



## SPECIAL JOINT SESSION OF COUNCILS

Wednesday, January 18, 2012  
6:00 p.m.  
Beaufort County Council  
and  
Beaufort City Council



Performing Arts Center  
University of South Carolina – Beaufort  
801 Carteret Street  
Beaufort, South Carolina

- 
1. CALL TO ORDER – 6:00 P.M.
  2. PLEDGE OF ALLEGIANCE
  3. FOIA COMPLIANCE – Public information of this joint session of Councils has been published, posted and mailed in compliance with the Freedom of Information Act and Beaufort County and the City of Beaufort requirements.
  4. OPENING REMARKS – Mayor Keyserling and Chairman Newton
    - A. Presiding Official
    - B. Procedures
  5. ADMINISTRATIVE REPORT
    - A. Beaufort County Airport Master Plan Update (**backup**)  
Wilbur Smith Associates
    - B. Questions and Answers / County Council and Beaufort City Council
  6. PUBLIC COMMENTS
  7. DISCUSSION
  8. ADJOURNMENT



## Executive Summary

Beaufort County Airport (ARW), also known as Ladys Island Airport, is a small general aviation airport located near Beaufort, South Carolina. The Airport serves a small, but growing community made up of retiree's, military personnel, residents, and businesses. The center of the Beaufort community is an urban complex consisting of the city of Beaufort, the town and harbor of Port Royal, the Naval Hospital Beaufort and two U.S. Marine Corps installations: Marine Corps Air Station (MCAS) and Marine Corps Recruit Depot, Parris Island. Adjacent to this area are the islands of Hilton Head, Fripp Island, and Hunting Island with beach and resort developments.

National and Regional Map





## **Purpose of the Master Plan**

Last updated in 1978, Beaufort County has chosen to update the ARW Airport Master Plan. The primary objective of this Master Plan is to produce a comprehensive planning guide for the continued development of a safe, efficient, and environmentally compatible aviation facility that meets the goals of the Beaufort County Airport, users and tenants, and the surrounding service area. The plan must also satisfy FAA guidelines for the development of Airport Master Plans and facilities, while incorporating characteristics that are unique to the service area. The study focuses on aeronautical forecasts, need and justification for development, and a staged plan for recommended development.

Based on this analysis, future recommended improvements for the Airport will be depicted on an Airport Layout Plan (ALP). The plan will be adopted by Beaufort County and the City of Beaufort as well as accepted by the South Carolina Aeronautics Commission (SCAC) and Federal Aviation Administration (FAA), thus allowing the Airport eligibility for state and federal grants for assistance in funding the improvements.

## **Existing Conditions**

The Airport occupies approximately 110 acres, owned by the county. U.S. Route 21 is the major roadway providing access to ARW, but there are several roadway and highway systems which connect the region to major cities.

Beaufort County Airport is owned and operated by Beaufort County, which also oversees the operations at Hilton Head Island Airport (HXD). The Airport also gets direction from the Beaufort County Airports Board (BCAB). This body is composed of 11 members plus two County/Town of Hilton Head councilmen who



serve as liaison. Beaufort County owns and operates the FBO, providing flight and fuel services to based and transient aircraft, as well as maintaining and renting space in three T-hangar complexes capable of storing 34 aircraft.



The primary component of the airfield at ARW is Runway 7/25, measuring 3,434 feet long by 75 feet wide and having a load-bearing capacity of 50,000 pounds for dual-wheel gear aircraft. The runway is accessed by a partial parallel taxiway as well as a 21,750 square yard apron with entrance/exit taxiways leading from it. Additional facilities such as the terminal building, vehicle parking, navigation and communications equipment, and fuel storage all contribute to the Airport's day-to-day operation. The Master Plan evaluates these facilities individually to determine their safety, efficiency and effectiveness. The recommended plan will address the deficiencies of existing facilities as well as facilities needed to accommodate growth.

## Forecast Summary

It is anticipated that Beaufort County Airport will see increasingly strong growth during the 20-year planning period, depending on the removal of possible constraints. Market area demographic trends indicate that the Airport is likely to outpace national growth in general aviation. Based aircraft are expected to increase from 56 aircraft in 2008 to 92 aircraft by 2028. The Airport will also see an increase in the number of operations. By the end of the planning period, more than 74,000 operations are projected to occur. The following table summarizes the projections for the Beaufort County Airport throughout the 20-year Master Plan Update planning period.

