 Airport Ownership and Location

Valkaria Airport is a non-towered, public use, general aviation airport owned by Brevard County, Florida and administered by the County Commission, as the airport sponsor. The County employs the services of a full-time, professional airport manager and staff.

The airport is located along the east coast of Florida in the East Central Florida Metropolitan CFASPP[1] area, which includes Brevard, Flagler, Lake, Orange, Osceola, Seminole and Volusia Counties. Brevard County is a noted tourist and service-oriented economy with a variety of transportation, government, educational and technology based businesses including Patrick Air Force Base, Kennedy Space Center and Cape Canaveral Air Force Station, Florida Institute of Technology, Space Florida, Harris Corporation, Northrup-Grumman, Embraer, and others.

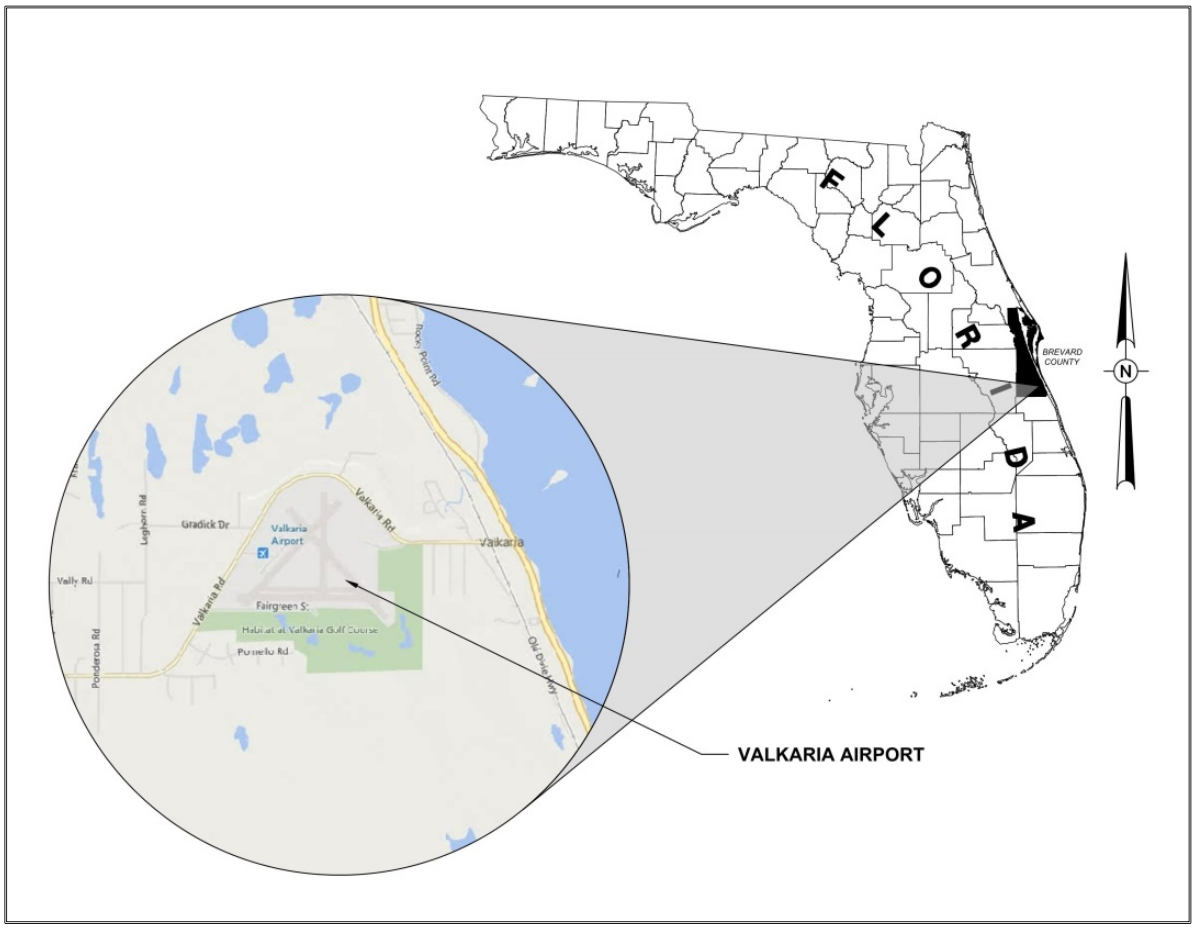
The Airport is classified in the FASP as a community airport supporting business/recreation, flight training and recreational/sport aviation. It also supports law enforcement, emergency services and preparedness, and disaster relief. The airport is an asset to the Florida airport system and provides an important connection to the larger aviation system and access to its respective communities.

Valkaria Airport is included in the National Plan of Integrated Airport Systems (NPIAS), which identifies existing and proposed airports that are significant to national air transportation and thus eligible to receive Federal grants under the Airport Improvement Program (AIP). A 2012 study sponsored by the FAA evaluated the Nation's general aviation airports and their various roles in the communities they serve. This study identified the airport as a "Local" airport that "supplements the community by providing access primarily to intrastate and some interstate markets, and that supports general aviation activities such as emergency service, charter or critical passenger service, cargo operations, flight training, and personal flying." This study will evaluate Future development needs that are important to maintaining this role in Brevard County's airport system.

Existing airport property consists of approximately 660 acres of land located on the northwest side of the City of Grant-Valkaria, approximately 1 mile from the city center. The airport is located west of U.S. Highway 1, and is accessible by Pilots' Place which connects to Valkaria Road. Airport coordinates are Latitude 27°57' 39.15"N and Longitude 080°33' 30.01" W. Airport elevation is 26 feet above mean sea level (MSL). The airport's location is shown on Figure 1.1.

[1] The Continuing Florida Aviation Systems Planning Process (CFASPP) was established by the FAA and FDOT as a means of maintaining and enhancing the Florida aviation system. A primary function of CFASPP is to provide a mechanism for the continued monitoring of the Florida and National aviation environment in order to keep pace with the safety, security and capacity needs of Florida airports. CFASPP is a component of the Federal Aviation Administration Continuous Airport Systems Planning Process.

Figure 1.1: General Location map



1.2 Airport Facilities

1.2.1 Runways and Taxiways

The Airport has two asphalt runways, both 4,000 feet long. Runway 10-28 is 60 feet wide, reduced from the previous width of 75 feet following recent runway reconstruction and resurfacing in May 2014. Based on the current and forecast aircraft operating at the Airport, the width of the Runway 10-28 was reduced to match the FAA Runway Design Code (RDC) for B-I (Small) with visual approaches. The pavement condition is excellent. Runway 14-32 is 75 feet wide to match FAA RDC for B-II visual or approaches with no less than one mile visibility. The pavement and markings are in fair condition.

Runway 14-32 has a 25-foot wide full parallel taxiway (Taxiway “A”) with connectors to the aircraft parking apron. The taxiway is constructed of asphalt and is in excellent condition as it was recently completed.

In May 2011, FDOT Aviation and Spaceports Office published a Statewide Airfield Pavement Management Program report for the facility, documenting the condition of the pavement at the airport. The pavement conditions for runways, taxiway, connectors, and apron space were evaluated by an FDOT pavement inspector. The 2011 report determined that Runway 10-28, aircraft parking aprons and Taxiway B pavement conditions as "poor" and these surfaces have been rehabilitated since the inspection. Runway 14-32 pavement conditions were identified as fair and will be rehabilitated as part of a future project. Table 1.1 below summarizes existing airfield characteristics.

Table 1.1 Summary of Runway Characteristics, Valkaria Airport

Airport Elevation			**26 feet**	
Runways	**10**	**28**	**14**	**32**
Dimensions (feet)	4,000 x 60		4,000 x 75	
Surface	Asphalt		Asphalt	
Surface Condition	Excellent		Fair	
Pavement Strength	12,500 LBS S.W.			
Lighting	None			
NAVAIDS	None			
Visual Aids	PAPI - 4	PAPI – 4	PAPI – 4	PAPI - 4
Runway Marking	Basic		Basic	
Taxiways				
Dimensions (feet)	None		4,000 x 25	
Surface	NA		Asphalt	
Surface Condition	NA		Excellent	
Lighting	NA		None	
Source: Airport Master Record 5010, Airport Facility Directory, 2015, Hanson 2015				

1.2.2 Airport and Airfield Lighting

The Airport has a rotating light beacon that is clear-green, and which operates from sunset to sunrise. Runway 14-32 and Runway 10-28 are equipped with runway threshold/end lights. The remainder of the facility's operational surfaces are not lighted.

1.2.3 Approach and Landing Aids

In addition to the rotating beacon, all runway ends are equipped with precision approach path indicators (PAPIs) of the four-light unit type. The Airport is also equipped with a lighted windsock and a segmented circle.

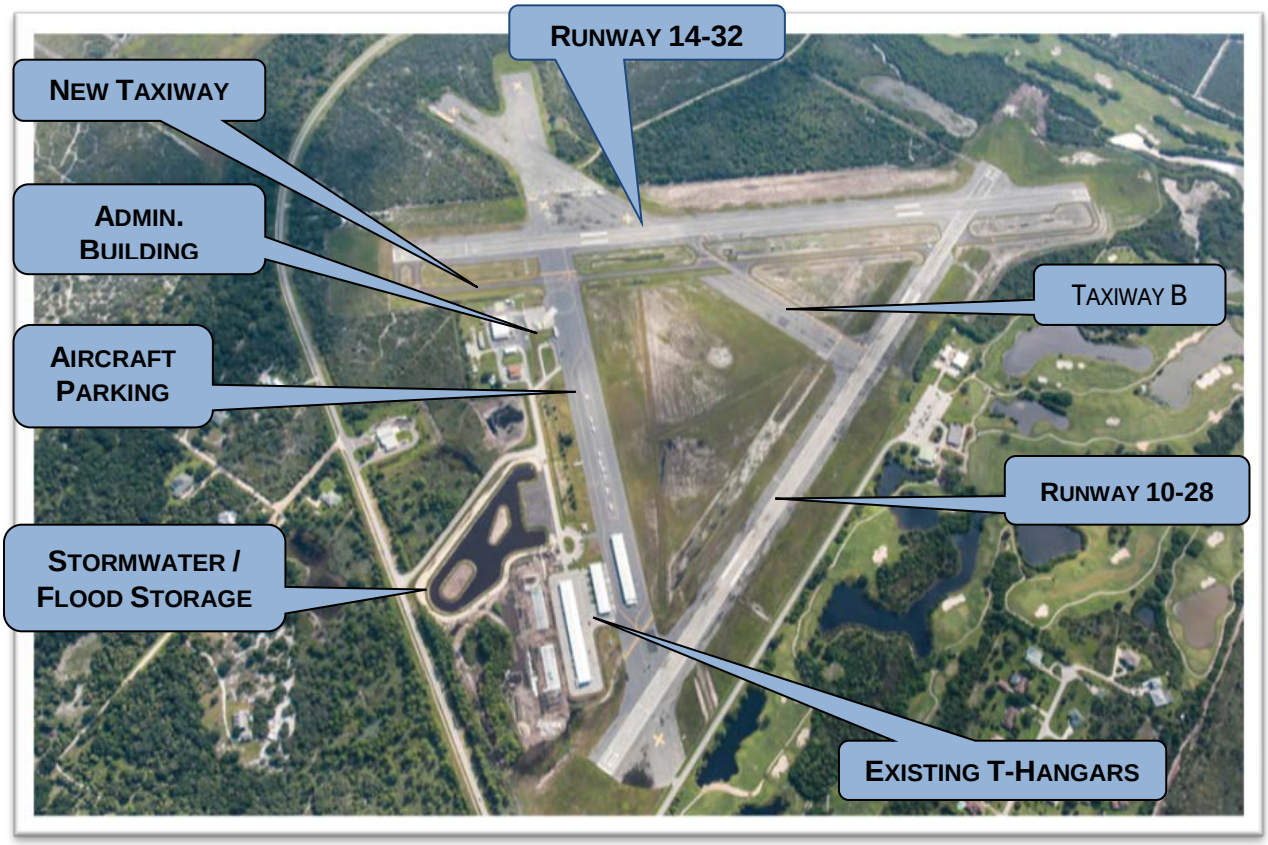
1.3 Landside Facilities

Landside facilities include T-hangars and box hangars, apron and ramp access, and automobile parking. These facilities are located on the west side of the airport, along Valkaria Road and west of the intersection of Runway 14-32 and Runway 10-28. Independent tenants provide a variety of services including small aircraft manufacturing, flight training, small airframe and powerplant repairs, and avionics installation and

repair. Airport administration occupies a small building on the north side of the apron area. There are 10 paved parking spaces for automobiles.

The airport provides a total of 30 anchored tie-down spaces for local and itinerant aircraft located on the paved apron adjacent to the administration trailer and Taxiway/Taxilane C. The aircraft parking apron was recently repaved and remarked. During special events or periods of increased activity, additional parking for 10 to 15 aircraft is available for temporary use on the paved areas north of Runway 14-32. A hangar complex is located just southwest of the apron and includes five T-Hangar strands containing 67 units and four box hangars leased to local aviation companies consisting of Hughes Aircraft Services, Composite Designs, Recreational Mobility, and the Valkaria Aviation Association (VAA). These hangars provide storage for 115 aircraft. Figure 1.2 provides the general location of airport facilities.

Figure 1.2 Facility Locations



1.4 Fuel Storage

The Airport has self-service fueling. The facility that serves general aviation aircraft consists of a self-service system and dispenses 100LL Avgas with a 12,000 gallon tank capacity. There is also a Jet-A fuel tank with a 5,000 gallon tank capacity. The facility is located north of the airport administration building, constructed in 2002 as an above ground installation, and is currently undergoing renovation. Table 1.2 provides a history of Avgas (100LL) and Jet-A fuel sales.

Table 1.2 Summary of Fuel Sales, Valkaria Airport

Year	Avgas		Jet-A	
(Fiscal Year)	Gallons	Sales	Gallons	Sales
2006	58,233	$211,206		
2007	62,299	$227,755		
2008	40,085	$180,578		
2009	37,640	$142,151		
2010	50,375	$197,939		
2011	51,751	$235,424		
2012	52,953	$270,790		
2013	47,318	$249,827	681	$2,758
2014	49,647	$250,458	3,738	$16,447.50
Total	**451,283**	**$1,966,128**	**4,419**	**$19,205.25**

Source: Airport Master Record 5010, Airport Facility Directory, 2015, Hanson 2015

1.5 Published Instrument Approach Procedures

The Airport does not have any published instrument approach procedures, and there are no procedures that are pending development as a part of the FAA Instrument Flight Procedure Production Plan. This precludes IFR approaches, although marginal VFR approaches do take place. However, there are a limited number of IFR departure operations of aircraft departing the airport in Instrument Meteorological Conditions (IMC). IMC is an aviation flight category that describes weather conditions that require pilots to fly primarily by reference to instruments, and therefore under instrument flight rules (IFR). Pilots operating in IMC conditions can receive all clearance information, including discrete transponder (squawk) code, heading to enter Orlando Approach controlled airspace, altitude limitation, and clearance departure and void times using telephone contact with Flight Service. The number of such operations is not quantifiable, but direct conversation with users of the airport confirms they do occur. Projected use will require IFR approach capability in addition to the IMC departure operations now occurring.

1.6 Area Airports and Airspace

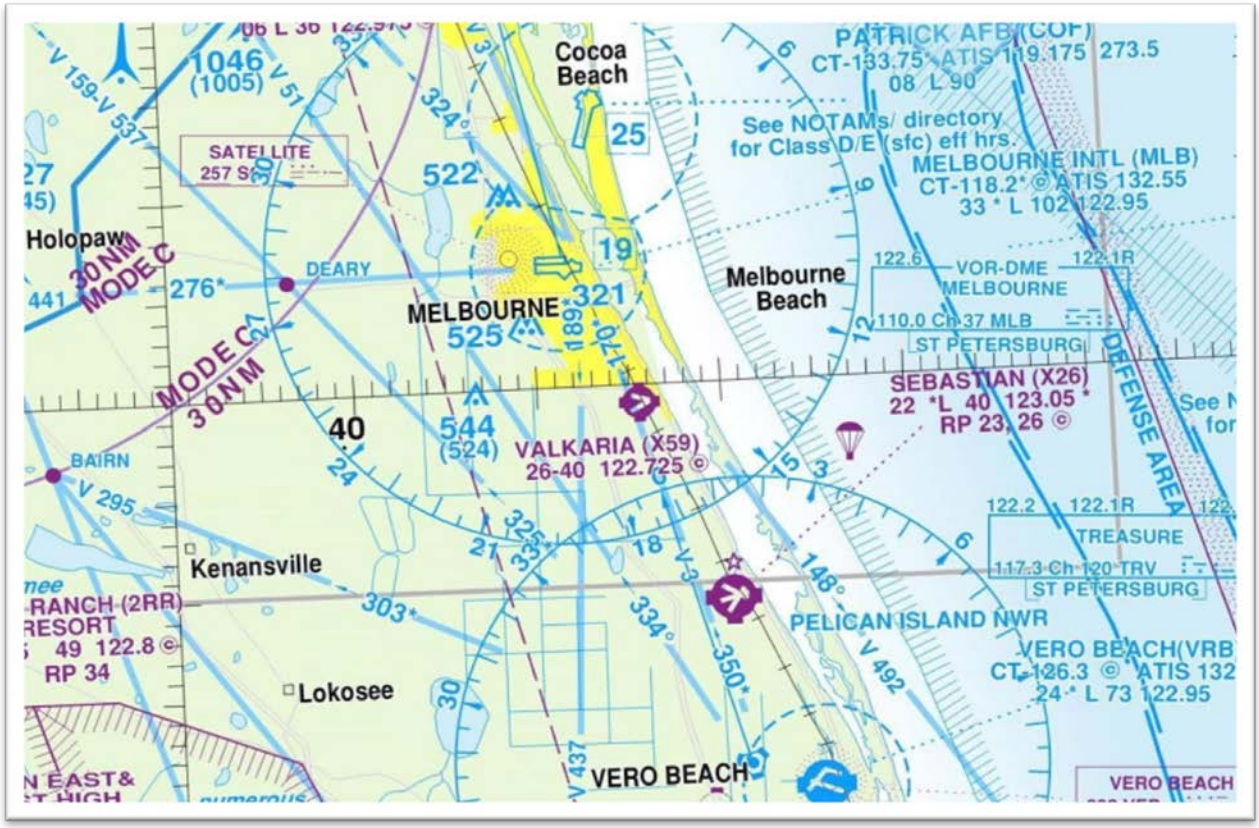
Valkaria Airport is a non-towered airport located in Class G airspace extending from the ground up to 1,200 feet AGL. Pilots operating in Class G airspace are not required to operate aircraft equipped with radio communications equipment or transponders,

although this equipment is recommended. From 1,200 feet above ground level (AGL) to 18,000 feet AGL, the airspace over the Airport is designated as Class E airspace. Class E airspace serves as a sort of default form of controlled airspace, imposing stricter standards for visual flight than uncontrolled airspace (Class G), but demanding nothing more of the pilot than adhering to the appropriate ceiling, visibility, and cloud-clearance requirements.

There are no overlapping airspaces associated with surrounding airports. Pilots in the vicinity of Valkaria Airport may communicate using the Unicom frequency of 122.725. Airports and airspace in the vicinity are depicted in Figure 1.3 below. The closest airport is Sebastian Municipal Airport, located approximately 9 nautical miles south. Sebastian Municipal is a public use airport with two asphalt runways and full service facilities. Approximately seven privately owned, private use airports are located within 20 statute miles with P&D Heliport being the closest at approximately 4.2 statute miles. Other nearby public use airports include:

- KMLB – Melbourne International Airport (10 nm NW)
- KCOF – Patrick Air Force Base (17 nm N)
- KVRB – Vero Beach Municipal Airport (20 nm S)
- KCOI – Merritt Island Airport (24 nm N)

Figure 1.3 Area Airports and Airspace



1.7 Airport Activity

1.7.1 Based Aircraft

Based aircraft historic data was obtained from the airport records and FAA's Terminal Area Forecast (TAF). Current based aircraft data was obtained from airport management, which conducted an inventory survey of based aircraft in Fall 2014. The collected data is presented in Table 1.3 below.

Table 1.3 Based Aircraft by Type, 2006 to 2014, Valkaria Airport

Year	Single -Eng. Piston	Multi-Eng. Piston	Turbo Prop	Jet	Rotorcraft	Amphib.	Gyro	Ultra-Light	TOTAL
2014	95	4	0	0	3	6	3	16	127
2013	65	3	0	0	4	4	3	15	94
2012	55	3	0	0	4	4	3	15	84
2011	45	3	0	1	4	4	3	15	75
2010	45	3	0	1	4	4	3	15	75
2009	43	3	0	1	2	0	0	0	49
2008	43	3	0	1	2	0	0	0	49
2007	43	3	0	1	2	0	0	0	49
2006	43	3	0	1	2	0	0	0	49
Source: Airport Records (2011-2014); 2006 Valkaria Airport Master Plan; Hanson Professional Services									

The number of based aircraft has grown significantly from a total of 49 in 2006 to 127 in 2014. Growth in based aircraft has paralleled the installation and availability of general aviation storage hangars. Construction was completed on T-Hangar Charlie in 2011, adding 18 T-hangar storage spots which were immediately filled. T-Hangars Delta and Echo were completed in 2013 and added another 20 T-hangar storage spots and additional box-hangar parking, which were also immediately occupied. The majority, 77%, of based aircraft fall into the single-engine piston category. Ultralights occupy the second highest category of based aircraft at 12%.

1.7.2 Aircraft Operations

The Airport does not have an air traffic control tower therefore specific detailed aircraft activity records are not available. However, the airport is staffed from 8:00 a.m. to 5:00 p.m. daily and, when time permits, observations are made regarding the number of operations by aircraft type. These airport records have been annualized and are shown in Table 1.4.

The total number of operations has increased since the last airport master plan update. Air traffic has increased from 28,470 annual operations, or about 78 takeoffs and landings per day, to 53,160 operations, or more than 145 operations per day. These operations breakdown as follows: 74%, *local*; 25% *itinerant*; and 1% *military*. A local operation is a takeoff or a landing performed by an aircraft that will operate within the

local traffic pattern, within sight of the airfield, or one that simulates a takeoff or a landing. Itinerant operations are all other arrivals and departures.

The TAF's data concerning aircraft operations were also obtained and reviewed. A comparison of the FAA projections included in the 2014 TAF, and the 2006 Airport Master Plan are also shown in Table 1.4.

Table 1.4 Total Airport Operations, By Type, Valkaria Airport

	Airport Records				FAA - TAF			
Year	**Local**	**Itinerant**	**Military**	**Total Operations**	**Local**	**Itinerant**	**Military**	**Total Operations**
2014	39,140	13,290	730	**53,160**	23,990	9,100	10	**33,100**
2013	31,875	10,839	436	**43,150**	23,990	9,100	10	**33,100**
2012	26,735	9,100	365	**36,200**	23,990	9,100	10	**33,100**
2011	26,490	9,000	110	**35,600**	23,990	9,100	10	**33,100**
2010	24,890	9,000	110	**34,000**	23,990	9,100	10	**33,100**
2009	24,090	8,900	110	**33,100**	23,990	9,100	10	**33,100**
2008	23,290	8,600	10	**31,900**	3,000	11,400	0	**14,400**
2007	21,290	8,600	10	**29,900**	3,000	11,400	0	**14,400**
2006	21,170	7,300	0	**28,470**	3,000	11,400	0	**14,400**
Forecast (2006 Airport Master Plan)								
2011	**25,550**	**9,125**	**0**	**34,675**	**23,990**	**9,100**	**10**	**33,100**
Source: Airport Records, FAA 2013 TAF, February 2014; 2006 Airport Master Plan								

In the TAS, the number of total operations has remained unchanged since 2009. For the purpose of this update, the 2014 base year data provided by airport staff identifying 53,160 operations will be used.

1.8 Socio-economic Data and Projections

Socio-economic characteristics identify an area's past and future growth. In certain regions, socio-economic characteristics have a positive relationship to aviation activity and are often useful in preparing estimates of future airport activity.

1.8.1 Population

The U.S. Census Bureau in Census 2010 recorded the population of Brevard County as 543,376 persons. This represented an increase of 14% from the 2000 population (477,735). Florida's population grew to 18.84 million residents in 2010, representing a 14.8% increase from 2000 (16.05 million). The Census Bureau estimates that the population of Brevard County in 2013 was 550,823, while Florida's population was estimated at 19,600,311. Population projections from Florida's Office of Economic and Demographic Research anticipate continued rapid growth in the state's population to 21,149,697 by 2020. Projections for Brevard County are estimated to be 589,333 persons in 2020 representing an 8.5% increase from the 2010 population figures.

1.8.2 Income

Income data were obtained for the U.S., Florida, and Brevard County. The data indicates the following levels of per capita personal income (PCPI) in 2013:

- U.S. – $53,750
- State of Florida – $41,497
- Brevard County – $39,420
  (Source: World Bank, Florida Office of Economic and Demographic Research)

The data examined shows an increase in PCPI of 9.6% for U.S. since 2010. Corresponding percentage increases for the State of Florida and Brevard County were 7.8% and 5.3%, respectively since 2010.

1.9 Area Land Use Planning and Management

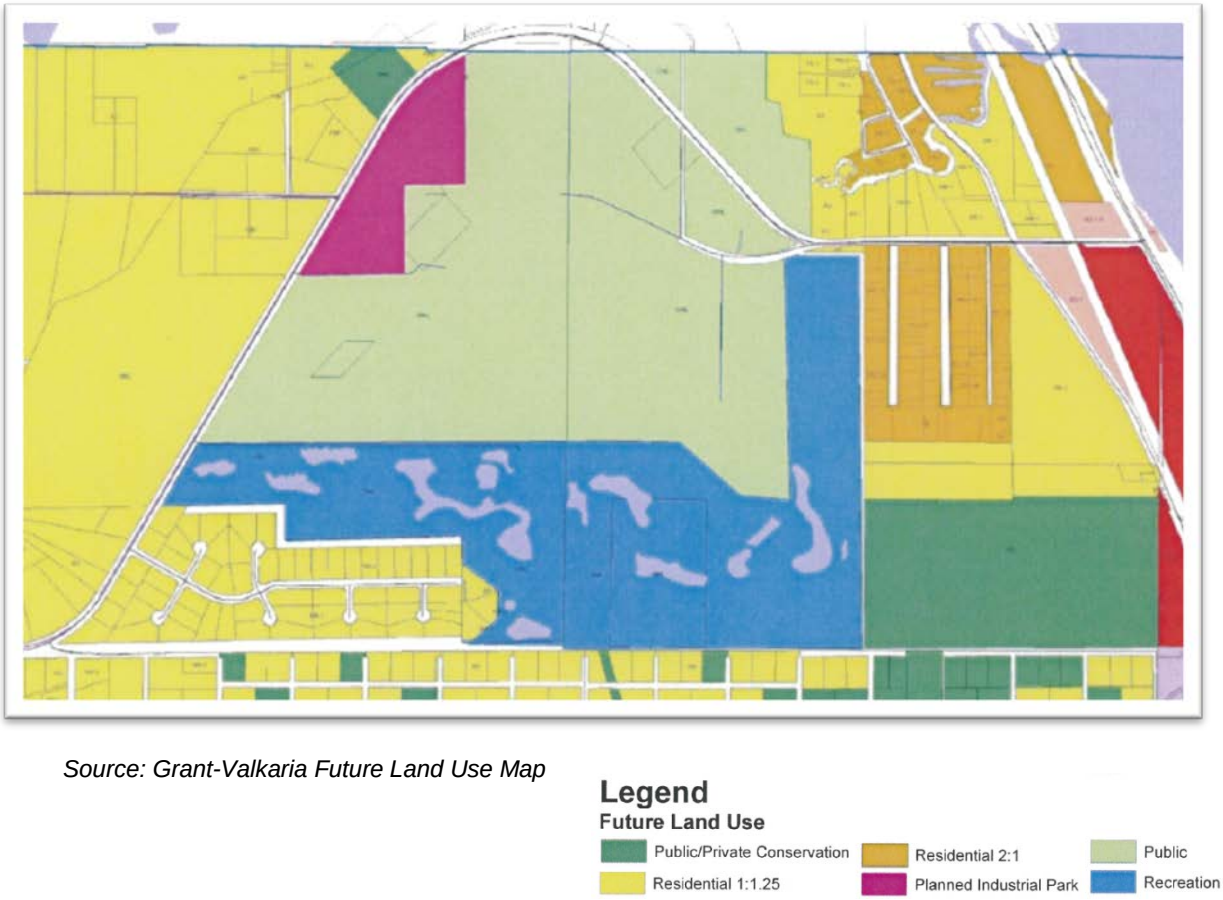
The airport resides in the municipalities of Grant/Valkaria and Malabar. While the facility's property is designated as Public Facility and Recreation uses on the municipality's Future Land Use Map, a section of which is provided as Figure 1.4, the adjacent areas are designated as follows:

- To the west, Residential (1 unit/1.25 ac.), Planned Industrial Park, and Conservation
- To the south, Residential (1 unit/1.25 ac.) and Conservation
- To the east, Residential (1 unit/1.25 ac. and 2 units/ac.), and Conservation

The area north of the airport falls within Brevard County, which designated the property to the north of the facility as low-density residential and agricultural uses on the county's Future Land Use Map.

Brevard County has adopted land use regulations to protect aviation facilities in the county from encroachment in accordance with Ch. 333, Florida Statutes as a part of Brevard County Code of Ordinances Sections 62.2201-62.2209. However, no inter-local agreements for regulation implementation within the boundaries of the municipality of Grant-Valkaria or Malabar have been identified.

Figure 1.4 Airport Area Future Land Use Map



Source: Grant-Valkaria Future Land Use Map

Land Use Descriptions:

Residential 1:1.25: Allows one dwelling unit per 1.25 acres

Residential 2:1: Allows two dwelling units per acre

Public: Public facilities usually owned and/or managed by a government entity

Recreation: Those lands that are utilized for parks and recreation

Planned Industrial Park: Designation for lands intended to accommodate indoor manufacturing or materials processing with a 0.5 FAR maximum intensity of use.

Public/Private Conservation: Designates lands considered environmentally sensitive. Private conservation category has a future land use density of 1 dwelling unit per 10 acres.

2 Forecasts of Aviation Demand

Future activity level estimates provide the basis for evaluating the adequacy of existing airport facilities and their capacity to handle future traffic volumes. Demand forecasts are also utilized to determine the types, quantities, and timing for needed aviation facility maintenance and improvements.

2.1 Forecast Methodologies

Forecasting methodology that produces projections of aviation activity extrapolates that data from a variety of related and independent factors. Demographic factors such as population, income, and local unemployment rate, as well as facility factors, such as airport location, availability and type of airport services, and location of a flight training facility on the facility have repeatedly demonstrated a relationship with the number of based aircraft and airport operations at general aviation facilities.

Although the individual facility factors and amount of detailed data varies by airport, aviation demand forecasts generally follow a series of similar steps. First, historical aviation activity data, including the previous facility forecast, is gathered and examined to estimate existing and past levels of traffic and trends or patterns of growth. That data needs to be carefully evaluated for factors that may indicate conditions or circumstances that may alter growth patterns. The second step involves projecting past growth patterns into the future and projecting historical relationships between aviation activity and other indicators into the future. The resulting estimates are used in the third step, where a judgment is made concerning which projection represents the most reasonable estimate of future levels of aviation activity. This judgmental evaluation culminates in the selection of a preferred forecast.

Several forecasting techniques are available to forecast general aviation activity. These include regression analysis, trend analysis, market share analysis, and growth rate projections. Selection of the most appropriate forecasting technique largely depends on the history, physical and socioeconomic environment of the facility, and its role within the aviation system.

Regression analysis involves use of historical data to identify the relationships between a selected dependent variable, such as based aircraft, and independent variables, such as population. These relationships are then applied to projections of the independent variables to give estimates of future values for the dependent variable.

A second statistical technique, trend analysis, provides estimates of future values for the desired element (aviation demand) by determining its pattern of change and extending that pattern into the future. The primary assumption of this methodology is that the same factors will influence future aviation demand as have affected it in the past.

A third means to estimate aviation demand, market share analysis, involves review of historical activity at an airport and calculations to determine that activity as a percentage

of activity in a larger regional, statewide, or national market. Calculated percentages, or market shares, are then applied to forecasts of activity at the larger level(s) to produce a market share projection for the individual airport.

A fourth method, similar to market share analysis, involves the application of growth rates present in third-party projections, such as the FAA's Terminal Area Forecast (TAF) to the local market. Adjustments may be made, up or down, on the basis of factors such as local socio-economic conditions and pending projects or development activity that could affect aviation activity.

These approaches were examined for applicability in the preparation of alternative projections from which the recommended forecast was selected. The historical airport activity report on the number of based aircraft and annual operations highlights a shortcoming in using standard forecasting techniques in the case of Valkaria Airport. While such approaches may have been appropriate for earlier updates to the airport's master plan, they can no longer account for a number of significant capital and infrastructure improvements at the facility that are spurring an unprecedented growth in airport activity. In fact, the jump in activity during 2014 most closely resembles a step function, and is consistent with the physical changes at the airport and the economic changes to the local aviation industry.

As illustrated by the historical based aircraft activity, the facility experienced a 53% increase in based aircraft from 2009 to 2010-2011, followed by a 12% increase in 2012 and 2013. By the 3rd quarter of 2014, the facility has already documented a 32% increase in based aircraft from the previous year. The average annual growth rate in based aircraft from 2006 until 2014 is 12.3%.

With regard to total aircraft operations, the facility has experienced a steady growth followed by a punctuated growth jump since the latest update to the facility master plan. From 2006 through 2014, the operations at the facility grew at a pace of 3.8% to 23.19% per year, with an average annual growth of 8.12%. The largest percent increase in operations was demonstrated by the military aircraft category.

This demonstrated rate of growth exceeds the metrics laid out by both the federal and state aviation authorities, and can primarily be attributed to improvements to the airport's landing surfaces, attraction of on-airport aviation businesses, and increase in the number of leasable hangar space, as well as the aforementioned increase in flight training activity due to a growing demand for professional pilots. Although the forecast results below engage several accepted techniques for aviation demand forecasting, the results -- that were prudently selected with the use of best professional judgment – reflect a growth trend that is founded on historical data and facility conditions.

2.2 Forecast Results

The inventory of existing conditions, the FDOT Florida Aviation Database (FAD), and the FAA TAF provided data reflecting existing and historical quantity and mix of based aircraft at the Airport. The FAA TAF shows no annual positive or negative variation in airport operations between 2009 and 2040 (projected).

While both the FDOT FAD and the FAA TAF contain historic data, the FDOT FAD data is generally more accurate, as it is updated on an annual basis by FDOT during the course of the facility's annual inspection. Although the FDOT FAD data is updated annually, it is based on the airport self-reporting based aircraft and operations data. Overview of based aircraft and GA operations data showed extreme variations in reported data, as well as long periods of no reported changes. Therefore, due to a lack of reliable and consistent data for regression analysis techniques, that analysis was not conducted.

Forecast Elements - Airport activity forecasts are prepared for specific components of aviation demand.

- Based aircraft
- Aircraft operations by type
    - Annual operations
    - Design hour pilots/passengers
    - Local/itinerant
    - Aircraft mix
- Design aircraft
- Annual instrument approaches

The results obtained from forecasting of these elements provide direct inputs for subsequent portions of this airport master plan update, most particularly the capacity analysis and facility requirements determinations.

2.2.1 Forecast of Based Aircraft

The number of based aircraft at an airport is an important factor for determining future activity levels and the need for expanding or improving airport facilities. Forecasts of based aircraft are used directly to estimate the need for certain types of facilities, such as hangars and aircraft aprons. At non-towered general aviation airports, projections of based aircraft also often serve as the basis for developing the forecasts of other components of demand, such as aircraft operations. Table 1.3 identified the number of based aircraft by type for the 2006 to 2014 period. Table 2.1 shows the 2014 based aircraft by type.

Table 2.1 2014 Based Aircraft By Type, Valkaria Airport

Year	Single-Eng. Piston	Multi-Eng. Piston	Turbo-Prop	Jet	Helicopter	Amphib.	Gyro	Ultra-Light	TOTAL
2014	95	4	0	0	3	6	3	16	127

Trend analysis for the airport can be accomplished via a straight-line regression approach. The 12.3% historical growth rate in based aircraft at the facility between 2006 and 2014 was primarily reflective of the facility improvements and additions that took place in those years, and was accurately reflected by the Florida Aviation System Plan (FASP), which showed an average annual growth rate (AAGR) of 8.02% through 2011. As the facility intends to continue adding aircraft hangar space, due to existing documented demand for the improvements, the historical AAGR trend is anticipated to be sustained through the first 5 years of the planning timeframe. Beyond 2019, the rate is anticipated to taper off, and follow the regional growth trends forecast by federal and state aviation sources. Due to Florida's unique demographic growth characteristics use of straight-line national growth trend was not determined appropriate. As based aircraft forecast can customarily be tied to demographic factors, those criteria have been examined and compared.

Specifically, the annual growth rate of the US population was compared to the same criterion in Florida. The annual growth rate of the US population equals 0.74% and is anticipated to slowly decline through the planning horizon (*Source: U.S. Census Bureau*). Meanwhile, Florida's annual growth rate is rapidly recovering from the recession, currently equals approximately 1.4%, and is anticipated to continue strengthening. Therefore, it is reasonable to anticipate that the average annual growth rate of 1.56%, as forecast by the FASP, will be the most appropriate growth rate beyond 2019. Utilizing these assumptions, Table 2.2 illustrates the calculated based aircraft forecast results.

Table 2.2 Trend Analysis Forecast, Valkaria Airport

Year	No. of Based Aircraft
2014	127
Forecast	
2019	187
2024	202
2034	236

The FAA TAF and the FDOT FAD databases provide historical data of based aircraft and multi-year information that can be used for market share and growth rate projection techniques. In addition to the TAF referenced earlier, the FAA's current reports include FAA Aerospace Forecasts FY 2014 – 2034, which includes forecasts of the national general aviation fleet trends. Table 2.3 displays the projections from the FAA report.

Table 2.3 Total General Aviation Aircraft, By Type, U.S.

Aircraft Type	Aircraft by Year			
	2014	2019	2024	2034
Single-engine	122,755	118,700	115,660	113,975
Multi-engine	14,180	13,890	13,500	12,890
Piston Engine Sub Total	136,935	132,590	129,160	126,865
Turboprops	10,160	10,355	11,000	14,370
Turbojets	12,055	13,600	15,800	22,050
Turbine Sub Total	22,215	23,955	26,800	36,420
Rotorcraft	10,710	12,465	14,240	17,895
Experimental	25,895	28,100	30,130	34,440
Sport	2,240	2,955	3,595	4,880
Other	5,025	5,095	5,115	5,200
Total	**203,020**	**205,140**	**209,040**	**225,700**
Source: FAA Aerospace Forecasts, FY 2014-2034				

Using the market share approach involves calculating the percentage of national active aircraft and applying it to the airport's 127 based aircraft. Applying the 2014 aircraft share of 0.06255% (derived from the following calculation [(127/203,020)*100]) to the projections for total national aircraft for 2019, 2024, and 2034 yields the projections shown in Table 2.4.

Table 2.4 Market Share Forecast, Valkaria Airport

Year	No. of Based Aircraft
2014	127
Forecast	
2019	128
2024	131
2034	141

Another approach to developing an independent projection was used that applied national growth rates for total aircraft to the 127 based aircraft at the airport. The FAA Aerospace Forecasts Fiscal years 2014-2034, projects an average annual growth rate of 0.5% between FY 2014 and 2034. Based on that projected average annual growth rate, the national growth rate forecast yields the results shown in Table 2.5

Table 2.5 Nat. Growth Rate Forecast, Valkaria Airport

Year	No. of Based Aircraft
2014	127
Forecast	
2019	130
2024	133
2034	138

Comparison of these projections shows a difference of three based aircraft between the market share and national growth rate forecasts for the 2034 horizon year. The national market share and the national growth rate projections show a conservative increase in

growth of 14 and 11 based aircraft over the entire planning horizon respectively. The 2006 Airport Master Plan identified 49 based aircraft in the base year.

Therefore, as demonstrated by a rapid growth in the number of based aircraft at the facility since the 2006 update, even the higher based aircraft forecast of 141 aircraft in 2034, reflected by the market share forecast, could reasonably be expected to be exceeded. Table 2.6 compares the projections for the market share and the national growth rate.

Table 2.6 Comparison of National Growth Rate vs Market Share Based Aircraft Forecasts, Valkaria Airport

Year	Actual	National Growth Rate	Market Share	Difference
2014	127			
Forecast				
2019		130	128	-2 (-1.54%)
2024		133	131	-2 (-1.50%)
2034		138	141	3 (2.17%)
Growth		8.66%	11.02%	

Judgment in the selection of a preferred forecast should also include consideration of alternative forecasts; therefore, two alternative forecasts were considered. The previously referenced FAA TAF has certain limitations for small general aviation facilities, as those facilities not inspected by the FAA and rely solely on Form 5010 data to obtain based aircraft and operations numbers. The TAF based aircraft for 2013 is 64, as opposed to airport-provided total of 127. Nevertheless, the TAF projects steady growth in based aircraft, as shown in Table 2.7

Table 2.7 FAA Forecast Based Aircraft, Valkaria Airport

Year	No. of Based Aircraft
2014	127
Forecast	
2019	70
2024	76
2034	96

The TAF based aircraft projection of 96 aircraft significantly underestimates the national growth rate projection utilized for planning purposes in this Master Plan update, as the documented number of based aircraft already exceeds the 2034 forecast. The second independent forecast, available from the Florida Department of Transportation (FDOT) Aviation Office FAD (which utilizes a trend forecasting technique), forecasts based aircraft as shown in Table 2.8.

Table 2.8 FDOT Forecast Based Aircraft, Valkaria Airport

Year	No. of Based Aircraft
2014	127
Forecast	
2019	87
2024	94
2034	109

As discussed earlier, while the FDOT forecast is based on data requested from the airport management, collected, and updated by FDOT during the annual inspection, the data shows a number of very drastic changes in based aircraft, followed by a period of no change. Therefore, due to those database variations and a significant discrepancy between recorded based aircraft and the figure provided by the airport, the consultant believes that the data utilized for the trend forecasting technique is likely unreliable. Table 2.9 provides a side-by-side comparison of the four forecasts discussed.

Table 2.9 Comparison of Alternative Forecasts for Based Aircraft, Valkaria Airport

	Forecast Model				
Years	**Trend Analysis**	**Market Share**	**Nat. Growth Rate**	**TAF**	**FDOT**
2014	127	127	127	42	
Forecast					
2019	187	128	130	70	87
2024	202	138	133	76	94
2034	236	141	138	96	109

In conclusion, as previously noted, due to the unique demand characteristics at the Airport and growth characteristics of Florida, the national growth rate and market share analyses do not adequately reflect the facility's based aircraft growth. **For the purposes of this study, the model trend analysis forecast, based on the historic and forecast FASP figures, as supported by actual growth at the facility, was selected for the based aircraft forecast.** This is supported by the following factors:

- As reflected by demonstrated need, the Airport will request FDOT grant funding for the construction of a 20 unit T-Hangar and 1 to 3 new box hangars. These storage facilities will be constructed in 2016 and immediately occupied. The waiting list for T-Hangars is currently at 62 potential customers, with an additional 30 potential customers on the large box hangar waiting list.

- The addition of services such a small airframe and powerplant repairs, avionics installation and repair and other operator services has enhanced the attractiveness of the airport as a base of operations.

- On-airport Aero Club flight training (ACV), new on site independent flight instructors, area flight schools such as F.I.T. Aviation and Flight Safety are growing, and operate regularly, both during the day and night.

2.2.2 Forecast of Annual Aircraft Operations

Forecasts of annual operations were also prepared. An "operation" is defined a take-off or a landing. Touch-and-go activity that simulates take-offs and landings constitute two operations for each touch-and-go cycle. As was the case with based aircraft data, it was determined that data available from sources such as the FAA TAF and the FDOT FAD was not viable for conducting regression or model trend analysis. For example, the TAF data presented in Table 1.4 estimates of total annual operations of 33,100 that remain constant from historical year 2009 to the year 2040. While the FDOT FAD data mirrors the historical data presented by FAA TAF precisely, the provided trend analysis specifies a projected average annual growth rate of 2.47%. In the year 2014, airport staff estimates that approximately 145 operations take place daily. Therefore, those data sources were not deemed appropriate for this study, and data provided by airport management and flight training operators was utilized.

As the data sourced from airport management indicates, the steady growth in airport operations approximately replicates the trend reflected by the based aircraft forecast, and is historically indicative of the improvements to the facility's landing surfaces, addition of hangar space, and attraction of on-airport aviation businesses. However, there's no definitive correlation between the growth in the number of based aircraft and the growth in the number of operations. The likely cause for that finding is the type of aircraft that were added to the facility in recent years, and the character/frequency of flying operations that these aircraft conduct. The jump in use in 2014 certainly reflects a higher use from flight training operations based in the area but not at the airport.

Due to the types and timing of planned improvements at the facility, it is anticipated that the current growth rate in annual operations will be sustained through 2019, and will taper off following 2019 through the 2034 planning horizon. However, the rate will start from the higher baseline that the 2014 traffic jump establishes. According to the FAA Aerospace Forecast for FY2014-34, GA activity is going to continue growing at a modest pace of 1.4% through the planning horizon, with a slight decline in piston-engine aircraft activity being offset by a moderate growth in the turbine aircraft market. As such, the forecast AAGR of 1%, as forecast by the most recent FASP update is a realistic estimate of future operations from 2020 through 2034. With that in mind, the forecast annual operations are illustrated in Table 2.10.

Table 2.10 FASP Annual Operations Forecast, Valkaria Airport

Year	No. of Annual Aircraft Operations
2014	53,160
Forecast	
2019	55,872
2024	58,722
2034	64,865

Generally, in the absence of installed acoustic counters, airport or FBO staff at a non-towered facility is relied upon to provide operations counts. This is supplemented by information from the off-airport flight training operations using the airport as a regular

location in their programs. An alternative method frequently used in preparing airport master plan operations forecasts is the Operations Per Based Aircraft (OPBA). OPBA is a method that develops a ratio of aircraft operations to the number of based aircraft on the facility using historical data. This ratio is then applied to forecasts of based aircraft to develop estimates of future annual operations.

As mentioned earlier, the growth in based aircraft and annual operations showed an insignificant correlation due to the type of based aircraft that produced the increase, and the nature of flying operations they conduct. As such, OPBA was not judged to be a reliable quantitative measure, and was not utilized.

2.2.3 Forecast of Annual Aircraft Operations by Type (Local/Itinerant)

Aircraft operations at airports the size of Valkaria Airport are typically classified in 1 of 3 categories: local, itinerant or military. As previously noted, a local operation is a take-off or a landing performed by an aircraft that will operate within the local traffic pattern, within sight of the airfield, or an operation which simulates a takeoff/landing cycle. Itinerant operations are all other arrivals and departures. Military operations may be local or itinerant. They are broken out separately for the purposes of this study. Airport management, based tenants, regular itinerant operators, and pilots, were interviewed to gain their perspective on the split between local and itinerant operations. The previous master plan was also referenced.

