APALACHICOLA REGIONAL AIRPORT
AIRPORT MASTER PLAN UPDATE

WORKING PAPER NUMBER TWO
Containing:

Chapter 4: Environmental Considerations
Chapter 5: Facility Requirements

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4. ENVIRONMENTAL CONSIDERATIONS

An environmental study was performed to identify Recognized Environmental Conditions (RECs) associated with the Apalachicola Regional Airport property. This is intended to constitute "all appropriate inquiry" into the previous ownership and uses of the Airport consistent with good commercial and customary practices as defined by the Comprehensive Environmental Response Compensation and Liability Act (CERCLA) (42 USC § 9601). In addition, the study is intended to permit a user to satisfy one of the requirements to qualify for the innocent landowner, contiguous property owner, or bona fide prospective purchaser limitations to CERCLA liability.

This study addresses existing and past uses and conditions relating to the Airport property. No representation is made regarding the future or potential use of the Airport property except for those items explicitly stated in this report.

This assessment was conducted in general accordance with the scope and limitations of ASTM Standard E-1527-13, *Standard Practice for Environmental Site Assessments: Phase I Environmental Site Assessment Process* (the Standard Practice) unless otherwise stated herein. The assessment, conclusions and recommendations are based on site conditions, observations, interviews, and a review of readily available information, as they existed at the time of the review.

4.1 INTRODUCTION

This study is described as general characterizations of environmentally sensitive activities and conditions that are identifiable through practically reviewable information and visual, non-invasive observations for the purpose of identifying RECs. The Standard Practice provides the following definition for a REC:

- REC - the presence or likely presence of any hazardous substances or petroleum products in, on, or at a property: (1) due to any release to the environment; (2) under conditions indicative of a release to the environment; or (3) under conditions that pose a material threat of a future release to the environment. The term REC includes hazardous substances or petroleum products, even under conditions in compliance with laws.

  The Standard Practice also provides the following definitions for an HREC, a CREC and a BER:

- HREC – a past release of any hazardous substances or petroleum products that has occurred in connection with the property and has been addressed to the satisfaction of the applicable regulatory authority or meeting unrestricted use criteria established by a regulatory authority, without subjecting the property to any required controls (for example, property use restrictions, activity and use limitations, institutional controls, or engineering controls).

- CREC – a REC resulting from a past release of hazardous substances or petroleum products that has been addressed to the satisfaction of the applicable regulatory authority (for example, as evidenced by the issuance of a no further action letter or equivalent, or meeting risk-based criteria established by regulatory authority), with hazardous substances or petroleum products allowed to remain in place subject to the implementation of required controls (for example, property use restrictions, activity and use limitations, institutional controls, or engineering controls).
- BER – a risk that may have a material environmental or environmentally-driven impact on the business associated with the current or planned use of a parcel of commercial real estate, not necessarily limited to those environmental issues required to be investigated in this practice.

These terms are not intended to include *de minimis* conditions that generally do not present a material risk of harm to public health or the environment, and that generally would not be the subject of an enforcement action if brought to the attention of appropriate governmental agencies.

In addition, the potential for *vapor migration* in the subsurface discussed in this assessment should not be construed as the identification of Vapor Encroachment Conditions (VEC) defined by ASTM Standard E-2600, *Standard Guide for Vapor Encroachment Screening on Property Involved in Real Estate Transactions*.

Services performed for this project include a process involving and/or considering the following:

- Review of available environmental lists published by federal and state agencies (i.e., regulatory database report) in an attempt to identify environmentally sensitive activities (past or present) on the subject and adjoining properties.
- Review of physical characteristics of the Airport through field observations and a review of readily available documents including geologic and topographic maps, aerial photographs, and historic maps.
- Reconnaissance of reasonably accessible portions of the Airport Property and surrounding areas to visually identify obvious present or past conditions or activities that may pose an environmental threat to the Airport property.
- Interview of local regulatory agency personnel and others knowledgeable about the history of the Airport property.
- A qualitative hydrogeological evaluation of the Airport property and vicinity using both published topographic maps and field observations.
- Preparation of this report summarizing our services, findings, and conclusions.

A site vicinity map, topographic map, aerial photograph, site photographs, regulatory database report, regulatory and/or government agency correspondence, and other supporting documents and information are included as appendices to this chapter.

The sampling and testing of soil, air and/or other materials is beyond the scope of this study. The identification of asbestos containing materials (ACM), radon, vapor encroachment, lead based paint (LBP), lead in drinking water, wetlands, Waters of the United States, Waters of the State, regulatory compliance, cultural and historic resources, industrial hygiene, health and safety, ecological resources, rare or endangered species, air quality, noise impacts, biological agents and mold are also beyond the scope of this Phase I ESA. No implication is intended as to the relative importance of these additional environmental items, and this list of items is not intended to be all inclusive.

4.2 ASSUMPTIONS

The information gathered during this assessment was information that was “practically reviewable.” This is, by definition, information that is provided by the source in a manner and in a form that, upon examination, yields information relevant to the property without the need for extraordinary analysis of irrelevant data. The form of the information is such that the environmental professional can review the records for a limited geographic area. Records that cannot be feasibly retrieved by reference to the location of the property or a geographic area in which the property is located (such as records that are sorted chronologically) are not considered practically reviewable.

In addition, for large databases with numerous records it is common for an unmanageable number of sites to be identified, even within a smaller geographic area such as a ZIP code. In these cases, when so much data is generated that it cannot be feasibly reviewed for its impact on the property, it is considered not practically reviewable.

The information provided herein is that which is publicly available. Information that is publicly available means that the source of the information allows access to the information by anyone upon request at a reasonable time and cost.

4.3 LIMITATIONS AND EXCEPTIONS

This study was performed in accordance with the Standard Practice, which is a limited inquiry into a property's environmental status and is not sufficient to discover every potential source of environmental liability or environmental impact, if any, of the property to be evaluated. No Environmental Site Assessment can wholly eliminate uncertainty regarding the potential for RECs in connection with a property. Performance of this practice is intended to reduce, but not eliminate, uncertainty regarding the potential for RECs in connection with a property, and this practice recognizes reasonable limits of time and cost.

The appropriate level of inquiry is variable. Not every property will warrant the same level of assessment. Consistent with good commercial or customary practices, the appropriate level of environmental site assessment will be guided by the type of

property subject to assessment, the expertise and risk tolerance of the Users, and the information developed in the course of the inquiry.

The findings, opinions, and conclusions are based on information which is reasonably ascertainable from standard sources at the time of the assessment through site reconnaissance, visual assessment of surficial conditions, records review, interviews and other standard investigative techniques used in the industry at this time. It is possible that other information exists or may subsequently become known that may impact or change the site assessment after the AVCON Team's services are complete.

In conducting this Phase I ESA and preparing the ESA report, the AVCON Team reviewed, interpreted, and relied upon information provided by others, including, but not limited to individuals, government authorities, subcontractors, and other entities. The AVCON Team has not performed an independent evaluation of the accuracy or completeness of such information.

Specific limitations, exceptions, and/or data gaps/failures related to this ESA were encountered.

- Historical information was available from 1940 to present. The ASTM standard requires verification of property history to at least 1940 or first developed use and requires indicates no more than an approximate 5-year gap between resources. Although the requirement for research to first developed use was achieved, the requisite 5-year interval was not met between 1942-1953, 1953-1959, 1959-1969, 1976-1984, and 1984- 1994. Although there are data gaps, the available data indicate apparent developed usage during this time period.
- Other former property owners, tenants, and/or site managers were not available for interviews regarding the Airport's history and use.
- Chain-of-title, which is optional per the ASTM standard, was not available for review.
- The AVCON Team could not gain access to two (2) main areas during the scheduled site visit. These areas, including the apparent historical dump sites and the closed correctional facility, were locked and gated. Additionally, a majority of the buildings and individually leased hangers were not accessible.

The AVCON Team's professional opinion regarding the significance and/or materiality of these limiting conditions, exceptions, and/or data gaps is provided in Section 4.13.

4.4 SITE DESCRIPTION

4.4.1 Location and Legal Description

The Airport currently consists of six (6) parcels owned by Franklin County with an approximate area of 778 acres identified with the following Franklin County Property Appraiser's Parcel ID numbers:

- 03-09S-08W-0000-0010-0000 = 638.0 acres
- 03-09S-08W-0000-0020-0000 = 0.8 acres
- 04-09S-08W-0000-0020-0010 = 81.46 acres
- 10-09S-08W-0350-0006-0070 = 1.2 acres
- 10-09S-08W-0380-0000-0220 = 27 acres
- 11-09S-08W-0000-0010-0000 = 29 acres

The Property Appraiser information lists the Airport address of 28 Airport Road, Franklin County, Apalachicola, Florida. A site location map is provided in Appendix E (A).

A Site Location Map and a Topographic Map depicting the location of the Airport and its surrounding topography are included in Appendix E (A). The approximate latitude and longitude coordinates of the Airport are 29.43328° north and -85.10376° west, respectively.

4.4.2 Airport Property and Vicinity General Characteristics

The Airport property contains an airport, wastewater plant, prison building, and associated facilities. The existing site grades are approximately level. The vicinity of the Airport property generally includes developed lots and is bordered by the following:

Table 4-1
LAND USE DESCRIPTIONS AND OBSERVATIONS

Direction	Land Use Description/Observations
North	Primarily residential land use and Apalachicola River
East	A baseball field, residential properties, and undeveloped land
South	Residential properties, Highway 98, and Apalachicola Bay
West	Undeveloped land and residential properties

Select photographs of the Airport taken during the site reconnaissance activities (see Section 4.10) are included as Appendix E (B).

4.4.3 Current Use of the Property

At the time of this investigation, the Airport property is a developed airfield with associated buildings and other peripheral areas. The following items were noted during the site reconnaissance:

- General debris
- 55-gallon plastic drum containers with apparent gasoline inside near the maintenance shed.

Photos of the items listed above are included and referenced in Appendix E (B).

4.4.4 Descriptions of Property Improvements

The Airport, as observed during the site reconnaissance activities, currently consists of approximately 800-acres comprised of eight (8) parcels. The Airport contains a single-story 12,376 square foot pre-engineered metal frame building built in 1993, a single-story 3,318 square foot masonry frame building built in 1978, a total of six (6) leased hangers towards Runway 6 adjacent to three (3) active fuel tanks, a maintenance shed west of Apalachee Street, a series of hangars in the southwest corner of the Airport, four (4) hangars and other smaller buildings, as well as three (3) active runways designated 6/24, 18/36, and 14/32 with associated taxiways. Further, two (2) ponds southwest of Runway 32 and one (1) on the very eastern end of the property north of the hangars, a single-story 3,644 masonry weather station building with associated tower, and a metal frame hanger southwest of Runway 32.

4.5 AIRPORT PROVIDED INFORMATION

The "All Appropriate Inquiries" Final Rule (40 CFR Part 312) requires certain tasks be performed by the User in order to qualify for one of the Landowner Liability Protections (LLPs) to CERCLA liability. Failure to provide this information could result in a determination that all appropriate inquiry is not complete; consequently, fulfillment of these User responsibilities is key to qualification for the available defenses to CERCLA liability.

The User is asked to provide information or knowledge of the following:

4.5.1 Land Title Records

Chain-of-Title information was not available to the AVCON Team for review during this analysis but will be done as a later task of the Master Plan Update. The chain-of-title information is optional to this environmental analysis per the Standard Practice. No Institutional Controls (ICs) nor Engineering Controls (ECs) were reported within the ERIS® database information.

4.5.2 Environmental Liens or Activity and Use Limitations

No Environmental Liens or Activity Use Limitations (AULs) were reported to or encountered by the AVCON Team during the conduct of this study.

4.5.3 Specialized Knowledge

Information was not provided in the ASTM Questionnaire regarding specialized knowledge or experience that is material to the identification of RECs in connection with the Airport.

4.5.4 Actual Knowledge

No actual knowledge was provided in the Questionnaire that indicated any information that would identify RECs in connection with the Airport Property.

4.5.5 Valuation Reduction for Environmental Issues

It was revealed to the AVCON Team that the valuation of the Airport is considered fair market value and not diminished due to known or perceived environmental impacts at this time.

4.5.6 Commonly Known or Reasonably Ascertainable Information

The User has stated that they are not aware of any commonly known or reasonably ascertainable information that is material to the identification of *REC*s in connection with the Airport property at this time.

4.5.7 Obvious Indicators

Obvious indicators are those that are plain or evident, a condition or fact that could not be ignored or overlooked by a reasonable observer while visually or physically observing the property. The Airport did not comment on obvious indicators of environmental conditions or concerns in connection with the Airport property. The AVCON Team inspector did not observe any obvious indicators of subsurface contamination at the time of the inspection.

4.6 INTERVIEWS

As part of the Phase I ESA, interviews were conducted with select persons familiar with the Airport property to provide insight into past activities or conditions material to the identification of RECs in connection with the Airport property.

4.6.1 Interview with Owner

Attempts were made to contact Franklin County to complete an owner questionnaire. No response was received prior to the completion of this assessment.

4.6.2 Interviews with Site Manager

No other site managers were designated during the assessment activities.

4.6.3 Interviews with Occupants

None of the occupants were available for interview during the site inspection.

4.6.4 Interviews with Local Government Officials

The AVCON Team contacted the Florida Department of Environmental Protection (FDEP) via email for request information related to any potential violations, environmental permits, storage tanks and discharges, or spills/emergency responses related to possible groundwater contamination for the Airport property. A response to this FOIA request was received stating that there were no additional FDEP records for the Airport that are not located in publicly available databases.

The AVCON Team contacted the Florida Department of Health (FLDOH) via email to request information related to the on-site water well and septic tank systems related to possible groundwater contamination, in addition to asbestos, radon, or lead based paint issues or violations for the Airport. A response to this FOIA request was not received at the time of completion of this report.

Any future responses that lead to the identification of RECs will be forwarded to the user as an addendum to this report.

4.7 RECORDS REVIEW

4.7.1 Physical Setting Sources

4.7.1.1 Topography

The irregularly shaped Airport, consisting of eight (8) individual adjacent parcels, is located within the West Pass, Florida, United States Geological Survey, 7.5-minute series topographic quadrangle map. Topographically, the Airport property is generally flat, at elevations ranging from approximately twelve (12) to twenty (20) feet above mean sea level (MSL).

4.7.1.2 Site and Area Geology

The Airport is located in Franklin County, Florida and according to the United States Geological Survey (USGS), is situated within the Gulf Coastal Plain, separated from the Florida Platform by geologic structures known as the Gulf Trough and Apalachicola Embayment. These structures formed a bathymetric and environmental barrier from the earliest Eocene or earliest Oligocene periods into the Miocene.

According to the "Text to Accompany the Geologic Map of Florida" by Scott, 2001, the site is generally underlain by undifferentiated sediments deposited during the Holocene period. These sediments typically consist of quartz sands, carbonate sands, muds, and organics.

- Residuum on Holocene sediments (Tro) The undifferentiated Oligocene residuum, mapped on parts of the Chattahoochee "Anticline", characteristically consists of reddish brown, variably sandy clay with inclusions of variably fossiliferous, silicified limestone (Huddlestun, 1993). The residuum includes Lower and Upper Oligocene weathered sediments (Huddlestun, 1993).

Surficial soils in the region are primarily siliciclastic sediments deposited in response to the renewed uplift and erosion in the Appalachian highlands to the north and sea-level fluctuations. The extent and type of deposit is influenced by numerous factors, including mineral composition of the parent rock.

4.7.1.3 Hydrogeology

Groundwater in the Gulf Coastal Plain typically occurs as an unconfined aquifer condition. Recharge is provided by the infiltration of rainfall and surface water through the soil overburden. More permeable zones in the soil matrix can affect groundwater conditions. The groundwater table is expected to be a subdued replica of the original surface topography.

Regional groundwater flow is likely to be variable based on the area's topography, subsurface conditions, and relative locations to the low-lying wetland areas, lakes, bayous, drainage ditches, and ponds in the area.