	Based Aircraft Total	Total Operations
<b>Actual</b> 2008	56	41,000
<b>Projected</b> 2013	63	47,500
2018	72	55,100
2023	81	63,800
2028	92	74,100

Source: Wilbur Smith Associates and airport records

## Facility Requirements

Based on the Airport's future role and using industry and FAA planning standards, the facility requirements analysis identifies the following needs for Beaufort County Airport:

- Extension of Runway 7-25 from 3,434 feet to 5,000 feet
- Extension of the parallel taxiway to Runway 25 end
- Improvements necessary to comply with FAA standards for runway safety areas and runway object free areas



- Development of at least 25 additional T-hangars spaces
- Development of 31,500 SF of conventional/corporate hangars
- Expansion of terminal building by at least 1,750 square feet
- Relocation and expansion of vehicular parking
- Development of maintenance storage facility of 800 square feet

## Alternatives Analysis

The process of selecting development recommendations consists of identifying and evaluating alternatives that meet the Airport’s 20-year requirements. The most critical of the requirements identified are the need to increase compliance with FAA standards, provide for aviation expansion, and preserve flexibility while increasing revenue generation potential. The airfield alternatives are evaluated on their impacts to the surrounding environment and community while providing a 5,000-foot runway to accommodate future demand. The following table summarizes the impacts related to each development alternative.

Impact Evaluation Factors	Meeting Standards	Alternative 1	Alternative 2	Alternative 3
Marsh/OCRM (AC)	5	11	1	19
Land Acquisition (AC)	0	41	153	0
Number of Parcels	0	24	63	0
Number of Homes	0	8	16	0
Number of Businesses	0	0	7	0
Beaufort MCAS Impacts	No	No	Yes	No
Cemetery Impacts	No	1	No	No
Hwy 21 Tunnel/Realignment	No	Yes	No	No
Power Substation & Pole Impacts	13	20	Unknown	13
Noise	On-Airport	On-Airport*	On-Airport*	On-Airport
Approach Impacts	No	No	Yes	Yes

\*On-airport noise only through land acquisition tied to the runway extension/realignment

Alternative 3, shown on the last page of this executive summary, is the recommended development option for ARW. The analysis results in an airfield recommendation to extend the runway into the salt marsh, a total of 1,566 feet from the end of Runway 25 (not including runway safety area). While this alternative avoids impacts to nearby residents, businesses, and Highway 21, it has impacts to the salt marsh.



## Airport Development Program

Concerns over airport expansion have been raised and bring into question the willingness to undertake a runway extension at ARW. In light of these concerns, a phased approach to development provides an ultimate runway length of 5,000 feet, beyond the planning horizon with incremental development within the 20-year period. The recommended airfield alternative is broken down into the following phases:

**Phase 1 (0-5 years)** – Runway safety area improvements to meet FAA design standards and taxiway extension to provide a full length parallel.

**Phase 2 (6-10 years)** – 966-foot runway and taxiway extension to 4,400 feet to support existing based aircraft.

**Phase 3 (11-20 years)** – No airfield expansion.

**Ultimate** – 600-foot runway and taxiway extension to achieve 5,000 feet. This will not be carried out within the 20-year planning period and may be studied further in subsequent master planning efforts.

Key landside development recommendations have been provided that fit with the chosen airfield development and allow for the expansion of existing facilities. Hangar expansion will keep pace with demand and allow for revenue generation growth. Terminal building improvements will update the existing facility in its current location, while providing for additional space to accommodate increased activity and maintenance storage functions. The vehicle parking lot will be relocated and expanded to increase capacity.

Below are estimated costs of the recommended, phased development through the 20-year planning period, expressed in 2011 dollars.

### Phase I (0 – 5 Years)

Project	FAA Eligible	State Share	Sponsor Share	Private Sources	Total
A. RSA Improvements (both ends)	\$3,771,500	\$99,250	\$99,250		\$3,970,000
B. Taxiway Extension (2,225' x 35)	\$779,000	\$20,500	\$20,500		\$820,000
C. Helipad	\$71,250	\$1,875	\$1,875		\$75,000
D. Hangar Development				\$4,800,000	\$4,800,000
E. Apron Expansion	\$475,000	\$12,500	\$12,500		\$500,000
F. Terminal Expansion	\$237,500	\$6,250	\$6,250		\$250,000
G. Road/Parking Improvements	\$712,500	\$18,750	\$18,750		\$750,000
<b>TOTAL PHASE I</b>	<b>\$6,046,750</b>	<b>\$159,125</b>	<b>\$159,125</b>	<b>\$4,800,000</b>	<b>\$11,165,000</b>