Based upon this input, the estimate of 74% local/26% itinerant will be utilized for the purposes of this master plan update. Military operations are assumed to be itinerant since there are no military aircraft based at the airport. The TAF database's estimates show that annual operations will be made up of 73% local and 27% itinerant throughout the planning horizon. This results in the forecast shown in Table 2.11. Because military operations forecasts often have national security implications, the Department of Defense provides limited information on future military aviation activity. Therefore, the TAF projects military activity at its present level except when FAA or a specific agency has specific knowledge of a change in military activity.

Table 2.11 FAA TAF Airport Operations, By Type, Valkaria Airport

Year	Local	Itinerant & Military	Total Operations
2014	39,338	13,822	53,160
Forecast			
2019	41,345	14,527	55,872
2024	43,454	15,268	58,722
2034	48,000	16,865	64,865

2.2.4 Design Hour Operations

Design hour operations were also forecast as a function of total annual operations. The methodology used involved three steps. First, average day operations were calculated by dividing total annual operations by 365. Then, design day operations were calculated

by multiplying average day operations by 1.9. At last, utilizing an assumption that a typical design hour constituted a fixed percentage (15%) of design day operations, design hour operations were calculated by multiplying design day operations by .15. The projections are presented in Table 2.12.

Table 2.12 Forecast of Design Hour Operations, Valkaria Airport

	Airport Operations			
Year	**Total Annual**	**Average Day**	**Design Day**	**Design Hour**
2014	53,160	145	277	41
Forecast				
2019	55,872	153	291	44
2024	58,722	161	306	46
2034	64,865	178	338	51

2.2.5 Forecast of Pilot and Passenger Demand

Data presented in past FAA studies indicate the applicability of a ratio of two persons (one pilot and one passenger) per general aviation design hour operation. This ratio and forecasts of activity were used to produce the projections of design hour pilots and passengers presented in Table 2.13.

Table 2.13 Forecast of Pilots and Passengers, Valkaria Airport

Year	No. of Design Hour Pilots & Passengers
2014	82 Persons
Forecast	
2019	88 Persons
2024	92 Persons
2034	102 Persons

2.2.6 Forecast of Annual Instrument Approaches (AIAs)

The Airport does not have any published instrument approach procedures, and there are no procedures that are pending development as a part of the FAA Instrument Flight Procedure Production Plan. This precludes IFR approaches, although marginal VFR approaches do take place. However, the airport does have a limited number of IFR departure operations. Specifically, aircraft departing in IMC can receive all clearance information, including discrete transponder (squawk) code, heading to enter Orlando Approach controlled airspace, altitude limitation, and clearance departure and void times using cell phone contact with Flight Service. The number of such operations is not quantifiable, but direct conversation with users of the airport confirms they do occur. Projected use will require IFR approach capability in addition to the IMC departure operations now occurring.

Although the airport runways and taxiways are unlighted except for threshold lights on runway ends, there is a lighted beacon and supports around 2,500 night operations per year. Of these, around 1,000 operations are done by mosquito control helicopters.

Military CH-46 helicopter operations are also a significant component of night operations. Both of these involve multiple full stop landings and takeoffs during each night that operations are underway. However, within the definition of civil twilight as starting night operations, there are also fixed wing takeoffs and landings that contribute to the total operations. These are at pilot-in-command discretion subject to FAR Parts 91.3 and 91.13.

2.2.7 Aircraft Mix

Aircraft mix refers to the types of airplanes that use, and will use, the airport. Mix is considered in requirements for runway length, strength, and width among other design parameters. For initial forecasting purposes, the categories considered were those reported by airport staff. Those categories and the number of based aircraft reported for each are shown in Table 2.1. The types of based aircraft currently occupying hangar storage and tie-down space include:

- Single-engine aircraft: Cessna 150, 152, 172 and 182 aircraft, Piper Tomahawk, Cherokee, Arrow, Quickie Q1, Sonex, T51, Midget Mustang, Kolb Kolbra, RV 4, RV 6, RV 7, RV 8, RV 9 & RV 10
- Multi-engine aircraft: Piper Apache, Beech Baron B58, Piper Twin Comanche, and Piper Aerostar/600A
- Helicopters Include: RotorWay, Mosquito, and Eurocopter 135
- Amphibian, Gyro and Ultralights include: Searey Amphibian, Aventura Amphibian, Air Command Gyro, Phantom Ultralight, CGS Hawk, Dominator Gyro, Buckeye powered parachute and Kolb

The FAA Aerospace Forecast for FY 2014-2034 was referenced to determine forecast industry growth rates by type as shown in Table 2.14:

Table 2.14 FAA Aerospace Forecast Growth Rate by Aircraft Type

Aircraft Type	Forecast Growth Rate
Piston Engine	-0.4%
Turbine	3.4%
Helicopter	2.6%
Other	0.2%

Consideration of this information, as well as historical data, suggests that based aircraft will continue to be dominated by the single-engine piston aircraft category. However, assumptions and findings of the based aircraft forecast had to be applied to the fleet mix forecast. These observations and assumptions are reflected in the results presented in Table 2.15.

Table 2.15 Forecast Based Aircraft, By Type, Valkaria Airport

	Year			
Aircraft Category	**2014**	**2019**	**2024**	**2034**
Single-Engine Piston	95	139	151	177
Multi-Engine	4	6	7	7
Jet	0	1	1	2
Helicopter	6	10	11	13
Others	21	31	32	37
Total	**127**	**187**	**202**	**236**

2.2.8 Design Aircraft

As mentioned earlier, aircraft mix is considered in requirements for runway length, strength, and width among other design parameters. The aircraft mix is also utilized to determine the three primary aircraft characteristics with respect to airfield design: aircraft weight, approach speed, and wingspan. Review and consideration of these characteristics results in planning decisions and produces planning inputs including the selection of design aircraft for the airport, as well as the mix of based aircraft and the overall operational fleet mix. The “design” aircraft may be a single aircraft or a composite of several different aircraft composed of the most demanding characteristics of each.

FAA Advisory Circular (AC) 150/5300-13A, Change 1, *Airport Design*, identifies two categories of aircraft weight. Aircraft weighing 12,500 pounds or less are classified as small aircraft, and aircraft weighing more than 12,500 pounds are classified as large aircraft. The AC lists five Aircraft Approach Categories (AAC) with respect to approach speed and it divides aircraft into six Airplane Design Groups (ADG) according to wingspans and tail height as summarized in Table 2.16. For runway design, the FAA also takes into account the visibility minimums of the existing or proposed approaches to the runway.

Table 2.16 Airport Reference Code Grouping

Aircraft Approach Category (AAC)		
Category	**Approach Speed (knots)**	
A	< 91	
B	91 to < 121	
C	121 to < 141	
D	141 to < 166	
E	> 166	
Airplane Design Group (ADG)		
Design Group	**Wingspan (feet)**	**Tail Height (feet)**
I	< 49	< 20
II	49 to < 79	20 to < 30
III	79 to < 118	30 to < 45
IV	118 to < 171	45 to < 60
V	171 to < 214	60 to < 66
VI	214 to < 262	66 to < 80

Source: AC 150-5300-13A, Change 1.

Applying these criteria to aircraft at Valkaria Airport shows that most based airplanes are small aircraft in Approach Categories A and B and Design Group I. Identification of the design aircraft at most general aviation airports is accomplished by considering itinerant aircraft. Based on the information provided by airport staff, that while majority of based and itinerant aircraft fall into the Category A and Design Group I, frequent and year-round use by B200 Super King Air aircraft necessitates consideration of a more demanding design aircraft category. As a result, **the recommended design aircraft category for the facility is B-II.**

Runway 10-28 was recently reconstructed providing a new asphalt surface; the runway width was reduced from 75 to 60 feet to match FAA design criteria for the B-I Small aircraft design group. It is anticipated that when Runway 14-32 is programmed for rehabilitation, it will meet the B-II design criteria.

2.3 Forecast Summary

Preceding sections have presented the forecasts of aviation demand and have described the historical data and methods used to produce the estimates of activity. Table 2.17 summarizes major elements of the recommended forecasts. The FAA forecast approval letter is included in Appendix A.

Table 2.17 Forecast Summary, Valkaria Airport

	Forecast Year											
	2014 Base Year			2019			2024			2034		
Element	FAA TAF Est.	Airport Actual	Difference (%)	FAA TAF Est.	MPU Forecast	Difference (%)	FAA TAF Est.	MPU Forecast	Difference (%)	FAA TAF Est.	MPU Forecast	Difference (%)
Based Aircraft												
Single-eng.	-	95	-	-	139	-	-	151	-	-	177	-
Multi-eng.	-	4	-	-	6	-	-	7	-	-	7	-
Jet	-	0	-	-	1	-	-	1	-	-	2	-
Rotorcraft	-	7	-	-	10	-	-	11	-	-	13	-
Other	-	21	-	-	31	-	-	32	-	-	37	-
Total	64	127	+98.44%	70	187	+167.14%	76	202	+165.79%	96	236	+145.83%
Annual Operations												
Local	23,990	39,338	+63.97%	23,990	41,345	+72.34%	23,990	43,454	+81.13%	23,990	48,000	+100.08%
Itinerant	9,110	13,822	+51.72%	9,110	14,527	+59.46%	9,110	15,268	+67.6%	9,110	16,865	+85.13%
Total	33,100	53,160	+60.6%	33,100	55,872	+68.8%	33,100	58,722	+77.41%	33,100	64,865	+95.97%
Design Hour Ops.	-	41	-	-	44	-	-	46	-	-	51	-
Design Hour Pilots/Passengers	-	82	-	-	88	-	-	92	-	-	102	-
Design Aircraft	B-I (Small)			B-II								

Source: Airport Records; FAA 2013 TAF, February 2014

2.4 Airfield Capacity

The FAA methodology for calculating airfield capacity is provided *in FAA Advisory Circular 150/5060-5, Airport Capacity and Delay*. This guidance provides the basis for calculating both hourly capacity and annual service volume (ASV). Per *FDOT Guidebook for Airport Master Planning*, at most general aviation airports, the abbreviated calculation method provided in Chapter 2 of FAA AC 150/5060-5 will result in a sufficiently accurate ASV. Chapter 2 of FAA AC 150/5060-5 outlines assumptions that are incorporated into the abbreviated calculation method. One of those assumptions is the availability of an Instrument Landing System (ILS) in a radar environment. Valkaria Airport does not have any instrument approach procedures; therefore, the Airport would not be available during IFR conditions. To take into account the time when the airport is unavailable due to a lack of an instrument approach, the more detailed analysis in Chapter 3 of FAA AC 150/5060-5 was used.

Per *FDOT Guidebook for Airport Master Planning*, at airports with more than one runway but with no air traffic control tower, the ASV should primarily be represented by a single runway configuration. The additional potential added capacity of the additional runway will not be realized without the coordination capabilities of an air traffic control tower, although multiple runways may be needed for wind coverage. With two intersecting runways and no air traffic control tower, the airfield capacity at the Airport has been modeled as a single runway. Also, Valkaria Airport has only one runway, Runway 14-32, with a full length parallel taxiway, which is part of the Chapter 3 analysis assumptions.

Using the FAA methodology, hourly runway capacity is calculated using the appropriate VFR and IFR capacity figures in Chapter 3 of FAA AC 150/5060-5 for a single runway configuration. There are no operations by Class C or D aircraft at the Airport, therefore the mix index is 0. The results of using the capacity figures are then applied to the following formula to compute hourly capacity:

Hourly Capacity = C* x T x E

Where **C*** is hourly capacity base; **T** is touch-and-go factor; and, **E** is the exit factor. **C*** is 104 for a single runway, with an assumed even split between arrivals and departures (50 percent arrivals) and mix index of 0. **T** is based on the percent of touch and goes as a percentage of total traffic. For Valkaria Airport, touch and goes are estimated to be in the 21-30 percent range for a T of 1.20. **E** is based on the number of taxiway exits and their distance from the landing threshold. Runway 14-32 has one exit in the 2,000-4,000 foot range, 50 percent arrivals and a mix index 0 for an E of 0.86.

This results in an hourly VFR capacity of 107 operations per hour. If the Airport obtains an instrument approach in the future, using the same assumptions, the IFR hourly capacity would be 59 operations per hour. The hourly capacities are then used to compute ASV:

ASV = C_w x D x H

The annual service volume is calculated by using a weighted hourly capacity **C_w** that takes into account the current IFR periods with no activity at the Airport and the assigned weighting factor from FAA AC 150/5060-5 Chapter 3. For Valkaria Airport, since there is no tower and no detailed aircraft operations records, the demand ratios **D** (annual demand/average daily demand) and **H** (average daily demand/average peak hour demand) for mix index 0 from Chapter 2 were used. Using D of 290 and H of 9 and 7.8% of the time IFR conditions with no operations, the resulting ASV is 208,800. While the Airport does not have runway edge lights, it is still open at night so the nighttime is included in the ASV. To better use the full ASV, runway edge lights for nighttime operations should be installed. If instrument approach procedures are installed that would also increase the ASV, as it would reduce the amount of time the airport is unavailable. Table 2.18 summarizes the airfield capacity analysis. Valkaria Airport has sufficient capacity for the forecast period.

Table 2.18 Runway Capacity Analysis

Runway Capacity	20 Year Forecast	20 Year Forecast Percent of Capacity Used
Annual ASV 208,800	Annual Operations 64,865	Annual 31%*
Hourly VFR Capacity 107	Design Hour Operations 51	Hourly VFR 48%

*Assumes runway edge lights installed for increased airport availability.

3 Facility Requirements

3.1 Introduction

This section of the Master Plan is intended to identify, define, and locate the facilities required to meet the aviation forecast demand. Required facilities will be identified as they relate to capacity, safety standards, security needs, and demand for services. These requirements provide a starting point for development and refinement of alternative placement locations and the supporting capital improvement program. The nature of described facility requirements is based not only on identified needs, Brevard County Government's and the community's vision for the airport, but also on the supporting regulatory framework and criteria required to meet those identified needs and vision.

3.2 Airport Reference Code and Critical Design Aircraft

The initial step in identifying an airport's facility requirements is to establish fundamental development guidelines. FAA guidance on airport facility dimensional standards is based on the Runway Design Code (RDC), Airport Reference Code (ARC), and Taxiway Design Group (TDG). The RDC is defined using a letter designation followed by a Roman numeral and the approach visibility. A letter is used to identify the Aircraft Approach Category (AAC). Each airplane is assigned a letter designation based on the manufacturer's recommended approach speed during landing. The Roman numeral designates the Airplane Design Group (ADG) which is based on the airplane's wingspan and tail height. The ARC is the highest RDC without the visibility component. The Taxiway Design Group (TDG) is the classification of aircraft based on undercarriage dimensions of the aircraft, including outer to outer main gear width (MGW) and cockpit to main gear distance (CMG).

Table 3.1 (repeat of Table 2.16) depicts the criteria used to define the ARC according to FAA Advisory Circular 150/5300-13A, Change 1, *Airport Design*.

Table 3.1 Airport Reference Code Grouping

Aircraft Approach Category (AAC)		
Category	**Approach Speed (knots)**	
A	< 91	
B	91 to < 121	
C	121 to < 141	
D	141 to < 166	
E	> 166	
Airplane Design Group (ADG)		
Design Group	**Wingspan (feet)**	**Tail Height (feet)**
I	< 49	< 20
II	49 to < 79	20 to < 30
III	79 to < 118	30 to < 45
IV	118 to < 171	45 to < 60
V	171 to < 214	60 to < 66
VI	214 to < 262	66 to < 80

Source: AC 150-5300-13A, Change 1.

The 2006 Valkaria Airport Master Plan identified an ARC of B-II and designated the Beech Super King Air as the critical design aircraft. The critical design aircraft is the most physically demanding aircraft having more than 500 annual operations at the airport. The critical design aircraft affects key aspects of airport design, such as sizing of runways, taxiways/taxilanes, aircraft parking areas, and hangar facilities.

The Beech B200 Super King Air remains the largest aircraft presently utilizing the airport. This airplane has a wingspan of 54.5 feet and approach speeds ranging from 95-105 knots, making it an ARC B-II aircraft. The King Air has a Maximum Takeoff Weight (MTOW) of 12,500 pounds placing it in the small aircraft (utility) category. The CASA 212 also currently uses the airport as a transient training aircraft. As a transient aircraft, its long-term operation at the airport is less certain, therefore, the B200 Super King Air has been identified as the future critical aircraft. **Recommendation: The Valkaria Airport use B-II Small Aircraft as the future ARC designation.**

3.3 Airfield Requirements

The demand capacity analysis indicates that while the Airport should not experience significant capacity shortfalls with the existing airfield facilities prior to the 20-year planning horizon, some airfield enhancements are recommended to meet the forecast demand.

3.3.1 Runway

The runways have been examined with respect to dimensional criteria, orientation, length, width, and pavement design strength. Runway design criteria outlined in FAA AC 150/5300-13A, Change 1, *Airport Design* is based on the critical aircraft's approach speed and visibility minimums of the approach. Methods for determining recommended runway length are specified in FAA AC 150/5325-4C, *Runway Length Recommendations for Airport Design*.

3.3.2 Runway Orientation

Runway orientation is primarily a function of wind coverage requirements for the existing and projected aircraft fleet mix. It has been concluded from the meteorological data analysis conducted for this update that the Airport's runway configuration is in compliance with the 95 percent wind coverage recommended by the FAA. Both runways are necessary to meet the FAA's goal of at least 95 percent wind coverage. It is anticipated that this wind coverage will not change for the 20-year planning period and will not warrant the addition of another runway or reconfiguration of the existing runway orientation. **Recommendation: Maintain the current two runway configuration and orientation to provide adequate wind coverage.**

3.3.3 Runway 14-32 Safety Surfaces

Runway 14-32's 75-foot width meets B-II runway design standards for up to not lower than 1 mile visibility and contains sufficient space to meet 10-foot runway shoulder requirements. The runway pavement and runway markings are in fair condition. It is

anticipated that a runway pavement rehabilitation and associated marking project will be needed within the first five years of the planning timeframe.

The B-II not lower than 1 mile RDC for Runway 14-32 also requires that the associated runway design surface requirements are met for:

- Runway Safety Area (RSA) - a defined surface surrounding the runway prepared for or suitable for reducing the risk of damage to aircraft in the event of an undershoot, overshoot or excursion from the runway
- Runway Object Free Area (ROFA) - an area on the ground centered on a runway centerline provided to enhance the safety of aircraft operations by remaining clear of objects, except for objects that need to be located in the object free area for air navigation or aircraft ground maneuvering purposes
- Obstacle Free Zone (ROFZ) - a three-dimensional airspace along the runway and extended runway centerline that is required to be clear of obstacles for protection for aircraft landing or taking off from the runway and for missed approaches
- Runway Protection Zone (RPZ) – an area at ground level prior to the threshold or beyond the runway end to enhance the safety and protection of people and property on the ground

Runway 14-32 meets the design criteria for the RSA, ROFA and ROFZ, but the RPZ contains a type of vegetation that may serve as a wildlife attractant. In addition, this vegetation, if left unmaintained, may penetrate the runway approach surfaces. During an airport licensing inspection conducted by the Florida Department of Transportation (FDOT) on August 28, 2014, the inspection identified trees as the controlling obstacle for the FDOT airport licensing 20:1 approach surface to Runway 14, which required mitigation in the form of displacing the approach surface from the standard location to the end of Runway 14 pavement. Based on information provided by airport personnel, these trees were removed in April 2015. However, a survey should be conducted to verify clear approaches and periodic maintenance of vegetation in the approach surfaces should be performed in order to maintain clear approaches.
Recommendation: Conduct an FAA approach survey as part of the Runway 14-32 rehabilitation project in order to verify clear approaches.

3.3.4 Runway 10-28 Safety Surfaces

A complete runway reconstruction to a width of 60 feet was completed in 2013; therefore, the pavement and the markings are in good condition. Runway 10-28 meets FAA B-I design standards for the RSA, ROFA and ROFZ. However, during an airport licensing inspection conducted by the Florida Department of Transportation (FDOT) on August 28, 2014, the inspection identified trees as the controlling obstacle for FDOT airport licensing 20:1 approach surface to Runway 10, which required mitigation in the form of displacing the approach surface from the standard location to the end of the Runway 10 pavement. Based on information provided by airport personnel, these trees were removed in November 2014. However, a survey should be conducted in order to

verify clear approaches and periodic maintenance of vegetation in the approach surfaces should be performed in order to maintain clear approaches.
Recommendation: Periodic surveys should be performed to verify maintenance of the visual approaches.

3.3.5 Runway Length Recommendations

The length of a runway is a function of many factors, the most notable of which is the selection of an appropriate critical aircraft. Runway length analysis was conducted in accordance with FAA AC 150/5325-4C, *Runway Length Requirements for Airport Design*. Based on the performance characteristics of the Beech B200 (small, propeller-driven, greater than 10 passenger seats), the airport elevation of 26 feet, and a mean daily maximum temperature of the hottest month of 90.5 degrees Fahrenheit, a length of approximately 4,250 feet is recommended. A 250-foot extension to Runway 14-32 would provide this required runway length. **Recommendation: extend the Primary Runway to a total length of 4,250 feet to meet runway length requirements.**

Runway 10-28 analysis, conducted on the basis of small propeller-driven airplanes (B-I) with fewer than 10 seats and the daily maximum temperature yielded a recommended length of approximately 3,650 feet, which the existing runway currently exceeds.

3.3.6 Runway Designations

A runway designation is identified by the whole number nearest the magnetic azimuth of the runway when viewed from the direction of an approach. This number is rounded to the nearest 10 degrees and then applied to the actual runway designation. Magnetic azimuth is determined by adjusting the geodetic azimuth associated with a runway to compensate for magnetic declination. Magnetic declination is defined as the difference between true north and magnetic north. This value varies over time and global location, and periodically necessitates the re-designation of runways.

Due to a change in magnetic declination to approximately 5 degrees west, in accordance with the National Geophysical Data Center (NGDC) data, the designation for former Runway 9-27 was changed to Runway 10-28. The designation of Runway 14-32 was not impacted and is recommended to remain unchanged.

3.3.7 Runway Lighting

Currently, the airfield lighting is limited to runway threshold/end lights. The addition of runway edge lighting continues to be identified as a key issue. The safety and utility of the airport can be greatly enhanced by installing medium intensity runway edge lighting on primary Runway 14-32. This enhancement would greatly improve the safety for general aviation users and be very beneficial to the Brevard County's Mosquito Control (BCMC) facility, as a majority of their operations are conducted during nighttime hours.

The addition of runway edge lights is not expected to result in any significant increase in the total number of operations at the airport, or in the BCMC operations, as this activity is mission-driven. The added degree of operational safety on the facility's primary

runway, an increase of facility utility after dark, coupled with the low-impact nature of medium intensity, pilot controlled lighting serves as the basis for the strong recommendation for their inclusion. **Recommendation: Install runway edge lighting system on the primary runway.**

3.3.8 Taxiway System Requirements

The key role of an airport taxiway system is to provide safe and efficient aircraft movement between the runways and the landside facilities that serve the aviation traffic. A properly designed taxiway and taxilane system will enhance safety by minimizing runway occupancy time for each airplane and enhancing pilot ground spatial awareness. Poorly designed taxiway systems can be confusing, and result in safety issues, such as runway incursions. As the number of aircraft operations increases the existing taxiway system will become constrained, limiting access to various Airport amenities, resulting in a reduced facility throughout.

The Airport currently has only one full-length parallel taxiway, Taxiway A serving Runway 14-32. Without a supporting parallel taxiway, and appropriately spaced runway/taxiway connectors, aircraft are forced to taxi, or turn around and back-taxi, on the runway, significantly increasing the time each aircraft occupies the runway.

The dimensional and design standards for a taxiway system are contained in FAA's AC 150/5300-13A Chg. 1 *Airport Design.* Sections of this document affect the taxiway system at the airport:

- Appendix 7, Table A7-3, *Runway design matrix, A/B-II, Small Aircraft*, requires a runway to taxilane centerline separation of 240 feet.
- Paragraphs 403 & 406 of the AC describe the Taxiway Design Group (TDG) which categorizes aircraft on the basis of the dimensions of the undercarriage. The TDG is used to define the width of the runway and the curve radius (fillet) design. The Beech King Air falls into the TDG 2 category which requires a 35 foot wide taxiway.
- The Airplane Design Group (ADG), paragraph 404 of the AC, defines centerline separation requirements between taxiways, taxilanes and fixed or movable objects and the dimensions of required safety surfaces. The ADG-II Taxiway Object Free Area for example is 131 feet in width, 65.5 feet either side of the taxiway centerline.
- Paragraph 401, b, Design Method, describes specific guidelines for taxiway layouts including configurations to be avoided and existing non-standard conditions that should be corrected as soon as practicable. The existing taxiway connectors leading from the existing primary aircraft parking apron directly to Runway 10-28 and Runway 14-32 do not meet these standards and must be corrected.

The facility also has taxilanes, using portions of a closed runway, between Runways 10-28 and 14-32. This taxilane provides access to the T-hangars; tie-downs, itinerant aircraft parking and fueling apron; and the Airport Administration facility. While taxilanes

provide convenience and access to vital facility infrastructure, their design and routing are not straightforward and efficient.

Recommendation: Construct a system of taxiways to: minimize runway occupancy time; facilitate a more efficient flow of aircraft during ground operations; and to meet current FAA configuration criteria.

3.3.8a New Taxiways

Extensive future landside and airside development will be necessary to meet the existing and forecast aviation demand for Valkaria Airport. The increased number of based aircraft and flight operations makes the development of an efficient taxiway system a major emphasis of this Master Plan. Many of these additional facilities will have secondary benefits such as improving the airport's service to the flying public and fiscal self-sufficiency. Following is a description of the recommended taxiway improvements:

- **Terminal access taxiway:** Identified as Taxiway C is recommended to provide direct flow access to and from the terminal complex to both runways. In addition it is recommended to move this B-II taxiway out from the apron area in order to free the existing pavement to accommodate the forecast itinerant aircraft activity. In addition, the construction of designated Taxiway C will conform to current taxiway design standards.

- **Short parallel to Runway 10-28:** Designated Taxiway E, this short parallel taxiway will serve the west hangar complex (hangars A–F) allowing aircraft direct access to Runway 10-28 and to Future Taxiway C for access to Runway 14-32. In addition the construction of this taxiway will facilitate the reconstruction of the existing taxiway system that currently does not meet FAA design standards. Consistent with the B-I ARC of Runway 10-28 and the geometry of the existing west hangar complex it is recommended that this taxiway be constructed to B-I design standards.

- **Parallel taxiway to Runway 10-28**: Designated Taxiway D this parallel taxiway is recommended to minimize runway occupancy time, improve runway safety and efficiency by minimizing back-taxiing, as well as to provide access to an itinerant aircraft apron that will serve the Habitat Golf Course. Since it is anticipated that aircraft in ADG II and TDG 2 will be using this taxiway, it is recommended that runway-taxiway separation should be based on B-II design standards and taxiway width/fillet should be based on TDG 2 design standards.

- **Parallel taxiway to Runway 14-32:** Designated Taxiway F on the ALP. As the north landside area is developed it will become necessary to include a taxiway parallel to Runway 14-32 in order to allow runway access and egress without the need to back-taxiway on the runway or to cross the runway to access a parallel taxiway. It is anticipated that this taxiway, and associated runway connectors, will

be constructed in phases as the north side airfield support facilities are constructed.

- **Taxiway Connectors:** Designated as new pavement on the ALP, these additional paved areas are recommended to provide more efficient access and egress to the associated runway or to replace existing taxiway/runway connectors that do not meet current FAA design standards.

For taxiway/taxilane design for an ARC designation of B-II and TDG 2 designation, taxiways must be 35 feet wide and have 10-foot shoulders. In addition, a parallel taxiway centerline must have a separation of 240 feet from the runway centerline, a Taxiway Safety Area (TSA) 79 feet wide, and a Taxiway Object Free Area (TOFA) with a width of 131 feet. These recommendations are described in AC 150/5300-13A Change 1 for aircraft approach categories A and B for visual runways or instrument runways with no lower than one statute mile approach visibility minimums.

In support of the runway edge lighting, taxiway edge lighting is recommended to aid in the movement of aircraft to between Runway 14-32 and at least the terminal area. Concurrent with the installation of the runway edge lights and until the taxiway lighting can be implemented, the installation of reflectors along the main taxiway routes is recommended. Taxiway reflectors could also be installed in other areas of the airport that may not warrant lights to increase the utility of the areas during darkness.

3.3.9 Aircraft Parking Aprons

Aircraft aprons are areas that provide aircraft parking, fueling, access to a terminal and ground transportation, as well as other aviation support facilities. Regarding aprons, AC 150/5300-13A states that sizing and layout is dependent on local conditions. The document does however provide some limited sizing and clearance guidance. Guidance for parking position, tie-down criteria, using Cessna 182 as a typical design aircraft for apron design, approximately 1,610 square feet of pavement area will be necessary to accommodate the aircraft and provide the appropriate wingtip and apron edge clearance. That figure does not take into account B-II taxiway and taxilane OFA clearance, as the space requirement will vary greatly based on the specific apron design. The general guiding principle behind apron sizing is to park the maximum number of airplanes while satisfying taxilane OFA criteria.

The Airport currently has two apron areas on the airfield. The primary apron, located on the west side connects the fueling area with the south hangar complex and is currently used to accommodate parking of both based and itinerant aircraft. With the development of the administration and flight services building and the anticipated increase in itinerant operations, this apron will need to be expanded to meet the demand. In order to place a taxilane in front of the terminal and a taxiway to allow unencumbered circular traffic serving ‘drive-through’ airplane parking, the apron must be a minimum of 264 feet wide. As the itinerant traffic increases, the demand for itinerant parking can be met with this apron if the based aircraft currently using this

apron are relocated. This will require the development of additional apron space dedicated to tie-down facilities in another location on the airfield.

The existing secondary apron is large enough for 10-13 aircraft parking positions. Due its location north of Runway 14-32 this apron is not convenient to the existing aviation support facilities and is therefore typically used for parking during special events. In addition future development of a north hangar complex and a parallel taxiway to serve facilities on the north side of Runway 14-32 will require the removal of this apron as it does not meet current FAA taxiway configuration standards.

Another impact on apron and other facility requirements will be the result of an increase in based aircraft. The forecast anticipates up to 109 additional based aircraft of various types within the 20-year planning horizon. While a significant number of these additional aircraft owners will prefer to store their aircraft in hangars, as evidenced by an existing waiting list for hangar space, it is anticipated that up to 24 (10%) of the total based aircraft owners will choose to utilize tie-down positions on an apron. **Recommendation: Include reconfiguration of the existing apron in a phased approach in conjunction with the construction of the pilot services/administration building and develop an additional apron capable of ultimately accommodating up to 24 based aircraft.**

Table 3.3 Apron Requirements (in square feet)

	Actual	***Forecast***		
	2014	***2019***	***2024***	***2034***
Itinerant Aircraft	8	9	9	10
Itinerant Apron	12,880	14,490	14,490	16,100
Increase in Based Aircraft	20	30	34	40
Based Aircraft Apron	32,200	48,300	54,740	64,400

3.3.10 Pavement Markings

The Inventory chapter of this update noted that both runways are marked as basic visual runways and include runway number designations, centerline stripes, and runway side stripes. The runway markings for Runway 10-28 have been recently refurbished and are in good condition, while the markings for Runway 14-32 are in fair condition. Additionally, the apron taxilane centerline is in poor condition, and there are no taxilane sideline markings to properly identify the limits of the taxilanes. The Taxiway A markings and related hold-short markings for Runway 14-32 and Runway 10-28 are in good condition. **Recommendation: Airfield marking/striping to occur on an as needed basis or when the type of approach changes. Runway marking should include edge-of-pavement lines.**

3.3.11 Airfield Signage

New airfield directional signs were installed as part of the rehabilitation of Runway 10-28. These signs comply with current FAA design standards but are not lighted for

operations during night or inclement weather conditions. The FAA reference for airfield signage is AC 150/5340-18F, *Standards for Airport Sign Systems.* **Recommendation: Include lighting existing airfield signage as part of project to install Runway 14-32 edge lights.**

3.3.12 Instrument Approaches

The Airport does not have an instrument approach system or procedure. Instrument approach systems allow aircraft to conduct operations at an airport when poor visual conditions preclude pilot visual guidance. Airport management and users advocate for inclusion of a non-precision instrument approach on Runway 14-32. FAA publication of an instrument approach should be addressed during the design, survey and rehabilitation of Runway 14-32.

While traffic counts are growing, airport delay is still non-existent. The types of aircraft that utilize the facility are primarily small general aviation aircraft used for recreation or for business. IFR conditions occur approximately 7 percent of the time. As the need for an approach continues to be evaluated, an FAA approach survey is highly recommended as an initial step in the development of a non-precision instrument approach. **Recommendation: Conduct an FAA approach survey in anticipation of GPS based non-precision approaches to the Primary Runway and review that state licensing standards are met.**

3.3.13 Visual Landing Aids

The Airport has visual glideslope indicators on all four runway ends. Visual glideslope indicators provide pilots with vertical guidance to ensure obstacle clearance and touchdown zone arrivals during either day, night, or limited visibility conditions. The visual glideslope indicators used at the airport are the 4-light Precision Approach Path Indicator (PAPI). These systems of lights are focused and arranged in such a way as to provide visual descent guidance information during the approach to a runway. These lights are typically visible from 3-5 miles during the day and up to 20 miles or more at night. The visual glidepath indicated by the system provides safe obstruction clearance within plus or minus 10 degrees of the extended runway centerline, and up to 4 miles from the runway threshold.

3.3.14 Segmented Circle/Windcones

A segmented circle performs two functions: it aids the pilot in locating runways and airport wind indicators, and it provides a centralized location for such indicators and signal devices as may be required on a particular airport. Valkaria Airport has updated and improved the facility's segmented circle, including a lighted primary windcone. Additionally, the Airport has three unlighted windsocks that complement the lighted wind indicator located within the segmented circle near the airport mid-point. Placement guidance and standards for these secondary wind indicators is contained in AC 150/5340-30, *Design and Installation for Airport Visual Aids*, AC 150/5345-27E, *Specifications for Wind Cone Assemblies,* and AC 150/5300-13A, *Airport Design.*

Recommendation: Install/Upgrade Primary Wind Cone/Segmented Circle lighting to current standards during the runway lighting and vault equipment installation project. Maintain the secondary windsocks located at the Runway 14 and Runway 10 thresholds in a manner consistent with FAA standards.

3.4 Support Facility Requirements

3.4.1 General Aviation Administration and Flight Services Facility

Valkaria Airport has experienced tremendous itinerate and local traffic growth over the past five years. Current air traffic operations exceed 53,000 annually. The current Airport Administration and Flight Services facility does not meet the daily demand for pilot planning and training requirements, airport administrative and operational requirements, passenger and terminal needs including restrooms, meeting space and auto parking space.

An Administrative and Flight Services facility continues to be a strongly desired feature for the Airport as the current trailer is inadequate for the current demand. The intent of the facility is to provide proper pilot and passenger services, flight planning support, public meeting space, a central location for aviation servicing and offices to support the administration of the airport. In addition, natural disaster shelter space is envisioned for this area to provide additional space during prolonged severe weather events. These described services are typically provided by GA terminal buildings. The terminal should continue to reflect Airport Management's focus on fostering a sense of community space at the airport, and provide potential amenities that can be utilized by the surrounding community.

According to the *FDOT Guidebook for Airport Master Planning*, the sizing of a GA terminal facility can be calculated using a forecast of peak-hour transient passengers plus some percentage of local passengers. The number of persons per aircraft could range from 1.8 for single engine aircraft to 3.1 for higher performance aircraft, and the space requirements range from 50 to 100 square feet per peak hour passenger.

The Airport administration is currently in the preliminary design phase for this administration building. The building size will be established during the first design task and will be subject to FDOT approval. The building size will reflect the guidance in the *FDOT Guidebook for Airport Master Planning, April 2010*. The following assumptions from this Master Plan may be used by the designers in calculating total building size requirements:

- Design Hour Pilot/Passenger of 102 persons (2034), modified to account for local and touch and go operations
- 75 square feet (average) of GA terminal building space per peak hour passenger.
- 350 feet of additional space for an administrative office, including a records/equipment storage room.

- 250 feet of additional space for a lounge/conference room facility.
- Space for future airfield electrical vault equipment

Recommendation: Construct a public building that can serve the dual purpose of pilot/passenger service and airport administration functions.

3.4.2 Fuel Storage Requirements

According to airport fuel sales records, an average of 50,142 gallons of AvGas were sold annually between 2006 and Fall of 2014. Fuel storage requirements were based on an estimated number of operations, including forecast growth, and excluding operations from FlightSafety, FIT Aviation, DoD operators, and Brevard County Mosquito Control. These operations were excluded from this analysis because those operators generally do not make fuel purchases from the airport.

Annual Avgas demand of 125,006 gallons has been calculated based on 2034 horizon year forecast operations, excluding training flights. FDOT recommends that each airport maintain a 14 day supply of Avgas and JetA. The 20 year planning forecast 14-day storage recommendation of 4,795 gallons is met by the capacity of the existing system. Based on this analysis, it can be concluded that the capacity of the fuel facilities described in the inventory section of this master plan update will satisfy the demand over the 20-year planning horizon.

This document recognizes that with the construction of T-Hangar F the existing hangar area will be built out. A new hangar complex, large enough to accommodate up to 75 based aircraft, will be recommended. The location of this new complex will likely dictate a small Avgas fueling system in order to reduce taxi time and runway crossings for those based airplanes. This stand alone, self-serve fueling system would be included in the construction of one or more of the hangars and therefore not specifically identified as a recommendation.

3.4.3 Hangar Requirements

Hangars provide aircraft with protection from the weather as well as safety and security of the owner's investment. The demand for hangars at the airport has been and is forecast to remain high. Currently 115, or 90%, of the 127 based aircraft are stored in hangars. Based on this historical demand for hangars, as well as the forecast need to accommodate the growth in based aircraft, up to 97 additional hangar units will need to be constructed during the 20-year planning period. The timeline for the construction of these hangars will be based on demand and the availability of funding. Industry planning guidelines recommend that hangars be supported by a paved apron area equal in size to the hangar itself. This allows aircraft movements to and from the hangars without blocking adjacent taxilanes or taxiways.

Based on the Airport's administrative records there are 90 aircraft owners that are on a waiting list for hangar space. Industry experience indicates approximately 40% of aircraft owners on a waiting list represent valid demand. Aircraft owners for example,

may be signed up on multiple airport lists, have moved from the area, or have lost interest. Using this methodology it is assumed that 36 aircraft owners represent immediate valid demand. **Recommendation: Anticipate construction of 97 additional hangar spaces over the 20 year planning period.**

3.4.4 Airport Rescue and Fire Fighting

The presence of Station 87 of the Brevard County Fire Rescue Department within the footprint of the airport offers an opportunity for expanded Airport Rescue and Fire Fighting services. The station provides routine coverage to the community and the airport. Direct access to the airfield would minimize response time to any airport emergency. **Recommendation: Acquire property adjacent to Fire Station 87 and construct a direct access road from the fire station to the primary runway.**

3.4.5 Airport Access and Parking

Access to Valkaria Airport is provided by Valkaria Road, classified by FDOT as an "Urban Major" traffic artery from US Highway-1 westward, with a design capacity of 15,600 average daily trips (ADT) and a 2013 FDOT traffic count of 3,200 ADT which results in a 20 percent utilization. The nature of the airport operations and any changes thereto are not anticipated to significantly increase the traffic on the access roadway over the planning horizon. Therefore, the current airport access capacity is adequate.

The Airport has limited formal parking in the form of 18 spaces, paved with asphaltic concrete, located between the airport viewing pavilion and the T-hangar area. Additional parking is accommodated on a turf area to the southwest of the administration facility, and outside the perimeter fence. The current vehicle parking capacity is minimally adequate to satisfy existing demand. The future construction of an Airport Administration and Flight Services facility on the Airport's west side will require expansion and reconfiguration of the existing parking area. According to the Brevard Co. Code of Ordinances Sec. 62-3206, the construction of a terminal facility would require a significant amount of additional parking spaces. The many special events conducted at the airport may require additional spaces. All parking requirements should include the correct amount of space to satisfy the Americans with Disabilities Act (ADA). **Recommendation: Auto parking requirements for itinerant aircraft, special events and conducting airport business be addressed with the design and construction of the administration/flight services building.**

3.4.6 Airport Fencing

The perimeter fence should continue to be maintained and improved, with additional access points (key/card controlled) created for north airport hangar complex access, as well as the fire station access.

Grant funding should be utilized to the maximum extent feasible in order to ensure that the facility, its assets and the assets of its tenants are secure from theft and vandalism and as a wildlife management tool. **Recommendation: Construct/upgrade airport perimeter fence for wildlife control and security, to include clear area on each**

side consistent with security needs and/or the Airport's Wildlife Hazard Management Plan.

3.4.7 Stormwater Management

The Airport has committed to a program of environmental stewardship consistent with safe and efficient aircraft operations. A planned component of the overall environmental management program was the design, permitting and construction of a stormwater management pond along the south side of Pilot's Place. This nearly five acre site was constructed in 2013-14 to replace a pond displaced by the construction of T-Hangars D and E. In addition, the pond is the source of draft hydrant water for fire protection. A trench drain system is used to convey stormwater from the existing west hangars into the pond. A concurrent project was completed to regrade the infield areas and upgrade the drainage system under the main apron to reduce standing water and open channel flow in the infield. These projects served both drainage and wildlife reduction on the airside. These stormwater system improvements were sized and constructed to accommodate the existing facility. Future development will require expansion of this system to meet stormwater demand. Two potential areas have been identified. One of the areas is along Valkaria Road. This location is on Brevard County owned property. The deed to this property stipulates that the county will designate 1/3 of the parcel for uses related to the airport. A copy of this parcel deed is included in Appendix B.
Recommendation: Identify and preserve location(s) sufficient to manage stormwater runoff from additional impervious surfaces.

3.5 Utilities

The sole connected utility on the Airport is electricity. The source of water is collected from underground wells on airport property.

3.5.1 Electricity

Florida Power and Light Company provides the airport with a total installed electrical capacity of 300 KVA. This capacity is sufficient to satisfy the electrical power demand over the planning horizon. If required, capacity can be increased by installing transformers with a higher capacity rating. Power consumption of proposed lighting of Runway 14-32 with incandescent bulbs is estimated at less than 5 KVA. That number can be further reduced, if energy-efficient LED lights are used. Although the power supplied to the airport by the utility is adequate, the airport does not currently have an electrical vault for proper supply of the power to the airfield for lighting needs.
Recommendation: Add electrical vault space into the Administration Building construction and install electrical vault equipment during the Runway 14-32 lighting project.

3.5.2 Water

The Airport is not connected to any public water system. All water used on the airport is pumped from underground wells on airport property. It is recommended that the water facilities be inspected, and upgraded if needed to provide adequate water supply to the

proposed wash rack locations, proposed terminal building, and any other aviation support or non-aeronautical on-airport users.

3.5.3 Septic

The Airport is not connected to any public sanitary sewer system. All waste water is handled through the septic system. The sizing of this system should be reviewed as part of the design for future building development.

4 Alternatives Analysis

Alternative ways to meet the defined facility requirements were identified and evaluated. The few alternatives that reasonably met demand, community objectives and agency standards for reasonable financial and environmental cost were reviewed and included in the MPU. Priority was given to issues and projects related directly to safety, airfield standards, efficiency and meeting aeronautical demand. Consideration was also given to environmental consequences, financial feasibility and economic development.

4.1 Land Use

A first step in the development of alternatives and selection/recommendation of a preferred alternative is to define the land-use options for the Airport. Typically all property owned by the Airport Sponsor and identified as airport property is evaluated and placed in one of three land use categories. Day-to-day application of this land-use policy will provide airport management and ownership a powerful tool in decision making when evaluating future development opportunities. Following are the land use categories with a brief description of how they are applied:

- **Airfield:** Identifies all property necessary and able to support the movement of aircraft. Uses include runway, taxiway and taxilanes and all associated safety and approach surfaces.
- **Aviation Use:** Property available and able to serve the flying community. Facilities include aircraft parking aprons, fueling, hangars, tie-downs, maintenance facilities, pilot/passenger services building and ground transportation.
- **Non-Aeronautical:** Property that is either not needed or access is impractical for aviation use. This property serves as a buffer or interface with the adjoining property. Uses include environmental mitigation, aviation compatible commercial development, recreation or open space.

4.2 Methodology

The evaluation of alternatives to meet the aviation needs of the Airport focused on the first two land use categories. Evaluation included advantages, disadvantages, financial costs, environmental impacts and compatibility with the community. These alternatives were reviewed with airport management team and the preferred alternatives presented to the public for discussion. The alternative review was guided by and consistent with FAA guidance provided in AC 150/5070-6B, Change 2, *Airport Master Plans* including the following criteria:

- Conforms to best practices for safety and security
- Conforms to FAA design standards
- Satisfies demand and user needs
- Is technically, environmentally and financially feasible
- Provides growth potential beyond the planning period
- Provides the highest and best use of property

- Conforms to the airport owner's strategic vision
- Conforms to relevant local, regional and state transportation plans

4.3 Environmental Overview

This Master Plan Update recommends substantial improvement to the Airport during the 20-year planning horizon. This environmental review identifies impacts in certain areas, such as noise and compatible land use, which do not require field surveys. Other impact categories, such as air quality and wetlands, are examined to identify areas that could require further examination in the form of an EA. FAA Order 1050.1E, *Environmental Impacts: Policies and Procedures* identify airport development actions typically requiring an Environmental Assessment. This environmental review should not be considered an exhaustive analysis; rather, its purposes are to consider potential impacts of future airport development actions and to identify areas in which additional analysis may be needed.

FAA Order 1050.1E, CHG 1, *Environmental Impacts: Policies and Procedures* identify airport development actions normally requiring an Environmental Assessment (EA). Review of that document indicates that the recommended actions in this Master Plan will not require an EA. The following sections identify the key and applicable environmental impact categories as described in FAA Order 1050.1E. In July 2015, FAA Order 1050.1F was released updating FAA Order 1050.1E that still considers these same categories, just grouped into broader headings.

- Air Quality
- Coastal Resources
- Compatible Land Use
- Construction Impacts
- Department of Transportation Act: Section 4(f)
- Farmlands
- Fish, Wildlife, and Plants
- Floodplains
- Hazardous Materials, Pollution Prevention, and Solid Waste
- Historical, Architectural, Archeological, and Cultural Resources
- Light Emissions and Visual Impacts
- Natural Resources, Energy Supply, and Sustainable Design
- Noise
- Secondary (Induced) Impacts
- Socioeconomic Impacts, Environmental Justice, and Children's Environmental Health and Safety Risks
- Water Quality
- Wetlands
- Wild and Scenic Rivers

4.3.1 Air Quality

The two principle sources of air pollution associated with the development and operation of the Airport are vehicular (both customer and maintenance vehicles and equipment) and aircraft emissions. Other contributing sources include emissions from aircraft refueling and repair/production activities.