Actual groundwater flow and estimated groundwater levels may also be influenced by underground structures, seasonal fluctuations in rainfall, tidal influences, local usage demands, soil and bedrock geology, nearby bodies of water, production/irrigation wells or dewatering operations.

4.7.1.4 Soils

Based on a review of the United States Department of Agriculture (USDA) online web soil survey (WSS) maps for Walton County, Florida and USDA Soil Survey of Walton County, Florida (published 2016), the Airport property is primarily underlain by:

- Leon Sand – 0 to 2 percent slopes – The Leon series is the prevailing soil on the site. It exhibits rapid permeability in the surface and subsurface layers. It is usually present from 0 to 300' in elevation and can be found in the Florida flatwoods or marine terraces. The parent material is from marine deposits. The depth to water table is typically 2 to 18 inches.
- Scranton Fine Sand – 0 to 2 percent slopes – The Scranton series is a similar unit to those found onsite. It can usually be found in the Florida flatwoods or marine terraces from 0 to 450' in elevation. The parent material is marine deposits. The depth to water table is typically 6 to 18 inches.
- Rutlege Loamy Fine Sand – 0 to 2 percent slopes – The Rutlege series consists of loamy fine sand from 0 to 11 inches and sand from 11 to 80 inches. It occurs in depressions on marine terraces from 0 to 450' in elevation with a parent material of sandy marine deposits or fluvial marine deposits. The depth to water table is about 0 inches.
- Lynn Haven Sand – 0 to 2 percent slopes – The Lynn Haven series consists of sand from 0 to 80 inches. It occurs on the Florida flatwoods and marine terraces from 0 to 300' in elevation. The parent material is from a marine deposit. The depth to the water table is 0 to 6 inches.
- Resota Fine Sand – 0 to 5 percent slopes – The Resota series consists of fine sand from 0 to 80 inches. It occurs on the ridges and knolls of marine terraces meaning that its usually present at the summit of hills. It can usually be found 10 to 40' in elevation. The parent material is a marine deposit. The depth to water table is about 42 to 60 inches.
- Mandarine Fine Sand – 0 to 2 percent slopes – The Mandarine series consists of fine sand from 0 to 32 inches and sand from 32 to 80 inches. It occurs of the Florida flats and rises of marine terraces from 0 to 100' in elevation. The parent material is from a sandy marine deposit. The depth to water table is about 18 to 42 inches.

4.7.1.5 Groundwater

The actual groundwater flow direction under the Airport property can be accurately determined only by installing groundwater monitoring wells, which was beyond the scope of work for this project. Surface water runoff at the Airport property is expected to generally follow the Airport property's contoured surface topography and discharge offsite to the south.

4.7.1.6 Flood Zone Information

Based on a review of the Federal Emergency Management Agency (FEMA) online Flood Insurance Rate Maps (FIRM) (map number 1203 7C0507F and 12037C0510F, effective 2/5/2014, the Airport property is located within Zone X-12 (developed portions of the property) and AE-01 through most of the undeveloped areas. Zone X is defined as areas outside the 0.1-percent annual- chance flood event and therefore an area of minimal flood hazard. Areas located with AE-01 are defined as areas subject to frequent inundation and flooding.

A copy of the Physical Settings Report for the Airport property is attached in Appendix E (C), Regulatory Records Documentation.

4.7.1.7 Record of Water Wells

A review of the ERIS® *Physical Setting Source Summary* addendum identified the presence a total of sixty-four (64) water wells within the designated search radius. A total of eight (8) wells were identified within the boundaries of the Airport property. The wells on the property are all 4" cased with total depths ranging from approximately 10' - 420' below land surface. Additional well construction or usage details were not provided.

A copy of the *Physical Setting Report* is attached in Appendix E (C), Regulatory Documentation.

4.8 ENVIRONMENTAL RECORD SOURCES

ERIS® of Ontario, Canada conducted a commercial database search of regulatory databases. This is a review of published governmental records from federal and state environmental regulatory agencies. It was conducted to identify use, generation, storage, treatment or disposal of hazardous substances and petroleum products, and/or release incidents of such materials that may have the potential to impact the Airport property or nearby sites.

The federal and state/tribal environmental databases obtained from ERIS® and reviewed by the AVCON Team were generated in general accordance with the ASTM E1527-13 guidelines for standard environmental record sources for this assessment. Such reports are typically used to review the potential environmental impact of activities at the Airport property or nearby sites. The full ERIS® database search report for this project is included in Appendix E (C).

Table 4-2
STANDARD ENVIRONMENTAL REFERENCES

Federal Database	**Search Distances**
Federal NPL site list	1.0 mile
Federal Delisted NPL site list	0.5 mile
Federal CERCLIS list	0.5 mile
Federal CERCLIS NFRAP site list	0.5 mile
Federal RCRA CORRACTS facilities list	1.0 mile
Federal RCRA non-CORRACTS TSD facilities list	0.5 mile
Federal RCRA generators list	Property and adjoining properties
Federal Institutional control/engineering control registries	Property only
Federal ERNS List	Property only
State/Tribal Database	**Search Distances**
State and tribal equivalent NPL	1.0 mile
State and tribal equivalent CERCLIS	0.5 mile
State and tribal landfill and/or solid waste disposal site lists	0.5 mile
State and tribal equivalent leaking storage tank lists	0.5 mile
State and tribal registered storage tank lists	Property and adjoining properties
State and tribal Institutional control/engineering control registries	Property only
State and tribal voluntary cleanup sites	0.5 mile
State and tribal Brownfield sites	0.5 mile

In addition to the above standard databases, a number of non-standard/supplemental databases were reported by ERIS® and reviewed by the AVCON Team as part of this investigation. Further details regarding database names, search radii, and responsible agencies are included in the ERIS® report attached in Appendix E (C), Regulatory Records Documentation.

4.8.1 Airport Property

The databases searched by ERIS® identified a total of eight (8) regulatory listings for the Airport property, as noted in Table 4-3.

Table 4-3
REGULATORY LISTINGS FOR THE AIRPORT AND ADJACENT PROPERTY

Site Name/Address	Databases	Distance	Information
Apalachicola Radio Relay Annex no address noted	DWM CONTAM, DEL CONTAM SITE	SITE	Not available
Franklin County – Apalachicola Airport, 8 Airport Road Apalachicola Florida 32320	AST, FINDS/FRS, STCS	SITE	As described below
National Weather Service Office Municipal Airport, PO Box 831 Apalachicola Florida 32320	STCS	SITE	As described below
Apalachicola Airbase Dump N-S Runway Rd & Garbage Dump Rd Apalachicola Florida 32320	SWF/LF	SITE	Minimal information as described below
City of Apalachicola – Waste Treatment Plant, 29 Chapman Road Apalachicola, Florida 32320	TIER 2, ERNS	SITE	As described below (chlorine spill)
Apalachicola Army Air Forces Apalachicola, Florida 32320	DWM CONTAM	SITE	Facility ID #: I04FL0059 Other information as described below
Franklin County Road & Bridge Apalachicola, Bluff Road Apalachicola, Florida 32320	SWF/LF	SITE	As described below
Florida Department of Corrections-Franklin Work Camp, Highway 98 West Apalachicola, Florida 32420	DEL STORAGE TANK, STCS, WELL SURVEILLANCE	SITE	As described below

4.8.1.1 Apalachicola Radio Relay

The Airport property is listed in the DWM CONTAM and the DEL CONTAM regulatory listings for a record of contamination that is not actively being assessed or remediated on due to lack of funding. This contamination is usually associated with petroleum and/or dry cleaning but may include other contaminants. The listing was also present as a DEL CONTAM database, meaning it was once on the DWM CONTAIM regulatory listing but was either cleaned up or closed under risk based corrective action. The database listing includes no FDEP Facility ID number, and therefore associated documents for this listing could not be obtained and are unavailable at this time.

4.8.1.2 Apalachicola Army Air Forces (Historical Military Facility)

This site operated as a satellite base to Tyndall Field from 1939 to 1947 and then was operated by the Army Corp of Engineers until it was turned over to the City of Apalachicola. The Airport property was listed with AST, FINDS/FRS, and the STCS in the database search. The Airport property was identified as having aboveground storage tanks (AST) on the property, reportedly three (3) 12,000- gallon ASTs. Two (2) are listed to contain jet fuel and one (1) AST is listed to contain aviation gas. After reviewing the regulatory information, it appears the ASTs are within compliance. The FINDS/FRS is a centrally managed database that identifies facilities subject to environmental regulation or of environmental concern. This site was listed with a terminated permit from the Clean Water Act (CWA) under the ICIS-NPDES system since 2014. The site is also listed in the Storage Tank/Contaminated Facility Search (STCS) which means there is the possibility of unregulated storage tanks that contain petroleum. Since this airport was present pre-1942, there was activity of fueling before the current ASTs were installed in 1992. There have not been any records found of above ground or underground storage tanks associated with aircraft use before this time. Fueling and maintenance activities obviously occurred onsite to service airplanes. According to the historical aerials, there appears to have been historical structures west of Apalachee Road and are suspected for these historical fueling and maintenance.

4.8.1.3 National Weather Service Office

This listing is located on the Airport property as 8 Airport Road and includes three buildings with a radio tower. The STCS listing indicates there were most likely the presence of unregistered USTs/ASTs on the site, however no specific details were provided. It appears that the vast majority of these details were either withheld or not required (during registration) due to association with the Department of Defense. After review of the minimal records for the site, there is evidence of a removed underground storage tank used for an onsite generator from July 1983 to April 1997. The available records indicate the leakage of a 550-gallon diesel fuel tank from the pipes leading to the generator. There does appear to be records including an application to the Petroleum Cleanup Participation Program (PCPP), indicating the date of discharge to be April of 1997 and due to the overfill of the tank. The inspection documents indicate there is resolution by the removal of the tank but do not have any information regarding how much diesel fuel was spilled on the site or steps taken to remediate the contamination.

4.8.1.4 Apalachicola Airbase Dump

This listing indicates a Solid Waste Facility/Landfill (SWF/LF) due to inclusion of FDEP's list of municipal solid waste, landfills, dumps, construction and demolition disposal, recycling facilities and other sites which contain general waste. This area is located just east of the start of Runway 36 and is registered as a closed solid waste facility with no groundwater monitoring.

4.8.1.5 City of Apalachicola – Waste Treatment Plant

This facility is located on the southern portion of the Airport property at 29 Chapman Road, adjacent to the Franklin County Public Works building, and appeared on the TIER 2 and ERNS databases. TIER 2 is described as a site required to register for the storage of specific chemicals provided by the Florida Division of Emergency Management. This listing indicates diesel fuel for a generator and chlorine for use in water treatment. Emergency Response Notification System (ERNS) is a regulatory database for substance spill report controlled by the National Response Center. A spill of chlorine occurred in January of 2016 due to a hole at the bottom of a cylinder due to equipment failure. The chlorine reportedly pooled on the concrete under the cylinder. A HAZMAT team responded to the incident with the spill not being contained per their report. Emergency action procedures and spill resolution details were not provided to show potential environmental impact.

4.8.1.6 Apalachicola AAF

The Apalachicola Regional Airport was formerly a satellite airfield for Tyndall Airforce base operated by the United States Army Air forces (USAAF). This site is located just southeast of the start of Runway 24. The Airport was present on the DWM CONTAM database, which is indicative of groundwater contamination. According to the aerials in 1953, there appears to have been excavations (groundwater is exposed and visible) and subsequently filled as of 1959. No other details were provided.

4.8.1.7 Franklin County Road and Bridge Apalachicola

This facility appeared as a similar SWF/LF listing. This area is reportedly located just southeast of the start of Runway 180 with the entrance to the site just off Bluff Road. According to the regulatory records, the site was used for hurricane debris management starting April of 2012, with the most recent compliance inspection occurring in February of 2019. The inspection was listed to be compliant at that time; however, historical aerials indicate activity of excavation and dumping on the site pre-2012 with no associated records.

4.8.1.8 Florida Department of Corrections Franklin Work Camp

This site is located on the southwestern corner of the Airport just north of the wastewater treatment plant on Highway 98. This listing corresponds with the closed correctional facility. This regulatory database listings include DEL STORAGE TANK, STCS, DWM CONTAM, DEL CONTAM, and WELL SURVEILLANCE. The DEL STORAGE TANK and STCS both relate to above and underground storage tanks (AST and UST) registered for the facility. Details indicate three (3) 1,000-gallon tanks installed in August 1990, June 1997, and September 1997. The tanks were removed in March of 2019 with no

contamination reported at that time. The site was also similarly present on the DWM CONTAM and the DEL CONTAM regulatory listings as described above. No other information was available for the reported contamination. The WELL SURVEILLANCE database indicates the presence of an investigative survey well, sampled to determine if groundwater contamination exists in the area of the well. Per regulatory review, this well is located just south of the correctional facility near the spray field and north of the water treatment plant. No records were found supporting the presence of groundwater contamination. FDEP records indicate compliance at the end of the tank service.

4.8.2 Adjoining Sites

Adjoining sites are sites, the border of which are contiguous or partially contiguous with that of the Airport, or that would be contiguous or partially contiguous with that of the Airport but for a street, road or other public thoroughfare separating them.

There are two (2) adjoining sites bordering the Airport property listed below.

Table 4-4
ADJOINING SITES

Site Name/ Address	Databases	Distance	Up Gradient	Side Gradient	Down Gradient
DW Wilson Seafood Inc. 39 Alan Drive	STCS	Roughly 125 feet south and west of site boundary			X
City of Apalachicola Wastewater Treatment Plant	TIER 2	605 feet			X

4.8.2.1 DW Wilson Seafood Inc.

This site is located near Chapman Road at 39 Alan Drive and identified within the STCS database. Reportedly, a 1,000-gallon underground diesel storage tank was installed in July of 1982 and was never used. Based on the available information, the DW Wilson Seafood Inc. facility is not considered a *REC* in connection with the Airport property at this time.

4.8.2.2 Orphan Sites

Several "unmappable" or "orphan" sites were identified in the ERIS® database report. These sites are not individually considered to be a *REC* based on the available information including the physical setting, supplemental research, and actual distance removed from the Airport property upon further research.

4.9 HISTORICAL USE INFORMATION

The AVCON Team attempted to conduct a review of previous reasonably ascertainable environmental reports, historical maps and aerial photographs to gain an understanding of the development history of the Airport. Available historical records reviewed by the AVCON Team were

used to review the potential environmental impact of activities on the integrity of the Airport property.

4.9.1 Topographical Maps

The AVCON Team reviewed historical 7.5-minute topographic maps of the West Pass, Florida Quadrangle for the years 1943, 1982, 1992, and 2015 as provided by ERIS®.

The 1943 topographic map indicates the Airport property as "Apalachicola Airport". The exiting runways are present, as well as historical buildings in the area of the current hangars. Approximately 1/3 of the Airport peripheral areas are generalized as undeveloped wooded land, as well as other parcels to the west, north, and east. Other wooded land is depicted to the south along Highway 98. Low-lying swampy areas are present the west and north, as well as some minimal perimeter areas of the Airport property. Roadways are present at the main (south) entrance extending north to the hangar buildings, and at the center of the north, west, and east property boundaries. Roadways also surround the runways. The existing residential community (possible base housing) is present at the main/south entrance and along Highway 98 to the east, with other rural residences scattered throughout the area. The Apalachicola Northern Railway is visible to the northeast. The crossroads present to the north of the Airport property is labeled as the town of Franklin, and several small buildings are depicted in the nearby area.

The 1982 topographic map overlies an aerial photograph and indicates a similar airport configuration ("Apalachicola Municipal Airport"). The NOAA Weather Service Facility and Radio Tower are depicted at the southeast portion of the runways. The westernmost historical hanger building is labeled as the "APA Army Test Facility". Specific details of past military operations are not known at this time. The surrounding area is similar, with additional residential development to the north and east.

