Cecil Airport and Spaceport Master Plan Update

JUNE 2025

Prepared for

Cecil
Cecil Airport

Cecil
Cecil Spaceport

JAA
Jacksonville
Aviation
Authority

Prepared by

Kimley»Horn
Expect More. Experience Better.

Contents

Figures

Tables

Chapter 1. Introduction

The Cecil Airport and Spaceport (the Airport or VQQ) is a vital aerospace hub for northern Florida. Operations at the Airport and Spaceport have ripple effects throughout the National Airspace System.

1.1. Cecil Airport and Spaceport Overview

Located in northeastern Florida, 15 miles outside of Jacksonville, the Airport is home to multiple national Maintenance, Repair, and Overhaul (MRO) operators retrofitting and performing aircraft inspections for a variety of aircraft types. The Airport and Spaceport are owned and actively managed by the Jacksonville Aviation Authority (JAA). The Airport and Spaceport are co-located on the same land, residing on 6,082 acres of property. Spaceport launch operations at Cecil Spaceport are limited to horizontal launch vehicles. The Spaceport, at the time of this document, has not obtained license to operate as a re-entry Spaceport. Historically, private companies leverage the Spaceport for research and development.

To ensure that the Airport and Spaceport can continue serving the aerospace industry and economic development needs of the Jacksonville area, the JAA began preparing this Airport Master Plan Update (MPU) in late 2021. This update provides a strategic vision for the growth and operation of the Airport over a 20-year period and establishes an updated framework to help guide land use and development decisions on and near the Airport. The previous master plan update was published in 2008. Since this time, the operating environment has changed, requiring an update to this plan.

To identify the infrastructure improvements that may be needed in the future, this master plan update accounts for several changes in the aviation industry that have occurred over the last 10 years, including the COVID-19 pandemic, shifting business strategies, aircraft fleet changes, improved navigational technologies, a desire to right-size facilities to historical and forecast demand, and updated Federal Aviation Administration (FAA) programs and guidance. The goals of this MPU are to address those changes and ensure that regional aviation needs are met in a feasible and fiscally responsible manner. The update will also ensure that ongoing Airport development maintains the safe and efficient operations while being wholly compatible with the surrounding community and environment.

1.2. The Importance of Airports and Spaceports

Airports and Spaceports are vital infrastructure assets because they:

- Provides the necessary infrastructure, safety protocols, and logistical support to facilitate the successful deployment of spacecraft and payloads into space/orbit.
- Contribute to a productive national economy and international competitiveness.
- Support economic growth and vitality at the local, regional, and national levels through job creation, and business activity.
- Provide access to emergency and public safety services such as law enforcement, fire and rescue, and medical transport.
- Serve national defense by accommodating the various missions of all branches of the military.

1.3. Airport Master Planning

To preserve and maximize the public benefit generated by an individual airport, focused local planning is needed to reflect the market conditions and community at that specific airport. An airport master plan is a comprehensive study that evaluates an airport's existing facilities and current market trends, forecasts future activity levels, and assesses facility requirements to accommodate those needs. The results of the study provide the Airport sponsor, stakeholders, government officials, and regulatory agencies with an organized and rational plan for maintaining and developing aeronautical facilities over near-, mid-, and long-term planning horizons (typically 20 years), with the earlier periods providing more specific detail and the latter periods providing broader guidance. To respond to changing market conditions and regulatory programs, as well as changing local and regional priorities, master plans are typically updated every five to seven years. Ultimately, these plans support and justify investment in specific capital improvement projects at the Airport and Spaceport.

1.3.1. Study Goals and Objectives

The overarching goal of this MPU was to ensure the long-term operational sustainability of the Airport and Spaceport by meeting aerospace needs in a feasible and fiscally responsible manner in concert with the surrounding community and environment. To accomplish this goal, the following specific objectives were established prior to production of the overall document:

- Integrate other recent and related local area studies into the planning for the Airport.
- Obtain new aerial mapping and FAA Airports Geographic Information System (AGIS) safety-critical data, including airfield coordinates and elevations, navigational aid locations, and airspace obstacle information.
- Prepare realistic and FAA-approvable activity forecasts that include a regional system perspective of general aviation demands.
- Engage stakeholders, tenants, customers, and the public in the planning process to ensure their interests and concerns are taken into consideration.
- Identify an airport land use strategy that promotes safety and compatibility while balancing aviation and non-aeronautical uses.
- Create a comprehensive, contemporary, and implementable development plan for VQQ that satisfies future aviation needs, meets FAA design standards, and enhances safety with specific focuses on:
  - Landside access, including the capacity and future expansion of public parking facilities
  - Airfield geometry with consideration of the latest FAA design principles.
  - Evaluate the development potential of airport property for aviation and non-aviation uses.

1.3.2. Planning Process

The scope of work for this MPU was developed in cooperation with the FAA and the work elements are consistent with guidance provided in FAA Advisory Circular (AC) 150/5070-6B, *Airport Master Plans*. The planning process involves several key elements as identified in Figure 1-1. These elements include defining the study goals, inventorying existing conditions, forecasting future activity levels, identifying user needs and facility requirements, evaluating alternative development scenarios, selecting the preferred concept, and preparing an implementation/capital improvement plan (CIP). The results of the study are documented in a technical report and a set of Airport Layout Plan (ALP) drawings that depict the existing airport facilities and environs along with the proposed future improvements.

Figure 1-1 – Master Planning Process Overview

Source: Kimley-Horn, 2025

While coordination with the FAA occurs throughout the process, the two elements of a master plan study that require FAA approval are the activity forecasts and ALP drawings. These two items are used by the FAA to justify and support funding assistance for eligible projects under the FAA's Airport Improvement Program (AIP).

1.3.3. Stakeholder and Public Engagement

Master plans are local planning efforts that must address the needs of the airport sponsor (i.e., Jacksonville Aviation Authority), as well as the various users and stakeholders that rely on the Airport and its facilities. For that reason, and to ensure that future development is in concert in with the community and other local initiatives, outreach and public involvement was performed at several points during the study process.

1.3.3.1. Planning Advisory Committee (PAC)

A Planning Advisory Committee (PAC) was established to provide insight into Airport operational matters and local/regional activities and concerns. The PAC also functions as an information conduit to their respective organizations' constituencies. The PAC formally met twice during this study and were given the opportunity to review and comment on draft report chapters as they were prepared.

The PAC consisted of:

- JAX Port
- JAXUSA Partnership
- Florida State College at Jacksonville
- City of Jacksonville (Planning Department)
- JAX Chamber
- Public Affairs Agency/Citizen Group
- JEA
- City of Jacksonville – Office of Economic Development

1.3.3.1. Public Open House Workshops

In addition to the PAC meetings, three public informational workshops were held to present the study data and gain input from the general public and neighboring communities. The first meeting was held during the inventory of existing conditions and provided an introduction and overview of the study findings to that point, inclusive of preliminary forecast data. The second meeting was conducted during the selection of the preferred development concept to gain community support and confirm there will be no major public conflicts. At this meeting forecast, facility requirements and revised inventory data was presented to assist in the selection of the preferred development concept. The third meeting occurred toward the end of the study to present the final plan and implementation program; in addition, noise contours for both existing and future years were presented. To help coordinate the dissemination of study materials and keep the public engaged, a project website was maintained.

1.3.3.2. Technical Advisory Committee (TAC)

In addition to the PAC and public informational workshops, a TAC was established to engage active tenant feedback and concurrence on each major recommendation within this MPU. The TAC met four times throughout the development of this MPU. The first meeting was at the start of the study, introducing the purpose and use of this study. The second meeting discussed initial inventory data gathered. The third meeting presented forecast data and initial facility requirements alongside preliminary alternatives. The fourth and final TAC meeting was for reviewing and discussing the final plan and implementation program. From each of these meetings, data sets were refined and subsequently presented at PAC meetings and the public informational workshops.

The TAC consisted of:

- Jacksonville Aviation Authority
- Federal Aviation Administration
- Boeing
- United States Coast Guard
- Million Air Jacksonville (formerly owned and operated by Jacksonville JetPort)
- Space Florida
- Florida Army National Guard
- United States Navy
- Robinson Aviation, Inc.
- Fleet Readiness Center Southeast

1.4. Updates to Cecil Airport

The bulk of this MPU occurred between October 2021 and September 2023. With the FAA approval of the ALP drawing set occurring June 2025, this master plan report was finalized. Between September 2023 and June 2025, the following changes occurred at Cecil, which are included within the approved ALP drawing set, elements of the study narrative may have slight discrepancies when compared to the ALP, due to continued evolution and refinement of the future conditions planned.

- Boeing completed construction of their east side development and relocated their east side development and relocated their operations to the east side. This freed up several facilities on the west side, notably Buildings 825 and 1820. This impending transition was accounted for in the overall development of the Recommended Development Plan and therefore no changes were made to this document or recommendations.
- Cecil Spaceport updated their Launch Site Operators License (LSOL) and associated Explosive Hazard Site Plan (EHSP). These were approved by the FAA Office of Commercial Space Transportation (FAA/AST) December 2024. Changes to future Spaceport development are included in the approved ALP drawing set. No changes were made to the MPU.
- In May 2025, JAA approved a deal to attract aircraft manufacture, Otto Aviation, to Cecil Airport. This project is in the very early stages and will require an ALP update at a later time. Since the development will likely leverage existing building areas and/or occur in areas identified on the approved ALP as Future MRO Development which is compatible with this development, no changes were made to this MPU.
- Existing Helipads 1 and 2 were found to be noncompliant with current FAA design standards. The JAA is evaluating the need of these facilities and they will likely be decommissioned. The approved ALP drawing set denotes these helipads to be decommissioned in the future and future helipads are no longer planned for. This note relates to published helipads with the FAA.

Chapter 2. Inventory of Existing Conditions

2.1. Introduction

This chapter documents the existing facilities, operations, land use and zoning efforts by local jurisdictions, and other critical infrastructure supporting Cecil. The chapter further analyzes the existing environmental elements present at and around Cecil to support this summary of the Airport's and Spaceport's historical operating environment.

As used in this report, Cecil refers to the entire Cecil Airport facility, inclusive of the Cecil Spaceport. "Spaceport" refers to Cecil Spaceport facilities and aerospace operations. "Airport" refers to all other facilities and civil airport operations. Several Airport facilities are also used in support of aerospace operations (e.g., the airfield).

2.2. Background, Ownership, and Local Setting

Situated in northeast Florida, Cecil is a general aviation (GA) airport open to the public with a history as a military airfield. Cecil is located approximately 15 miles southwest from Jacksonville city center as depicted in Figure 2-1 and covers approximately 6,082 acres.[1] The airport elevation, defined as the highest point along the runways, is 79.6 feet. The Airport stands out from the other 128 public use airports in Florida due to a two-mile-long active runway and extensive maintenance, repair, and overhaul (MRO) facilities. Cecil has a Spaceport Territory with a license for Horizontal Takeoff Horizontal Launch (HTHL) operations.[2] Cecil resides in the Jacksonville metropolitan area, an active transportation hub, which has historically experienced annual growth year over year. Additionally, the geographic setting on the east coast of Florida provides an optimal space launch location for public and commercial space operations. Overall, Cecil is positioned within a market providing significant demand for both airport and spaceport facilities. The Jacksonville area is projected to see extended periods of growth into the future across a variety of sectors, and Cecil will continue to play a role in the region's continued growth.

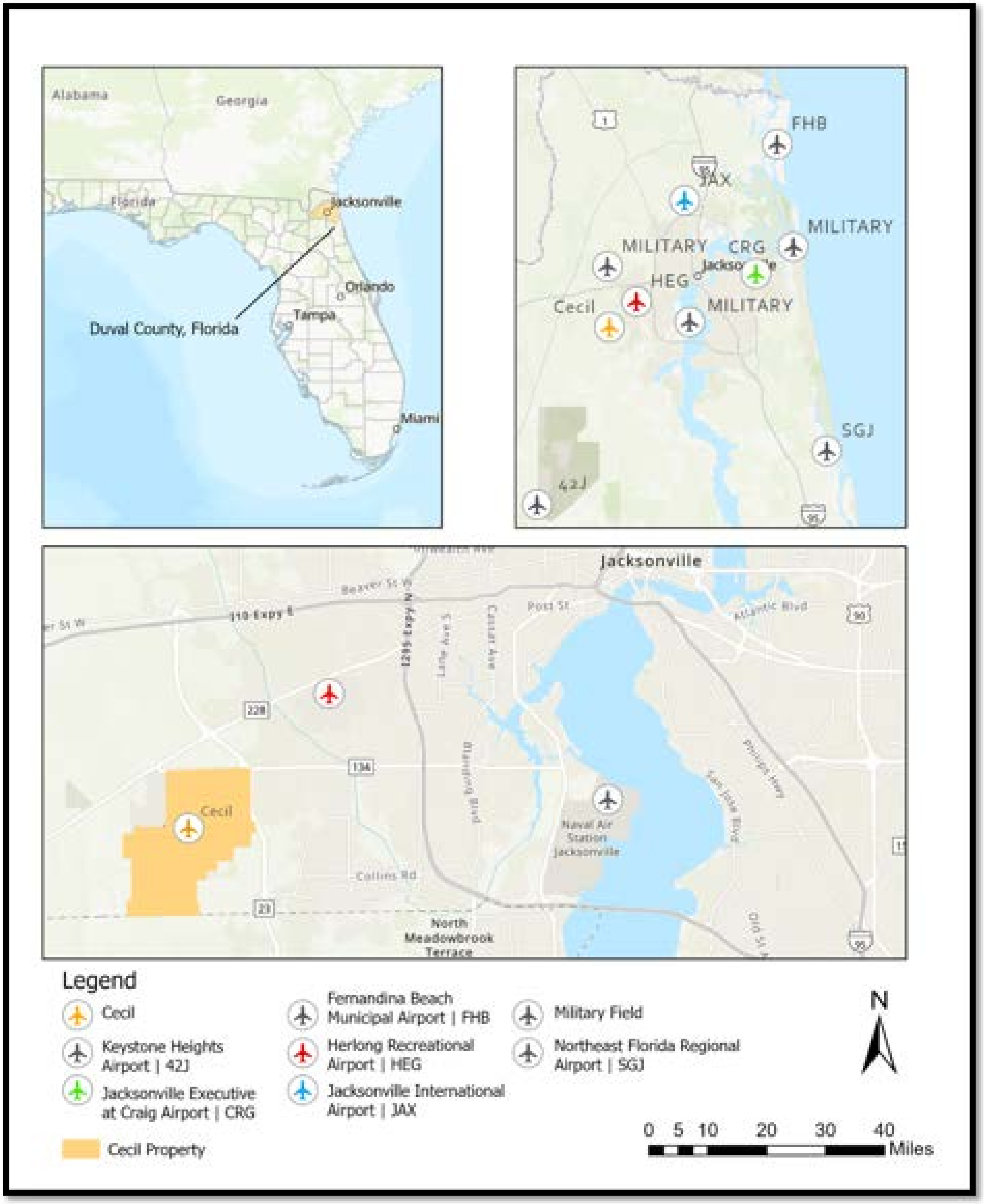
Cecil is owned and actively managed by the Jacksonville Aviation Authority (JAA). The JAA is an independent government agency that owns and operates four airports within the Jacksonville area, which are depicted in Figure 2-1 and discussed below.

---

[1] *Airport Data and Information Portal, Federal Aviation Administration, 2023.*

[2] *Florida Department of Transportation, 2035 FASP, 2017.*

Figure 2-1 – Location Map



Sources: Google Earth and Near Map, Satellite Imagery, Accessed December 2023; Kimley-Horn, 2025.

- Jacksonville International Airport (JAX): JAX is the JAA's commercial service airport within the region providing commercial flights to millions of passengers each year. JAX also supports commercial air cargo operations and has the Florida Air National Guard 125th Fighter Wing stationed on field, operating a fleet of F-15 military fighter aircraft.
- Jacksonville Executive at Craig Airport (CRG): CRG is a GA airport primarily serving corporate aviation operators and flight training at its airfield near the suburban business centers east of downtown Jacksonville.
- Herlong Recreational Airport (HEG): HEG is the JAA's main recreation GA airport located to the west of Jacksonville and is home to glider, hot air balloon, leisure, and sport aviation operations.
- Cecil Airport (VQQ): VQQ is positioned to become the regions primary aircraft MRO airport. Cecil also maintains a Federal Aviation Administration (FAA) Spaceport Launch Site license for HTHL vehicles and accommodates many military operations.

Within the Jacksonville area, there are two military bases and one supporting military airstrip:

- Jacksonville Naval Air Station Towers Field (NIP or NAVJAX): To the east of Cecil, NIP is a strategic, active military airfield for both the U.S. Navy and its allies to base and operate military aerospace assets.
- Mayport Naval Station (NRB): The military airfield of NRB is located northeast of downtown Jacksonville. NRB has one active runway and is primarily utilized by the U.S. Navy for repair and basing of U.S. Navy assets via the military port supplementing the airfield, which can harbor aircraft carrier-sized vessels.
- Whitehouse Naval Outlying Field (NEH): Military field with minimal supporting facilities that is owned and operated by the U.S. Navy. The airstrip is used to supplement the other U.S. Navy bases within the area. NEH is northwest of Cecil.

2.2.1. Airport Vision Statement and Strategic Goal

Since taking ownership of the facility in 1999, the JAA has been making strides to realize their vision for Cecil within the local region. Envisioned as the premier GA hub for maintenance and leisure civil aviation traffic of northeast Florida, Cecil continues to push toward that goal each year. With constant capital developments, expanding facilities, and the ability to serve a diverse mix of aircraft and aerospace operations, Cecil is well on its way to realizing the vision of the JAA. The JAA has laid out a three-tiered approach to the future:[3]

- **To sustain** and grow existing businesses at Cecil
- **To attract** new tenants, including business adjacencies
- **To develop** Cecil Airport as a logistics center

2.2.2. Airport History

Originally built as a U.S. Navy fleet training base in 1941, Cecil Field was named after U.S. Navy pilot Commander Henry Barton Cecil. The base was recognized as an important strategic airfield for the U.S. Military and upgraded from a training facility to a U.S. Navy master jet base that was operational from

---

[3] *Cecil Field and Jacksonville Aviation Authority, Development Strategy, 2010.*

1952 to 1999.[4] At the tail end of the operational period, the U.S. Base Realignment and Closure (BRAC) Commission recommended Cecil Field to be decommissioned. From 1993 to 1999, the U.S. Navy worked to transition the field's ownership to the JAA and the City of Jacksonville. Celebrating 20 years as a civilian public-use airport in 2019, Cecil Airport, rebranded from Cecil Field in 2011, has pushed forward as a civil aviation airport serving the entire Northeast Florida region.[4]

Between 2002 and 2021, thousands of square feet in new hangar space were added, along with expansive MRO and aircraft maintenance facilities, and JAA secured the East Coast's first FAA Commercial Space Launch license for HTHL vehicles for Cecil Spaceport. In recent years (2020-2021), the JAA constructed a new Airport Traffic Control Tower (ATCT) alongside an advanced mission control facility to support both Airport and Spaceport operations. Estimated to be complete in 2023, Boeing has expanded its MRO presence at the Airport, constructing a new MRO facility on the northeast portion of the airfield.

2.2.3. Capital Improvement and Grant History

The FAA, through its Airport Improvement Program (AIP), awards grants for the planning and development of airports within the National Plan for Integrated Airport Systems (NPIAS). Additional grants are awarded by the state through Florida Department of Transportation (FDOT) programs. As a BRAC airport, funding is also available through the FAA Military Airport Program (MAP) grant funding. MAP funding consists of separate AIP grant dollars set aside by the FAA to fund public-use projects at a total of 15 airports that are, or were, previously classified as military bases. This program only qualifies three GA airports, including Cecil Airport, and the remaining 12 are commercial service. All significant public grants awarded to Cecil are summarized in Table 2-1.

---

[4] *Cecil Airport, Airport History webpage, Accessed 2021.*

Table 2-1 – Cecil Capital Grant Summary

Grant Number	Fiscal Year	Project Description	Total Amount
Federal Aviation Administration AIP Funding			
023	2021	Update Airport Master Plan or Study	$751,447
021	2019	Rehabilitate Runway and Install Airfield Guidance Signs	$1,254,614
020	2016	Runway 9R/27L and 18L/36R Guidance System(s)	$496,167
019	2014	Construct Taxiway E and E1	$3,731,070
017	2013	Improve Airport Drainage	$1,016,918
018	2013	Install Perimeter Fencing	$1,083,020
016	2012	Complete Wildlife Hazard Assessment	$44,847
020	2011	Improve Taxiway Drainage and Rehabilitate Taxiway D	$379,994
014	2010	Rehabilitate Runway 18L/36R	$4,785,415
013	2009	Rehabilitate Runway 9R/27L	$823,306
011	2008	Rehabilitate Terminal Building (Americans with Disabilities Act [ADA])	$275,050
012	2008	Extend Taxiway D and Rehabilitate Access Road and Terminal Parking Lot	$2,267,337
010	2007	Improve Drainage and Rehabilitate Terminal and Building	$4,017,900
008	2006	Construct Building (Rehabilitate H-67 Roof)	$1,945,712
009	2006	Install Perimeter Fencing and Rehabilitate Fire Main Building and Taxiway	$1,443,251
007	2005	Improve Drainage; Rehabilitate ATCT and Buildings 313, 312, and Fireloop; Demolish Building 214; Rehabilitate Taxiway Lights on B, C, and D; and Remove Obstruction (Refuelers)	$3,153,730
005	2004	Install Misc. NAVAIDs, Install Runway 9R/27L and 18L/36R Lighting, and Rehabilitate Taxiway Lighting and Buildings	$2,767,328
004	2003	Rehabilitate Runway 18L/36R Lighting, Rehabilitate Terminal Building, and Construct Apron	$4,141,402
003	2002	Rehabilitate Runway Lighting and Building and Install Guidance Signage	$2,568,965
002	2001	Rehabilitate Airfield Facilities	$2,801,300
		Subtotal	$39,748,773

Grant Number	Fiscal Year	Project Description	Total Amount
Florida Department of Transportation ACIP Funding			
4440-1	2022	Freight Logistics and Passenger Operation Program – Runway 18R/36L Rehabilitation	$5,625,000
N/A	2021	Approach Road Expansion	$4,000,000
440047	2017	Runway 9L/27R Design and Rehabilitation	$1,200,000
440040	2017	Aircraft Rescue and Fire Fighting (ARFF) Facility Design and Construction	$2,039,391
434747	2016 - 2017	Airport Drainage Design and Construction	$2,990,106
438740	2016 – 2017	Cecil Field Eastside Utility Corridor Phase I Design and Construction	$3,125,000
436699	2016	New Precision Approach Path Indicator (PAPI) and Runway End Identifier Lights (REILs) on Runway 18L/36R and 9R/27L	$100,000
433709	2014 - 2015	Hangar 955 Design and Construction	$6,500,000
425466	2014	Utilities and Infrastructure for Fire Main System Design and Rehabilitation	$269,000
433710	2014	ATCT Design and Construction	$3,500,000
434751	2014	Hangar 67 Tail Slot Modification Design and Construction	$500,000
433944	2013 - 2014	Instrument Landing System (ILS) Purchase and Installation	$1,200,000
427531	2013 – 2014	Airport Drainage Design and Construction	$411,398
432024	2013	Hangar 935 EDTF Design and Construction	$7,000,000
432024	2013	Maintenance Hangar 935 Design and Construction	$20,000,000
423982	2013	Airport Capacity Project	$2,500,000
425469	2012 -2015	Aviation Capacity Project	$4,340,528
427524	2012 – 2014	Roof Repairs on Buildings 67, 1823, and 824	$3,426,100
432143	2012	Cecil Spaceport Launch Sight Operator Licensing Modification	$178,000
432086	2012	Environmental Assessment Modification for Cecil Space Port Concept "Y" Vehicle	$161,546
425880	2011	Aviation Preservation Project	$2,070,000
425170	2011	Aviation Capacity Project	$6,000,000
429098	2011	Aviation Revenue and Operational Improvements	$3,008,046
		Subtotal	$80,144,115
		Total	**$158,890,214**

Sources: FAA, Airport Improvement Program, 2001 – 2021; FDOT, JACIP Online 6-Year Work Program Report, 2021.

2.3. Past Studies and Plans

JAA has undertaken numerous studies to understand the position and future planning of the Airport and Spaceport facilities. Each major study is summarized below, including the scope and timelines presented in each:

- **2008 Airport Master Plan:** The 2008 Airport Master Plan was Cecil's first master plan while being fully open to the public. The master plan, similar to this document, had a 20-year planning horizon touching on topics such as the Airport's existing inventory and forecasting and providing an FAA-approved Airport Layout Plan (ALP) drawing set.
- **2012 Spaceport Master Plan:** After obtaining a Commercial Launch Site Operator License through the FAA's Office of Commercial Space Transportation (FAA/AST) in January 2010, the 2012 Spaceport Master Plan focused on the anticipated demands for the Spaceport. The plan documented basic elements needed for a Spaceport to become operationally useful and a description of a strategic business plan that charted future success over a 20-year timeframe.
- **2021 Spaceport Development Area Plan:** The purpose of the plan was to further elaborate on the facilities needed at the Spaceport and adjust for the now-known variables that the 2012 Spaceport Master Plan had not predicted. The plan evaluated potential Spaceport development areas with various layout options presented and prioritized development based on importance to a functional Spaceport. Additionally, the plan prepared a conceptual development aerospace area to supplement the overall report.

2.4. Airport Role

The National Airspace System (NAS) is the overall environment for the safe operation of aircraft that are subject to the FAA's jurisdiction.[5] Included in the NAS are system components used and operated by the Department of Defense (DoD). Understanding the Airport's individual role within the greater system helps assess existing demand and plan for future improvements. This section outlines Cecil's roles as designated by the NPIAS, FDOT, and JAA.

2.4.1. National Plan of Integrated Airport Systems (NPIAS)

Due to the vast network of public-use airports in the U.S., the federal government is responsible for providing development and funding guidance for the country's airport system to meet the growing demand for civil aviation. Pursuant to Title 49 United States Code (U.S.C.), Section 47103, the FAA established the NPIAS to assist in programming federal funds that support aviation development.[6] Last updated in 2021 for the planning period of 2021 to 2025, the NPIAS identifies 3,304 public-use airports that are considered significant to national air transportation and are therefore eligible to receive grants under the FAA's AIP.

In the most recent NPIAS, Cecil is identified as a public-use GA Regional airport. The GA categorization is derived from the Airport's activity, including no regularly scheduled commercial flights and servicing a wide range of GA, military, and civil maintenance operations. The Regional designation comes from the number and type of based aircraft at the Airport and the volume of flights. The Regional designation is the

---

[5] *FAA, Title 32 Code of Federal Regulations § 245.5, 2006.*

[6] *FAA, National Plan of Integrated Airport Systems (NPIAS) Report, 2021.*

second highest designation within this category, with National being the highest. The designation of Regional was not forecasted to change in the NPIAS.