Implementation of the recommendations in this Master Plan Update will require coordination with Florida Department of Environmental Protection Division of Air Resource Management to determine permitting requirements under the New Source Review (NSR) and Prevention of Significant Deterioration (PSD) Program. Construction permits are used to implement the Federal Clean Air Act requirements for air quality including Best Available Control Technology (BACT) determinations.

The principal effects upon air quality associated with proposed development actions will be construction emissions, especially dust. These will be temporary in nature; however, any necessary permits must be obtained before construction begins. Best Management Practices, such as watering, should be required of contractors to reduce any impacts associated with dust from construction activities.

Air quality associated with construction emissions, specifically dust, will not be a long-term factor. All necessary permits should be obtained before construction begins. Best Management Practices, such as watering, should be followed to reduce any impacts associated with dust from construction activity.

4.3.2 Coastal Resources

“The National Coastal Zone Management (CZM) Program is a voluntary partnership between the federal government and U.S. coastal states and territories authorized by the Coastal Zone Management Act of 1972. The Coastal Programs Division, within the National Oceanic and Atmospheric Administration's Office of Ocean and Coastal Resource Management, administers the program at the federal level and works with state coastal zone management partners…”

In Florida, the entire state comprises the coastal zone, however, the nearest Coast Barrier Resources System is Unit P09A located 2.5 miles northeast of the Airport. Implementation of the proposed improvements would not be expected to impact coastal zones adversely. Jurisdiction for this impact category is within the Florida Department of Environmental Protection, Division of State Lands, Office of Coastal and Aquatic Managed Areas. Compliance with the Coastal Barrier Resources Act of 1982 is not a factor identified by this overview as requiring additional analysis.

4.3.3 Compatible Land Use

For the purposes of this analysis, compatible land use refers to the land use interfaces between the Airport and surrounding properties. As discussed in Chapter 1, Valkaria Airport is surrounded by residential, recreational, conservation and industrial land uses.

The airport continues to maintain a compatible land use buffer with a municipal golf course to the south. **Figure 4.1** illustrates the land use classification surrounding the airport.

Brevard County has adopted land use regulations to protect aviation facilities in the county from encroachment in accordance with Ch. 333, Florida Statutes as a part of Brevard County Code of Ordinances Sections 62.2201-62.2209. However, no inter-local agreements for regulation implementation within the boundaries of the municipality of Grant-Valkaria or Malabar have been identified.

Two of the Land Use and Transportation Coordination policies in the 1988 Brevard County Comprehensive Land, Chapter 9 Transportation Element also specifically address land use compatibility for the airport.

- Policy 6.5 – “Brevard County shall continue to implement land use development standards which protect the port, airport, rail and related facilities from encroachment of incompatible land uses”.
- Policy 6.7 - “Brevard County shall coordinate the siting of new, or expansion of existing ports, airports, or related facilities with future land use, coastal management, and conservation elements.”

The existing Runway Protection Zones (RPZs) for all runway ends are located within the airport property line. The proposed 250 foot extension of Runway End 32 extends the RPZ beyond airport property. The small portion of the future RPZ located outside of airport property will require the acquisition of an avigation easement. In accordance with the Federal Aviation Administration interim guidance on RPZs, any on-airport development that changes the dimensions of the present RPZs, or off-airport development that takes place within the existing or planned RPZs has to undergo an analysis of alternatives, designated to avoid, mitigate, or minimize potential impacts.

Figure 4.1 Airport Area Future Land Use Map

Source: Grant-Valkaria Future Land Use Map

4.3.4 Construction Impacts

Construction operations will cause specific impacts resulting from, and limited to, actions to improve the Airport. The following are some impacts that might be expected from the proposed improvements.

- An increase in particulate and gaseous air pollution levels as a result of dust generated by construction activity and by vehicle emissions from equipment and workers' automobiles;
- An increase in solid and sanitary wastes from workers at the site;
- An increase in traffic volumes in the airport area due to construction activity;
- A slight increase in noise levels due to the operation of heavy equipment;
- Impacts to aircraft operations during runway construction, and
- Temporary erosion or scarring of land surfaces and loss of vegetation in areas which are excavated or otherwise disturbed.

These impacts are temporary in duration; however, preventative actions to reduce or eliminate impacts are described in FAA Advisory Circular 150/5370-10G. Bid packages for construction items should include provisions that require implementation of applicable practices to reduce such impacts.

4.3.5 Department of Transportation Act: Section 4(f)

In accordance with requirements of the FAA Order 1050.1E and under the provisions of the Department of Transportation Act, Section 4(f), projects that require the use of any publicly owned land from a public park, recreation area, wildlife and waterfowl refuge, or historic site cannot be approved by the Department unless there is no feasible and prudent alternative to the use of such land, and the project includes all possible planning to minimize harm resulting from the use. None of the public land categories will be impacted by the proposed improvements.

4.3.6 Farmlands

The majority of the proposed improvements are located within the boundaries of the airport. The exception is the proposed expansion of the existing water management pond on the east side of the airport. The pond expansion will be located outside of the property boundary however there are no prime or unique farmlands impacted by this improvement.

4.3.7 Fish, Wildlife, and Plants

The National Environmental Policy Act (NEPA) established provision for the protection of state and/or nationally significant fish, wildlife and plants. For the purposes of the initial fish, wildlife, and plant assessment, data was collected from the U.S. Fish and Wildlife Service (USFWS), Florida Statewide Endangered and Threatened Plant Conservation Program database, as well as wildlife observation databases made available by the Florida Fish and Wildlife Conservation Commission (FFWCC) through the Florida Geographic Data Library. The USFWS and Florida Natural Areas Inventory (FNAI) list protected species potentially found in Brevard County. **Tables 4.1 and 4.2** present these wildlife and plant species.

Table 4.1 Federally and State Listed Wildlife Species in Brevard County

Common Name	Scientific Name	Federal Status	State Status
Atlantic Sturgeon	*Acipenser oxyrinchus oxyrinchus*	E	E
Striped Croaker	*Bairdiella sanctaeluciae*	SC	-
Opossum Pipefish	*Microphis brachyurus*	SC	-
Mangrove Rivulus	*Rivulus marmoratus*	SC	SC
Carolina Gopher Frog	*Lithobates capito*	-	SC
American Alligator	Alligator mississippiensis	T	T
Loggerhead Sea Turtle	Caretta caretta	E, T	T
Green Sea Turtle	Chelonia mydas	E	E
Leatherback Sea Turtle	Dermochelys coriacea	E	E
Eastern Indigo Snake	Drymarchon couperi	T	T
Gopher Tortoise	Gopherus polyphemus	C	T
Kemp's Ridley Sea Turtle	Lepidochelys kempii	E	E
Florida Pine Snake	Pituophis melanoleucus mugitus	-	SC
Florida Scrub-Jay	Aphelocoma coerulescens	T	T
Limpkin	Aramus guarauna	-	SC
Florida Burrowing Owl	Athene cunicularia floridana	-	SC
Crested Caracara	Caracara cheriway	T	T
Piping Plover	Charadrius melodus	T	T
Little Blue Heron	Egretta caerulea	-	SC
Reddish Egret	Egretta rufescens	-	SC
Snowy Egret	Egretta thula	-	SC
Tricolored Heron	Egretta tricolor	-	SC
White Ibis	Eudocimus albus	-	SC
Southeastern American Kestrel	Falco sparverius paulus	-	T
Florida Sandhill Crane	Grus canadensis pratensis	-	T
American Oystercatcher	Haematopus palliatus	-	SC
Wood Stork	Mycteria americana	E	E
Osprey	Pandion haliaetus	-	SC
Brown Pelican	Pelecanus occidentalis	-	SC
Red-cockaded Woodpecker	Picoides borealis	E	E
Roseate Spoonbill	Platalea ajaja	-	SC
Black Skimmer	Rynchops niger	-	SC
Least Tern	*Sternula antillarum*	-	T
North Atlantic Right Whale	*Eubalaena glacialis*	E	E
Southeastern Beach Mouse	Peromyscus polionotus niveiventris	T	T
Florida Mouse	Podomys floridanus	-	SC
Sherman's Fox Squirrel	Sciurus niger shermani	-	SC
West Indian Manatee	Trichechus manatus	E	E

Endangered Species (E), Threatened Species (T), Special Concern (SC), Candidate Species (C)
Sources: FNAI, 2015

Table 4.2 Federally and State Listed Plant Species in Brevard County

Common Name	Scientific Name	Federal Status	State Status
Sea Lavender	Argusia gnaphalodes	-	E
Curtiss' Sandgrass	Calamovilfa curtissii	-	T
Sand Butterfly Pea	Centrosema arenicola	-	E
Sand-dune Spurge	Chamaesyce cumulicola	-	E
Large-flowered Rosemary	Conradina grandiflora	-	T
Hay Scented Fern	Dennstaedtia bipinnata	-	E
Titusville Balm	Dicerandra thinicola	-	E
Glandularia maritima	Coastal Vervain	-	E
Glandularia tampensis	Tampa Vervain	-	E
Halophila johnsonii	Johnson's Seagrass	T	-
Harrisia simpsonii	Simpson's Prickly Apple	-	E
Lantana depressa var. floridana	Atlantic Coast Florida Lantana	-	E
Lechea cernua	Nodding Pinweed	-	T
Lechea divaricata	Pine Pinweed	-	E
Nemastylis floridana	Celestial Lily	-	E
Nolina atopocarpa	Florida Beargrass	-	T
Ophioglossum palmatum	Hand Fern	-	E
Peperomia humilis	Terrestrial Peperomia	-	E
Pteroglossaspis ecristata	Giant Orchid	-	T
Tephrosia angustissima var. curtissii	Coastal Hoary-pea	-	E
Zephyranthes simpsonii	Redmargin Zephyrlily	-	T
Sea Lavender	Argusia gnaphalodes	-	E
Curtiss' Sandgrass	Calamovilfa curtissii	-	T
Sand Butterfly Pea	Centrosema arenicola	-	E
Sand-dune Spurge	Chamaesyce cumulicola	-	E
Large-flowered Rosemary	Conradina grandiflora	-	T
Hay Scented Fern	Dennstaedtia bipinnata	-	E
Titusville Balm	Dicerandra thinicola	-	E
Glandularia maritima	Coastal Vervain	-	E
Glandularia tampensis	Tampa Vervain	-	E
Halophila johnsonii	Johnson's Seagrass	T	-
Harrisia simpsonii	Simpson's Prickly Apple	-	E
Lantana depressa var. floridana	Atlantic Coast Florida Lantana	-	E
Lechea cernua	Nodding Pinweed	-	T

Endangered Species (E), Threatened Species (T)
Sources: FNAI, 2015

The Environmental Assessment (EA) conducted in 2011 for the construction of Taxiway A was also consulted. The EA identified the Wood Stork *(Mycteria Americana)* and the Florida Sandhill *(Grus Canadensis)* as occasionally observed migratory birds at various locations surrounding the airport. Gopher Tortoise burrowers were found on the airfield

during the EA on-site inspection which required relocation prior to constructing the new taxiway.

An on-site inspection by a certified wildlife biologist would be necessary to determine if endangered plants or wildlife are present in proposed project areas.

4.3.8 Floodplains

Executive Order (EO) 11988, *Floodplain Management*, directs federal agencies to take action to reduce the risk of flood loss; minimize the impact of floods on human safety, health and welfare; and restore and preserve the natural and beneficial values served by floodplains. Agencies are required to make a finding that there is no practicable alternative before taking action that would encroach on the 100-year base flood elevation (7 CFR Part 650.25).

EO 11988 defines floodplains as "the lowland and relatively flat areas adjoining inland and coastal waters including flood-prone areas of offshore islands, including at a minimum, that area subject to a 1% or greater chance of flooding in any given year. The 100-year flood has been adopted by the Federal Emergency Management Agency (FEMA) as the base flood for floodplain management purposes.

Review of FEMA flood zone maps indicates that the entire airport appears to be situated in an area with a "Zone X" designation, and the site is surrounded by Zones A and AE. **Figure 4.2** identifies FEMA flood zone designations surrounding the airport. The following is a brief description of each designation:

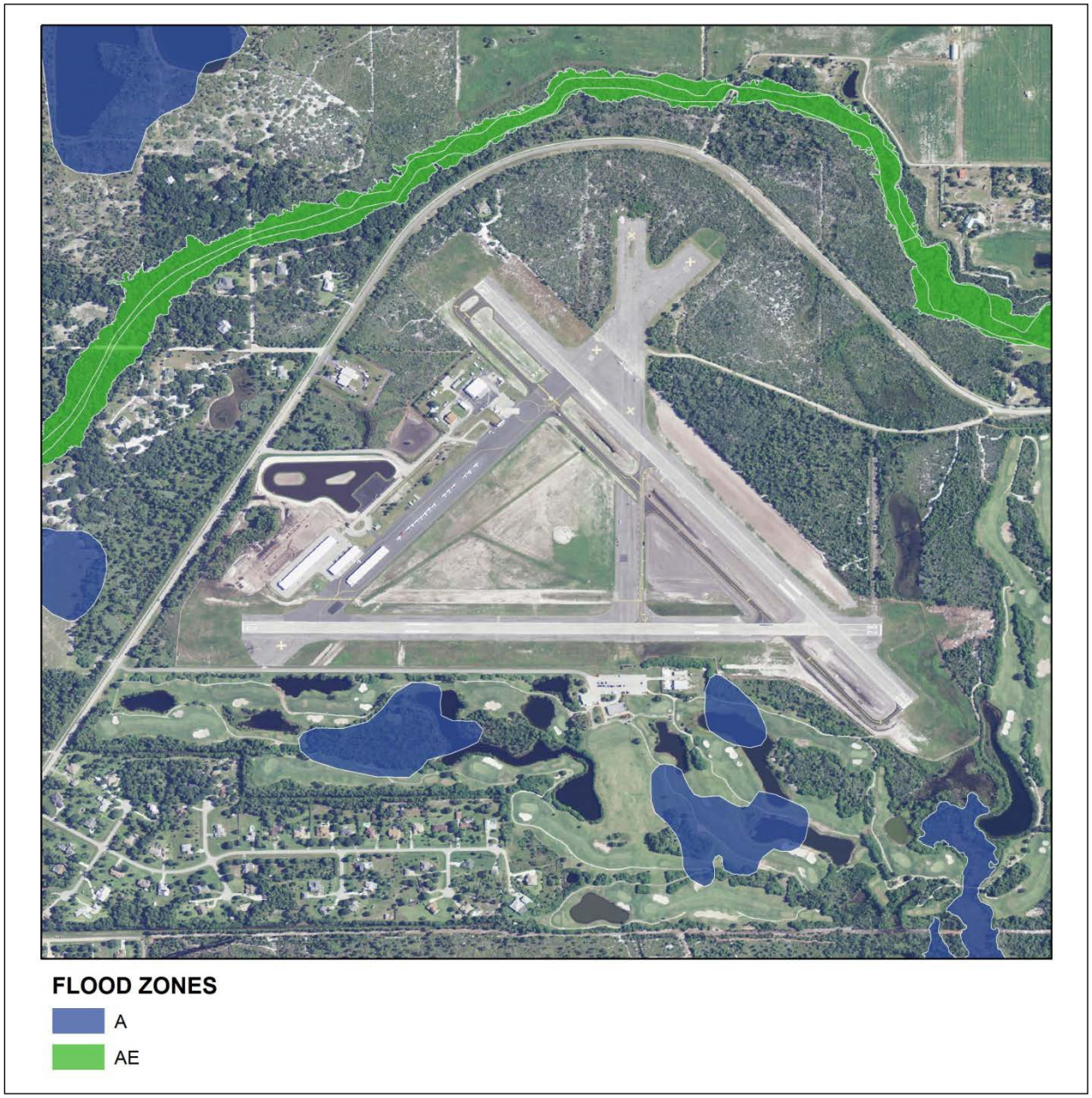
- ***Zones X*** indicates the flood insurance rate zones that correspond to areas of minimal hazard outside the 1-percent annual chance floodplain, areas of 1-percent annual chance sheet flow flooding where average depths are less than 1 foot, areas of 1-percent annual chance stream flooding where the contributing drainage area is less than 1 square mile, or areas protected from the 1-percent annual chance flood by levees. No Base Flood Elevations or depths are shown within this zone. Insurance purchase is not required in these zones.

- ***Zone AE*** is the flood insurance rate zone that corresponds to the 1-percent annual chance floodplains that are determined in the Flood Insurance Study by detailed methods of analysis. In most instances, Base Flood Elevations derived from the detailed hydraulic analyses are shown at selected intervals within this zone. Mandatory flood insurance purchase requirements apply.

- ***Zone A*** is the flood insurance rate zone that corresponds to areas subject to inundation by the 1-percent-annual-chance flood event generally determined using approximate methodologies. Because detailed hydraulic analyses have not been performed, no Base Flood Elevations (BFEs) or flood depths are shown. Mandatory flood insurance purchase requirements and floodplain management standards apply.

Based on the location of the site, proposed improvement projects are not expected to impact the flood plain; however, in the event that expansion were to occur and extend into adjacent areas, it will be necessary to evaluate whether such expansion encroaches on the 100-year floodplain.

Figure 4.2 FEMA Flood Zone Map



Source: FEMA Flood Maps, 2015

4.3.9 Hazardous Materials, Pollution Prevention, and Solid Waste

FAA actions to fund, approve, or conduct an activity may require consideration of hazardous material, pollution prevention, and solid waste impacts under provisions of the National Environmental Protection Act (NEPA). FAA Order 1050.1.E, Change 1, *Environmental Impacts: Policies and Procedures*, dated March 20, 2006, identifies four primary laws that govern handling and disposal of hazardous materials, chemicals, substances and wastes.

Federal, state, and local laws regulate the use, storage, transport and disposal of hazardous materials. The largest hazardous material consumed and stored at the airport is fuel. The proposed Airport improvements would not affect the existing fuel tank but will introduce a new self-serve fueling area to the north as part of the apron and aircraft storage development on that side of the airfield. Motor oil is the most common waste at the airport. Disposal bins should be provided to collect motor oil for appropriate disposal.

Based on the Comprehensive Environmental Response, Compensation, and Liability Information System (CERCLIS) and Resource Conservation and Recovery Act (RCRA) databases; the U.S. EPA has not listed any hazardous waste sites in the immediate vicinity of the Airport boundary.

There are no landfills located near of the airport. Construction projects, such as runway, taxiway, and apron construction, do not normally generate significant amounts of perishable or non-perishable waste, other than wastes associated with construction debris. Any wastes generated will be disposed in licensed landfills.

4.3.10 Historical, Architectural, Archeological, and Cultural Resources

The proposed improvements are not expected to impact historical, architectural, and cultural resources. A review of the National Register of Historic Places and the National Historic Landmarks Survey, both maintained by the U.S. Department of Interior National Parks Service, indicated that no listed structures, sites, or objects were within the area that would be affected by the proposed airport development actions.

4.3.11 Light Emissions and Visual Impacts

The proposed 250 foot extension to Runway 32 and Taxiway A extensions will be lighted. There are no home sites in the vicinity of the proposed improvement area that would be significantly impacted by the relocated runway and taxiway lights.

4.3.12 Natural Resources, Energy Supply, and Sustainable Design

The proposed development actions will increase the power requirements for the airport due to the proposed runway lighting extensions and additional landside facilities. The increased power requirements are considered to be within the capacity of the current supplier. Fuel consumption is expected to increase with additional aircraft operations; however, the increased operations are not considered a result of airport improvements.

This increase will not have a significant impact on the nation's fuel resources, and no mitigation measures are envisioned.

4.3.13 Noise

Aircraft noise is a major environmental consideration when assessing possible impacts of airport development actions. For land use planning purposes, noise impacts were evaluated for existing conditions (2014) and for 20-year planning forecast (2034) conditions.

In accordance with FAA guidelines for the development of airport master plans, noise contours were generated using the FAA's Integrated Noise Model (INM) Version 7.0d. Data including runway location, elevation, temperature, pressure, and other variables were combined with flight paths and estimated and forecast airport activity to create contours that may be used to assess noise and land use compatibility. The Day-Night Level (DNL) metric was used. DNL represents total noise exposure from aircraft operations over a given 24-hour period, and the noise contours produced represent noise levels in average daily duration of perceived decibels on the A-scale (dBA).

Interpretation of the significance of these noise impacts was based upon FAA guidelines presented in FAR Part 150, *Airport Noise Compatibility Planning* (see **Table 4.3**). Review of these standards indicates that DNL values of 65 and below are considered acceptable for every land use, including residential, identified in the standards.

Table 4.3 FAA Land Use Compatibility Guidelines

Land Use	Yearly Day-Night Average Sound Level (Ldn) in decibels					
	Below 65	65-70	70-75	75-80	80-85	Over 85
Residential						
Residential, other than mobile homes and transient lodgings	YES	NO (1)	NO (1)	NO	NO	NO
Mobile home parks	YES	NO	NO	NO	NO	NO
Transient lodgings	YES	NO (1)	NO (1)	NO (1)	NO	NO
Public Use						
Schools	YES	NO (1)	NO (1)	NO	NO	NO
Hospitals and nursing homes	YES	25	30	NO	NO	NO
Churches, auditoriums, and concert halls	YES	25	30	NO	NO	NO
Government services	YES	YES	25	30	NO	NO
Transportation	YES	YES	YES (2)	YES (3)	YES (4)	YES (4)
Parking	YES	YES	YES (2)	YES (3)	YES (4)	NO
Commercial Use						
Offices, business and professional	YES	YES	25	30	NO	NO
Wholesale and retail- building materials, hardware and farm equipment	YES	YES	YES (2)	YES (3)	YES (4)	NO
Retail trade-general	YES	YES	25	30	NO	NO
Utilities	YES	YES	YES (2)	YES (3)	YES (4)	NO
Communication	YES	YES	25	30	NO	NO
Manufacturing and Production						
Manufacturing, general	YES	YES	YES (2)	YES (3)	YES (4)	NO
Photographic and optical	YES	YES	25	30	NO	NO
Agriculture (except livestock) and forestry	YES	YES (6)	YES (7)	YES (8)	YES (8)	YES (8)
Livestock farming and breeding	YES	YES (6)	YES (7)	NO	NO	NO
Mining and fishing, resource production and extraction	YES	YES	YES	YES	YES	YES
Recreational						
Outdoor sports arenas and spectator sports	YES	YES (5)	YES (5)	NO	NO	NO
Outdoor music shells, amphitheaters	YES	NO	NO	NO	NO	NO
Nature exhibits and zoos	YES	YES	NO	NO	NO	NO
Amusements, parks, resorts, and camps	YES	YES	YES	NO	NO	NO
Golf courses, riding stables and water recreation	YES	YES	25	30	NO	NO

Numbers in parenthesis refer to notes.

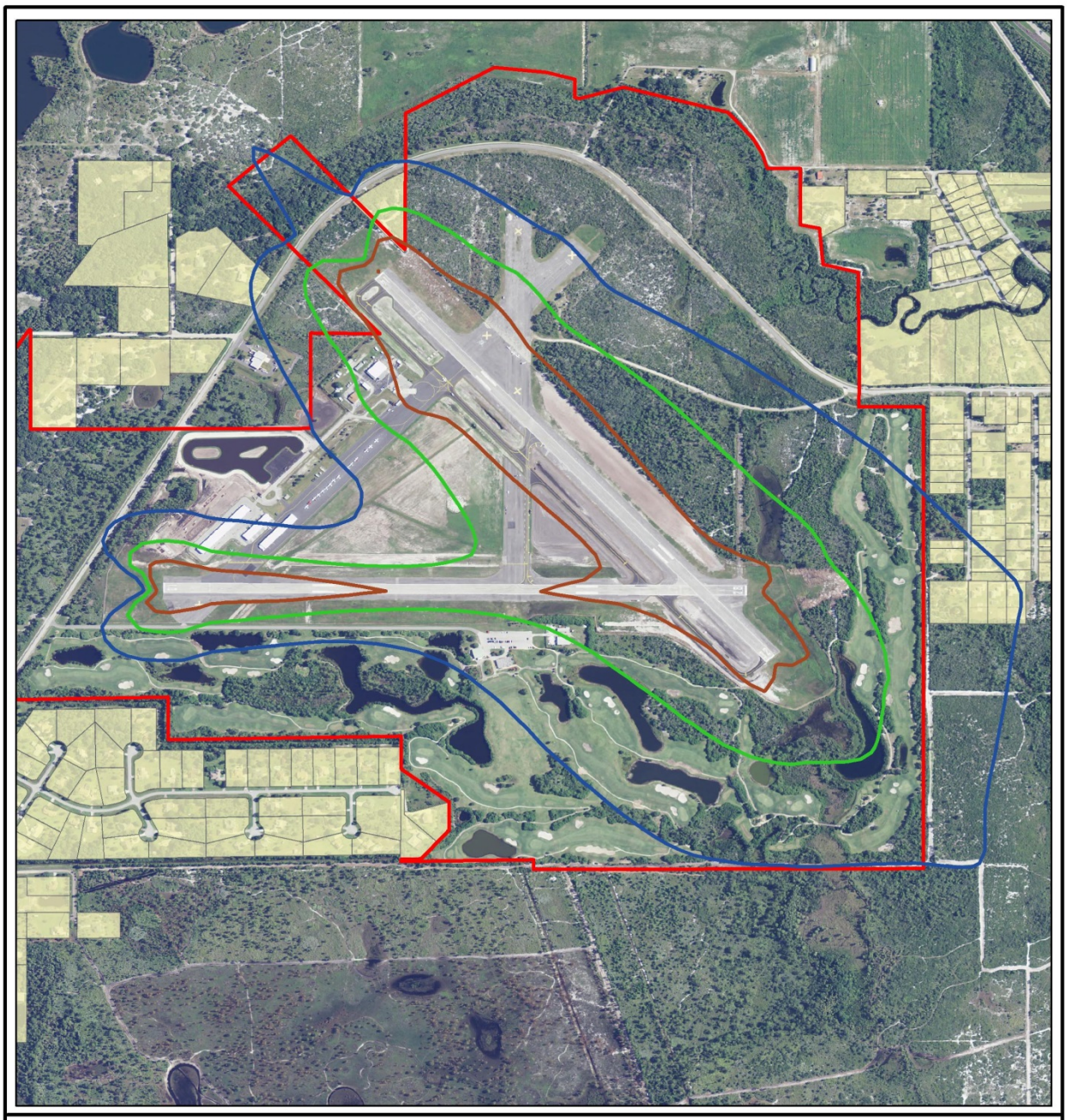
Source: Federal Aviation Regulations Part 150, Airport Noise Compatibility Planning

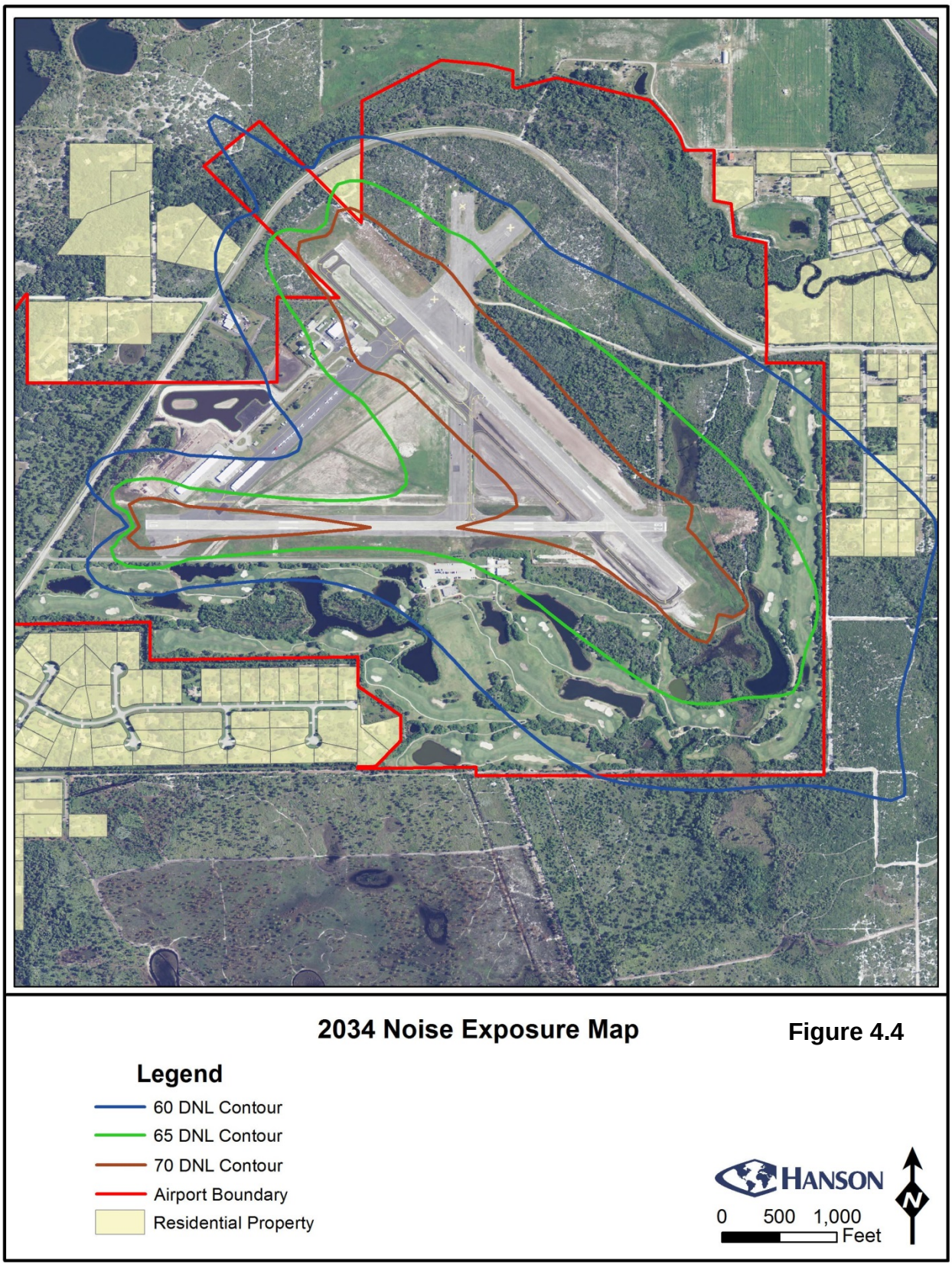
Notes to Table 4.3

NOTE: The designations in this table do not constitute a Federal determination that any use of land is acceptable or unacceptable under Federal, State, or local law. The responsibility for determining the acceptable and permissible land uses and the relationship between specific properties and specific noise contours rests with local land use authorities. FAA determinations under Part 150 are guidelines and are not intended to substitute for land uses determined to be suitable by local authorities in response to locally determined needs and values in achieving noise compatible land uses.	
Key to Table 1	
YES	Land Use and related structures compatible without restrictions.
NO	Land Use and related structures are not compatible and should be prohibited.
NLR	Noise Level Reduction (outdoor to indoor) to be achieved through incorporation of noise attenuation into the design and construction of the structure.
25, 30, or 35	Land use and related structures generally compatible; measures to achieve NLR of 25, 30 or 35 dB must be incorporated into design and construction of structure.
Notes for Table 1	
(1)	Where the community determines that residential or school uses must be allowed, measures to achieve outdoor to indoor Noise Level Reduction (NLR) of at least 25 dB and 30 dB should be incorporated into building codes and be considered in individual approvals. Normal residential construction can be expected to provide a NLR of 20 dB, thus, the reduction requirements are often stated as 5, 10 or 15 dB over standard construction and normally assume mechanical ventilation and closed windows year round. However, the use of NLR criteria will not eliminate outdoor noise problems.
(2)	Measures to achieve NLR of 25 dB must be incorporated into the design and construction of portions of these buildings where the public is received, office areas, noise sensitive areas or where the normal noise level is low.
(3)	Measures to achieve NLR of 30 dB must be incorporated into the design and construction of portions of these buildings where the public is received, office areas, noise sensitive areas or where the normal noise level is low.
(4)	Measures to achieve NLR of 35 dB must be incorporated into the design and construction of portions of these buildings where the public is received, office areas, noise sensitive areas or where the normal noise level is low.
(5)	Land use compatible provided special sound reinforcement systems are installed.
(6)	Residential buildings require an NLR of 25.
(7)	Residential buildings require an NLR of 30.
(8)	Residential buildings not permitted.

Source: FAA

A review of the DNL noise levels indicates that no substantial, objectionable levels of noise will be imposed on areas in the vicinity of the Airport as a result of the proposed development. The 65 DNL contour, illustrated in **Figure 4.4**, for the proposed developments is contained within the airport property boundary for the 2034 activity projections. All of the land within the noise contours for the proposed action is considered currently compatible according to FAA guidelines. Existing and forecast condition noise contours are depicted in **Figures 4.3** and **4.4**, respectively.


2014 Noise Exposure Map
Figure 4.3
Legend
60 DNL Contour
65 DNL Contour
70 DNL Contour
Airport Boundary
Residential Property
HANSON
0 500 1,000
Feet
N


2034 Noise Exposure Map
Figure 4.4
Legend
60 DNL Contour
65 DNL Contour
70 DNL Contour
Airport Boundary
Residential Property
HANSON
0 500 1,000
Feet
N

4.3.14 Secondary (Induced) Impacts

Proposed airport improvements have the potential for positive socioeconomic impacts generated by the proposed improvements in the form of temporary construction employment and income. However, the annual economic activity number is likely to go up in the event that planned airport improvements attract new tenants, businesses, or air traffic. Airport development is likely to create additional sources of airport revenue that go beyond the current revenues generated by flight training and recreational/sport aviation air traffic. Overall, it is expected that the community and region will be positively influenced by proposed improvements.

4.3.15 Socioeconomic Impacts, Environmental Justice, and Children's Environmental Health and Safety Risks

The areas proposed to be affected by the scope of the proposed airport improvements are contained within the airport property boundaries and areas designated for airport related activities. Therefore, there are no anticipated highly adverse impacts on minority or low-income populations as a result of this proposal. Also, there are no anticipated impacts or disproportionate risks to children, resulting from environmental health or safety risks.

4.3.16 Water Quality

The Federal Water Pollution Control Act, as amended, commonly known as the Clean Water Act (CWA), governs the control of water pollution in the nation. The objective of the act is to restore and maintain the chemical, physical, and biological integrity of the nation's waters. Federal agencies are required to comply with all federal, state, interstate and local water pollution control requirements both substantively and procedurally. The CWA provides the statutory basis for state water quality standards programs.

The Airport is located within the jurisdiction of the St. Johns River Water Management District (SJRWMD). Regulatory authority under programs delegated to the SJRWMD include management of the consumptive use of water, aquifer recharge, well construction, and surface water management, and the administration of the Department of Environmental Protections (DEP's) stormwater management program. The Florida DEP is also responsible for regulating public water systems in the State of Florida. This authority derives from Chapter 403, Part IV, Florida Statutes (FS), and by delegation of the federal program from the USEPA.

According to the USEPA, there is one Toxic Release to Water site near the airport. This site is located 1.5 miles north of the airport. Coordination with the South Florida Water Management District and the Florida Department of Environmental Protection will be required for implementation of various proposed improvements.

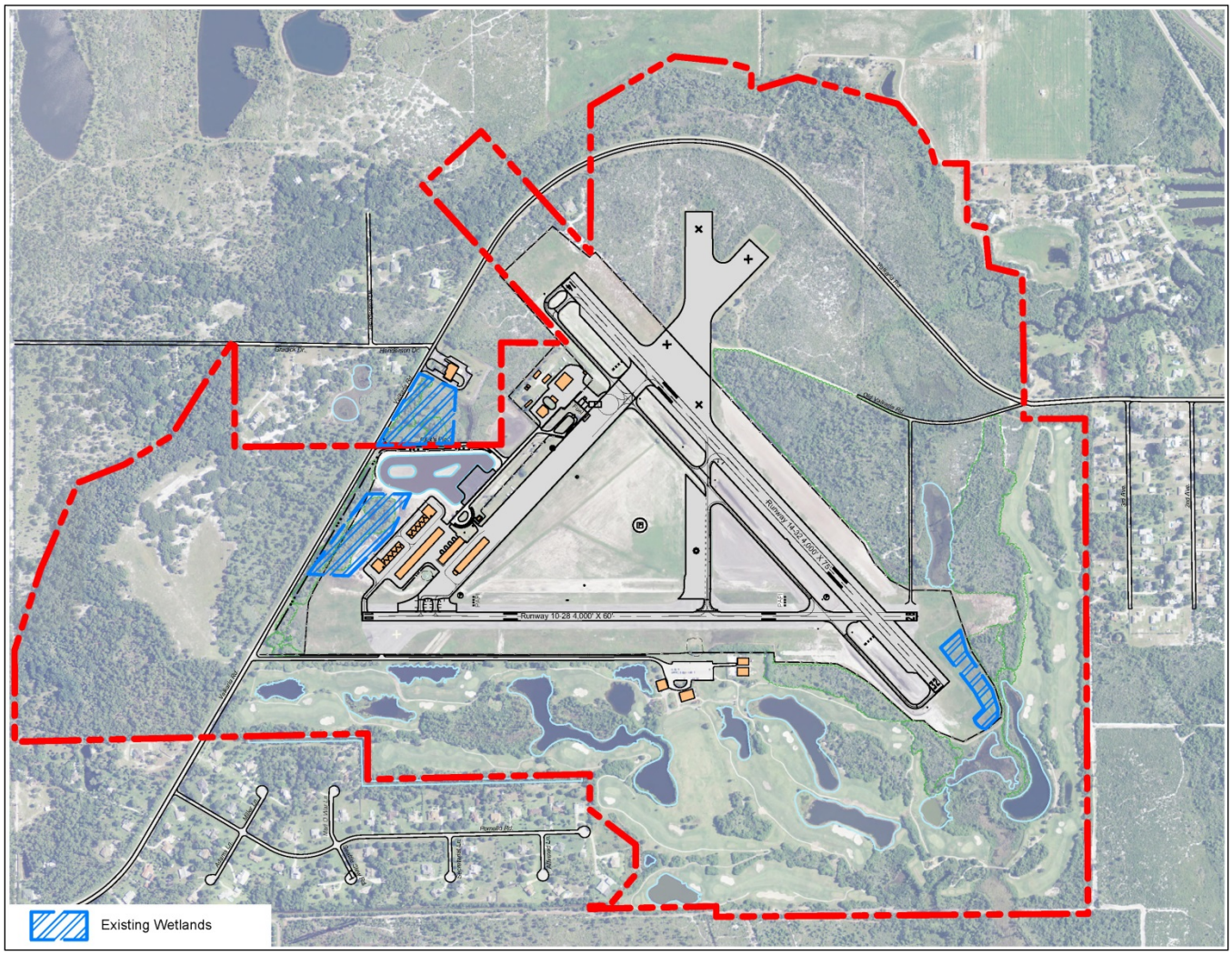
Long-term impacts of the projects would be limited to addition volumes of stormwater runoff due to increased areas of paved surface. The EPA considers this a non-point source pollution, because unlike point source pollution, it does not come from one

specific location; rather, it comes from a broad range of sources. Pollutants carried by this runoff can be discharged into canals, lakes, and other bodies of water with adverse environmental impacts. These increases will be accommodated through stormwater management planning which will include the development of additional stormwater management areas/ponds.

4.3.17 Wetlands

Evaluation of existing wetland conditions indicates three locations within the development envelope of the airport. The two wetlands to the west of the airport will be disturbed due to proposed future development. The wetland adjacent to the existing stormwater pond will be mitigated to develop an additional stormwater management area. The wetland west of T-hangar buildings D and E will require mitigation for the development of T-hangar F. Agencies with jurisdiction over the wetlands are the U.S. Army Corps of Engineers (USACE) and the Environmental Protection Agency at the federal level, as well as the Florida Department of Environmental Protection (FDEP) and the Southwest Florida Water Management District (SWFWMD) at the state level. **Figure 4.5** depicts the three wetland locations.

Figure 4.5 Wetlands Map



Source: Hanson Professional Services Inc., 2015

4.3.18 Wild and Scenic Rivers

The Wild and Scenic Rivers Act of 1968, as amended, describes those river segments designated as, or eligible to be included in, the Wild and Scenic Rivers System. In addition, the President's 1979 Environmental Message Directive on Wild and Scenic Rivers directs federal agencies to avoid or mitigate adverse effects on rivers identified in the Nationwide Rivers Inventory as having potential for designation under the Wild and Scenic Rivers Act. The State of Florida has two wild and scenic rivers: the Wekiva River and the Loxahatchee River. The Airport is 80 miles southeast of the Wekiva River and 76 miles north of the Loxahatchee River. Therefore this environmental category has no impact on the airport.

4.4 Alternative Analysis

4.4.1 Introduction

The following section describes the investigation, planning and technical analysis of viable airport development alternatives as identified in Chapter Three, *Facility Requirements* and illustrated in Table 6.3, *Valkeria Airport Capital Improvement Plan*. While the facility requirements identified the optimum desired airport improvements, it is this alternatives section that analyzes the financial, environmental and regulatory constraints.

In concert with the role of the Airport in Brevard County and the community input received through this Master Plan process, four rudimentary assumptions have been established, which are intended to guide the development of the alternatives for the Airport.

- Assumption One. The Airport will be planned, designed, constructed and operated in a manner that is consistent with local ordinances and codes, federal and state statutes, federal grant assurances and Federal Aviation Administration (FAA) guidelines.

- Assumption Two. The Airport will continue to serve as a facility that accommodates general aviation aircraft, flight training and a limited number of military operations.

- Assumption Three. The plan for the future airport landside development should strive to make the most efficient use of the available area for aviation-related activities. In addition, aviation use areas should be developed to be compatible with surrounding land uses. To the maximum extent possible, future facilities will be planned to enhance the compatibility of the operation of the Airport with the environs.

- Assumption Four. The Airport will accommodate aircraft operations with great reliability and safety. This indicates that the airport's runway system should be developed with instrument approach guidance (GPS) capabilities, runway length to accommodate the forecast operations and lighting to increase the safety of nighttime operations. To also improve the safety of nighttime operations, portions of the taxiway system should be enhanced with taxiway edge lights.

Accompanying these assumptions, this section identifies viable airport and economic development actions available to Brevard County (County) that will serve to provide needed airfield capacity, enhance airfield infrastructure and create a strategic airport development platform upon which the County can attain its airport development goals. As presented in the Capital Improvement Plan, Table 6.2, this section will categorize the projects into Short-term Development (years 2015-2019), Mid-term Development (years 2020-2024) and Long-term Development (years 2025-2034). The proposed projects will

additionally be subdivided into three categories Airfield Development, Taxiway Development and Hangar Development.

4.4.2 Short-term Development Projects

The development actions presented in this section represent projects programmed for fiscal years from 2015 through 2019. The projects which follow are not a conclusive list as supplied in the Capital Improvement Plan. The emphasis of this section remains on the analysis of significant runway, taxiway and hangar development alternatives, the rudimentary maintenance projects that appear in the Capital Improvement Plan, are not presented in depth in this analysis.

4.4.3 Short-term Airfield Alternatives

Because all other airport functions relate to and revolve around the runway layout, airfield development alternatives must first be carefully examined and evaluated. Specific airfield considerations for this Airport include runway strength, runway length, instrument approach capabilities, signage and lighting.

Alternative A – Rehabilitate Runway 14-32

Alternative A includes the design, rehabilitation, and upgrade in approaches to the existing primary Runway 14-32 to support future non-precision approaches to both runway ends. According to FAA Advisory Circular (AC) *Runway Length Requirements for Airport Design,* the objective of the primary runway is to provide a runway length for all airplanes that will regularly use it.

Runway 14-32 currently has a pavement strength of 12,500 pounds (single wheel) that is sufficient to support the future design aircraft, the Beech King Air B200, but it is in need of rehabilitation. This alternative proposes to rehabilitate the runway pavement condition in order to maximize the pavement lifecycle. Also, this alternative includes the upgrade to 20:1 non-precision (GPS) approaches to both runway ends and accompanying runway markings to denote the non-precision approach. Currently, the approaches to both runway ends of 14-32 are visual.

This alternative proposes few environmental concerns. First, the orientation of this runway results in minimum noise impacts to the surrounding communities. Second, the proposed pavement projects presented in this alternative will occur on existing airport pavement, areas that have been disturbed during past projects on the airfield.

The estimated cost of Alternative A is $1.6 million.

Alternative A-1 – No Action

Alternative A-1 proposes no action be taken to design, rehabilitate, and upgrade approaches to Runway 14-32. This alternative does not meet the needs of the Airport and its users or requirements by the FAA. FAA grant assurances necessitate airports that have received federal funds, to maintain airport conditions for use by the public. Alternative A-1 would not involve the rehabilitation of Runway 14-32 and will allow it to

continue to deteriorate beyond the present condition and will require more extensive reconstruction in the future in order for the runway to be useful and safe.

Alternative A-1 will require the County to expend greater funds in the future on a more extensive runway reconstruction and strengthening, as Runway 14-32 conditions continues to deteriorate. In addition, this alternative does not foster the development of the non-precision approach capability to accommodate the forecasted increase in instrument approaches, as presented in Chapter 2.

The immediate capital costs associated with Alternative A-1 – No Action, is zero. No environmental impacts are expected from this alternative.

Alternative B – Install Medium Intensity Runway Edge Lights to Runway 14-32

The second short-term airfield project Alternative B, comprises the installation of Medium Intensity Runway Edge Lights (MIRLs), supporting electrical vault and lighted signage. Currently, the airfield lighting at the Airport is limited to runway threshold lights. The installation of MIRLs and signage will enhance the safety of nighttime operations and prove beneficial particularly to the Brevard County's Mosquito Control (BCMC), as a majority of their flights are conducted during nighttime hours.

The environmental concerns associated with Alternative B include the effect of light emissions on nearby communities and electrical usage. To reduce the impact of light pollution on the community, the MIRLs will be installed with a pilot controlled circuit. Therefore, the MIRLs will only be lit when activated by a pilot and will automatically turn off eight to fifteen minutes after engagement. By installing the lights to be turned on only when engaged by a pilot not only reduces light emissions to nearby communities but also decreases electrical operating costs.

The capital costs associated with the installation of the MIRLs, accompanying lighted signage and construction of the electrical equipment is estimated at $740,000.

Alternative B-1 – No Action

Alternative B-1 proposes to not install MIRLs to Runway 14-32, supporting electrical equipment and accompanying lighted signage. This alternative will not increase the safety of nighttime or inclement weather operations.

The immediate capital costs associated with Alternative B-1 – No Action, is zero. No environmental impacts are expected from this alternative.

4.4.4 Short-term Taxiway Alternatives

The key role of an airport taxiway system is to provide safe and efficient aircraft movement between the runways and the landside facilities. A well planned taxiway and taxilane system will enhance safety by minimizing runway occupancy time and enhancing pilot spatial awareness on the airfield. The following section details short-term taxiway alternatives.

Alternative C – Light and Widen Taxiway A

Short-term taxiway development, Alternative C proposes to widen from 25 feet to 35 feet the full length of Taxiway A, serving Runway 14-32, redesign and construct new taxiway fillets and install taxiway lighting.