# BEAUFORT COUNTY AIRPORT MASTER PLAN UPDATE

## Phase II (6 – 10 Years)

Project	FAA Eligible	State Share	Sponsor Share	Private Sources	Total
H. Runway Extension (966' x 75')	\$ 5,343,750	\$140,625	\$140,625		\$5,625,000
I. Taxiway Extension (1,206' x 35')	\$3,111,250	\$81,875	\$81,875		\$3,275,000
J. Hangar Development				\$1,950,000	\$1,950,000
<b>TOTAL PHASE II</b>	<b>\$8,455,000</b>	<b>\$222,500</b>	<b>\$222,500</b>	<b>\$1,950,000</b>	<b>\$10,850,000</b>

## Phase III (11 – 20 Years)

Project	FAA Eligible	State Share	Sponsor Share	Private Sources	Total
K. Hangar Development				\$1,930,000	\$1,930,000
L. Fuel Farm Relocation	\$285,000	\$7,500	\$7,500		\$300,000
<b>TOTAL PHASE III</b>	<b>\$285,000</b>	<b>\$7,500</b>	<b>\$7,500</b>	<b>\$1,930,000</b>	<b>\$2,230,000</b>

Source: Wilbur Smith Associates

## Airport Finances

Demonstrated in the tables above, the estimated rough order of magnitude project costs for future development will be shared between federal, state, Airport (sponsor) and private developer resources. The estimates contained in these tables are derived from analyzing similar projects and should be re-evaluated at the time of project initiation. The portion of project cost sharing will be based on funding eligibility and the nature of projects undertaken.

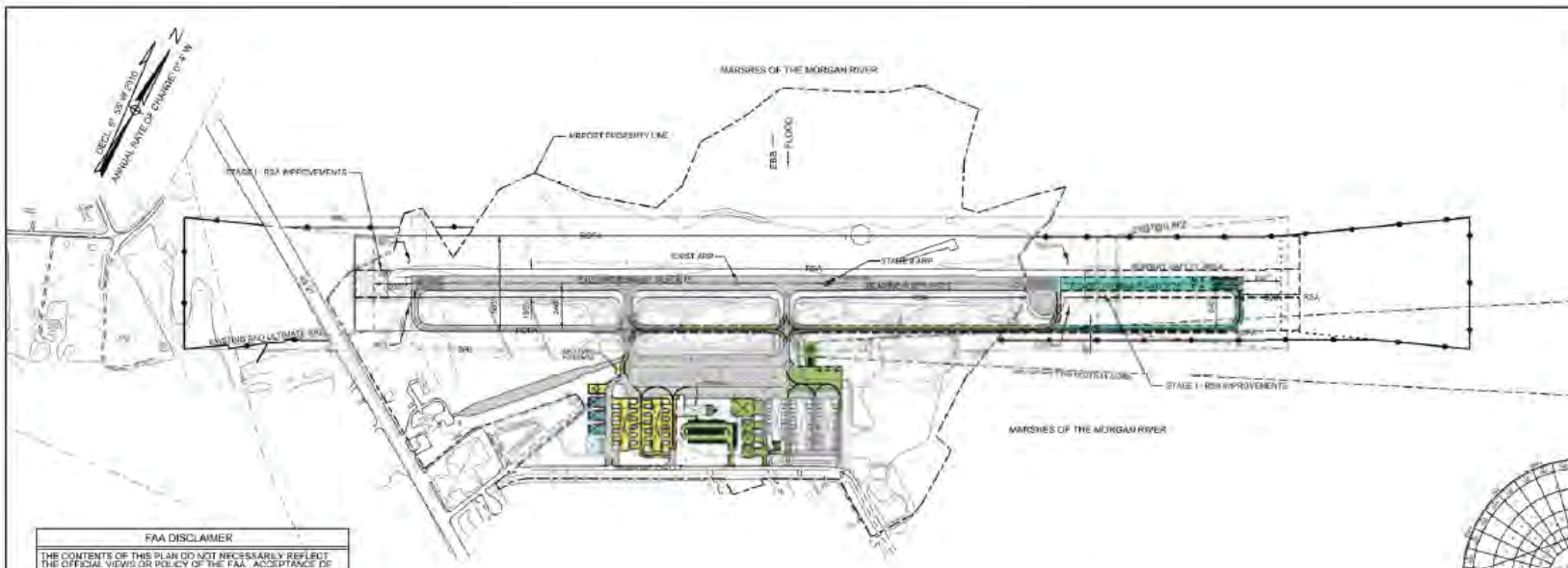
This Master Plan examines the financial operating outcome of the Airport for fiscal years 2008 through 2011(budgeted) to identify the potential for funding development through the use of Airport funds. The Airport's net revenue has remained positive for the past four years and is trending upward. The Airport has maintained a relatively consistent ratio between the revenue generated from fuel and oil sales, the primary source of revenue for the Airport, and the expense of sales and services. As fuel and oil sales increase and the ratio of related costs of sales and services remains consistent, the Airport will likely continue to experience positive financial performance.