The 1992 topographic map also overlies an aerial photograph and indicates an airport configuration similar to that observed today ("Apalachicola Municipal Airport"). Additional support roads are present throughout the Airport property. The NOAA Weather Service Facility, Radio Tower and the "APA Army Test Facility" remain in the previous locations. The Subject Area also appears similar to that observed today.

The 2015 topographic map indicates the existing onsite runways (Airport property labeled as Apalachicola Regional Airport), surface water features, and roads in the Subject Area in their current configurations.

The maps reviewed by the AVCON Team did not reveal any nearby pipelines, underground mines, landfills or other features of potential environmental concern. Copies of the topographical maps are included in Appendix E (D).

4.9.2 Sanborn® Maps

Copies of Certified Sanborn® Maps were requested from ERIS®. A copy of the Sanborn Map "No Coverage" Letter is included in Appendix E (D).

4.9.3 Historical Aerial Photographs

Copies of historical aerial photographs taken in the years 1942, 1953, 1959, 1969, 1976, 1984, 1994, 1999, 2005, 2006, 2007, 2013, 2015, and 2017 were obtained by the AVCON Team from ERIS®. These aerial photographs were reviewed in an attempt to identify changes in land use and areas of potential environmental concern. Copies of the aerial photographs are included in Appendix E (D). The following are descriptions and interpretations from the aerial photograph reviews:

- 1942 – 1976 Aerial Photographs: These aerial photographs indicate the Airport property as a developed airfield (similar to that observed today), with associated hangers and other facilities in the location of current buildings. A circular drive is present on the east central portion of the Airport property. The surrounding area is comprised primarily of undeveloped wooded land or swamps. The residential base housing community is present to the south. In 1959, multiple buildings are present around the circular drive. In 1969, excavation activities are present at the east central portion of the Airport property. Residential development of the area increases in each of the aerial photographs.

- 1984 – 1999 Aerial Photographs: These photographs are similar to that shown in 1976, other than the existing wastewater treatment plant is present to the southwest of the Airport property. The north portion of the flocculation pond extends past the property boundary and onto the Airport property. The 1994 photograph vaguely shows the development of the corrections work camp on the southwest of the Airport property, north of the wastewater treatment plant. Other excavation is visible on the east-northeast portion of the Airport property. The weather station and radio tower facility are visible on the south-southeast portion of the Airport property. In 1999, tree harvesting is visible on the southeast corner of the Airport and other excavations are present on the southeast central, east, and northeast portions of the Airport property. Additional (existing) hangars have been constructed just east of the southwest end of the runways. Most of the older military buildings are no longer visible (demolished). In 1999, further expansion of hanger buildings continues to the southwest and east. The southeast tree harvesting area has been cleared (exposed dirt). The extreme south-southeast corner of the Airport property has been disturbed with apparent excavation.

- 2005 Aerial Photograph: These photographs are similar to that shown in 1999, other than excavation activities and debris piles visible in the east central portion of the Airport property. Pine stands are present to the west and northwest of the runways. In 2007, landfill and debris accumulation areas in the east-northeast portion of the Airport property have been enclosed into an apparent compound.

- 2013 – 2017 Aerial Photographs: These photographs show the re-constitution of vegetation on the southeastern section of the Airport property (remainder of the photograph similar to that observed today).

4.9.4 Historical City Directories

Copies of historical city directories were obtained for select years spanning 1974 to 2018. The following listed business listings were present for the Airport property during our review of the historical directories. The Airport property address does not appear in the searched City directories until 1997 and is listed at 8 Airport Road at that time. The address lists Apalachicola International Ctr and Apalachicola Car Rental from 1997 to 2018. The Apalachicola Sewer/Wastewater Treatment Plant was listed at 991 Highway 98 beginning in 2006, as well as Franklin/Bay City Work Camp at 1001 Highway 98.

No other notable properties in the directory search were found that either have not been discussed elsewhere in this report or were otherwise found to be innocuous based on the available information. Copies of the historical city directories provided by ERIS® are included in Appendix E (D).

4.9.5 Previous Environmental Reports on Airport Property

Previous environmental reports for the Airport property were not provided to the AVCON Team for review. Available information was also searched for on the FDEP OCULUS database management system, with no pertinent information identified.

4.9.6 Previous Environmental Reports on Surrounding Sites

Previous environmental reports on sites surrounding the Airport property were not available to the AVCON Team for review. Available information was reviewed on the FDEP OCULUS database management system. Pertinent records and information have been attached in Appendix E (E).

4.10 AIRPORT RECONNAISSANCE

4.10.1 Methodology and Limiting Conditions

A site visit was conducted on September 24, 2019. The site visit consisted of an initial site reconnaissance, a walk along the perimeter of the site, interior inspection of selected buildings (made available by the Airport), and a walk along the immediate site area. Additionally, an area reconnaissance was conducted as a driving tour to identify facilities within specified regulatory search distances listed within the previously referenced ERIS® report.

The site reconnaissance was performed in an attempt to identify observed obvious indications of present or past activities that may have caused a significant environmental impact(s) to the site. Select photographs of the site taken by the AVCON Team during the site reconnaissance are included in Appendix E (B).

4.10.2 General Property Setting

The Airport is located at 28 Airport Road in Apalachicola, Franklin County, Florida, and currently consists of six (6) parcels designated with Franklin County Property Appraiser's Parcel ID numbers:

- 03-09S-08W-0000-0010-0000
- 03-09S-08W-0000-0020-0000
- 04-09S-08W-0000-0020-0010
- 10-09S-08W-0350-0006-0070
- 10-09S-08W-0380-0000-0220
- 11-09S-08W-0000-0010-0000

The Airport currently consists of approximately 778 acres of partially developed land.

4.10.3 Observations

Site observations and conditions identified during the site reconnaissance are summarized as follows:

4.10.3.1 Interior and Exterior Observations

Hazardous Substances and Petroleum Products in Connection with Identified Uses: Six (6) 55-gallon plastic drums of petroleum were identified near the maintenance storage area for fueling of miscellaneous equipment.

Storage Tanks: Three (3) 12,000-gallon storage tanks are located south of the southern end of Runway 240. Secondary containment is present, and no staining was noted around the ASTs. Information regarding historical onsite tank usage for plane/vehicle fueling was not available as regulatory registration was not required at that time.

Odors: None noted.

Pools of Liquid: None noted other than standing surface water.

Drums: Six (6) 55-gallon plastic barrels of petroleum was identified near the maintenance storage area. These tanks were found on pallets with no secondary containment. Additionally, three (3) drums were noted within the containment area near the 12,000-gallon ASTs. The AVCON Team was not given access to this area and therefore could not verify the contents of these drums.

Hazardous Substances and Petroleum Products Containers (Not Necessarily in Connection with Identified Uses): None were noted

Unidentified Substance Containers: None were observed.

PCBs (Electrical Transformers): Multiple pole mounted transformers were noted on the Airport property. No evidence of leakage or discharge was noted under or around the transformer units.

4.10.3.2 Interior Observations

Heating and Cooling: The Airport property utilizes central electric (package and split system) air conditioning. No environmental concerns are noted. Minimal/typical oily staining was observed in the roadway/runway and parking portions of the Airport property, consistent with its use for planes and/or cars and trucks. A review of the ERIS® Physical Setting Source Summary addendum identified the presence a total of sixty-four (64) water wells within the designated search radius. A total of eight (8) wells were identified within the boundaries of the Airport property. The wells on the property are all 4" cased with total depths ranging from approximately 10' - 420' below land surface. Additional well construction or usage details were not provided.

Stains or Corrosion: None observed.

Drains and Sumps: Not observed.

4.10.3.3 Exterior Observations

Pits, Ponds, and Lagoons: Three (3) ponds were observed during the site inspection. Excavations were noted in historical resources, however access to these areas was not provided during the site visit.

Stained Soil or Pavement: Some areas showed general minor staining of concrete and pavement, typical of usage for planes and/or cars and trucks.

Stressed Vegetation: None observed.

Solid Waste: None observed.

Wastewater (including Storm Water): Ponds were present onsite as described above.

Wells: No wells were observed on the Airport during the site visit. A review of the ERIS® Physical Setting Source Summary addendum identified wells on the property. All of the listed wells are 4-inch cased with total depths ranging from approximately 10-foot – 420-foot below land surface. Additional well construction or usage details were not provided.

Septic Systems: No evidence of any septic tanks was observed. Additionally, health department records did not indicate the registration of any such systems.

Surface Water: Ponds were present onsite as described above.

4.10.3.4 Other Observations

None noted.

4.11 NON-ASTM CONSIDERATIONS/OBSERVATIONS

4.11.1 Asbestos-Containing Materials

Asbestos is the name given to a number of naturally occurring, fibrous silicate minerals mined for their useful properties such as thermal insulation, chemical and thermal stability, and high tensile strength. Asbestos is commonly used as an acoustic insulator, thermal insulation, fireproofing, and in other building materials. Exposure to airborne friable asbestos may result in a potential health risk because persons breathing the air may breathe in asbestos fibers. Continued exposure can increase the amount of fibers that remain in the lungs. Fibers embedded in lung tissue over time may cause serious lung diseases, including asbestosis, lung cancer, or mesothelioma. An asbestos assessment is beyond the scope of this study.

An asbestos study was not performed during this assessment. Based on the ages of the buildings, there is the possibility of Asbestos Containing Materials (ACMs) to be present in building materials onsite. A comprehensive asbestos survey of the building is always required prior to any renovation or demolition activities.

4.11.2 Lead-Based Paint

A Lead Based Paint (LBP) study was not performed during this assessment. Based on the age of the older structure, LBP may be of concern for the older building constructed prior to the 1980s. Site contractors must be aware of regulations regarding the handling and disposal of any lead-containing building materials.

4.11.3 Lead in Drinking Water

The Airport property is connected to the municipal water supply and based on a review of the 2018 Franklin County Sanitary Engineering Department; Lead in Drinking water is not considered a concern at this time.

4.11.4 Mold

Molds are microscopic organisms found virtually everywhere, indoors and outdoors. Mold will grow and multiply under the right conditions, needing only sufficient moisture (e.g., in the form of very high humidity, condensation, or water from a leaking pipe, etc.) and organic material (e.g., ceiling tile, drywall, paper, or natural fiber carpet padding). Mold growths often appear as discoloration, staining, or fuzzy growth on building materials or furnishings and are varied colors of white, gray, brown, black, yellow, and green. In large quantities, molds can cause allergic symptoms when inhaled or through the toxins the molds.

It is likely for this site to have the presence of mold due to open hangers and Florida climate.

4.11.5 Radon

Radon is a colorless, odorless, naturally occurring, radioactive, inert, gaseous element formed by radioactive decay of radium (Ra) atoms. The EPA has prepared a map to assist national, state, and local organizations to target their resources and to implement

radon-resistant building codes. The map divides the country into three (3) Radon Zones, with Zone 1 being those areas with the average predicted indoor radon concentration in residential dwellings exceeding the EPA Action Limit of 4 picoCuries per Liter (pCi/L).

It is important to note that the EPA has found homes with elevated levels of radon in all three (3) zones, and the EPA recommends property-specific testing in order to determine radon levels at a specific location. However, the map does give a valuable indication of the propensity of radon gas accumulation in structures.

Radon sampling was not conducted as part of this assessment. Review of the USEPA Map of Radon Zones for Franklin County places the Airport property in Zone 3, where average predicted radon levels are below 2 pCi/L, and, therefore, radon is not expected to be a significant environmental concern.

4.12 FINDINGS, OPINIONS AND CONCLUSIONS

An environmental site study was performed in general conformance with the scope and limitations of ASTM Practice E1527-13 for the Apalachicola Regional Airport.

Findings, opinions, conclusions and recommendations reported herein are based on information obtained during the course of the studies and upon the AVCON Team's experience. Information provided in this report is relevant to the dates of the site work and should not be relied on to represent conditions at substantially later dates or locations not investigated.

This assessment has revealed no evidence of RECs in connection with the Airport property at this time, except as follows:

4.12.1 Recognized Environmental Conditions

A total of eight (8) recognized environmental conditions (RECs) are associated with the Airport property, as listed below:

- Two (2) on-site conditions were observed during the site reconnaissance performed by the AVCON Team personnel that resulted in the discovery of a REC in connection with the Airport Property:
    - Six (6) 55-gallon plastic barrels filled with fuel are located near the maintenance shed. The drums are not sealed, and no secondary containment is present. No current staining was observed; however, the presence of open and uncovered/unsecured exterior drums presents the potential for the stored contents to overflow and migrate to the surrounding soil.
    - A spray field is present south of the correctional site. These areas are used to spray wastewater effluent, and therefore minimize volume via evaporation. Spray fields are an area of environmental concern due to the potential for subsurface accumulation of semi-volatile or non-volatile contaminants found in the wastewater.

- One (1) historical on-site condition is anticipated to constitute a REC in connection with the Airport Property: The Airport was historically used for military operations prior to conversion to the existing commercial and private usage. Military practices at that time included extensive chlorinated solvent usage for cleaning metal aircraft pieces.
- Five (5) onsite conditions were noted in the regulatory review:
    - o According to the historical aerials, there appears to have been historical structures west of Apalachee Road. These buildings existed onsite during early operation of the military airfield and would likely have been used for historical fueling and maintenance activities.
    - o Facility inspection documents indicate removal of an historical diesel tank; however, no closure documentation was provided and no detailed information regarding spills was encountered.
    - o An apparent historical landfill was located immediately southeast of Runway 24 just beyond the tree line. Based on historical aerials, apparent excavations are present from at least 1953 to 1959 during military usage of the Airport property. Regulatory authorities are unaware of the dump site due to its age (used prior to the current registration requirements for landfills).
    - o A similar landfill was noted southeast of the start of Runway 180. Based on historical aerials, excavation and dumping activities were also noted in this area with no associated regulatory records.
    - o The wastewater treatment plant, located at 29 Chapman Road, reported emergency response for a significant discharge of chlorine. No information was provided regarding the emergency response or cleanup of the discharge.

No off-site issues or conditions were observed during the site reconnaissance performed by the AVCON Team personnel or in the review of regulatory databases that resulted in RECs in connection with the Airport property at this time.

4.12.2 Controlled Recognized Environmental Conditions

No on-site or off-site issues or conditions were identified during the site reconnaissance performed by the AVCON Team personnel or in the review of regulatory databases that resulted in *CREC*s in connection with the Airport property at this time.

4.12.3 HISTORICAL RECOGNIZED ENVIRONMENTAL CONDITIONS

No HRECs exist for the Airport property, at this time.

4.12.4 Business Environmental Risks

The potential presence of asbestos and lead-based paint within the older buildings present Business Environmental Risks (BERs) in connection with the Airport property, at this time.

4.12.5 Vapor Migration

Vapor migration conditions should be evaluated if impacted soil/groundwater contamination is identified during future site assessment activities.

Potential offsite vapor migration conditions that require further assessment have not been identified near the Airport property at this time through the non-intrusive reconnaissance and records research activities discussed herein.

4.12.6 DE MINIMIS CONDITIONS

De minimis conditions were not observed on the parcel at the time of this investigation.

4.12.7 RECOMMENDATIONS

Based on the findings, opinions, and conclusions of this Phase I ESA, the AVCON Team recommends further assessment before individual projects are begun. Additionally, a Ground Penetrating Radar (GPR) survey would allow for the identification of old underground storage tanks (USTs) or buried items (drums or debris) not visible from the surface. All drums currently present onsite should be stored under cover and on secondary containment to minimize the potential for release.

This summary is provided for convenience and should not be substituted for review of the full report, including all attachments as provided herein.