2.4.2. Florida Department of Transportation (FDOT)

FDOT has established the FDOT Aviation Office which ensures Florida maintains a cohesive and efficient airport system across the state. Major activities of this office include aviation system development, management of the state's aviation grant program, airport regulation, intergovernmental coordination, aviation outreach, and aviation emergency operations management.[7] FDOT works to ensure that airports in the state are supported in a variety of ways. One example is the "United We Stand" specialized license plate Florida drivers can purchase, whose funds are used to conduct aviation security studies across the state to maximize safety within the transportation network. FDOT also funds statewide studies within their aviation system development sector to outline the state's vision for individual airports and assess individual infrastructure needs.

2.4.2.1. Florida Aviation System Plan (FASP)

FASP is an effort by the FDOT Aviation Office to outline public-use airports across the state to direct specific state-funded development dollars. To be incorporated in the FASP, airports must follow *FDOT Procedure 725-040-210-f, New Public Airport Funding Eligibility*. The FASP 2035 identifies 129 airports across the Florida aviation system.[8] FASP 2035 utilizes existing NPIAS classifications of airports.

2.4.2.2. Spaceport Integration

Additional support has been provided to Cecil by the state because of its designation as a Spaceport Territory in 2012 through State House Bill 59.[9] This designation incorporates Cecil into system plans coordinated by FDOT Aviation and Spaceports offices, in partnership with Space Florida. The Florida Transportation Plan (FTP) makes a clear distinction between aviation and aerospace operations. The plan includes mapping capital development efforts, particularly through the Spaceport Improvement Program (SIP). Cecil Spaceport and Cape Canaveral Spaceport are the only listed spaceports in the FTP with independent approved master plans. This further identifies the importance for Cecil Spaceport on a state level and ensures that potential future funding will be provided to maintain the Spaceport's facilities, which are separate from the Airport's. This funding is predicted to have areas of overlap benefiting the entirety of Cecil, such as the financial support granted to Cecil by the Department of Economic Opportunity in October 2021 to construct Approach Road, which is intended to service future Boeing facilities and be further developed as needed to provide more efficient access to the Spaceport development areas.

2.4.3. Jacksonville Aviation Authority (JAA)

The JAA has identified the role of Cecil as a local hub for aircraft MRO and maintenance facilities. The runway, taxiway, apron, and hangar facilities accommodate a variety of aircraft types including small GA, military aircraft, regional aircraft, and wide-body aircraft. Uniquely, Cecil is licensed for HTHL operations and provides facilities to accommodate future demand. FDOT published an economic impact study for the JAA in 2019 that reported Cecil having an economic impact of $3 billion for the Northeast Florida region,

---

[7] *FDOT, Aviation Office webpage, Accessed 2021.*
[8] *FDOT, 2035 FASP, 2017.*
[9] *Space Florida, Florida Spaceport System Plan 2018, 2018.*

representing half of the total economic impact of the entire JAA at $6 billion.[10] Additionally, the report highlighted that Cecil has created over 11,000 jobs with expectations to grow in the near future.

2.5. Airside Facilities

The term “airside” refers to the Aircraft Movement Area at Cecil. Aircraft Movement Areas consist of the runway and taxiway systems and are the controlled movement areas by the ATCT. These areas define “airside” within this report and fully encompass the infrastructure directly used by all aircraft or HTHL vehicles at Cecil. Figure 2-2 summarizes major airside facilities.

The Airport has two sets of active parallel runways. A taxiway/taxilane system connects all areas of the airfield and runs the full length of the existing runways. Navigational Aids (NAVAIDs) have been installed on primary and secondary runways and the taxiway system to allow for efficient operations during reduced visibility conditions. The FAA has provided guidance when designing critical infrastructure. Key design criteria regarding various pieces of infrastructure at an airport are located within the FAA Advisory Circular (AC) 150/5300-13B, *Airport Design (AC 5300-13B)*. This section will outline the existing airside facilities and summarize existing geometry and design standards for the taxiway and runway systems.

Figure 2-2 – Airside Facilities

Source: Kimley-Horn, 2025.

---

[10] *FDOT, Florida Statewide Economic Impact Study, 2019.*

2.5.1. Runways

Of the four active runways at the Airport, Runway 18L/36R is the only runway historically eligible for any federal funding as of 2023. Federal funding is only available for the northern 8,000 feet of Runway 18L/36R (approximately three quarters of the existing runway length). The remaining length of Runway 18L/36R, in addition to the three remaining active runways, has been maintained through state and local funds. Both sets of parallel runways are orientated in a north-south and east-west configuration and can provide simultaneous, same-direction operations during visual flight conditions for all aircraft using the Airport. A summary of runway geometry, associated airfield lighting, and other critical elements is located in Table 2-2.

Table 2-2 – Runway Details

Runway Component	Runway 18L/36R		Runway 18R/36L		Runway 9R/27L		Runway 9L/27R	
	18L	36R	18R	36L	9R	27L	9L	27R
Runway Length	12,503’		8,001’		8,003’		4,439’	
Runway Width	200’		200’		200’		200’	
Paved Runway Shoulder Width	None	None	None	None	None	None	None	None
Pavement Type	Asphalt and Concrete		Asphalt and Concrete		Asphalt and Concrete		Asphalt and Concrete	
Pavement Markings	Precision	Precision	Precision	Non-Precision	Precision	Non-Precision	Basic	Basic
Pavement Condition	Good	Good	Fair	Fair	Fair	Fair	Good	Good
Edge Lights	High-Intensity Runway Lights (HIRLs)		None		HIRLs		None	
Runway Effective Gradient	0.06%		0.11%		0.19%		0.17%	
MALSR[1]	None	Yes	None	None	Yes	None	None	None
Runway End Identifier Lights (REILs)	Yes	None	None	None	None	Yes	None	None
Visual Approach Aids	PAPI 4-Box	PAPI 4-Box	None	None	PAPI 4-Box	PAPI 4-Box	None	None
Runway Centerline to Hold Position	250’		250’		250’		250’	
Runway Centerline to Parallel Taxiway Centerline	1,200’ to Taxiway A		500’ to Taxiway A		1,200’ to Taxiway B		500’ to Taxiway B	
Runway Centerline to Parallel Runway Centerline	700’		700’		700’		700’	

Notes: 1) Medium Intensity Approach Light System with Runway Alignment Indicator Lights (MALSR).

Sources: FAA, Airport Data and Information Portal, 2021; FAA, VQQ - 5010 Airport Master Record, 2021; JAA, Airport Layout Plan Set, 2008

2.5.1.1. Runway 18L/36R

The Airport's main runway aligned in a north-south orientation, designated Runway 18L/36R, is a 12,503-foot by 200-foot runway. Runway 18L/36R is the runway designated to accommodate Spaceport operations. Runway 18L/36R is paved with concrete and asphalt and rated in good condition.[11] Precision runway markings are in good condition along the runway. The runway is serviced via a full-length parallel taxiway, Taxiway A, located west of Runway 18R/36L. The taxiway provides direct access to Runway 18L/36R south of Runway 18R/36L; otherwise, aircraft using Runway 18L/36R will need to cross the parallel runway (Runway 18R/36L) to reach Taxiway A. Runway 18L/36R has HIRLs installed to assist pilots during night operations or instrument meteorological conditions. Runway 18L is equipped with REILs. A 4-box PAPI system is located to the left of each runway approach end. Runway 36R has an ILS installed and in working condition. The Runway Design Code (RDC) is a D-IV-2400. Additional runway dimensions and criteria are located in Table 2-2.

2.5.1.2. Runway 18R/36L

Runway 18R/36L is an 8,002-foot long by 200-foot-wide paved runway, located west of and parallel to Runway 18L/36R. The recent pavement inspection for the asphalt and concrete runway determined the pavement condition to be rated at very poor. FDOT is funding a pavement rehabilitation project which will begin in 2022 with the adjusted scope to rehabilitate only the first 1,000-foot keel section (50 feet wide, 25 feet on either side of the runway centerline) for Runway 18R/36L, on both ends. The runway is serviced by a full-length parallel taxiway, Taxiway A, to the west. Runway 36L has non-precision markings in fair condition and Runway 18R has precision markings in fair condition. There are no lighting systems installed on Runway 18R/36L. The RDC is a D-IV-VIS. Additional dimensions are located in Table 2-2.

2.5.1.3. Runway 9R/27L

Runway 9R/27L is oriented east-west, measures 8,003 feet long by 200 feet wide, and intersects Runway 18L/36R and Runway 18R/36L. Runway 9R/27L is a paved asphalt and concrete runway in fair condition. The runway is supported by full-length Taxiway B to the north of 9L/27R, requiring aircraft utilizing Runway 9R/27L to cross the parallel runway to access Taxiway B. The Runway 9R end has precision markings in fair condition with the Runway 27L end having non-precision markings in fair condition. Runway 9R/27L has HIRL and REILs are present on the Runway 27L end. The historic RDC is a D-IV-4000. Additional dimensions are located in Table 2-2.

2.5.1.4. Runway 9L/27R

At 4,439 feet long by 200 feet wide, Runway 9L/27R is Cecil's shortest runway. Historically, the runway was a full-length parallel to Runway 9R/27L; however, due to funding constraints, the runway was shortened by approximately 3,700 feet. Due to the decreased length of the runway, activity on the runway has been limited to GA training use. The pavement east of the approach end of Runway 27R is decommissioned and marked as a blast pad. The runway also has an operational restriction to fixed-wing aircraft with a maximum weight of 12,500 pounds. The active portion of the runway's asphalt and concrete pavement was reported in good condition. The previous ALP and Master Plan identified the runway with an RDC of D-IV-VIS; it should be noted that the runway designation was determined when the runway was at its prior length of 8,000 feet. At the conclusion of the first Technical Advisory Committee (TAC) meeting, it was established the runway's RDC is B-II-VIS. Additional dimensions are located in Table 2-2.

---

[11] *FDOT, Statewide Airfield Pavement Management Program, 2021*

2.5.2. Runway Design Standards Overview

Airport design standards are defined in FAA AC 150/5300-13B. The standards relate to various airport infrastructure and their functions and cover a wide range of size and performance characteristics of aircraft anticipated to use an airport. Airport sponsors that accept federal AIP grants are required to adhere to FAA design standards or obtain approval for any modification of standards (MOS).

Design criteria directly associated with the runway system and its immediate area(s) are described below. Dimensions for these areas are included in Table 2-3 and Table 2-4. While a summary of the Airport's existing design standards is presented in the tables below, a full analysis of required dimensional criteria associated with the Airport's existing and future cases are presented in the *Facility Requirements* Chapter (Chapter 4) of this Master Plan.

- **Runway Safety Area (RSA):** The RSA is an area immediately surrounding the active runway that is designed to reduce aircraft damage in the extent of a runway excursion, undershoot, or overshoot. The dimensions are centered on the runway centerline and must be cleared, graded, and free of hazardous surface variations. Additionally, the RSA must be free of objects, except objects exempt from this rule directly supporting aircraft air navigation or ground maneuvering. The FAA does not allow the RSA to have an MOS.
- **Runway Object Free Area (ROFA):** The ROFA is an area centered on the active runway centerline that is required to be clear of above-ground obstacles to maintain safe aircraft operations. Exemptions are made for critical navigation equipment and taxiing or holding aircraft.
- **Runway Obstacle Free Zone (ROFZ):** The ROFZ, centered on the runway centerline, is a three-dimensional volume of airspace running along the active runway and extending 200 feet beyond each end of the runway. The ROFZ must be clear of all objects, including aircraft, with the exemption of critical NAVAID equipment that must be located within the ROFZ.
- **Runway Protection Zone (RPZ):** The RPZ is a trapezoidal area extending beyond, and prior to, the active runway centerline. The RPZ's primary purpose is to enhance the safety within the immediate approach and departure end of the runway. This zone protects not only the aircraft operating within, but also any person or property on the ground. It is strongly recommended by the FAA that the Airport maintain ownership of the land located within the RPZ. Unlike other listed areas, the RPZ bases its dimensions off visibility minimums for the runway. For this reason, RPZ dimensions are listed in Table 2-4.

Table 2-3 – Runway Design Criteria

Design Standard	Runway							
	18L	36R	18R	36L	9R	27L	9L	27R
Runway Centerline to Aircraft Parking Area	1,450’		750’		1,550’		830’	
Runway Centerline to Helicopter Touchdown Pad	N/A		N/A		1,000’		300’	
RSA Width	500’		500’		500’		150’	
RSA Length Beyond Departure End	1,000’	1,000’	1,000’	1,000’	1,000’	1,000’	300’	300‘
RSA Length Prior to Landing Threshold	600’	600’	1,000’	1,000’	600’	600’	300’	300’
ROFA Width	800’		800’		800’		800’	
ROFA Length Beyond Departure End	1,000’	1,000’	1,000’	1,000’	1,000’	1,000’	300’	300’
ROFA Length Prior to Threshold	600’	600’	1,000’	1,000’	600’	600’	300’	300’
ROFZ Width	400’		400’		400’		250’	
ROFZ Length Beyond Runway End	200’	200’	200’	200’	200’	200’	200’	200’

Sources: FAA, 150/5300-13B Airport Design, 2022; Jacksonville Aviation Authority, 2021; FAA 150/5390-2C Heliport Design, 2012.

Table 2-4 – Runway Protection Zones

Dimension	Runway							
	18L	36R	18R	36L	9R	27L	9L	27R
Approach Runway Protection Zone								
Length	1,700’	1,700’	1,700’	1,700’	1,700’	1,700’	1,000’	1,000’
Inner Width	500’	500’	500’	500’	500’	500’	500’	500’
Outer Width	1,010’	1,010’	1,010’	1,010’	1,010’	1,010’	700’	700’
Acres	29.456	29.45	29.456	29.456	29.456	29.456	13.770	13.770
Departure Runway Protection Zone								
Length	1,700’	1,700’	1,700’	1,700’	1,700’	1,700’	1,000’	1,000’
Inner Width	500’	500’	500’	500’	500’	500’	500’	500’
Outer Width	1,010’	1,010’	1,010’	1,010’	1,010’	1,010’	700’	700’
Acres	29.456	29.456	29.456	29.456	29.456	29.456	13.770	13.770

Sources: FAA, 150/5300-13B, Change 1, Airport Design, 2022; Jacksonville Aviation Authority, 2021.

2.5.3. Heliports

The Airport has two marked heliports: Heliport 1 on Taxiway B3 and Heliport 2 on Taxiway B2. The heliports are adjacent to the west ramp area which is the apron from which the U.S. Coast Guard (USCG) and Florida Army National Guard (FLARNG) operate. These tenants are the primary rotorcraft operators at the Airport. Heliports have unique design standards attributed to the areas of use due to the rotor wash safety areas, as documented within Table 2-5. Helicopters are more maneuverable than fixed-wing aircraft and will often utilize the same taxiway system for taxiing, in which the helicopter follows a taxi instruction by the ATCT while hovering above the taxiway. Helicopters will also frequently land and takeoff at the intersection of Taxiways B and M. This is not a designated heliport.

Table 2-5 – Heliport Design Criteria

Design Standards	Heliports	
	H1	H2
Touchdown and Liftoff Area (TLOF)	40’ x 40’	40’ x 40’
Final Approach and Takeoff Area (FATO)	70’ x 70’	70’ x 70’
Heliport Safety Area	90’ x 90’	90’ x 90’
Heliport Protection Zone (HPZ) – Length	280’	280’
HPZ – Inner Width	70’	70’
HPZ – Outer Width	200’	200’

Source: FAA, AC 150/5390-2C, 2012.

2.5.4. Taxiway System

The taxiway system at the Airport includes a full-length parallel taxiway supporting each set of parallel runways, one taxilane running parallel to both the north apron area and the west apron areas, and a taxiway on the northeast side of the airfield. Taxiway A, aligned north-south, supports Runway 18L/36R and parallel Runway 18R/36L. Taxiway B, aligned east-west, supports Runway 9R/27L and parallel Runway 9L/27R. Each full-length taxiway has connector taxiways to/from the runways and apron areas. Table 2-6 summarizes the taxiway system. A connector Taxiway B2 from Taxiway B crosses both runways and extends further south beyond Runway 9R/27L to provide direct access to the hot cargo area and future rocket engine testing area. The portion of Taxiway B2 south of Runway 9R/27L is referred to as Taxiway B2 South by ATC. Taxiway B2 South is within the movement area; however, ATC and airport operations are working to modify this section to be non-movement area.

Table 2-6 – Taxiway Geometry

Taxiway / Taxilane	Type	Taxiway Width (feet)	Lighting
Taxiways			
A	Parallel	75	MITL
A1	Runway Entrance/Exit, Connector, and Crossover	150	MITL
A2	Runway Exit, Connector, and Crossover	75	MITL
A3	Runway Exit, Connector, and Crossover	75	MITL
A4	Runway Entrance/Exit, Connector, and Crossover	150	MITL
A5	Runway Entrance/Exit	150	MITL
B	Parallel	75	MITL
B1	Runway Entrance/Exit	150	MITL
B2	Runway Exit, Connector, and Crossover	75	MITL
B3	Runway Entrance/Exit, Connector, and Crossover	150	MITL
E	Parallel Taxiway	75	Reflectors
E1	Runway Entrance/Exit	75	Reflectors
M	Connector	75	MITL
Taxilanes			
C	Partial Parallel/Apron Edge	75	MITL
D	Partial Parallel/Apron Edge	75	MITL
D2	Apron Connector	75	MITL
D3	Apron Connector	75	MITL

Sources: FAA, VQQ Airport Diagram, 2021; Jacksonville Aviation Authority, 2021

Taxilane D is on the eastern edge of the north apron and runs parallel with the north apron and Taxiway A, connecting with the Taxiway A and perpendicular Taxiway B. Taxilane D was physically extended to the north in 2008 to service future development. With completion of Hangar 1005, the northerly portion of Taxilane D was opened for use. Taxilane C is on the southern edge of the west apron area and runs parallel with Taxiway B servicing the entire west apron and connects to Taxiway B. Taxiway E extends north-east from the approach end of Runway 18L and has reflectors along its full length. Taxiway E will serve the future Boeing facility scheduled to open in 2024. Taxiway M provides access from Taxiway B to the FLARNG area on the west ramp. For a map of the taxiway system, refer to Figure 2-2.

2.5.5. Taxiway Design Standards Overview

The Taxiway Design Group (TDG) is defined in FAA AC 150/5300-13B and allows planners the ability to design taxiways and taxilanes based on the dimensions of the critical aircraft's main gear to main gear width and cockpit to main gear width. TDGs range from TDG 1 to TDG 7. The TDG classification also allows planners and airport owners to tailor individual taxiways to the aircraft using them. For example, areas that are only accessed by smaller GA aircraft do not need the same taxiway requirements as larger, mainline air carrier aircraft. The TDG helps determine right-size infrastructure to those aircraft using the facility. The ARC noted in the 2008 ALP was a Boeing 767-400, which is a TDG 5 aircraft.

Similar to runways, taxiways and taxilanes have safety areas that are based on the critical aircraft. These dimensions are centered on the taxiway or taxilane centerline and are meant to facilitate safe and efficient operations. Taxiway design standards, such as Taxiway Safety Area (TSA) and Taxiway Object Free Area (TOFA) are determined through the critical aircraft's Aircraft Design Group (ADG).

Design criteria directly associated with the existing taxiway system are listed below. Dimensions for these areas are included in Table 2-6. As noted above, the TDG is a newer classification; therefore, previous taxiways projects were typically designed to ADG IV aircraft. As part of this airport Master Plan Update, appropriate design criteria will be determined for each taxiway (see Chapter 4).

- **Taxiway Safety Area (TSA)** – The TSA is defined by the area around a taxiway that encompasses an aircraft. Typically, this area will encompass the entire width of the aircraft, including wingtips. This area must be free of all objects apart from specific NAVAID equipment. The TSA is also applicable to taxilanes.
- **Taxiway Edge Safety Margin (TESM)** – The TESM is an area that is based from the outer edge of the landing gear with its nose gear and the taxiway pavement edges. Providing the TESM space for potential aircraft sway ensures safety during poor weather conditions or potential pilot error.
- **Taxiway Object Free Area (TOFA)** – The TOFA is an area designed to provide spacing between an active taxiway and the nearest fixed or movable object. The TOFA should be clear of all objects, with the exemption of critical NAVAID equipment.
- **Taxilane Object Free Area (TLOFA)** – The TLOFA is an area designed to provide spacing between an active taxilane and the nearest fixed or movable object, typically a hangar or a parked aircraft. No objects, except critical equipment for navigation purposes, are allowed within the area.
- **Distance to** – Distance to standards are an essential part of taxiway design and help planners ensure that operations can take place independent of other aircraft operations and airport infrastructure.

Except for Taxiway M, all taxiways meet ADG IV and TDG 5 standards. A security gate traverses Taxiway M to secure the USCG and FLARNG apron areas to prevent inadvertent civilian access. This gate limits the wingspan to ADG I aircraft (assuming taxiway separation standards).

Taxilane C also features a security gate which limits larger wingspan aircraft from using the taxilane to access the USCG and FLARNG aprons. This gate is used for enhanced security and is located on the lease boundary. To provide adequate taxilane wingtip clearance separations, aircraft wingspans on Taxilane C accessing the security gate are limited to approximately 64 feet.

Taxilanes D2 and D3 provide access to Flightstar Building 935 and Logistics Services International (LSI) Buildings 915 and 955, respectively. Taxilane D2 meets ADG IV standards. Taxilane D3 is limited to aircraft with approximately 140-foot wingspans.

2.5.6. Airfield Pavement

Airfield pavement represents a significant capital investment at airports across the country. Pavement condition directly impacts the safety and efficiency of operations at an airport. As previously mentioned, the Airport has not historically received FAA AIP funding for runway projects outside of the northern 8,000 feet of Runway 18L/36R. For this reason, pavement must be maintained using state and local funds. FDOT recently conducted a pavement survey in 2021 as part of its statewide Airfield Pavement Management Program (APMP). The pavement survey was an in-depth analysis of existing pavement conditions. The condition report was accompanied by a rehabilitation plan that outlines capital cost estimates for replacement over a 20-year timeline. Cecil is responsible for day-to-day pavement management such as fixing cracks, addressing weed growth, and other minor defects. Due to a prior construction project on Runway 9L/27R resulting in subpar results, weight restrictions are in place, limiting Runway 9L/27R to Single Wheel (SW) 12,500-pound aircraft. A summary of the conditions reported in the FDOT study can be found in Figure 2-3.

Conditions of pavement are reported in a Pavement Condition Index (PCI) number. PCI considers the severity of distress observed on pavement surfaces and provides a numerical value between 0 – 100 to the section of pavement being surveyed, with a value of 0 representing failed pavement conditions and 100 representing good pavement conditions. The Airport's runway system had a wide range of pavement conditions reported from the FDOT APMP survey.

- The runway system has a majority of pavement rated as fair or higher, with Runway 18R/36L having a very poor rating; however, the pavement rehabilitation projects underway are anticipated to help increase the pavement condition index for Runway 18R/36L.
- The taxiway system can be categorized in satisfactory condition.
- The apron system can be categorized in an overall satisfactory condition, with some fair sections and some good sections. The north and west apron areas ranged between satisfactory and fair PCI ratings. The Spaceport apron space was rated in good condition.

Figure 2-3 – Pavement Condition Survey

Sources: Florida Department of Transportation, Pavement Management Study, 2021.

2.5.7. Navigational Aids

NAVAIDs, unlike airfield lighting, assist aircraft in different stages of flight navigating to and from the Airport. NAVAIDs are generally FAA-funded infrastructure and are serviced by FAA Technical Operations (FAA Tech Ops). During hours outside the operational schedule of ATCT, runway airfield lighting (HIRL, REIL, and Medium Intensity Approach Lighting System with Runway Alignment Indicator Lights [MALSR]) can be controlled via the Common Traffic Advisory Frequency (CTAF). HIRL and REIL systems are owned by FDOT. The following electronic and visual NAVAIDs are present at Cecil:

- **Automated Surface Observing System (ASOS)** – An ASOS provides an automated weather report at 20-minute intervals. These weather reports include information regarding ceiling and sky conditions, visibility, temperature, dew point, altimeter settings and wind speed, gusts, and direction. The Airport's ASOS is located south of Runway 27L, east of Runway 36R.
- **Very High Frequency Omnidirectional Range Tactical Air Navigation System (VORTAC)** – A VORTAC is two systems operating together: a co-located very high frequency (VHF) omnidirectional range (VOR) beacon and a tactical air navigation system (TACAN) beacon. The VORTAC provides information to its retaliative position, allowing pilots to remain on course. The Craig VORTAC (CRG VORTAC) is located at Craig Airport, approximately 24 miles east of Cecil. CRG VORTAC is used for several instrument approach procedures at Cecil Airport.
- **Distance Measuring Equipment (DME)** – DME is a radio NAVAID that provides slant range information for the arriving aircraft to the NAVAID ground station.
- **Instrument Landing System (ILS)/Localizer (LOC)/Glide Slope Antenna (GS)** – An ILS offers horizontal and vertical guidance during the approach and landing phases of flight. In conjunction with the ILS, the LOC provides azimuth navigation information, and the GS provides vertical guidance to the arriving aircraft. Runway 36R is the only runway at Cecil with an ILS.
- **Medium Intensity Approach Lighting System with Runway Alignment Indicator Lights (MALSR)** – A MALSR is a form of an Approach Lighting System (ALS) meant to assist pilots transitioning from an instrument flight to visual flight during landing operations. A MALSR system is installed in the runway approach zones along the extended centerline. It consists of a combination of threshold lamps, steady burning light bars, and flashers, providing visual information to pilots on runway alignment, height perception, roll guidance, and horizontal references for Category I Precision Approaches. Runway 9R and Runway 36R have MALSR systems installed. The MALSR system is owned by FDOT.
- **Precision Approach Path Indicator (PAPI)** – A PAPI system is a series of either two or four light boxes that help a pilot maintain a correct approach angle. The Airport has a 4-light box PAPI system located to the left of each approach end for Runways 18L/36R and 9R/27L (a total of four PAPI Systems). All PAPIs installed at the Airport are owned by FDOT.
- **Runway End Identifier Lights (REIL)** – A REIL system consists of two synchronized flashing lights located to the left and right of a runway's approach end, indicating the landing threshold. Both sets of REILs are owned by FDOT (Runway 18L and 27L).
- **Airport Beacon** – The airport beacon is a rotating beacon that flashes alternate-colored lights to provide airport identification to pilots in the air during night or low visibility operations. The Airport beacon is located atop the ATCT. The beacon flashes clear and green during the hours between sunset and sunrise, or in low-visibility conditions.

- **Compass Calibration Pad** – A compass calibration pad is a specially constructed aircraft pad used to align an aircraft compass with the Earth's magnetic field. The Airport's compass calibration pad is located on the west apron space and is in working condition. The FAA must check and certify this NAVAID each year. The FLARNG ensures the compass calibration pad certification remains operational. While the compass calibration pad is available to the public, it is within the fenced apron area of the FLARNG. Military F-18s are the primary users of this NAVAID.
- **Wind Indicators** – Wind indicators, commonly referred to as windsocks or wind cones, provide pilots with information regarding wind direction and strength. The Airport has five wind indicators located on each end of Runway 18L/36R and Runway 9R/27L, with the primary wind indicator being located at mid-field near Taxiway A5.