Taxiway A does not meet recently revised FAA taxiway design criteria as illustrated in FAA AC 150/5300-13A, page 124, Table 4-2 *Design standards based on Taxiway Design Group (TDG)*. The future critical aircraft, Beech King Air B200, is categorized by the FAA as a Taxiway Design Group (TDG) 2 aircraft. TDG 2 standards necessitate a 35 foot wide taxiway. Currently, Taxiway A is only 25 feet wide; therefore, not meeting the 35 foot wide design requirements of the future critical aircraft.

In addition, Taxiway A's intersection pavement fillets do not meet FAA TDG 2 fillet criteria. Alternative C proposes the redesign and construction of these fillets. As part of Alternative C, the installation of full length taxiway lights is also proposed to increase the safety of nighttime operations utilizing the primary runway-Runway 14-32. Taxiway A in its current condition will not meet the forecasted need or improve safety.

The environmental consideration associated with Alternative C includes water quality. The construction of an additional ten feet of pavement to the taxiway width and an increase in pavement for the fillets will add impervious surfaces to the airfield and may result in an increase in stormwater runoff. During the design phase of the project, additional stormwater locations will be identified, preserved and metered.

The capital costs associated with Alternative C is estimated at $1.1 million.

Alternative C-1 – No Action

Alternative C-1 proposes no action be taken to widen or light Taxiway A. This alternative does not meet the needs of the future critical aircraft or FAA's design requirement of a 35 foot wide taxiway for TDG 2 aircraft. In addition, the safety of nighttime operations will not be increased without the installation of lights. Alternative C-1 has zero capital costs and no environmental impacts are expected.

Alternative D – Design and Construct Taxiway D South of Runway 10-28

Short-term taxiway development Alternative D, recommends the first phase of construction of a 35 foot wide Taxiway D. This alternative proposes construction of a parallel taxiway south of Runway 10-28 beginning at Taxiway A and terminating at the future itinerate aircraft parking apron. Taxiway D is proposed to be designed to TDG 2 standards; therefore, enabling aircraft utilizing Runway 14-32 access to the apron adjacent to the golf course.

This short-term phase of Taxiway D would provide connectivity to the future south apron and existing golf course clubhouse and allow for further expansion of the south apron, in the event future demand warrants additional landside development. A part of this

alternative, the golf course parking barn and maintenance building, labeled 17 and 18 on the Future Airport Layout Drawing (FALD) will be relocated.

The environmental concerns associated with Alternative D include the increase in stormwater runoff due to the expansion to impervious surfaces on the airfield. A conclusive environmental assessment will be conducted in order to completely examine the environmental consequences associated with this alternative and an issuance of a Finding of No Significant Impacts (FONSI) must occur prior to construction authorization.

The capital costs associated with the short-term taxiway development, Alternative D, is estimated at $1.143 million.

Mid-term development plans of this taxiway will ultimately connect it to Runway End 10 and provide a connector to existing Taxiway B, refer to FALD in Appendix C.

Alternative D-1 – Design and Construct Taxiway D North of Runway 10-28

A future Taxiway D layout north of Runway 10-28 was considered as Alternative D-1. This alternative examined the construction of future Taxiway D north of and parallel to Runway 10-28, connecting at existing Taxiway A, joining to Taxiway B and ultimately ending at future Taxiway C. This alternative does not permit additional hangar development with access to this taxiway, due to the restrictions of the Runway Visibility Zone. In addition, the facilities located or proposed to be located in the infield including the AWOS, windcone and segmented circle, would have to be repositioned.

The environmental concerns associated with Alternative D-1 equal that of Alternative D. Stormwater runoff due to the expansion to impervious surfaces on the airfield is a concern in both alternatives. The estimated cost of this alternative is $1.143 million.

Alternative D-2 – No Action

Alternative D-2 proposes not to construct Taxiway D. This alternative does not foster the economic potential of a pilot able to fly into the Airport, taxi on future Taxiway D to the apron adjacent to the golf course clubhouse, tie down the aircraft and walk to the first hole. The disadvantages of this alternative include the potential loss of revenue, inability to expand the south side of the airfield and reduced airport connectivity and efficiency. No environmental impacts are expected from this No Action alternative and the construction cost of this project is zero.

4.4.5 Short-term Hangar Alternatives

In order to support the unique demand at the Airport in conjunction with the growth characteristics of Florida, as described in detail in Chapter 2, hangar locations were studied. The section that follows details short-term hangar alternatives to meet the immediate request from potential customers on the hangar waiting list. Short-term developments are projected to occur in the years from 2015 through 2019.

Alternative E – Construct Hangar F and access taxiway on the South-West side of Airfield

A future 20 unit T-hangar (two end units would be box hangars that could contain two aircraft each) positioned on the south-west side of the airfield was considered as Alternative E. This hangar, labeled F1 on the FALD, requires minimal infrastructure development prior to erecting due to its proximity to existing Taxiway D and the existing apron area; therefore, creating two access routes. At this location, the 20 unit T-hangar unit can be erected in a timely manner as compared to the Alternative E-1 site.

The foremost environmental concern with Alternative E is wetlands, approximately .16 amount of wetland acres will have to be delineated prior to construction. This alternative will require wetland mitigation up to 15 times the area (2.4 acres) to satisfy the U.S. Army Corp of Engineers and the St. Johns River Water District requirements.

The capital costs (not including wetland delineation) associated with Alternative E is estimated at $1.95 million.

Alternative E-1 – Construct Hangar F and access taxiway on the North-West side of Airfield

Another site for the short-term development of a 20 unit T-hangar was considered. Alternative E-1 presents the option of constructing a 20 unit T-hangar on the north-east side of the airfield, adjacent to Runway End 14. In order for this location to be a viable option, future Taxiway F1, Taxiway F, Taxiway F2 and Taxiway A3 must be constructed to create an access route from Runway 14-32 and the existing apron/terminal area to the new T-hangar development.

In addition, the existing pavement in this location that was previously used as a runway will require complete removal. In its current condition the pavement in this area is unusable as an apron area or base for T-hangar construction. This alternative is not suitable in the short-term. The Airport has an immediate demand for additional hangar space and this location would require the mid to long-term phasing of infrastructure development.

Alternative E-2 – No Action

Alternative E-2 proposes no action be taken to meet the needs of the aircraft owners on the waiting list for hangar space. Although this option has no environmental concerns and a capital cost of zero it does not provide the airport with sufficient hangar infrastructure to accommodate the 62 potential customers on the T-hangar waiting list and an additional 30 potential customers on the large box hangar waiting list.

4.4.6 Mid-term Hangar Alternatives

The actions presented in this section represent projects spotlighted for development during the fiscal years from 2020 through 2024.

Alternative F – Construct North Hangar Complex

Alternative F presents the alternative of constructing four 20 unit T-hangars on the north-east side of the airfield, adjacent to Runway End 14. This would be a phased project due to the amount of taxiway, apron and taxilane infrastructure needed to make it economically feasible. In order for this location to be accessible future Taxiway F1, Taxiway F, Taxiway F2 and Taxiway A3 must be constructed to create an access route from Runway 14-32 and the existing apron/terminal area.

In addition, the existing pavement in this location that was previously used as a runway will require complete removal. In its current condition this pavement is unusable as an apron area or base for T-hangar construction. This alternative is not suitable in the short-term; however, as funds become available it is a practical option for mid-term development.

In addition to phasing the support infrastructure, the T-hangar units may also be phased. At the present time, the Airport has an immediate demand for additional hangar space and this location would require a mid to long-term phasing of infrastructure development.

The environmental consideration associated with Alternative F includes water quality. The construction of additional apron pavement and taxiway will add impervious surfaces to the airfield and may result in an increase in stormwater runoff. During the design phase of the project, additional stormwater locations will be identified, preserved and metered. On the FALD, a future stormwater management area has been spotlighted. The total capital costs associated with Alternative F is approximately $4.1 million. This cost estimate includes the design and permitting and the construction of hangars G-J (as shown on the FALD), tie down area and access Taxiway F.

Alternative F-1 – No Action

Alternative F-1 proposes no action be taken to meet the needs of the aircraft owners on the waiting list for hangar space. Although this option has no environmental concerns and a zero capital cost it does not provide the airport with sufficient hangar infrastructure to accommodate the 62 potential customers on the T-hangar waiting list and an additional 30 potential customers on the large box hangar waiting list.

4.4.7 Long-term Airfield Alternatives

The development actions presented in this section represent airfield projects spotlighted for development during the fiscal years from 2025 through 2034.

A runway length analysis was conducted in accordance with FAA AC 150/5325-4C, *Runway Length Requirements for Airport Design*. Based on the performance characteristics of the Beech King Air B200, the airport elevation of 26 feet and a mean daily maximum temperature of 90.5 degrees, a runway length of 4,250 feet is recommended. The following section analyzes alternatives to meet the runway length requirement.

Options to provide the required runway improvements were limited due to the primary runway environment and property constraints. Three general options to extend Runway 14-32 were considered. Each option attempted to achieve a runway length of 4,250 feet with the required taxiway improvements. These options incorporated the appropriate safety criteria of the Runway Safety Area (RSA), Runway Object Free Area (ROFA) and the Runway Protection Zone (RPZ).

Alternative G – Extend Runway 14-32 250 feet to the Southeast

Alternative G proposes that 250 feet of pavement be added to Runway End 32 to meet the 4,250 feet required length. In this scenario, the RSA and the ROFA will remain on airport owned land and will meet all FAA requirements for these surfaces. All the land within the RPZ, expect approximately one acre, is already owned and controlled by the Airport. In this alternative, an avigation easement of approximately one acre will be acquired to maintain control over land use and protect the airspace.

Alternative G-1 – Extend Runway 14-32 250 feet to the Northwest

The option to extend Runway 14-32 250 feet to the northwest (extending Runway End 14) was considered as Alternative G-1. The ability to extend the runway in this direction is limited by the airport boundary and Valkaria Road. If Runway End 14 were extended 250 feet, the required RSA and ROFA would extend into Valkaria Road. Similarly, this alternative would require the purchase of additional airport property to maintain control of the land use within the RPZ. While land to the northwest might be acquired it would have significant impacts on the community, due to the FAA prerequisite to relocate Valkaria Road outside the RPZ. Due to these significant negative community impacts, no further financial or environmental review was conducted.

Alternative G-2 – Extend Runway 14-32 250 feet to the Northwest and Southeast

A split extension was considered as Alternative G-2. Essentially, this alternative would extend a portion of Runway 14-32 to the northwest and a portion to the southeast. This option would not eliminate the impacts associated with the extension of Runway End 14; therefore, no further environmental or financial review of this alternative was undertaken.

5 Airport Layout Plan

5.1 Preferred Development Plan

The preferred development plan has been refined from the various alternatives following extensive discussion with Airport management staff and the public. The consultant believes that these recommended alternatives reflect an appropriate balance between safety, meeting the anticipated demand, and preservation of the environment as well as the sense of community that is apparent at this airport. Implementation of this master plan update will result in the healthy growth of this small, safe and financially solvent airport that the entire community will appreciate.

An FAA approved Airport Layout Plan (ALP) is required for Valkaria Airport to receive financial assistance under the terms of the Airport and Airway Improvement Act of 1982 (AIP). The ALP graphically depicts existing and future airport facilities. See Appendix C for the ALP sheets.

5.2 Runways

The existing runway configuration of 14-32 and 10-28 will be maintained to provide the Airport with complete wind coverage and to meet the anticipated demand. Runway 14-32, the primary runway, will be rehabilitated to FAA *B-II Small Aircraft* design criteria. Projects related to the rehabilitation will include pavement to a width of 75 feet, runway edge lights, signage, an electrical vault, marking to standards for a non-precision approach and an approach survey. In addition, the long-term plan is to extend this runway to a length of 4,250 feet as operations by the B200 increase. Runway 10-28 will continue to be operated and maintained to B-I design criteria.

5.3 Taxiways

A major point of emphasis for this master plan has been to present a taxiway system that increases safety and where practical provides non-conflicting movement to all runway ends. The following taxiways are recommended:

- Taxiway A, the parallel taxiway serving Runway 14-32, is to be widened to comply with FAA design standards. Lights will be added in conjunction with the runway lighting project as well.
- Taxiway/taxilane C, serving the existing apron, will be upgraded to a taxiway to accommodate aircraft movement in the area adjacent to the new Airport administration/pilot services building and the fueling apron as well as to meet FAA's new taxiway configuration standards.
- A parallel taxiway will be constructed to serve runway 10-28 and itinerant aircraft accessing the golf course complex of buildings.
- A short parallel taxiway (E) will be constructed to serve the west hangar complex and to comply with FAA taxiway configuration standards. This taxiway is identified as part of the construction of T-hangar F.

- In response to the development of the north hangar complex (see hangars) a taxiway (F) will be constructed parallel to Runway 14-32 to provide direct access to Runway Ends 14 and 28.

Where practical, new or reconstructed taxiways will be designed to Airplane Design Group II (ADG-II) and Taxiway Design Group 2 (TDG-2) standards to allow unrestricted movement to each runway end.

5.4 Airfield Marking, Signage and Lighting

Proper airfield marking, signage and lighting are critical components to safe and efficient airport operations. The Airport has recently installed signs to enhance pilot spatial awareness. These signs will require lighting in conjunction with the installation of runway edge lights. Typically runway rehabilitation projects include lighting, updating signs and marking however these items are listed in the Capital Improvement Plan (CIP) as individual line items to identify element costs and to recognize that budget constraints may require project phasing.

5.5 Aprons

Aircraft aprons are areas that provide aircraft parking, fueling, access to a terminal and ground transportation, as well as other aviation support facilities. The primary apron, between Hangar A and fueling apron, will be expanded to accommodate itinerant traffic and parking in front of the new administrative/pilot services building. Expansion of the apron, to include a flow-through Taxiway C, will allow ‘drive-through’ parking thereby eliminating the need to ground handle (tug) aircraft. The long-term plan anticipates that this apron will ultimately not have the capacity to accommodate based aircraft. A new apron for based aircraft tie-downs has been located in the north hangar complex.

5.6 Golf Course Apron

Consistent with the 2006 Master Plan an airplane parking apron is located to serve itinerant aircraft desiring access to the existing golf course. It is anticipated that this apron will be constructed in conjunction with phase 1 of the Taxiway D project.

5.7 Helicopter Pads

Helicopters (rotorcraft) represent approximately 5% of total based aircraft and contribute up to 3% of the total operations. In response to this activity a helicopter parking pad has been designated east of the intersection of Taxiways A and C. The other facility for helicopters is a servicing pad adjacent to the BCMC complex. .

5.8 Fueling Apron

Although the fuel storage volume is sufficient to serve the airport throughout the planning period some alterations and additions are recommended. The development of the north hangar complex will facilitate the addition of a small (not more than 10,000 gallon) self-service fueling station incorporated into that apron.

5.9 Emergency Response Access Road

An emergency access road will be constructed linking the Brevard County Fire Rescue Station 87 directly to Taxiway A. This road will provide a dedicated road for emergency vehicle access to the airfield.

5.10 Aircraft Hangars

This master plan anticipates a requirement for up to 97 additional hangars to meet the forecast demand. The existing west side hangar complex has room for one additional T-hangar with a capacity of up to 24 aircraft. Additional hangars are to be constructed north of Runway 14-32 at a location that provides sufficient land to accommodate hangar development well beyond the 20-year period covered by this master plan. Each of the hangar buildings depicted on the ALP will accommodate 18-20 aircraft depending on the size of the box hangars constructed at the ends of each building. The CIP anticipates Hangar F will be constructed during the first 5 year period with Hangars G thru J following in the 10 and 20-year periods. In addition, box hangars are identified to satisfy anticipated demand for hangars capable of accommodating multiple aircraft. A box hangar has been identified to serve the administration/pilot services building and the itinerant operations. Box hangars to satisfy based aircraft demand are identified at the ends of the T-hangar buildings. Hangar construction is demand driven with the construction of each hangar only when construction will provide the desired hangar occupancy rate.

6 Facility Improvement Plan

6.1 Financial Analysis and Capital Improvement Program

The Capital Improvement Plan is presented in three implementation phases consistent with the master plan forecast periods: short-term (2015-2019); mid-term (2020-2024); and, long-term (2025-2034). The development projects most important to correcting existing safety and standard deficiencies are placed at the top of the list as highest priority. This CIP project list is not intended to be all inclusive. Airport management staff will retain the flexibility to adjust project priority and to add or delete projects as demand and priorities change.

Capital funding costs for the entire 20-year development plan are estimated to be $28,234,300 in 2015 dollars (Table 6.1). Development projects that may be undertaken using private funds, and therefore not requiring Airport financial support, have not been included in this total. Concurrent with the CIP the Airport must continue to fund an Operating and Maintenance (O&M) budget with sufficient monies to properly maintain new and existing facilities.

Table 6.1 Summary of Development Costs (2015 Dollars)

Planning Period	Cost Estimate	Airport Portion [1]
Short Term 2015 - 2019	$9,402,000	$1,028,080
Mid Term 2020 - 2024	$12,512,300	$2,043,460
Long Term 2025 - 2034	$6,320,000	$544,000
Total Planning Period	**$28,234,300**	**$3,615,540**

[1] Airport (Local) funding is estimated assuming current 2% and/or 20% share remains unchanged

6.2 Capital Funding Sources

Securing state and federal funding requires close ongoing coordination with FDOT District Five and FAA's Orlando Airport District Office (ADO). Grants from FDOT and the FAA are contractual agreements that carry with them specific obligations and requirements. These grants are also typically limited to capital projects needed for safety, economic viability, environmental mitigation and/or capacity. Funds required for the operation and maintenance are normally the airport owner's responsibility. The funding distribution between federal, state and local shares in this CIP is based upon current (2015) FAA and FDOT programs.

6.2.1 The Airport

Airport revenues at general aviation airports similar in size to Valkaria are generated from a variety of user fees from sources such as: hangar leases; tie-down fees, both for based and itinerant parking; fuel sales; sales of pilot supplies and services; land leases from second party business enterprises; and, miscellaneous fees from special events and activities.

The preferred source of local funds for capital investment is from the Airport's retained earnings. These are revenues in excess of the operating cost and may be accumulated over multiple years a capital" account. Currently the Airport (Local) share for federal grant projects is 2% and 20% for projects that are funded by FDOT grants with no federal participation.

6.2.2 State Funds

Public airports in Florida are eligible for two types of state capital funding assistance for CIP development projects, state only funding and state participation in federal grants. For aeronautical planning and construction projects that are not part of the FAA Airport Improvement Program (AIP) FDOT may provide up to 80% funding leaving the local share responsibility of 20%. FDOT grants are also available for airport economic development carrying a 50% state/local share. FDOT currently participates with 8% of costs for those projects funded using FAA AIP program funds.

During Florida Fiscal Years (FY) 2010 through 2015, FDOT funding for the Airport's CIP projects without federal participation totaled $3,038,927 with an Airport match of $747,232. All local matching funds were derived from Airport revenue; no county general funds were used.

6.2.3 Federal Funds

As a participating airport in the National Plan of Integrated Airport Systems (NPIAS), the Airport is eligible for two categories of funding under the current AIP. The first is the *Non-Primary General Aviation Airport Entitlement* which provides up to $150,000 per year to general aviation airports that apply for approved projects. Valkaria Airport began receiving these funds in 2008 and has used this funding source each year since. The second source of FAA funding is the *discretionary* portion of the annual AIP program. Discretionary grants may be awarded in addition to entitlement funds. Competition for these funds is high and distribution is based on regional and national priorities.

Between 2010 and 2014 the Airport applied for and received $7,594,329.00 in federal grants from the Entitlement and Discretionary programs. See Table 6.2 below for a list of the seven grants received. These FAA funds were combined with $675,051.00 state contributing funds and $168,763.00 in local money resulting in a facilities investment of $8,438,143.00 in the five year period.

Table 6.2 Summary of AIP Grants Received 2010-2014

Grant Number-Year	Project Description	Federal Dollars
001-2010	Rehabilitate Runway and install PAPI system	$122,697.00
002-2010	Construct Taxiway and install PAPI system	$161,556.00
003-2011	Rehabilitate Taxiway and Apron	$105,013.00
004-2011	Construct Taxiway and Rehabilitate Taxiway and Apron	$3,243,719.00
005-2012	Construct Taxiway and Rehabilitate Runway	$2,044,615.00
006-2013	Rehabilitate Runway and Conduct Wildlife Assessment	$1,766,758.00
007-2014	Update Airport Master Plan	$149,971.00
	Total FAA Grants 2010-2014	**$7,594,329.00**

Source: FAA Orlando Airport District Office 2015

Combined, the five year (FY2010-2014) federal, state and airport investment in airport infrastructure totaled $12,224,302.00

6.3 Short-Term CIP 2015-2019

The short-term development program is heavily weighted toward the two primary airport priorities, improving safety and serving the local and itinerant pilot community. The immediate projects center on the rehabilitation of the pavement and lighting of Runway 14-32 and the construction of the administration/pilot services building. This is a recommended project list. The Airport will retain the flexibility to adjust project priority and to add or delete projects as demand and priorities change.

Major elements of the first short-term 5 year plan are:

- Design, permit and construct administration and pilot services building
- Design and rehabilitate Runway 14-32 pavement and conduct approach surveys
- Design and construct Runway 14-32 edge lights, signage and electrical vault equipment
- Design and construct T-Hangar F and Taxiway E access.
- Widen and light Taxiway A
- Design and construct helicopter parking and servicing pads
- Midfield apron pavement sealcoat
- Land acquisition and avigation easements for Fire/Rescue road and approach protection
- Design and construct south parallel Taxiway D phase 1

6.4 Mid-Term CIP 2020-2024

The mid-term phase of the development plan focuses on addressing the anticipated needs of a growing based aircraft fleet, safety and environmental projects. Major program elements are:

- Improvements to itinerant aircraft apron and Taxiway C
- Design and construction of Fire/Rescue access road

- Design and construct stormwater management system expansion
- Design and construct Taxiway D – south parallel phase II
- Design and construct T-Hangars G, H & I, tie-down and access taxiway
- Install perimeter wildlife/security fence and road

6.5 Long-Term CIP 2025-2034

The long-term development plan includes the assumption that additional hangar space will be needed to satisfy based aircraft demand, the extension of the primary runway to meet operational needs of the design aircraft and airfield pavement rehabilitation and remarking. Major elements include:

- Design and construct T-Hangar J and expand tie-down facility
- Extend Runway 14-32 250 feet.
- Rehabilitate and re-marking airfield pavement as necessary
- Acquire fuel truck
- Expand auto parking

Table 6.3 is a list of anticipated individual projects that will be undertaken to respond to the forecast aviation demand and to make necessary facility improvements. The project estimates are based upon current (2015) construction costs and are not adjusted for price increases in future years. In addition the distribution of funding responsibility between FAA, FDOT and local funding is expected to continue at present levels.

Table 6.3 Valkaria Airport Capital Improvement Plan 2015-2034

SHORT TERM DEVELOPMENT: 2015 – 2019					
Projects	**Estimated Cost**	**Eligible Funding by Source**			
		Federal	**State**	**Local**	**Private**
Design and Permit Administration and Pilot Service Building, Vehicle and Aircraft Parking	$ 150,000	$ -	$ 120,000	$ 30,000	$ -
Design and Permit Hangar F and Access Taxiway	$ 150,000	$ -	$ 120,000	$ 30,000	$ -
Upgrade Existing Fuel Farm	$ 120,000	$ -	$ 96,000	$ 24,000	$ -
Construct Administration and Pilot Service Building, Vehicle and Aircraft Parking	$ 1,600,000	$ -	$ 1,280,000	$ 320,000	$ -
Design and Rehabilitate Runway 14/32 Pavement	$ 1,581,000	$ 1,422,900	$ 126,480	$ 31,620	$ -
Design and Construct Runway 14/32 Edge Lights, Signage, and Vault Equipment	$ 740,000	$ 666,000	$ 59,200	$ 14,800	$ -
Conduct FAA Approach Survey	$ 160,000	$ 144,000	$ 12,800	$ 3,200	$ -
Construct Hangar F and Access Taxiway	$ 1,950,000	$ -	$ 1,560,000	$ 390,000	$ -
Install New Automatic Weather Reporting System (AWOS)	$ 250,000	$ -	$ 200,000	$ 50,000	$ -
Widen and Light Taxiway “A”	$ 1,100,000	$ 990,000	$ 88,000	$ 22,000	$ -
Design and Construct Helicopter Parking Area and Upgrade Helicopter Service Area	$ 100,000	$ 90,000	$ 8,000	$ 2,000	$ -
Acquisition of Land and Avigation Easements (Appraisal and Survey)	$ 55,000	$ -	$ 44,000	$ 11,000	$ -
Conduct Property Metes & Bounds Survey – FAA Exhibit A	$ 98,000	$ -	$ 78,400	$ 19,600	$ -
Construct Ground Service Equipment Storage Facility	$ 20,000	$ -	$ 16,000	$ 4,000	$ -

Table 6.3 Valkaria Airport Capital Improvement Plan (continued)

SHORT TERM DEVELOPMENT: 2015 – 2019					
Projects	**Estimated Cost**	**Eligible Funding by Source**			
		Federal	**State**	**Local**	**Private**
Security Improvements	$ 75,000	$ -	$ 60,000	$ 15,000	$ -
Design and Construct South Parallel Taxiway Phase 1	$ 1,143,000	$ 1,028,700	$ 91,440	$ 22,860	$ -
Develop Solar Farm (Privately Funded; Airport Land Lease)	$ -	$ -	$ -	$ -	$ 1,000,000
Midfield Apron Rehabilitation (Sealcoat)	$ 50,000	$ -	$ 40,000	$ 10,000	$ -
Skyman Park Rehabilitation	$ 20,000	$ -	$ -	$ 20,000	$ -
Airport Operations Vehicle	$ 40,000	$ -	$ 32,000	$ 8,000	$ -
Total	**$ 9,402,000**	**$ 4,341,600**	**$ 4,032,320**	**$ 1,028,080**	**$ 1,000,000**
MID TERM DEVELOPMENT: 2020 – 2024					
Projects	**Estimated Cost**	**Eligible Funding by Source**			
		Federal	**State**	**Local**	**Private**
Administration Building Area Improvements, Taxiway C and Apron Expansion	$ 1,350,000	$ 1,215,000	$ 108,000	$ 27,000	$ -
Design and Construct Fire Department Access Road	$ 315,500	$ -	$ 252,400	$ 63,100	$ -
Design, Permit and Construct Hangars G & H, Tie-down Area, and Access Taxiway	$ 4,104,000	$ -	$ 3,283,200	$ 820,800	$ -
Construct North Stormwater Management Facility	$ 342,800	$ -	$ 274,240	$ 68,560	$ -
Design and Construct T-Hangar I	$ 1,800,000	$ -	$ 1,440,000	$ 360,000	$ -
Design and Construct Box Hangar 1	$ 500,000	$ -	$ 400,000	$ 100,000	$ -
Upgrade Airfield Signs	$ 300,000	$ -	$ 240,000	$ 60,000	$ -
Fuel Farm - North Complex	$ 250,000	$ -	$ 200,000	$ 50,000	$ -
Master Plan Update	$ 200,000	$ 180,000	$ 16,000	$ 4,000	$ -
Design and Construct South Parallel Taxiway/Apron Phase II	$ 1,700,000	$ -	$ 1,360,000	$ 340,000	$ -
Airfield Marking Update	$ 100,000	$ 90,000	$ 8,000	$ 2,000	$ -
Security Enhancements	$ 150,000	$ -	$ 120,000	$ 30,000	$ -
Install Airfield Perimeter Wildlife Fencing	$ 900,000	$ 810,000	$ 72,000	$ 18,000	$ -
FBO Hangar and Apron (Privately Funded; Airport Land Lease)	TBD	$ -	$ -	$ -	TBD
Pave North Development Access Road and Parking	$ 500,000	$ -	$ 400,000	$ 100,000	$ -
Total	**$ 12,512,300**	**$ 2,295,000**	**$ 8,173,840**	**$ 2,043,460**	
LONG TERM DEVELOPMENT: 2025 – 2034					
Projects	**Estimated Cost**	**Eligible Funding by Source**			
		Federal	**State**	**Local**	**Private**
Design and Construct T-Hangar J	$ 1,900,000	$ -	$ 1,520,000	$ 380,000	$ -
Extend Runway 14-32 250'	$ 1,500,000	$ 1,350,000	$ 120,000	$ 30,000	$ -
Airfield Pavement Rehabilitation and Re-marking	$ 2,500,000	$ 2,250,000	$ 200,000	$ 50,000	$ -
Fuel Truck	$ 70,000	$ -	$ 56,000	$ 14,000	$ -
Auto Parking Lot Expansion	$ 350,000	$ -	$ 280,000	$ 70,000	$ -
Total	**$ 6,320,000**	**$ 3,600,000**	**$ 2,176,000**	**$ 544,000**	

6.6 Financial Feasibility

The CIP is a product of careful and interactive review of airport needs and goals balanced against reasonable expectations of funding. Although undergoing redevelopment during the past five years the Airport has established a solid predictable revenue stream and a budget that consistently meets the Operating and Maintenance (O&M) requirements while leaving sufficient funds to cover the local share necessary for the Capital Program.

If the CIP is implemented as planned, all indications are that the Airport will be able to fully fund near and long term development with modest short term debt that can be serviced by the growing revenue. Implementation of this CIP will allow the airport to meet safety and maintenance standards expected of a modern airport, give it the capacity it needs to serve the based aircraft and operations demand and to provide economic stimulation to the local community in the form of sales and property taxes and employment.

6.6.1 Historic Operating Revenue-Expense Differentials

During the period 2010 through 2014 the Airport made significant improvements to the airfield infrastructure and developed new hangars to begin to meet the demand for additional based aircraft. The resulting increase in based aircraft and fuel sales has resulted in a thirty-five percent (35%) increase in operating revenue. Although, at the same time O&M expenses have grown this growth has been more modest due to reductions in the cost of maintaining a newer facility.

Table 6.4 reveals that during the previous five budget years the Airport has experienced a positive financial differential of nearly one million dollars ($954,596). Although the financial differential for each individual year can be affected by carryover of grant payments and outlays that cross fiscal years, the overall trend is positive.

Table 6.4 Historic Operating Revenue-Expense Differentials

Category	2010	2011	2012	2013	2014
Revenue	$646,693	$867,758	$3,035,758	$4,852,319	$3,920,120
Expense	$548,763	$674,055	$3,029,012	$5,114,199	$3,002,023
Differential	**$97,930**	**$193,703**	**$6,746**	**($261,880)**	**$918,097**

6.6.2 Projected Operating Revenue

The Airport has developed a solid foundation and potential for operating revenue growth during the two decades covered by this Capital Program. The majority of this anticipated growth in revenue will be generated by the construction of additional hangars to accommodate the anticipated demand. Of course the capital outlay for new hangars will only be made at a time when occupancy is assured. Modest growth in revenue is

anticipated from additional fuel sales, leases from the golf course and other leased space.

Rates and charges for the existing and future facilities and services provided by the airport will be determined in a manner consistent with FAA requirements and grant obligations. Rates for hangar space for example have been set by a determination of Fair Market Value and increases are tied annually to the Consumer Price Index (CPI).

The projections in **Table 6.5** assume, for planning purposes, a conservative 2 percent annual growth rate in charges and a 1 percent increase in fuel sales. Revenues are adjusted upward to account for the completion of T-Hangar F in 2017.

Table 6.5 Projected Near-Term Primary Operating Revenue

Category	2014	2015	2016	2017	2018	2019
Leases:						
Habitat Golf Course	$81,363	$82,990	$84,650	$86,343	$88,070	$89,831
Brevard Mosquito Control	$40,598	$41,410	$42,238	$43,083	$43,945	$44,824
Rents:						
Hangar and Tie-downs	$204,237	$208,321	$212,487	$216,736	$294,974	$300,854
Sales:						
Aviation Fuels	$268,185	$270,867	$273,576	$276,311	$279,074	$281,865
Revenue	**$594,383**	**$603,588**	**$612,951**	**$622,473**	**$706,063**	**$717,374**

Note: Based on 2014 Revenue and dollars. 2015-2019 are revenue projections.

6.6.3 Projected Operating Expenses

Table 6.6 provides the projected operating expenses for the period 2015-2019, the short-term planning period. Fiscal year 2014 was used for the base. An annual growth rate in operating expenses of 3 percent is anticipated for the established costs. The Maintenance budget was increased by $2,000 in 2018 and 2019 to account for the addition of T-Hangar F. In addition the fuel purchase line item was increased one percent per year consistent with the revenue line for fuel to keep a consistent differential and mark-up.

Table 6.6 Projected Operating Expenses

Category	2014	2015	2016	2017	2018	2019
Salaries/Wages/Benefits	$116,905	$114,953	$118,402	$121,954	$125,613	$129,381
Contracted Services	$8,216	$8,463	$8,717	$8,979	$9,248	$9,525
Utilities	$11,772	$12,125	$12,489	$12,864	$13,250	$13,648
Communications	$1,700	$1,751	$1,804	$1,858	$1,914	$1,971
Insurance	$12,800	$13,184	$13,580	$13,987	$14,407	$14,839
Travel	$1,550	$1,597	$1,645	$1,694	$1,745	$1,798
Maintenance	$13,426	$13,829	$14,244	$14,671	$17,111	$17,564
Other Operating Exps	$28,610	$29,468	$30,352	$31,263	$32,200	$33,166
Fuel Purchase	$232,082	$234,403	$236,747	$239,114	$241,505	$243,920
Operating Expenses	**$427,061**	**$429,773**	**$437,980**	**$446,384**	**$456,993**	**$465,812**

Note: Base year 2014 actual expenses. Forecast expenses assume 3% per year. Fuel, 1% per year.

6.6.4 Projected Near-Term Differentials

The most important indicator of the affordability of a CIP is the projection of net annual operating cash flow. Projections from Tables 6.5 and 6.6 indicate a positive operating cash flow sufficient to accommodate the projected projects as summarized on Table 6.7.

Table 6.7 Projected Near-Term Operating Differential

Category	2014	2015	2016	2017	2018	2019
Revenue	$594,383	$603,588	$612,951	$622,473	$706,063	$717,374
Expense	$427,061	$429,773	$437,980	$446,384	$456,993	$465,812
Differential	**$167,322**	**$173,815**	**$174,971**	**$176,089**	**$249,070**	**$251,562**

6.6.5 Summary of Capital Improvement Program Feasibility

The CIP is a product of careful and interactive review of airport needs and goals balanced against reasonable expectations of funding. Although small and undergoing redevelopment, Valkaria Airport has a solid revenue stream and a reasonable budget. Based on the growth the previous 5-6 years, and is expected to occur in the future, this airport has the potential to generate substantial revenue.

If the CIP is implemented as planned, all indications are that the Airport will be able to fully fund near and long term development with modest short term debt that can be serviced by the growing revenue. Implementation of this CIP will allow the airport to meet safety and maintenance standards expected of a modern airport, give it the capacity it needs to serve the based aircraft and operations demand and provide economic stimulation to the local community in the form of sales and property taxes and employment.

6.7 Postscript

This Draft MPU and the associated Airport Layout Plan was presented and approved by the Brevard County Board of Commissioners on May 26, 2015. Additionally, public outreach/information meetings were held during the study process on February 25, 2015 and on March 26, 2015. Materials from these meetings are included in this report as Appendix D.

Appendix A

FAA Forecast Approval Letter

U.S. Department
of Transportation
**Federal Aviation
Administration**

ORLANDO AIRPORTS DISTRICT OFFICE
5950 Hazeltine National Dr., Suite 400
Orlando, Florida 32822-5003
Phone: (407) 812-6331 Fax: (407) 812-6978

February 2, 2015

Mr. Stephen Borowski
Director of Aviation
Valkaria Airport
2865 Greenbrooke Street
Valkaria, FL 32950

Dear Mr. Borowski;

RE: Valkaria Airport; Valkaria, Florida
AIP Number 3-12-0144-007-2014
Approval of Airport Forecasts for Airport Master Plan Update

This letter responds to your submittal of the "Forecasts of Aviation Demand" dated December 17, 2014 and revised January 28, 2015, provided by Hanson Professional Services, Inc. The based aircraft and operations forecasts shown in Table 11 of the report are approved to be used in your on-going master planning efforts.

If you have any questions, please feel free to contact me at (407) 812-6331, ext. 117.

Sincerely,

Marisol C. Elliott
Program Manager/Community Planner

cc: Lisa Waters, Hanson Professional Services, Inc.

Appendix B

Parcel Deed

Jim Ford, C.F.A.
Property Appraiser
Brevard County, Fl

Property Research

General Parcel Information for 29-38-18-00-00017.0-0000.00

Parcel Id:	29-38-18-00-00017.0-0000.00	Map/Ortho	Aerial	**Millage Code:**	34L0	**Exemption:**	C	**Use Code:**	8610
*** Site Address:**	2855 VALKARIA RD FIRE87, GRANT VALKARIA 32950							**Tax Acct:**	2962366

* Site address information is assigned by the Brevard County Address Assignment Office for E9-1-1 purposes; this information may not reflect community location of property.

Tax information is available at the Brevard County Tax Collector's web site
(Select the back button to return to the Property Appraiser's web site)

Owner Information

Owner Name:	BREVARD COUNTY
Second Name:	
Third Name:	C/O ASSET MANAGEMENT
Mailing Address:	700 S PARK AVE
City, State, Zipcode:	TITUSVILLE, FL 32780

Abbreviated Description

Plat Book/Page: 00/00	Sub Name:	PART OF LOTS 19,20 OF PB 1 PG_166 AS DESC IN ORB 4925 PG 2002

View Plat (requires Adobe Acrobat Reader-file size may be large)

Value Summary for 2008

*** Market Value Total:**	$99,800
Agricultural Assessment:	$0
Assessed Value:	$99,800
**** Homestead Exemption:**	$0
**** Additional Exemption:**	$0
**** Other Exemptions:**	$99,800
*****Taxable Value:**	$0

Land Information

Acres:	10.62
Site Code:	1

* This is the value established for ad valorem purposes in accordance with s.193.011(1) and (8), Florida Statutes. This value does not represent anticipated selling price for the property.
** Exemptions as reflected on the Value Summary table are applicable for the year shown and may or may not be applicable if an owner change has occurred.
*** The additional exemption does not apply when calculating taxable value for school districts pursuant to amendment 1. Therefore the taxable value used to compute school district tax is $25,000 higher.

Market Value (new owner, no homestead) $99,800
x $0.00 Exemptions (homestead = $25,000) $0

Taxable Value (with exemptions only) $0

x $0.00 Taxable Value (with exemptions and SOH cap) $0
x $0.00 **2008 Estimated Savings Resulting From Exemptions**

$0.00
2008 Estimated Savings Resulting From SOH

$0.00
-->

Sales Information

Official Records Book/Page	Sale Date	Sale Amount	Deed Type	*** Sales Screening Code	*** Sales Screening Source	Physical Change Code	Vacant/Improved
4925/2002	5/2003	$109,300	WD	07	01		V

*** Sales Screening Codes and Sources are from analysis by the Property Appraiser's staff. They have no bearing on the prior or potential marketability of the property.

Extra Feature Information

Extra Feature Description	Units
FENCE	260
LIGHT POLES	7
OUTBUILDING	143
PAVING	25121
PAVING	2290

Data Last Updated: Thursday, March 12, 2009- Printed On: Thursday, March 12, 2009.

New Search Help

[Home] [Budget] [Meet Jim Ford] [Appraiser's Job] [General Info] [Amendment 1] [Save Our Homes] [Exemptions] [Tangible Property] [Locations] [Forms] [Appeals] [Property Research] [Map Search] [Maps & Data] [Unusable Property] [Tax Authorities] [Tax Facts] [FAQ] [Links] [In The News] [Tax Estimator] [Contact Us]

Prepared By: Laurie Druckenmiller
AURORA TITLE
2800 AURORA ROAD #H
MELBOURNE, FL
incidental to the issuance of a title insurance policy.
File Number: 126681d
Parcel ID #: 293818002
Grantee(s) SS #:

AP03-1835

CFN:2003157412 05-29-2003 12:02 pm
OR Book/Page: 4925 / 2002

Scott Ellis
Clerk Of Courts, Brevard County
#Pgs: 6 #Names: 11
Trust: 3.50 Rec: 32.00 Serv: 0.00
Deed: 765.10 Excise: 0.00
Mtg: 0.00 Int Tax: 0.00

WARRANTY DEED (INDIVIDUAL)

This WARRANTY DEED, dated **05/02/2003** by
WACHOVIA BANK, SUCCESSOR IN INTEREST TO FIRST UNION NATIONAL BANK, SUCCESSOR ENTITY OF FIRST FIDELITY BANK, NA F/K/A FIDELITY UNION BANK, ROBERT BOYLE, (A/K/A ROBERT W. BOYLE); GEORGE W. WEAVER, JOHN PAYNE, (A/K/A JOHN PAINE), AS TRUSTEES OF THE TRUST ESTABLISHED UNDER THE LAST WILL AND TESTAMENT OF EMIL BUEHLER, DEACEASED KNOWN AS THE EMIL BUEHLER PERPETUAL TRUST DATED SEPTEMBER 15, 1983.
whose post office address is:
C/O WEST 115 CENTURY ROAD, PARAMUS, NJ 07652, ,
hereinafter called the GRANTOR, to
BOARD OF COUNTY COMMISSIONERS, BREVARD COUNTY, FL.
whose post office address is:
2725 JUDGE FRAN JAMIESON WAY, VIERA, FL 32940
hereinafter called the GRANTEE:
(Wherever used herein the terms "Grantor" and "Grantee" include all parties to this instrument and the heirs, legal representatives and assigns of individuals, and the successors and assigns of corporations.)
WITNESSETH: That the GRANTOR, for and in consideration of the sum of $10.00 and other valuable considerations, receipt whereof is hereby acknowledged, hereby grants, bargains, sells, aliens, remises, releases, conveys and confirms unto the GRANTEE, all that certain land situate in **BREVARD** County, Florida, viz:

LENGTHY LEGAL (SEE SCHEDULE A)

"THE GRANTEE ALSO COVENANTS AND AGREES WITH THE GRANTOR THAT WTHIN THE GRANT AND CONVEYANCE IS SUBJECT TO THE GRANTEE'S USE OF THE PROPERTY FOR PUBLIC PURPOSES AS PROVIDED BY SECTION 170(c) (1) OF THE INTERNAL REVENUE CODE OF 1986 (HEREINAFTER REFERRED TO AS THE "CODE"), AS AMENDED, AND FOR THE PURPOSE OF TRUSTEES PROMOTING THE FIELD OF AVIATION SCIENCE AND TECHNOLOGY CONSISTENT WITH SECTION 170(c)(2)(B)
OF THE CODE (HEREINAFTER REFERRED TO AS "AVIATION PURPOSE:). FOR PURPOSES OF ILLUSTRATION ONLY AND NOT BY WAY OF LIMITATION, THE GRANTEE, AT ITS DISCRETION, SHALL USE THE PROPERTY FOR ANY IMPROVEMENTS THEREON, OR ANY IMPROVEMENTS TO BE BUILT THEREON. THE GRANTEE WILL DESIGNATE ONE-THIRD OF THE 10 ACRES CONVEYED (3.33 ACRES+-)
FOR USES RELATED TO THE ADJACENT AIRPORT FACILITY WHICH USES PROMOTE THE HEALTH, EDUCATION SAFETY AND WELFARE OF THE GENERAL PUBLIC USING OR AFFECTED BY THE AIRPORT. SUCH DESIGNATED AREA SHALL NOT BE REQUIRED TO HAVE ANY IMPROVEMENTS.

GRANTEE HAS THE SOLE RIGHT TO DETERMINE WHAT PORTION OF THE PROPERTY IT DEEMS APPROPRIATE FOR THE PURPOSES OF THE DESIGNATED AREA AS HEREIN STATED INCLUDING BUT NOT LIMITED TO USES AS CONSERVATION AREA, ENTRANCE ROADS, RETENTION SYSTEMS, NO IMPROVEMENTS OR ANY COMBINATION OF USES.

THE GRANTEE MAY AT GRANTEE'S DISCRETION ASSEMBLE ANY PORTION/PORTIONS OF THE 10.62 ACRES TO MAKE UP THE 3.33 ACRES.
SUBJECT TO covenants, conditions, restrictions, reservations, limitations, easements and agreements of record, if any; taxes and assessments for the year **2003** and subsequent years; and to all applicable zoning ordinances and/or restrictions and prohibitions imposed by governmental authorities, if any.

TOGETHER with all the tenements, hereditaments and appurtenances thereto belonging or in anywise appertaining.

TO HAVE AND TO HOLD, the same in fee simple forever.

AND THE GRANTOR hereby covenants with said GRANTEE that except as above noted, the GRANTOR is lawfully seized of said land in fee simple; that the GRANTOR has good right and lawful authority to sell and convey said land; that the GRANTOR hereby fully warrants the title to said land and will defend the same against the lawful claims of all persons whomsoever.

IN WITNESS WHEREOF, GRANTOR has signed and sealed th se presents the date set forth above.

SIGNED IN THE PRESENCE OF THE FOLLOWING WITNESSES:

SCHEDULE 'A'

CFN:2003157412
OR Book/Page: 4925 / 2003

3. The land is described as follows:

THE WEST 1/2 OF THE NORTH 1/2 OF LOT 19 AND THAT PART OF THE NORTH 1/2 OF LOT 20 LYING EAST OF VALKARIA ROAD, IN SECTION 18, TOWNSHIP 29 SOUTH, RANGE 38 EAST, OF THE FLORIDA INDIAN RIVER LAND COMPANY SUBDIVISION, AS RECORDED IN

PLAT BOOK 1, PAGE 166, OF THE PUBLIC RECORDS OF BREVARD COUNTY, FLORIDA, BEING MORE PARTICULARLY DESCRIBED AS FOLLOWS:

FROM THE NORTHEAST CORNER OF SAID SECTION 18, RUN N89°35'58"W ALONG THE NORTH LINE OF SAID SECTION 18 A DISTANCE OF 960.26 FEET TO THE NORTHEAST CORNER OF THE WEST 1/2 OF LOT 31; THENCE S0°01'41"E ALONG THE EAST LINE OF SAID WEST 1/2 OF LOT 31 A DISTANCE OF 1320.00 FEET TO THE SOUTHEAST CORNER OF SAID WEST 1/2 OF LOT 31; THENCE N89°35'58"W ALONG THE SOUTH LINE OF LOTS 30 & 31 A DISTANCE OF 640.24 FEET TO THE POINT OF BEGINNING OF THE HEREIN DESCRIBED PARCEL, SAID POINT ALSO BEING THE NORTHEAST CORNER OF THE SAID W 1/2 OF THE NORTH 1/2 OF LOT 19; THENCE S0°01'31"E ALONG THE EAST LINE OF SAID WEST 1/2 OF THE NORTH 1/2 OF LOT 19 A DISTANCE OF 736.25 FEET; THENCE S89°31'49"W ALONG THE SOUTH LINE OF THE WEST 1/2 OF THE NORTH 1/2 OF LOT 19 AND THE NORTH 1/2 OF LOT 20 A DISTANCE OF 843.90 FEET TO A POINT ON THE EASTERLY RIGHT OF WAY LINE OF VALKARIA ROAD AS ESTABLISHED BY RIGHT OF WAY DEED RECORDED IN O.R.B. 1713, PAGE 691, PUBLIC RECORDS OF BREVARD COUNTY, FLORIDA; THENCE N30°23'41"E ALONG SAID VALKARIA ROAD A DISTANCE OF 864.87 FEET TO A POINT ON THE NORTH LINE OF SAID LOT 20; THENCE S89°35'58"E ALONG THE NORTH LINE OF SAID LOTS 19 AND 20 A DISTANCE OF 405.97 FEET TO THE POINT OF BEGINNING.