4.13 DEVIATIONS

Deletions or substantial deviations from the ASTM E1527-13 standard practice were not noted. Specific limitations, exceptions, and/or data gaps/failures related to this ESA are as follows:

- Historical information was available from 1940 to present. The ASTM standard requires verification of property history to at least 1940 or first developed use and requires indicates no more than an approximate 5-year gap between resources. Although the requirement for research to first developed use was achieved, the requisite 5-year interval was not met between 1942-1953, 1953-1959, 1959-1969, 1976-1984, and 1984- 1994. Although there is data failure, the available data indicate apparent developed usage this time period.
- Other former property owners, tenants, and/or site managers were not available for interviews regarding the Airport property's history and use.
- Chain-of-title, which is optional per the ASTM standard, was not provided to the AVCON Team for review.
- The AVCON Team could not gain access to two main areas within the Airport property on September 24th. These areas include the apparent dump sites and the closed correctional facility. These areas were locked and gated, providing no way to assess them. Also, a majority of the buildings and hangers were not accessible.

However, it is our professional opinion that these data gaps are not significant, and do not impact the ability to identify RECs, or impact the findings or conclusions of this report.

4.14 ENVIRONMENTAL CONSIDERATIONS SUMMARY

An Environmental Site Assessment (ESA) was performed in conformance with the scope and limitations of American Society for Testing and Materials (ASTM) Practice E1527- 13 for the developed airport located at 28 Airport Road in Apalachicola, Franklin County, Florida (the "Airport"). Any exceptions to, or deletions from, this practice are described in Section 4.13 of this report.

4.14.1 RECOGNIZED ENVIRONMENTAL CONDITIONS

A total of eight (8) recognized environmental conditions (RECs) are associated with the Airport property, as listed below:

1. Two (2) on-site conditions resulted in the discovery of REC connections with the Airport property:
    - Six (6) 55-gallon plastic barrels filled with fuel are located near the maintenance shed.
    - A spray field is present south of the correctional site.
2. One (1) historical on-site condition is anticipated to constitute a REC in connection with the Airport property: The Airport was historically used for military operations. Military practices at that time included extensive chlorinated solvent usage for cleaning metal aircraft pieces.
3. Six (6) onsite conditions were noted in the regulatory review:
    - There appears to have been historical structures west of Apalachee Road. These would likely have been used for historical fueling and maintenance activities.
    - Facility inspection documents indicate removal of a historical diesel tank; however, no closure documentation was provided and no detailed information regarding spills was encountered.
    - An apparent historical landfill was located immediately southeast of Runway 24 Apparent excavations are present from at least 1953 to 1959 during military usage of the Airport property.
    - A similar landfill was noted southeast of the start of Runway 18. Excavation and dumping activities were also noted in this area with no associated regulatory records.
    - The wastewater treatment plant reported emergency response for a significant discharge of chlorine.

4.14.2 BUSINESS ENVIRONMENTAL RISKS

The potential presence of asbestos and lead-based paint within the older buildings present *Business Environmental Risks* (*BER*s) in connection with the Airport property, at this time.

4.14.3 VAPOR MIGRATION

Vapor migration conditions should be evaluated if impacted soil/groundwater contamination is identified during future site assessment activities.

4.14.4 RECOMMENDATIONS

Based on the findings, opinions, and conclusions of this analysis, further assessment is recommended as specific projects on the Airport are identified. Additionally, a Ground Penetrating Radar (GPR) survey would allow for the identification of old underground storage tanks (USTs) or buried items (drums or debris) not visible from the surface. All drums currently present onsite should be stored under cover and within secondary containment to minimize the potential for release.

5. FACILITY REQUIREMENTS

5.1 Introduction

This chapter builds upon the Inventory of Existing Conditions and the Forecast of Aviation Activities chapters to develop an understanding of how many and what types of facilities will be required to meet the forecast demand. It compares what is already available with what will be required over the next 20-year planning period and determines in five-year increments what facilities are likely to be needed and when.

5.2 Airspace

There are two commercial service airports located within 55 nautical miles of the Apalachicola Regional Airport; Tallahassee International Airport and Northwest Florida Beaches International Airport. These are augmented by seven public-use general aviation airports located within 60 nautical miles.

The Apalachicola Regional Airport does not have an air traffic control tower. It has published instrument approach procedures for Runways 6, 14, 24, and 32. Therefore, its airspace is classified as Class E, which is typically established around any airport without an air traffic control tower. Based on available data, no known airspace conflicts currently exist. Except for the Tyndall Air Force Military Operating Areas (MOA) E, F, and G, the airspace around the Airport is relatively uncongested.

5.2.1 Approaches

There are many types of approaches that can be executed into airports. There are those that occur during Visual Flight Rule (VFR) operations and those that occur during Instrument Flight Rules (IFR) operations. VFR operations are those that occur under Visual Meteorological Conditions (VMC) that are clear enough that the pilot can see where the aircraft is going. The VFR Weather Minimums are specific to types of airspace and altitudes but are generally based on “see and avoid.” IFR operations are those that occur during Instrument Meteorological Conditions (IMC), or where the pilot’s visibility is obscured.

IFR approaches are designed so that the pilot of an aircraft in IMC can land by using instruments, Global Positioning System (GPS), or Inertial Navigation System (INS) navigation without assistance from air traffic control. IFR approaches are generally classified as either precision or non-precision approaches. Precision approaches are those that provide both lateral (through use of a localizer or a very high frequency omnidirectional range (VOR)) and vertical (through use of a glideslope) electronic information. Non-precision approaches provide lateral information only.

The Apalachicola Regional Airport does not have any precision approaches. All existing IFR approaches to the Airport are non-precision. GPS based non-precision approaches are published for Runways 6, 14, 24, and 32. GPS is a satellite-based navigation system that provides location and time information in all weather, anywhere there is an unobstructed line of sight to four or more GPS satellites. The U.S. government maintains the GPS system and it is freely accessible to anyone with a GPS receiver.

The approach plates for the Airport indicate that for Aircraft Category A and B, the visibility minima are one mile. For Aircraft Categories C, the visibility minima are 1 ½ miles and for Aircraft Category D it is 2 miles. Approaches with lower visibility minimums would require:

- The widening of the Part 77 Primary Surface from the existing 500 feet to 1,000 feet
- Significant lengthening and widening of the Runway Protection Zone (RPZ)
- The installation of runway approach lights

The widening of the primary surface, to achieve the lower visibility minimums would encroach on and diminish the utility of the developable land within the current Airport boundaries. Records show that weather conditions with lower than one-mile visibility minimums only occur between one and three percent of the time annually at the Airport.

It is recommended by the FAA that the Airport sponsor (Franklin County) acquire or control all the land in the RPZ. Currently, the Franklin County owns the land beneath all the RPZs, except for a small part of the RPZ for Runway 14.

The FAA Memorandum *Guidance on Land Uses Within A Runway Protection Zone* found in Appendix E indicates that no public roads are allowed in an RPZ. Currently, there are no roads in any of the Airports RPZ's. Currently, the FAA is only enforcing the Memorandum for existing land uses when one or more of three conditions is planned to occur:

- Extension of the associated runway for the RPZ
- Changing the size of the RPZ
- Changing the critical aircraft to a larger aircraft.

None of these conditions are currently planned.

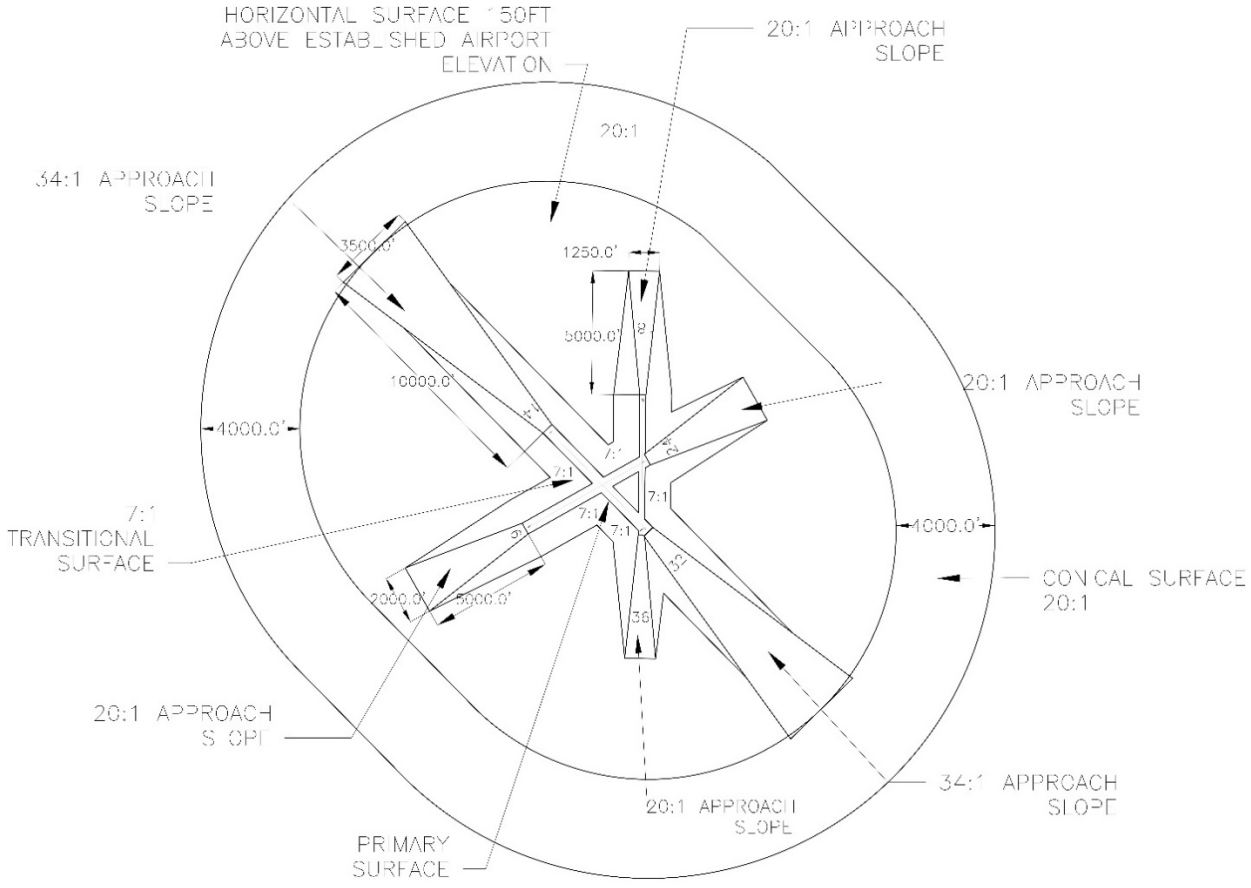
5.2.2 Part 77 Surfaces

Code of Federal Regulations (CFR) Title 14, Chapter 1, Part 77, *Objects Affecting Navigable Airspace* (Part 77), sets criteria for protecting airspace near airports. These regulations define numerous airspace surfaces that exist on and around airports. The size and dimensions of these surfaces are dependent upon the runway type, i.e. utility, or non-utility, and the approved or planned approach procedures. Objects, whether natural or man-made, should not penetrate these defined Part 77 surfaces. The dimensions of the existing Part 77 surfaces for Apalachicola Regional Airport are given in Table 5-1 and the surfaces themselves are depicted in Figure 5.1.

Table 5-1
EXISTING PART 77 SURFACES

Surface	Non-Precision Instrument Runway (feet) (Runways 14 and 32)	Non-Precision Utility Runway (feet) (Runways 6 and 24)	Visual Utility Runway Utility (feet) (Runways 18 and 24)
Width of Primary Approach Surface and Approach Surface Width at Inner End	500	500	250
Radius of Horizontal Surface	10,000	5,000	5,000
Approach Surface Width at End	3,500	2,000	1,250
Approach Surface Length	10,000	5,000	5,000
Approach Slope	34:1	20:1	20:1

Figure 5-1
EXISTING PART 77 SURFACES



5.3 Airfield

The airfield is a system of components upon which aircraft operate. These include runways, taxiways, and aircraft parking aprons. Airfield requirements are affected by demand capacity, aircraft mix, runway, and taxiway design standards, airspace, and navigational and visual aids. This section looks at each of these components as they relate to the Apalachicola Regional Airport.

5.3.1 Airfield Configuration

The number, orientation, and spatial layout of the runways at an airport make up the airfield configuration. The configuration is adequate if it provides enough operational capacity and appropriate wind coverage for the aircraft operating or expected to operate at the Airport through the end of the planning period.

The existing airfield configuration at the Airport consists of three runways, one of 5,425 feet in length, Runway 14/32; one of 5,721 feet in length, Runway 6/24; and one of 5,251 feet, Runway 18/36. Runway 14/32 is situated in a northwest/southeast direction on the airfield and it has a full-length, parallel taxiway, Taxiway A, with five connector taxiways. Runway 14/32 has been designated the primary runway for the Airport.

Runway 6/24 is situated in a northeast/southwest direction. It has a partial-length parallel taxiway, Taxiway B. Taxiway B has five taxiway connectors to the Runway. Runway 6/24 is designated as the crosswind runway.

Runway 18/36 is oriented in a north/south direction. It has a partial-length parallel taxiway, Taxiway C. Taxiway C has three taxiway connectors to the Runway. Runway 18/36 would be designated as an additional runway

5.3.2 Airfield Demand Capacity

It is recommended by the FAA that the operational capacity of an airport be determined on a periodic basis. This allows for any adjustments that might be required based on such an analysis. An airfield capacity analysis determines what percentage of the airfield's theoretical capacity is being used and what potential delays might develop given the calculated capacity. The FAA Advisory Circular (AC) 150/5060-5, *Airport Capacity and Delay*, provides a methodology for performing the analysis.

The Annual Service Volume (ASV) is the theoretical capacity of the Airport on an annual basis given the runway configuration, the number and location of taxiways, the aircraft fleet mix, the percentage of aircraft arrivals, the percentage of touch-and-go activity at the Airport, and the historical meteorological conditions. The analysis performed with the methodology provided in FAA AC 150/5060-5 indicates that the current theoretical hourly capacity for the Airport during Visual Flight Rules (VFR) weather is approximately 77 operations as shown in Table 5.2.

Table 5-2
AIRFIELD CAPACITY

	Theoretical Capacity	2018 Operations	Percent of Capacity	2038 Operations	Percent of Capacity
Operations Per Hour	77	6	7.8%	7	9.1%
Operations Per Hour	56	4	7.1%	5	8.9%
Operations Per Year	215,000	24,668	11.5%	29,044	13.5%

Note: VFR = Visual Flight Rules, IFR = Instrument Flight Rules

While the theoretical capacity of the Airport indicates as many as 77 operations per hour could occur during VFR weather, the Airport is not anticipated to approach this number of hourly operations during the planning period. The forecasts of aviation activity indicate that the average peak hour operations in 2018 were 6 and that they are expected to rise to 7 in the year 2038. The Annual Service Volume (ASV) of the Airport is calculated at 215,000 annual operations. However, it is reported that only 24,668 annual operations occurred at the Airport in 2018. This is approximately 7.8 percent of the ASV. The forecasts of aviation activity indicate that the annual operations will increase to 29,044 by the year 2038. This would equate to approximately 13.5 percent of the ASV. Based on this analysis, no delays are anticipated based on airfield demand capacity.

5.3.3 Runway Design Code

Each runway on an airport has an established FAA Runway Design Code (RDC), which is determined by the Aircraft Approach Category (AAC), the Airplane Design Group (ADG), and the approach visibility minimums for that runway. The first component, the AAC, is depicted by a letter and relates to an aircraft's approach speed as shown in Table 5.3.

Table 5-3
AIRCRAFT APPROACH CATEGORIES

Aircraft Approach Category	Aircraft Approach Speed
A	Less than 91 knots
B	91 knots or more but less than 121
C	121 knots or more but less than 141
D	141 knots or more but less than 166
E	166 knots or more

The second component, the ADG, is depicted by a Roman numeral and relates to either the wingspan or the tail height of the aircraft; whichever is more restrictive. The levels of the ADG are shown in Table 5.4.