2.5.8. Special Use Areas

With the variety of operations taking place at Cecil, it is important the Airport and Spaceport identify safety critical operational areas on the airfield to perform special operations. The following outlines the identified special use areas at Cecil:

- **Engine Run-ups** – MROs will conduct engine run-ups within their leased apron areas. High-power engine run-ups are not permitted on apron areas and are limited to five locations:
  - On Taxiway A, between Taxiways A1 and A2.
  - On Taxiway B1, between Taxiway B and the hold line of Runway 9R/27L.
  - On Taxiway A5, between Taxiway A and the hold line of Runway 18L/36R.
  - Co-located with the hot cargo ramp located south of Runway 9R/27L on Taxiway B2 South. This run-up location is sized to accommodate larger aircraft.
  - East of Runway 18L/36R, off Taxiway A2. The run-up area off Taxiway A2 is the only ramp used for military fighter jet engine high-power run-ups and is too small to accommodate large aircraft.

- **Military Hot Fueling** – Military hot fueling is performed for military aircraft by Million Air, the Airport's Fixed-Base Operator (FBO). The location of the hot fueling is strictly limited to the area in front of Building 825. Three spaces are available.
- **Military Hot Cargo** – Military hot cargo typically refers to live munitions. The area dedicated for processing these cargo types is located to the southwest of the airfield, on Taxiway B2 South provides access to the hot cargo pad south of Runway 9R/27L. There are also three arm/de-arm locations on the airfield.
  - Intersection of Taxiway A and A5
  - Intersection of Taxiway B and B1
  - Intersection of Taxiway B and B3

- **Spaceport Areas** – As will be discussed in greater detail in Section 2.9 of this chapter, there are two major special-use areas for Spaceport operations. The first is the rocket testing area located on the Spaceport Ramp. The second is the oxidizer loading area located to the south of the Spaceport apron on the decommissioned pavement for Runway 9L/27R.

2.6. Meteorological Conditions

Weather is constantly changing and can have a significant impact on operations at Cecil. This section outlines local weather patterns and events to provide data for later analyses in this Master Plan. Data used for this study will be from the Airport's ASOS and the local National Oceanic and Atmospheric Administration (NOAA) National Weather Service (NWS) forecast office in Jacksonville.

2.6.1. Local Climate

Located in the northeast corner of Florida, the City of Jacksonville experiences a variety of weather patterns, including hot and humid summers with high cloud coverage and average maximum high temperatures of 90 degrees Fahrenheit, to cool winters with temperatures nearing an average minimum low of 45 degrees Fahrenheit.[12] Florida's hurricane season is typically June to November.

Prevailing winds are those that blow predominantly from a specific direction. In an ideal setting, a runway is oriented so aircraft can take off and land into the wind. Therefore, the direction of the prevailing wind determines the preferred configuration and alignment of a given runway. Crosswinds, which are a component of wind that blows perpendicular to the runway centerline, are a limiting factor in whether an aircraft can safely land or take off. The FAA states that a crosswind runway should be considered when a runway orientation provides less than 95 percent wind coverage for its RDC.[13] The allowable crosswind component based on Aircraft Allowable Crosswind (AAC) and ADG is shown in Table 2-7.

Table 2-7 – Aircraft Allowable Crosswind

Allowable Crosswind	Aircraft Approach Category - Airplane Design Group
10.5 knots	A-I and B-I
13 knots	A-II and B-II
16 knots	A-III, B-III, and C-I through D-III
20 knots	A-IV through D-VI, E-I through E-VI

Source: FAA Advisory Circular 150/5300-13B, Change 1, Airport Design, 2022.

With an existing AAC and ADG of D-IV-2400, Runways 18L/36R, 18R/36L, and 9R/27L should provide above a 95 percent coverage for a 20-knot crosswind component. As a B-II runway, Runway 9L/27R should provide 95 percent coverage for a 13-knot crosswind component. For the analysis in Table 2-8, the runway's true bearing was used. The crosswind analysis conducted for the existing runways at the Airport show that all runways exceed crosswind coverage requirements. The wind analysis conducted suggests that crosswind runways are not required at Cecil. However, based on conversations with Air Traffic Control (ATC) personnel and several operators, it was frequently noted that winds favor the 18/36 Runways approximately 70 percent of the time and the 9/27 Runways 30 percent of the time. Additional detailed wind analysis (broken down by seasonal wind patterns), was performed as part of the *Facility Requirements* chapter (Chapter 4) of this report.

Figure 2-4 identifies the wind roses used in the analysis.

---

[12] *National Weather Service, National Oceanic and Atmospheric Administration Online Weather Data Portal, Accessed 2021.*
[13] *Federal Aviation Administration, Advisory Circular 150/5300-13B, Change 1, Airport Design, 2022.*

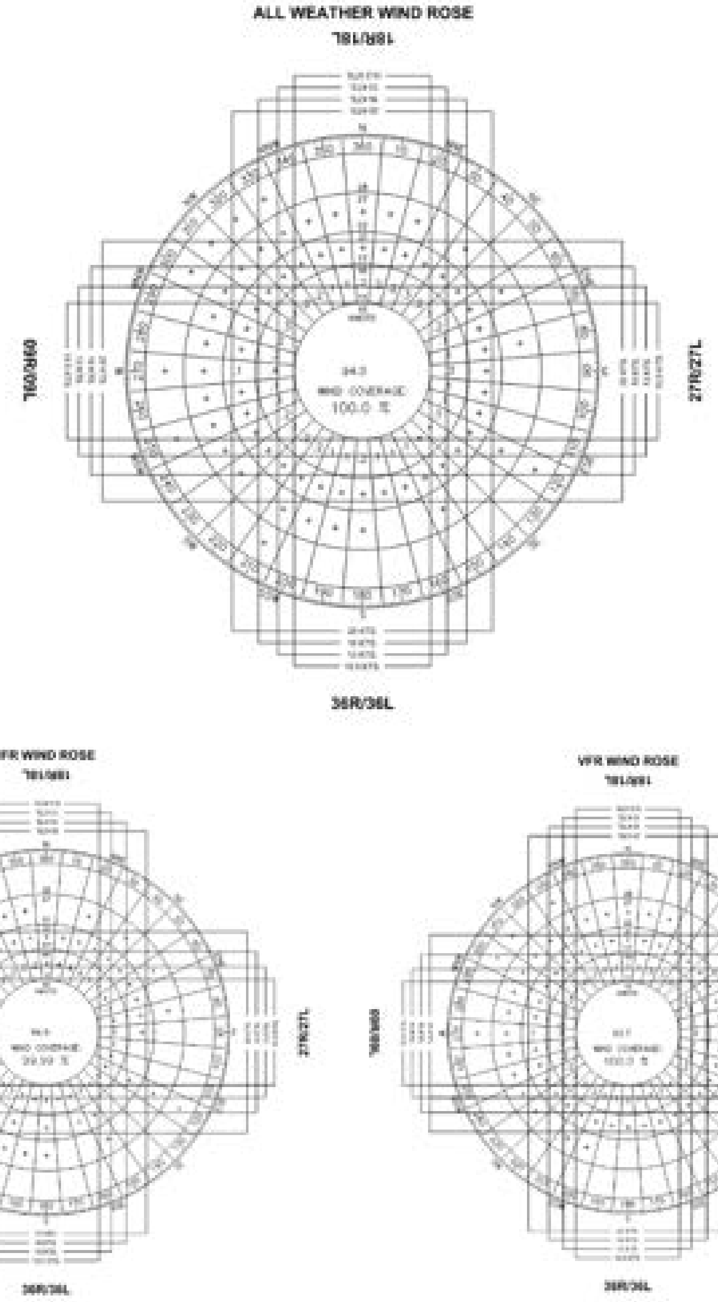
Table 2-8 – Wind Coverage Results

All Weather Conditions (2011 - 2020)				
Wind in Knots	**10.5**	**13**	**16**	**20**
Runway 18L/36R	97.16%	98.47%	99.66%	99.93%
Runway 18R/36L	97.15%	98.47%	99.66%	99.93%
Runway 9L/27R	97.82%	98.94%	99.82%	99.96%
Runway 9R/27L	97.82%	98.94%	99.82%	99.96%
Combined	99.79%	99.95%	99.99%	100.00%
Visual Flight Rules (VFR)				
Wind in Knots	**10.5**	**13**	**16**	**20**
Runway 18L/36R	96.91%	98.34%	99.66%	99.94%
Runway 18R/36L	96.90%	98.34%	99.66%	99.94%
Runway 9L/27R	97.90%	99.01%	99.85%	99.98%
Runway 9R/27L	97.90%	99.01%	99.85%	99.98%
Combined	99.80%	99.96%	99.99%	100.00%
Instrument Flight Rules (IFR)				
Wind in Knots	**10.5**	**13**	**16**	**20**
Runway 18L/36R	98.61%	99.22%	99.68%	99.90%
Runway 18R/36L	98.61%	99.22%	99.68%	99.90%
Runway 9L/27R	97.11%	98.41%	99.61%	99.87%
Runway 9R/27L	97.11%	98.41%	99.61%	99.87%
Combined	99.73%	99.89%	99.95%	99.99%

Notes: Runway 18R/36L has a true bearing of 179 degrees and 359 degrees; Runway 18L/36R has a true bearing of 180 and 360 degrees.

Sources: FAA, ADIP Wind Rose Generation Tool, Accessed 2021.

Figure 2-4 – Cecil Wind Roses



Sources: FAA, ADIP Wind Database, Accessed October 2021; Kimley-Horn, 2025

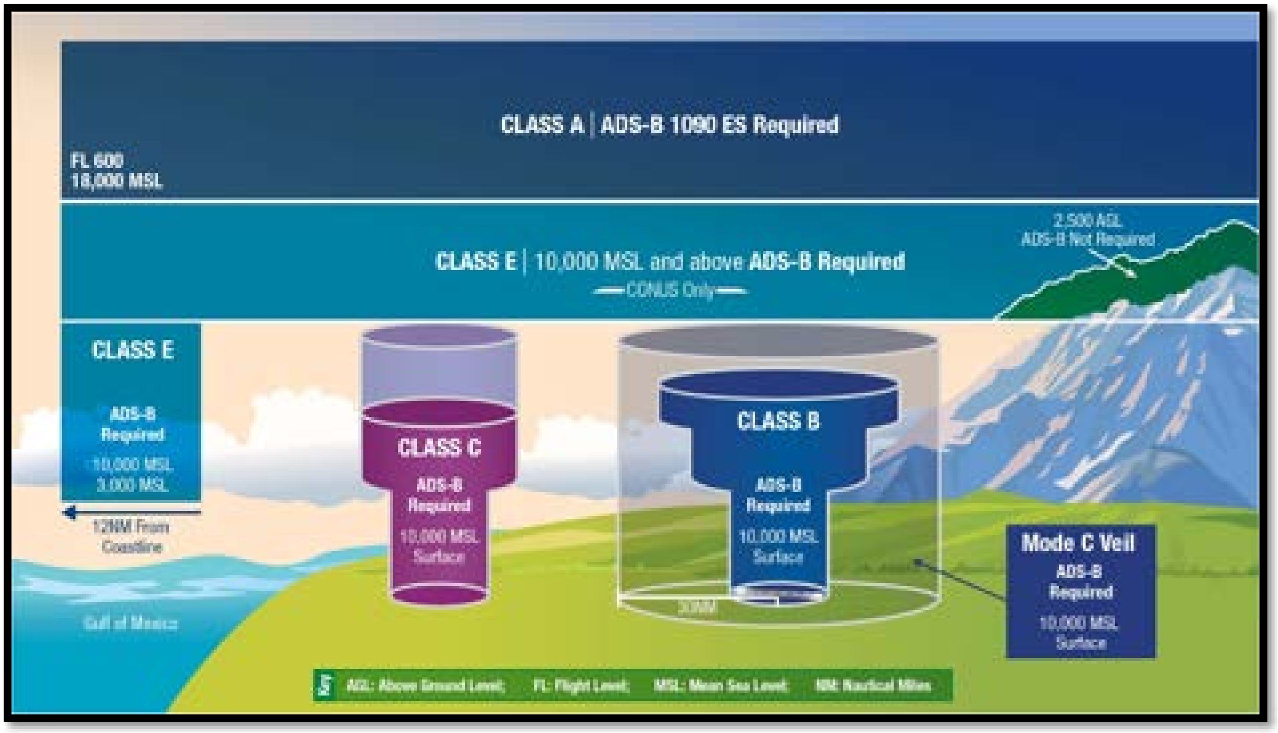
2.7. Airspace

Airspace is defined in three-dimensional volumes and organized by the FAA. Within the NAS, there are classifications for these volumes, facilities to help control and monitor traffic—known as ATC facilities—and NAVAIDs. This section documents the surrounding airspace near Cecil and outlines specific operating procedures for aircraft landing and departing at Cecil. This data was analyzed further in a later phase of this study to ensure the airspace system and procedures could accommodate existing and anticipated demands during the planning horizon.

2.7.1. Airspace Classification

Classification and active control help the NAS organize complex airspace. Restrictions on certain portions of airspace may include specific aircraft equipment, visibility minimums, cloud clearance, and/or procedures when operating inside them, such as communication with ATC. These restrictions assist the NAS in operating at maximum levels of safety and efficiency. Figure 2-5 depicts controlled airspace (Classes A, B, C, D, and E), which refers to airspace where ATC services are provided. Within uncontrolled airspace (Class G), ATC has no authority or responsibility to control. Special use designates airspace where certain activities occur or where limitations must be imposed. Other airspace refers to the remaining airspace not covered by the aforementioned classifications.

Figure 2-5 – Airspace Classifications



Source: FAA, FAA Handbook, 2021.

Table 2-9 details the categories of airspace further and elaborates on the Airport's relationship to each category. In addition to the table, Figure 2-6 is the VFR sectional chart illustrating the NAS surrounding Cecil. It should be noted that there are published glider operation areas to the east of Cecil. This is inaccurate, as glider operations do not use the Airport and only operate out of Herlong. The Airport's airspace categorization is dependent on the ATCT being active. During hours of ATCT operation, the airspace is a Class D, and it reverts to a Class G when ATCT is closed.

Table 2-9 – Airspace Classification

Classification of Airspace	Relationship to Cecil Airport
Class A	Class A airspace is defined by Flight Level (FL) 600, or 18,000 feet Mean Sea Level (MSL). Strict equipment requirements are present when operating within this airspace. This airspace is located above the Airport and is accessed by long-range en-route aircraft.
Class B	Class B airspace is designated for large airport airspace located in a densely populated urban area. The airspace looks like an upside-down wedding cake. Equipment requirements are in place when operating in Class B. The nearest Class B airspace to the Airport surrounds Orlando International Airport, approximately 80 nautical miles to the south.
Class C	Class C airspace is defined by a medium-sized hub airport with an operational ATCT. Class C is a smaller volume of airspace than Class B. Equipment requirements are in place when operating in Class C. The nearest Class C airspace to the Airport is 14 nautical miles to the northeast surrounding Jacksonville International Airport. JAX's Class C airspace is modified due to nearby military facilities.
Class D	Class D airspace defines airspace near a regional hub airport with an active ATCT or a GA airport with an active ATCT. Class D requires two-way radio communication to be established before entering. Cecil Airport is designated as Class D airspace when the ATCT is active. The Airport's Class D airspace extends from the ground to 2,600 feet MSL.
Class E	Class E airspace begins under Class A at 10,000 MSL up to 18,000 MSL. Within 12 nautical miles off the coastline, Class E typically drops to 3,000 MSL. Equipment requirements are in place when operating in Class E. During specific hours, Class E airspace, with a floor of 700 feet Above Ground Level (AGL), is in effect for the airspace around the Airport. Note that if Class D is in effect, Class E will start outside Class D.
Class G	Class G airspace makes up most of the airspace across the continental United States. Class G refers to airspace outside the above classifications and often has a variety of aircraft operating within it. Class G airspace is in effect at the Airport from the surface to 700 AGL when ATCT is not active.

Sources: FAA, FAA Aeronautical Information Manual (AIM), 2021; Kimley-Horn, 2025.

Figure 2-6 – Jacksonville Area FAA Sectional Chart

Notes: The graphic above should not be used for air navigation.
Source: FAA, Sectional Aeronautical Chart, 2021.

2.7.2. Standard Operating Procedures

Most operations at Cecil are conducted under VFR conditions. These conditions require the aircraft to maintain visual separation from other aircraft and objects within the local airspace. Located in Class D airspace with an active ATC facility, aircraft are in communication with the ATC facility. Class D ATCT does not provide radar services; however, other ATC facilities servicing the local airspace will often provide radar vectors to aircraft operating within the airspace surrounding Cecil to adjust for other traffic, special operations areas, or weather. During VFR conditions, the parallel runways can support simultaneous, same-direction operations.

The Airport uses a standard left-rectangular traffic pattern for each runway. The traffic pattern at the Airport as described by local ATC includes separate altitudes dependent on the aircraft. Entering the left traffic pattern, helicopters operate at 500 feet Above Ground Level (AGL), propeller planes fly at 1,000 feet AGL, and jets and military aircraft fly at 1,500 feet AGL.

2.7.3. Standard Arrival Procedures

Standard Terminal Arrival procedures (STARs) are used to efficiently direct aircraft arriving to the Airport during normal weather conditions. Cecil has three published STARs. The first is named the ALMA TWO arrival, directing aircraft traveling inbound from the north over central Florida toward Jacksonville Executive Airport. Radar vectors will then be given to direct the aircraft toward Cecil. The HOTAR ONE arrival is an Area Navigation (RNAV) Global Positioning System (GPS) procedure that offers guidance to aircraft inbound from the north near the coast of Florida. Arrivals will expect radar vectors to the final approach course. The POGIE TWO arrival directs aircraft inbound to the field from the south, and as with the other two published approaches, pilots can expect radar vectors to final approach once near the airport.

2.7.4. Standard Departure Procedures

There are no published standard departure procedures for the Airport. Published in FAA’s Takeoff Minimums, (Obstacle) Departure Procedures, and Diverse Vector Area (Radar Vectors) are close-in obstacles for Cecil. These obstacles include trees notable for departing aircraft. The interview with the ATCT manager revealed that the tower has a standard departure for all runways which includes the following initial instructions: turn to heading 270 degrees and climb to 2,000 feet.

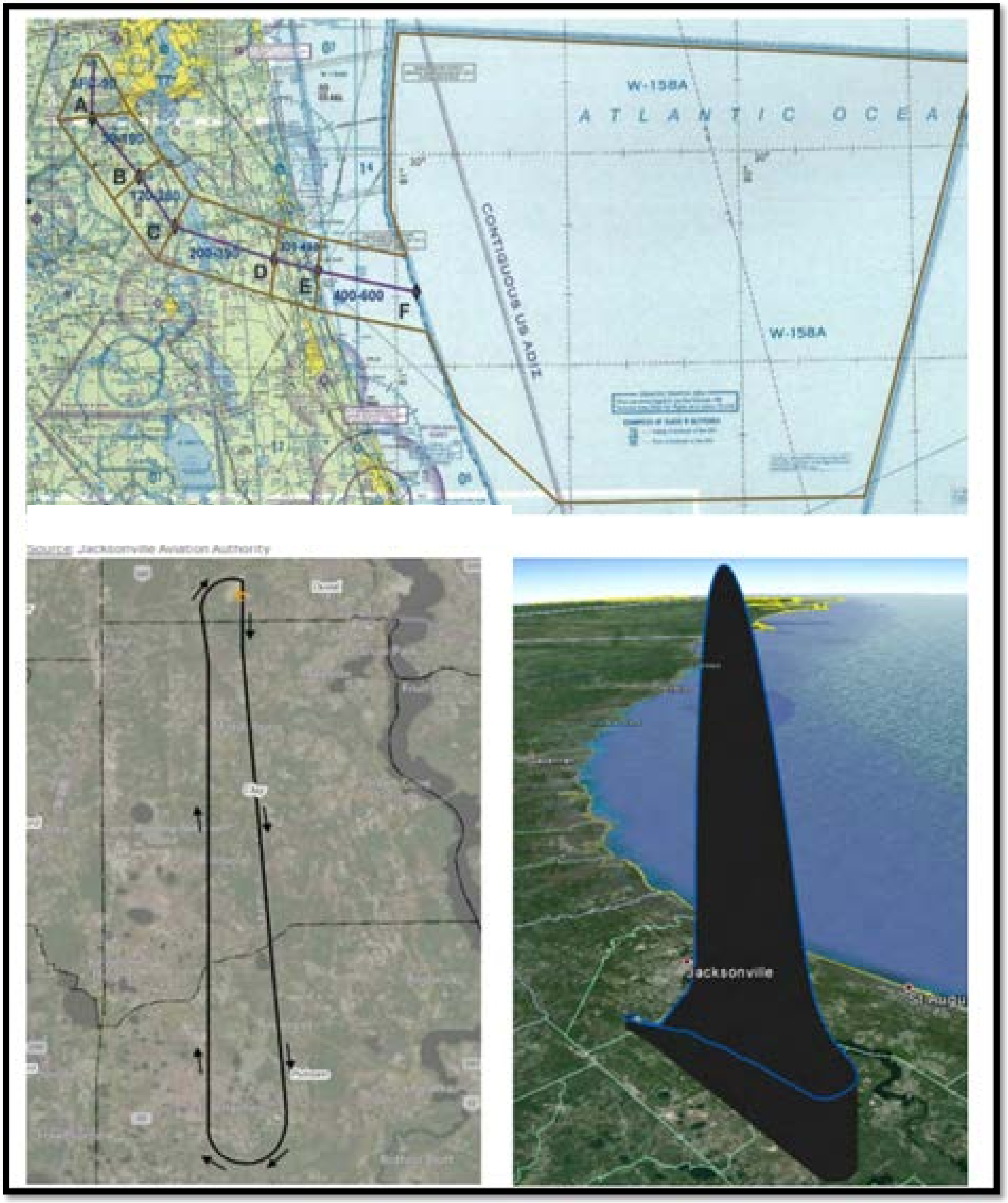
2.7.5. Special Operation Areas

The JAA, in conjunction with the FAA, has established a flight corridor and operating range to the west of the Spaceport. This corridor serves as one of the first overland flight corridors established in the State of Florida for the purpose of benefiting the future Commercial Space industry operations.[14] The westerly corridor for suborbital flight can be seen in Figure 2-7, as well as the FAA approved corridor with the complimentary operating area. Cecil ATC has an approved Letter of Agreement (LOA) with Jacksonville Center for sub-orbital flights out of Cecil. This LOA will be used in the future as Spaceport operations increase through the growing activity in HTHL vehicles.

---

[14] *Space Florida, Florida Spaceport System Plan, 2018.*

Figure 2-7 – Suborbital Flight Corridor



Source: Jacksonville Aviation Authority, 2021.

There is a published Military Training Routes (MTR) extending southeast from the Airport to the restricted airspace over Cape Canaveral. This route is used by FLARNG and other operators of military aircraft at the Airport. The nearest Military Operation Area (MOA) is located to the west of the Airport, with Restricted Airspace located to the south over and surrounding Camp Blanding Joint Training Center.

Another important note is the general proximity of the Airport to both Herlong Recreation Airport and Jacksonville Naval Air Station. The Airport has seen an increase in small GA aircraft operations from Herlong in the recent years, reported anecdotally by the ATCT manger.

2.7.6. Instrument Flight Procedures

VFR and IFR present unique sets of procedures, criteria, and guidelines under which pilots operate. Instrument flight procedures aid pilots flying under IFR in determining their position, navigating between points, and approaching and departing an airport. This section describes existing IFR procedures at the Airport.

2.7.6.1. Instrument Approach Procedures

Cecil Airport has seven published Instrument Approach Procedures (IAP) associated with the Runways 18L/36R and 9R/27L. Airports with published IAPs can see increased flight training traffic. Circling options are normally provided on IAP charts to give pilots an alternative to the standard straight-in approach. Circling approaches can be used by the pilot to land on the other runways, once the airport is in sight. Circling approaches have higher minima than straight-in approaches. Table 2-10 details the published FAA IAP charts.

Table 2-10 – Instrument Approach Summary

Runway End	Procedure	Aircraft Approach Category	Lowest Minima		Glideslope Angle	Threshold Crossing Height
			Ceiling	Visibility		
18L	RNAV (GPS)	A through D	300 feet	1-mile	3.00°	50 feet
36R	ILS or LOC[1]	A through E	200 feet	½ - mile	3.00°	49 feet
	RNAV (GPS)	A through D	200 feet	½ - mile	3.00°	49 feet
9R	RNAV (GPS)	A through D	300 feet	¾ - mile	3.00°	53 feet
27L	RNAV (GPS)	A through D	400 feet	1 - mile	3.00°	50 feet
	VOR	A through B C through D	500 feet 500 feet	1 - mile 1 3/8 - mile	3.00°	67 feet
	TACAN	A through B C through E	500 feet 500 feet	1 – mile 1 3/8 - mile	2.97°	55 feet

Note: 1 This approach provides Category I (CAT I) minima.
Source: FAA, Airport Data and Information Portal, 2021.

2.7.6.2. Instrument Departure Procedures

Instrument departure procedures are preplanned IFR procedures that provide clearance from obstructions around the airport area to the en-route portion of the flight. Obstacle Departure Procedures (ODP) publication by the FAA identify an obstacle for Runway 18L as a tree 1,499 feet from the departure end of the runway and 699 feet to the right (west) of the extended runway centerline. The height of the tree is listed as 34 feet AGL, or 113 feet MSL. No other obstructions are noted. The Airport does not have published instrument departure procedures.

2.7.7. Noise Abatement Procedures

Cecil actively strives to be a good neighbor to surrounding communities and actively works with pilots, tenants, and members of the public to mitigate noise impacts. Mitigation measures include allotting designated daytime hours and locations for engine maintenance run-ups and standard departure procedures vector away from the more populous areas of Jacksonville. There are semi-frequent training operations by military operators based at the Airport.

Cecil has a dedicated portal on their website for local residents to file noise complaints. When received, the JAA investigates the noise complaint through a process that assesses the hour, estimated altitude, and other important factors of the case. The JAA will then conclude the investigation and follow-up with the person that filed the complaint.

2.8. Landside Facilities

Landside facilities, as defined in this report, support aspects of aviation that involve aircraft parking, aircraft servicing, passengers, pilots, and cargo. This section describes the major landside facilities and tenants at Cecil.

Figure 2-8 and Figure 2-9 identify the buildings and their corresponding identification numbers at the Airport. These building numbers will be used to identify areas of operation for tenants throughout this study.

Figure 2-8 – Southern Buildings

Source: Jacksonville Aviation Authority, 2023; Kimley-Horn, 2025.

Figure 2-9 – Northern Buildings

Source: Jacksonville Aviation Authority, 2023; Kimley-Horn, 2025.

2.8.1. Apron Areas

The apron areas at Cecil are broken into three separate areas: west apron, north apron, and the Spaceport apron. Most of the existing apron areas are leased to tenants to support their individual operations, and it was reported that the apron areas frequently reach capacity, particularly when larger aircraft are present. Figure 2-10 outlines the different apron lease areas.