WITNESS:
Signature: Martha John Thynes
Print Name: MARTHA JO-ANN WYNES

WITNESS:
Signature:
Print Name: Patricia M. Winnicki

WITNESS:
Signature:
Print Name: Darlene M. Winnicki

WITNESS:
Signature: Hilari A. Ramsay
Print Name: Hilari A. Ramsay

WITNESS:
Signature:
Print Name CHERYL M. WILLETTE

WITNESS:
Signature:
Print Name Tabitha McGurk

WITNESS:
Signature:
Print Name

WITNESS:
Signature:
Print Name

BY: WILLIAM C. CASPARE, VICE PRESIDENT
WACHOVIA BANK, SUCCESSOR IN INTEREST TO FIRST UNION NATIONAL BANK, SUCESSOR ENTITY OF FIRST FIDELITY BANK, NA, F/K/A FIDELITY UNION BANK

ROBERT BOYLE, A/K/A ROBERT W. BOYLE, TRUSTEE

GEORGE W. WEAVER, TRUSTEE

JOHN PAYNE, A/K/A JOHN PAINE, TRUSTEE

CFN:2003157412
OR Book/Page: 4925 / 2004

** PLEASE SEE ATTACHED NOTARY STATEMENTS (3)

State of .
County of .

THE FOREGOING INSTRUMENT was sworn and acknowledged before me on **05/02/2003** by:
WACHOVIA BANK, SUCCESSOR IN INTEREST TO FIRST UNION NATIONAL BANK, SUCCESSOR ENTITY OF FIRST FIDELITY BANK, NA F/K/A FIDELITY UNION BANK, ROBERT BOYLE, (A/K/A ROBERT W. BOYLE); GEORGE W. WEAVER, JOHN PAYNE, (A/K/A JOHN PAINE), AS TRUSTEES OF THE TRUST ESTABLISHED UNDER THE LAST WILL AND TESTAMENT OF EMIL BUEHLER, DEACEASED KNOWN AS THE EMIL BUEHLER PERPETUAL TRUST DATED SEPTEMBER 15, 1983.
who is personally known to me or who has produced **DRIVERS LICENSE (S)** as identification.

Signature:
Print Name: .

** PLEASE SEE ATTACHED NOTARY STATEMENT(3)

NOTARY PAGE PREPARED FOR
WILLIAM C. CASPARE, VICE PRESIDENT OF WACHOVIA BANK

CFN:2003157412
OR Book/Page: 4925 / 2005

STATE OF NEW JERSEY
COUNTY OF BERGEN

I HEREBY CERTIFY THAT ON THIS DATE, BEFORE ME, AN OFFICER DULY AUTHORIZED IN THE STATE AND COUNTY TO TAKE ACKNOWLEDGEMENTS PERSONALLY APPEARED : WILLIAM C. CASPARE, VICE PRESIDENT WHOM IS PERSONALLY KNOWN TO ME OR WHO PRODUCED DRIVER'S LICENSE & CORPORATE I.D. AS IDENTIFICATION.

WITNESS MY HAND AND OFFICIAL SEAL THIS 6th OF May, 2003 , AD.

Geraldine T. Buonauro
NOTARY PUBLIC

GERALDINE T. BUONAURO
NOTARY PUBLIC OF NEW JERSEY
My Commission Expires June 1, 2008

MY COMMISSION EXPIRES:

*WITNESSES NAMES AND SIGNATURES ON ACTUAL WARRANTY DEED DOCUMENT.
WITNESS:

_____

_____

NOTARY PAGE PREPARED FOR JOHN PAYNE, A/K/A
JOHN PAINE AND GEORGE W. WEAVER

CFN:2003157412
OR Book/Page: 4925 / 2007

STATE OF FLORIDA
COUNTY OF BROWARD

I HEREBY CERTIFY THAT ON THIS DATE, BEFORE ME, AN OFFICER DULY AUTHORIZED IN THE STATE AND COUNTY TO TAKE ACKNOWLEDGEMENTS PERSONALLY APPEARED: JOHN H. PAYNE, A/K/A JOHN PAINE AND GEORGE W. WEAVER WHO ~~IS~~ ARE PERSONALLY KNOWN TO ME ~~OR WHO PRODUCED AS IDENTIFICATION~~.

WITNESS MY HAND AND OFFICIAL SEAL THIS 8 OF MAY 2003, AD.

NOTARY PUBLIC
CHERYL M. Willette

MY COMMISSION EXPIRES: 7/26/2005

WITNESS:

* _____

* _____

CHERYL M. WILLETTE
MY COMMISSION # DD 045133
EXPIRES: July 26, 2005
1-800-3-NOTARY FL Notary Service & Bonding, Inc.

*WITNESSES NAME AND SIGNATURES ON ACTUAL WARRANTY DEED DOCUMENT.

NOTARY PAGE PREPARED FOR ROBERT BOYLE
A/K/A ROBERT W. BOYLE

CFN:2003157412
OR Book/Page: 4925 / 2006

STATE OF New Jersey
COUNTY OF Bergen

I HEREBY CERTIFY THAT ON THIS DATE, BEFORE ME, AN OFFICER DULY AUTHORIZED IN THE STATE AND COUNTY TO TAKE ACKNOWLEDGEMENTS PERSONALLY APPEARED : Robert D. Boyle, A/K/A * WHOM IS PERSONALLY KNOWN TO ME OR WHO PRODUCED D/L AS IDENTIFICATION.

WITNESS MY HAND AND OFFICIAL SEAL THIS 6th OF May 2003, AD.

* Robert W. Boyle

NOTARY PUBLIC

MY COMMISSION EXPIRES: 8/6/06

MICHELE VEROST
A NOTARY PUBLIC OF NEW JERSEY
MY COMMISSION EXPIRES 8/6/06

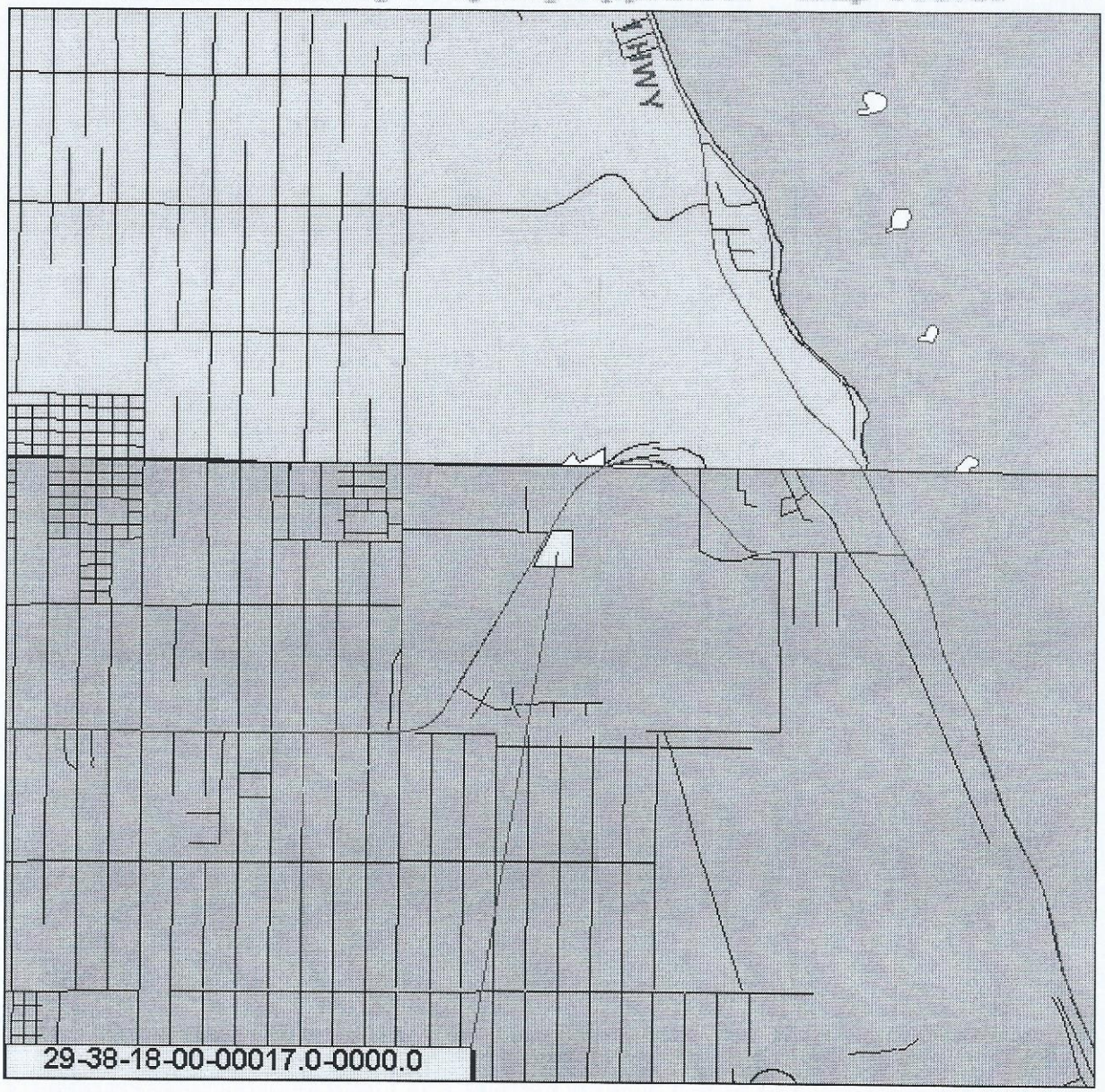
WITNESS:

* _____

* _____

** WITNESSES NAME AND SIGNATURES ON ACTUAL WARRANTY DEED DOCUMENTS.

Jim Ford, CFA
Brevard County Property Appraiser - Map Search



Appendix C

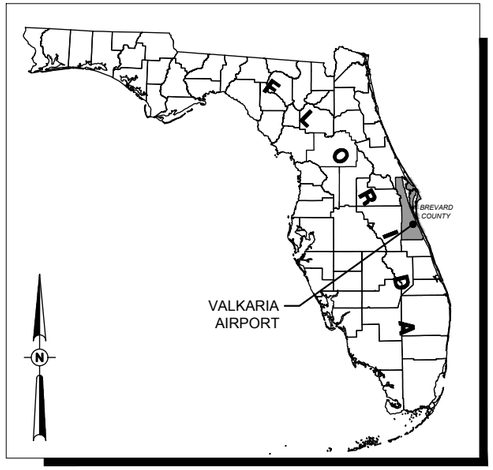
Airport Layout Plan

AIRPORT LAYOUT PLAN
FOR
VALKARIA AIRPORT (X59)
VALKARIA, BREVARD COUNTY, FLORIDA

APRIL 4, 2016

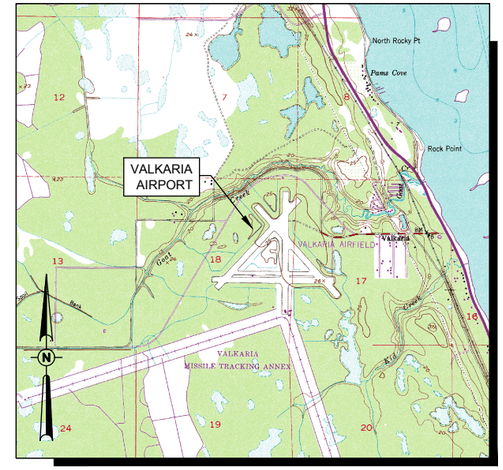
FDOT FM #435317-1-94-01

FAA AIP NO. 3-12-0144-007-2014



LOCATION MAP

INDEX OF SHEETS



VICINITY MAP

No.	Issue/Description	Date	By

FEDERAL AVIATION ADMINISTRATION
Orlando Airports District Office

VALKARIA AIRPORT
Brevard County, Florida

Steve Borowski, Aviation Director — Date

Plans Prepared By:

Hanson Professional Services Inc.
9015 Town Center Parkway, Suite 105
Lakewood Ranch, Florida 34202
Telephone: 941-342-6321
www.hanson-inc.com

This Airport Layout Plan (ALP) was prepared for the Brevard County according to the applicable Advisory Circulars and the current version of FAA Standard Operating Procedure 2.0 ALP Review Checklist, and accurately depicts the airspace at the time of submittal. The ALP conforms with FAA design standards, except as noted.

FLORIDA DEPARTMENT OF TRANSPORTATION
Aviation and Spaceports Office

I:\12JOBS\124002\CAD\AIRPORT\SHEET\01-CVRLDWG APR 02, 2016 5:17PM HARRI0115

RUNWAY DATA TABLE

ITEM	10-28				14-32			
	Existing		Future		Existing		Future	
Runway Identification	Runway End 10	Runway End 28	Runway End 10	Runway End 28	Runway End 14	Runway End 32	Runway End 14	Runway End 32
Runway Design Code (RDC)*	B-I-VIS (Small Aircraft)		B-I-VIS (Small Aircraft)		B-II-VIS		B-II-5000 (Small Aircraft)	
Approach Reference Code (APRC)	B-I-VIS (Small Aircraft)		B-I-VIS (Small Aircraft)		B-II-VIS		B-II-5000 (Small Aircraft)	
Departure Reference Code (DPRC)	B-I-VIS (Small Aircraft)		B-I-VIS (Small Aircraft)		B-II-VIS		B-II-5000 (Small Aircraft)	
Pavement Surface Type	Asphalt		Asphalt		Asphalt		Asphalt	
Pavement Strength (lbs)	12,500 (Single Wheel)		12,500 (Single Wheel)		12,500 (Single Wheel)		12,500 (Single Wheel)	
Pavement Strength (PCN)	---		---		---		---	
Surface Treatment	None		None		None		None	
Effective Runway Gradient (%)**	0.05%		0.05%		0.04%		0.04%	
Wind Coverage (%)	92.11%		92.11%		94.50%		94.50%	
Runway Length	4,000'		4,000'		4,000'		4,250'	
Runway Width	60'		60'		75'		75'	
Critical Aircraft	Piper Aerostar 600/601		Piper Aerostar 600/601		CASA 212		Beech King Air B200	
Approach Speed	94 Knots		94 Knots		99 Knots		103 Knots	
Wing Span	34.3'		34.3'		62.4'		54.5'	
Aircraft Tail Height	12.1'		12.1'		20.7'		15.0'	
Main Gear Width (Outer)	10.9'		10.9'		11.1'		18.6'	
Cockpit to Main Gear/Wheelbase***	11' (est.)		11' (est.)		18.2'		15.0'	
Maximum Takeoff Weight (lbs.)	5,500		5,500		16,975		12,500	
Runway True Bearing	90° 16' 53.4"	270° 17' 14.3"	90° 16' 53.4"	270° 17' 14.3"	137° 45' 55.5"	317° 46' 9.5"	137° 45' 55.5"	317° 46' 10.4"
Runway End Coordinates (NAD83)								
Latitude	27° 57' 34.58" N	27° 57' 34.39" N	27° 57' 34.58" N	27° 57' 34.39" N	27° 57' 58.47" N	27° 57' 29.14" N	27° 57' 58.47" N	27° 57' 27.31" N
Longitude	80° 33' 56.88" W	80° 33' 12.27" W	80° 33' 56.88" W	80° 33' 12.27" W	80° 33' 40.43" W	80° 33' 10.45" W	80° 33' 40.43" W	80° 33' 08.57" W
Runway End Elevation (MSL)	22.75'	24.08'	22.75'	24.08'	24.7'	24.3'	24.7'	24.2'
Displaced Threshold From Runway End	None	None	None	None	None	None	None	None
Displaced Threshold Coordinates (NAD83)								
Latitude	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Longitude	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Displaced Threshold Elevation (MSL)	N/A	N/A	N/A		N/A	N/A	N/A	N/A
Runway Safety Area (RSA)								
Actual	4,480'x120'	4,480'x120'	4,480'x120'	4,480'x120'	4,600'x150'	4,600'x150'	4,850'X150'	4,850'X150'
Design Standard - Length Beyond Departure End	240'	240'	240'	240'	300'	300'	300'	300'
Design Standard - Length Prior to Threshold	240'	240'	240'	240'	300'	300'	300'	300'
Design Standard - Width	120'	120'	120'	120'	150'	150'	150'	150'
Runway Lighting Type	Threshold/End Lights	Threshold/End Lights	Threshold/End Lights	Threshold/End Lights	Threshold/End Lights	Threshold/End Lights	MIRL	MIRL
Approach Runway Protection Zone (RPZ)								
Length	1,000'	1,000'	1,000'	1,000'	1,000'	1,000'	1,000'	1,000'
Inner Width	250'	250'	250'	250'	500'	500'	250'	250'
Outer Width	450'	450'	450'	450'	700'	700'	450'	450'
Departure Runway Protection Zone (RPZ)								
Length	1,000'	1,000'	1,000'	1,000'	1,000'	1,000'	1,000'	1,000'
Inner Width	250'	250'	250'	250'	500'	500'	250'	250'
Outer Width	450'	450'	450'	450'	700'	700'	450'	450'
Runway Marking Type	Visual	Visual	Visual	Visual	Visual	Visual	Non Precision	Non Precision
14 CFR FAR Part 77 Approach Category	20:1	20:1	20:1	20:1	20:1	20:1	20:1	20:1
14 CFR FAR Part 77 Approach Type	Visual (Utility)	Visual (Utility)	Visual (Utility)	Visual (Utility)	Visual	Visual	Non-Precison (Utility)	Non-Precison (Utility)
14 CFR FAR Part 77 Approach Dimensions (IWxOWxL)	250'x1,250'x5,000'	250'x1,250'x5,000'	250'x1,250'x5,000'	250'x1,250'x5,000'	500'x1,500'x5,000'	500'x1,500'x5,000'	500'x2,000'x5,000'	500'x2,000'x5,000'
14 CFR FAR Part 77 Approach Visibility Minimums	Visual	Visual	Visual	Visual	Visual	Visual	> 3/4 Mile	> 3/4 Mile
Visibility Minimums (RVR)	Visual (VIS)	Visual (VIS)	Visual (VIS)	Visual (VIS)	Visual (VIS)	Visual (VIS)	> 1 Mile (5000)	> 1 Mile (5000)
Type of Aeronautical Survey Required for Approach	Not Vertically Guided	Not Vertically Guided	Not Vertically Guided	Not Vertically Guided	Not Vertically Guided	Not Vertically Guided	Not Vertically Guided	Not Vertically Guided
Runway Object Free Area (ROFA)								
Design Standard - Length Beyond Runway	240'	240'	240'	240'	300'	300'	300'	300'
Design Standard - Length Prior to Threshold	240'	240'	240'	240'	300'	300'	300'	300'
Design Standard - Width	250'	250'	250	250'	500'	500'	500'	500'
Runway Obstacle Free Zone (ROFZ)								
Length	200'	200'	200'	200'	200'	200'	200'	200'
Width	250'	250'	250'	250'	400'	400'	250'	250'
Precision Obstacle Free Zone (POFZ)								
Length	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Width	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Threshold Siting								
Approach Surface Type	2	2	2	2	3	3	4	4
Approach Surface Slope	20:1	20:1	20:1	20:1	20:1	20:1	20:1	20:1
Approach Surface Dimensions	0'x250'x700'x2,250'x2,750'	0'x250'x700'x2,250'x2,750'	0'x250'x700'x2,250'x2,750'	0'x250'x700'x2,250'x2,750'	0'x400'x1,000'x1,500'x8,500'	0'x400'x1,000'x1,500'x8,500'	200'x400'x3,800'x10,000'	200'x400'x3,800'x10,000'
Runway Departure Surface								
Departure Surface Slope	N/A	N/A	N/A	N/A	N/A	N/A	40:1	40:1
Departure Surface Dimensions	N/A	N/A	N/A	N/A	N/A	N/A	0'x1,000'x6,466'x10,200'	0'x1,000'x6,466'x10,200'
Visual NAVAIDS	PAPI(4)	PAPI(4)	PAPI(4)	PAPI(4)	PAPI(4)	PAPI(4)	PAPI(4), REIL	PAPI(4), REIL
Instrument NAVAIDS	None	None	None	None	None	None	None	None
Instrument Approach Procedures								
Type	None	None	None	None	None	None	Non-Precision	Non-Precision
Approach Instrumentation	N/A	N/A	N/A	N/A	N/A	N/A	RNAV (GPS)	RNAV (GPS)
Touchdown Zone Elevation	24.3'	24.6'	24.3'	24.6'	25.8'	25.8'	25.8'	25.8'
Taxiway Design Group	1A	1A	1A	1A	1A	1A	2	2
Taxiway/Taxilane Width	25'	25'	25'	25'	25'	25'	35'	35'
Taxiway Safety Area (TSA) Width	49'	49'	49'	49'	79'	79'	79'	79'
Taxiway Object Free Area (TOFA) Width	89'	89'	89'	89'	131'	131'	131'	131'
Taxilane Object Free Area Width	79'	79'	79'	79'	115'	115'	115'	115'
Taxiway/Taxilane Separation								
Taxiway Centerline to Fixed or Movable Object	44.5'	44.5'	44.5'	44.5'	65.5'	65.5'	65.5'	65.5'
Taxilane Centerline to Fixed or Movable Object	39.5'	39.5'	39.5'	39.5'	57.5'	57.5'	57.5'	57.5'
Taxiway Lighting	None	None	None	None	None	None	MITL	MITL

* RDC-RUNWAY DESIGN CODE. DESIGN AIRCRAFT BASED UPON AC 150/5300-13A TABLES 1-1, 1-2 AND 1-3, PAGE 13:
AIRCRAFT APPROACH CATEGORY B: SPEED OF 91 KNOTS OR MORE, BUT LESS THAN 121 KNOTS.
AIRPLANE DESIGN GROUP I: TAIL HEIGHT - LESS THAN 20'. WINGSPAN - LESS THAN 49'.
AIRPLANE DESIGN GROUP II: TAIL HEIGHT - AT LEAST 20' BUT LESS THAN 30'. WINGSPAN - AT LEAST 49' BUT LESS THAN 79'.
INSTRUMENT FLIGHT VISIBILITY CATEGORY: VIS - RUNWAYS DESIGNATED WITH VISUAL APPROACH USE ONLY; 5000 - NOT LOWER THAN 1 MILE

** RUNWAY MEETS LINE OF SIGHT REQUIREMENTS

*** COCKPIT TO MAIN GEAR (CMG) USED FOR AIRCRAFT WITH THE COCKPIT IS LOCATED FORWARD OF THE NOSE GEAR. WHERE THE COCKPIT IS LOCATED AFT OF THE NOSE GEAR, THE WHEELBASE IS USED IN LIEU OF CMG TO DETERMINE THE TAXIWAY DESIGN GROUP (TDG)

GENERAL NOTES

1. ALP PREPARED USING DESIGN CRITERIA FROM FAA ADVISORY CIRCULAR 150/5300-13A, CHANGE 1 "AIRPORT DESIGN" AND FAR PART 77 "OBJECTS AFFECTING NAVIGABLE AIRSPACE".
2. THERE ARE NO OFZ PENETRATIONS.
3. GROUND CONTOUR INTERVALS SHOWN ARE 2-FOOT. CONTOURS GENERATED FROM USGS NATIONAL ELEVATION DATASET (NED) 3m DIGITAL ELEVATION MODEL.
4. AERIAL PHOTOGRAPHY OBTAINED FROM USDA NATIONAL AGRICULTURAL IMAGERY PROGRAM (NAIP), 2013.
5. BASE MAPPING FROM VALKARIA AIRPORT AND HANSON PROFESSIONAL SERVICES (VARIOUS PROJECTS).

REFERENCE

1. LATITUDE AND LONGITUDE ARE BASED ON THE NORTH AMERICAN DATUM OF 1983 (NAD83). AS APPLICABLE, CONVERSIONS MADE FROM FLORIDA STATE PLANE COORDINATE SYSTEM, EAST ZONE.
2. VERTICAL CONTROL IS REFERENCED TO THE NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD 88).
3. ELEVATIONS SHOWN ARE IN "MEAN SEA LEVEL" (MSL) UNLESS NOTED OTHERWISE, AND ARE NOT INTENDED FOR DESIGN PURPOSES.
4. ALL ELEVATIONS AND DIMENSIONS IN FEET, UNLESS NOTED OTHERWISE.

DECLARED DISTANCES

Declared Distance	Runway 10	Runway 28	Runway 14	Runway 32
Takeoff Run Available (TORA)	4,000'	4,000'	4,000'	4,000'
Takeoff Distance Available (TODA)	4,000'	4,000'	4,000'	4,000'
Accelerate - Stop Distance Available (ASDA)	4,000'	4,000'	4,000'	4,000'
Landing Distance Available (LDA)	4,000'	4,000'	4,000'	4,000'

EXISTING RSA/OFA VIOLATIONS

Runway	Objects	Amount of Penetration	
		RSA	ROFA
10	None	---	---
28	None	---	---
14	Fence	---	45'
32	Fence	---	76'

NOTE: ROFA PENETRATIONS WILL BE CORRECTED DURING FUTURE PROJECTS.

MODIFICATION OF DESIGN STANDARDS

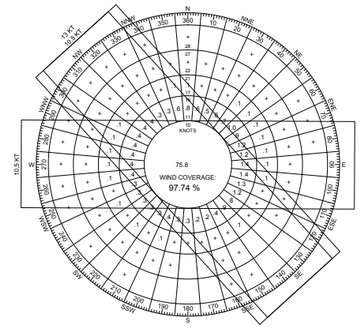
NO.	DESCRIPTION	FAA STANDARDS	EXISTING CONDITION	PROPOSED ACTION	DATE APPROVED
1					
2					

NOTE: NO MODIFICATIONS OF STANDARDS ARE CURRENTLY KNOWN TO EXIST ON FILE.

AIRPORT DATA TABLE

Airport Identifier	X59
Airport Reference Code	
Existing	B-II
Future	B-II (Small Aircraft)
Mean Max Temperature of Hottest Month	90.7°F (July)
Airport Elevation (MSL)	25.8'
Airport Navigational Aids	Beacon
Existing Airport Reference Point (NAD 83)	
Latitude	27° 57' 39.15" N
Longitude	80° 33' 30.01" W
Future Airport Reference Point (NAD 83)	
Latitude	27° 57' 38.81" N
Longitude	80° 33' 29.38" W
Miscellaneous Facilities	
Existing	Lighted Windcone, Segmented Circle, PAPI, Automated UNICOM
Future	MIRL, MITL, Lighted Windcone, Segmented Circle, AWOS, PAPI, REIL
Critical Design Aircraft	
Existing	CASA 212
Future	Beech Super King Air B200
Magnetic Variation	6° 32.4' W changing by 5.6' W per year
NPIAS Service Level	General Aviation - Local
State Service Level	General Aviation

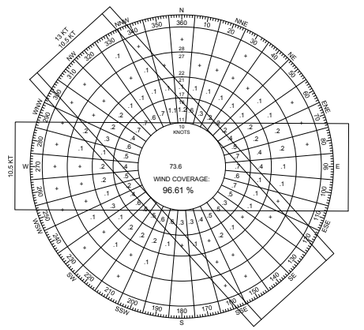
1. MAGNETIC DECLINATION: NOAA NATIONAL GEOPHYSICAL DATA CENTER, OCTOBER 2014.
2. TEMPERATURE: MONTHLY MEAN OF THE DAILY MAXIMUM TEMPERATURE OF THE HOTTEST MONTH OF THE YEAR, PROCESSED FROM 30 YEARS OF HOURLY OBSERVATIONS COLLECTED BY NOAA BETWEEN THE YEARS 1981 AND 2010 AT MELBOURNE INTERNATIONAL AIRPORT AND ARCHIVED BY NOAA.
3. AIRPORT REFERENCE POINT CALCULATED USING NGS ARP COMPUTATION UTILITY.
4. RUNWAY END COORDINATES PICKED FROM BASE MAPPING.



WIND ROSE
ALL WEATHER CONDITIONS
COMBINED RUNWAYS

ALL WEATHER WIND COVERAGE

RUNWAY	CROSSWIND COMPONENTS		
	10.5 Knot	13 Knot	16 Knot
10/28	92.11%	N/A	N/A
14/32	89.17%	94.50%	N/A
Combined	96.28%	97.74%	N/A



WIND ROSE
IFR CONDITIONS
COMBINED RUNWAYS

IFR WIND COVERAGE

RUNWAY	CROSSWIND COMPONENTS		
	10.5 Knot	13 Knot	16 Knot
10/28	87.98%	N/A	N/A
14/32	87.67%	92.26%	N/A
Combined	94.94%	96.61%	N/A

WIND DATA:
1. IFR CONDITIONS: CEILING <1000' AND/OR VISIBILITY <3 MILE, BUT CEILING >=200' AND VISIBILITY >= 0.5 MILE.
2. SOURCE: NOAA DATA FROM MELBOURNE INTERNATIONAL AIRPORT , FL, PERIOD OF RECORD 2005-2014, 24 OBSERVATIONS/DAY.
3. CROSSWIND COMPONENTS PER AC 150/5300-13A, CHANGE 1

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VALKARIA AIRPORT

AIRPORT LAYOUT PLAN

NO.	DATE	DESCRIPTION		
		DES	DWN	REV

ISSUE: APRIL 4, 2016
PROJECT NO: 12A0007
CAD FILE: 02-DATA.DWG
DESIGN BY: MLH 04/21/2015
DRAWN BY: RAD 04/22/2015
REVIEWED BY: TSH 04/24/2015

SHEET TITLE

AIRPORT DATA SHEET

APR 02, 2016 5:07 PM HARRI01115
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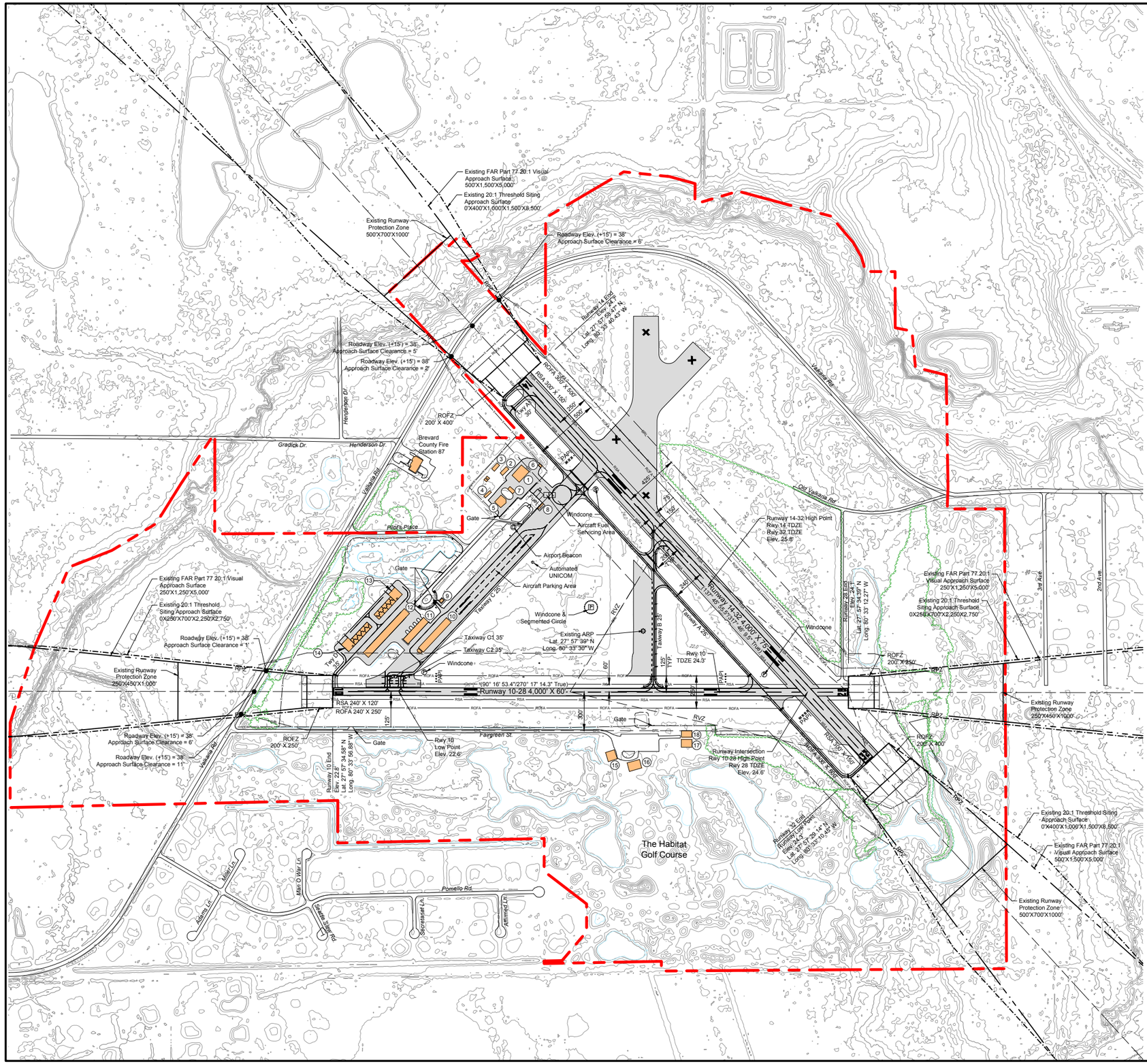

MAGNETIC DECLINATION: 6° 32.4' W (10/2014)
ANNUAL RATE OF CHANGE: 5.4' W/ YEAR
EPOCH YEAR 2010

0' 200' 400' 800'

SCALE: 1"= 400'

GENERAL NOTES

1. ALP PREPARED USING DESIGN CRITERIA FROM FAA ADVISORY CIRCULAR 150/5300-13A, CHANGE 1 "AIRPORT DESIGN" AND FAR PART 77 "OBJECTS AFFECTING NAVIGABLE AIRSPACE".
2. THERE ARE NO OFZ PENETRATIONS.
3. GROUND CONTOUR INTERVALS SHOWN ARE 2-FOOT. CONTOURS GENERATED FROM USGS NATIONAL ELEVATION DATASET (NED) 3m DIGITAL ELEVATION MODEL.
4. AERIAL PHOTOGRAPHY OBTAINED FROM USDA NATIONAL AGRICULTURAL IMAGERY PROGRAM (NAIP). 2013.
5. BASE MAPPING FROM VALKARIA AIRPORT AND HANSON PROFESSIONAL SERVICES (VARIOUS PROJECTS).

REFERENCE

1. LATITUDE AND LONGITUDE ARE BASED ON THE NORTH AMERICAN DATUM OF 1983 (NAD83). AS APPLICABLE, CONVERSIONS MADE FROM FLORIDA STATE PLANE COORDINATE SYSTEM, EAST ZONE.
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Facilities Table

#	Facility Description	Top Elevation
1	Mosquito Control Hangar	45'
2	Mosquito Control Covered Auto Parking	37'
3	Mosquito Control Covered Auto Parking (2)	39'
4	Mosquito Control Storage Facility	39'
5	Mosquto Control Admin. & Maint. Building	45'
6	Mosquito Control Helicopter Landing Facility	39'
7	Mosquito Control Residence Mobile Home	39'
8	Airport Manager Trailer	39'
9	Picnic Pavilion	33'
10	Hangar A	45'
11	Hangar B	45'
12	Hangar C	45'
13	Hangar D	45'
14	Hangar E	45'
15	Habitat Golf Course Club House	39'
16	Habitat Golf Course Club House (2)	45'
17	Habitat Golf Course Parking Barn	40'
18	Habitat Golf Course Maintenance Building	45'

EXISTING	LEGEND	FUTURE
	AIRPORT PROPERTY LINE	
X	AIRPORT FENCE 6'	
	ROADS	
	BUILDINGS	
	AIRFIELD PAVEMENT	
	AVIGATION EASEMENT	
	PRECISION APPROACH PATH INDICATOR (PAPI)	
N/A	RUNWAY END IDENTIFIER LIGHTS (REIL)	
	ROTATING BEACON	
	LIGHTED WIND CONE/SUPPLEMENTAL WIND CONE	
	AIRPORT REFERENCE POINT (ARP)	
	THRESHOLD SITING SURFACE	
BRL	BUILDING RESTRICTION LINE (BRL) FOR 25' BLDG.	
	FAR PART 77 SURFACE	
ROFA	RUNWAY OBJECT FREE AREA (ROFA)	
TOFA	TAXIWAY OBJECT FREE AREA (TOFA)	
	RUNWAY OBSTACLE FREE ZONE (ROFZ)	
RPZ	RUNWAY PROTECTION ZONE (RPZ)	
RSA	RUNWAY SAFETY AREA (RSA)	
TSA	TAXIWAY SAFETY AREA (TSA)	
	RUNWAY VISIBILITY ZONE	
N/A	PAVEMENT REMOVAL	

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VALKARIA AIRPORT

AIRPORT LAYOUT PLAN

NO.	DATE	DESCRIPTION		
		DES	DWN	REV

ISSUE: APRIL 4, 2016
PROJECT NO: 12A0007
CAD FILE: 03-ALD-E.DWG
DESIGN BY: MLH 03/04/2015
DRAWN BY: MLH 03/04/2015
REVIEWED BY: TSH 04/24/2015

SHEET TITLE

EXISTING AIRPORT LAYOUT DRAWING

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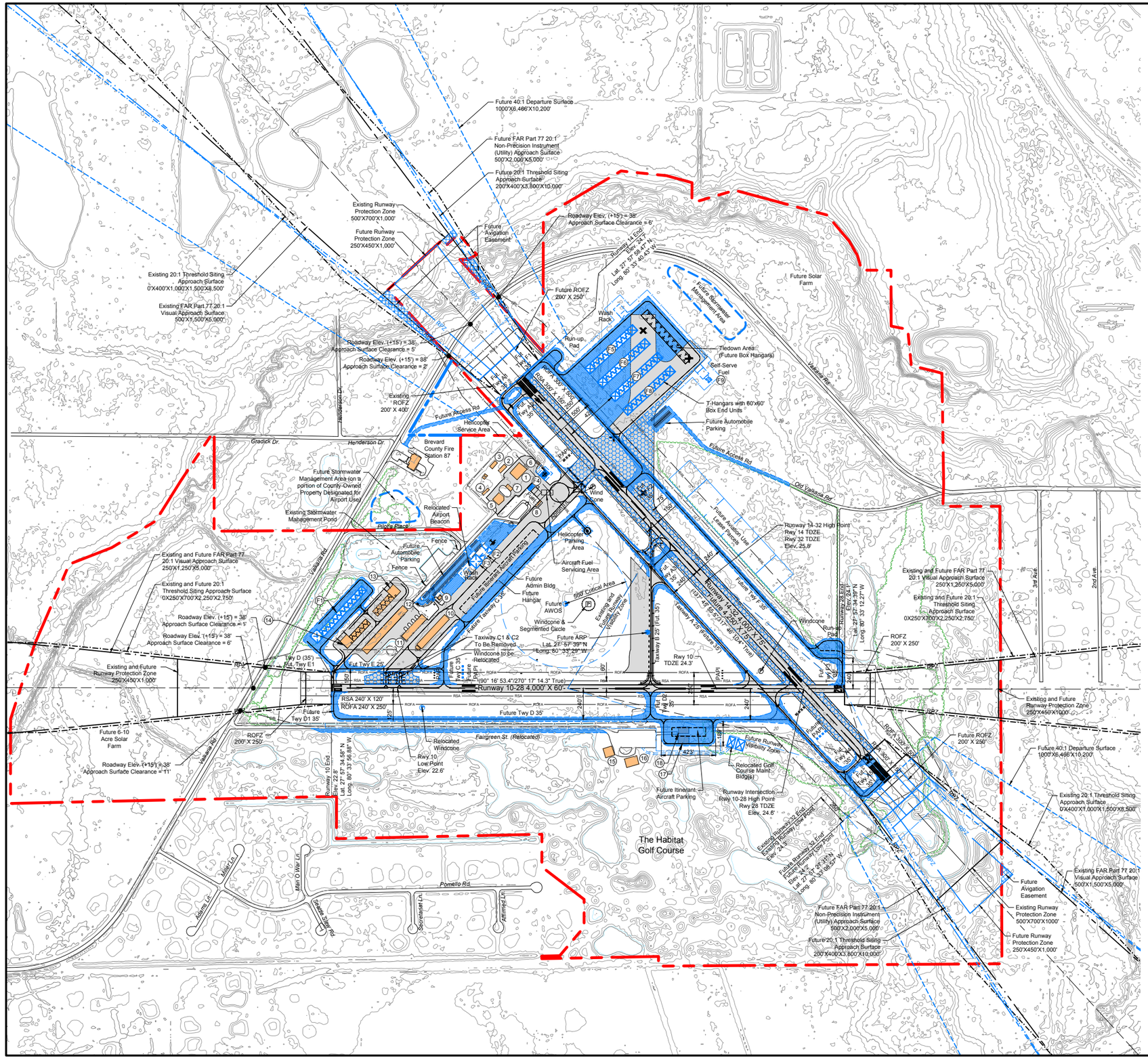

MAGNETIC NORTH
TRUE NORTH

MAGNETIC DECLINATION: 6° 32.4' W (10/2014)
ANNUAL RATE OF CHANGE: 5.4' W/ YEAR
EPOCH YEAR 2010

0' 200' 400' 800'
SCALE: 1"= 400'

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4. AERIAL PHOTOGRAPHY OBTAINED FROM USDA NATIONAL AGRICULTURAL IMAGERY PROGRAM (NAIP), 2013.
5. BASE MAPPING FROM VALKARIA AIRPORT AND HANSON PROFESSIONAL SERVICES (VARIOUS PROJECTS).
6. GOLF COURSE IS WITHIN EXISTING AND FUTURE RUNWAY 32 RPZ. INCOMPATIBLE LAND USE IN FUTURE RPZ WILL REQUIRE COORDINATION WITH FAA REGIONAL AND ADO STAFF AND NATIONAL AIRPORT PLANNING AND ENVIRONMENTAL DIVISION, APP-400. INCOMPATIBLE LAND USE WITHIN EXISTING RPZ CONSIDERED COMPATIBLE AT THE TIME OF CONSTRUCTION AND IS EXEMPT FROM THIS POLICY.

REFERENCE

1. LATITUDE AND LONGITUDE ARE BASED ON THE NORTH AMERICAN DATUM OF 1983 (NAD83). AS APPLICABLE, CONVERSIONS MADE FROM FLORIDA STATE PLANE COORDINATE SYSTEM, EAST ZONE.
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13	Hangar D	45'
14	Hangar E	45'
15	Habitat Golf Course Club House	39'
16	Habitat Golf Course Club House (2)	45'
17	Habitat Golf Course Parking Barn (To Be Removed)	40'
18	Habitat Golf Course Maintenance Building (To Be Removed)	45'
F1	Hangar F	45'
F2	Administration Building	45'
F3	Box Hangar 1	52'
F4	Ground Service Equipment Covered Parking	35'
F5	T-Hangar G	48'
F6	T-Hangar H	48'
F7	T-Hangar I	48'
F8	T-Hangar J	48'
F9	Fuel Farm	29'

EXISTING	LEGEND	FUTURE
	AIRPORT PROPERTY LINE	
X	AIRPORT FENCE 6'	X
	ROADS	
	BUILDINGS	
	AIRFIELD PAVEMENT	
	AVIGATION EASEMENT	
	PRECISION APPROACH PATH INDICATOR (PAPI)	
N/A	RUNWAY END IDENTIFIER LIGHTS (REIL)	
	ROTATING BEACON	
	LIGHTED WIND CONE/SUPPLEMENTAL WIND CONE	
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	THRESHOLD SITING APPROACH SURFACE	
BRL	BUILDING RESTRICTION LINE (BRL) FOR 25' BLDG.	BRL
	FAR PART 77 SURFACE	
ROFA	RUNWAY OBJECT FREE AREA (ROFA)	ROFA
TOFA	TAXIWAY OBJECT FREE AREA (TOFA)	TOFA
	RUNWAY OBSTACLE FREE ZONE (ROFZ)	
RPZ	RUNWAY PROTECTION ZONE (RPZ)	RPZ
RSA	RUNWAY SAFETY AREA (RSA)	RSA
TSA	TAXIWAY SAFETY AREA (TSA)	TSA
	RUNWAY VISIBILITY ZONE	
N/A	40:1 DEPARTURE SURFACE	
N/A	PAVEMENT REMOVAL	

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VALKARIA AIRPORT

AIRPORT LAYOUT PLAN

NO.	DATE	DESCRIPTION		
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ISSUE: APRIL 4, 2016
PROJECT NO: 12A0007
CAD FILE: 04-ALD-F.DWG
DESIGN BY: MLH 03/04/2015
DRAWN BY: MLH 03/04/2015
REVIEWED BY: TSH 04/24/2015

SHEET TITLE

FUTURE AIRPORT LAYOUT DRAWING

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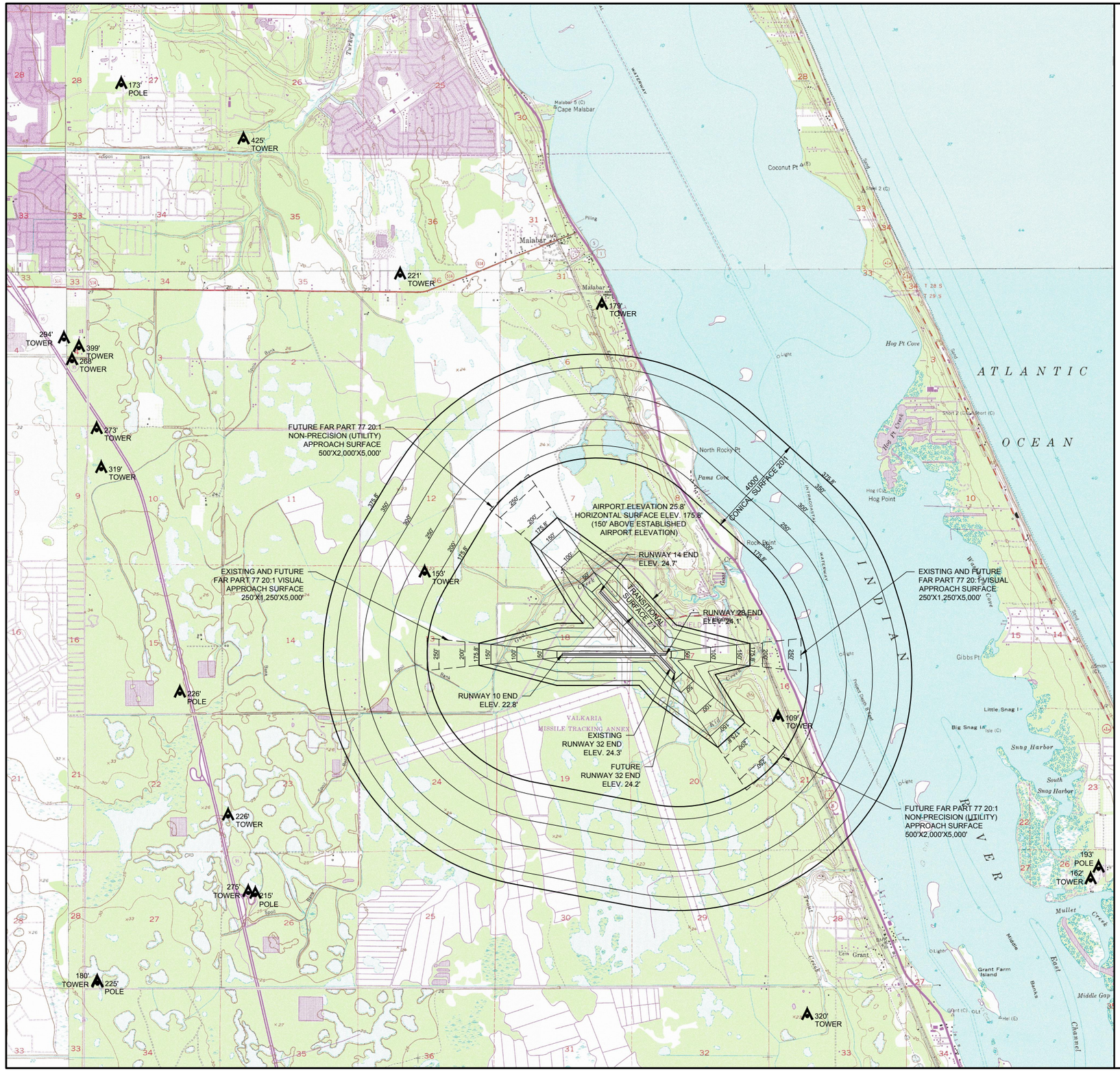
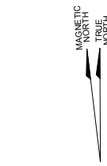
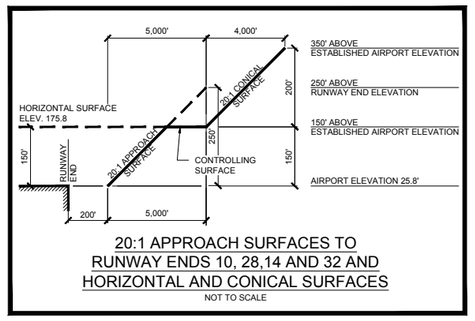




MAGNETIC DECLINATION: 6° 32.4' W (10/2014)
ANNUAL RATE OF CHANGE: 5.4' W/ YEAR
EPOCH YEAR 2010

0' 1000' 2000' 4000'
SCALE: 1"= 2000'



20:1 APPROACH SURFACES TO
RUNWAY ENDS 10, 28,14 AND 32 AND
HORIZONTAL AND CONICAL SURFACES
NOT TO SCALE

GENERAL NOTES

1. APPROACH SURFACE TO PAVED RUNWAY ENDS BEGIN 200' BEYOND RUNWAY END.
2. ANY HEIGHT WITHIN A TERMINAL OBSTACLE CLEARANCE AREA, INCLUDING AN INITIAL APPROACH SEGMENT, AND A DEPARTURE AREA, WHICH WOULD RESULT IN THE VERTICAL DISTANCE BETWEEN ANY POINT ON THE OBJECT AND AN ESTABLISHED MINIMUM INSTRUMENT FLIGHT ALTITUDE WITHIN THAT AREA OR SEGMENT TO BE LESS THAN THE REQUIRED OBSTACLE CLEARANCE IS AN OBSTRUCTION TO AIR NAVIGATION.
3. OBJECT DATA FROM FAA OE/AAA WEBSITE AND FAA OBSTACLE REPOSITORY SERVICE DIGITAL OBSTACLE FILE (DOF).
4. ELEVATIONS APPROXIMATE FEET ABOVE MEAN SEA LEVEL.
5. SEE RUNWAY PROFILE SHEETS FOR OBSTRUCTIONS IN INNER PORTION OF APPROACH SURFACES.
6. BREVARD COUNTY CODE OF ORDINANCES SEC. 62-2203 - AIRPORT ZONE AND AIRSPACE HEIGHT LIMITATIONS IS IN PLACE AND APPLIES TO THIS FACILITY.