Table 5-4
AIRPLANE DESIGN GROUPS

Group Number	Tail Height in Feet	Wingspan in Feet
I	Less than 20	Less than 49
II	20 to less than 30	49 to less than 79
III	30 to less than 45	79 to less than 118
IV	45 to less than 60	118 to less than 171
V	60 to less than 66	171 to less than 214
VI	66 to less than 80	214 to less than 262

The third component, the approach visibility minimums, are expressed by Runway Visual Range (RVR) values in feet of 1,200; 1,600; 2,400; and 4,000 as shown in Table 5-5. The third component would read "VIS" for runways designated with a visual approach only.

Table 5-5
VISIBILITY MINIMUMS

RVR in Feet	Instrument Flight Visibility Category in Statute Miles
5,000	Not Lower than 1 mile
4,000	Lower than 1 mile but not lower than ¾ mile (APV ≥ 3/4 mile but < 1 mile)
2,400	Lower than ¾ mile but not lower than ½ mile (CAT–I PA)
1,600	Lower than ½ mile but not lower than ¼ mile (CAT–II PA)
1,200	Lower than ¼ mile (CAT-III PA)

Note: RVR = Runway Visual Range, APV = Approach Procedure with Vertical Guidance, CAT-I PA = Instrument Landing System (ILS) Category I Precision Approach, CAT-II PA = ILS Category II Precision Approach, CAT-III PA = ILS Category III Precision Approach.

In the Aviation Activity Forecasts Chapter, the Critical Aircraft identified for Runway 14/32 was the Beechcraft Super King 200. This aircraft has an approach speed of 98 knots, a wingspan of 54.5 feet, a tail height of 15 feet, and a Maximum Take Off Weight (MTOW) of 12,500 pounds. This brings the design aircraft solidly into the B-II category.

The Critical Aircraft identified for Runways 6/24 and 18/36 is the Cirrus SR-22. This aircraft has an approach speed of 78 knots, a wingspan of 38.33 feet, a tail height of 8.92 feet, and an MTOW of 2,358 pounds. The Cirrus SR-22 qualifies as an A-I aircraft.

The Airport has GPS coverage; however, it does not have vertical guidance. A visibility minimum of not lower than one mile has been implemented for Runway 14/32. This results in an RDC of B-II-5000 for Runway 14/32. Runway 6/24 has an RDC of A-I-5,000. Because Runway 18/36 is a visual runway, the RDC is A-I-VIS. The RDC is based on current or planned development and does not have an operational application.

5.3.4 Airport Reference Code

The FAA has established a tiered system of Airport Reference Codes (ARC), which determines the design standards for runways, separation distances, safety areas, and

many other airfield facilities. The ARC is an airport designation that signifies the airport's highest Runway Design Code (RDC), minus the third component, visibility, of the RDC. The ARC is used for planning and design only and does not limit the aircraft that may be able to operate safely on the Airport. Currently, the highest RDC on the Airport is for Runway 14/32 with an RDC of B-II-5000. Therefore, the current Airport ARC is B-II. An aircraft with a higher AAC and/or ADG would have to document 500 or more annual operations before a change to the ARC could be considered.

The B-II designation indicates that the primary runway is designed to accommodate aircraft with approach speeds up to but not including 121 knots and wingspans up to but not including 79 feet. In addition to the Beechcraft King Air 200, the runway critical aircraft, aircraft that are within the B-II designation include aircraft found in Table 5-6.

Table 5-6
SAMPLE ARC B-II AIRCRAFT

Aircraft	MTOW (pounds)	Approach Speed (knots)	Wingspan (feet)
Aerospatial NORD 262	23.801	96	74.2
ATR 42-300	33,450	103	58.0
Beechcraft 1900	17,120	113	58.0
Beechcraft King Air C90-1	10,100	100	50.3
Beechcraft King Air B200	12,500	98	54.5
Beechcraft 60 Duke	6,768	98	39.4
Beechcraft King Air F90	10,950	108	45.9
Cessna 441	9,925	100	49.3
Cessna 675	8,000	104	52.1
Cessna Citation C25A	12,500	118	49.8
Cessna Citation C550	14,800	112	52.2
Cessna Citation C560	16,830	107	55.8
Cessna Citation C650	22,000	114	53.5
Dassault Falcon 900	15,500	100	63.4
Embraer 110 Bandeirante	13,007	92	50.3
Grumman Gulfstream I	36,000	113	78.3
Raytheon 300	12,500	103	54.1
Rockwell Aero Commander 500	6,750	97	49.1
Sabreliner 65	24,000	105	50.5
Shorts 360	26,000	104	78.8

Note: ARC = Aircraft Reference Code, MTOW = Maximum Take Off Weight, ATR = Avions de Transport Regional, Heavy Border indicates the Critical Aircraft for Runway 14/32.

5.3.5 Runway Length Analysis

Runway length analyses were performed for both runways, based on the Aviation Activity Forecasts presented in Chapter 3 of this report and approved by the FAA. The FAA Advisory Circular 150/5328-4B, *Runway Length Requirements for Airport Design*, was used in the preparation of this analysis.

The methodology used for determining the applicable runway length for Runway 14/32 is contained in Table 1-1, *Airplane Weight Categorization for Runway Length Requirements*, of the FAA AC 150/5325-4B, *Runway Length Requirements for Airport Design*. The line for aircraft weighing in excess of 12,500 pounds but less than 60,000 pounds was used.

Information specific to Apalachicola Regional Airport was used in conjunction with Figure 3-1, *75 Percent of Fleet at 60 or 90 Percent Useful Load*. The Airport specific information used is found in Table 5-7.

Table 5-7
APALACHICOLA REGIONAL AIRPORT SPECIFIC INFORMATION

Category	Information
Hottest Month	July
Mean Maximum Temperature for the Hottest Month	90° Fahrenheit
Airport Elevation Above Mean Sea Level	19.7 Feet

Figure 3-1 of the 150/5325-4B AC was used at 60 percent of the useful load. This resulted in an initial runway length of 4,650 feet.

Title 14, Code of Federal Regulations (CFR), *Aeronautics and Space*, requires that runway landing distances for turbo-jet aircraft be increased by 15 percent when landing on wet or slippery runways. Further, the take-off distances are to be increased by 15 percent or up to 5,500 feet, whichever is less, for effective runway gradients greater than zero. This would result in a runway length of 5,348 feet. As the Apalachicola Regional Airport currently has projected over 500 turbojet operations per year within the planning period per the FAA approved Forecasts of Aviation Activity, this calculation is valid for Runway 14/32.

For takeoff only, the effective runway gradient is also considered. The 4,650-foot runway length taken from the original calculation would be increased at a rate of 10 feet for each foot of elevation difference between the high and low points of the centerline. For Runway 14/32, the difference in elevation between the high and low points of the runway is three feet. This would equate to 30 feet or a total runway length of 4,680 lineal feet. As the landing requirements are longer, in this case, the 5,348-foot length is recommended. Runway 14/32 is currently 5,424 feet in length.

For Runways 6/24 and 18/36, the runway length analysis also used Table 1-1, *Airplane Weight Categorization for Runway Length Requirements*, of the FAA AC 150/5325-4B, *Runway Length Requirements for Airport Design*. The line for aircraft weighing 12,500 pounds or less with Approach Speeds of 50 knots or more and with less than 10 Passengers. Information specific to Apalachicola Regional Airport was used in conjunction with Figure 2-1, *Small Airplanes with Fewer than 10 Passenger Seats (Excludes Pilot and Co-pilot)* and at 95 *Percent of Fleet*, of FAA AC 150/5325-4B to obtain a single runway length for the entire group of A-I aircraft. The Airport specific information used is found in Table 5-7.

Title 14, Code of Federal Regulations (CFR), *Aeronautics and Space*, requires that runway landing distances for turbo-jet aircraft be increased by 15 percent when landing on wet or slippery runways. Further, the take-off distances are to be increased by 15 percent or up to 5,500 feet, whichever is less, for effective runway gradients greater than zero. Runway 6/24 is the crosswind runway, and while there are jets that regularly use this runway for takeoff, the Advisory Circular advises that the length of the crosswind runway be determined by the lower crosswind capable airplanes using the primary runway. Therefore, the additional 15 percent calculation was not used for this runway.

For Runway 18/36, the runway length analysis also used Table 1-1, *Airplane Weight Categorization for Runway Length Requirements*, of the FAA AC 150/5325-4B, *Runway Length Requirements for Airport Design*. The line for aircraft weighing 12,500 pounds or less with Approach Speeds of 50 knots or more and with less than 10 Passengers. Information specific to Apalachicola Regional Airport was used in conjunction with Figure 2-1, *Small Airplanes with Fewer than 10 Passenger Seats (Excludes Pilot and Co-pilot)* and at 95 *Percent of Fleet*, of FAA AC 150/5325-4B to obtain a single runway length for the entire group of A-I aircraft. The Airport specific information used is found in Table 5-7.

For takeoff only, the effective runway gradient as also considered. The 3,100-foot runway length taken from the original calculation was be increased at a rate of 10 feet for each foot of elevation difference between the high and low points of the centerline. For Runway 6/24, the difference in elevation between the runway ends is 4.4 feet. This would equate to 44 feet or a total runway length of 3,144 lineal feet. Runway 18/36 is currently 5,271 feet in length. The recommended and current runway lengths are shown in Table 5-8.

Table 5-8
RUNWAY LENGTH ANALYSIS

Runway	Recommended Length (Feet)	Current Length (Feet)
14/33	5,348	5,424
6/24	3,101	5,271
18/36	3,444	5,251

5.3.6 Declared Distances

Declared distances are defined as the distance that the Airport owner declares available for a turbine powered aircraft's take-off run, take-off distance, accelerate-stop distance, and landing distance requirements. The four types of declared distances are:

- Takeoff Run Available (TORA) - the runway length declared available and suitable for the ground run of an aircraft taking off
- Takeoff Distance Available (TODA) - the TORA plus the length of any remaining runway or clearway beyond the end of the TORA
- Accelerate-Stop Distance Available (ASDA) - the Runway plus stopway length declared available and suitable for the acceleration and deceleration of an aircraft aborting a takeoff

- Landing Distance Available (LDA) - the runway length declared available and suitable for landing an aircraft.

Declared distances can be applied to mitigate obstructions, non-standard runway safety/object free areas, and incompatible land uses within the arrival or departure runway protection zones. In some instances, declared distances can be applied to increase the TODA or ASDA through the designation of clearways or stopways, respectively.

At the Apalachicola Regional Airport, Runways 6/24 and 18/36 have declared distances established. While these distances have been painted on the respective runways, they have not been published. Table 5-9 summarizes the declared distances.

Table 5-9
EXISTING DECLARED DISTANCES

Declared Distance	Runway 14 (feet)	Runway 32 (feet)	Runway 6 (feet)	Runway 24 (feet)	Runway 18 (feet)	Runway 36 (feet)
TORA	5,348	5,348	5,054	5,271	4,749	5,251
TODA	5,348	5,348	5,271	5,271	5,251	5,251
ASDA	5,348	5,348	5,271	5,271	5,251	5,251
LDA	5,348	5,348	5,271	5054	5,251	4,749

Note: TORA = Takeoff Run Available, TODA = Takeoff Distance Available, ASDA = Accelerate-Stop Distance Available, LDA = Landing Distance Available

5.3.7 Runway Width Analysis

For a runway, such as Runway 14/32, that has an AAC of A or B, an ADG of II, and a visibility minimum of not lower than one mile, the FAA approved runway width would be 75 feet with 10-foot wide shoulders. Runway 14/32 is currently 100 feet in width with 25-foot wide shoulders and meets/exceeds FAA standards.

For a runway, such as Runway 6/24 that has an AAC of A or B, an ADG of I, and a visibility minimum of not lower than one mile, the FAA approved runway width would be 60-feet with 10-foot wide shoulders. Runway 6/24 is currently 100 feet in width with 25-foot wide shoulders and meets/exceeds FAA standards.

For a runway, such as Runway 18/36 that has an AAC of A or B, an ADG of I, and is a visual runway, the FAA approved runway width would be 60-feet with 10-foot wide shoulders. Runway is 6/24 is currently 100 feet in width with 25-foot wide shoulders and meets/exceeds FAA standards.

It should be noted that for ADG I and II runways, paved shoulders are not required. Turf, aggregate-turf, soil cement, lime or bituminous stabilized soil are recommended adjacent to paved surfaces accommodating ADG-I and ADG-II aircraft.

5.3.8 Runway Design Standards

The FAA requires certain dimensional standards be met for a runway based on the identified Runway Design Code (RDC), which is based on the approach speed, wingspan, and tail height of the design aircraft and the visibility minimums of the runway. Table 5-10 compares the dimensions of the runway and various safety areas with the FAA standards for B-II, and A-I runways. All three runways meet or exceed these standards. Table 5-11

compares the existing runway protection zone dimensions with those recommended by the FAA. All existing runway protection zone dimensions meet the FAA standards. Table 5-12 shows runway separation distances to a holding position, a parallel taxiway/taxilane centerline, and an aircraft parking area with the design standards for B-II and A-I runways, which are representative of the existing runways. All three runways at the Airport meet/exceed the standards set by the FAA.

Table 5-10
RUNWAY DESIGN STANDARDS

Design Parameter	B-II Standards (feet)	A-I Small Aircraft Standards (feet)	Runway 14/32 (feet)	Runway 6/24 (feet)	Runway 18/36 (feet)
Width	75	60	100	100	100
Paved Shoulder Width	10[1,2]	10[1,2]	25	25	25
Crosswind Component in Knots	13	10.5	13	10.5	10.5
Runway Safety Area					
Length Beyond Departure End	300	240	300	240	240
Length Prior to Threshold	300	240	300	240	240
Width	150	120	150	120	120
Runway Object Free Area					
Length Beyond Runway End	300	240	300	240	240
Length Prior to Threshold	300	240	300	240	240
Width	500	250	500	250	250
Runway Obstacle Free Zone					
Length Beyond Each Runway	200	200	200	200	200
Width	250	250	250	250	250

Note: 1) Paved runway shoulders are not required for ADG Group II and I aircraft.
2) Turf, aggregate-turf, soil cement, lime, or bituminous stabilized soil are recommended adjacent to ADG-II and ADG-I aircraft, but not required.

Table 5-11
RUNWAY PROTECTION ZONE DIMENSIONS

RPZ Dimension	B-II Standards Not Lower Than 1 Mile (feet)	A-I Small Aircraft Standards Not Lower Than 1 Mile (feet)	A-I Small Aircraft Standards Visual (feet)	Runway 14	Runway 32	Runway 6	Runway 24	Runway 18	Runway 36
Approach Runway Protection Zone									
Length	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000
Inner	500	250	500	500	500	250	250	250	250
Outer	700	400	700	700	700	450	450	450	450
Departure Runway Protection Zone									
Length	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000
Inner	500	5000	500	500	500	250	250	250	250
Outer	700	700	450	700	700	450	450	450	450

Note: RPZ = Runway Protection Zone

Table 5-12
RUNWAY SEPARATIONS DISTANCES IN FEET

	B-II Standards	Runway 14/32	A-I Small Aircraft Standards	Runway 6/24	Runway 18/36
Holding Position	200	250	125	225	190
Parallel Taxiway/Taxilane	240	537	150	517	537.5
Aircraft Parking Areas	250	685	125	680	875

5.3.9 Runway Designations

Runway designation markings are provided on each end of a runway and are used by pilots to properly identify the runway. The designation identifies a runway according to the inbound compass heading and consists of a number. The designation number represents the whole number nearest the compass heading when viewed from the direction of approach. For example, where a compass heading is 183 degrees, the runway designation would be 18, and for a compass heading of 87 degrees, the runway designation would be 9.

The Earth's magnetic field and large objects in the vicinity affect compass readings. The effect of magnetic objects in the vicinity is called "deviation". The effect of the Earth's magnetic field is called "variation". Compass headings corrected for nearby objects (deviation) are "magnetic" directions. Correcting for the Earth's magnetic field (variation) gives us a "true" direction. When on land, "variation" is referred to as "magnetic declination" or sometimes "deviation."