The largest apron space on the airfield is designated as the north apron. The north apron begins at the ARFF station and runs north to the full length of Taxilane D. With over 222,250 square yards of pavement space and Taxilane D supporting the full length of usable space, the north apron is essential to most of the Airport's operations. Boeing will be relocating to the northeast portion of the airfield adjacent to Taxiway E. This future apron space will be designed to accommodate Boeing's existing needs and able to be expanded in the future.

The second largest apron space is the west apron space that supports facilities and tenants west of the ARFF station and is serviced by Taxilane C. Notable tenants include the USCG HITRON and the FLARNG. FLARNG has fencing installed to prevent access onto their ramp and facilities located to the western-most side of the west apron. Gates span across Taxilane C and Taxiway M, both of which are currently left open until national security requires closure. A public use aircraft wash rack is available between the USCG, FLARNG, and U.S. Customs at Hangar 14.

The Spaceport apron is the smallest and is located to the northeast of midfield. There are no long-term leases associated with this apron. Rather, it is used by various independent companies and leased out on a short-term basis, as needed. Taxiway B connects to the Spaceport apron, providing airfield access.

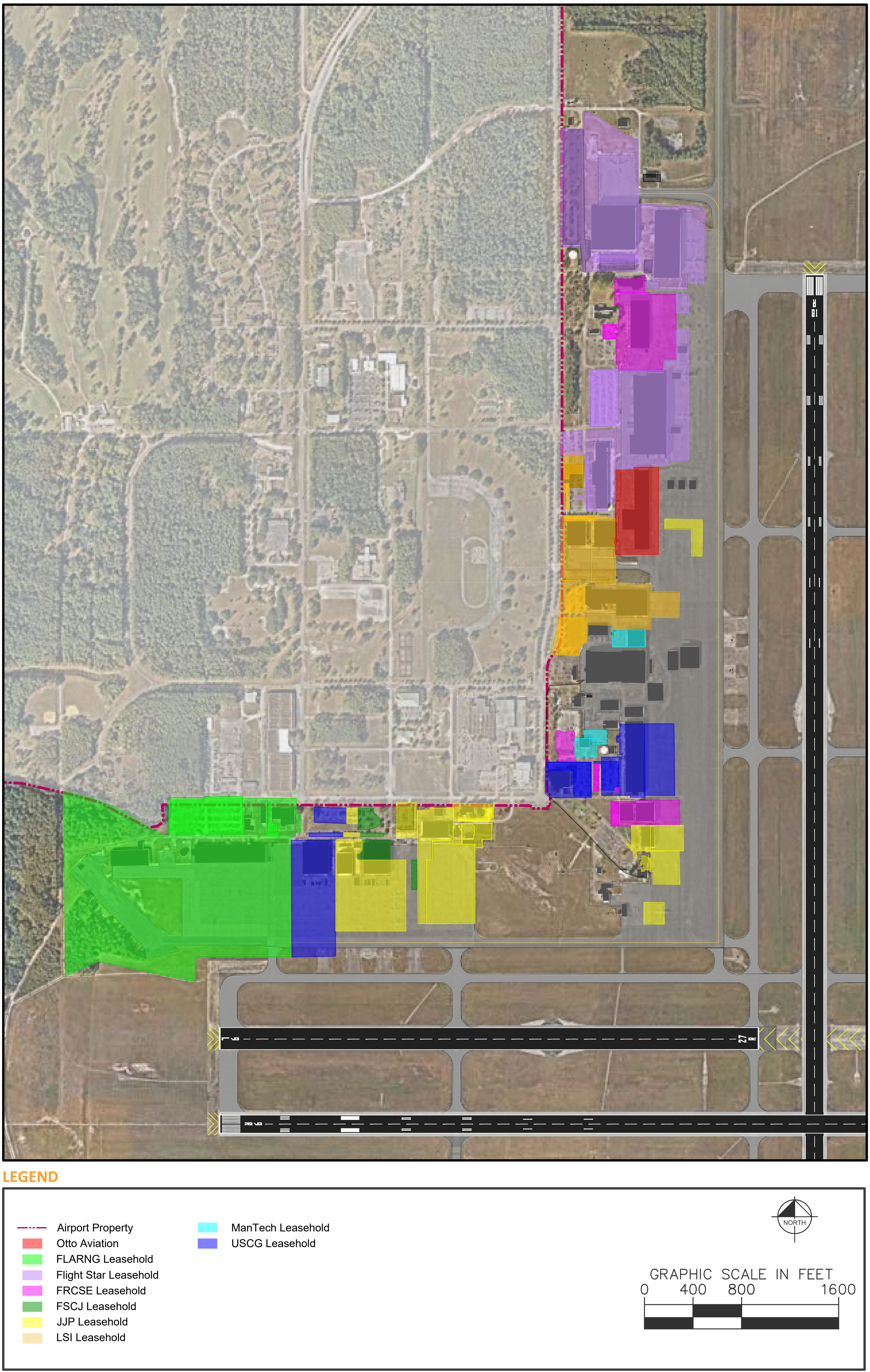
Scattered across the various apron spaces, Airport users store overflowing equipment and aircraft parts on apron areas within their leaseholds. Storing this volume of equipment on the apron spaces further restricts the amount of aircraft parking available at the Airport.

2.8.2. Aircraft Hangars and Parking

Aircraft parking at the Airport is primarily provided as open apron space in front of the MRO tenants' respective hangars. There is minimal hangar space dedicated solely for aircraft storage, due to many hangar spaces being utilized for MRO operations. Million Air is the Airport's only FBO and has no short-term plans of expanding based-aircraft storage. However, Million Air owns and operates a large conventional hangar that accompanies their operations, capable of housing approximately six GA aircraft, such as a Gulfstream aircraft.

Other tenants at the Airport provide aircraft maintenance and do not offer transient aircraft parking areas. Aircraft undergoing maintenance at these facilities use the tenants' individual hangar spaces and the open pavement on the north apron area. Numerous fabric hangars have been constructed as a short-term solution to meet hangar space demands, with the intent to remove a majority of them after Boeing relocates to their new facility on the northeast side of the airfield.

Figure 2-10 – Airport Apron Areas



Source: Jacksonville Aviation Authority, 2021; Kimley-Horn, 2025.

Florida State College at Jacksonville (FSCJ) is located near the USCG and utilizes a portion of the west apron space for tie-downs of their training aircraft. The west apron space adjacent to FSCJ, near the fuel farm, is used for overflow aircraft parking and is leased by the FBO. During the tenant interviews conducted as part of the inventory data collection, it was regularly communicated that the existing apron areas frequently reach capacity; therefore, there is limited aircraft parking available at Cecil.

The Spaceport apron has a supporting fabric hangar space with a trailer providing office space and landside access via secure public roadways. In 2023 an aircraft door was added to the hangar.

2.8.3. General Aviation Terminal and Airport Administration Facilities

The GA terminal is located in Building 82, occupied primarily by Million Air. Million Air services a variety of clients, but primarily focuses on fueling military operators. Million Air has a broad range of amenities for those that use their service, including access to their terminal building such as internet, flight planning, pilot lounge, flight crew refreshments and lounge area, showers with toiletries, and assistance navigating the local Jacksonville area. Million Air operations and administration offices are attached to their terminal and part of the same building as the Cecil Airport Administration offices. The terminal is located by the ATCT at the south end of the north apron. Airport and Spaceport personnel including maintenance and managing officers are also located here. Many of the tenants at the Airport have additional administrative offices connected to their respective hangar spaces.

2.8.4. Fixed-Based Operator (FBO)

Million Air is the sole FBO at Cecil. The facilities and equipment at the Airport and Million Air meet a diverse range of aerospace needs from a variety of airport users. Million Air is certified to provide hot fueling, which allows them to fuel aircraft while the engines are still running. Three spaces near Building 825 are used for hot fueling. Million Air provides military detachment training and support facilities that are frequently in use. These facilities include classrooms and flight preparation rooms large enough for 30 trainees. With the expansion of the Spaceport, Million Air has specifically stated interest in providing propellant or other supporting services to Spaceport users via their extensive network of local commercial partners.

As described above, the FBO offers numerous amenities within their terminal and administrative office. The FBO operates out of Building 925 and Building 82. The FBO sublets numerous parcels of apron and hangar space to other tenants, such as one to Technical Air Support in Building 945. Million Air has expansion plans for future development at Cecil. This includes approximately 60,000 square feet of hangar space (inclusive of offices and shops) and approximately 160,000 square feet of apron space within the next couple of years. Million Air also expressed interest in the existing Boeing facilities, once Boeing has transitioned to their new facility and vacated their existing leased buildings.

2.8.5. Transient Aircraft Facilities

Cecil's only FBO, Million Air, has a business model focused on transient military operators that need fueling and other FBO services. Therefore, services to transient GA aircraft are somewhat limited. Aircraft fueling, access to pilot lounge and planning areas, catering services, and organizing car rentals are provided by the FBO. The Airport's wide-ranging aircraft maintenance tenants provide repair and inspection services to complete teardowns; however, these are typically through exclusive contracts and services are not available for "walk-in" customers.

Overnight transient aircraft parking space is limited and coordinated with Million Air and Airport operations. As discussed in the previous sections, there are minimal enclosed aircraft parking solutions at the Airport, with most parking available on open apron areas. Million Air leases a large portion of the west apron closest to the fuel depot for overflow transient apron parking.

2.8.6. Military Areas and Facilities

The Airport's primary military ramps are located on the west apron space and occupied by FLARNG and the USCG HITRON.

- Florida Army National Guard (FLARNG): FLARNG has fully operational military offensive and defensive helicopters and bases 16 helicopters. FLARNG property is fenced off from the public and has FLARNG military police on internal and external patrols, ensuring the safety of their facilities. FLARNG expressed concerns with the existing inoperability of their airfield fencing as well as the limitations it poses on aircraft access to the ramp, such as limits on the HC-130 and similar aircraft that need additional separation space. Future plans are in place to increase the separation distance.
  - As the FLARNG apron is fenced, when a fighter jet needs to park for an extended period due to a maintenance issue, it is typically housed on FLARNG's apron.
  - The landside area directly north of the airside FLARNG property is used for land-based vehicle storage for FLARNG.
  - There is an old munition bunker within the FLARNG leasehold that FLARNG is in the process of recertifying for use.
  - FLARNG regularly conducts training operations in the southwest quadrant of the Airport. Some training operations conducted include sling load, hoist, and ramp and slope. FLARNG desires the ability to also conduct pinnacle landing trainings at Cecil.

- United States Coast Guard (USCG) – HITRON: The USCG HITRON operates a fleet containing helicopters and fixed-wing aircraft. The USCG HITRON conducts numerous operational flights over the Atlantic, most notably drug enforcement operations. Due to the nature of the operations, the Jacksonville Port Authority and the U.S. Customs and Border Patrol have an office near the USCG HITRON that directly supports these operations.

Approximately 25 U.S. Navy munition bunkers were constructed in the northeast quadrant of the Airport during its time as a military base. These areas have subsequently been decommissioned and are no longer in active use. The location and environmental impacts of these decommissioned facilities will be further discussed in the *Environmental Overview* section (Section 2.13) of this chapter.

FLARNG has long-term plans to demolish their existing hangar (Building 860) and build a new 47,000-square-foot hangar, 93,120 square feet in new Readiness Centers, and additional supporting administration buildings. FLARNG indicated their existing hangar and apron area are sufficient to meet their needs for the foreseeable future. However, the growth between FLARNG, USCG, and the Fleet Readiness Center might warrant an expanded co-located facility.

Aside from the FLARNG and USCG, several other tenants at the Airport service or operate military aircraft to some capacity. As these other tenants are not branches of the DoD, they will be described in subsequent sections of this chapter.

2.8.7. Maintenance, Repair, and Overhaul (MRO)

The primary services provided at the Airport are centered around MRO operations. Each operator has reported strong growth in demand in recent years and most are looking to expand their physical presence at Cecil. Table 2-11 below outlines the existing MRO operating environment at the Airport and the aircraft being serviced on a regular basis. MRO operations are typically mid-to-long-term maintenance and thus require an aircraft to remain at the Airport for weeks to months at a time. For example, upgrades to be performed on the P-8 Poseidon aircraft will take approximately four months with a fully-staffed, large operational team.

The Boeing Company has begun a transition to the northeast portion of the airfield from their existing location(s) on the north apron. The move includes constructing a large new hangar to accommodate the growth in their MRO operations. The new facility will be able to accommodate up to eight Boeing P-8 Poseidon aircraft or 16 F-18s.

Table 2-11 – MRO Operators

MRO Operator	Buildings	Building/Hangar Space	Ramp Space	Representative Aircraft
Boeing	887, 1820, 312, 67, 825, 887, 825, 315, 67, 1823, 310	880,362 SF	1,186,066 SF	P-8 (military) F-18 (military)
Flightstar	905, 815, 504, 313, 935	664,570 SF	669,698 SF	B767 (commercial) A320 (commercial)
Man Tech	887	6,438 SF	Numerous Fabric Hangars sublet	P – 8 (Military)
Hermues	334, 339, 328	7,883 SF	Total Complex 51,125 SF	Commercial
Logistic Services International	915, 824, 955	219,092 SF	90,516 SF	Helicopters (military)
Tactical Air Support	945-1, 945	25,000 SF	3,000 SF	F-5 (military)

Notes: Pratt and Whitney is no longer leasing areas at the Airport, as of 2025, Hermues has taken over these lease areas; Boeing has relocated to their own dedicated space, many formerly leased buildings have since been made available to other tenants.
Sources: Jacksonville Aviation Authority, 2021; FAA, Airport Layout Plan, 2008; Tenant Interviews, 2021; Kimley-Horn, 2025.

Flightstar Aircraft Services operate an extensive airframe maintenance, modification, and conversion operations. The MRO operator serves various passenger and cargo commercial carriers. The typical aircraft being serviced by Flightstar are Airbus, Boeing, Embraer, and McDonnell Douglas aircraft.

Tactical Air Support provides MRO services for Northrup F-5 aircraft. These light fighter aircraft are brought to the Airport via truck or cargo aircraft, such as C-130s, to be retrofitted with modern radar and avionics. The primary clients of Tactical Air Support are military forces purchasing the retrofitted aircraft to act as adversarial forces during training exercises. Tactical Air Support expressed a desire to expand warehouse and office space. Warehouse space is located off airport property, approximately three miles to the east. Tactical Air Support also requires a paint booth for their operations and would seek to share a facility as opposed to building their own.

Man Tech and LSI provide various services under the MRO umbrella, such as engine testing and avionics retrofitting. Man Tech and LSI continue to support various military clients and aircraft. Pratt and Whitney was formerly based at Cecil, providing commercial MRO services. They do not currently maintain a leased space at the Airport, as of 2025, Hermues has since taken over these lease areas. In addition to MRO operations, there are various aircraft maintenance training schools offering on-site technical training and classroom environments to their employees or local students. Notable training facilities are FSCJ and LSI.

2.9. Spaceport Facilities

The following section outlines the Spaceport-specific infrastructure and safety areas identified in previous studies such as the 2012 Spaceport Master Plan and the 2021 Spaceport Development Area Plan (SDP). Some of these areas have yet to be incorporated into existing operations at Cecil and are stated as such when applicable. Refer to 14 CFR Part 420 for additional definitions and general Spaceport regulations not covered within this section.

2.9.1. Launch Site Operator License Review

Regulated by the FAA via 14 CFR Part 420, there are only 20 Launch Site Operator Licenses (LSOLs) for commercial HTHL spaceports across the country as of 2023. Effective January 11, 2015, the JAA was awarded a Spaceport Launch Site Operating License extending out to January 2025 for commercial HTHL Reusable Launch Vehicles (RLVs). The license can be further expanded in the future as additional categories of HTHLs or RLVs become operational. In addition to the spaceport license held by Cecil, operators at the Spaceport must also hold an operator licenses and respective permits prior to commencing licensed activities.

The license process is an in-depth analysis of potential operations including outlining the various potential impact areas of an operation. The license represents interagency coordination within the area to support the operations – in the Spaceport's case, the relationship between the Airport, ATCT, JAA, FAA, Jacksonville Center, Jacksonville Approach/Departure, and U.S. Navy and its Fleet Area Control and Surveillance Facilities at Jacksonville (FASFACJAX). The primary criteria related to the approval of a spaceport license is an outlined map of flight corridors and the impacts to the communities within. The license also requires a detailed calculation of safety protocols and operational safety areas at the Spaceport, including an Explosive Site Plan.

2.9.2. Explosive Hazard Facilities and Site Plans

The LSOL under 14 CFR Part 420 requires Cecil to work with local agencies to develop an Explosive Hazard Site Plan (EHSP) that outlines potential hazard areas, their respective safety envelopes, and the anticipated emergency responses associated with each operation. Unlike conventional aircraft, launch vehicles use fuels and oxidizers as propellants which are highly flammable and hold explosive properties, representing a significant safety risk. For this reason, an EHSP should identify each operation's respective safety areas in a designated location at Cecil. The two primary operations requiring these declarations of safety areas pertain to rocket engine testing and oxidizer loading areas (OLAs).

The primary safety areas to be defined per operation are listed below:

- **Public Area Distance (PAD):** The minimum distance permitted between a public area and an explosive hazard facility; the PAD safety area has a 1,250-foot radius from the center point of the operational site.
- **Public Traffic Route Distance (PTRD):** The minimum distance permitted between a public highway or railroad line and an explosive hazard facility; the PTRD safety area has a 750-foot radius from the center point of the operational site.
- **Intraline Distance (ILD):** The minimum distance permitted between any two explosive hazard facilities in the ownership, possession, or control of one spaceport customer; the ILD safety area has a 559-foot radius from the center point of the operational site.

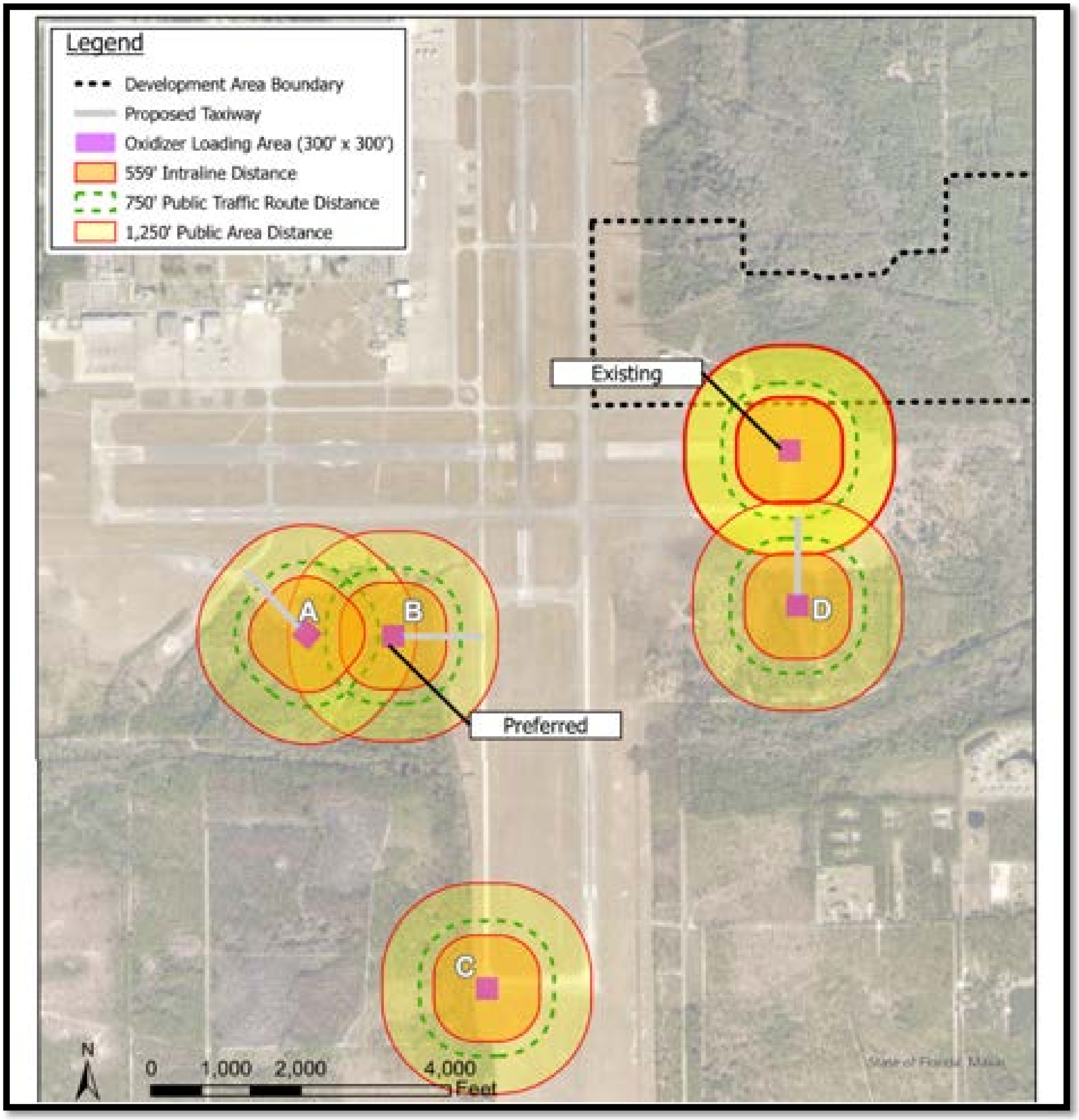
2.9.3. Oxidizer Loading Area

OLAs are important to plan for due to the operational impacts they have on surrounding areas. When the OLAs are active, meaning propellant is being loaded into a vehicle, surrounding buildings must be evacuated and no aircraft can operate in the adjacent airfield areas defined within the PAD safety area. Due to the large safety area needed for the OLA, it is advised to co-locate the OLA and rocket engine testing area. The OLA for the Spaceport is located on the no-longer-active portion of Runway 27R.

Within the SDP, the existing location of the OLA was identified to have a significant operational impact on future development and operations within the area. Both existing and proposed site areas and their respective safety areas are shown in Figure 2-11. Due to the PAD safety area overlapping critical movement areas and future Spaceport development areas, the JAA in coordination with the SDP identified new proposed OLA locations off Taxiway A. The transition to the future Site B, which includes a taxiway connector and ramp space, will accompany future development efforts at the Spaceport. Proposed Site C identified within the SDP and Figure 2-11 shows a short-term transition area of OLA to mitigate impact on operations at the Airport during an active loading operation.

Following drafting of this section, in December 2024, FAA/AST approved Cecil Spaceport's updated LSOL and associated EHSP which modified the preferred OLA location, moving it near Site A shown on Figure 2-11. The revised preferred location, as of 2025, is depicted within the final ALP sheet set.

Figure 2-11 – Possible Oxidizer Loading Areas



Notes: In the final ESP dated December 2024, the preferred location has been altered from the preferred site shown.
Source: Space Florida, 2021; Kimley-Horn, Spaceport Development Plan, 2021.

2.9.4. Propellant Storage

For Spaceport operations, there are two types of propellant: solid and liquid. There are no permanent propellant storage facilities for either at the Spaceport; however, there is temporary storage facility provided by an empty mobile trailer. Existing operations require the Spaceport user to transport, or organize the transport of, the propellant to the Spaceport. Once at the Spaceport, operators can use the Spaceport's temporary storage as needed.

Table 2-12 – Propellant Storage

Asset	Dimension	Improved Space	Unimproved Space
Liquid Oxidizer Storage	83 feet by 50 feet	4,152 square feet	N/A
Liquid Oxidizer Storage Area – PAD	100-foot radius	4,152 square feet	47,760 square feet
Liquid Propellant Storage	83 feet by 90 feet	7,470 square feet	N/A
Liquid Propellant Storage Area - ILD	100-foot radius	7,470 square feet	54,969 square feet
Solid Propellant Storage	25 feet by 50 feet	1,250 square feet	N/A
Solid Propellant Storage – PAD	255-foot radius	1,250 square feet	242,432 square feet
Mobile Propellant Trailer	400 Gallons	N/A	N/A
Mobile Liquid Oxygen Trailer	300 Gallons	N/A	N/A

Notes: Public Area Distance (PAD); Intraline Distance (ILD).

Sources: Cecil Spaceport, Infrastructure webpage, Accessed 2021; Kimley-Horn, 2025; Kimley-Horn, Spaceport Development Plan, 2021.

Spaceport propellants are often oxidizing materials that readily give off oxygen or other oxidizing substances, making these substances and materials volatile. Safety areas are reduced in size for propellant storage areas when compared to the OLA and rocket engine testing, as the propellants are not yet mixed. Improved space refers to space that has existing infrastructure present.

Supplemental facilities related to typical aircraft fueling exist for vehicles requiring traditional propellants such as AV Gas or Jet Fuel. The Airport's FBO Million Air has expressed potential interest in expanding its services to provide propellant storage and sales in the future, although no plans have been undertaken. Permanent propellant storage areas for liquid oxygen are not anticipated to be located at the Spaceport within the 20-year planning horizon. Hydrogen-based propellants are not expected to be used for the vehicles operating out of the Spaceport.