Based on incremental growth in revenues and expenses and planned facility development, it is likely that the Airport will maintain self-sufficiency in the near term and become more profitable in later years. Analysis of the summary financial information indicates that positive income from Airport operations should go into an airport capital improvement fund to be used to pay the sponsor share of capital project costs.



# BEAUFORT COUNTY AIRPORT MASTER PLAN UPDATE

**CONSTRUCTION NOTICE REQUIREMENT**  
To protect operational safety and future development, all proposed construction on the airport must be coordinated by the airport owner with the FAA Airports District Office prior to construction. FAA's review takes approximately 60 days.



**FAA DISCLAIMER**  
THE CONTENTS OF THIS PLAN DO NOT NECESSARILY REFLECT THE OFFICIAL VIEW OR POLICY OF THE FAA. ACCEPTANCE OF THIS DOCUMENT BY THE FAA DOES NOT IN ANY WAY CONSTITUTE A COMMITMENT ON THE PART OF THE UNITED STATES OR THE STATE OF SOUTH CAROLINA TO PARTICIPATE IN ANY DEVELOPMENT SPECIFIC HEREIN. THIS DOES NOT INDICATE THAT THE PROPOSED DEVELOPMENT IS ENVIRONMENTALLY ACCEPTABLE IN ACCORDANCE WITH APPROPRIATE PUBLIC LAWS.

TAXIWAY DISTANCES	
	DISTANCE
TO RUNWAY CENTERLINE	240'
TO AIRCRAFT PARKING	130'
TO PARALLEL TAXIWAYS	N/A

DEVELOPMENT STAGES			
EXISTING PAVEMENT	STAGE ONE 1-5 YEARS	STAGE TWO 6-10 YEARS	STAGE THREE 11-20 YEARS

LEGEND		
DESCRIPTION	EXISTING	ULTIMATE
GROUND CONTOURS	---	---
AIRPORT PROPERTY LINES	---	---
BUILDINGS (ON AIRPORT)	---	SAME
BUILDINGS (OFF AIRPORT)	---	---
RUNWAY PROTECTION ZONE (RPZ)	---	---
RUNWAY END IDENTIFICATION LIGHT (REIL)	---	---
ROTATING BEACON	---	---
TREE LINE	---	N/A
FENCE LINE	---	N/A
PAVED ROAD	---	---
AIRPORT REFERENCE POINT (APP)	---	---
RUNWAY SAFETY AREA AND OBJECT FREE AREA	---	---

RUNWAY ELEVATIONS (MSL)				
	EXISTING ELEVATION DATA	ULTIMATE ELEVATION DATA		
RUNWAY END	R/W 07	R/W 25	R/W 07	R/W 25
DISPLACED THRESHOLD	N/A	N/A	N/A	N/A
R/W INTERSECTION	56'	N/A	54'	N/A
R/W PAVEMENT POINTS	10.118.0'	5.375.0'	10.118.0'	5.200.0'
TOUCHDOWN ZONE ELEV.	10.1'	9.3'	10.1'	9.3'

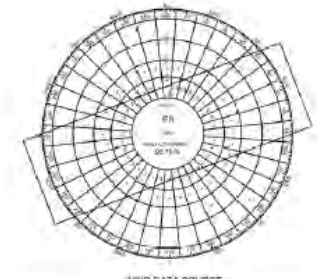
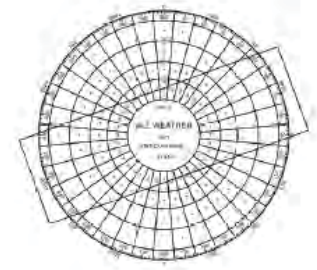