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Phone: (321) 633-2000

VALKARIA AIRPORT

AIRPORT LAYOUT PLAN

NO.	DATE	DESCRIPTION		
		DES	DWN	REV

ISSUE: APRIL 4, 2016
PROJECT NO: 12A0007
CAD FILE: 05-AIRS-PT77-F.DWG
DESIGN BY: MLH 05/07/2015
DRAWN BY: RAD 05/07/2015
REVIEWED BY: TSH 04/24/2015

SHEET TITLE

AIRPORT AIRSPACE DRAWING

APR 02, 2016 4:54 PM HARRI01115
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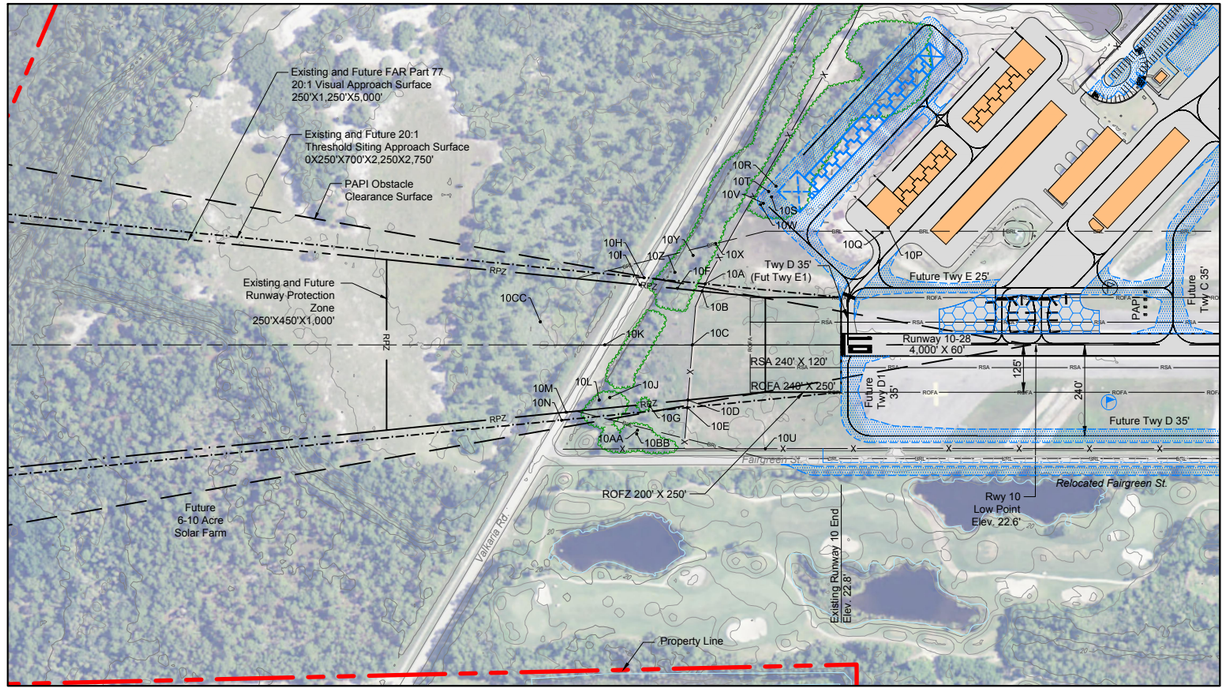
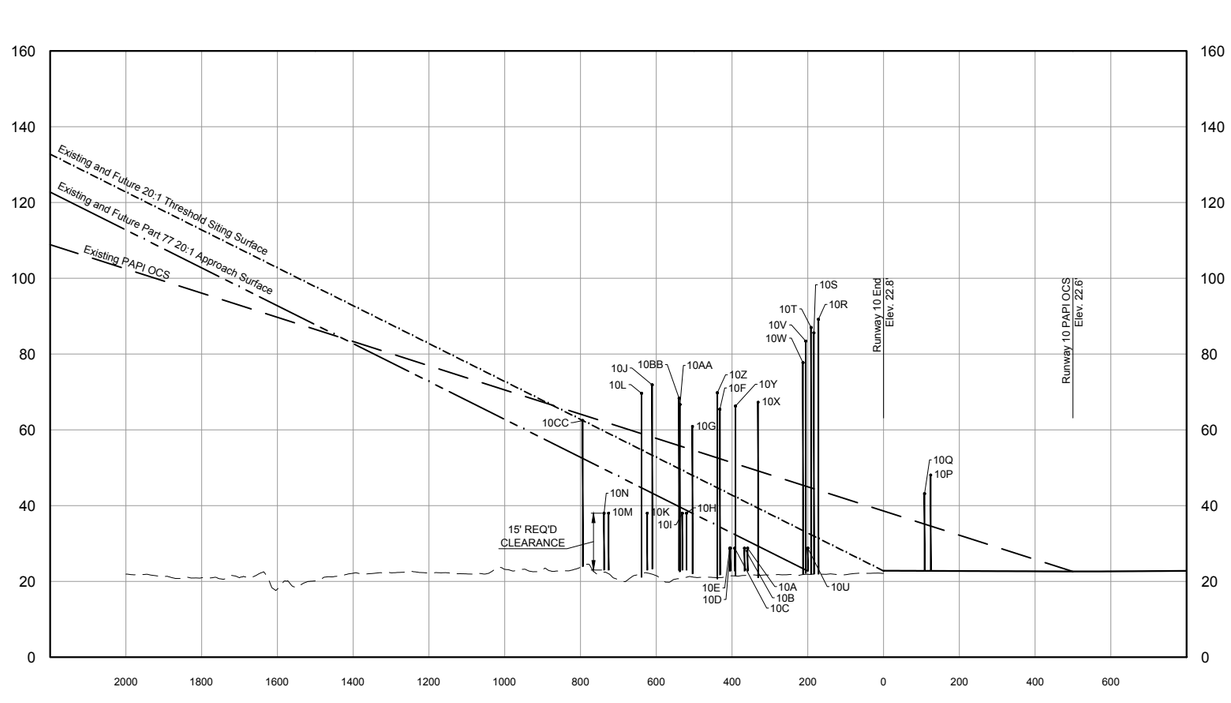
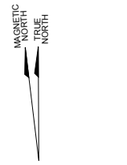


RUNWAY 10 END - PLAN



RUNWAY 10 END - PROFILE



MAGNETIC DECLINATION: 6° 32.4' W (10/2014)
ANNUAL RATE OF CHANGE: 5.4' W/ YEAR
EPOCH YEAR 2010

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

EXISTING/FUTURE RUNWAY 10 APPROACH SURFACE

ID	DESCRIPTION	RWY ELEVATION	DISTANCE FROM RUNWAY END	SURFACE SLOPE	SURFACE ELEVATION	OBJECT ELEVATION	CLEARANCE (+)/ VIOLATION (-)	DISPOSITION
10A	FENCE @ LT.	22.8	359	20	40	29	11	NO ACTION
10C	FENCE @ CL.	22.8	392	20	42	29	13	NO ACTION
10E	FENCE @ RT.	22.8	405	20	43	29	14	NO ACTION
10F	TREE	22.8	433	20	44	66	-22	**SEE NOTE
10G	TREE	22.8	506	20	48	61	-13	**SEE NOTE
10H	VALKARIA RD. @ LT.	22.8	521	20	48	38	10	NO ACTION
10J	TREE	22.8	612	20	53	72	-19	**SEE NOTE
10K	VALKARIA RD. @ CL.	22.8	625	20	54	38	16	NO ACTION
10L	TREE	22.8	640	20	54	70	-16	**SEE NOTE
10N	VALKARIA RD. @ RT.	22.8	738	20	59	38	21	NO ACTION
10CC	TREES*	22.8	794	20	62	62	0	**SEE NOTE

THE APPROACH SURFACE IS BASED ON AC 150/5300-13A, CHANGE 1, SECTION 303B - RUNWAY END SITING CRITERIA, APPROACH SURFACES, USING RUNWAY TYPE 2 FROM TABLE 3-2 FOR APPROACH ENDS OF RUNWAYS EXPECTED TO SERVE SMALL AIRPLANES WITH APPROACH SPEEDS OF 50 KNOTS OR MORE (VISUAL RUNWAYS ONLY, DAY/NIGHT)
* - CONTROLLING OBJECT FROM FDOT LICENSING INSPECTION CONDUCTED 8/28/2014.
** - TREES REMOVED NOVEMBER 2014 (BASED ON INFORMATION PROVIDED BY AIRPORT)

EXISTING/FUTURE RUNWAY 10 FAR PART 77 APPROACH SURFACE

ID	DESCRIPTION	RWY ELEVATION	DISTANCE FROM RUNWAY END	SURFACE SLOPE	SURFACE ELEVATION	OBJECT ELEVATION	CLEARANCE (+)/ VIOLATION (-)	DISPOSITION
10B	FENCE @ LT.	22.8	368	20	31	29	2	NO ACTION
10C	FENCE @ CL.	22.8	392	20	32	29	3	NO ACTION
10D	FENCE @ RT.	22.8	404	20	33	29	4	NO ACTION
10F	TREE	22.8	433	20	34	66	-32	**SEE NOTE
10G	TREE	22.8	506	20	38	61	-23	**SEE NOTE
10I	VALKARIA RD. @ LT.	22.8	531	20	39	38	1	NO ACTION
10J	TREE	22.8	612	20	43	72	-29	**SEE NOTE
10K	VALKARIA RD. @ CL.	22.8	625	20	44	38	6	NO ACTION
10L	TREE	22.8	640	20	44	70	-26	**SEE NOTE
10M	VALKARIA RD. @ RT.	22.8	725	20	49	38	11	NO ACTION
10CC	TREES*	22.8	794	20	52	62	-10	**SEE NOTE

* - CONTROLLING OBJECT FROM MOST RECENT FDOT LICENSING INSPECTION CONDUCTED 8/28/2014.
** - TREES REMOVED NOVEMBER 2014 (BASED ON INFORMATION PROVIDED BY AIRPORT)

EXISTING/FUTURE FAR PART 77 TRANSITIONAL SURFACE CLEARANCES

ID	DESCRIPTION	RWY ELEVATION	DISTANCE FROM RUNWAY END	SURFACE SLOPE	DISTANCE FROM SURFACE EDGE	SURFACE SLOPE	SURFACE ELEVATION	OBJECT ELEVATION	CLEARANCE (+)/ VIOLATION (-)	DISPOSITION
10P	TOP OF HANGAR	22.8	0	20	297	7	55	44	11	NO ACTION
10Q	HANGAR DOOR	22.8	0	20	310	7	57	49	8	NO ACTION
10R	TREE	22.8	172	20	294	7	63	90	-27	**SEE NOTE
10S	TREE	22.8	184	20	266	7	60	86	-26	**SEE NOTE
10T	TREE	22.8	191	20	280	7	62	88	-26	**SEE NOTE
10U	FENCE @ RT.	22.8	200	20	149	7	44	29	15	NO ACTION
10V	TREE	22.8	211	20	243	7	58	78	-20	**SEE NOTE
10W	TREE	22.8	213	20	249	7	59	84	-25	**SEE NOTE
10X	TREE	22.8	332	20	130	7	47	68	-21	**SEE NOTE
10Y	TREE	22.8	391	20	92	7	45	67	-22	**SEE NOTE
10Z	TREE	22.8	439	20	43	7	40	70	-30	**SEE NOTE
10AA	TREE	22.8	537	20	66	7	49	67	-18	**SEE NOTE
10BB	TREE	22.8	540	20	76	7	50	69	-19	**SEE NOTE

* - CONTROLLING OBJECT FROM FDOT LICENSING INSPECTION CONDUCTED 8/28/2014.
** - TREES REMOVED NOVEMBER 2014 (BASED ON INFORMATION PROVIDED BY AIRPORT)

OBSTRUCTION NOTES

1. OBSTRUCTION INFORMATION OBTAINED FROM AVAILABLE DATA SOURCES, INCLUDING CONSTRUCTION SURVEYS, FDOT LICENSING INSPECTION, FAA OEAAA, AND FAA DIGITAL OBSTACLE FILE REPOSITORY. OBJECTS MAY HAVE BEEN REMOVED.
2. THERE MAY EXIST OBSTRUCTIONS NOT REPRESENTED. IT IS RECOMMENDED THAT AN OBSTRUCTION SURVEY BE PERFORMED AS PART OF A FUTURE PROJECT AND OBSTRUCTIONS IDENTIFIED AND MITIGATED AS APPLICABLE TO ACCOMMODATE AIRFIELD DEVELOPMENT AND OPERATION. OBSTRUCTIONS TO BE MITIGATED AS PART OF FUTURE PROJECTS.
3. PER FAR PART 77, "OBJECTS AFFECTING NAVIGABLE AIRSPACE", PUBLIC ROADS CONSIDERED AS 15' OBJECTS, PRIVATE ROADS AS 10' OR THE HIGHEST OBJECT USING THE ROAD.
4. FUTURE OBJECTS TO BE SITED AND MITIGATED UNDER FUTURE PROJECTS.

GENERAL NOTES

1. ALP PREPARED USING DESIGN CRITERIA FROM FAA ADVISORY CIRCULAR 150/5300-13A, CHANGE 1 "AIRPORT DESIGN" AND FAR PART 77 "OBJECTS AFFECTING NAVIGABLE AIRSPACE".
2. THERE ARE NO OFZ PENETRATIONS.
3. GROUND CONTOUR INTERVALS SHOWN ARE 2-FOOT. CONTOURS GENERATED FROM USGS NATIONAL ELEVATION DATASET (NED) 3m DIGITAL ELEVATION MODEL.
4. AERIAL PHOTOGRAPHY OBTAINED FROM USDA NATIONAL AGRICULTURAL IMAGERY PROGRAM (NAIP), 2013.
5. BASE MAPPING FROM VALKARIA AIRPORT AND HANSON PROFESSIONAL SERVICES (VARIOUS PROJECTS).

REFERENCE

1. LATITUDE AND LONGITUDE ARE BASED ON THE NORTH AMERICAN DATUM OF 1983 (NAD83). AS APPLICABLE, CONVERSIONS MADE FROM FLORIDA STATE PLANE COORDINATE SYSTEM, EAST ZONE.
2. VERTICAL CONTROL IS REFERENCED TO THE NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD 88).
3. ELEVATIONS SHOWN ARE IN "MEAN SEA LEVEL" (MSL) UNLESS NOTED OTHERWISE, AND ARE NOT INTENDED FOR DESIGN PURPOSES.
4. ALL ELEVATIONS AND DIMENSIONS IN FEET, UNLESS NOTED OTHERWISE.

EXISTING	LEGEND	FUTURE
	AIRPORT PROPERTY LINE	
-x-	AIRPORT FENCE 6'	-x-
	ROADS	
	BUILDINGS	
	AIRFIELD PAVEMENT	
	AVIGATION EASEMENT	
	PRECISION APPROACH PATH INDICATOR (PAPI)	
N/A	RUNWAY END IDENTIFIER LIGHTS (REIL)	
	ROTATING BEACON	
	LIGHTED WIND CONE/SUPPLEMENTAL WIND CONE	
	AIRPORT REFERENCE POINT (ARP)	
	THRESHOLD SITING APPROACH SURFACE	
BRL	BUILDING RESTRICTION LINE (BRL) FOR 25' BLDG.	BRL
	FAR PART 77 SURFACE	
ROFA	RUNWAY OBJECT FREE AREA (ROFA)	ROFA
TOFA	TAXIWAY OBJECT FREE AREA (TOFA)	TOFA
	RUNWAY OBSTACLE FREE ZONE (ROFZ)	
RPZ	RUNWAY PROTECTION ZONE (RPZ)	RPZ
RSA	RUNWAY SAFETY AREA (RSA)	RSA
TSA	TAXIWAY SAFETY AREA (TSA)	TSA
	RUNWAY VISIBILITY ZONE	
N/A	40:1 DEPARTURE SURFACE	
N/A	PAVEMENT REMOVAL	

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2725 Judge Fran Jamieson Way
Viera, Florida 32940
Phone: (321) 633-2000

VALKARIA AIRPORT

AIRPORT LAYOUT PLAN

NO.	DATE	DESCRIPTION		
		DES	DWN	REV

ISSUE: APRIL 4, 2016
PROJECT NO: 12A0007
CAD FILE: 06-07-INNR-APCH-1028.DWG
DESIGN BY: MLH 03/04/2015
DRAWN BY: MLH 03/04/2015
REVIEWED BY: TSH 04/24/2015

SHEET TITLE

RUNWAY 10 INNER PORTION OF THE APPROACH SURFACE DRAWING

APR 02, 2016 3:26 PM HARRI01115
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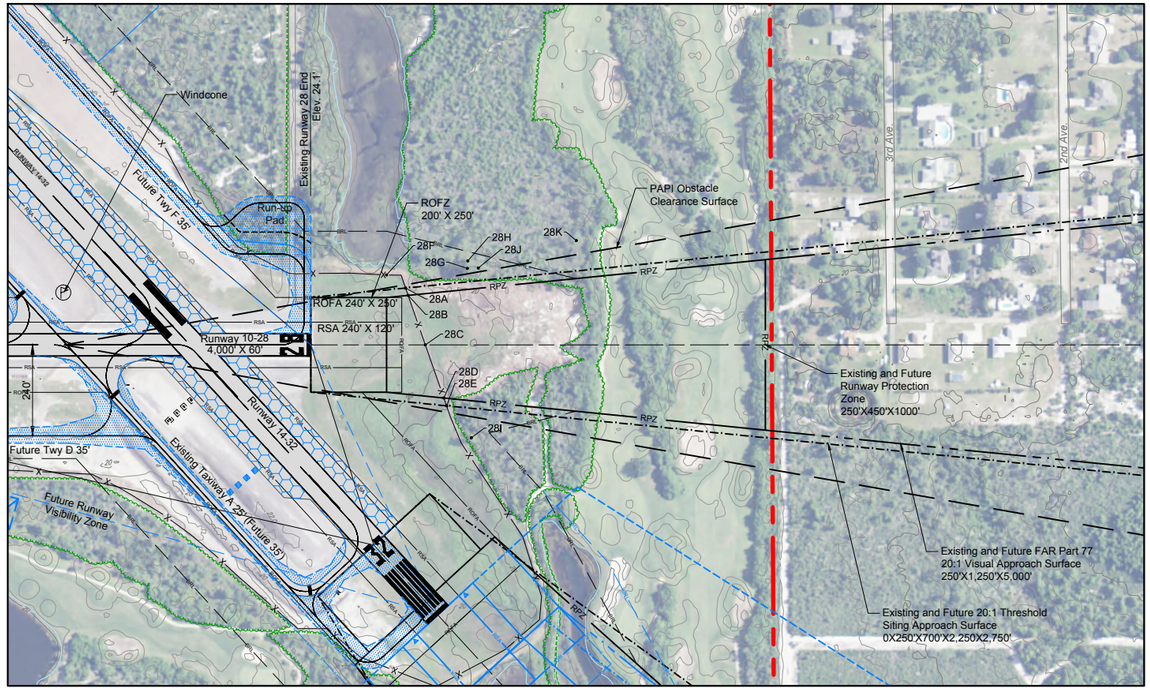
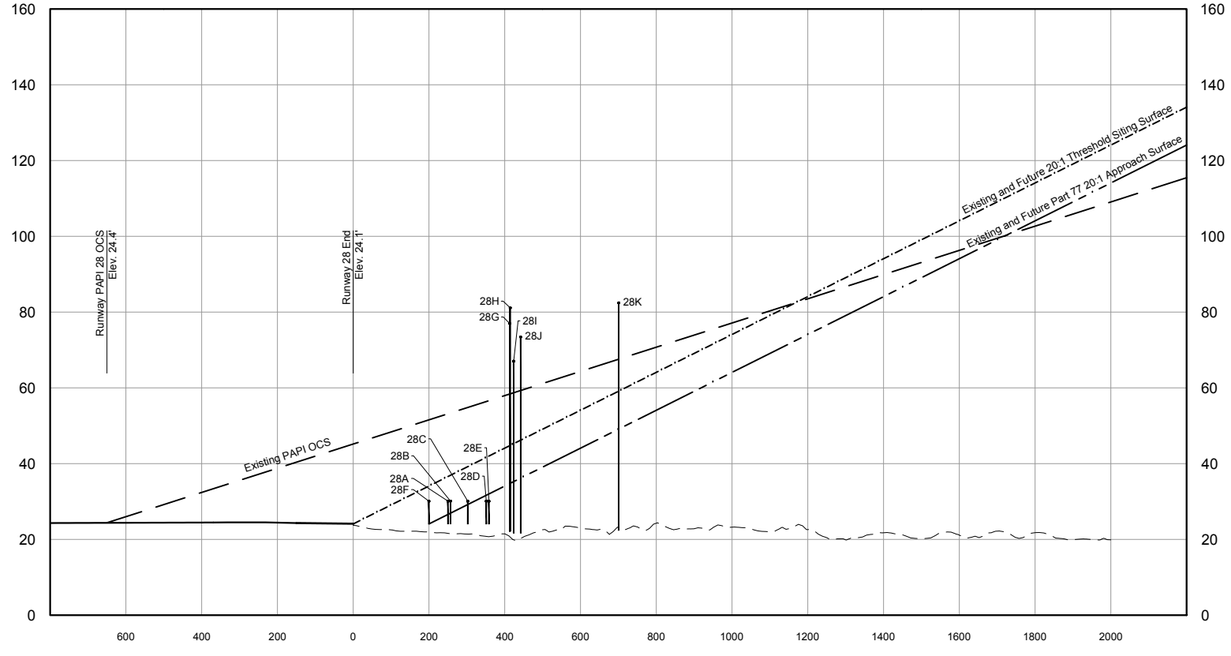


RUNWAY 28 END - PLAN



RUNWAY 28 END - PROFILE

MAGNETIC DECLINATION: 6° 32.4' W (10/2014)
ANNUAL RATE OF CHANGE: 5.4' W/ YEAR
EPOCH YEAR 2010

0' 100' 200' 400'

SCALE: 1"= 200'

EXISTING/FUTURE RUNWAY 28 APPROACH SURFACE

ID	DESCRIPTION	RWY ELEVATION	DISTANCE FROM RUNWAY END	SURFACE SLOPE	SURFACE ELEVATION	OBJECT ELEVATION	CLEARANCE (+)/ VIOLATION (-)	DISPOSITION
28A	FENCE @ LT.	24.1	250	20	36	30	6	NO ACTION
28C	FENCE @ CL.	24.1	302	20	39	30	9	NO ACTION
28E	FENCE @ RT.	24.1	358	20	42	30	12	NO ACTION

THE APPROACH SURFACE IS BASED ON AC 150/5300-13A, CHANGE 1, SECTION 303B - RUNWAY END SITING CRITERIA, APPROACH SURFACES, USING RUNWAY TYPE 2 FROM TABLE 3-2 FOR APPROACH ENDS OF RUNWAYS EXPECTED TO SERVE SMALL AIRPLANES WITH APPROACH SPEEDS OF 50 KNOTS OR MORE (VISUAL RUNWAYS ONLY, DAY/NIGHT)

EXISTING/FUTURE RUNWAY 28 FAR PART 77 APPROACH SURFACE

ID	DESCRIPTION	RWY ELEVATION	DISTANCE FROM RUNWAY END	SURFACE SLOPE	SURFACE ELEVATION	OBJECT ELEVATION	CLEARANCE (+)/ VIOLATION (-)	DISPOSITION
28B	FENCE @ LT.	24.1	257	20	26	30	-4	RELOCATE
28C	FENCE @ CL.	24.1	302	20	29	30	-1	RELOCATE
28D	FENCE @ RT.	24.1	352	20	31	30	1	NO ACTION

EXISTING/FUTURE FAR PART 77 TRANSITIONAL SURFACE CLEARANCES

ID	DESCRIPTION	RWY ELEVATION	DISTANCE FROM RUNWAY END	SURFACE SLOPE	DISTANCE FROM SURFACE EDGE	SURFACE SLOPE	SURFACE ELEVATION	OBJECT ELEVATION	CLEARANCE (+)/ VIOLATION (-)	DISPOSITION
28F	FENCE @ LT.	24.1	200	20	60	7	32	30	2	NO ACTION
28G	TREE	24.1	413	20	56	7	42	77	-35	REMOVAL
28H	TREE	24.1	415	20	75	7	45	82	-37	REMOVAL
28I	TREE	24.1	424	20	98	7	49	67	-18	REMOVAL
28J	TREE	24.1	442	20	54	7	43	74	-31	REMOVAL
28K	TREE	24.1	702	20	100	7	63	83	-20	REMOVAL

OBSTRUCTION NOTES

1. OBSTRUCTION INFORMATION OBTAINED FROM AVAILABLE DATA SOURCES, INCLUDING CONSTRUCTION SURVEYS, FDOT LICENSING INSPECTION, FAA OEAAA, AND FAA DIGITAL OBSTACLE FILE REPOSITORY. OBJECTS MAY HAVE BEEN REMOVED.
2. THERE MAY EXIST OBSTRUCTIONS NOT REPRESENTED. IT IS RECOMMENDED THAT AN OBSTRUCTION SURVEY BE PERFORMED AS PART OF A FUTURE PROJECT AND OBSTRUCTIONS IDENTIFIED AND MITIGATED AS APPLICABLE TO ACCOMMODATE AIRFIELD DEVELOPMENT AND OPERATION. OBSTRUCTIONS TO BE MITIGATED AS PART OF FUTURE PROJECTS.
3. PER FAR PART 77, "OBJECTS AFFECTING NAVIGABLE AIRSPACE", PUBLIC ROADS CONSIDERED AS 15' OBJECTS, PRIVATE ROADS AS 10' OR THE HIGHEST OBJECT USING THE ROAD.
4. FUTURE OBJECTS TO BE SITED AND MITIGATED UNDER FUTURE PROJECTS.

GENERAL NOTES

1. ALP PREPARED USING DESIGN CRITERIA FROM FAA ADVISORY CIRCULAR 150/5300-13A, CHANGE 1 "AIRPORT DESIGN" AND FAR PART 77 "OBJECTS AFFECTING NAVIGABLE AIRSPACE".
2. THERE ARE NO OFZ PENETRATIONS.
3. GROUND CONTOUR INTERVALS SHOWN ARE 2-FOOT. CONTOURS GENERATED FROM USGS NATIONAL ELEVATION DATASET (NED) 3m DIGITAL ELEVATION MODEL.
4. AERIAL PHOTOGRAPHY OBTAINED FROM USDA NATIONAL AGRICULTURAL IMAGERY PROGRAM (NAIP), 2013.
5. BASE MAPPING FROM VALKARIA AIRPORT AND HANSON PROFESSIONAL SERVICES (VARIOUS PROJECTS).

REFERENCE

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3. ELEVATIONS SHOWN ARE IN "MEAN SEA LEVEL" (MSL) UNLESS NOTED OTHERWISE, AND ARE NOT INTENDED FOR DESIGN PURPOSES.
4. ALL ELEVATIONS AND DIMENSIONS IN FEET, UNLESS NOTED OTHERWISE.

EXISTING	LEGEND	FUTURE
	AIRPORT PROPERTY LINE	
x	AIRPORT FENCE 6'	x
	ROADS	
	BUILDINGS	
	AIRFIELD PAVEMENT	
	AVIGATION EASEMENT	
	PRECISION APPROACH PATH INDICATOR (PAPI)	
N/A	RUNWAY END IDENTIFIER LIGHTS (REIL)	
	ROTATING BEACON	
	LIGHTED WIND CONE/SUPPLEMENTAL WIND CONE	
	AIRPORT REFERENCE POINT (ARP)	
	THRESHOLD SITING APPROACH SURFACE	
BRL	BUILDING RESTRICTION LINE (BRL) FOR 25' BLDG.	BRL
	FAR PART 77 SURFACE	
ROFA	RUNWAY OBJECT FREE AREA (ROFA)	ROFA
TOFA	TAXIWAY OBJECT FREE AREA (TOFA)	TOFA
	RUNWAY OBSTACLE FREE ZONE (ROFZ)	
RPZ	RUNWAY PROTECTION ZONE (RPZ)	RPZ
RSA	RUNWAY SAFETY AREA (RSA)	RSA
TSA	TAXIWAY SAFETY AREA (TSA)	TSA
	RUNWAY VISIBILITY ZONE	
N/A	40:1 DEPARTURE SURFACE	
N/A	PAVEMENT REMOVAL	

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VALKARIA AIRPORT

AIRPORT LAYOUT PLAN

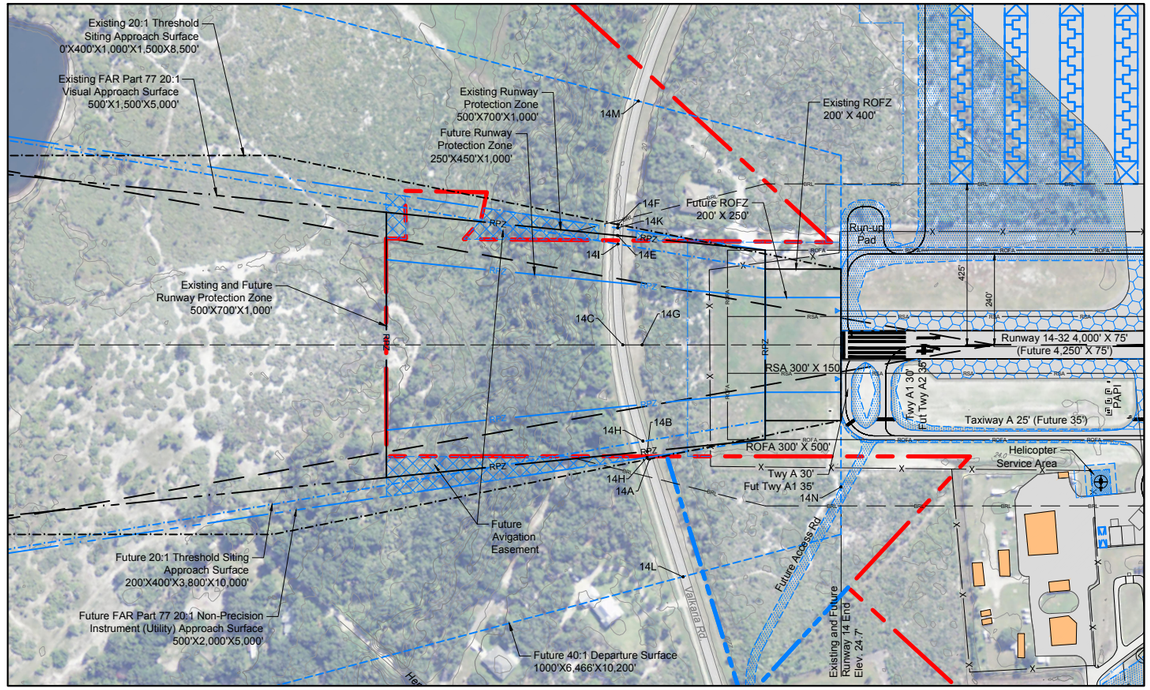
NO.	DATE	DESCRIPTION		
		DES	DWN	REV

ISSUE: APRIL 4, 2016
PROJECT NO: 12A0007
CAD FILE: 06-07-INNR-APCH-1028.DWG
DESIGN BY: MLH 03/04/2015
DRAWN BY: MLH 03/04/2015
REVIEWED BY: TSH 04/24/2015

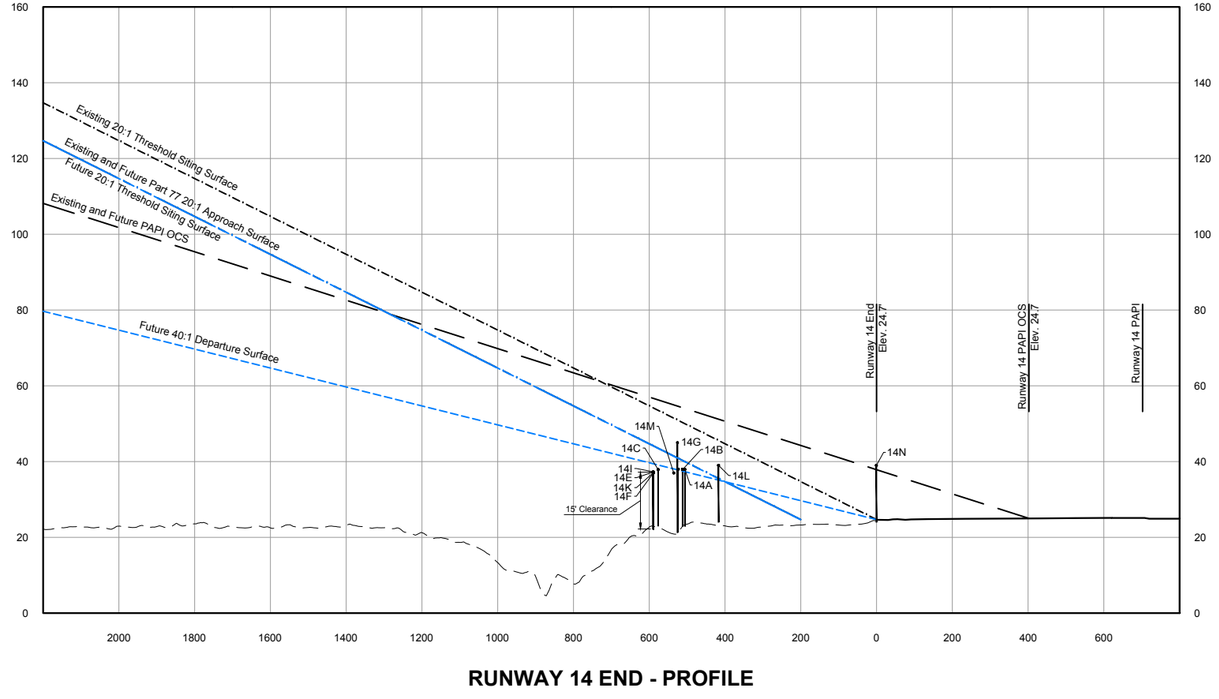
SHEET TITLE

RUNWAY 28 INNER PORTION OF THE APPROACH SURFACE DRAWING

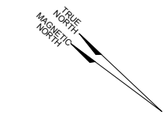
APR 02, 2016 3:25 PM HARRI01115
I:\12JOBS\12A0007\CAD\AIRPORT\SHEET\06-07-INNR-APCH-1028.DWG



RUNWAY 14 END - PLAN



RUNWAY 14 END - PROFILE



MAGNETIC DECLINATION: 6° 32.4' W (10/2014)
ANNUAL RATE OF CHANGE: 5.4' W/ YEAR
EPOCH YEAR 2010

0' 100' 200' 400'

SCALE: 1"= 200'

EXISTING RUNWAY 14 APPROACH SURFACE

ID	DESCRIPTION	RWY ELEVATION	DISTANCE FROM RUNWAY END	SURFACE SLOPE	SURFACE ELEVATION	OBJECT ELEVATION	CLEARANCE (+)/ VIOLATION (-)	DISPOSITION
14A	VALKARIA RD. @ RT.	24.7	505	20	49	38	11	NO ACTION
14C	VALKARIA RD. @ CL.	24.7	575	20	53	38	15	NO ACTION
14F	VALKARIA RD. @ LT.	24.7	588	20	54	38	16	NO ACTION
14G	TREES*	24.7	525	20	50	45	5	**SEE NOTE

THE APPROACH SURFACE IS BASED ON AC 150/5300-13A, CHANGE 1, SECTION 303B - RUNWAY END SITING CRITERIA, APPROACH SURFACES, USING RUNWAY TYPE 3 FROM TABLE 3-2 FOR APPROACH ENDS OF RUNWAYS EXPECTED TO SERVE LARGE AIRPLANES (VISUAL DAY/NIGHT)
* - CONTROLLING OBJECT FROM FDOT LICENSING INSPECTION CONDUCTED 8/28/2014.
** - TREES REMOVED APRIL 2015 (BASED ON INFORMATION PROVIDED BY AIRPORT)

EXISTING RUNWAY 14 FAR PART 77 APPROACH SURFACE

ID	DESCRIPTION	RWY ELEVATION	DISTANCE FROM RUNWAY END	SURFACE SLOPE	SURFACE ELEVATION	OBJECT ELEVATION	CLEARANCE (+)/ VIOLATION (-)	DISPOSITION
14B	VALKARIA RD. @ RT.	24.7	511	20	40	38	2	NO ACTION
14C	VALKARIA RD. @ CL.	24.7	575	20	43	38	5	NO ACTION
14E	VALKARIA RD. @ LT.	24.7	590	20	44	38	6	NO ACTION
14G	TREES*	24.7	525	20	40	45	-5	**SEE NOTE

* - CONTROLLING OBJECT FROM FDOT LICENSING INSPECTION CONDUCTED 8/28/2014.
** - TREES REMOVED APRIL 2015 (BASED ON INFORMATION PROVIDED BY AIRPORT)

FUTURE RUNWAY 14 APPROACH SURFACE

ID	DESCRIPTION	RWY ELEVATION	DISTANCE FROM RUNWAY END	SURFACE SLOPE	SURFACE ELEVATION	OBJECT ELEVATION	CLEARANCE (+)/ VIOLATION (-)	DISPOSITION
14G	VALKARIA RD. @ RT.	24.7	523	20	40	38	2	NO ACTION
14C	VALKARIA RD. @ CL.	24.7	575	20	43	38	5	NO ACTION
14I	VALKARIA RD. @ LT.	24.7	588	20	44	38	6	NO ACTION
14G	TREES*	24.7	525	20	40	45	-5	**SEE NOTE

THE APPROACH SURFACE IS BASED ON AC 150/5300-13A, CHANGE 1, SECTION 303b - RUNWAY END SITING CRITERIA, APPROACH SURFACES, USING RUNWAY TYPE 4 FROM TABLE 3-2 FOR APPROACH ENDS OF RUNWAYS EXPECTED TO SUPPORT INSTRUMENT NIGHT OPERATIONS, SERVING APPROACH CATEGORY A AND B AIRCRAFT ONLY.
* - CONTROLLING OBJECT FROM FDOT LICENSING INSPECTION CONDUCTED 8/28/2014.
** - TREES REMOVED APRIL 2015 (BASED ON INFORMATION PROVIDED BY AIRPORT)

FUTURE RUNWAY 14 FAR PART 77 APPROACH SURFACE

ID	DESCRIPTION	RWY ELEVATION	DISTANCE FROM RUNWAY END	SURFACE SLOPE	SURFACE ELEVATION	OBJECT ELEVATION	CLEARANCE (+)/ VIOLATION (-)	DISPOSITION
14J	VALKARIA RD. @ RT.	24.7	511	20	40	38	2	NO ACTION
14C	VALKARIA RD. @ CL.	24.7	575	20	43	38	5	NO ACTION
14K	VALKARIA RD. @ LT.	24.7	590	20	44	38	6	NO ACTION
14G	TREES*	24.7	525	20	40	45	-5	**SEE NOTE

* - CONTROLLING OBJECT FROM MOST RECENT FDOT LICENSING INSPECTION CONDUCTED 8/28/2014.
** - TREES REMOVED APRIL 2015 (BASED ON INFORMATION PROVIDED BY AIRPORT)

FUTURE RUNWAY 14 DEPARTURE SURFACE (40:1)

ID	DESCRIPTION	RWY ELEVATION	DISTANCE FROM RUNWAY END	SURFACE SLOPE	SURFACE ELEVATION	OBJECT ELEVATION	CLEARANCE (+)/ VIOLATION (-)	DISPOSITION
14L	VALKARIA RD. @ RT.	24.7	416	40	35	39	-4	NO ACTION
14C	VALKARIA RD. @ CL.	24.7	575	40	39	38	1	NO ACTION
14M	VALKARIA RD. @ LT.	24.7	534	40	38	37	1	NO ACTION
14N	ACCESS ROAD	24.7	0	40	24	39	-15	NO ACTION

OBSTRUCTION NOTES

1. OBSTRUCTION INFORMATION OBTAINED FROM AVAILABLE DATA SOURCES, INCLUDING CONSTRUCTION SURVEYS, FDOT LICENSING INSPECTION, FAA OEAAA, AND FAA DIGITAL OBSTACLE FILE REPOSITORY. OBJECTS MAY HAVE BEEN REMOVED.
2. THERE MAY EXIST OBSTRUCTIONS NOT REPRESENTED. IT IS RECOMMENDED THAT AN OBSTRUCTION SURVEY BE PERFORMED AS PART OF A FUTURE PROJECT AND OBSTRUCTIONS IDENTIFIED AND MITIGATED AS APPLICABLE TO ACCOMMODATE AIRFIELD DEVELOPMENT AND OPERATION. OBSTRUCTIONS TO BE MITIGATED AS PART OF FUTURE PROJECTS.
3. PER FAR PART 77, "OBJECTS AFFECTING NAVIGABLE AIRSPACE", PUBLIC ROADS CONSIDERED AS 15' OBJECTS, PRIVATE ROADS AS 10' OR THE HIGHEST OBJECT USING THE ROAD.
4. FUTURE OBJECTS TO BE SITED AND MITIGATED UNDER FUTURE PROJECTS.

GENERAL NOTES

1. ALP PREPARED USING DESIGN CRITERIA FROM FAA ADVISORY CIRCULAR 150/5300-13A, CHANGE 1 "AIRPORT DESIGN" AND FAR PART 77 "OBJECTS AFFECTING NAVIGABLE AIRSPACE".
2. THERE ARE NO OFZ PENETRATIONS.
3. GROUND CONTOUR INTERVALS SHOWN ARE 2-FOOT. CONTOURS GENERATED FROM USGS NATIONAL ELEVATION DATASET (NED) 3m DIGITAL ELEVATION MODEL.
4. AERIAL PHOTOGRAPHY OBTAINED FROM USDA NATIONAL AGRICULTURAL IMAGERY PROGRAM (NAIP), 2013.
5. BASE MAPPING FROM VALKARIA AIRPORT AND HANSON PROFESSIONAL SERVICES (VARIOUS PROJECTS).

REFERENCE

1. LATITUDE AND LONGITUDE ARE BASED ON THE NORTH AMERICAN DATUM OF 1983 (NAD83). AS APPLICABLE, CONVERSIONS MADE FROM FLORIDA STATE PLANE COORDINATE SYSTEM, EAST ZONE.
2. VERTICAL CONTROL IS REFERENCED TO THE NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD 88).
3. ELEVATIONS SHOWN ARE IN "MEAN SEA LEVEL" (MSL) UNLESS NOTED OTHERWISE, AND ARE NOT INTENDED FOR DESIGN PURPOSES.
4. ALL ELEVATIONS AND DIMENSIONS IN FEET, UNLESS NOTED OTHERWISE.