2.9.5. Rocket Engine Test Facilities

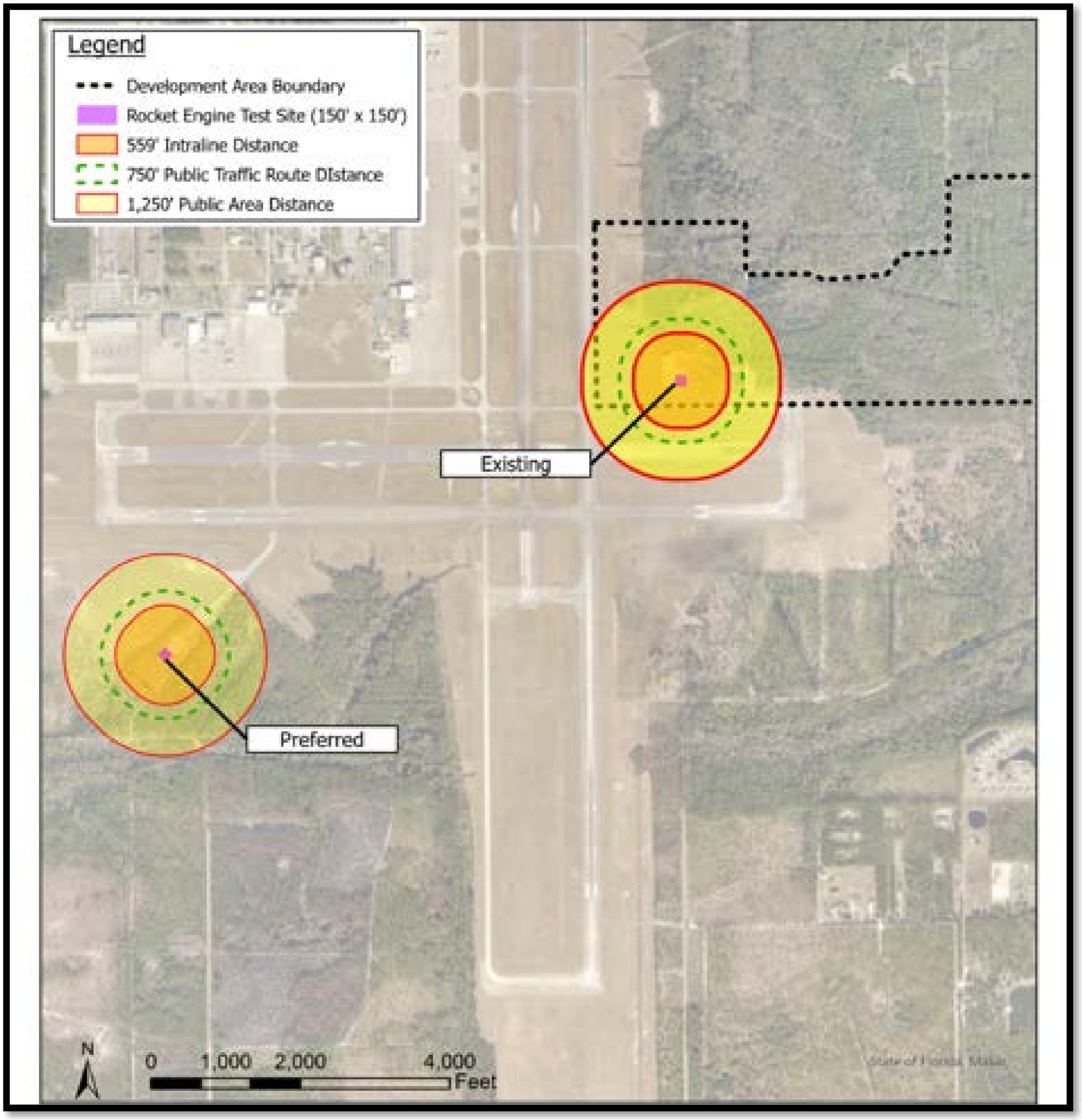
A typical rocket test requires a horizontal, appropriately rated, rocket test stand. The engine runs at various power levels to identify critical performance metrics such as burn rate, thrust produced, and overall efficiency of the engine. These tests are vital for launch operators as they can troubleshoot and alter aspects of the engine prior to production, saving capital and development time. Co-location of the test pad with any proposed OLA would maximize the compatibility of the space, but prevent simultaneous operations if only one location was selected. Rocket engine test facilities must also be designed to minimize damage to apron pavements. Figure 2-12 is a photo taken from a rocket engine test operation at the Spaceport.

Figure 2-12 – Rocket Engine Testing

Source: Jacksonville Aviation Authority, Rocket Testing, 2021

Rocket engine testing facilities were identified as a top priority for short-term development within the SDP These areas, similar to the OLAs, have significant operational impacts to the existing and future Spaceport areas, as well as the Airport's operations. The existing location and infrastructure present at the Spaceport were proposed to be relocated from the current location on the Spaceport apron area to the hot cargo pad located to the southwest of Cecil's primary airfield. The location of both sites are shown in Figure 2-13.

Figure 2-13 – Rocket Engine Testing Areas

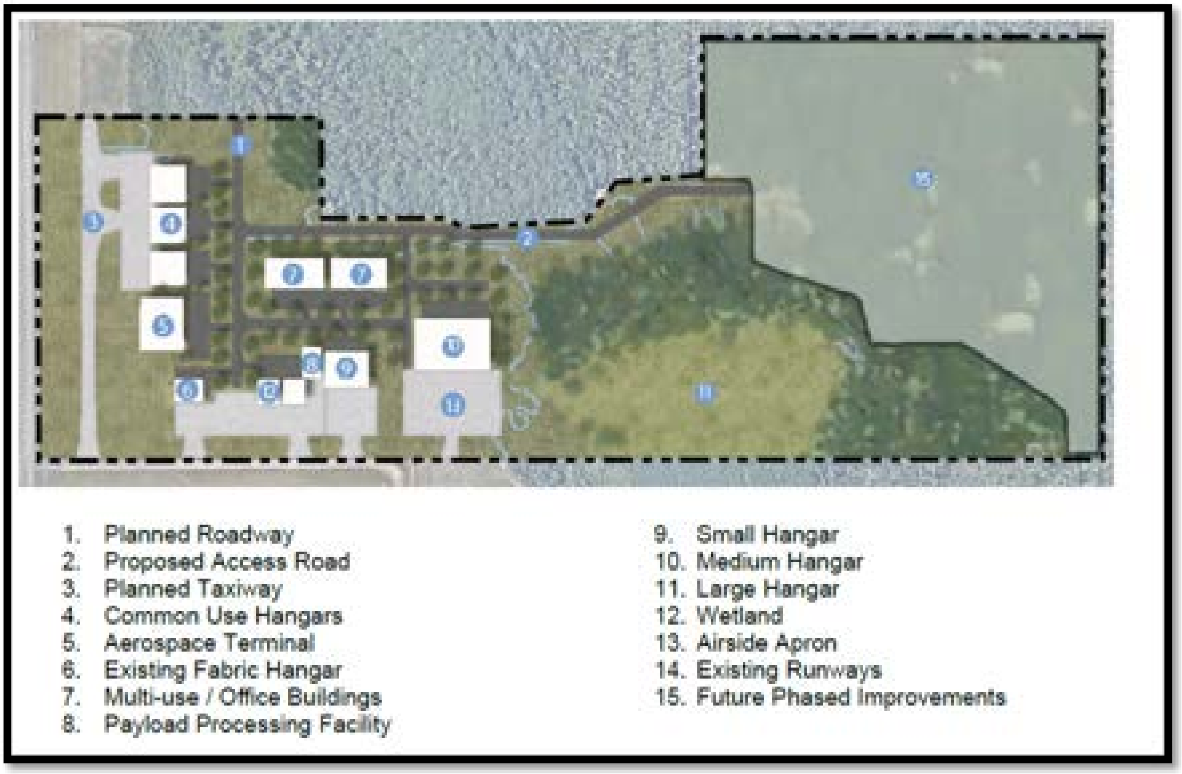


Notes: In the final ESP dated December 2024, the preferred location has been altered from the preferred site shown.
Source: Space Florida, 2021; Kimley-Horn, Spaceport Development Plan, 2021.

2.9.6. Spaceport Development Area

The 2021 Spaceport Development Area Plan (SDP)[15] presented projected landside and airside facility growth needs within an approximate 320-acre area north of Runway 27R. The SDP included numerous enabling development projects that would help the Spaceport expand its reach and infrastructure to potential future Spaceport tenants. The SDP assumes facilities to be built by both public and private entities, with the assumption that in the near term. The public-funded facilities could be used to alleviate some of the Airport's capacity constraints as the JAA markets the new facilities to future Spaceport users. Figure 2-14 depicts the final selected potential development layout of the Spaceport Development Area as defined in the SDP. The SDP was integrated into this planning effort and additional details defined as appropriate in later sections. As elaborated in the *Environmental Section* of this chapter, the Spaceport development area identified in the SDP is located on known wetland areas and floodplains, presenting future development constraints. The location was chosen despite these constraints due to the area's connectivity to the public access roads and alignment with short-term expansion on the northeast portion of the airfield. Additionally, JAA noted their historical importance in planning around environmental areas with the potential to apply banked wetland and conservation credits toward these areas.

Figure 2-14 – Spaceport Development Layout



Note: Map not drawn to scale.
Source: Jacksonville Aviation Authority, 2021; Kimley-Horn, 2025; Kimley-Horn, Spaceport Development Plan, 2021.

---

[15] *Kimley-Horn, 2025 Spaceport Development Plan, 2023.*

2.9.7. Mission Control Center

Opened in July 2021, the Cecil Mission Control Center (MCC) is co-located in the same building as the new ATCT. This facility provides a centralized mid-field location with access to redundant utility infrastructure to an active Spaceport operation. The MCC provides an aerospace user with video, communications, telemetry connectivity, and VHF and S-Band frequencies for telemetry equipment.[16] A "plug-and-play" interface is used, connecting the various utilities and support systems for the Spaceport operator. The MCC is a shared-use area and leased out on an as-needed basis, allowing various entities to operate out of the MCC on an annual basis. These facilities are critical to understanding why a sub-orbital operation succeeded or failed and provide the operator valuable information to improve operational efficiency for future launches and monitor active operations.

2.9.8. Spaceport Terminal

There is not a dedicated Spaceport terminal at Cecil. The existing mobile office building adjacent to the Spaceport fabric hangar is used as the Spaceport Terminal. A new terminal that has a visitor center would provide future Spaceport tenants an area where their clients could initially be processed and serve as a multi-tenant public-use facility. This facility may also provide the space needed to host community members and media during Spaceport operations. It is assumed that when operations start, public excitement and interest in the Spaceport will be at its peak, so a centralized public area to direct these groups would help the JAA and its partners manage these various events more safely and efficiently. From a variety of panel discussions within the SDP, the Spaceport Terminal was ranked lower than other facilities, such as payload loading facilities, additional office spaces, and vehicle testing areas.

2.10. Supporting Facilities

Supporting facilities are defined as infrastructure and services that assist users operating at Cecil. These facilities are typically related to maintenance, emergency services, and infrastructure related to fueling or utilities. The section outlines these facilities and elaborates on their importance to Cecil.

2.10.1. Fuel Facilities

The fuel farm is located southeast of Building 10 off the west apron. Million Air manages the fueling operations at the Airport. Million Air stated they had sold approximately 6.3 million gallons of fuel during the year 2020, and as of the end of October 2021, projected approximately 7 million gallons of fuel will be supplied through the end of 2021. The fueling infrastructure at the Airport is summarized in Table 2-13. Million Air has expressed the desire to expand the fuel farm toward the east, as existing fueling infrastructure is the absolute minimum to support the 20 fuel truck deliveries per night. Million Air frequently parks the fueling trucks at various locations around the Airport to serve their clients. The main locations for fuel truck storage are Million Air's apron spaces, fuel farm open spaces, and the north apron rapid refueling area. Special fueling operations such as hot refueling is provided by Million Air's certified fueling staff as well as tanker refueling using simultaneous truck flowing operations.

As Cecil expands, so too do the needs of the tenants. With Boeing's expansion toward the northeast portion of the airfield and existing challenges of fuel trucks accessing the northeast area of the Airport, consideration is being given to install a secondary fuel facility in the northeast quadrant of the Airport.

---

[16] *Cecil Spaceport, Infrastructure webpage, Accessed 2021.*

Further analysis will be undertaken in the *Facility Requirements* chapter (Chapter 4) of this Master Plan Update.

Table 2-13 – Fueling Assets

Assets	Fuel Type
Tanks	
One 50,000-gallon Above Ground Tank	Jet A
Three 30,000-gallon Above Ground Tanks	Jet A Fuel
One Above Ground Tank	12,000 Gallons of Jet A Fuel
One Above Ground Tank	12,000 Gallons of 100LL
One Above Ground Tank	20,000 Gallons of Defuel/Refueler Tank
Trucks	
Seven Fueling Trucks	10,000 Gallon Capacity per Truck
One Fueling Truck	8,000 Gallon Capacity
Six Fueling Trucks	5,000 Gallon Capacity per Truck

Notes: Jacksonville JetPort has been transitioned to Million Air after obtaining the data within this table.
Sources: Jacksonville Aviation Authority, 2021; Jacksonville JetPort, 2021.

2.10.2. Airport Maintenance

Cecil's maintenance team and their respective equipment reside in two primary locations: a medium-sized 5,500-square-foot workshop at the base of the ATCT near the ARFF station (Building 177) and an old shed (Building 595) to the northeast of the airfield used to store tools and equipment. Operations staff oversees daily airfield inspections to ensure lighting and visual aids are in working conditions, verify that pavement markings are clear and visible, and conduct a perimeter inspection of the fences. Maintenance personnel work in unison with the Operations staff to perform minor rehabilitation efforts in the forms of crack sealing, painting airfield markings, NAVAID lighting replacements, and manage weed growth and wildlife activity. The Cecil Maintenance Manager indicated existing equipment has met historical needs. Maintenance equipment will continue to be updated as needed.

In addition to airfield assets and fencing, Cecil conducts general maintenance efforts to repair and restore roofing of most buildings and hangar spaces at Cecil. The roofing and water supply lines corresponding to tenant hangars is maintained by Cecil's maintenance personnel.

The Maintenance Manager indicated a need for additional space for the vehicle fleet, mower storage, and maintenance of equipment. A total of 10,000 square feet of maintenance area, inclusive of shops, was identified. Additionally, 10,000 square feet for a storage barn was identified as a need.

2.10.3. Aircraft Rescue and Firefighting

While Cecil is not a Part 139 airport, ARFF services are provided and support the frequent military operations occurring at Cecil. Two ARFF-trained firefighters are staffed 24/7. Supplemental fire staffing includes three structural firefighters at Fire Station 73 (on airport property near the intersection of Aviation Avenue and State Road 134), who will respond to structural fires or additional assistance as requested by Cecil. All firefighters that would respond to an Airport emergency within the two stations are given ARFF training under National Fire Protection Association (NFPA) 1003 Standards. The immediate equipment accessible to Cecil related to firefighting efforts is summarized in Table 2-14.

Table 2-14 – Aircraft Rescue and Firefighting

Station + Personnel	Equipment	Capabilities
Station 56 – On Airport **Four ARFF-Trained Firefighters 24/7**	Amertek 2019 Oshkosh Striker 3000 2019 Oshkosh Striker 3000 2019 Chevrolet 2500 HD	• 100 gallons of water, 130 gallons of foam • 3,000 gallons of water, 300 gallons of ARFF foam, 450 pounds of Purple K • 3,000 gallons of water, 300 gallons of ARFF foam, 450 pounds of Purple K • 100 gallons of ARFF foam, 450 pounds of Purple K
Station 73 – Near Airport **Five ARFF-Trained Firefighters 24/7 with One Active Paramedic**	2017 Pierce 2018 Chevrolet Chassis	• 500 gallons of water, 20 gallons of foam • Advanced Life support (Ambulance)

Sources: Cecil Airport, Emergency Services webpage, Accessed 2021; Jacksonville Aviation Authority, 2021.

2.10.4. Utility Infrastructure

The utility network at an Airport is vital to ensuring operations remain sustainable and can expand operational capacity. Cecil's staff have outlined their goal for the utility infrastructure is to be clean, reliable, redundant, expandable, and maintainable. This section outlines the existing utility infrastructure existing at or near Cecil.

- **Water**: Water services for Cecil is provided by two different high-capacity water treatment sites. Cecil is a part of the general Cecil Commerce Center water utility network which has a capacity flow of 75 million gallons a day. There are no capacity issues related to water supply at Cecil.
- **Fire Water**: Cecil maintains a dedicated fire water system that provides tenants access to highly pressurized water. There are two high-pressure pump stations supporting the fire water system. The individual tenant is responsible for adding whichever chemicals and flame retardants needed for their respective fire plans. Cecil's maintenance personnel are tasked with monitoring and upkeeping the system.

- **Sewer**: Sanitary sewer is provided by the local treatment plant that has an on-site 52-million-gallon-a-day treatment plant capacity.
- **Stormwater**: Located in Florida, Cecil experiences significant rain events; therefore, a complex stormwater management system is required to ensure the protection of life, property, and operational continuity. Cecil mitigates stormwater flowage using a system of underground pipes and ditches along the landside roadways to route water runoff. The airfield is graded and slopped to ensure pooling areas are not on pavement and flow into drainage ditches that route the water away from the critical airfield areas. Cecil maintains a comprehensive Storm Water and Pollution Protection Plan (SWPPP).
- **Electricity**: Cecil's electricity is provided by the Jacksonville Electric Authority (JEA). There is room for 2,600-plus megawatts of installed generating capacity with multiple feeds and dual substations that exist on-site.
- **Natural Gas**: Cecil has an existing 16-inch transmission line providing natural gas to Cecil and its users, running along the Cecil Commerce Center. TECO Gas provides natural gas service to Cecil. Natural gas is used to power various boiler systems.
- **Communications**: Fiber-optic communication lines provide a high-speed, reliable bandwidth connection to Cecil. These communication lines are available to most Airport users and plugs directly into the ATCT and MCC infrastructure.

2.11. Land Use and Zoning

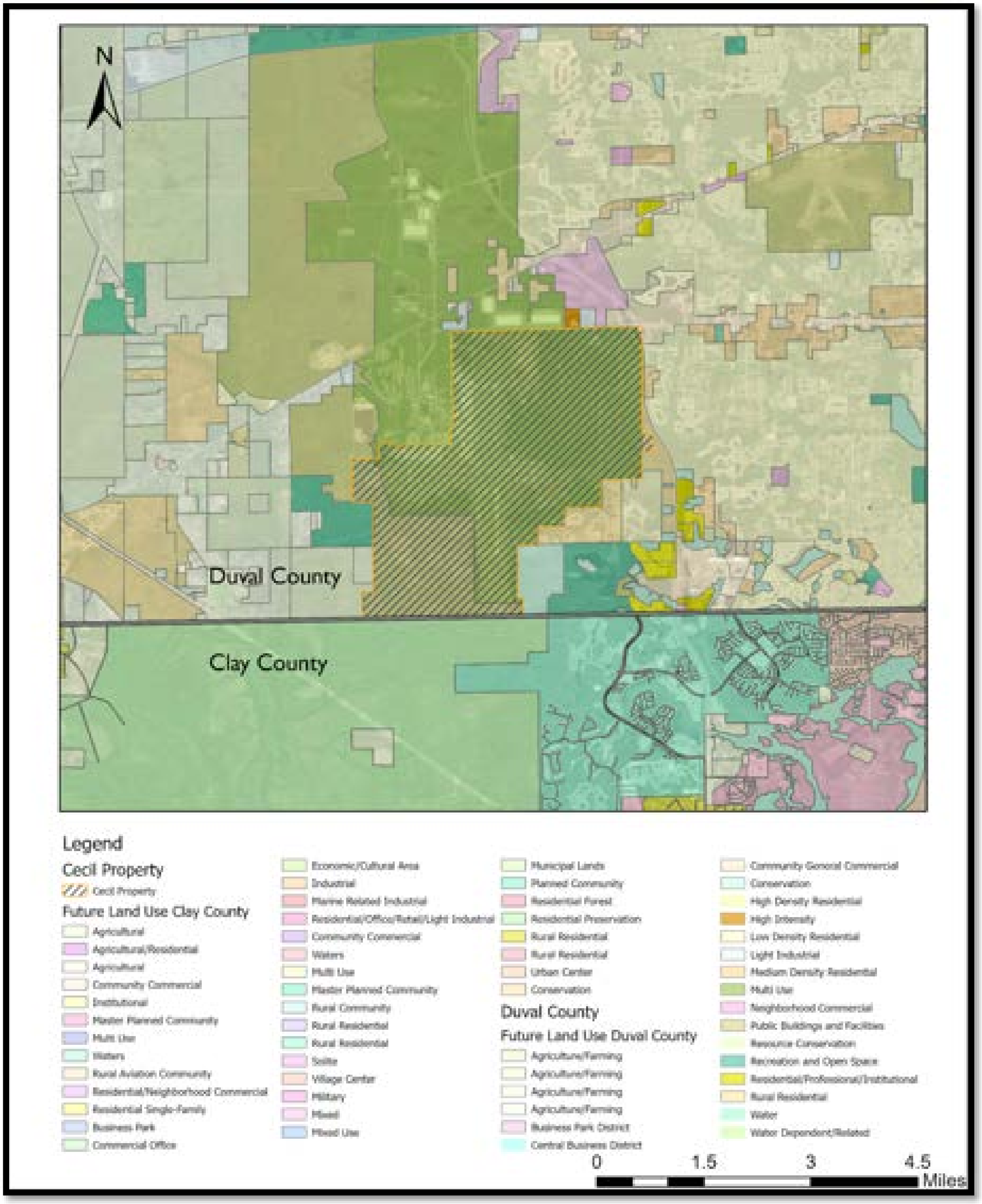
Proper land use planning and zoning is important in positioning an Airport to meet the future demand growth of a community in a manner that is compatible with the community. Aircraft noise is an important consideration in land use planning and zoning. Appendix A documents existing noise contours for Cecil. This section will outline existing zoning and land use planning efforts undertaken by the local communities and will identify incompatible land use areas in the immediate area of Cecil.

2.11.1. Existing Land Use

Cecil Airport is located within Duval County. Clay County begins on Cecil's southern property line; therefore, zoning and land use planning was analyzed for both counties. The City of Jacksonville plays a major role within the local regions' zoning and infrastructure planning efforts and were taken into consideration.

The JAA owns all lands within the existing RPZs, providing JAA full control of land uses within these critical safety areas. Cecil's immediate boundaries are all zoned within the FAA's recommended standards except for the western Rural Residential zoned area that abuts Cecil's property line. Land to the north not abutting the Airport is zoned for residential single-family housing, but is not located within the RPZ or on the immediate property line. In addition to the federal guidance by the FAA to zoning jurisdictions, the state of Florida's Statute 333 related to airport zoning further outlines the importance to zone in accordance with Cecil's critical safety areas, not just the direct operational areas. The statute further identifies what aeronautical use is and the concerns related to obstructions near the Airport's operational areas. The existing zoning and associated map, Figure 2-15, is contained in the following section.

Figure 2-15 – Existing Land Use



Sources: City of Jacksonville, GIS Portal, Accessed December 2021; Clay County, GIS Portal, Accessed December 2023; Jacksonville Aviation Authority, 2023; Kimley-Horn, 2025.

2.11.2. Zoning

Zoning is the intentional act of dividing land areas up and restricting the function of that specific area of land. Zoning is done through the local town or city's zoning boards and is typically out of the direct control of an airport owner, therefore not something the FAA can regulate. The JAA, City of Jacksonville, and Duval County have aligned goals when it comes to the zoning of Cecil's surrounding areas. This relationship helps Cecil continue to expand without hindering operations or negatively impacting communities. Under Part 10 Subpart A of Chapter 656 of the Jacksonville Florida Code of Ordinances, the code establishes that the areas immediately surrounding an airport environment are required to be zoned properly to ensure the safety and the wellbeing of the general public, so as to not expose community members to substantial noise levels or adverse effects from critical navigational aid lighting for aircraft. The Airport is explicitly cited within this code. Much of the land surrounding Cecil is either zoned for industrial, commercial, agricultural, conservation, or recreation open space uses.

Duval County has zoned the areas to the north as commercial use, the areas to the northeast as industrial use, and the areas to the west as public building facilities or agricultural use. The immediate Airport's property is zoned for mixed use, which encompasses the existing airfield extending up and to the northwest to encompass the land to Cecil Field Gym and Recreation Center. Clay County has zoned the area as predominantly agricultural use, apart from the southwest area in relation to Cecil zoned for residential use south of a small portion of incompatible land area zoned as rural residential by Duval County, as shown in Figure 2-16. This area is where the County has envisioned growth stemming from increased operations at Cecil; however, there is intent by both counties to limit the amount of housing in these areas and centralize future high-density residential areas further east.

2.11.3. Land Use Planning

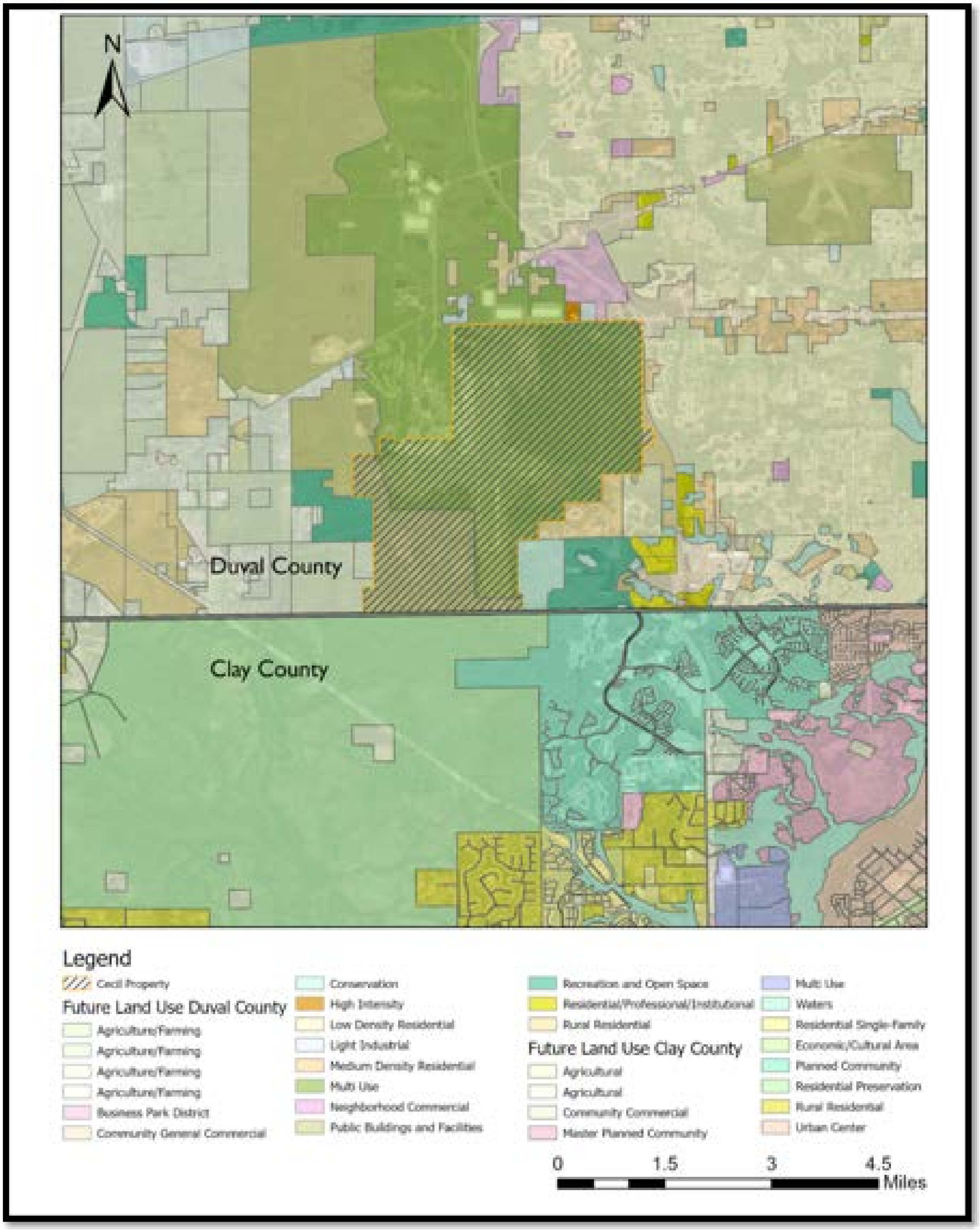
Future land use maps for the two controlling jurisdictions are shown in Figure 2-16. Duval County plays a proactive role in planning for future growth around the local airports. Unlike other airports within Duval County, Cecil has a substantial amount of land owned directly by JAA and is located in a more rural part of the county. With the high-frequency military operations and future spaceport operations, this extra land helps provide a buffer to the surrounding community and provides opportunities for revenue generation to support Cecil's operations, development, and maintenance. The City of Jacksonville Community Planning Division completed the City of Jacksonville 2030 Comprehensive Plan in 2021 that contains future infrastructure projects, land use adjustments, and potential funding sources for the City.[17] This plan was separate from the larger Florida Growth Management Act that requires counties and municipalities to plan for the future growth within their local communities.