The compass heading is determined by correcting a runway's true bearing for magnetic declination. To accomplish this modification, westerly magnetic declination values are added to a runway's true bearing, while easterly magnetic declination values are

subtracted. The magnetic declination for Apalachicola Regional Airport is 06° 03’ 00” West. Since the magnetic declination is westerly, the compass headings associated with the runways at the Airport are determined by adding the declination value to the true bearing values. The true bearing, the compass heading, the true designation, and the next anticipated designation change for each runway is shown in Table 5-13.

Table 5-13
RUNWAY DESIGNATIONS

Category	Measure
Airport Declination	4° 15’ 00” West ±
Rate of Declination Change Per Year	0° 5’ West
Runway 14	
True Bearing	135° 27’ 30”
Compass Bearing	139° 42’ 30”
Correct Runway Designation	14
Approximate Years to Next Designation Change	51
Runway 32	
True Bearing	315° 27’ 30”
Compass Bearing	319° 52’ 30”
Correct Runway Designation	32
Approximate Years to Next Designation Change	51
Runway 6	
True Bearing	60° 37’ 40”
Compass Bearing	64° 52’ 40”
Correct Runway Designation	6
Approximate Years to Next Designation Change	40
Runway 24	
True Bearing	240° 37’ 40”
Compass Bearing	244° 52’ 40”
Correct Runway Designation	24
Approximate Years to Next Designation Change	40
Runway 18	
True Bearing	180° 18’ 45”
Compass Bearing	184° 33’ 45”
Correct Runway Designation	18
Approximate Years to Next Designation Change	0
Runway 36	
True Bearing	00° 18’ 45”
Compass Bearing	04° 33’ 45”
Correct Runway Designation	36
Approximate Years to Next Designation Change	0

Source: National Oceanic and Atmospheric Administration National Geophysical Data Center accessed 6 September 2019

It appears that the last time that the runway ends at the Airport were surveyed was in 2012. The information in Table 5-13 is based on that survey. Table 5-13 shows that given the current rate of change, the runway ends for Runway 18/36 probably changed enough since 2012 that this runway should probably be re-designated as runway 01/19 and re-marked as soon as feasible, probably with a runway rehabilitation project.

An Airports Geographic Information System (AGIS) survey in compliance with FAA AC 150/5300-18B, General Guidance and Specifications for Submission of Aeronautical Surveys to NGS: Field Data Collection and Geographic Information System (GIS) Standards, is being conducted as part of this Master Plan Update. When the new survey information regarding the runway ends is available, Table 5-13 will be updated accordingly.

5.3.10 Runway Pavement Condition and Strength

In September of 2017, the FDOT published the *Statewide Airfield Pavement Management Program, Airfield Pavement Evaluation Report* for Apalachicola Regional Airport (2017 FDOT PCI Report). PCIs are ranked from 0 to 100 with 100 generally representing brand new pavement in good condition. Pavement with a PCI of between 86 to 100 is good. Pavement rated between 71 and 85 is satisfactory. Ratings of between 56 and 70 are fair. Rankings of between 41 and 55 are poor. Rankings between 26 and 40 are very poor. Rankings between 11 and 25 are serious. Rankings of 0 to10 are failed.

Through the planning period, the condition of the pavement should be monitored to ensure that basic maintenance of the pavement is assured. It is recommended that pavement with a Pavement Condition Index (PCI) ranging from 90 to 75 be maintained with crack sealing, partial depth patching, full depth patching, or surface treatment. Once the PCI reaches 74 or below, it is recommended that rehabilitation in the form of mill and overlay, concrete pavement restoration, or full depth pavement reconstruction be considered and planned for before the pavement reaches a PCI at or below 41, which would indicate that the pavement is in poor condition. Pavement rehabilitation will lengthen the useful life of a runway and ensure that it is operable well into the future.

The pavement of Runway 14/32 is concrete and was in satisfactory condition with a PCI of 73. The shoulders for this runway have a PCI of 67 or fair. The original runway is estimated to have been constructed in January of 1940. Typically, a runway would not require full rehabilitation or reconstruction for 15 to 20 years. It may, however, require some maintenance and repair approximately every five to seven years depending on the wear. Runway 14/32 will likely require mill and overlay within the planning period. The FDOT performs the PCI testing and resultant reports on a rotating basis with all public-use airports in Florida. This rotation typically occurs every three years. Therefore, it is reasonable to assume that Apalachicola Regional Airport's pavements will be analyzed again in 2020. The results of that testing and report should be monitored to determine if Runway 14/32 will require a mill and overlay or a more robust pavement rehabilitation.

The pavement of Runways 6/24 is also concrete and has a PCI of 74, or satisfactory. The shoulders have a PCI of 69, or fair. This runway is also estimated to have been constructed in January 1940. It is anticipated that this runway will also likely require some form of rehabilitation during the planning period.

Runway 18/36 is constructed of concrete with a PCI of 69, or fair. The shoulders have a PCI of 58 or fair. This runway was also estimated to have been constructed in January of 1940 and is most likely to require rehabilitation within the planning period.

Airports have varying pavement strengths based on the aircraft types they expect to serve. All three runways have weight bearing capacities of a Pavement Classification Number (PCN) of 12/R/B/X/T. This means that the pavement has a load bearing capacity of 12, is made up of a rigid material (concrete), is on a medium-strength sub-grade, has a maximum tire-pressure of 254 pounds per square inch, and has been calculated through a technical evaluation.

The majority of the aircraft operating at the Airport do not exceed 12,500 pounds; however, a growing number of operations by aircraft weighing over 12,500 pounds do occur. This is not currently projected to change significantly over the planning period. The existing pavement strength is anticipated to be suitable for the projected operations throughout the planning period.

5.3.11 Runway Markings and Lighting

The current non-precision markings at both ends of Runway 14/32 are in fair condition. These follow the FAA required non-precision markings for GPS non-precision approaches. Runway 6/24 has non-precision markings that are in fair condition. Runway 18/36 has basic runway markings that are faded and in poor condition. The runway ends for Runway 18/36 will require re-marking as soon as practicable as magnetic declination has changed the runway end designations.

Runways 14/32 and 6/24 are equipped with Medium Intensity Runway Lights (MIRL). Runway 18/36 is not equipped with lights.

5.3.12 Taxiway and Taxilane Standards

Taxiways and taxilanes also have design standards that are detailed in FAA AC 150/5300-13A, *Airport Design*. The design standards for taxiways and taxilanes are based in part on the Airplane Design Group (ADG) of the critical aircraft of the runway. However, taxiway design is also based on a Taxiway Design Group (TDG) designation, which is based on the dimensions of an aircraft's Main Gear Width (MGW) and the Cockpit to Main Gear (CMG) distance as shown in Figure 4-6 of the Advisory Circular. The Beechcraft King Air B-200, the critical design aircraft for Runway 14/32, is an ADG-II aircraft.

The Beechcraft King Air B-200 has an ARC of B-II, an MGW of 17.5 feet, a CMG of 6.45 feet, and a TDG of 1A. However, for purposes of the taxiway design, it is recommended that the TDG 2 be used for taxiways accessing Runway 14/32, as there are aircraft in the B-II classification, which are classified as TDG 2, such as the Dassault Falcon/Mystère 50, which regularly use Runway 14/32.

Runway 14/32 is served by a full-length, 75-foot wide, parallel taxiway, Taxiway A. In addition, to Taxiway B, there are five taxiway connectors between Taxiway A and Runway 14/32 with widths of 75-feet each. Taxiway A is located 537 feet from Runway 14/32, centerline to centerline, and exceeds the 240-foot separation requirement of an ADG II runway. As Taxiway A is 75 feet wide, it could meet the requirements of a TDG 5. This

far exceeds the requirements for the Critical Aircraft for Runway 14/32, the Beechcraft King Air B-200.

Runway 6/24 is served by a partial-length, 75-foot wide, parallel taxiway; Taxiway B, which connects the Runway 6 end with Runway 14/32. There are five taxiway connectors between Taxiway B and Runway 6/24 each with a width of 75 feet. The centerline of Taxiway B to the centerline of Runway 6/24 is 517 feet and exceeds the 150-foot separation requirement of an ADG I (small) runway. As Taxiway B is 50 feet wide, it could meet the requirements of a TDG 3. As the critical aircraft for Runway 6/24 is a Cirrus SR-22, which has an ARC of A-I and a TDG of 1A, this far exceeds the requirements.

Runway 18/36 is served by a partial-length parallel taxiway; Taxiway C, which has a width of 75 feet and a distance between the Taxiway C centerline and the Runway 8/36 centerline of 537.5 feet. Taxiway C has three connectors to Runway 18/36, which are each 75 feet wide.

The taxiway design standards based on Airplane Design Group for ADG-II and ADG-I are shown in Table 5-14. The existing dimensions for each of the existing taxiways are also shown. The taxiway design standards based on taxiway design standards for both TDG-1A and TDG-2 are shown in Table 5-15, as well as the actual measurements for Taxiways A, B, and C.

Table 5-14
TAXIWAY DESIGN STANDARDS BASED ON AIRPLANE DESIGN GROUP

Item	ADG II (feet)	Taxiway A (feet)	ADG I (feet)	Taxiway B (feet)	Taxiway C (feet)
Taxiway Protection					
Taxiway Safety Area (TSA) Width	79	79	49	79	79
Taxiway Object Free Area (TOFA) Width	131	131	89	131	131
Taxiway Separation					
Taxiway Centerline to Parallel	105	n/a	70	n/a	n/a
Taxiway Centerline to Fixed or Movable	65.5	65.5	44.5	44.5	44.5
Wingtip Clearance					
Taxiway Wingtip Clearance	26	26	20	20	20

Note: n/a = Not applicable, ADG = Airplane Design Group

Table 5-15
TAXIWAY DESIGN STANDARDS BASED ON TAXIWAY DESIGN GROUPS

Item	TDG 1A (feet)	TDG 2 (feet)	Taxiway		
			A	B	C
Taxiway Width	25	35	75	75	75
Taxiway Edge Safety Margin	5	7.5	7.5	5	5
Taxiway Shoulder Width	10	15	n/a	n/a	n/a

Note: n/a = Not applicable, TDG = Taxiway Design Group

5.3.13 Taxiway Design

FAA Advisory Circular 150/5300-13A, *Airport Design*, recommends that taxiways not be allowed to lead directly from an apron to a runway without requiring a turn. Taxiways that lead directly from an apron to a runway can lead to confusion when a pilot expects to encounter a parallel taxiway but instead accidentally enters a runway. The following taxiways currently lead directly from an apron to a runway.

- Both ends of Taxiway A
- Taxiway A4
- Taxiway B3
- Taxiway B4

These must be addressed in the Development and Evaluation of Alternatives chapter and on the Airport Layout Plan.

Further, entrance/exit taxiways to runways must meet at right angles, as this provides “the best visual perspective to a pilot approaching an intersection with a runway to observe aircraft in both the left and the right directions. It is recommended that the taxiway approach the Runway with two 90 degree turns. There are several instances where the current entrance/exit taxiway does not meet the runway correctly. These are:

- Taxiway A1
- Taxiway A5
- Taxiway B1
- Taxiway B5
- Taxiway C3
- Taxiway D

These will also be addressed in the Development and Evaluation of Alternatives chapter and on the Airport Layout Plan later in this study.

5.3.14 Taxiway Conditions Assessment

All the runways are constructed of concrete, with varying levels of condition. Table 5-16 shows a portion of the airfield pavement conditions inventory. A graphic from the 2017 FDOT PCI Report for the Airport is shown as Figure 5-2.

Table 5-16
AIRFIELD PAVEMENT CONDITION INVENTORY

Branch ID	Branch Name	PCI	PCI Category	True Area in Square Feet	Material	Last Construction Date
105	Taxiway C	66	Fair	153,704	PCC	1942
110	Taxiway C	66	Fair	77,718	PCC	1942
145	Taxiway C2	66	Fair	10,646	PCC	1942
150	Taxiway C2	72	Satisfactory	34,830	PCC	1940
155	Taxiway C1	57	Fair	10,613	PCC	1942
160	Taxiway C1	70	Fair	34,877	PCC	1940
205	Taxiway A	61	Fair	31,535	PCC	1940
210	Taxiway A	39	Very Poor	16,092	PCC	1942
220	Taxiway A	66	Fair	154,199	PCC	1940
225	Taxiway A	69	Fair	75,620	PCC	1942
230	Taxiway A1	42	Poor	32,807	PCC	1940
235	Taxiway A1	60	Fair	11,058	PCC	1942
240	Taxiway A3	53	Poor	34,679	PCC	1940
245	Taxiway A2	61	Fair	10,796	PCC	1942
250	Taxiway A3	60	Fair	35,036	PCC	1940
255	Taxiway A2	65	Fair	10,441	PCC	1942
305	Taxiway B1	59	Fair	29,556	PCC	1940
310	Taxiway B1	52	Poor	15,572	PCC	1942
315	Taxiway B2	51	Poor	34,613	PCC	1940
320	Taxiway B2	57	Fair	10,600	PCC	1940
325	Taxiway B3	59	Fair	34,613	PCC	1940
330	Taxiway B3	72	Satisfactory	10,600	PCC	1942
335	Taxiway D	46	Poor	15,082	PCC	1942
345	Taxiway A	48	Poor	29,764	PCC	n/a
350	Taxiway A	69	Fair	10,975	PCC	n/a
4105	Apron	54	Poor	979,973	PCC	1940
6105	Runway 14/32	73	Satisfactory	512,205	PCC	1940
6110	Runway 14/32	67	Fair	256,102	PCC	1940
6205	Runway 6/24	74	Satisfactory	498,541	PCC	1940
6210	Runway 6/24	69	Fair	249,271	PCC	1940
6305	Runway 18/36	69	Fair	525,250	PCC	1940
6310	Runway 18/36	58	Fair	262,625	PCC	1940

Note: PCI = Pavement Condition Index, PCC = Portland Cement Concrete, n/a = not available
Source: Statewide Airfield Pavement Management Program, September 2017

Source: Statewide Airfield Pavement Management Program, September 2017

Figure 5-2
AIRFIELD PAVEMENT CONDITIONS MAP

5.3.15 Taxiway Markings and Lighting

All taxiways at the Airport are currently marked with yellow centerline markings in fair to good condition. All holdlines are marked and are in good condition. Only Taxiway A and its associated taxiway connectors have Medium Intensity Taxiway Lights (MITL). The other taxiways are not currently lit. However, a project is currently planned in FY 2020 to install LED lights on Taxiway B.

5.3.16 Additional Taxiways

The FAA recommends that there be taxiways that will allow aircraft to easily maneuver from the terminal/FBO area to both ends of at least the primary runway of an airport. Taxiway A provides access to the terminal/FBO area from both ends of Runway 14/32. Taxiway A also provides access to Runway 36 from the terminal/FBO area. Taxiway B provides from Runway 6 to the terminal/FBO area. Neither Runway 24 nor Runway 18 are accessible to the terminal/FBO area without traveling along the either Runway 6/24 or Runway 18/36.

Additional taxiways and taxilanes may be required at the Airport, as further aviation development occurs. New taxiways could also support development in new areas of the Airport. Taxilanes would also be required to access new hangars or aprons.

5.3.17 Apron Pavement

2017 FDOT PCI Report, categorizes all the apron into one section. This section has a PCI of 54, which has been determined to be a poor condition. The apron will most likely require rehabilitation within the planning period

5.3.18 Navigational Aids

A navigational aid or NAVAID is any marker or piece of equipment that assists the pilot in navigating with greater precision and accuracy. They can include items as simple as the aircraft's magnetic compass to Global Positioning Systems (GPS). This section discusses a few that are associated with the Apalachicola Regional Airport.

Precision Approach Path Indicators (PAPI) provide vertical plane guidance information to help a pilot acquire and maintain the correct approach to the Airport. They can usually be seen from about three miles out during the day and up to 20 miles out at night. Runways 14/32 and 6/24 have 2-light PAPIs on each end of both runways. Runway 18/36 does not have PAPIs.