EXISTING	LEGEND	FUTURE
	AIRPORT PROPERTY LINE	
	AIRPORT FENCE 6'	
	ROADS	
	BUILDINGS	
	AIRFIELD PAVEMENT	
	AVIGATION EASEMENT	
	PRECISION APPROACH PATH INDICATOR (PAPI)	
N/A	RUNWAY END IDENTIFIER LIGHTS (REIL)	
	ROTATING BEACON	
	LIGHTED WIND CONE/SUPPLEMENTAL WIND CONE	
	AIRPORT REFERENCE POINT (ARP)	
	THRESHOLD SITING APPROACH SURFACE	
BRL	BUILDING RESTRICTION LINE (BRL) FOR 25' BLDG.	BRL
	FAR PART 77 SURFACE	
ROFA	RUNWAY OBJECT FREE AREA (ROFA)	ROFA
TOFA	TAXIWAY OBJECT FREE AREA (TOFA)	TOFA
	RUNWAY OBSTACLE FREE ZONE (ROFZ)	
RPZ	RUNWAY PROTECTION ZONE (RPZ)	RPZ
RSA	RUNWAY SAFETY AREA (RSA)	RSA
TSA	TAXIWAY SAFETY AREA (TSA)	TSA
	RUNWAY VISIBILITY ZONE	
N/A	40:1 DEPARTURE SURFACE	
N/A	PAVEMENT REMOVAL	

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Phone: (321) 633-2000

VALKARIA AIRPORT

AIRPORT LAYOUT PLAN

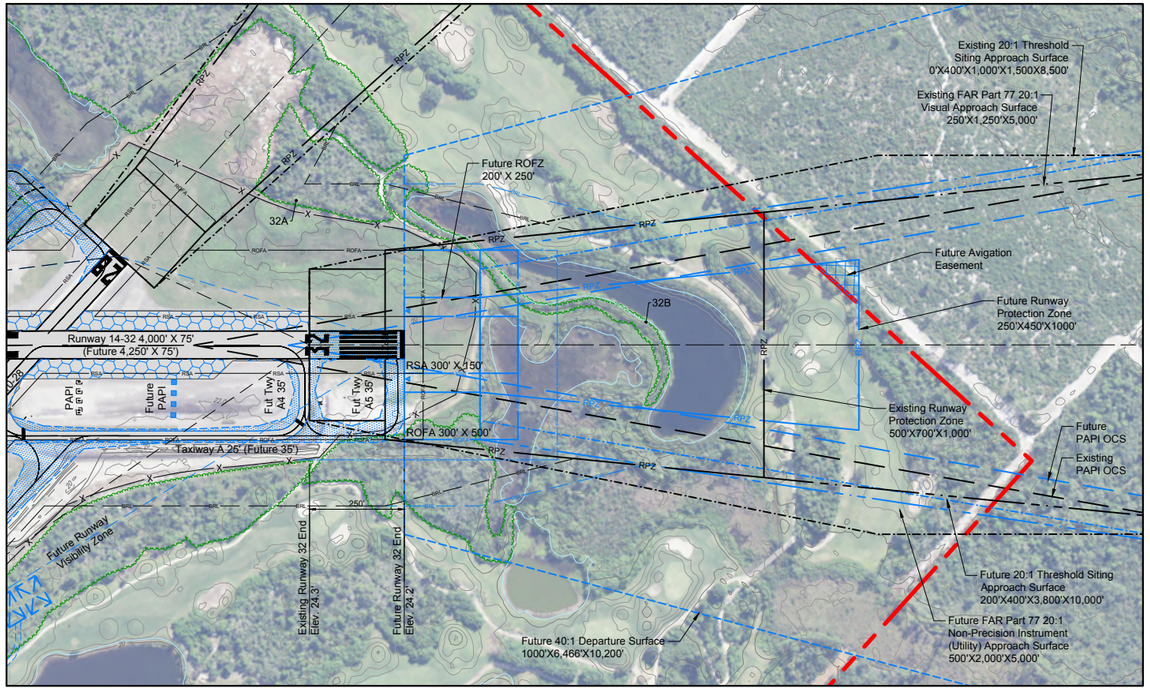
NO.	DATE	DESCRIPTION	DES	DWN	REV

ISSUE: APRIL 4, 2016
PROJECT NO: 12A0007
CAD FILE: 08-09-INNR-APCH-1432.DWG
DESIGN BY: MLH 03/04/2015
DRAWN BY: MLH 03/04/2015
REVIEWED BY: TSH 04/24/2015

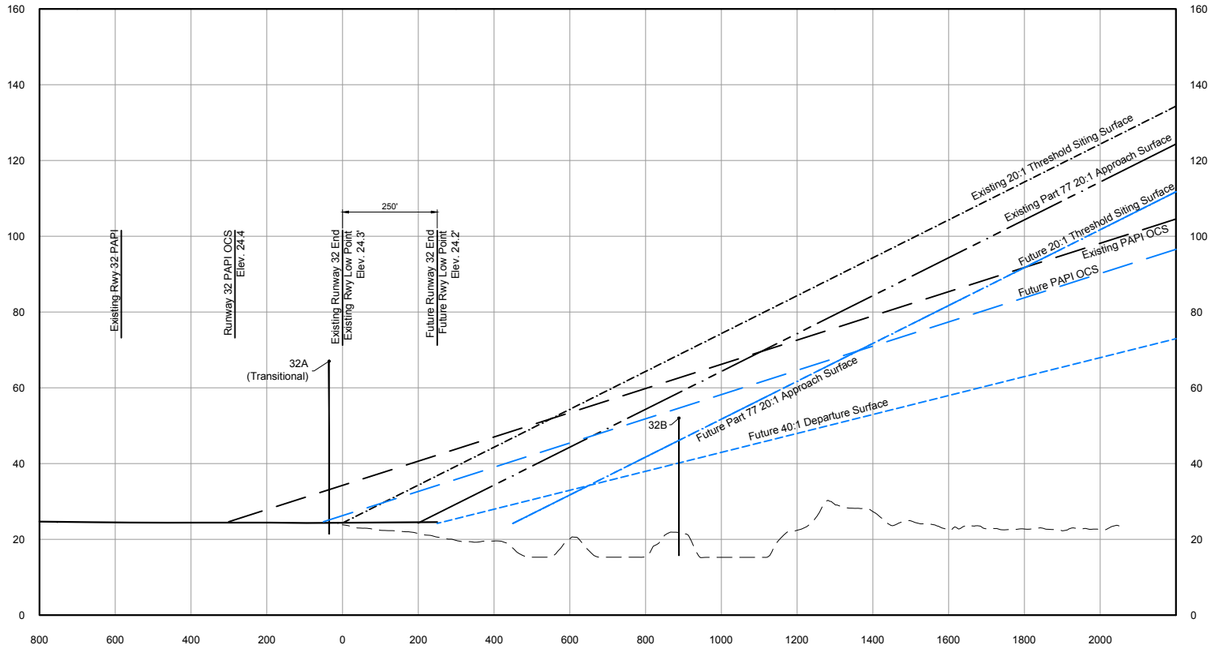
SHEET TITLE

RUNWAY 14 INNER PORTION OF THE APPROACH SURFACE DRAWING

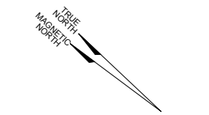
APR 02, 2016 2:32 PM HARRI01115
I:\12JOBS\12A0007\CAD\AIRPORT\SHEET\08-09-INNR-APCH-1432.DWG



RUNWAY 32 END - PLAN



RUNWAY 32 END - PROFILE



MAGNETIC DECLINATION: 6° 32.4' W (10/2014)
ANNUAL RATE OF CHANGE: 5.4' W/ YEAR
EPOCH YEAR 2010

0' 100' 200' 400'

SCALE: 1"= 200'

EXISTING RUNWAY 32 APPROACH SURFACE

ID	DESCRIPTION	RWY ELEVATION	DISTANCE FROM RUNWAY END	SURFACE SLOPE	SURFACE ELEVATION	OBJECT ELEVATION	CLEARANCE (+)/ VIOLATION (-)	DISPOSITION
32B	TREES*	24.3	889	20	68	52	16	NO ACTION

THE APPROACH SURFACE IS BASED ON AC 150/5300-13A, CHANGE 1, SECTION 303B - RUNWAY END SITING CRITERIA, APPROACH SURFACES, USING RUNWAY TYPE 3 FROM TABLE 3-2 FOR APPROACH ENDS OF RUNWAYS EXPECTED TO SERVE LARGE AIRPLANES (VISUAL DAY/NIGHT)
* - CONTROLLING OBJECT FROM FDOT LICENSING INSPECTION CONDUCTED 8/28/2014.
** - TREES REMOVED APRIL 2015 (BASED ON INFORMATION PROVIDED BY AIRPORT)

EXISTING RUNWAY 32 FAR PART 77 APPROACH SURFACE

ID	DESCRIPTION	RWY ELEVATION	DISTANCE FROM RUNWAY END	SURFACE SLOPE	SURFACE ELEVATION	OBJECT ELEVATION	CLEARANCE (+)/ VIOLATION (-)	DISPOSITION
32B	TREES*	24.3	889	20	58	52	6	NO ACTION

* - CONTROLLING OBJECT FROM MOST RECENT FDOT LICENSING INSPECTION CONDUCTED 8/28/2014.

EXISTING RUNWAY 32 FAR PART 77 TRANSITIONAL SURFACE CLEARANCES

ID	DESCRIPTION	RWY ELEVATION	DISTANCE FROM RUNWAY END	SURFACE SLOPE	DISTANCE FROM SURFACE EDGE	SURFACE SLOPE	SURFACE ELEVATION	OBJECT ELEVATION	CLEARANCE (+)/ VIOLATION (-)	DISPOSITION
32A	TREES	24.3	0	20	131	7	43	67	-24	REMOVAL

FUTURE RUNWAY 32 APPROACH SURFACE

ID	DESCRIPTION	RWY ELEVATION	DISTANCE FROM RUNWAY END	SURFACE SLOPE	SURFACE ELEVATION	OBJECT ELEVATION	CLEARANCE (+)/ VIOLATION (-)	DISPOSITION
32B	TREES*	24.2	639	20	46	52	-6	REMOVAL

THE APPROACH SURFACE IS BASED ON AC 150/5300-13A, CHANGE 1, SECTION 303b - RUNWAY END SITING CRITERIA, APPROACH SURFACES, USING RUNWAY TYPE 4 FROM TABLE 3-2 FOR APPROACH ENDS OF RUNWAYS EXPECTED TO SUPPORT INSTRUMENT NIGHT OPERATIONS, SERVING APPROACH CATEGORY A AND B AIRCRAFT ONLY.
* - CONTROLLING OBJECT FROM FDOT LICENSING INSPECTION CONDUCTED 8/28/2014.

FUTURE RUNWAY 32 FAR PART 77 APPROACH SURFACE

ID	DESCRIPTION	RWY ELEVATION	DISTANCE FROM RUNWAY END	SURFACE SLOPE	SURFACE ELEVATION	OBJECT ELEVATION	CLEARANCE (+)/ VIOLATION (-)	DISPOSITION
32B	TREES*	24.2	639	20	46	52	-6	REMOVAL

* - CONTROLLING OBJECT FROM FDOT LICENSING INSPECTION CONDUCTED 8/28/2014.

FUTURE RUNWAY 32 FAR PART 77 TRANSITIONAL SURFACE CLEARANCES

ID	DESCRIPTION	RWY ELEVATION	DISTANCE FROM RUNWAY END	SURFACE SLOPE	DISTANCE FROM SURFACE EDGE	SURFACE SLOPE	SURFACE ELEVATION	OBJECT ELEVATION	CLEARANCE (+)/ VIOLATION (-)	DISPOSITION
32A	TREES	24.3	0	20	131	7	43	67	-24	REMOVAL

FUTURE RUNWAY 32 DEPARTURE SURFACE (40:1)

ID	DESCRIPTION	RWY ELEVATION	DISTANCE FROM RUNWAY END	SURFACE SLOPE	SURFACE ELEVATION	OBJECT ELEVATION	CLEARANCE (+)/ VIOLATION (-)	DISPOSITION
32B	TREES*	24.2	639	40	40	52	-12	REMOVAL

* - CONTROLLING OBJECT FROM FDOT LICENSING INSPECTION CONDUCTED 8/28/2014.

OBSTRUCTION NOTES

1. OBSTRUCTION INFORMATION OBTAINED FROM AVAILABLE DATA SOURCES, INCLUDING CONSTRUCTION SURVEYS, FDOT LICENSING INSPECTION, FAA OEAAA, AND FAA DIGITAL OBSTACLE FILE REPOSITORY. OBJECTS MAY HAVE BEEN REMOVED.
2. THERE MAY EXIST OBSTRUCTIONS NOT REPRESENTED. IT IS RECOMMENDED THAT AN OBSTRUCTION SURVEY BE PERFORMED AS PART OF A FUTURE PROJECT AND OBSTRUCTIONS IDENTIFIED AND MITIGATED AS APPLICABLE TO ACCOMMODATE AIRFIELD DEVELOPMENT AND OPERATION. OBSTRUCTIONS TO BE MITIGATED AS PART OF FUTURE PROJECTS.
3. PER FAR PART 77, "OBJECTS AFFECTING NAVIGABLE AIRSPACE", PUBLIC ROADS CONSIDERED AS 15' OBJECTS, PRIVATE ROADS AS 10' OR THE HIGHEST OBJECT USING THE ROAD.
4. FUTURE OBJECTS TO BE SITED AND MITIGATED UNDER FUTURE PROJECTS.

GENERAL NOTES

1. ALP PREPARED USING DESIGN CRITERIA FROM FAA ADVISORY CIRCULAR 150/5300-13A, CHANGE 1 "AIRPORT DESIGN" AND FAR PART 77 "OBJECTS AFFECTING NAVIGABLE AIRSPACE".
2. THERE ARE NO OFZ PENETRATIONS.
3. GROUND CONTOUR INTERVALS SHOWN ARE 2-FOOT. CONTOURS GENERATED FROM USGS NATIONAL ELEVATION DATASET (NED) 3m DIGITAL ELEVATION MODEL.
4. AERIAL PHOTOGRAPHY OBTAINED FROM USDA NATIONAL AGRICULTURAL IMAGERY PROGRAM (NAIP), 2013.
5. BASE MAPPING FROM VALKARIA AIRPORT AND HANSON PROFESSIONAL SERVICES (VARIOUS PROJECTS).
6. GOLF COURSE IS WITHIN EXISTING AND FUTURE RUNWAY 32 RPZ. INCOMPATIBLE LAND USE IN FUTURE RPZ WILL REQUIRE COORDINATION WITH FAA REGIONAL AND ADO STAFF AND NATIONAL AIRPORT PLANNING AND ENVIRONMENTAL DIVISION, APP-400. INCOMPATIBLE LAND USE WITHIN EXISTING RPZ CONSIDERED COMPATIBLE AT THE TIME OF CONSTRUCTION AND IS EXEMPT FROM THIS POLICY.

REFERENCE

1. LATITUDE AND LONGITUDE ARE BASED ON THE NORTH AMERICAN DATUM OF 1983 (NAD83). AS APPLICABLE, CONVERSIONS MADE FROM FLORIDA STATE PLANE COORDINATE SYSTEM, EAST ZONE.
2. VERTICAL CONTROL IS REFERENCED TO THE NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD 88).
3. ELEVATIONS SHOWN ARE IN "MEAN SEA LEVEL" (MSL) UNLESS NOTED OTHERWISE, AND ARE NOT INTENDED FOR DESIGN PURPOSES.
4. ALL ELEVATIONS AND DIMENSIONS IN FEET, UNLESS NOTED OTHERWISE.

EXISTING	LEGEND	FUTURE
	AIRPORT PROPERTY LINE	
X	AIRPORT FENCE 6'	X
	ROADS	
	BUILDINGS	
	AIRFIELD PAVEMENT	
	AVIGATION EASEMENT	
	PRECISION APPROACH PATH INDICATOR (PAPI)	
N/A	RUNWAY END IDENTIFIER LIGHTS (REIL)	
	ROTATING BEACON	
	LIGHTED WIND CONE/SUPPLEMENTAL WIND CONE	
	AIRPORT REFERENCE POINT (ARP)	
	THRESHOLD SITING APPROACH SURFACE	
BRL	BUILDING RESTRICTION LINE (BRL) FOR 25' BLDG.	BRL
	FAR PART 77 SURFACE	
ROFA	RUNWAY OBJECT FREE AREA (ROFA)	ROFA
TOFA	TAXIWAY OBJECT FREE AREA (TOFA)	TOFA
	RUNWAY OBSTACLE FREE ZONE (ROFZ)	
RPZ	RUNWAY PROTECTION ZONE (RPZ)	RPZ
RSA	RUNWAY SAFETY AREA (RSA)	RSA
TSA	TAXIWAY SAFETY AREA (TSA)	TSA
	RUNWAY VISIBILITY ZONE	
N/A	40:1 DEPARTURE SURFACE	
N/A	PAVEMENT REMOVAL	

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Phone: (321) 633-2000

VALKARIA AIRPORT

AIRPORT LAYOUT PLAN

NO.	DATE	DESCRIPTION		
			DES	DWN	REV

ISSUE: APRIL 4, 2016
PROJECT NO: 12A0007
CAD FILE: 08-09-INNR-APCH-1432.DWG
DESIGN BY: MLH 03/04/2015
DRAWN BY: MLH 03/04/2015
REVIEWED BY: TSH 04/24/2015

SHEET TITLE

RUNWAY 32 INNER PORTION OF THE APPROACH SURFACE DRAWING

APR 02, 2016 2:31 PM HARRI101115
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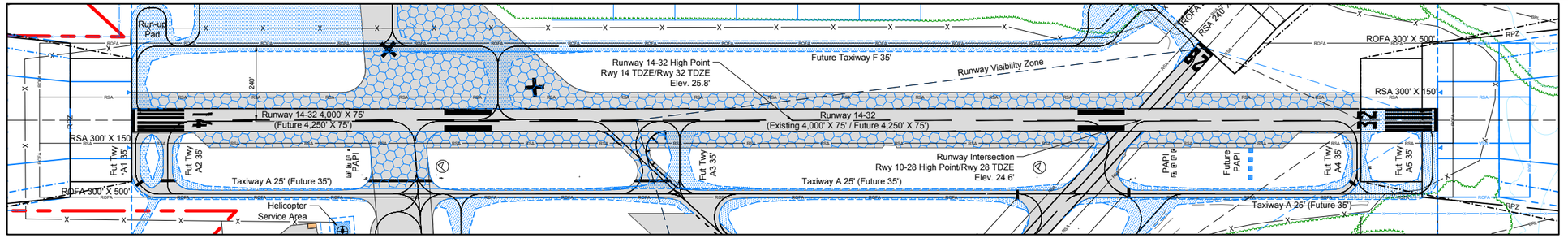
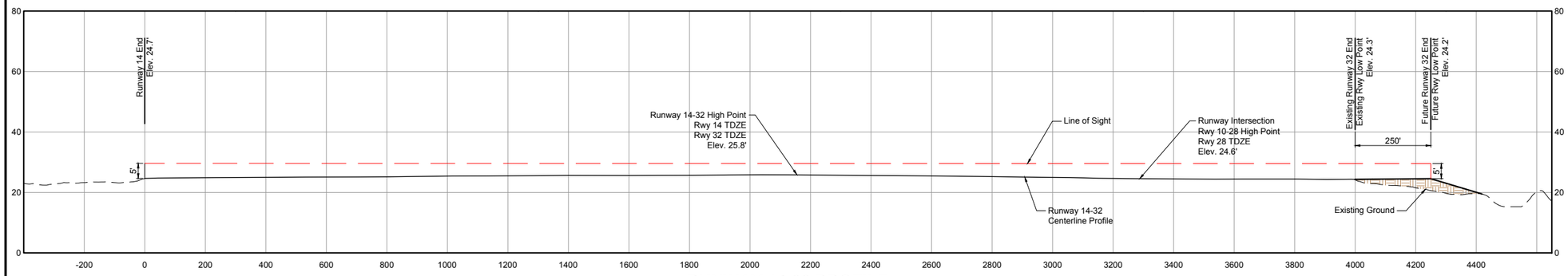


RUNWAY 14-32 PLAN

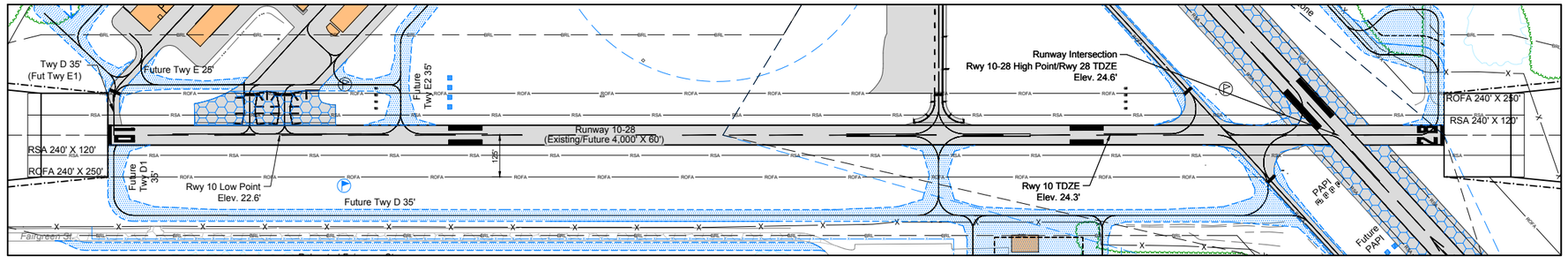


RUNWAY 14-32 PROFILE

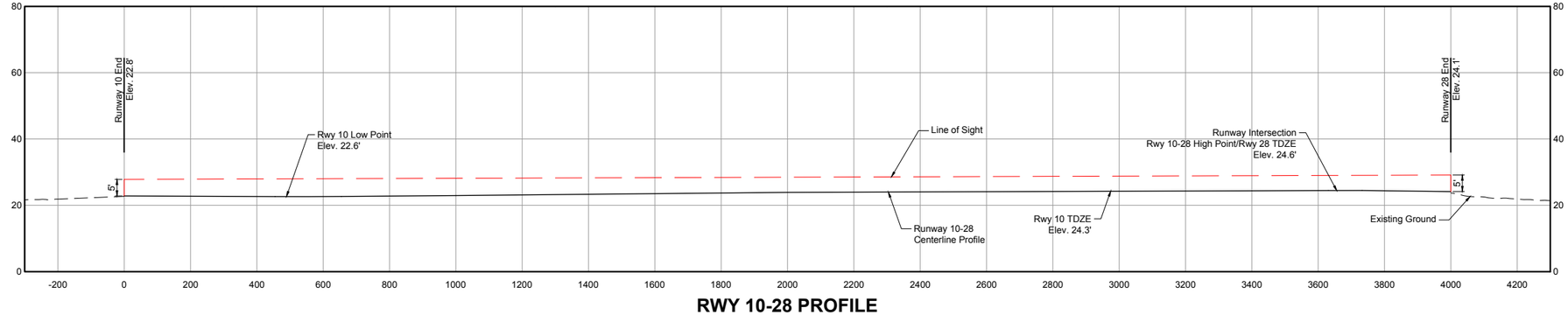
MAGNETIC DECLINATION: 6° 32.4' W (10/2014)
ANNUAL RATE OF CHANGE: 5.4' W/ YEAR
EPOCH YEAR 2010

0' 100' 200' 400'

SCALE: 1"= 200'



RUNWAY 10-28 PLAN



RWY 10-28 PROFILE

GENERAL NOTES

1. ALP PREPARED USING DESIGN CRITERIA FROM FAA ADVISORY CIRCULAR 150/5300-13A, CHANGE 1 "AIRPORT DESIGN" AND FAR PART 77 "OBJECTS AFFECTING NAVIGABLE AIRSPACE".
2. THERE ARE NO OFZ PENETRATIONS.
3. GROUND CONTOUR INTERVALS SHOWN ARE 2-FOOT. CONTOURS GENERATED FROM USGS NATIONAL ELEVATION DATASET (NED) 3m DIGITAL ELEVATION MODEL.
4. AERIAL PHOTOGRAPHY OBTAINED FROM USDA NATIONAL AGRICULTURAL IMAGERY PROGRAM (NAIP), 2013.
5. BASE MAPPING FROM VALKARIA AIRPORT AND HANSON PROFESSIONAL SERVICES (VARIOUS PROJECTS).

REFERENCE

1. LATITUDE AND LONGITUDE ARE BASED ON THE NORTH AMERICAN DATUM OF 1983 (NAD83). AS APPLICABLE, CONVERSIONS MADE FROM FLORIDA STATE PLANE COORDINATE SYSTEM, EAST ZONE.
2. VERTICAL CONTROL IS REFERENCED TO THE NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD 88).
3. ELEVATIONS SHOWN ARE IN "MEAN SEA LEVEL" (MSL) UNLESS NOTED OTHERWISE, AND ARE NOT INTENDED FOR DESIGN PURPOSES.
4. ALL ELEVATIONS AND DIMENSIONS IN FEET, UNLESS NOTED OTHERWISE.

EXISTING	LEGEND	FUTURE
	AIRPORT PROPERTY LINE	
x	AIRPORT FENCE 6'	x
	ROADS	
	BUILDINGS	
	AIRFIELD PAVEMENT	
	AVIGATION EASEMENT	
	PRECISION APPROACH PATH INDICATOR (PAPI)	
N/A	RUNWAY END IDENTIFIER LIGHTS (REIL)	
	ROTATING BEACON	
	LIGHTED WIND CONE/SUPPLEMENTAL WIND CONE	
	AIRPORT REFERENCE POINT (ARP)	
	THRESHOLD SITING APPROACH SURFACE	
BRL	BUILDING RESTRICTION LINE (BRL) FOR 25' BLDG.	BRL
	FAR PART 77 SURFACE	
ROFA	RUNWAY OBJECT FREE AREA (ROFA)	ROFA
TOFA	TAXIWAY OBJECT FREE AREA (TOFA)	TOFA
	RUNWAY OBSTACLE FREE ZONE (ROFZ)	
RPZ	RUNWAY PROTECTION ZONE (RPZ)	RPZ
RSA	RUNWAY SAFETY AREA (RSA)	RSA
TSA	TAXIWAY SAFETY AREA (TSA)	TSA
	RUNWAY VISIBILITY ZONE	
N/A	40:1 DEPARTURE SURFACE	
N/A	PAVEMENT REMOVAL	

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Viera, Florida 32940
Phone: (321) 633-2000

VALKARIA AIRPORT

AIRPORT LAYOUT PLAN

NO.	DATE	DESCRIPTION DES	DWN	REV
10				

ISSUE: APRIL 4, 2016
PROJECT NO: 12A0007
CAD FILE: 10-RUNW-PROF.DWG
DESIGN BY: MLH 03/04/2015
DRAWN BY: MLH 03/04/2015
REVIEWED BY: TSH 04/24/2015

SHEET TITLE

RUNWAY PROFILES DRAWING

APR 02, 2016 1:17 PM HARRI01115
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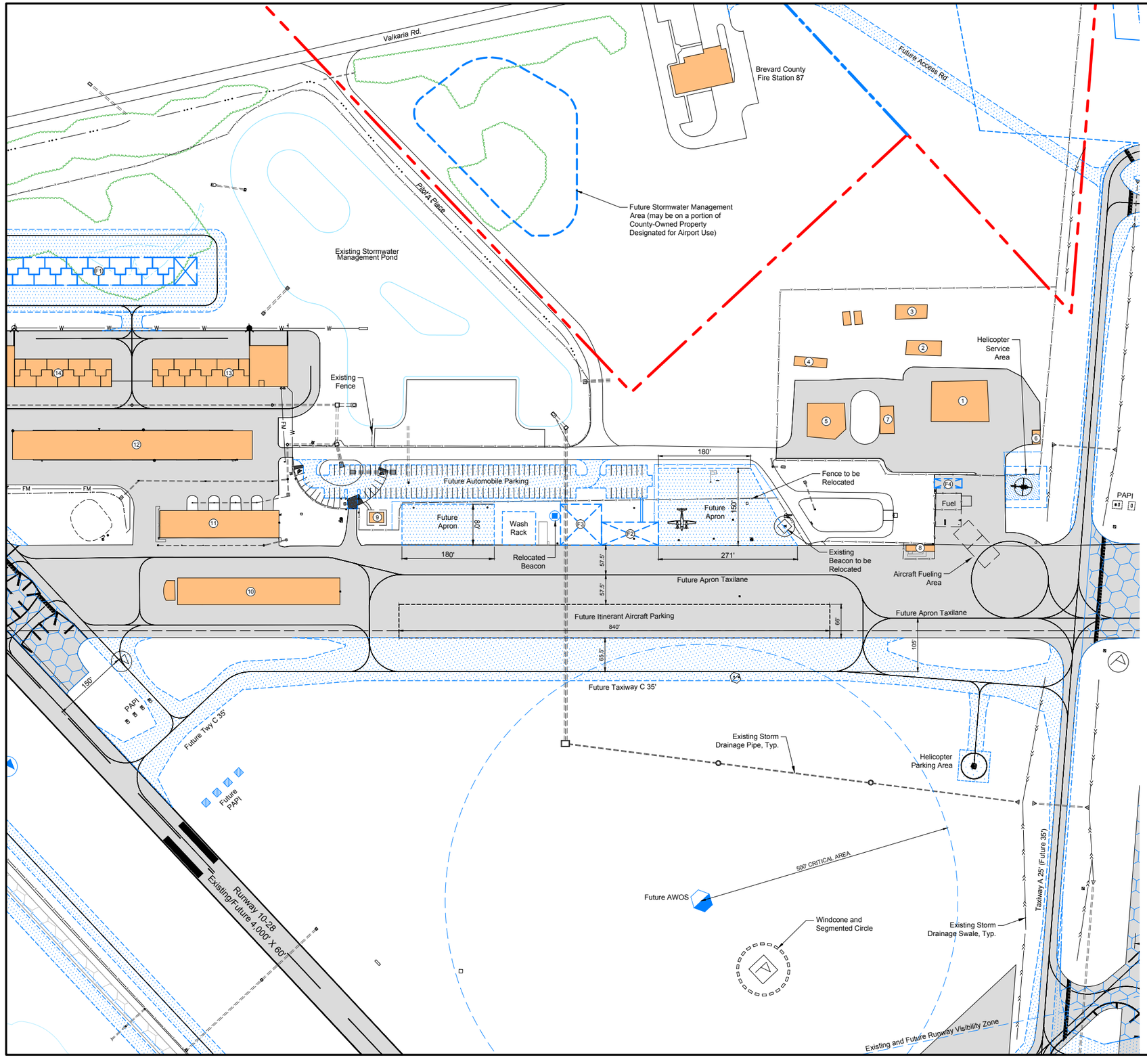

MAGNETIC NORTH
TRUE NORTH

MAGNETIC DECLINATION: 6° 32.4' W (10/2014)
ANNUAL RATE OF CHANGE: 5.4' W/ YEAR
EPOCH YEAR 2010

0' 50' 100' 200'
SCALE: 1"= 100'

GENERAL NOTES

1. ALP PREPARED USING DESIGN CRITERIA FROM FAA ADVISORY CIRCULAR 150/5300-13A, CHANGE 1 "AIRPORT DESIGN" AND FAR PART 77 "OBJECTS AFFECTING NAVIGABLE AIRSPACE".
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3. GROUND CONTOUR INTERVALS SHOWN ARE 2-FOOT. CONTOURS GENERATED FROM USGS NATIONAL ELEVATION DATASET (NED) 3m DIGITAL ELEVATION MODEL.
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3. ELEVATIONS SHOWN ARE IN "MEAN SEA LEVEL" (MSL) UNLESS NOTED OTHERWISE, AND ARE NOT INTENDED FOR DESIGN PURPOSES.
4. ALL ELEVATIONS AND DIMENSIONS IN FEET, UNLESS NOTED OTHERWISE.

Facilities Table

#	Facility Description	Top Elevation
1	Mosquito Control Hangar	45'
2	Mosquito Control Covered Auto Parking	37'
3	Mosquito Control Covered Auto Parking (2)	39'
4	Mosquito Control Storage Facility	39'
5	Mosquito Control Admin. & Maint. Building	45'
6	Mosquito Control Helicopter Landing Facility	39'
7	Mosquito Control Residence Mobile Home	39'
8	Airport Manager Trailer	39'
9	Picnic Pavilion	33'
10	Hangar A	45'
11	Hangar B	45'
12	Hangar C	45'
13	Hangar D	45'
14	Hangar E	45'
F1	Hangar F	45'
F2	Administration Building	45'
F3	Box Hangar 1	52'
F4	Ground Service Equipment Covered Parking	35'

EXISTING	LEGEND	FUTURE
	AIRPORT PROPERTY LINE	
X	AIRPORT FENCE 6'	X
	ROADS	
	BUILDINGS	
	AIRFIELD PAVEMENT	
	AVIGATION EASEMENT	
	PRECISION APPROACH PATH INDICATOR (PAPI)	
N/A	RUNWAY END IDENTIFIER LIGHTS (REIL)	
	ROTATING BEACON	
	LIGHTED WIND CONE/SUPPLEMENTAL WIND CONE	
	AIRPORT REFERENCE POINT (ARP)	
	THRESHOLD SITING APPROACH SURFACE	
BRL	BUILDING RESTRICTION LINE (BRL) FOR 25' BLDG.	BRL
	FAR PART 77 SURFACE	
ROFA	RUNWAY OBJECT FREE AREA (ROFA)	ROFA
TOFA	TAXIWAY OBJECT FREE AREA (TOFA)	TOFA
	RUNWAY OBSTACLE FREE ZONE (ROFZ)	
RPZ	RUNWAY PROTECTION ZONE (RPZ)	RPZ
RSA	RUNWAY SAFETY AREA (RSA)	RSA
TSA	TAXIWAY SAFETY AREA (TSA)	TSA
	RUNWAY VISIBILITY ZONE	
N/A	40:1 DEPARTURE SURFACE	
N/A	PAVEMENT REMOVAL	

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VALKARIA AIRPORT

AIRPORT LAYOUT PLAN

NO.	DATE	DESCRIPTION		
		DES	DWN	REV

ISSUE: APRIL 4, 2016
PROJECT NO: 12A0007
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DESIGN BY: MLH 03/04/2015
DRAWN BY: MLH 03/04/2015
REVIEWED BY: TSH 04/24/2015

SHEET TITLE

TERMINAL AREA DRAWING

APR 02, 2016 1:13 PM HARRI01115
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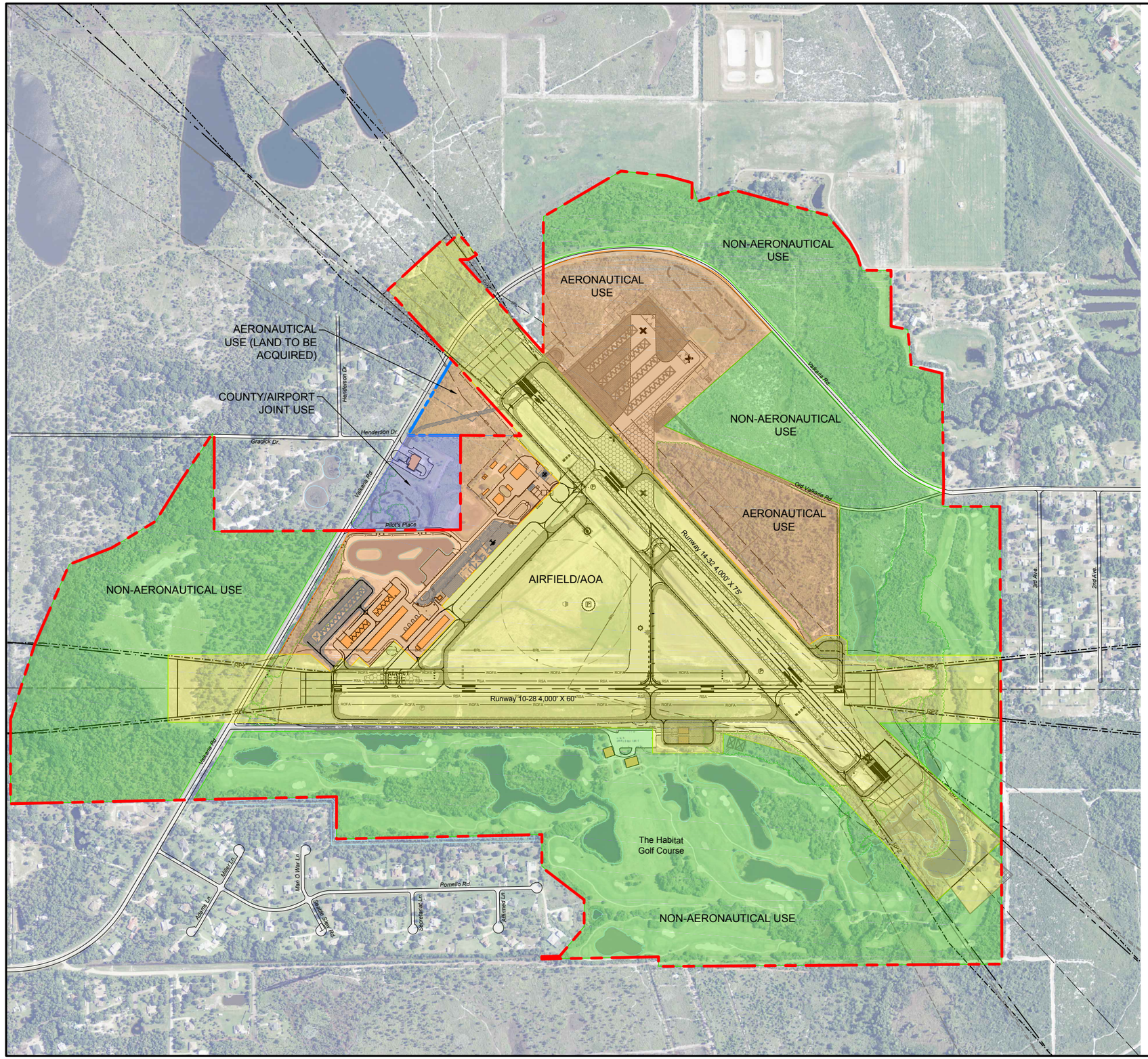

MAGNETIC NORTH
TRUE NORTH

MAGNETIC DECLINATION: 6° 32.4' W (10/2014)
ANNUAL RATE OF CHANGE: 5.4' W/ YEAR
EPOCH YEAR 2010

0' 200' 400' 800'
SCALE: 1"= 400'

LAND USE LEGEND

- AIRFIELD/AOA
- AERONAUTICAL USE
- NON-AERONAUTICAL
- COUNTY/AIRPORT USE

GENERAL NOTES

1. ALP PREPARED USING DESIGN CRITERIA FROM FAA ADVISORY CIRCULAR 150/5300-13A, CHANGE 1 "AIRPORT DESIGN" AND FAR PART 77 "OBJECTS AFFECTING NAVIGABLE AIRSPACE".
2. THERE ARE NO OFZ PENETRATIONS.
3. GROUND CONTOUR INTERVALS SHOWN ARE 2-FOOT. CONTOURS GENERATED FROM USGS NATIONAL ELEVATION DATASET (NED) 3m DIGITAL ELEVATION MODEL.
4. AERIAL PHOTOGRAPHY OBTAINED FROM USDA NATIONAL AGRICULTURAL IMAGERY PROGRAM (NAIP), 2013.
5. BASE MAPPING FROM VALKARIA AIRPORT AND HANSON PROFESSIONAL SERVICES (VARIOUS PROJECTS).

REFERENCE

1. LATITUDE AND LONGITUDE ARE BASED ON THE NORTH AMERICAN DATUM OF 1983 (NAD83). AS APPLICABLE, CONVERSIONS MADE FROM FLORIDA STATE PLANE COORDINATE SYSTEM, EAST ZONE.
2. VERTICAL CONTROL IS REFERENCED TO THE NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD 88).
3. ELEVATIONS SHOWN ARE IN "MEAN SEA LEVEL" (MSL) UNLESS NOTED OTHERWISE, AND ARE NOT INTENDED FOR DESIGN PURPOSES.
4. ALL ELEVATIONS AND DIMENSIONS IN FEET, UNLESS NOTED OTHERWISE.

EXISTING	LEGEND	FUTURE
	AIRPORT PROPERTY LINE	
X	AIRPORT FENCE 6'	X
	ROADS	
	BUILDINGS	
	AIRFIELD PAVEMENT	
	AVIGATION EASEMENT	
	PRECISION APPROACH PATH INDICATOR (PAPI)	
N/A	RUNWAY END IDENTIFIER LIGHTS (REIL)	
	ROTATING BEACON	
	LIGHTED WIND CONE/SUPPLEMENTAL WIND CONE	
	AIRPORT REFERENCE POINT (ARP)	
	THRESHOLD SITING APPROACH SURFACE	
BRL	BUILDING RESTRICTION LINE (BRL) FOR 25' BLDG.	BRL
	FAR PART 77 SURFACE	
ROFA	RUNWAY OBJECT FREE AREA (ROFA)	ROFA
TOFA	TAXIWAY OBJECT FREE AREA (TOFA)	TOFA
	RUNWAY OBSTACLE FREE ZONE (ROFZ)	
RPZ	RUNWAY PROTECTION ZONE (RPZ)	RPZ
RSA	RUNWAY SAFETY AREA (RSA)	RSA
TSA	TAXIWAY SAFETY AREA (TSA)	TSA
	RUNWAY VISIBILITY ZONE	
N/A	40:1 DEPARTURE SURFACE	
N/A	PAVEMENT REMOVAL	

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2725 Judge Fran Jamieson Way
Viera, Florida 32940
Phone: (321) 633-2000

VALKARIA AIRPORT

AIRPORT LAYOUT PLAN

NO.	DATE	DESCRIPTION		
		DES	DWN	REV

ISSUE: APRIL 4, 2016
PROJECT NO: 12A0007
CAD FILE: 12-LANDUSE.DWG
DESIGN BY: MLH 03/04/2015
DRAWN BY: MLH 03/04/2015
REVIEWED BY: TSH 04/24/2015

SHEET TITLE

AIRPORT LAND USE DRAWING

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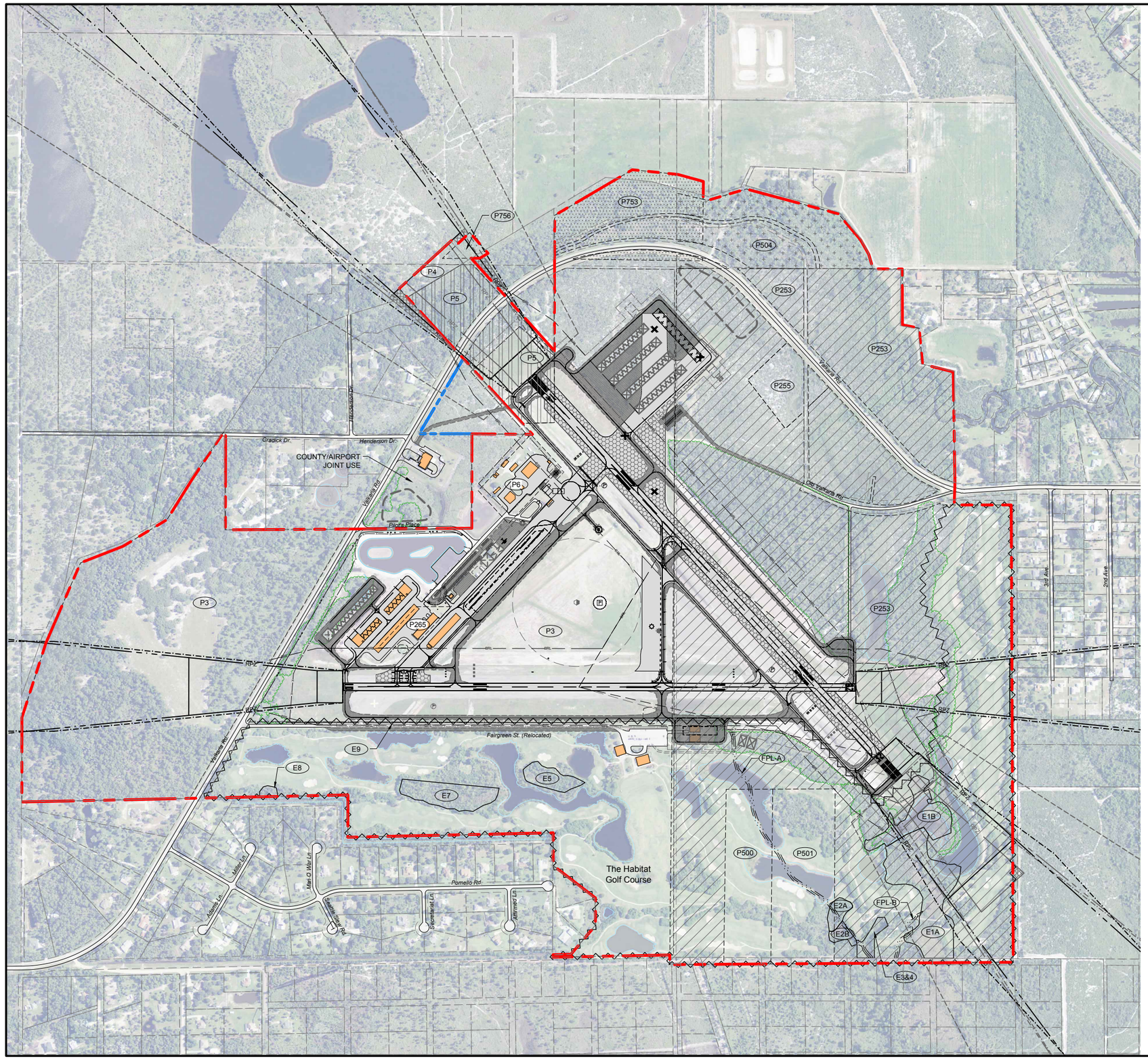

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TRUE NORTH

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ANNUAL RATE OF CHANGE: 5.4' W/ YEAR
EPOCH YEAR 2010

0' 200' 400' 800'
SCALE: 1"= 400'

PROPERTY MAP LEGEND

- CONSERVATION EASEMENT
- GOLF COURSE EASEMENT
- PROPERTY PARCEL BOUNDARY
- FPL EASEMENT PROPERTY
- (X) PARCEL NUMBER

PROPERTY MAP NOTES

1. AIRPORT PROPERTY MAP PREPARED USING INFORMATION SHOWN ON "VALKARIA AIRPORT PROPERTY MAP" PREPARED BY BONSET INTERNATIONAL, LLC AND DATED FEBRUARY 2010.
2. SEE "AIRPORT PROPERTY MAP DATA TABLES" SHEET FOR ADDITIONAL INFORMATION.