The JAA keeps close relations with the county and the City of Jacksonville to align all entities' future interests and manage the sustainable growth of Cecil. Clay County updated the Branan Field area Master Plan, extending growth projections out to the 2040s. Through this, the County seeks to actively monitor the growth of the Airport and the surrounding Cecil Commerce Center. As growth continues, the County is planning to expand residential and commercial growth in their north-central communities. Overall, the County is positioning to leverage growth induced by Cecil and the Cecil Commerce Center.

---

[17] *City of Jacksonville, City of Jacksonville 2030 Comprehensive Plan, 2021.*

Figure 2-16 – Future Land Use



Sources: City of Jacksonville, GIS Portal, Accessed December 2021; Clay County, GIS Portal, Accessed December 2021; Kimley-Horn, 2025.

2.12. Surface Transportation

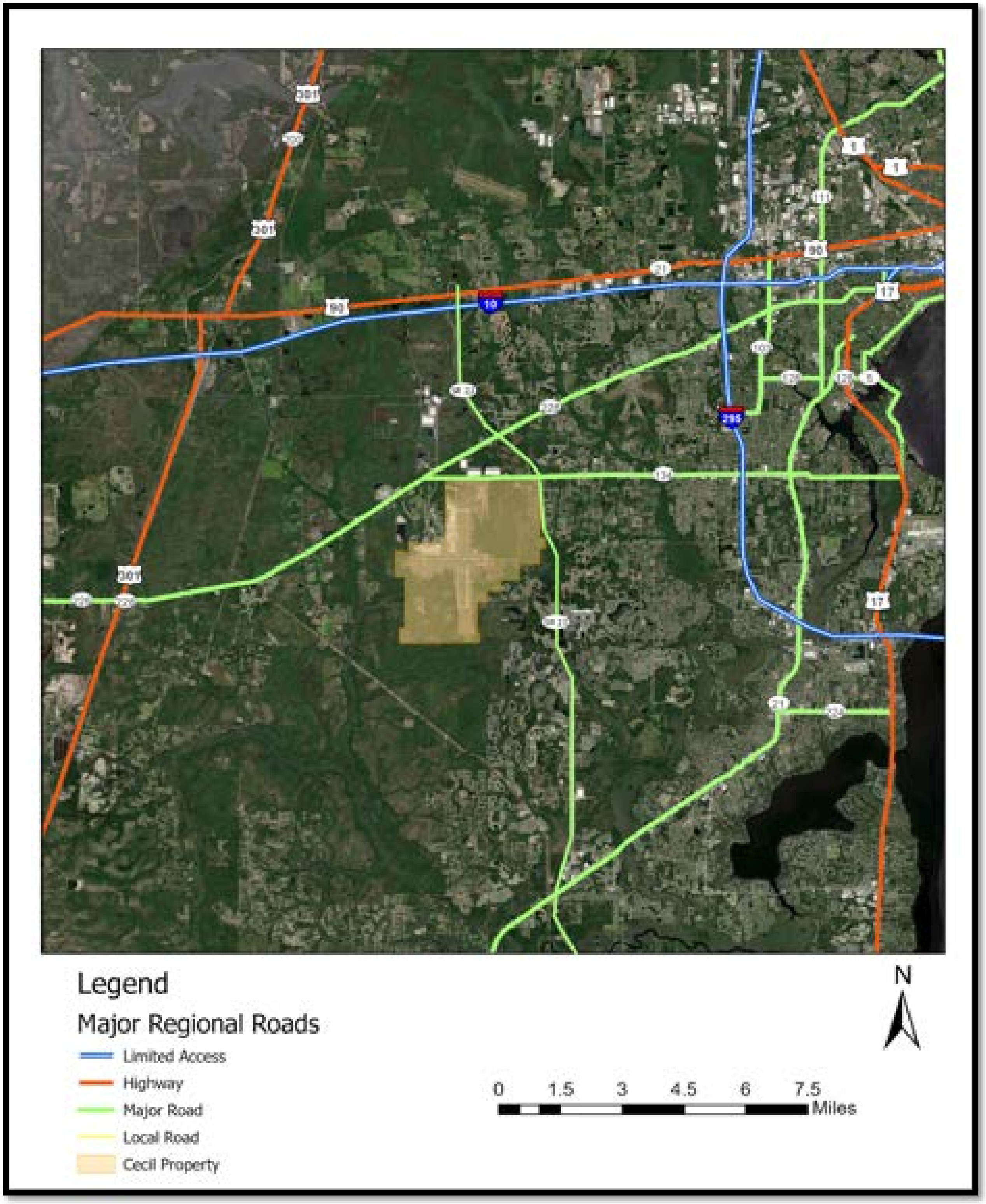
Surface transportation is vital to providing connectivity with an airport to local industries and communities. The JAA actively participates in the roadway development projects and planning efforts through coordination with the City of Jacksonville's Transportation Planning Division. The City of Jacksonville is striving to become one of the world's first "Smart Cities". This includes outfitting numerous roadways with smart sensors, autonomous vehicle assistance, and other new technologies.

2.12.1. Major and Regional Roadways

Major roadway infrastructure providing access to Cecil is depicted in Figure 2-17 and described below. These roadways are integral in the local economy, as fulfillment centers north of Cecil utilize these regional and national roadways daily.

- **State Road (SR) 23:** SR 23 is also known as the First Coast Expressway. SR 23 is a north/south divided, tolled highway that connects to SR 228 to the northeast of Cecil and SR 21 to the south. Both SR 23 and SR 228 have signage indicating Cecil's location. SR 23 also connects to SR 134, which provides access to Aviation Way, the main road used to access Cecil. SR 23 continues north, connecting with US Interstate 10 (I-10) and US Highway 90. SR 23 is near the eastern edge of Cecil's property.
- **SR 134:** SR 134 is an east/west highway that provides access to Cecil and Amazon's fulfillment center to the northeast of Cecil. SR 134 connects with US Highway 301 to the west and SR 23. SR 134 is located near the northern boundary line of Cecil's property.
- **US I-295:** I-295 is the loop highway for Jacksonville. I-295 is approximately 6.5 miles east of Cecil and can be accessed directly via SR 134 or SR 228.
- **US I-10:** I-10 connects Jacksonville to Los Angeles, CA running east/west. I-10 connects Jacksonville with Florida's capital, Tallahassee. I-10 is located approximately four miles north of Cecil and is easily accessible via SR23. I-10 can also be accessed to the west of Cecil via US Highway 301.
- **SR 228:** Connecting to SR 134, SR 228 is a major connecting roadway to downtown Jacksonville. The roadway terminates at I-10 just outside the downtown Jacksonville area. It also serves as a connector to the US Highway 301 to the west. SR 228 is approximately two miles north of Cecil and provides access to Cecil via POW-MIA Memorial Parkway.
- **US Highway 301:** Running north/south eight miles to the west of Cecil, US Highway 301 provides a major connecting regional highway to the Jacksonville area from Gainesville, FL. Traveling northbound, the highway parallels the coastline and continues past the Carolinas.

Figure 2-17 – Major Regional Roadways



Sources: GIS, ESRI Mapping Tool, Accessed December 2021; Kimley-Horn, 2025.

2.12.2. Local and Airport Access Roadways

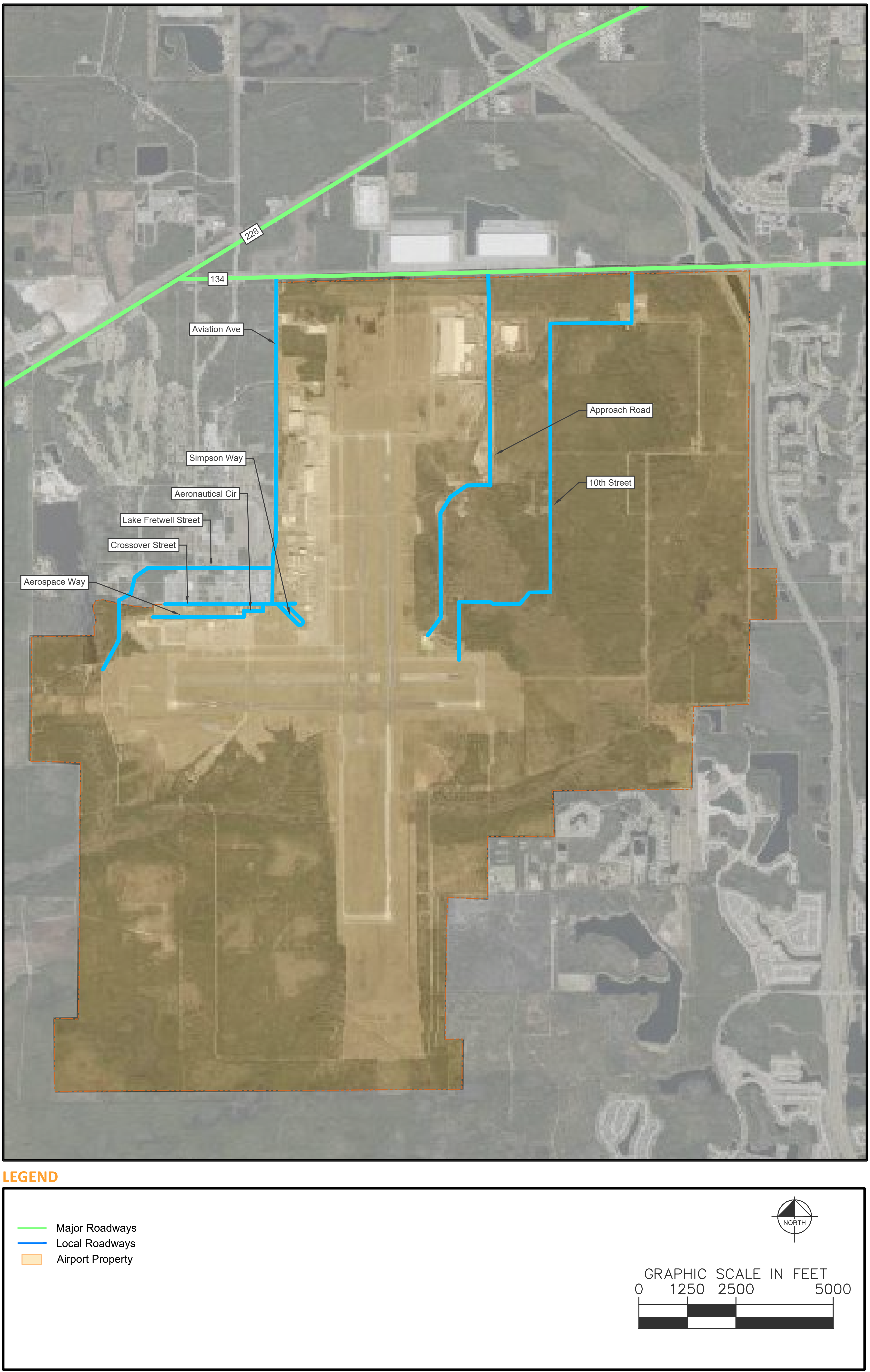
A comprehensive local roadway system gives Airport users the ability to transition from major roadways to Cecil or its supporting facilities. The local roadways connecting to Cecil exist only to the north side of Cecil property. The main local roads are described in the points below and in Figure 2-18.

- **10th Street and Approach Road:** The local roads connecting to the Spaceport facilities to the northeast side of Cecil are narrow, winding roads that connect to SR 134. 10th Street connects to Range Street which terminates at SR 134 near the Amazon fulfillment center. Approach Road connects directly to Florida 134 to the east of 10th Street. These roads are not open to the public.
  - **Approach Road** was expanded to a new, dual-lane paved road as part of a Spaceport initiative that received state funding. The grant was announced by the Florida Governor on November 4, 2021. In addition to providing an improved roadway and alignment to the Spaceport, Approach Road serves the new Boeing facility, which has since been completed. As shown in Figure 2-18, the final alignment of the roadway is depicted. Some exhibits in the following chapters may show a slight variation in alignment, as final design was not complete at the time of writing this report. Figure 2-18 was updated in 2025 to reflect final alignment.

- **Aviation Avenue:** Aviation Avenue is a three lane, north/south road that provides ground access to the north apron tenants. Aviation Avenue terminates at Crossover Street which allows access to Million Air, Airport Administration Offices, ATCT, and MCC via Simpson Way. The roadway also connects to the various east/west roads supporting other commercial facilities throughout the Cecil Commerce Center area.
- **Aerospace Way:** Aerospace Way is an east/west roadway and provides ground access to the west apron tenants. Aerospace Way can be accessed from SR 134 or SR 228 via POW-MIA Memorial Highway.
- **Crossover Street:** An east/west road, Crossover Street provides connectivity between Aviation Avenue and POW-MIA Memorial Highway. Aerospace Way can also be accessed via north/south roads Cargo Hold Way and Authority Avenue. Crossover Street leads directly to a secured airport gate and provides access to Building 1820. Crossover Street connects with Simpson Way.
- **Simpson Way:** This is a one-way loop road providing ground access to the ARFF, Airport Maintenance, MCC, ATCT, Airport Administration Building, and Million Air (inclusive of Million Air's terminal facility). Simpson Way loops around automobile parking for these facilities.
- **Lake Fretwell Street:** Lake Fretwell Street is an east/west road providing connectivity between Aviation Way and POW-MIA Memorial Highway and continues west of POW-MIA Memorial Parkway, providing access to Lake Fretwell Park. The road then loops around the westerly end of the 9/27 Runways. The road south of Lake Fretwell Park is gated and closed to the public. This road provides potential ground access to the southwest quadrant of Cecil.

There is limited to no access to Cecil from the south. Several small roads on airport property are present, none of which are accessible to the public, that provide access to the southeastern quadrant of Cecil. Most of these are unpaved dirt roads. The City of Jacksonville has a planned road extension from the Copper Ridge Development which will ultimately connect with the Cecil Connector. These plans were further analyzed within the Alternatives Chapter of this Master Plan Update.

Figure 2-18 – Local Roadways



Sources: Department of Transportation, Local Roadways GIS, 2021; City of Jacksonville, Roadways GIS, 2021.

2.12.3. Vehicle Service Roads

Once within the security gate, a primary service road wraps along the exterior of the movement areas, providing airfield access throughout the entire airfield. Much of this road is either dirt or has had a chip seal treatment. The road is not smooth, nor is it designed to accommodate larger, heavier vehicles. The road also runs along both apron areas, and in these areas, it is paved.

There is not currently a need for tenants or users to use the service road beyond the limits of the apron. With the relocation of Boeing's facilities to the northeast, additional vehicle traffic, such as fuel trucks, will require a route to get from existing facilities to the new facilities. Provisions for a paved service road within the security fence may be necessary in the future.

2.12.4. Public Transit Connectivity

The Jacksonville Transportation Authority (JTA) operates the Green Line 30 bus route that connects through the local roadways to Cecil and extends east to I-295. This line services the distribution centers to the north of Cecil, as well as Cecil and FSCJ Cecil Center Campus. The terminus near I-295 connects with the JTA line Commonwealth/Lane, which provides service to downtown Jacksonville. These connections allow a rider to travel to/from Cecil and downtown using only two bus lines. At the downtown endpoint of the Commonwealth/Lane route, a transit user would have additional access to the main transport center of Jacksonville, including bus and train transit hubs. The transit center in downtown Jacksonville is an extensive system that offers connection lines via various modes of transportation in and around the city or to the coastal beaches.

2.12.5. Rail Connectivity

There is no direct rail access from Cecil to the rail network surrounding Jacksonville; however, using the major roadways around Cecil, the rail hubs of Jacksonville are easily within reach of Cecil. The rail hubs are located 13 miles from Cecil.

The rail system centered downtown provides direct line access to routes reaching all parts of the country. JAXPORT operates these railways and has over $1.8 billion dollars in future development planned to upgrade systems it operates. Jacksonville sees 40 daily trains operating on two Class I railroad companies (CSX and Norfolk Southern) along with the regional railroad company, Florida East Coast Railway. Additionally, JAXPORT operates two Intermodal Container Transfer Facilities (ICTF), one of which is an on-dock facility. The on-dock rail system ranks as one of the nation's highest weight-bearing capacity docks.

2.12.6. Jacksonville Deep Water Port Connectivity

JAXPORT is undergoing a $484-million-dollar project to deepen the port to accommodate all large cargo ships for the new fully loaded New Panamax class vessels. This will help JAXPORT capture significant sea-cargo operations wanting to off-load to land or air-based transportation. There are four existing deep-water marine terminals servicing dozens of global ocean carrying companies. Access to/from JAXPORT and Cecil is possible via several State Road and Interstate connections; a convenient and direct route is not available.

2.12.7. Automobile Parking

Most Airport tenants have dedicated parking lots for employees and guests adjacent to their operations. A total of approximately 5,000 parking spaces[18], including adequate ADA parking spaces, was observed from tenant lease information. These lots provide direct access to facilities through gated entry points or administrative buildings. Through discussions with Airport Management and tenants, it was noted that existing parking facilities are generally adequate and at times nearing capacity. During special events, parking demands may exceed capacity, particularly in localized areas (e.g., if the USCG has a special exercise bringing in additional staff, there may be overflow in adjacent automobile parking areas). Cecil's large business park area provides adequate additional parking locations during extreme peaks. However, as development expands within this area, overflow parking options may become limited.

2.13. Environmental Overview

2.13.1. Noise and Air Quality

As part of this Airport and Spaceport Master Plan, noise modeling was performed that incorporates existing and forecast Airport and Spaceport operations. The full report is contained within Appendix A of this Master Plan Update. In summary, existing noise contours at the 75 decibel range are contained within the Airport's property. 65 decibel range contours extend beyond the Airport property to the north, south, east, and west driven by the main runway alignments at the Airport. Per an environmental assessment published in 2009, the measured ambient concentration data collected showed no violations of the National Ambient Air Quality Standards or Florida Ambient Air Quality Standards have occurred at local monitoring stations, indicating existing pollutant levels in the Cecil Field area are anticipated to be within standards. The EPA classifies the State of Florida, including the area around Cecil Field, as in attainment (compliance) for all criteria pollutants.

2.13.2. Endangered and Threatened Species

Protecting natural habitats is essential to maintaining a healthy and cohesive local ecosystem. The U.S. Fish and Wildlife Service (USFWS) is the government agency tasked with mapping species population status within the various ecosystems across the country and the Florida Fish and Wildlife Conservation Commission (FWC) is the corresponding state agency within Florida. Florida is part of the Southeast Region of the USFWS; the North Florida Ecological Services Office in Jacksonville is the nearest USFWS office. The Endangered Species Act of 1973 helps provide strong federal legal framework for conservation and protection efforts of those species whose populations are below sustainable levels. The USFWS identifies the status of a species as "Endangered" once the observed population reaches a critically low level that may result in extinction. Extinction is the term used to describe a species that is no longer in existence. An USFWS identification of "Threatened" applies when a species population is under a healthy level with a trending pattern to be categorized as "Endangered" in Duval County.

Table 2-15 outlines the species tracked by FWS and identified as either Candidate, Threatened, or Endangered. The table further identifies common habitats used by the federally listed species as well as state protected species as described in the Florida Natural Areas Inventory (FNAI) and listed by the FWC.

---

[18] *Jacksonville Aviation Authority, 2021.*

Table 2-15 – Endangered Species in Duval County

Species	Status	General Habitat
Mammals		
West Indian Manatee	Federally Threatened	Marine, brackish, and freshwater systems in coastal and riverine areas.
Birds		
Eastern Black Rail	Federally Threatened	Fresh and saltwater marsh areas.
Florida Scrub-Jay	Federally Threatened	Sand pine and scrubby flatwood areas, along dunes and sandy deposits along rivers.
Red Knot	Federally Threatened	Migratory high-arctic birds; when in Florida they use sand beaches, saltmarshes, lagoons, mudflats, and mangrove swamps as wintering habitats.
Red-cockaded Woodpecker	Federally Endangered	Mature pine forest areas.
Wood Stork	Federally Threatened	Mixed hardwood swamps, sloughs, mangroves, and cypress domes/strands in Florida.
Reptiles		
Eastern Indigo Snake	Federally Threatened	Pine flatwoods, hardwood forests, and areas surrounding cypress swamps.
Gopher Tortoise	State Threatened Federal Candidate	Dried sandy soils commonly found in longleaf pine sandhills, scrub, dry prairies, and coastal dunes.
Green Sea Turtle	Federally Threatened	Subtropical regions of the Atlantic Ocean and Gulf of Mexico inside nearshore waters. Coastal sandy shores used for nesting.
Hawksbill Sea Turtle	Federally Endangered	Subtropical regions of the Atlantic Ocean and Gulf of Mexico inside nearshore waters. Coastal sandy shores used for nesting.
Leatherback Sea Turtle	Federally Endangered	Open-water regions of the Atlantic Ocean and Gulf of Mexico. Coastal sandy shores used for nesting.
Loggerhead Sea Turtle	Federally Threatened	Subtropical regions of the Atlantic Ocean and Gulf of Mexico inside nearshore waters. Coastal sandy shores used for nesting.
Suwannee Alligator Snapping Turtle	Federally Proposed Threatened	Only found in the Suwannee River Basin in northern Florida.
Amphibians		
Frosted Flatwoods Salamander	Federally Threatened	Longleaf pine flatwoods with scattered wetlands or wiregrass floor.

Species	Status	General Habitat
Insects		
Monarch Butterfly	Federal Candidate	Open fields and meadows.
Flowering Plants and Flora		
Chapman Rhododendron	Federally Endangered	Wet, mesic, or dry scrubby flatwoods bordering bay swamps.
Purple Honeycomb-Head	State Endangered	Wet pine flatwoods and savannas, seepage slopes, pitcherplant bogs, and wet ditches.
Florida Toothache Grass	State Endangered	Sandhills and dry pinelands.
Piedmont Jointgrass	State Threatened	Dry woodlands.
Giant Orchid	State Threatened	Sandhill, scrub, pine rocklands.
Variable-leaf Crownbeard	State Endangered	Mesic flatwoods and dry woods.

Sources: U.S. Fish and Wildlife Services, Endangered Species Database, Accessed November 2021; Florida Fish and Wildlife Conservation Commission, Species Database, Accessed November 2021; Florida Natural Areas Inventory, Florida Biodiversity Matrix, Accessed December 2021.

Notable protected species that are not documented as active within the local area but are likely to, or known to, reside within the local environments domain as identified by the FNAI within the Duval County area are listed below:[19]

- **Florida Black Bear:** Mammal residing in forested areas supporting the varied seasonal diet of a black bear. Forested wetlands are the primary habitat for the Florida Black Bear.
- **Black Creek Crayfish:** Crustacean with known habitat of small, swift moving, and sand-bottomed streams.
- **Bald and Golden Eagle:** Bald and golden eagles along with their respective nesting areas are protected by federal law through the Migratory Bird Treaty Act and the Eagle Act. Eagle nesting occurs high-up in old-growth trees alongside coastlines, lakes, rivers, or other bodies of water that supply adequate food sources.

Cecil maintains a mowed airfield in accordance with the approved wildlife mitigation plan and actively maintains a developed area to reduce wildlife activity. Due to the condition of these developed areas, it is unlikely that any of the listed species within this section would be affected by the implementation of Cecil's projects since they are proposed on already developed land areas. However, land areas surrounding Cecil that have not been developed may require additional research and analysis to ensure there are no impacts to these protected species.

---

[19] *Florida Natural Areas Inventory, Florida Biodiversity Matrix, Accessed December 2021.*

2.13.2.1. Conservation Areas for Wildlife

Conservation areas such as wildlife refuges, protected parks and forests, or mountains and wilderness areas are owned and operated by local, state, and national entities depending on the underlying environmental asset. Below is an inventory of conservation areas pertaining to wildlife near Cecil:[20]

- **Local:** Abutting Cecil to the south and to the west, local conservation lands are preserved by Duval County/City of Jacksonville under the conservation land name Cecil Field Conservation Corridor. The protected area hosts wooded forest, community recreation areas, healthy wildlife population, and natural streams throughout its nearly 6,000 acres. Branan Field is also a notable local conservation area that provides more than 3 miles of trails, recreation spaces, and mature pine flatwoods that have been rehabilitated by the FWC.
- **State:** Adjacent to the local conservation area, Jennings State Forest extends the protected area over 25,000 acres to the southwest. Jennings State Forest is the closest state-owned conservation area to Cecil, approximately 5 miles from Cecil. Residents travel to Jennings State Forest to recreate, camp, and connect with the state forest.
- **National:** Twenty-five miles to the northwest of Cecil resides Osceola National Forest; it is maintained by the USFS, which is a part of the U.S. Department of Agriculture (USDA). Osceola National Forest hosts flatwoods and swamps for visitors to fish, hunt, and enjoy other recreational activities. The U.S. Naval Base to the east and a small airstrip to the north are owned and operated by the U.S. Navy and are identified as federal conservation areas.