Runway End Identifier Lights (REILs) at the ends of runways improve a pilot's ability to find a runway end in inclement weather or rough terrain. None of the six runway ends on the Airport have REILs. It is recommended that REILs be installed on at least Runways 14/32 and 6/24.

The Airport has a Rotating Beacon that is in fair condition. A rotating beacon is used to identify itself as an airport to pilots at night. It is mounted on a tower or above a building so that pilots can see it from all directions. The Airport's Rotating Beacon flashes alternating green and white lights indicating that it is a civilian airport.

The Airport also has one lighted windsock. It is located south of the intersection of Runways 14/32 and 6/24. Typically, windsocks are co-located with segmented circles, which are recommended by the FAA. The Airport does not have a segmented circle.

The Airport has a non-directional beacon that transmits a low frequency omni-directional signal that is received by equipment on an aircraft. The pilot uses the signal and the aircraft equipment to determine the direction of the aircraft from the Airport.

5.3.19 Weather Equipment

The Airport has an Automated Surface Observing System (ASOS). ASOS facilities are a joint effort of the National Weather Service (NWS), the FAA, and the Department of Defense (DOD). An ASOS supports weather forecast activities and aviation operations and, at the same time, supports the needs of the meteorological, hydrological, and climatological research communities. The current ASOS equipment appears to be in good condition.

5.4 Landside

Landside facilities are those that interface between the airfield and the public infrastructure. Landside facilities typically include hangars, terminals, roads, vehicular parking, and other support structures.

5.4.1 Based Aircraft Storage

The FAA approved forecast for based aircraft indicates that there were 20 aircraft based on the Airport in 2018. At this time, the Airport has not entered any of the based aircraft into the FAA's National Based Aircraft Inventory Program at www.basedaircraft.com. This is a data base that lists aircraft entered by non-Primary NPIAS airports to provide validated based aircraft counts for single-engine aircraft, multi-engine aircraft, jets, and helicopters. It is highly recommended that the Airport enter their based aircraft into the database. The database operators will then verify that each aircraft is not based at any other airports. If an aircraft is already certified as being based at another airport, the database operator will work with both airports to resolve the issue.

Based aircraft are typically housed in conventional hangars, T-hangars, or other single-module types of hangars. Based aircraft can also be stored at tie-downs in a specified area of the ramp or grassy areas on an airport or are in conventional hangars. There are currently five T-hangar buildings with a total of 40 T-hangar units on the Airport. In addition, there are three conventional hangars, exclusive of the U.S. Weather Service hangar and the FBO hangar.

There are currently 22 marked tie-down positions located on the apron that runs parallel to Taxiway A. There are currently no grass tie-down areas at the Airport, nor are any currently planned. Table 5-17 shows the FAA approved Forecast of Aviation Activity Forecast of based aircraft and the distribution of the based aircraft stored in hangars and at tie-downs.

Table 5-17
BASED AIRCRAFT STORAGE

	2018	2023	2028	2033	2038
Based Aircraft	20	22	23	25	26
Based Aircraft in T-Hangars	17	19	20	21	22
Based Aircraft in Conventional and Box Hangars	3	3	3	4	4
Based Aircraft at Tie-downs	0	0	0	0	0

As the number of based aircraft grows over the planning period, it is anticipated that based aircraft will continue to be stored in either T-hangars, conventional hangars, or box hangars. In 2023, the forecast calculates that 19-based aircraft will be stored in T-hangars and that 3-based aircraft will be stored in conventional or box hangars. By the year 2038, the forecast indicates that 22 based aircraft will be stored in T-hangars and that 4 based aircraft will be stored in conventional or box hangars.

There are currently 40 T-hangar units at the Airport and four conventional hangars at the Airport. Of the five conventional hangars, the one associated with the FBO typically houses itinerant aircraft and the U.S. Weather Service hangar houses only their own aircraft and equipment. The remaining three conventional hangars could probably accommodate more than one aircraft, but that is up to the discretion of the lessee. Table 5-18 shows how the hangar storage of based aircraft might be distributed between T-Hangars and conventional hangars throughout the planning period based on the distribution of aircraft at the Airport in 2018.

Table 5-18
BASED AIRCRAFT HANGAR SPACES AVAILABLE VERSUS REQUIRED

	2018	2023	2028	2033	2038
Number of Required Hangar Spaces for Based Aircraft	20	22	23	25	26
T-Hangars					
Number of T-Hangars Required for Based Aircraft	17	19	20	21	22
Number of Existing T-hangar Units	40	40	40	40	40
Surplus/(Deficit)	23	21	20	19	18
Conventional Hangars					
Number of Required Spaces	3	3	3	4	4
Number of Existing Conventional and Box Hangar Spaces	3	3	3	3	
Surplus/(Deficit)	0	0	0	(1)	(1)

Table 5-19 shows the number of aircraft at the Airport that will require to be stored in hangars at the Airport. This number is divided between those that are stored in T-hangars

versus those that are stored in conventional or box hangars based on the current distribution of stored aircraft.

The FAA Approved Based Aircraft Forecast indicates that there will be a surplus of 21 T-hangar units in 2023 and that by the year 2038, there will still be a surplus of 18 T-hangar units. Based on the FAA Approved Forecasts, the conventional hangars space is at capacity for storing based aircraft and additional space will likely be required by at least 2033.

Not only should the proper number of aircraft parking spaces in hangars be provided, but the size of the hangars should also be taken into consideration. Table 5-19 shows the comparison of the amount of hangar space available to the amount that will be required throughout the planning period.

Table 5-19
BASED AIRCRAFT HANGAR AREA AVAILABLE VERSUS REQUIRED

	2018	2023	2028	2033	2038
Existing and Planned Aircraft Storage Areas					
Square Foot Area of T-Hangars	43,750	43,750	43,750	43,750	43,750
Average Square Foot Area Per T-Hangar	1,094	1,094	1,094	1,094	1,094
Square Foot Area of Conventional Hangars	24,130	24,130	24,130	24,130	24,130
Average Square Foot Area Per Conventional	6,033	6,033	6,033	6,033	6,033
Total Square Foot Area of Aircraft Storage	67,880	67,880	67,880	67,880	67,880
Hangar Requirements					
Number of Single Engine Aircraft in Hangars	18	17	16	16	15
Square feet Per Single Engine Aircraft	850	850	850	850	850
Number of Multi-engine Aircraft in Hangars	2	2	2	2	2
Square feet per Multi-engine Aircraft	1,550	1,550	1,550	1,550	1,550
Number of Jets in Hangars	0	1	1	2	3
Square Feet per Jet in Hangars	2,450	2,450	2,450	2,450	2,450
Number of Rotorcraft in Hangars	0	1	1	2	2
Square Feet per Rotorcraft	850	850	850	850	850
Number of Others in Hangars	0	1	2	3	4
Square Feet per Other Aircraft	850	850	850	850	850
Total Area Required for Based Aircraft in	18,400	21,700	21,700	25,850	28,300
Surplus/(Deficit) Square Feet from Existing	49,480	46,180	46,180	42,030	39,580

Currently, there are approximately 67,880 square feet of aircraft storage in hangars located across the Airport. This does not include either the FBO hangar or the U.S. Weather Service hangar. Of this amount, 24,130 square feet are in conventional and box hangars. However, only 21,700 square feet of space will be required for based aircraft storage in 2023. It is anticipated that 28,300 square feet will be required in 2038. It is understood that not all the space within the conventional and box hangars is used for aircraft storage. Area within these hangars is also used for offices, work areas,

maintenance, and storage of aviation material. The surplus will reduce as additional aircraft are based at the Airport.

As an alternative to storing aircraft in hangars, owners may elect to store their aircraft at dedicated tie-down positions. While this alternative exposes the aircraft to the elements, it is typically a less expensive alternative to storage in aircraft hangars. There are currently no based aircraft that are stored at the Airport's tie-down areas and it is proposed that this will continue throughout the planning period.

5.4.2 Itinerant Aircraft Storage

Itinerant aircraft are those aircraft that are not based at the Airport, but which are visiting. Alternatively, itinerant aircraft can spend extended periods at the Airport as the owner/pilot may be a "snowbird" or have other extended business in the area. The pilots could be visiting for reasons of business or pleasure; however itinerant aircraft also arrive for special events either at the Airport or within the community. The itinerant aircraft require an area where they can be stored on a temporary basis. Most itinerant aircraft are typically stored for only for a couple of days.

Table 5-20 shows the methodology for calculating the apron requirements for itinerant aircraft as defined in FAA AC 150/5300-13 Change 18, *Airport Design*, Appendix 5, *Small Airport Buildings, Airplane Parking and Tiedowns*. The revised FAA AC 150/5300-13A does not include this methodology, however it is still a viable methodology for determining the number of required iterant tie-down spaces required.

Table 5-20
ITINERANT AIRCRAFT STORED ON APRON

	2018	2023	2028	2033	2038
Total Annual Operations	24,668	25,772	26,819	27,910	29,044
Percent of Annual Operations Occurring in the Busiest Month	13%	13%	13%	13%	13%
Busiest Month Operations	3,207	3,350	3,486	3,628	3,776
Average Day Operations of Busiest Month	103	108	112	117	122
Busiest Day Operations (Average Day + 10%)	114	119	124	129	134
Percent of Itinerant Operations	45.2%	45.2%	45.2%	45.2%	45.2%
Number of Itinerant Operations on Busiest Day	51	54	56	58	61
Number of Itinerant Aircraft Landing Operations	26	27	28	29	30
Percent of Itinerant Operations on Ground at Same Time	50%	50%	50%	50%	50%
Number of Itinerant Aircraft on Ground at Same Time	13	13	14	15	15
Percentage of Itinerant Aircraft Stored on the Apron	60%	60%	60%	60%	60%
Number of Itinerant Aircraft Stored on the Apron	8	8	8	9	9

Using the FAA methodology shown in Table 5-21, it is anticipated that 13 itinerant aircraft could be on the ground at the Airport at the same time in 2023. Of these, 8 will require tie-down spaces on the apron and 5 will be stored in hangars, based on the tie-down to hangar split existing today. By 2038, it is anticipated that 15 itinerant aircraft are likely to be on the ground at the same time and that 9 of these will require tie-down areas on the apron.

Table 5-21
SQUARE YARD AREA OF ITINERANT APRON REQUIRED

	2018	2023	2028	2033	2038
Existing Apron Total Square Feet	592,560	592,560	592,560	592,560	592,560
Existing Apron Total Square Yards	65,840	65,840	65,840	65,840	65,840
Number of Tie-downs at Airport	22	22	22	22	22
Average Square Yards per Tie-down	251	251	251	251	251
Number of Based Aircraft at Tie-downs	0	0	0	0	0
Number of Tie-downs Available for Itinerant Aircraft	22	22	22	22	22
Number of Itinerant Tie-downs Required	13	13	14	15	15
Surplus/(Deficit)	9	9	8	7	7
Square Yard Surplus/Deficit of Itinerant Tie-downs	2,288	2,144	2,007	1,865	1,717

In 2023, it is forecast that there will be a surplus of 9 itinerant tie-down areas and 2,144 square yards of apron on the Airport's busiest day of the year. The available area for itinerant aircraft tie-down spaces in 2038 is expected to equal approximately 5,522 square yards with only 15 positions or 3,765 square yards being required by itinerant aircraft on the Airport's busiest day leaving 7 positions and 1,757 square yards available. This would indicate that no additional itinerant tie-down spaces will be required during the planning period.

Not all itinerant aircraft are or will be stored at tie-downs on the apron. Some itinerant aircraft will be temporarily stored in hangars. Table 5-22 illustrates those itinerant aircraft that are anticipated to be stored in hangars.

Table 5-22
ITINERANT AIRCRAFT STORED IN HANGARS

	2018	2023	2028	2033	2038
Number of Itinerant Aircraft on the Ground Simultaneously	13	13	14	15	15
Percentage of Itinerant Aircraft Stored in Hangars	40%	40%	40%	40%	40%
Number of Itinerant Aircraft Stored in Hangars	5	5	6	6	6
Percent Group I Aircraft Stored in Hangar	40%	40%	40%	40%	40%
Number of Group I Aircraft Stored in Hangar	2	2	2	2	2
Percent Group II Aircraft Stored in Hangar	58%	58%	58%	58%	58%
Number of Group II Aircraft Stored in Hangar	3	3	3	3	3
Percent of Group III Aircraft Stored in Hangar	2%	2%	2%	2%	2%
Number of Group III Aircraft Stored in Hangar	0	0	0	0	0
Square Feet per Group I Aircraft in Hangar	850	850	850	850	850
Square Feet per Group II Aircraft in Hangar	1,550	1,550	1,550	1,550	1,550
Square Feet per Group III Aircraft in Hangar	2,450	2,450	2,450	2,450	2,450
Square Feet of Itinerant Aircraft Storage Required	6,698	6,698	7,213	7,728	7,728
Additional Hangar Area Required for Admin, Storage & Shops	1,340	1,340	1,443	1,546	1,546
Total Itinerant Aircraft Hangar Storage Required	8,037	8,037	8,655	9,274	9,274
Existing Square Feet of FBO Hangar	11,200	11,200	11,200	11,200	11,200
Surplus/(Deficit)	3,163	3,163	2,545	1,926	1,926

Note: FBO = Fixed Base Operator

It is calculated that in 2023, an average of 5 itinerant aircraft will be housed in hangars. In the year 2038, it is anticipated that on average 6 itinerant aircraft will be stored in hangars simultaneously. It is also calculated that there will be more than enough capacity to house these aircraft.

However, the Fixed Base Operator, Centric Aviation, has stated that many of the itinerant aircraft owners currently located on the apron would prefer that their aircraft be stored in hangars, if these were available.

5.4.3 Apron Capacity

It is not recommended that based aircraft stored at the tie-downs and the itinerant aircraft parking occur in the same vicinity on the apron. Some consideration should be given to keeping these areas separate as they typically support different levels and types of activities. While the previous paragraphs indicate that there will likely be enough apron area to serve both the based aircraft and the itinerant aircraft, it is possible that the number of aircraft requiring tie-down space in either category could increase unexpectedly. This is particularly likely during periods of high activity. The total anticipated aircraft parking apron requirements and existing and planned capacity are shown in Table 5-23.

Table 5-23
AIRCRAFT APRON PARKING AREA REQUIREMENTS

	2018	2023	2028	2033	2038
Number of Itinerant Tie-downs Required	13	13	14	15	15
Required Itinerant Aircraft Apron in Square Yards	3,223	3,367	3,504	3,646	3,795
Number of Based Aircraft Tie-downs Required	0	0	0	0	0
Required Based Aircraft Apron in Square Yards	0	0	0	0	0
Total Number of Tie-downs Required	13	13	14	15	15
Total Number of Tie-downs Existing	22	22	22	22	22
Surplus/(Deficit)	9	9	8	7	7
Total Square Yards of Apron Required	3,223	3,367	3,504	3,646	3,795
Total Square Yards of Existing Tie-down Area	5,511	5,511	5,511	5,511	5,511
Surplus/(Deficit)	2,288	2,144	2,007	1,865	1,717

Table 5-23 shows that there was a surplus of aircraft storage on the apron in 2018 of approximately 2,288 square yards. In 2038, it is anticipated that there will continue to be a surplus of apron with 7 positions open and 1,717 square yards available.

In addition to the aprons that are used to store aircraft, there is also a need for aprons to be in front of the conventional hangars. These aprons serve as a transition between an apron or taxiway/taxilane and a hangar and can be used for temporary storage or staging of the aircraft housed in the hangar. This is particularly true if the hangar is to be used for aircraft service or maintenance. Typically, these aprons should be sized to be no less than the same size as the hangar that it serves, with one and one half the size of the hangar size being optimal.

Table 5-24 shows the existing conventional and box hangars and their associated apron sizes and compares that apron to the typically sized apron for a conventional hangar.