RUNWAY PROTECTION ZONE DATA								
RUNWAY END	APPROACH SLOPE	EXISTING RPZ DIMENSIONS			ULTIMATE RPZ DIMENSIONS			
		A	B	C	A	B	C	
RUNWAY 7	34:1	34.1	900'	700'	1,000'	SAME	SAME	SAME
RUNWAY 25	34:1	34.1	500'	700'	1,000'	SAME	SAME	SAME

RUNWAY END DATA						
RUNWAY END	EXISTING END DATA			ULTIMATE END DATA		
	ELEVATION	LATITUDE	LONGITUDE	ELEVATION	LATITUDE	LONGITUDE
RUNWAY 7	10.1	32°24'35" N	80°38'27" W	SAME	SAME	SAME
RUNWAY 25	9.3	32°24'52" N	80°37'48" W	7.7	32°24'52" N	80°37'37" W

RUNWAY DATA			
	EXISTING	RUNWAY 07/25	
		EXISTING	ULTIMATE
% EFFECTIVE GRADIENT	0.16%	0.16%	0.10%
% TURNDOWNGRADE -13 KNOTS (ALL WEATHER)	37.01%	37.01%	37.01%
MAXIMUM ELEVATION ABOVE MSL	10'	10'	10'
RUNWAY LENGTH	3,434'	4,400'	4,400'
RUNWAY WIDTH	75'	75'	75'
RUNWAY SURFACE TYPE	ASPHALT	ASPHALT	
RUNWAY STRENGTH	50,000 LBS. OWG	25	50,000 LBS. OWG
RUNWAY	07	25	07
PART 17 APPROACH CATEGORY	NON-PRECISION	NON-PRECISION	NON-PRECISION
APPROACH VISIBILITY MINIMUMS	1 MILE	1 MILE	1 MILE
TYPE INSTRUMENT APPROACH	RNAV/LNAV	RNAV/LNAV/PV	RNAV/LNAV/PV
APPROACH SLOPE	34:1	34:1	34:1
RUNWAY LIGHTS	HIRI	MIRI	MIRI
RUNWAY MARKING	NON-PRECISION	NON-PRECISION	NON-PRECISION
MARKERS & VISUAL AIDS	REIL/PAPI	REIL/PAPI	REIL/PAPI
RUNWAY SAFETY AREA	5,000'X150'	5,000'X150'	5,000'X150'
RUNWAY OBJECT FREE AREA	4,000'X500'	4,000'X500'	5,000'X500'
DECLARED DISTANCES	N/A	N/A	N/A

AIRPORT DATA		
SPONSOR	BEAUFORT COUNTY	
CITY	CITY OF BEAUFORT	
COUNTY	BEAUFORT	
STATE	SOUTH CAROLINA	
AIRPORT IDENTIFIER	K27W	
GPS AT AIRPORT	R/W 25 / RWY 7	
MEAN MAXIMUM TEMPERATURE	89.1°	
	EXISTING	ULTIMATE
AIRPORT REFERENCE POINT - LAT	32°24'37.72" N	32°24'46.77" N
AIRPORT REFERENCE POINT - LONG	80°38'01.67" W	80°37'38.88" W
AIRPORT & TERMINAL NAV AIDS	LPV, BEACON, APOIS III PIT	LPV, BEACON, APOIS III PIT
AIRPORT REFERENCE CODE (IATA)	DHI	DJI
DESIGN AIRCRAFT	BEECH KING AIR	BEECH KING AIR



WIND DATA SOURCE:  
BEAUFORT MAR, SC PERIOD 1989 - 2009  
WEATHER BASED ON 7,547 OBSERVATIONS

WIND COVERAGE (15 KNOTS)		
(RUNWAY 07/RUNWAY 25)	TOTAL	
ALL WEATHER	88.63%	18.37%
IFR	76.09%	25.20%

REVISIONS	
REV. NO.	DATE

APPROVALS			
DESIGNED BY	AW	DATE	05/21/2011
DRAWN BY	AG	DATE	05/21/2011
CHECKED BY	GD	DATE	05/21/2011

APPROVALS	
TITLE	DATE



PLANS PREPARED BY	
BEAUFORT COUNTY AIRPORT	BEAUFORT COUNTY AIRPORT
BEAUFORT COUNTY	BEAUFORT COUNTY
LADY'S ISLAND, SC	LADY'S ISLAND, SC

PLANS PREPARED FOR	
BEAUFORT COUNTY AIRPORT	BEAUFORT COUNTY AIRPORT
BEAUFORT COUNTY	BEAUFORT COUNTY
LADY'S ISLAND, SC	LADY'S ISLAND, SC