There is one known conservation easement to the southeast of Cecil, encompassing approximately 130 acres, identified as Oakleaf Plantation owned by the Florida FWC Commission.[21]

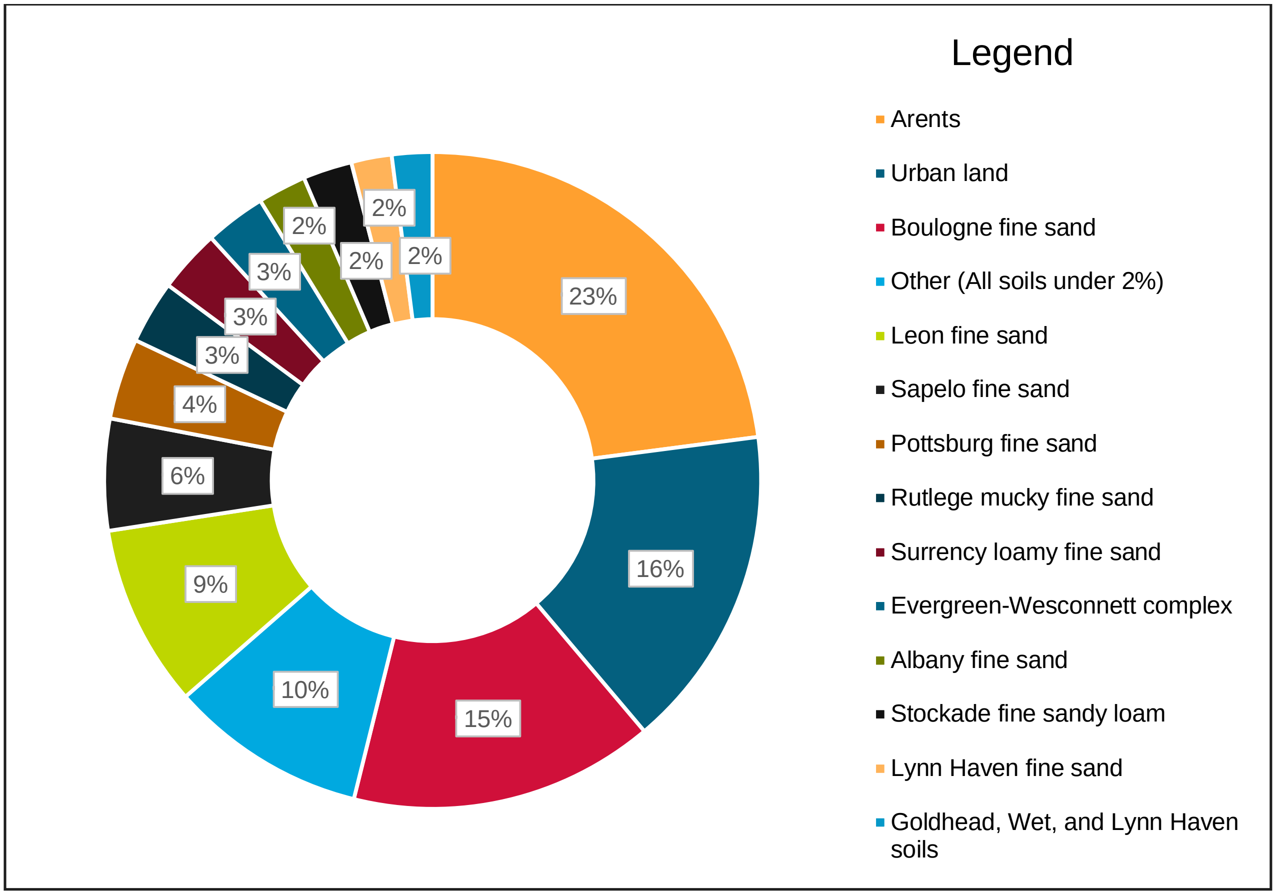
2.13.3. Soils

Soil compositions and slopes often dictate the development or use the underlying land has to a local community. Information was gathered from the USDA – Natural Resources Conservation Service soil survey database to assess the historical composition and slopes of the soil surrounding Cecil. To provide a comprehensive understanding of the soil composition at and around the immediate Airport, the Airport's property plus a 1/3-mile buffer from the Airport's property was analyzed. Most soils, not including the developed land area, are representative of sandy soils. Sandy soils are known for their poor drainage, resulting in the soil being dry most the year and low in nutrients. The data analyzed is summarized in Figure 2-19.[22]

---

[20] *City of Jacksonville, JAX GIS - Duval Maps, Accessed November 2021.*
[21] *National Conservation Easement Database, Interactive Map, Accessed 2021.*
[22] *USDA Natural Resources Conservation Service, Soil Survey Interactive GIS Mapping Tool, Accessed 2021.*

Figure 2-19 – Soil Composition Percentages Near the Airport



Sources: USDA Natural Resources Conservation Services, Soil Mapper GIS Tool, Accessed December 2021.

2.13.4. Farmlands

Active farmland near Cecil is summarized below. Because no farmland property abuts Cecil's property, impacts to these areas due to Airport operations is anticipated to include potential minimal noise disturbance but no direct impacts.

- **Cattle:** Cattle grazing is one of the primary farming disciplines undertaken by Florida farmers. Seven miles to the north, north of I-10, large private farmland is home to herds of cattle for dairy farming. The approximate area of grazing land is 350,000 square yards.[23]
- **Produce:** There are scattered small land lots used for minor agricultural farming efforts to the west. These pieces of land include small fields of produce that supply grown crops to the immediate local markets. The size of each individual field is approximately 1.25 acres.[24]

Typical soil compositions preferred for farming and agricultural use fall under the loam soil classification. Loam soil consists of roughly equal parts sand, silt, and clay. Crops tend to perform best within loam soil as chances of over hydration or flooding is minimal due to the ability for water to flow in and around the

---

[23] *Google Earth and NearMap Satellite Imagery, Accessed November 2021.*
[24] *Ibid.*

soil base, as well as the underlying soil being able to retain nutrients without becoming worked. For this reason, the soils near Cecil are ill-suited for agricultural farming.

Farmlands of Unique Importance present across the state of Florida were analyzed based on the University of Florida GeoPlan Center's published 2019 map and resulted in identifying no Farmlands of Unique Importance on or near Cecil. Farmlands of Unique Importance are not identified on a national scale and are based on local microclimate areas. These areas are also named under the broadened term "Prime Farmland."

2.13.5. Coastal Resources

Due to the geographic location of Cecil, located approximately 30 miles inland from the coast, Cecil does not reside in, nor impact, any protected areas within the USFWS Coastal Barrier Resource System (CBRS), as observed in the USFWS CBRS Mapper.[25]

2.13.6. Water Resources

2.13.6.1. Stormwater Management

Regulating and controlling the Waters of the U.S., the Environmental Protection Agency (EPA) established the National Pollutant Discharge Elimination System (NPDES), which regulates the pollutant discharges into Waters of the U.S. via a permitting process. The permit documents procedures, monitoring efforts, and reporting requirements pertaining to the permit holder seeking to allow pollutants into the Waters of the U.S. Florida has full EPA approval to issue NPDES permits. Cecil also maintains a Storm Water Mitigation Plan, which consists primarily of using various drainage basins across the airfield, along with proper pavement grading, to prevent water accumulation on aircraft movement areas.

Drainage basins are areas of land in which precipitation is collected and flows or drains into a common outlet such as a lake, river, or bay. Drainage basins are identified in Figure 2-20. The drainage basins and topography of the local land area influence the watershed area, identified as a large area of land that drains water into a specific body of water. The area surrounding Cecil on all sides flows into the lower St. Johns River to the east. The St. Johns River is the largest river in the state of Florida, flowing north and spanning over 300 miles.[26]

2.13.6.2. Floodplains

Floodplains, or flood hazard areas, are defined within a Special Flood Hazard Area (SFHA) by the Federal Emergency Management Agency (FEMA). SFHA indicates an area that has a flood hazard of a one-percent chance of being equaled or exceeded in any given year. The 1-percent annual chance flood is commonly referred to as the 100-year floodplain and has been identified by FEMA as the base flood for floodplain management purposes.[27] These areas experience above average exposure to water accumulation and are labeled by FEMA as Zones starting with the letter *A*. Zones identified by shading and the letter *X* are identified as flood zones with moderate flood risk and are captured within the 500-year floodplain. An unshaded *X* denotes areas in which there are minimal flood hazards, due to elevation or other influencing factors.

---

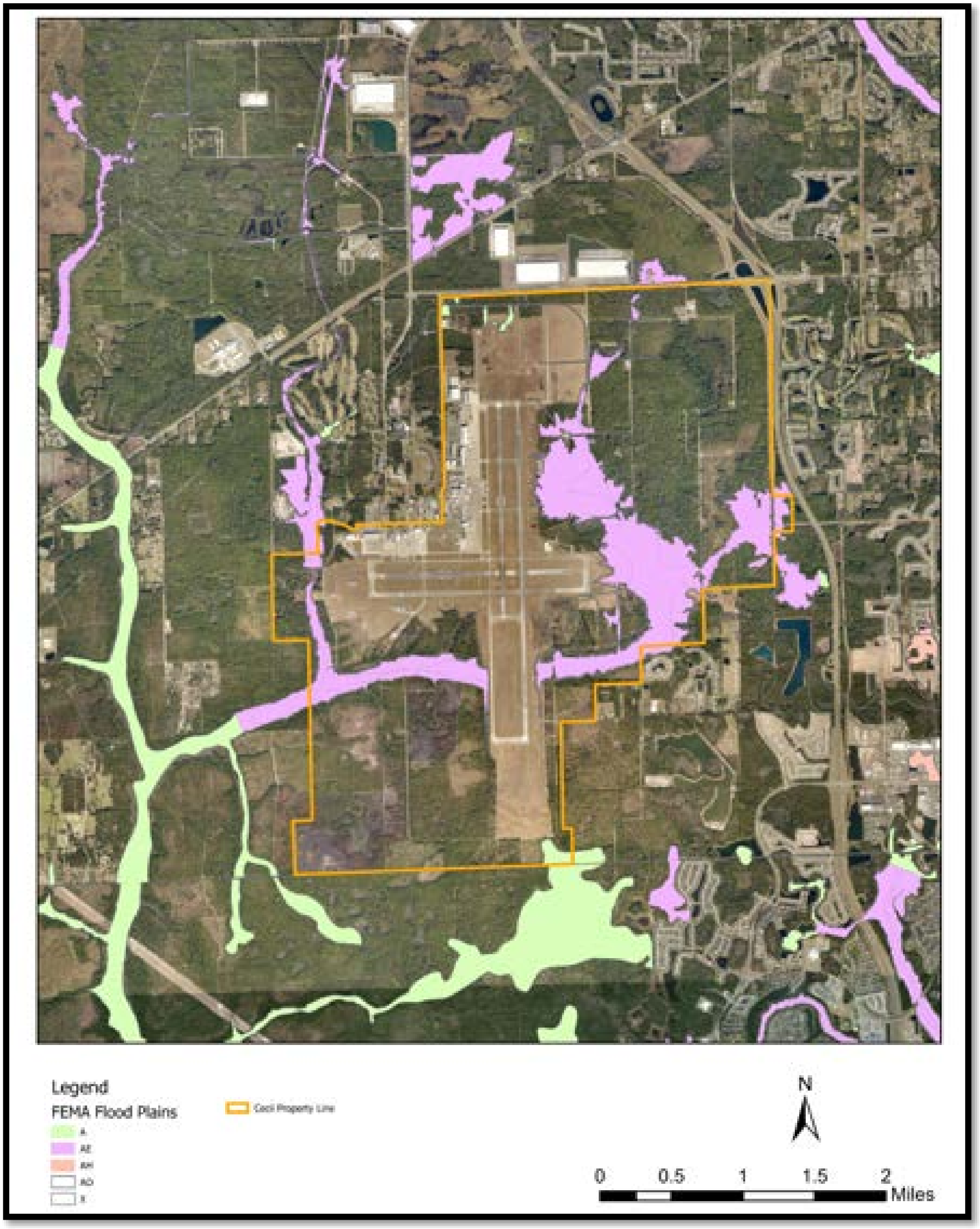
[25] *USFWS, Coastal Barrier Resource System Mapper, Accessed November 2021.*

[26] *St. Johns Riverkeeper, Our River webpage, Accessed November 2021.*

[27] *Federal Emergency Management Agency, Flood Insurance Interactive GIS Mapping Tool, Accessed November 2021.*

Construction and development within floodplains should be avoided to prevent structural damage from flooding or inability to operate during a flood event. Cecil is located on an area that has Flood Zone AE identification to the east and west of Cecil's airfield and Zone A to the south. The *AE* and *A* categories are grouped within the 100-year floodplain and represents potential constraints on development within these areas. The *AE* 100-year floodplain is located within the proposed development area identified in the SDP. The SDP concluded that any development would avoid impacting these areas due to cost and environmental impacts associate with an impactful project. Floodplains on the official Flood Insurance Rate Mapping (FIRM) GIS map supported by FEMA around Cecil are shown in Figure 2-20.

Figure 2-20 – Floodplains and Drainage Basins



Source: FEMA, Insurance Floodplains GIS, 2021; USFWS, Flood Basins GIS, 2021; Jacksonville Aviation Authority, 2021; Kimley-Horn, 2025.

2.13.6.3. Wetlands and Waters of the U.S.

Wetlands are critical ecological, economical, and social areas within a local region. The USFWS is tasked with managing the National Wetland Inventory (NWI), a database mapping known wetland areas across the country and establishing rehabilitation efforts as necessary. Impacts to wetlands and the Waters of the U.S. may require a Section 404 permit with the U.S. Corps of Engineers (USACE) and a Section 401 permit with the state Department of Environmental Protection (DEP). Therefore, the EPA has delegated Wetlands to FDEP. Additional coordination with local, state, and federal environmental agencies may also be required.

Figure 2-21 identifies all known wetland areas and known bodies of water including stream, lakes, and ponds on and near Cecil. Key findings are discussed below:

- **Freshwater Forested or Shrub Wetlands:** Freshwater forested and shrub wetlands are the predominate type of wetland throughout various areas of Cecil's property. These areas are often vegetated with trees and shrubs.[28]
- **Emergent Wetlands:** Scattered small areas of emergent wetlands were also identified throughout the site. Emergent wetlands are broadly categorized by vegetation growth for most the growing season and areas are usually dominated by perennial plants. Common names attributed to these areas are marshes, meadows, or slough.[29]
- **Lakes and Freshwater Ponds:** Lake Fretwell is located immediate west of Cecil and is a part of Fretwell Park. Rowell Creek supplies the lake and the surrounding wetlands with fresh water. Various ponds, natural and manmade, are scattered across the local area further supplementing and sustaining the other wetland ecosystems nearby.

The potential expansion efforts to the northeast of center field identified within the SDP are located on and near identified wetlands. Actual development within these areas will require additional surveying of the area; however, the analysis performed within the SDP concluded that the anticipated improvements would result in potential impacts; therefore, to the extent possible, Cecil will work to avoid potential impacts to these areas. If an impact is necessary, proper permits, license, and approval will be obtained. Cecil may be able to obtain credits from wetland or stream banks, or conservation banks, to mitigate remaining impacts. These credits are awarded under formal agreements and contracts with regulatory agencies. Impacts to aquatic resources are regulated and approved by USACE and the EPA, while impacts to listed species and their habitats are regulated and approved by the USFWS and National Marine Fisheries Service (NMFS). These federal agencies are responsible for determining the appropriate form and amount of compensatory mitigation required.[30]

---

[28] *USFWS, Classification of Wetlands Scrub-Shrub Wetland, Accessed 2021.*
[29] *USFWS, Classification of Wetlands Emergent Wetland, Accessed 2021.*
[30] *Wetland and Conservation Credits 101, Westervelt Ecological Services, 2018.*

Figure 2-21 – National Wetlands Inventory

Sources: USFS, National Wetlands Inventory GIS, Accessed December 2021; Jacksonville Aviation Authority, 2021; Kimley-Horn, 2025.

Impaired Waterbodies are managed by the EPA under the Clean Water Act (CWA) Section 303(d) and are documented via the EPA's Environmental Justice Screening and Mapping Tool (EJSCREEN). Impaired Waters represent bodies of water that do not meet water quality standards for one or more EPA tracked pollutants. The Impaired Waters surrounding Cecil are documented in Figure 2-22. The impaired section of water to the west is identified as the Yellow Water Creek and is impaired for both Fish and Wildlife Propagation – Freshwater and Recreation uses.[31] To the east, the Ortega River and Little Black Creek are both impaired for Fish and Wildlife Propagation – Freshwater and Recreation uses. Little Black Creek has Fecal Coliform Total Maximum Daily Load (TMDL) limits as published by the state and the EPA in a MyWaterWay health report.[32]

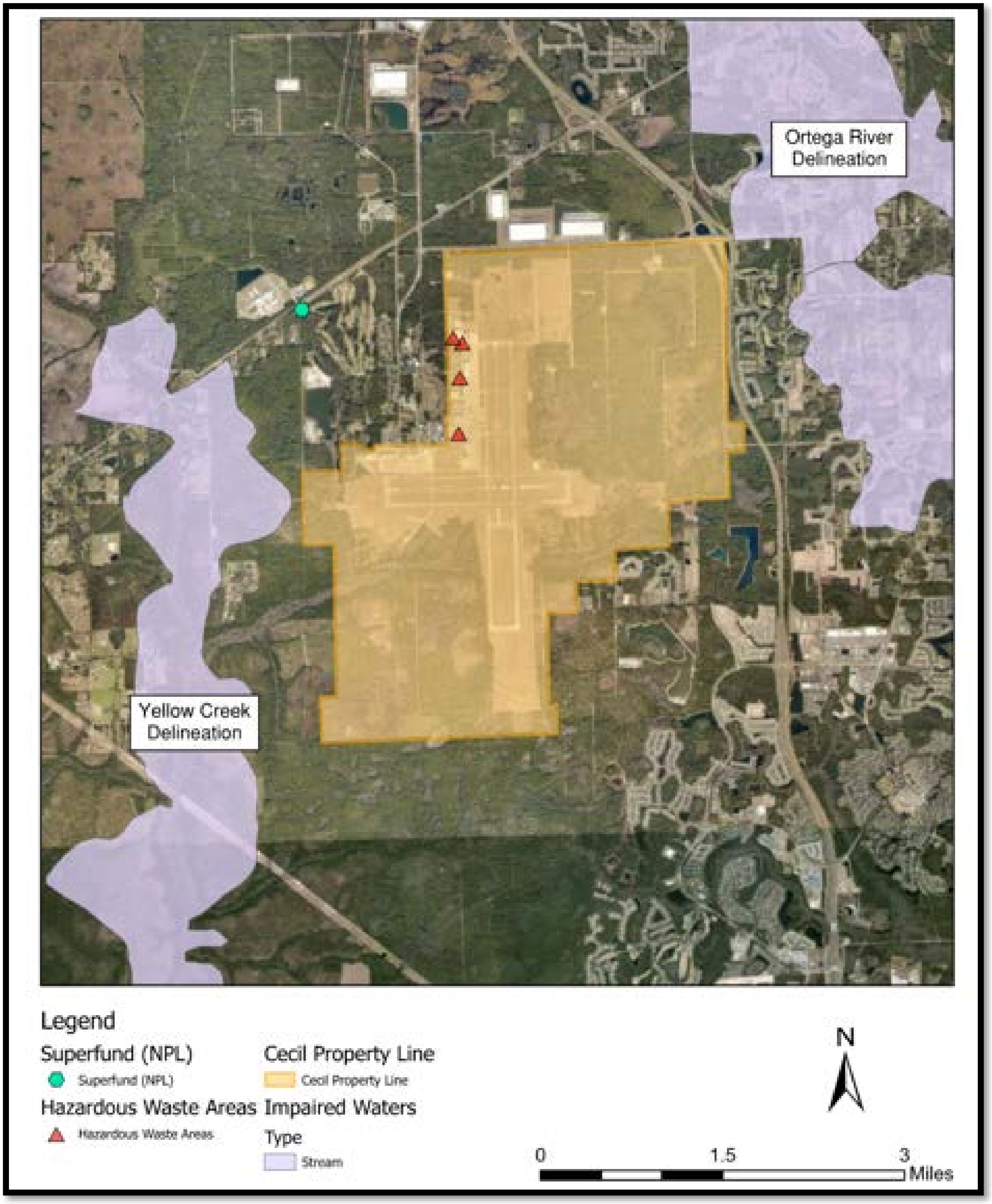
Additionally, Figure 2-22 highlights a "Superfund" area to the northwest, in which government trust funds are used to remedy past releases of hazardous substances. The Superfund Amendments and Reauthorization Act of 1986 (SARA) reauthorized the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) to continue cleanup efforts and instituted additional enforcement tools to the EPA.

---

[31] *FEMA, My Waterway GIS Database - Yellow Water Creek, Accessed 2021.*

[32] *FEMA, My Waterway GIS Database – Little Black Creek & Ortega River, Accessed 2021.*

Figure 2-22 – Impaired Waters and Superfund Location



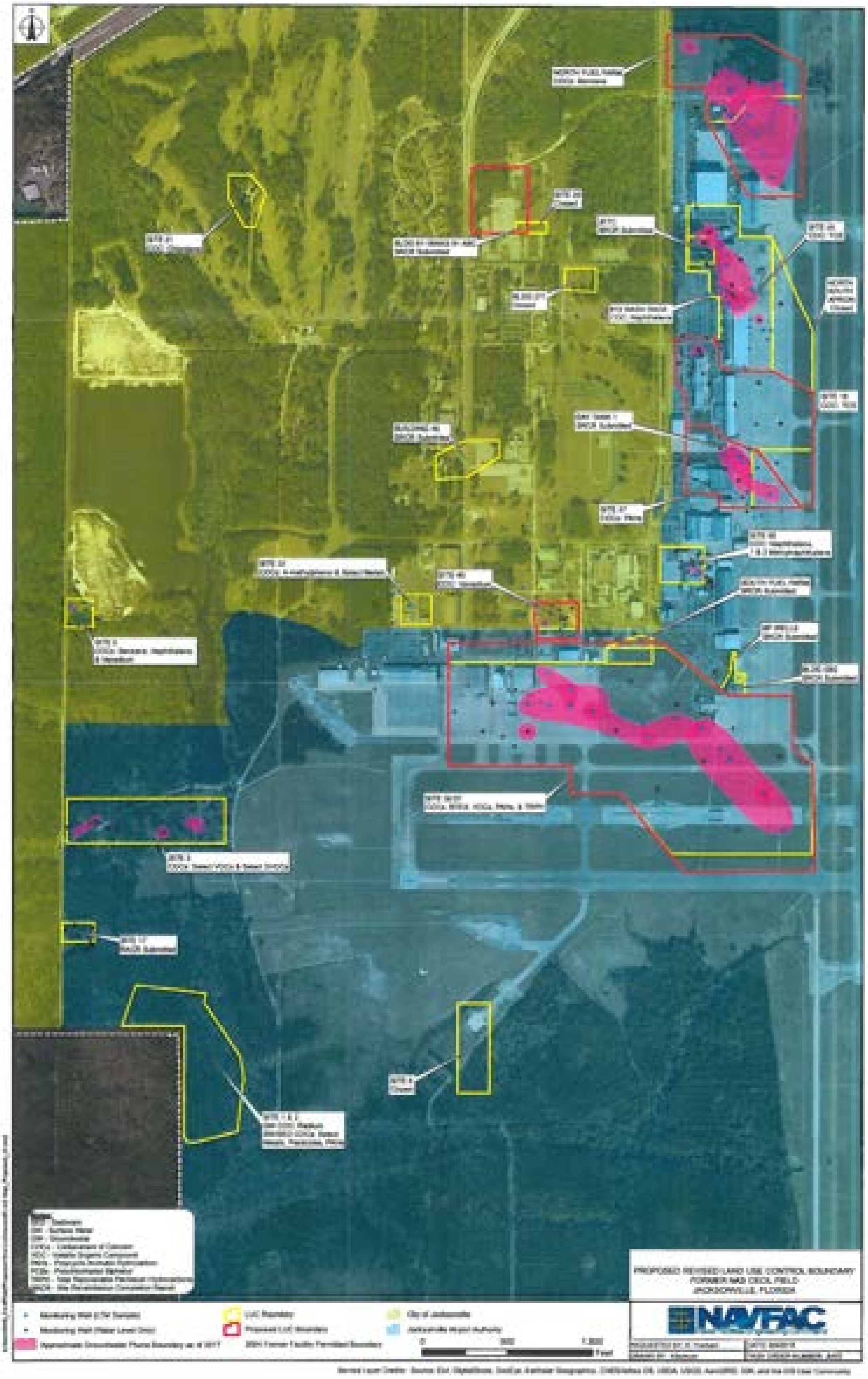
Sources: EPA, EJSCREEN GIS Tool, Accessed November 2021; Jacksonville Aviation Authority, 2021.

2.13.7. Hazardous Materials

The Airport was recently surveyed by the Naval Facilities Engineering Systems Command (NAVFAC) to identify previously used areas by the U.S. Navy. Military operations typically result in heavy operational use of the respective areas and thus tend to have a greater impact on the local environment than other operations. Modern environmental protections and regulations were not present during periods of active operation of the old U.S. Navy Master Jet Base; therefore, identification of used areas by the U.S. Navy helps the Airport and its tenants identify areas that may need additional analysis if development was to occur within the area. Figure 2-23 is the final survey report conducted by NAVFAC in 2019 regarding PER/Polyfluoroalkyl Substances near the Airport, detailing all the U.S. Navy's use areas, as well as which operations were taking place to outline the potentially hazardous areas on and off Cecil. At fueling locations, proper national fire protection policies are followed to ensure safe operations. Fuel spills are reported to the Airport and either the FBO, the Airport, or the fire department will place absorbent. Jet fuel, which is the predominant fuel used at the Airport, is more hazardous than aviation gas (AVGAS).

In addition to identified hazardous materials, the Cecil Commerce Center and supporting airfield have been historically designated as a Brownfield Area by the FDEP. A Brownfield Area is defined as an area in which development has previously occurred and is no longer in use. These areas have the potential presence of hazardous substances, pollutants, or contaminants.

Figure 2-23 – U.S. NAVFAC Hazardous Study



Source: Jacksonville Aviation Authority, 2021.

2.13.8. Community and Recreational Resources

Community resources and recreation areas are essential to a local community's health and happiness. These areas may often be noise sensitive, and therefore, are particularly important to identify when located near an airport. A two-mile radius from Cecil's center was analyzed for this section and include neighborhoods, churches, schools, recreation areas such as parks or greenways, and other resources within the local community that serve the public. The findings are documented within Table 2-16.

Table 2-16 – Community Resources Near Cecil

Asset	Type	Location | Distance in Relation to Airport Center	Services Provided To
Cecil Gym and Fitness Center	Recreation	One Mile | Northwest	Public
POW/MIA Memorial and Museum	Museum	One Mile | Northwest	Public
Chapel of High Speed	Worship	One Mile | Northwest	Public
Cecil Pines Adult Living Community	Residential Housing	One Mile | Northwest	Private
New World Sports Complex	Recreation	One Mile | Northwest	Private
Community Football Field	Recreation	Two Miles | Northwest	Public
Jacksonville Equestrian Center	Recreation	Two Miles | Northwest	Public
Florida State College at Jacksonville Cecil Center Campus	Education	Two Miles | Northwest	Public
Community Baseball Field	Recreation	One Mile | West	Public

Sources: Google Earth, Satellite Imagery, Accessed November 2021; NearMap, Satellite Imagery, Accessed November 2021; EPA, Environmental Justice Screening Tool, Accessed November 2021; Kimley-Horn, 2025.

Note that in addition to the table, low-density and medium-density residential neighborhoods were identified near Cecil. These areas were previously discussed, namely within the land use and zoning sections of this Chapter.

Inventory of low-income housing and minority communities using the EPA's EJSCREEN was captured within a two-mile radius from Cecil's center. No resources or special case areas were identified.

U.S. Census data was analyzed to provide additional background information about the incomes and demographics of Duval County, of which Cecil and interested areas reside, and is presented in Table 2-17. The census block group containing Cecil is further identified within Table 2-17 to analyze the specific economic and demographic conditions within the study area. Economic impacts of Cecil to the local area were discussed in earlier sections of this chapter and were further expanded upon in the *Socioeconomic* section in the Forecasts of Aviation and Aerospace Demand chapter (Chapter 3).

Table 2-17 – Low-income and Demographic Summary Near Cecil

Category	Duval County	Census Block Group
Demographics	Population of 936,186	Population of 2,499
White	60.6%	60.3%
Black or African American	30.8%	32.1%
American Indian or Alaskan Native	0.5%	4.4%
Hispanic or Latino	10.5%	0%
Asian	5.0%	0%
Two or More Races	3.6%	3.2%
Economics		
Median Household Income	$55,807	$47,439
Persons in Poverty	13.5%	None
Minority-Owned Firms	36.81%	N/A
Low-Income Resources Near Cecil		
Low Income Housing	Subsided Housing	Subsidized Housing

Sources: U.S. Census Bureau, U.S. Census Survey(s), 2019 – 2020; Reno Gazzet Journal, 2019 American Community Survey Data, 2020; EPA, EJSCREEN GIS Mapping Tool, Accessed November 2021.