GENERAL NOTES

1. ALP PREPARED USING DESIGN CRITERIA FROM FAA ADVISORY CIRCULAR 150/5300-13A, CHANGE 1 "AIRPORT DESIGN" AND FAR PART 77 "OBJECTS AFFECTING NAVIGABLE AIRSPACE".
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EXISTING	LEGEND	FUTURE
	AIRPORT PROPERTY LINE	
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	ROADS	
	BUILDINGS	
	AIRFIELD PAVEMENT	
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	PRECISION APPROACH PATH INDICATOR (PAPI)	
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TSA	TAXIWAY SAFETY AREA (TSA)	TSA
	RUNWAY VISIBILITY ZONE	
N/A	40:1 DEPARTURE SURFACE	
N/A	PAVEMENT REMOVAL	

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VALKARIA AIRPORT

AIRPORT LAYOUT PLAN

NO.	DATE	DESCRIPTION		
		DES	DWN	REV

ISSUE: APRIL 4, 2016
PROJECT NO: 12A0007
CAD FILE: 13-PROP-MAP.DWG
DESIGN BY: MLH 03/04/2015
DRAWN BY: MLH 03/04/2015
REVIEWED BY: TSH 04/24/2015

SHEET TITLE

AIRPORT PROPERTY MAP - SHEET 1

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VALKARIA AIRPORT PROPERTY DATA TABLE

PARCEL #	BREVARD COUNTY APPRAISER PARCEL ID#	USE CODE*	TAX ACCOUNT #	OWNER NAME	DATE OF ACQUISITION	FEDERAL AID PROJECT FDOT / OTHER	TYPE OF OWNERSHIP	PARCEL ACREAGE	LEGAL DESCRIPTIONS OF PARCELS	NOTES
3	29-38-18-00-00003.0-0000.00	8610	2954672	BREVARD COUNTY	9/1958	N/A	QUITCLAIM DEED, Government Surplus	309.38	PART OF SEC 18 AS DESC IN ORB 171 PG 493 EXC ORB 3094 PG 4844; PARCEL 00-265 AS DESC IN LEASE DATED 2-4-82 & ON LEGAL PANEL OF SAID 00-265 & PARCEL 00-6 AS DESC IN LEASE DATED 9-18-90	
4	29-38-18-00-00004.0-0000.00	8600	2959061	BREVARD COUNTY	12/1990	N/A	FEE SIMPLE, $12,400, Radencic/Gradick to BC	1.13	PART OF NW ¼ OF NE ¼ AS DESC IN ORB 3102 PG 2681	Land acquired by airport to be used as a RPZ for Runway 14
5	29-38-18-00-00005.0-0000.00	8600	2959162	BREVARD COUNTY	12/1991	N/A	FEE SIMPLE, $184,000, Buehler to BC	14.85	PART OF SEC AS DESC IN ORB 3175 PG 3993	Land acquired by airport to be used as a RPZ for Runway 14
6	29-38-18-00-00006.0-0000.00	8600	2960398	BREVARD COUNTY	9/1958	N/A	QUITCLAIM DEED, 1958 Lease to BCMC	4.81	PART OF SEC 18 LYING IN THE NE ¼ AS DESC IN LEASE EXECUTED SEPT. 1990	
253	29-38-17-00-00253.0-0000.00	8610	2954516	BREVARD COUNTY	9/1958	N/A	QUITCLAIM DEED, Government Surplus	256.16	PART OF W ½ AS DES IN ORB 171 PG 493 EX ORB 1162 PG 529 PAR 254	
255	29-38-17-00-00255.0-0000.00	8600	2954517	BREVARD COUNTY	9/1958	N/A	QUITCLAIM DEED, Government Surplus	5.00	PART OF NW ¼ LYING SW'LY OF VALKARIA RD AS DES IN ORB 1162 PG 528	Deeded to BCMC 02/1971, returned to BC 01/2005: ORB 5413/5887
265	29-38-18-00-00265.0-0000.00	8600	2959393	BREVARD COUNTY	9/1958	N/A	QUITCLAIM DEED, Government Surplus	2.00	FROM CL OF RUNWAY 9/27 GO N 321° TO NW'LY LINE OF NE'LY RUNWAY & POB; THENCE W 270.77'; THENCE NE'LY PARALLEL TO RUNWAY 440'; THENCE E 270.77'; THENCE SW'LY ALONG RUNWAY 440' TO POB	
500	29-38-17-00-00500.0-0000.00	8600	2954526	BREVARD COUNTY	4/1976	N/A	QUITCLAIM DEED, BOR to BC	11.72	W 379 FT OF E 900 FT OF SW ¼ OF SW ¼	
501	29-38-17-00-00501.0-0000.00	8600	2954527	BREVARD COUNTY	11/1990	N/A	FEE SIMPLE, $186,500, Pascucci to BC	15.78	E 520.46 FT OF S/W ¼ OF S/W ¼	
504	29-38-06-00-00504.0-0000.00	8600	2953406	BREVARD COUNTY	9/1958	N/A	QUITCLAIM DEED, Government Surplus	18.80	PART OF S ½ OF SW ¼ AS DES IN LIS PENDENS BOOK 7 PG 497 & ORB 171 PG 493 PAR 506	
753	29-38-07-00-00753.0-0000.00	8600	2953374	BREVARD COUNTY	9/1958	N/A	QUITCLAIM DEED, Government Surplus	14.70	PART OF SE ¼ AS DES IN DB LIS PENDENS BOOK 7 PG 497	Located in Township: 29 Range: 38 Section 07
756	29-38-07-00-00756.0-0000.00	8600	2959154CO	BREVARD COUNTY	12/1990	N/A	FEE SIMPLE, $13,500, Radencic/Gradick to BC	0.69	PART OF SW ¼ OF SE ¼ AS DESC IN ORB 3102 PG 2681	Land acquired by airport to be used as RPZ for Runway 14

* Brevard County Code related to Parcel Information Table: 8600 = C-VACANT COUNTY OWNED LAND - (THAT DOES NOT QUALIFY IN ANOTHER CODE); 8610 = C- COUNTY OWNED LAND-IMPROVED - (THAT DOES NOT QUALIFY IN ANOTHER CODE)

VALKARIA AIRPORT EASEMENT DATA TABLE

EASEMENT #	FROM / TO	EASEMENT ACREAGE	ORB / PAGE	NOTES
E1A	FROM BC TO ST. JOHN'S RIVER WMD	5.7522	4057 / 1249	CONSERVATION EASEMENT / WETLAND 1A
E1B	FROM BC TO ST. JOHN'S RIVER WMD	3.2744	4057 / 1253	CONSERVATION EASEMENT / WETLAND 1B
E2A	FROM BC TO ST. JOHN'S RIVER WMD	0.6864	4057 / 1245	CONSERVATION EASEMENT / WETLAND 2A
E2B	FROM BC TO ST. JOHN'S RIVER WMD	0.4802	4057 / 1247	CONSERVATION EASEMENT / WETLAND 2B
E3 & 4	FROM BC TO ST. JOHN'S RIVER WMD	0.7670	4057 / 1243	CONSERVATION EASEMENT / WETLAND 3 & 4
E5	FROM BC TO ST. JOHN'S RIVER WMD	1.3969	4057 / 1241	CONSERVATION EASEMENT / WETLAND 5
E7	FROM BC TO ST. JOHN'S RIVER WMD	0.2870	4057 / 1239	CONSERVATION EASEMENT / WETLAND 7
E8	FROM BC TO ST. JOHN'S RIVER WMD	0.2394	3901 / 2693	CONSERVATION EASEMENT / WETLAND 8 / AMENDED 8/1999
E9	FROM BC TO ST. JOHN'S RIVER WMD	211.111	3379 / 4711	CONSERVATION EASEMENT / HABITAT GOLF COURSE LEASEHOLD
FPL-A	FROM BC TO FPL	1.2427	3135 / 2945	
FPL-B	FROM BC TO FPL	0.2560	3135 / 2947	

ABBREVIATIONS

BC: BREVARD COUNTY
BCMC: BREVARD COUNTY MOSQUITO CONTROL
BOR: BUREAU OF OUTDOOR RECREATION
FPL: FLORIDA POWER AND LIGHT COMPANY
WMD: WATER MANAGEMENT DISTRICT

GENERAL NOTES

1. ALL PROPERTY MAP DATA IS BASED ON OFFICIAL BREVARD COUNTY DOCUMENTATION AND RECORDS. THE NORTHERN PORTION OF THE AIRPORT PROPERTY DOES NOT PROPERLY MERGE AND IS RECOMMENDED TO BE ASSESSED BY BREVARD COUNTY IN THE FUTURE AND SHOULD ANY FORM OF LAND ACQUISITION BY THE AIRPORT BE REQUIRED.
2. ALL HATCHED AREAS REPRESENT AREAS THAT INCLUDE MULTIPLE PARCELS WITH THE SAME COUNTY PARCEL IDENTIFICATION NUMBER.
3. ON JANUARY 26, 1987, THE FAA RELEASED A 1.11-ACRE PARCEL FOR AN INDUSTRIAL ACCESS ROAD LOCATED ON THE NORTHERN PORTION OF THE AIRPORT'S BOUNDARY. THE EXACT LOCATION COULD NOT BE FOUND IN COUNTY RECORDS.
4. TWO (2) PARCELS TOTALING 14.80 ACRES WERE RELEASED BY THE FAA ON THE SAME DATE AS ABOVE PARCEL FOR THE DEVELOPMENT OF VALKARIA ROAD. THE EXACT LOCATION COULD NOT BE FOUND ON THE COUNTY RECORDS.
5. ON JANUARY 30, 1991, THE FAA APPROVED A PROPOSED LEASE INVOLVING 211.111ACRES TO BE USED AS A GOLF COURSE (THE HABITAT). A 30-YEAR LEASE AGREEMENT WAS EXECUTED BETWEEN THE BREVARD COUNTY BOARD OF COMMISSIONERS AND THE BREVARD COUNTY DEPARTMENT OF PARKS AND RECREATION.
6. ALL THE CONSERVATION EASEMENTS ARE LOCATED WITHIN THE GOLF COURSE CONSERVATION EASEMENT. THESE EASEMENTS PROHIBIT CONSTRUCTION, DUMPING, PLACING OF FILL, REMOVAL OF VEGETATION, EXCAVATION, SURFACE USE, ACTIVITIES DETRIMENTAL TO DRAINAGE, AND ACTS OR USES DETRIMENTAL TO THE PRESERVATION OF HISTORICAL, CULTURAL, OR ARCHEOLOGICAL SIGNIFICANCE.
7. FPL ELECTRICAL EASEMENT-A ENDS CLOSE TO GOLF COURSE LEASE BOUNDARY. FPL DOCUMENTATION SHOWS CABLE TRAVERSING TO THE NORTHWEST.

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VALKARIA AIRPORT

AIRPORT LAYOUT PLAN

NO.	DATE	DESCRIPTION		

DES	DWN	REV

ISSUE: APRIL 4, 2016
PROJECT NO: 12A0007
CAD FILE: 14-PROP-TBL.DWG
DESIGN BY: MLH 03/04/2015
DRAWN BY: MLH 03/04/2015
REVIEWED BY: TSH 04/24/2015

SHEET TITLE

AIRPORT PROPERTY MAP - SHEET 2

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Appendix D

Public Involvement Materials

Valkaria Airport Master Plan Update
Public Information Meeting

February 25, 2015
Viera Government Center

1

Valkaria Airport
2015 Master Plan Update

AGENDA

1. Welcome and Introductions
2. 2006 Airport Master Plan Refresher
3. 2015 Airport Master Plan Update
   - ✓ Study requirements and schedule
   - ✓ Review of forecasts of aviation demand
   - ✓ Review preliminary facility requirements
   - ✓ Next steps

2

Valkaria Airport Master Plan Update
2006 Airport Master Plan Refresher

1. Required to conform to applicable FAA and FDOT standards
   - a 20-year planning "road-map"
2. Considered:
   - existing conditions at the time of the study
   - forecasts of future aviation demand
   - capacity of existing facilities
   - capability of existing facilities to meet forecast demand
   - options for meeting future demand considering community goals, environmental conditions and financial considerations
3. Recommended changes to meet FAA/FDOT guidelines

3

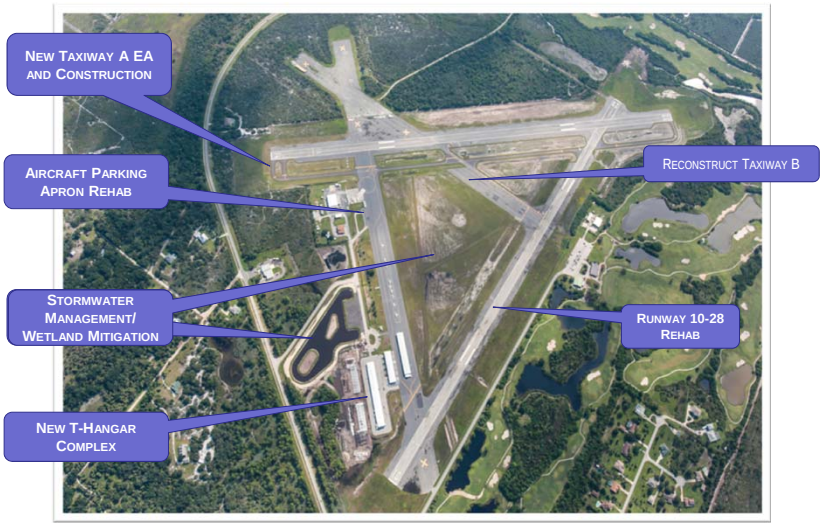
Valkaria Airport Master Plan Update
2006 Airport Master Plan Refresher

- Maintaining 2 runways that conform to FAA standards
  - ✓ Marking and Signage
  - ✓ Hangars, environmental and drainage
  - ✓ Consider future needs for Flight safety and runway landing aids

- Full length Taxiway A parallel to Runway 14/32
  - ✓ Other access taxilanes
- Aircraft storage and parking areas
- Admin. and flight services facility
- Aircraft fueling facilities
- Land use compatibility (infield)

4

Valkaria Airport Master Plan Update
2015 Airport Master Plan Update



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Valkaria Airport Master Plan Update
2015 Airport Master Plan Update

1. Required to conform to applicable FAA and FDOT standards
   - a 20-year planning "road-map"
2. Schedule – Major Milestones

	Start	Finish	Comments
Inventory & Forecasts	Oct-2014	Nov-2014	Agency Review Required
Demand/Capacity & Facility Requirements	Dec-2014	Feb-2015	Public Information Meeting
Alternatives/Environmental Review	Feb-2015	Mch-2015	Public Information Meeting
Final Master Plan Update	Jan-2015	Apl-2015	BOCC Meeting, Agency Review

6

Valkaria Airport Master Plan Update
2015 Airport Master Plan Update

Inventory of Existing Conditions

Existing Airfield Characteristics				
Runways	**14**	**32**	**10**	**28**
Dimension (ft.)	4,000' x 75'		4,000' x 60'	
	Primary		Secondary	
Surface	Asphalt		Asphalt	
Surface Condition	Fair to Poor		Excellent	
Pavement Strength	12,500 LBS. SW			
Runway Edge Lighting	None			
Threshold Lights	Both Runways			
NAVAIDS	Rotating Beacon and PAPI's			
Runway Marking	Basic		Basic	
Taxiways	4,000' x 25' Parallel TWY A		None	
Source: Airport Facility Directory, 2014; Airport Records; Master Record Form 5010; Hanson 2015				

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Valkaria Airport Master Plan Update
2015 Airport Master Plan Update

Existing Landside Facilities

- Aircraft storage
  - 5 T-Hangar strands & 4 box hangars
- Rehabilitated aircraft parking apron & tie-downs
  - 30 aircraft tie-downs
- Beacon, segmented circle, CF windsock, PAPI, threshold lights
- Improved airfield drainage & addressed wildlife hazards
- Added Skyman Park
- Consolidated fuel farm
  - 12,000 gals. 100LL
  - 5,000 gals. Jet-A

8

Valkaria Airport Master Plan Update
2015 Airport Master Plan Update

2014 FDOT Statewide Airport Economic Impact Study

- **Determined economic impacts of Florida's airport system**
- **Direct, indirect and induced impacts from tenant and airport business activities, projects and visitor spending**
  - ✓ Valkaria Airport Impacts:
    - ✓ 196 Total Employment
    - $ 8,268,000 Payroll
    - $ 10,013,000 Direct impacts
    - $ 1,640,000 Indirect impacts

9

Valkaria Airport Master Plan Update
2015 Airport Master Plan Update

Forecast of Aviation Demand (5-, 10-, and 20-year planning periods)

- **Considers current level of activity (2014 base year) and estimates**
  - ✓ Number and type of aircraft "based" at the airport
  - ✓ Number and type of aircraft "operations" (takeoffs & landings)
    - – Local operations, including training
    - – Itinerant operations
  - ✓ Number of pilots and passengers
  - ✓ Vehicle parking needs
  - ✓ Instrument approaches
- Identifies the "Design Aircraft"
  - ✓ Dictates airport design standards

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Valkaria Airport Master Plan Update
2015 Airport Master Plan Update

Forecast of Based Aircraft – Review of previous forecasts

Total Based Aircraft compared to FAA and 2006 Airport Master Plan Forecast			
Year	**Airport Records**	**FAA Forecast**	**2006 Master Plan**
Historical			
2006	49	42	49
2007	49	42	
2008	49	49	
2009	49	74	
2010	75	75	
2011	75	56	60
2012	75	62	
2013	84	64	
2014	127	64	
Forecast			
2011		**56**	**60**
2016		**66**	**69**
2026		**80**	**86**
Source: Airport Records, FAA TAF 2013; 2006 Airport Master Plan, Hanson 2015			

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Valkaria Airport Master Plan Update
2015 Airport Master Plan Update

Forecast Methodologies

- **Based Aircraft**

✓ National Growth Rate – Applies the Federal Aviation Administration (FAA) projected national growth rate.

✓ Market Share – Applies the FAA projected percentage of national active aircraft.

✓ Terminal Area Forecast (TAF) – Accept the FAA projections developed specifically for X59.

✓ Florida Department of Transportation (FDOT) – Accept the FDOT projections specially developed for X59.

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Valkaria Airport Master Plan Update
2015 Airport Master Plan Update

Forecasts of Aviation Demand

- **Based Aircraft**

Preferred Forecast

	Forecast Model					
Years	Actual	Trend Analysis	Market Share	Nat. Growth Rate	TAF	FDOT
2006	49	Assumes a 1.56% increase per year over the planning horizon	Assumes maintaining market share at .06255% over the planning horizon	Assumes a 0.5% increase per year over the planning horizon	TAF forecast based upon inaccurate 2014 based aircraft count	FDOT forecast based upon TAF 2014 based aircraft count
2007	49					
2008	49					
2009	49					
2010	75					
2011	75					
2012	75					
2013	84					
2014	127	127	127	127	42	
Forecast						
2019		187	128	130	70	87
2024		202	138	133	76	94
2034		236	141	138	96	109

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Valkaria Airport Master Plan Update
2015 Airport Master Plan Update

- **Forecast Based Aircraft Fleet**

Forecast Based Aircraft, By Type				
	Year			
Aircraft Category	2014	2019	2024	2034
Single-Engine Piston	95	139	151	177
Multi-Engine	4	6	7	7
Jet	0	1	1	2
Helicopter	6	10	11	13
Others	21	31	32	37
Total	127	187	202	236

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Valkaria Airport Master Plan Update
2015 Airport Master Plan Update

Forecasts Methodologies

- **Operations**
  - ✓ Operations to Based Aircraft (OPBA) – Developed based upon a ratio of operations to based aircraft.
  - ✓ FAA TAF – 2014 projections developed specifically for X59.
  - ✓ FDOT – 2014 projections specially developed for X59.
  - ✓ Historical Growth Rate vs. FAA Aerospace Forecast
    - ♦ Historical growth at X59 was 5.2% over 9 years;
    - ♦ 2006 Airport Master Plan projected 3.7% over 20 years;
    - ♦ FAA National forecast forecasts avg. annual growth of 1.4% thru 2034;
    - ♦ 2014 Florida Aviation System Plan forecasts avg. annual growth of 1% thru 2034;
    - ♦ **2015 Airport Master Plan forecasts avg. annual growth of 1% over 20 years;**

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Valkaria Airport Master Plan Update
2015 Airport Master Plan Update

Forecasts of Aviation Demand

- **Aircraft Operations**

Annual Aircraft Operations Forecast	
Year	No. of Aircraft Operations
2014	53,160
Forecast	
2019	55,872
2024	58,722
2034	64,865

- **Aircraft Operations**

Year	Local	Itinerant
2014	74%	26%
Forecast		
2019	74%	26%
2024	74%	26%
2034	74%	26%

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Valkaria Airport Master Plan Update
2015 Airport Master Plan Update

Forecasts of Aviation

- **Pilots and Passengers**
  - ✓ Peak hour of 30 aircraft with an average of 2.5 passengers each

Existing Admin. Trailer

- **Design Aircraft**
  - ✓ 2006 Airport Master Plan = B-II
    - ➢ Beechcraft King Air
  - ✓ 2015 Airport Master Plan Update = B-II (no change)

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Valkaria Airport Master Plan Update
2015 Airport Master Plan Update

Preliminary Facility Requirements

- **Airside Facilities**
  - ✓ Runways
    - – Secondary Runway 10/28 meets projected needs
    - – Primary Runway 14/32 needs:
      - ▪ Rehabilitate pavement and meet standards
      - ▪ Navigation aids, landing aids, edge lights and proper signage
  - ✓ Taxiways
    - – Widen Taxiway A from 25 ft. to 35 ft. to meet standards
    - – Plan a connector taxiway to improve access to T-Hangars
    - – Plan a taxiway to access golf course aircraft parking

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Valkaria Airport Master Plan Update
2015 Airport Master Plan Update

Preliminary Facility Requirements

- Landside Facilities
  - ✓ 2034 Based Aircraft forecast exceeds current aircraft parking and storage capacity
    - Need for additional hangars
    - Need for additional tie down spaces
  - ✓ Pilots/passengers and admin. needs support 2006 Master Plan recommendations
    - Administrative building & flight services facility
    - Additional auto parking
  - ✓ Plan a connector from the Fire Station to the airfield
  - ✓ Fuel storage facilities
    - Avgas storage meets needs
    - Jet-A storage meets needs

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Valkaria Airport Master Plan Update
2015 Airport Master Plan Update

Next Steps

- Complete facility requirements narrative
- Develop alternative methods/locations of facilities to accommodate future demand
  - ✓ Review potential environmental impacts
- Continue Airport Layout Plan development
- Develop financial analysis and Capital Improvement Plan (CIP)
- Finalize Master Plan Update

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Valkaria Airport

Master Plan Update Public Information Meeting

Brevard County Government Center
2725 Judge Fran Jamieson Way
Viera, FL 32940

February 25, 2015

Minutes

The meeting began at 5:35 p.m. with Valkaria Airport Director, Steve Borowski, introducing consultants from Hanson Professional Services, Inc., Lisa Waters and Tim Haskell. Ms. Waters explained that she would be going through a Master Plan Update Presentation which would be followed by a period for questions and answers.

Ms. Waters went over the attached Valkaria Airport Master Plan Update Presentation page by page, in a thorough manner, sharing information about each element with those present.

Following the presentation, two questions were received consisting of the following:

1) Staff was given accolades for the great recreational activities that have taken place at the airport and questioned if these types of events will continue. The answer was, yes, these types of events should continue at the Airport.
2) Inquiry was made as to the time frame for the next meeting? The answer was that the next meeting will be scheduled for some time near the end of March 2015.

The meeting adjourned at 6:06 p.m.

Valkaria Airport Master Plan Update – Public Information Meeting
Wednesday, February 25, 2015 – 5:30 PM
Viera Government Center

	Print Name	Address	Email	Telephone/Fax
1.	LISA Waters	Hanson Bellmeade Rd. WPB F.	lwaters@hanson-inc.com	561-6023624
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3.	Bill Wilson	1454 Patriot Dr. Melbourne	WJW@CVCMEDIA.com	321-610-7332
4.	Patricia Heguet		pheguetgard2013@my.fit.edu	
5.	David Ratte	236 Lee Rd W Melbourne FL 32904	dratte@avidyne.com	321-726-1907
6.	Scott Brady	EG Solutions Lakewood Ranch, FL	SBRADY@EG-SOLUTIONSINC.com	
7.	Jacki Grant	Melbourne FL	jnkgrant@msn.com	
8.	Sandy Daughtry		Sandy.DaughtryBrevard County,us	633-2003
9.	Liz Naymire	FIT Aviation	enaymire@fitaviation.com	321-674-8904
10.	Dick Pesick	MAPA	rjpav8z@earthlink.net	321-213-3214
11.	Bob Curry	MAPA	BTMCOATCT@AOL.COM	
12.	Rob Hambrecht	Melbourne	rhambrecht@AVCONINC.com	407 599 1122

Valkaria Airport Master Plan Update – Public Information Meeting
Wednesday, February 25, 2015 – 5:30 PM
Viera Government Center

Print Name	Address	Email	Telephone/Fax
13. PATRICK MAC CARTHAIGH	COCOA, FL 32922	N/A	N/A
14. DON STIVER	MERRITT ISLAND	N/A	N/A
15. BOB ATWELL	MERRITT ISLAND	N/A	N/A
16. DON RUNAAS	MERRITT ISLAND	N/A	N/A
17. DON WHITE	MERRITT ISLAND	N/A	N/A
18. Chris Thomas	Palm Bay, FL	N/A	NA
19. D Rutledge	Melbourne	N/A	N/A
20. K Rutledge. esq.	Melb.	N/A	N/A
21. Katelyn Sanderson	Melbourne, FL	N/A	N/A
22. Colleen MacCarthaigh	Cocoa, FL	N/A	N/A
23. DANIEL GREEN	VALKARIA FL	djmelbourne@bellsouth.net	
24. LINN WALTERS	VALKARIA	N/A	N/A

Valkaria Airport Master Plan Update – Public Information Meeting
Wednesday, February 25, 2015 – 5:30 PM
Viera Government Center

	Print Name	Address	Email	Telephone/Fax
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27.	ED WATERS	115 11TH AV. INDIALANTIC FL	EWATERS@HANSON-INC.COM	
28.	DAN FADEN	3750 PONDEROSA Rd. GRANT-VALKARIA FL		
29.	ANDY PEDERSEN	3827 PEACOCK DR MELBOURNE FL	~~APEDERSEN~~ ANDY_PEDERSEN@YAHOO.COM	
30.	Morris Richardson	2357 JUDGE FRAN JAMIESON WAY VIERA FL 32940	morris.richardson@brevardcounty.us	633-2090
31.	Barbara Savini	172 Bayside Way	—	—
32.	Walter Eisenmann	854 True Creek Circle Palm Bay, FL	mooneybum@aol.com	
33.	AllisonMcCuddy	133 S Semoran Blvd Orlando FL 32807	allison.mccuddy@dot.state.fl.us	
34.	Joe Blake	2541 Pinecrest Ave melbourne, FL 32901	jblake1@cfl.rr.com	
35.	HOWARD TETRAULT	4535 CAROLWOOD DR MELBOURNE FL 32934	hdtetrault@gmail.com	321 412 1248
36.	WALTER HEWETT	452 SAN LUIS ST SW PALM BAY, FL 32909	whhewett@ATT.NET	
37.	Tim Haskell	Hanson	thaskell@hanson-inc.com	615.871.7249

Valkaria Airport Master Plan Update
Public Information Meeting

March 26, 2015
Viera Government Center

1

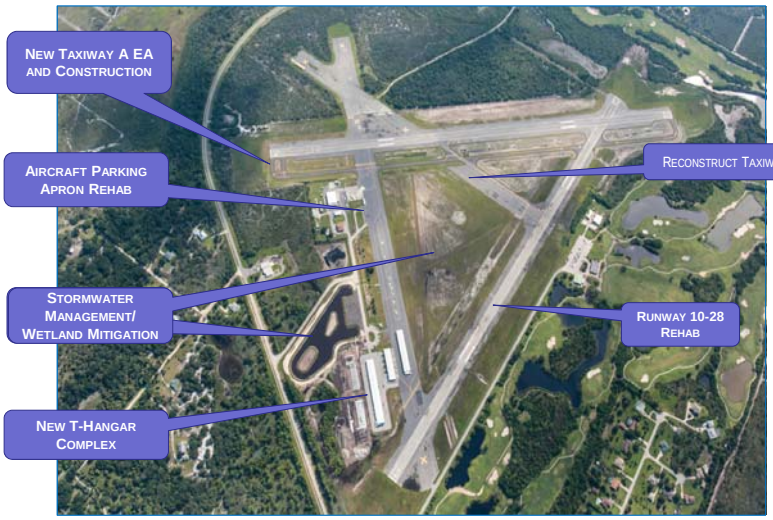
Valkaria Airport
2015 Master Plan Update

AGENDA

1. Welcome and Introductions
2. 2006 Airport Master Plan Refresher
3. 2015 Airport Master Plan Update – Public Meeting 1 Recap
4. 2015 Airport Master Plan Update – Facility requirements, facility layouts and environmental review

2

Valkaria Airport Master Plan Update
2006 Airport Master Plan Refresher



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Valkaria Airport Master Plan Update
2015 Airport Master Plan Update

Inventory of Existing Airfield Conditions

Existing Airfield Characteristics				
Runways	**14**	**32**	**10**	**28**
Dimension (ft.)	4,000' x 75'		4,000' x 60'	
	Primary		Secondary	
Surface	Asphalt		Asphalt	
Surface Condition	Fair to Poor		Excellent	
Pavement Strength	12,500 LBS. SW			
Runway Edge Lighting	None			
Threshold Lights	Both Runways			
NAVAIDS	Rotating Beacon and PAPI's			
Runway Marking	Basic		Basic	
Taxiways	4,000' x 25' Parallel TWY A		None	
Source: Airport Facility Directory, 2014; Airport Records; Master Record Form 5010; Hanson 2015				

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Valkaria Airport Master Plan Update
2015 Airport Master Plan Update

Existing Landside Facilities

- Aircraft storage
  - 5 T-Hangar strands & 4 box hangars
- Rehabilitated aircraft parking apron & tie-downs
  - 30 aircraft tie-downs
- Beacon, segmented circle, CF windsock, PAPI, threshold lights
- Improved airfield drainage & addressed wildlife hazards
- Added Skyman Park
- Consolidated fuel farm
  - 12,000 gals. 100LL
  - 5,000 gals. Jet-A

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Valkaria Airport Master Plan Update
2015 Airport Master Plan Update

Forecast of Aviation Demand (20-year planning period)

- **Operations = 64,865**
  - ✓ Itinerant = 16,865
  - ✓ Local = 48,000
- **Peak Hour Itinerant = 30**
  - ✓ Design Day Itinerant Parking = 33
- **Based Aircraft = 236**
- **Design Aircraft B-II**

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Valkaria Airport Master Plan Update
2015 Airport Master Plan Update

Forecast and Facility Requirements

- **Operations**
  - ✓ Airfield: Runway and taxiway system, additional navigational aids, and instrument approaches
  - ✓ Landside Facilities: Fuel, maintenance, flight planning and vehicle parking
- **Itinerant Operations**
  - ✓ Landside Facilities: Defined by pilots/passenger, aircraft parking, fueling, terminal facilities and vehicle parting
- **Based Aircraft**
  - ✓ Landside Facilities required for the storage and maintenance of aircraft

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Valkaria Airport Master Plan Update
2015 Airport Master Plan Update

Forecast and Facility Requirements (continued)

- **Design Aircraft**
  - ✓ Dictates airport design standards
    - Aircraft approach speed
      - Defines standards for the runways
    - Aircraft wingspan
      - Defines airfield and aviation landside separation design standards
    - Aircraft weight
      - Defines pavement strength requirements

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Valkaria Airport Master Plan Update
2015 Airport Master Plan Update

1. Required to conform to applicable FAA and FDOT standards
   - a 20-year planning "road-map"
2. Schedule – Major Milestones

	Start	Finish	Comments
Inventory & Forecasts	Oct-2014	Nov-2014	Agency Review Required
Demand/Capacity & Facility Requirements	Dec-2014	Feb-2015	Public Information Meeting
Alternatives/Environmental Review	**Feb-2015**	**Mar-2015**	**Public Information Meeting**
Draft Master Plan Update	Jan-2015	Apr-2015	BOCC Meeting

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Valkaria Airport Master Plan Update
2015 Airport Master Plan Update

Airport Land Use

- Airfield: Runway taxiways, apron, approaches, navigational aids
- Aviation Landside: All facilities for aviation support
- Non-Aviation Land Use: Property available for development of compatible facilities and environmental management

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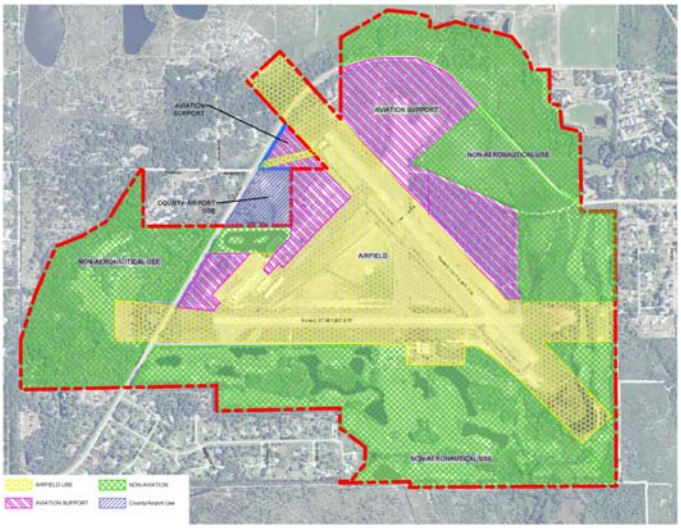
Valkaria Airport Master Plan Update
2015 Airport Master Plan Update



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Valkaria Airport Master Plan Update
2015 Airport Master Plan Update

Airport Land Use

- **Environmental**
  - ✓ Stormwater management
    - – Water quality and control
  - ✓ Wetlands impacts
  - ✓ Wildlife impacts

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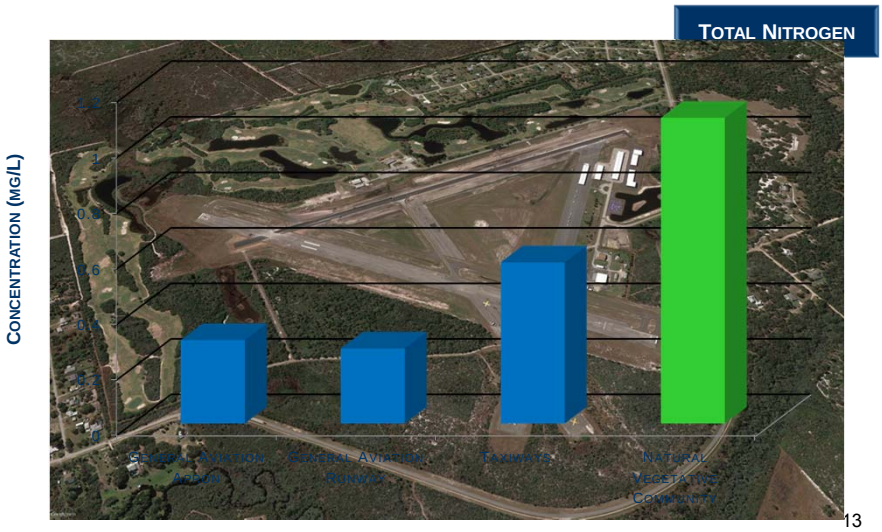
Valkaria Airport Master Plan Update
2015 Airport Master Plan Update



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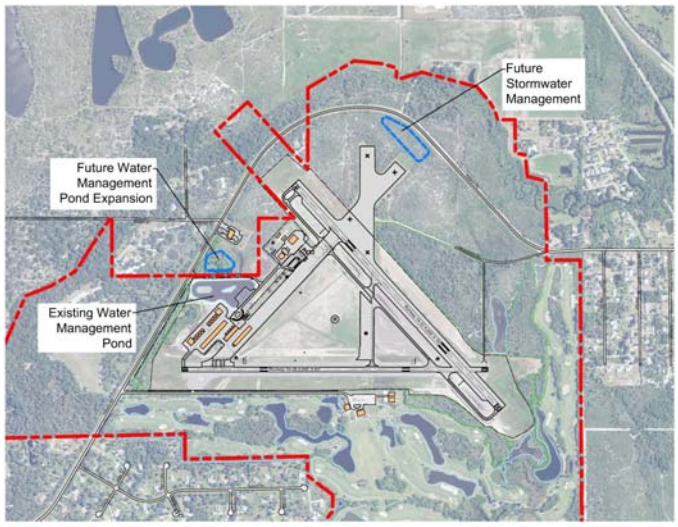
2015 Airport Master Plan Update



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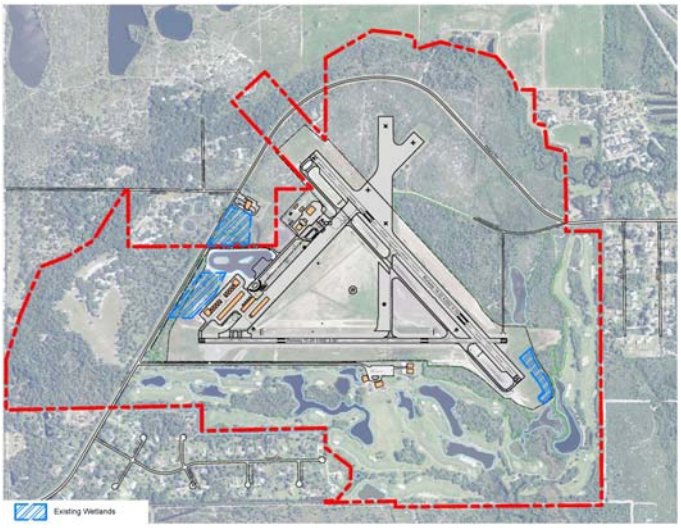
Valkaria Airport Master Plan Update
2015 Airport Master Plan Update



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Valkaria Airport Master Plan Update
2015 Airport Master Plan Update

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Valkaria Airport Master Plan Update
2015 Airport Master Plan Update

Airfield Operations	2014	5 yrs.	10 yrs.	20 yrs.
	53,160	55,872	58,722	64,865

- Two runways are sufficient
- Taxiways to reduce Runway Occupancy Time
- Relocation of navaids
- Non-Precision instrument approaches (GPS)
- Medium Intensity Edge Lights - Runway and Taxiways
- Fire station access

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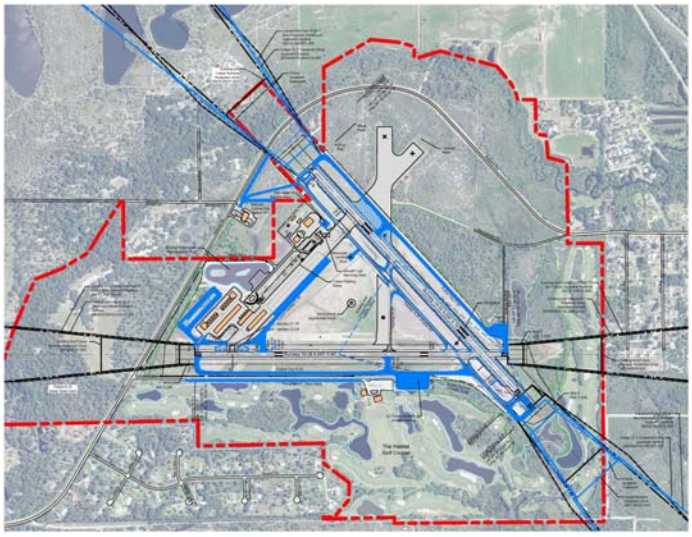
Valkaria Airport Master Plan Update
2015 Airport Master Plan Update



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Valkaria Airport Master Plan Update
2015 Airport Master Plan Update

20 Year Planning Period (Year 2034)

- **Itinerant Operations = 16,865**
  - ✓ Average Day = 178
  - ✓ Peak Day = 338
  - ✓ Itinerant Parking = 33
- **Landside aviation support facilities**
  - ✓ Highlights the need for a pilot/passenger service facility and airport administration offices

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Valkaria Airport Master Plan Update
2015 Airport Master Plan Update

20

Valkaria Airport Master Plan Update
2015 Airport Master Plan Update

Based Aircraft	2019	2024	2034
Forecast	+60	+15	+34
Total	187	202	236

- Hangars
- Fuel facilities
- Washrack
- Auto parking

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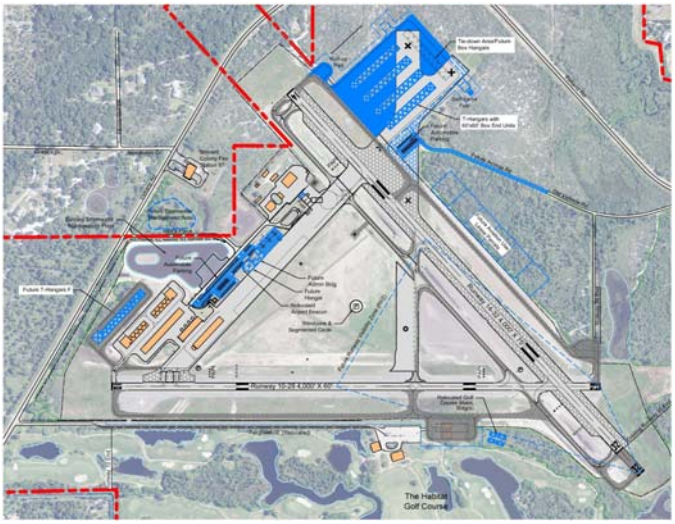
Valkaria Airport Master Plan Update
2015 Airport Master Plan Update



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Valkaria Airport Master Plan Update
2015 Airport Master Plan Update

1. **Required to conform to applicable FAA and FDOT standards**
   - **a 20-year planning "road-map"**
2. **Schedule – Major Milestones**

	Start	Finish	Comments
Inventory & Forecasts	Oct-2014	Nov-2014	Agency Review Required
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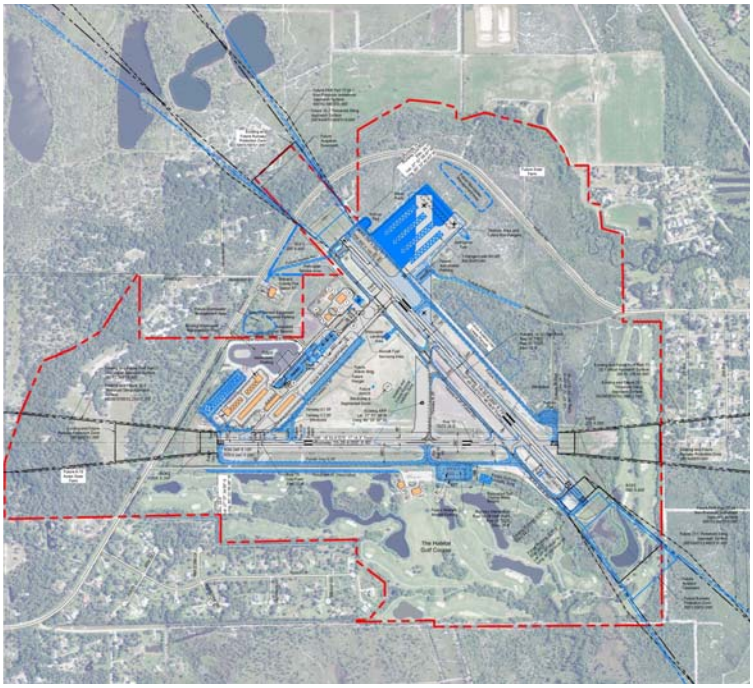

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Valkaria Airport

Master Plan Update Public Information Meeting

Brevard County Government Center
2725 Judge Fran Jamieson Way
Viera, FL 32940

March 26, 2015
Minutes

The second Valkaria Airport Master Plan meeting began at 5:35 p.m. as Valkaria Airport Director, Steve Borowski, introduced Scott Brady, Senior Design & Environmental Engineer and Tim Haskell, Senior Airport Planner, from Hanson Professional Services, Inc. Tim Haskell welcomed those present, and began the meeting by giving a recap, citing how the first public meeting presentation gave a detailed review of the previous master plan and the work that has been accomplished to date. He clarified that the first meeting focused on two things: the inventory of facilities and the forecast.

This second meeting will focus on three things: the facility requirements, the facility layouts, and the environmental review. A period for questions and answers will be held following the presentation. Mr. Haskell proceeded to go through the **attached** presentation of the Master Plan Update, page by page, taking time to expound upon the various items.

At the completion of the presentation review, attendees were informed that the next phase will be to present a master plan document consisting of the recommended facilities, along with a cost estimate and capital improvement plan. This will complete the document to be presented to the Federal Aviation Administration, Florida Department of Transportation & Brevard County Board of County Commissioners, in April or May of 2015.

Several questions were then asked, consisting of the following:

Q. On the current plan you moved the fuel to the mid-taxi way to the end for facilitation and it is awkward for planes. Does the plan smooth that access over time?
A. Yes – as this area is developed, it will have a self-serve fuel access and when the administrative building is moved – that area can be used to fuel and is more open. Four aircraft can be parked, and possibly even fueled at the same time. Hansen Professional Services, Inc. is also recommending two wash racks.

Q. Do we have auto gas at the airport now?
A. Yes, there is auto gas there now; however it is not sold to the public, as it is for county vehicle use. An engineering firm is under contract at this time and to redesign the fuel farm and they will go out for procurement in the June timeframe. In the process of upgrading the fuel farm they will tap off the existing motor gas, so they will be able to get Jet A and regular motor gas right there.

Q. Where is the grass strip in these plans? Is there any consideration for that?
A. There is nothing official as of today, but on the north side of runway 14/32 there is 2,000 ft. and on the south side of runway 10/28 there is 1,600 ft. It may become a “land at your own risk” grass area in the near future.

Q. Is there any consideration for lengthening the primary runway for B-2?
A. Yes. There will be a runway extension of 200 ft.

Q. A para-motor pilot, who teaches and instructs, inquired if the master plan is going to impact the infield in any way?
A. No, the infield will not be changed. It is important to airport staff and the Board of County Commissioners that the existing powered para glider activities at the airport remain.

Q. Will there be spaces for radio control operations like aircraft and Quad-copters?
A. Yes, there is the off-road area for radio control and the quarter-midget activities.

Q. Can you speak about the fire department access?
A. Yes, a quicker access from the fire station to the runway system has been identified and recommended. The best way to gain immediate access is to connect to a driveway out of the station and down to what will be a recommended break-a-way gate (or an automatic gate that can be activated from the fire station), to gain access to the airport operational area.

Q. You don't denote access to the north side hangers. Would that be accessed by the Valkaria Road curve?
A. Yes, this road will be improved.

Q. I noticed on the airside a little notch area shown. Is this the extent of the build-out as compared to the grass side runway?
A. Yes, in the 20 year plan, this would be the extent of the build-out. This entire triangle area has been identified and set aside as an aviation support area, which could later be used for land lease development that supports aviation in order to generate revenue for the airport. Examples of land leases include such things as someone building a hanger and opening an aircraft maintenance shop, or someone operating a solar farm.

Q. Are there additional tax credits for something like this?
A. No, any tax credits in a land lease situation would go to the developer, not the airport.

Q. Is there an anticipated access to the south side since we don't want people crossing runways?
A. No. People will have to go around. It would not get past the FAA, as all of these things are based on the geometry requirements of the FAA based on B2 aircraft.

Q. Are you envisioning any electric charging stations whenever the electric airshows come around?
A. No.

Q. Are these plans on-line?
A. Not yet. They will be on-line as coordination is done with the FAA and we get closer to a complete master plan document.

At this time, there were no further questions and Tim Haskell encouraged attendees to e-mail or call him with additional questions that may arise.

The meeting adjourned at 6:55 p.m.

Valkaria Airport Master Plan Update
Public Information Meeting
Viera Government Center
Thursday, March 26, 2015

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Valkaria Airport Master Plan Update
Public Information Meeting
Viera Government Center
Thursday, March 26, 2015

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