Table 5-24
CONVENTIONAL HANGAR APRON AREA

Conventional Hangar	Existing Hangar in Square Feet	Existing Hangar in Square Yards	Minimum Recommended Apron in Size in Square yards	Optimum Recommended Apron Size in Square Yards	Existing Apron in Front of Hangar in Square Yards	Surplus/ (Deficit) in Square Yards
Fixed Base Operator Hangar	11,200	1,244	1,244	1,867	1,708	464
CAAZ, Inc. 369 Airport Road (Blue Hangar)	12,750	1,417	1,417	2,125	83	(1,333)
264 Airport Road	6,400	711	711	1,067	107	604
Large Hangar	12,070	1,341	1,341	2,012	316	(1,026)
Total	42,420	4,713	4,713	7,070	2,214	(1,291)

Note: The U.S. Weather Service hangar has not been included in this table

Table 5-24 shows that most of the conventional hangars on the Airport do not have the recommended apron area in front of the respective hangars. This likely reflects the desire of those that originally developed the respective hangars, cost saving programs, and the desire to use as little land as possible. However, it limits the use of the hangar by current and future prospective tenants. Only two of the four aprons meet or exceed the minimum recommended apron size. It is recommended that as additional hangars are constructed that they be required to at least meet the recommended apron size and encouraged to meet the optimum apron size.

5.4.4 Support Facilities

In addition to the primary facilities located on the airside and landside of the Apalachicola Regional Airport, there are other facilities located on the Airport that support the operation of the airside and landside facilities. These include the airfield electrical vault, the self-fueling station, the FBO facilities, and the vehicular parking.

5.4.4.1 Fueling Facilities

The Airport has three 12,000-gallon fuel tanks. One tank contains 100 Low Lead (LL) fuel or Avgas. The second tank supports Jet A fuel. The third tank is currently unused. The fuel facilities are available 24 hours a day 7 days a week with the use of a credit card. As the Airport operations are anticipated to only have a modest increase through the planning period, it is anticipated that the existing capacity of the fuel farm will serve the Airport throughout the planning period.

Consideration should be given to providing landside vehicular access to the fuel delivery trucks so that they do not have to be escorted on airside in order to make the delivery. It

is understood that the FBO manager or other designee must be available for deliveries in any event, but it is not a best practice to allow fueling trucks onto the airside.

5.4.4.2 Fixed Base Operator Facilities

There is one FBO located on the Airport, Centric Aviation, which has a general aviation terminal located adjacent to the itinerant aircraft parking ramp. Currently, the general aviation terminal is collocated with the FBO Hangar. The general aviation terminal has about 2,000 square feet. It is anticipated that the facility may become tight during the planning period. If that happens, consideration may be given to putting an addition onto the general aviation terminal. Table 5-25 shows the basic facility requirements for a general aviation terminal based on the number of annual operations forecast.

Table 5-25
FBO TERMINAL REQUIREMENTS

	2018	2023	2028	2033	2038
Total Annual Operations	24,668	25,772	26,819	27,910	29,044
Busiest Month Operations	3,207	3,350	3,486	3,628	3,776
Average Day Operations of Busiest Month	103	108	112	117	122
Number of Itinerant Aircraft Stored on the Apron	13	13	14	15	15
Projected Peak Hour Passengers	26	27	28	29	30
Passenger Lounge	482	504	525	546	568
Pilot Lounge	68	71	74	77	80
Flight Planning	51	54	56	58	61
Concessions/Vending	161	168	175	182	189
First Conference Room	193	202	210	218	227
Second Conference Room	96	101	105	109	114
Offices (2)	160	160	160	160	160
File and Workroom	147	153	159	166	173
Restrooms	127	132	138	143	149
FBO Administration	77	81	84	87	91
FBO Operations	225	235	245	255	265
Storage and Maintenance	70	73	76	79	82
Circulation	370	390	400	420	430
Mechanical	220	230	240	250	260
Building Structure	50	50	50	60	60
Total Building Area	2,498	2,604	2,696	2,811	2,909

5.4.4.3 Access Roads and Entrances to the Airport

The Apalachicola Regional Airport is located west of the City of Apalachicola and is accessed from U.S. Highway 98, which is located south of the Airport. U.S. 98 is accessed from the Airport via Apalachee Street, which travels into the terminal area of the Airport. However, Apalachee Street is closed north of Chapman Drive and the traveler

must turn east on either Chapman Road or Thomas Road/Brownsville Road to access Airport Road to access Apalachee Street once again and thereby enter the Airport.

5.4.4.4 Vehicular Parking

It is common at general aviation airports for automobiles to be parked in the various hangar facilities or adjacent to the structure, while a personal aircraft is in use. Parking of personal vehicles on the airside should be avoided as it increases the risk of an incursion between an aircraft and a personal vehicle. It is recommended that vehicular parking be made available to pilots on the landside of the Airport. While there is landside parking available at the Airport, it is located a considerable distance from the T-hangars.

There are several parking areas on the Airport. There are 14 marked spaces adjacent to the FBO/general aviation terminal. There is also a paved but poorly marked parking area off Apalachee Street as it enters the terminal area that has the capacity to park about 54 vehicles. Th large hangar located near the intersection of the runways has a separate parking area with the marked capacity to hold 13 vehicles. There is a paved area adjacent to the U.S. Weather Emergency Operations Center that has the capacity to hold about 13 vehicles. The hangar located at the far southeastern end of the apron adjacent to Taxiway A has vehicular parking spaces for at least five vehicles. There are no parking spaces adjacent to any of the T-hangars, or the conventional hangar currently located between the fuel farm and the T-hangars.

For airports, it is typical to allow approximately 1.0 parking space per 1,000 square feet of gross floor area. This is not a requirement by the FAA or FDOT. With the 47,220 square feet of conventional hangars, this would equate to 47 parking spaces. This is in line with the 45 parking spaces currently located on the Airport.

The parking needs of the T-hangars are underserved. There are no marked parking spaces near any of the T-hangars located on the Airport. While it is common for those using T-hangars to park their street vehicles in or adjacent to their respective T-hangars, it should not be encouraged to allow street vehicles in areas common to aircraft movements. It is recommended that as additional T-hangars are constructed, that adequate vehicular parking be included with each new T-hangar building.

As new facilities are built, and the use of existing facilities change function, the needs for the vehicle parking at each structure will also change. When developing future facilities, an adequate amount of parking spaces should be considered to meet both the local codes as well as the functional requirements of the facility. Each new conventional hangar should have a separate parking area dedicated to that hangar. Each set of T-hangars should also consider conveniently located joint-use parking to accommodate the pilots and passengers without influencing them to park on the airside of the Airport.

5.4.4.5 Fencing

The Airport airfield is enclosed with a six-foot high fence with three strands of barbed wire on the top. There are several security gates within the fence for access to the airfield. One of these gates is located across Apalachee Street just north of Chapman Drive, blocking the road. This forces those attempting to access the Airport from U.S. 98 to turn

east on either Chapman Road or Thomas Road/Brownsville Road to access Airport Road to access Apalachee Street once again and thereby enter the Airport. Another gate is located at the northern end of Airport Road as it accesses the airfield adjacent to the FBO/GA Terminal.

5.4.4.6 Stormwater Management

Currently, there is a system of ditches and ponds that control the drainage of stormwater in the different basins on Airport property. The system appears to be working well. These facilities should be monitored and maintained by the County to ensure that they continue to work properly. Routine maintenance includes trimming vegetation, cleaning pipes, and removing silt where applicable to ensure that the system continues to function properly.

As new facilities are constructed on the Airport, the stormwater management system will require modification and expansion to control the increased volume of runoff. Additional inlets, pipes and dry retention ponds will need to be constructed as more impervious surfaces are added.

During construction activities, topsoil and vegetation are typically removed. This exposes the underlying soil to erosion during rainfall events. Contractors should be required to use best management practices, such as silt barriers, hay bales, and temporary seeding to minimize erosion and silt contamination of neighboring waterways. It is recommended that the County secure for the Airport a General Permit for Construction, Operation, Maintenance, Alternation, Abandonment, or Removal of Airport Airside Stormwater Management Systems as set forth in the Florida Administrative Code 62-330.449.

5.5 Facility Requirements Summary

This chapter addresses several development issues that may need to be addressed over the 20-year planning period. Many of these are tied to the FAA approved Forecasts of Aviation Activity. Table 5-26 is a summary of the requirements and recommendations from this chapter. Each of these requirements and recommendations is tied to a “trigger” that will allow the Airport and the County to know when an event is being approached that would trigger additional development regardless of the period.

Table 5-26
FACILITY REQUIREMENTS SUMMARY

Facility	Existing Condition	Recommendations	Triggers
Runway Protection Zones	A very small portion of the RPZ for Runway 14 is not on Airport property.	Should that property become available in the future, the County should consider purchasing the property	When the property is available for purchase.
Runway 14/32	Current Critical Aircraft is the Falcon 50 (B-II). Future Critical Aircraft is the Citation X (C-II)	Replace current Critical Aircraft with a Beechcraft Super King 200 a B-II aircraft. Future Critical Aircraft likely to remain the same, the Beechcraft Super King 200.	Should the number of documented flights to and from the Airport for an ARC C-II aircraft exceed 500 annual operations change the Critical Aircraft at that time.
	Portions had a PCI of 67 in 2017	Mill and overlay before the PCI reaches 41	Short-term planning period
	Runway width is 100 feet with 25-foot wide shoulders	FAA recommended width is 75 feet with 10-foot shoulders	Unlikely that FAA will fund the rehabilitation of the existing full width of the runway without a justification study.
Runway 3/21	Current Critical Aircraft is the King Air (B-II). Future Critical Aircraft is the Falcon 50 (B-II)	Replace current Critical Aircraft with a Cirrus SR-22 an A-I aircraft. Future Critical Aircraft likely to remain the same, the Cirrus SR-22	Should the number of documented flights to and from this Runway for an ARC B-II aircraft exceed 500 annual operations change the Critical Aircraft at that time.
	Portions had a PCI of 69 in 2017	Mill and overlay before the PCI reaches 41	Short-term planning period.
	Runway width is 100 feet with 25-foot wide shoulders	FAA recommended width for a B-II runway is 60 feet with 10-foot shoulders	Unlikely that FAA will fund the rehabilitation of the existing full width of the runway without a justification study.

Facility	Existing Condition	Recommendations	Triggers
	This is the third runway on the Airport and is not needed for crosswind coverage	**The FAA is unlikely to fund anything associated with this runway. Recommend that this runway be closed.**	When the pavement condition deteriorates to the point that Foreign Object Debris (FOD) becomes an issue and aircraft engines are likely to ingest it. This is likely to occur within the short-term planning period
	Current Critical Aircraft is the King Air (B-II). Future Critical Aircraft is the Falcon 50 (B-II)	Replace current Critical Aircraft with a Cirrus SR-22 an A-I aircraft. Future Critical Aircraft likely to remain the same, the Cirrus SR-22	Should the number of documented flights to and from this Runway for an ARC B-II aircraft exceed 500 annual operations change the Critical Aircraft at that time.
	Highest PCI was 69 lowest was 58 in 2017	Mill and overlay before the PCI reaches 41	Short-term planning period.
	The designation for the runway is likely incorrect	Check the runway designation again after the survey of runway ends is completed. Re-mark the runway ends to the correct designation	The next time the runway is rehabilitated.
Runway 18/36	Runway width is 100 feet with 25-foot wide shoulders	FAA recommended width for a B-II runway is 60 feet with 10-foot shoulders	Unlikely that FAA will fund the rehabilitation of the existing full width of the runway without a justification study.
Runway Lighting and Marking	Runways 14/32 and 6/24 have non-precision markings in good condition and are equipped with MIRL	No additional markings and lightings are anticipated within the planning period	As runway markings begin to fade, re-mark
Visual NAVAIDS	Runways 14/32 and 6/24 have 2-light PAPIs. There is a lighted windsock, but no segmented circle. None of the runway ends have REILs.	Recommend adding REILs to the ends of Runways 14/32 and 6/24. Recommend the addition of a segmented circle.	Next time either Runway is re-habilitated for the REILs. Within the short-term planning period for the segmented circle.

Facility	Existing Condition	Recommendations	Triggers
Taxiway A	Highest PCI was 69 lowest was 39 in 2017	Mill and overlay applicable portions, before the PCI reaches 41. Full depth reconstruction of those portions with a PCI at or below 41	Short-term planning period.
	Taxiway A1 leads directly from an Apron to a runway and does not meet Runway 14/32 at a right angle	Reposition or eliminate Taxiway A1	Within the short-term planning period
	Both ends of Taxiway A do not meet Runway 14/32 at right angles	Reconfigure both ends of Taxiway A to meet Runway 14/32 at a right angle	Within the short-term planning period
Taxiway B	Highest PCI was 57 lowest was 51 in 2017	Mill and overlay before the PCI reaches 41.	Short-term planning period.
	Taxiways B2 and B3 lead directly from the Apron to the runway	Reposition or eliminate Taxiways B2 and B3	Within the short-term planning period
	Taxiway B1 leads directly from the Apron to Runway 6 but does not enter the Runway at a right angle.	Reconfigure Taxiway B1 to meet Runway 6 at a right angle	Within the short-term planning period
Taxiway C	Highest PCI was 72 lowest was 57 in 2017	Mill and overlay before the PCI reaches 41.	Short-term planning period
	Taxiway C does not enter Runway 18 at a right angle.	Reconfigure Taxiway C to meet Runway 18 at a right angle	Within the short-term planning period
Taxiway D	Has PCIs of 46 and 52	Mill and overlay before the PCI reaches 41.	Short-term planning period
	Does not meet either Runway 14/32 or 6/24 at right angles	Reposition or eliminate Taxiway D	Short-term planning period
Taxiway Lighting and Marking	All taxiways are currently adequately and appropriately marked. Taxiway A has MITL.	Add LED MITL lights to Taxiway B	As taxiway markings begin to fade, re-mark
Run-up Pads	Runway 14/32 has no associated run-up pads	Add run-up pads at both ends of Taxiway A	As needed or requested
	Runway 6/24 has no associated run-up pads	Add run-up pads at both eds of Taxiway B	As needed or requested

Facility	Existing Condition	Recommendations	Triggers
Aircraft Aprons	PCI was 54 in 2017	When the next PCI report for AAF is released, likely in 2020, if the PCI is higher than 41 mill and overlay, if the PCI is at or below 41, full depth reconstruction	Short-term planning period
Itinerant Aircraft Tie-downs	Total of 22 itinerant tie-down spaces.	Number of itinerant aircraft tie-down spaces appears to be adequate	Enough for the planning period
Based Aircraft Tie-downs	Currently, no based aircraft are stored on the apron	No additional based aircraft tie-down spaced required	Enough for the planning period
T-Hangars	Currently, 40 T-hangars on the Airport	No additional T-hangars are anticipated to be needed during the planning period	Enough for the planning period
Conventional Hangars	Currently, there are five conventional hangars on the Airport. The FBO hangar houses itinerant aircraft. FBO states that there are requests for additional hangar storage for itinerant aircraft.	Currently need about two more parking spaces for the conventional hangars. Need about	As required to meet market demand
Vehicular Parking	Currently have 45 marked vehicular parking spaces on the Airport.	Currently need 2 additional parking spaces for the conventional hangars and about 60 parking spaces for the T-hangars.	Needed now and as additional facilities are added
Fuel Facilities	Airport has three 12,000-gallon tanks; one each for Jet A fuel and 100 LL fuel. The third tank is currently un-used	No additional fuel storage capacity is anticipated throughout the planning period	In the unlikely event that fuel deliveries increase to more than one per week, additional capacity should be added.
FBO Terminal Facilities	Currently there is approximately 2,000 square feet of FBO/General Aviation Terminal Area.	Anticipate that and additional 500 square feet is need today on busy days and that a total of an additional 909 square feet will be needed by 2038	As required to meet demand