2.13.9. Historic, Cultural, and Archeological Resources and Section 106

A query of the Florida Master Site File, managed by Florida's State Historic Preserving Office (SHPO), was performed to assess and inventory the nearest historic, cultural, and archeological resources within 2 miles of Cecil. The database lists assets under the National Register of Historic Places (NRHP) as well as eligibility to receive funding or identification under Florida SHPO. The Advisory Council on Historic Preservation (ACHP), an independent federal agency, oversees the National Historic Preservation Act (NHPA). Section 106 of the NHPA and NEPA work in unison to protect historic resources, as both identify the underlying asset as properties of concern to a local community. Impacts under Section 106 are defined as both physical impacts or visual impacts. Physical impacts include soil alterations or other factors directly altering the physical environment of a preserved asset.

Based on a letter received from the Florida SHPO on December 7, 2021, two resources were identified as potential areas of interest: Hysler Cemetery and Lake Newman, both of which are located outside of Cecil's property to the northwest. Hysler Cemetery, located one mile northwest from the perimeter of Cecil, was established in approximately 1881 and is not listed as having been SHPO evaluated; therefore, no status is given, and is not included in the NRHP. Similarly, Lake Newman, located outside Cecil's property to the northwest, is not listed on the NRHP and has no existing SHPO evaluation.

2.13.10. Section 4(f) Resources

Section 4(f) of the Department of Transportation Act of 1966 protects specially designated properties including public-owned parks, recreation areas, wildlife refuges, and historic sites. Section 4(f) requires federally funded projects to avoid impacts to these resources unless no other alternative exists. There are potential Section 4(f) resources near Cecil. Located to the immediate west and south, as described in Section 2.13.2.1, the County of Duval and City of Jacksonville own the protected area known as the Cecil Field Conservation Corridor. The protected area has community recreation areas for hiking or biking, sports fields, and provides protected habitat for wildlife. To the south of the County-owned conservation area, the DEP's Division of Land Management owns over 25,000 acres of protected state forest. The area is used by local residents for outdoor recreation actives such as camping or hiking, and provides additional protected area for local wildlife. Future development or growth in operations that may impact these areas requires additional proposed projects' total estimated impacts to the protected areas and coordination with state environmental agencies for further assessment.

2.13.11. Section 6(f) Resources

Section 6(f) of the Department of Transportation Act of 1966 pertains to properties that have been purchased or improved by the Land and Water Conservation Fund (LWCF). The nearest Section 6(f) funded area as identified by the Land and Water Conservation Fund Coalition is the Rails and Trails Park, a state and local assistance program area located 7 miles to the north, north of I-10.[33] In 1990, the City of Jacksonville applied to the DEP to acquire the land associated with Rails and Trails Park along the abandoned railroad corridor to preserve it as a recreational outdoor space for hiking, biking, and various other outdoor activities.[34] To the south, the Jennings State Forest receives funds under the Northeast Florida Timberlands name.

---

[33] *The Land and Water Conservation Fund Coalition, LWCF GIS Database, Accessed 2021.*

[34] *City of Jacksonville, Department of Parks and Recreation Database, Accessed 2021.*

Chapter 3. Cecil Airport and Spaceport Activity Forecast

3.1. Chapter Introduction

This chapter outlined historical, current, and forecast aviation demand conditions at Cecil. Historical analysis within this chapter offered a comprehensive understanding of the operating environment at the Airport. The selected future forecast helped identify timing and sizing for the Airport’s potential future expansion efforts. Forecasts presented within this chapter were unconstrained, meaning that forecasts assumed all necessary infrastructure will be built to accommodate forecast activity, thus not constraining projected growth. Specific needs and facility requirements were presented in subsequent chapters.

This chapter also identified industry trends and influencing factors. A variety of forecasts were assessed, outlining low-, moderate-, and high-growth scenarios over 5-, 10-, and 20-year periods pertaining to aircraft operations and based aircraft at Cecil. In addition to forecasts related to traditional aviation demands, this chapter assessed the forecast demands on Cecil Spaceport. These forecasts built off the 2021 SDP. The base year for all forecasts was calendar year 2021, with 2041 as the ultimate forecast year. Sources consulted within this chapter included, but were not limited to, the following:

- Federal Aviation Administration (FAA)
    - Operational Network (OPSNET) (previously known as Air Traffic Activity System [ATADS])
    - Traffic Management System Counts (TFMSC)
    - Terminal Area Forecast (TAF)
    - 2020-2040 Aerospace Forecast
    - Airport Data and Information Portal (ADIP)
    - 5010-1 Airport Master Record
- Jacksonville Aviation Authority (JAA)
- Local contract Airport Traffic Control Tower (ATCT)
- Cecil Airport and Spaceport (VQQ) Staff and Tenants
- Florida Department of Transportation (FDOT)
    - Florida Aviation System Plan (FASP)
    - Florida Aviation Database (FAD)
- Woods and Poole Economics, Inc.
- U.S. Census
- 2008 Cecil Airport Master Plan

3.1.1. COVID-19 Pandemic Preface

The COVID-19 pandemic, beginning in 2020, impacted all sectors of the global economy. Commercial service airports within the U.S. either shut down or recorded decade-low operational counts due to a variety of government policies restricting travel during the onset of the pandemic in 2020. Many GA airports experienced an increase of operations for a variety of reasons. As of 2021, most U.S. airports were in recovery. Cecil recorded near decade-high operational counts for 2021, signifying a potential recovery from the effects of the pandemic.

With new COVID-19 variants emerging and government policies changing, the continued impact of the pandemic is uncertain. The FAA, as of 2021, projects a continued recovery in the near term, followed by a gradual growth and extended recovery period into the future.

3.1.2. Cecil Airport's Role within Jacksonville Aviation Authority

The JAA airports each serve specific roles within the Authority's system. Cecil Airport's role is to become the region's primary aircraft MRO facility. The Airport also maintains an FAA Spaceport Launch Site license for HLHT vehicles and provides its services and facilities to accommodate a significant portion of military operations within the Jacksonville area.

3.2. Historical Based Aircraft, Operations, and Spaceport Activity

The FAA identifies a wide range of activities categorized as GA, such as recreational or sport flying, flight instruction, air tours, business transportation, and on-demand services such as air taxi (i.e., charter) or medical transportation flights. As a public-use GA airport, the Airport does not accommodate scheduled commercial flights. The Airport has historically generated activity from military, business transportation, flight instruction, and MRO operations. The various operations bring a diverse mix of aircraft, requiring unique needs to be met by the Airport and its tenants. The Airport has only been a public-use facility since 1999, but activity and growth has been experienced since.

Based aircraft and operations are the primary metrics within a GA airport forecast, as each offer distinct demands on facilities present at an airport. The subsequent sections outline historical based aircraft and aircraft operation activity at the Airport.

Cecil Spaceport is a fully licensed commercial launch site operator, serving as one of the few operational HTHL vehicle sites in the country. Spaceport operations and based vehicles are discussed separately.

3.2.1. Based Aircraft and Fleet Mix

Based aircraft are defined by the FAA as operational and airworthy aircraft that reside at an airport for the majority of a calendar year. Airworthiness is determined as an aircraft that is licensed with the FAA, and operational means that the aircraft operates for at least one recorded hour within a calendar year. Unique to Cecil, MRO activity represents a substantial amount of landside operations, often resulting in an aircraft being stored at the Airport for an average of four to six months. Although the vast majority of apron and hangar space is dedicated to MRO operations, often these aircraft remain ineligible to be counted as a based aircraft due to the airworthiness, duration of stay, and operational criteria associated with the based aircraft definition.

The TAF is the FAA's official forecast for U.S. airports listed within the National Plan of Integrated Airport Systems (NPIAS) and reports historical data, including based aircraft. Table 3-1 lists based aircraft recorded by the FAA's TAF, which was verified by the Airport. Anomalies in FAA TAF data for the years 2011, 2012, and 2015 were noted and appeared to exclude based military aircraft. JAA confirmed this was the likely cause of the variances. Therefore, to eliminate potential errors in forecasting based on historical trends, based aircraft counts for the anomalous years were held constant from the previous year.

Table 3-1 – Historical Based Aircraft

Year	TAF Based Aircraft	Estimated Based Aircraft
2011	18	80[1]
2012	27	80[1]
2013	90	90
2014	93	93
2015	23	93[1]
2016	93	93
2017	92	92
2018	92	92
2019	84	84
2020	84	84
2021	84	84
AAGR **2011 to 2021**	**36.67%**	**0.50%**

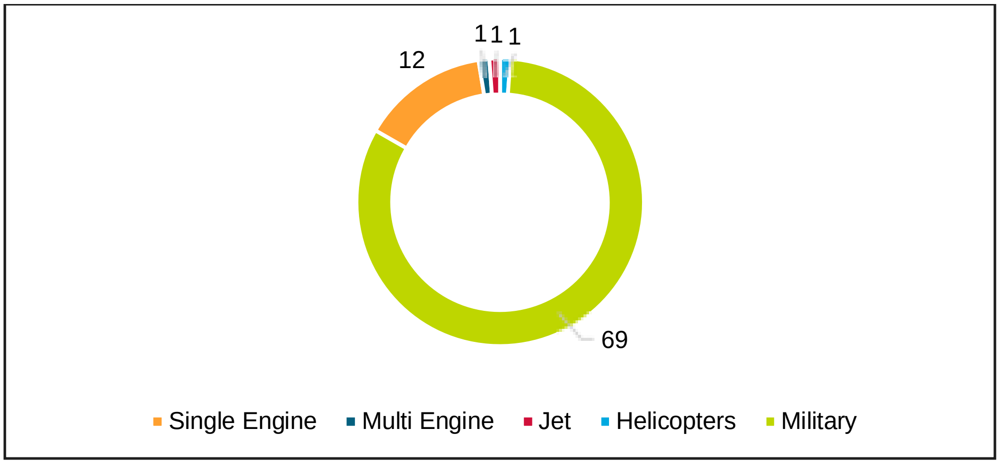
Notes: AAGR = Average Annual Growth Rate; 1. 2011 and 2012 values are held constant from 2010 and 2015 value is held constant from 2014.

Sources: FAA, TAF, May 2021; Jacksonville Aviation Authority; and Kimley-Horn, 2025.

3.2.1.1. Historical Based Aircraft Fleet Mix

Figure 3-1 summarizes the FAA's Airport Data and Information Portal (ADIP) records related to the based aircraft at the Airport. Military designation is an all-encompassing term that may contain both rotorcraft and fixed-wing aircraft. Based on the knowledge of the Airport, many of these aircraft are rotor-wing aircraft belonging to the USCG HITRON base and the FLARNG.

Figure 3-1 – Based Aircraft Breakdown



Source: FAA, Airport Data Information Portal, Accessed December 2021.

3.2.2. Aircraft Operations

An aircraft operation is when an aircraft performs a take-off or landing. In cases such as a touch-and-go operation, where the aircraft will land and take off, both the landing and take-off will be counted independent of each other for a total of two operations for one touch-and-go. Aircraft operations are categorized within two major groupings: local and itinerant. Local operations represent an aircraft remaining within the Airport's immediate traffic pattern or reporting to a practice area within 20 miles of the Airport. Itinerant aircraft operations include all other activity, such as aircraft traveling from one airport to another. The sections below outline historical local and itinerant GA and military operations at the Airport.

3.2.2.1. General Aviation Operations

Table 3-2 documents historical GA aircraft operations at the Airport between 2011 and 2021 as recorded by the FAA's OPSNET. Slight variation between datasets were attributed to TAF recording data based on the federal fiscal year, and OPSNET recording information based on a calendar year. Historical OPSNET data aligned with the ATCT tower log data; therefore, OPSNET data were utilized for forecasting purposes. As shown, historical local and itinerant operations have fluctuated between 2011 and 2021, but overall, the Airport experienced strong growth in GA activity during that time.

Table 3-2 – Historical General Aviation Operations

Year	Itinerant	Local	Total General Aviation
2011	11,174	18,077	29,251
2012	15,033	24,427	39,460
2013	15,010	23,416	38,426
2014	17,137	32,567	49,704
2015	14,035	23,501	37,536
2016	11,820	14,340	26,160
2017	13,418	16,749	30,167
2018	13,141	21,869	35,010
2019	17,899	29,509	47,408
2020	14,165	26,707	40,872
2021	17,439	32,152	49,591
AAGR 2011 - 2021	**5.61%**	**7.79%**	**6.95%**

Note: AAGR = Average Annual Growth Rate

Source: FAA, Operations Network (OPSNET) Database, Accessed November 2021.

3.2.2.2. Military Operations

A significant proportion of operational activity at the Airport is generated by military and MRO tenants serving the military. Military operational counts were obtained from the FAA's OPSNET and verified by Airport management, ATCT tower logs, and the FAA's TAF. Historical military operations are recorded within Table 3-3. Military operations have declined at an AAGR of 1.25% between 2011 and 2021, with total operations peaking at 61,562 in 2015, followed by a decline to 42,418 operations in 2021.

Table 3-3 – Historical Military Operations

Year	Itinerant	Local	Total
2011	9,567	38,912	48,479
2012	11,121	38,315	49,436
2013	12,379	43,870	56,249
2014	12,841	41,071	53,912
2015	19,326	42,236	61,562
2016	18,948	38,693	57,641
2017	11,440	28,885	40,325
2018	13,795	32,149	45,944
2019	14,043	33,652	47,695
2020	12,910	29,081	41,991
2021	12,695	29,723	42,418
AAGR 2011 - 2021	**3.27%**	**-2.36%**	**-1.25 %**

Note: AAGR = Average Annual Growth Rate

Sources: FAA, OPSNET, Accessed 2021; FAA, TAF, May 2021; Kimley-Horn, 2021.

3.2.3. Historical Spaceport Activity

As noted in the 2021 SDP, historical spaceport activity at Cecil focused on rocket engine and vehicle testing operations. Figure 3-2 outlines the aerospace industry's vehicle development timelines related to potential users of Cecil Spaceport. The historical analysis conducted for this section, in addition to conclusions drawn in the 2021 SDP, resulted in the general assumption that historical spaceport operations across the industry focused on testing and development of engines and vehicles with no regularly scheduled commercial space operations utilizing a HTHL vehicle.

Figure 3-2 – Aerospace Historical Vehicle Development

HTHL Launch Concepts			Reentry	
Concept X	🟡	Bristol Ascender	🟢	Boeing X-37B
	🟡	PD Aerospace Spaceplane	🟡	Sierra Space Dream Chaser
	🟡	Reaction Engines Skylon		**Supersonic**
	🟡	Sabre Development Vehicle	🟡	Boom Supersonic Overture
	🔴	Airbus Defense and Space Spaceplane	🟡	Boom Supersonic XB-1
	⚫	Rocketplane XP	🟡	HyperMach SonicStar
Concept Y	🟡	Dawn Aerospace MK-II Aurora	🟡	Lockheed Martin X-59 QueSST
	🟡	Dawn Aerospace MK-III	🟡	Reaction Engines Lapcat A2
	⚫	XCOR Lynx	🟡	Spike S-512
Concept Z	🟢	Northrop Grumman Pegasus XL	⚫	Aerion A5-2
	🟢	Virgin Orbit Launcher One		**Support**
	🟢	Coleman Aerospace	🟢	Zero-G (727-200)
	🟡	Aevum RAVNX	🟢	Super Guppy
	🟡	Bristol Spacebus	🟢	F-104 Starfighter
	🟡	Briston Spacecab		**Balloon**
	🟡	Firefly Gamma	🟡	Space Perspective Neptune
	🟡	Generation Orbit X-60A	🟡	Worldview Stratollite
	🟡	Orbital Access 500R		**VTVL**
	🟡	Stratolaunch Talon-A	🟢	Blue Origin New Shepard
	🟡	Virgin Galactic Spaceship Three	🟡	Masten Xodiac
	🟡	Virgin Galactic Spaceship Two	🟡	New Frontier Aerospace
	⚫	S3 Soar Spaceplane	🟡	SpaceX Starship

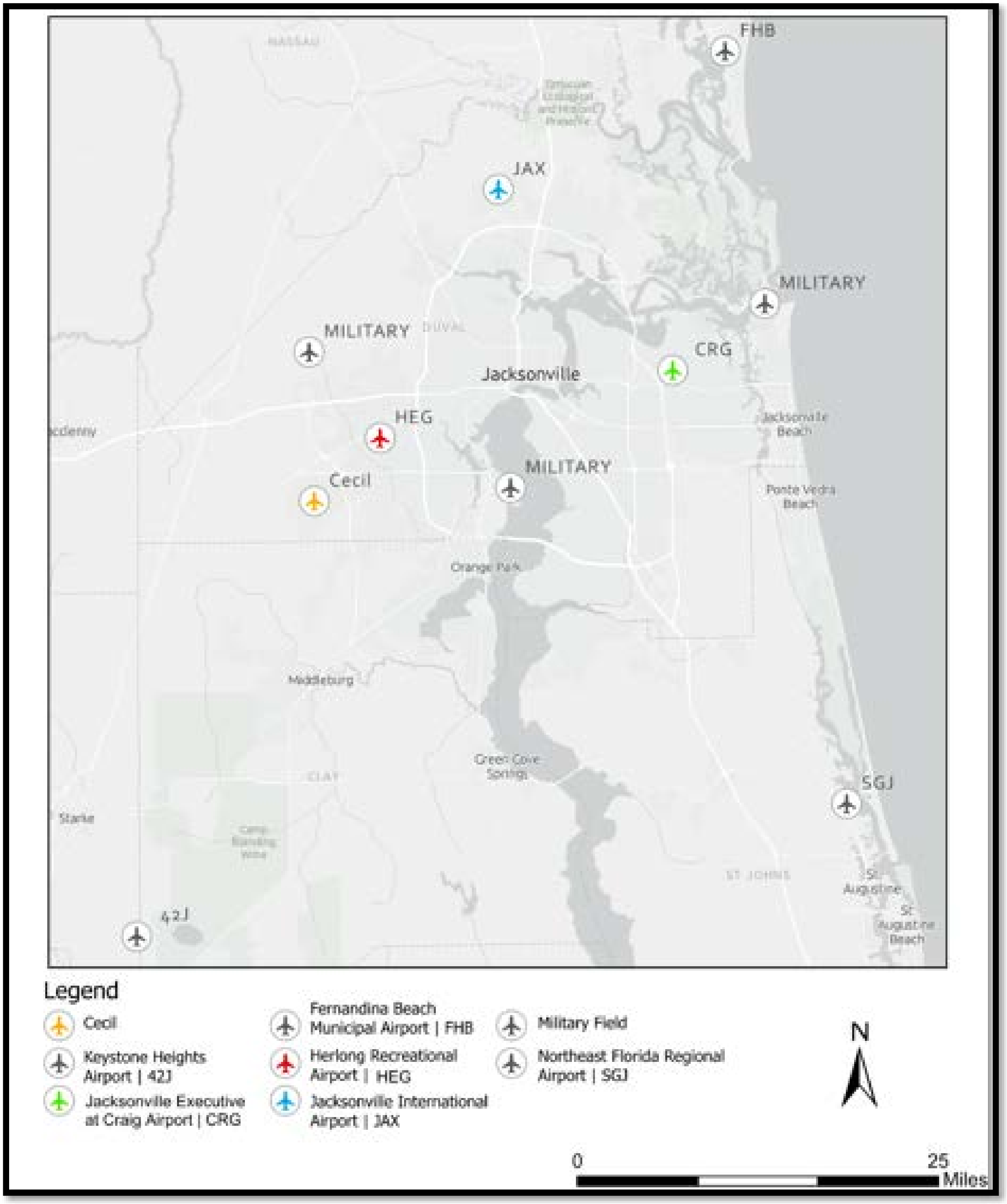
🟢 = Operational
🟡 = In Development
🔴 = On Hold
⚫ = Cancelled

Sources: Spaceport Development Plan, Kimley-Horn, 2021.

3.2.4. Historical Comparison of Activity within the Region

Market analysis of airports within the Jacksonville area was preformed to identify Cecil's position and local aviation market trends. The Market Study Grouping of Airports (MSGA) was used to assess the operating environments of comparable airports within a 40-mile radius of Cecil and are shown in Figure 3-3**Error! Reference source not found.**. Restricted military airfields were excluded from the MSGA.

Figure 3-3 – Market Study Grouping of Airports



Note: Military fields are shown for reference and were not included within the market study grouping of airports.
Sources: Google Earth and Near Map, Satellite Imagery, Accessed December 2021; Kimley-Horn, 2025.

3.2.4.1. Historical Market Share Overview

Data regarding aircraft operations within the MSGA were compared to Cecil Airport's operations and based aircraft to identify the Airport's historical market share (see Table 3-4). Between 2011 and 2021, the Airport has grown its market capture in GA operations from 7% to 10%, and the share of military operations has fluctuated slightly during that timeframe. The Airport's historical average for based aircraft was 10% of the total market for based aircraft within the MSGA between 2011 and 2021.

Table 3-4 – Cecil Airport's Historical Market Capture Rates

Year	Based Aircraft		Operations				
	Total in MSGA	Captured MSGA Share	Total GA	Captured MSGA Share	Total Military	Captured MSGA Share	Total MSGA Captured
2011	888	9%	426,833	7%	72,863	67%	16%
2012	924	9%	435,055	9%	71,238	69%	18%
2013	864	10%	437,493	9%	79,084	71%	18%
2014	858	11%	452,304	11%	76,763	70%	20%
2015	845	11%	465,080	8%	88,145	70%	18%
2016	853	11%	461,637	6%	92,721	62%	15%
2017	770	12%	461,571	7%	67,596	60%	13%
2018	716	13%	506,362	7%	71,086	65%	14%
2019	919	9%	513,296	9%	73,796	65%	16%
2020	929	9%	491,955	8%	62,660	67%	15%
2021	945	9%	504,112	10%	63,087	67%	16%
AAGR 2011 - 2021	**0.64%**	**- 0.13%**	**1.81%**	**4.35%**	**- 1.34%**	**0.11%**	**0.43%**

Notes: AAGR = Average Annual Growth Rate; MSGA = Market Study Group of Airports.

Sources: FAA, OPSNET, Accessed 2021; FAA, TAF, May 2021, Kimley-Horn.

3.3. Previous Forecasts and Studies

Historical forecasts and studies are useful to identify the previous outlooks on the future of the Airport and Spaceport. This section presents an assessment of notable studies.

3.3.1. Aviation Demand Forecasts

Prior to the development of this Master Plan, previous forecasts were examined to measure their continued validity such as the 2008 Airport Master Plan, statewide studies, and historical TAF data. Each historical forecast was produced during times experiencing different market conditions and therefore projected wide ranges of growth for Cecil. Overall, these studies proved useful over time, but do not reflect the base year's market conditions.

3.3.2. Spaceport Plans

The Spaceport has conducted two major studies since obtaining a spaceport license from the FAA in 2010. The 2012 Cecil Spaceport Master Plan was undertaken to assess existing infrastructure and overall industry demands placed on the Spaceport. The 2012 Spaceport Master Plan was undertaken during different market conditions; therefore, the growth projections do not represent the current environment.

Building off developments in the commercial space industry between 2012 and 2021, the 2021 SDP undertook an assessment of the aerospace market, outlining multi-use facilities and operational areas for the Spaceport. The analysis and conclusions presented within the 2021 SDP were used to inform the Spaceport forecast within this chapter.

3.4. Factors and Trends Impacting Aviation and Aerospace

This section outlined the major influencing factors on aviation and aerospace demand to identify potential trends within the industry.

3.4.1. Socioeconomic Conditions

Regional and local socioeconomic conditions can be influencing factors for aviation-related activity at GA airports. Data was gathered from Woods and Poole Economics, Inc., an economic consulting firm specializing in forecasts and analysis of various socioeconomic factors such as population, active employment, Per Capita Personal Income (PCPI), and Gross Regional Product (GRP). Historical and forecast data related to these socioeconomic factors are presented below.

3.4.1.1. Socioeconomic Analysis

Between 2011 and 2021, population across the Jacksonville Metropolitan Statistical Area (JAX-MSA) experienced a historical Average Annual Growth Rate (AAGR) of 1.57% increasing population by approximately 213,000. During the same time, Florida's population grew at a 1.47% AAGR. The population growth trend is expected to continue over the forecasting period between 2021 and 2041, with the JAX-MSA increasing at an AAGR of 1.61%, and Florida growing by 1.48% AAGR.

Employment is measured by total active jobs and has increased within the JAX-MSA at a 2.05% AAGR. During the same 10-year historical period, Florida recorded a 2.29% AAGR. Forecast data projects slower growth at a AAGR of 1.83% for the JAX-MSA and 1.80% for Florida over the 20-year forecast period.

PCPI represents the average amount of pre-tax income each person has access to within a surveyed area. GRP identifies a region's total economic output over time. Higher PCPI and GRP may influence a population's increased willingness to spend capital on traveling or owning GA aircraft. Florida experienced a 1.24% AAGR in PCPI between 2011 and 2021 with the JAX-MSA increasing at a lower 1.20% AAGR during the same timeframe. Florida's PCPI is expected to grow at a 1.35% AAGR through 2041, and the JAX-MSA is projected to experience 1.24% AAGR during the same timeframe. From 2011 through 2021, GRP grew at an AAGR of 2.98% for the JAX-MSA and is projected to continue at a 3.06% AAGR between 2021 and 2041. The forecast for Florida projects an AAGR of 2.90% over the same 20-year forecast period, lower than the 10-year historical AAGR of 3.11%. Table 3-5 documents the historical and forecast socioeconomic indicators.

Table 3-5 – Socioeconomic Summary

Year	Florida				Jacksonville Metropolitan Area			
	Population	Employment	PCPI	GRP	Population	Employment	PCPI	GRP
Historical								
2011	19,108	10,117	$49,227	$895,100	1,362	800	$49,704	$75,102
2012	19,355	10,325	$49,159	$913,328	1,379	809	$50,226	$76,626
2013	19,600	10,618	$48,566	$940,091	1,396	826	$49,437	$77,971
2014	19,893	10,911	$49,538	$975,359	1,419	844	$50,322	$80,535
2015	20,159	11,132	$50,393	$1,003,282	1,440	861	$51,032	$82,868
2016	20,443	11,352	$51,203	$1,030,987	1,461	878	$51,787	$85,222
2017	20,732	11,568	$52,006	$1,058,779	1,483	895	$52,539	$87,593
2018	21,024	11,784	$52,818	$1,086,817	1,506	912	$53,300	$89,994
2019	21,320	12,001	$53,645	$1,115,267	1,529	929	$54,076	$92,436
2020	21,621	12,219	$54,493	$1,144,172	1,552	946	$54,874	$94,922
2021	21,925	12,438	$55,337	$1,173,588	1,575	964	$55,666	$97,455
AAGR 2011 to 2021	**1.47%**	**2.29%**	**1.24%**	**3.11%**	**1.57%**	**2.05%**	**1.20%**	**2.98%**
Forecast								
2026	23,500	13,550	$59,585	$1,327,470	1,695	1,050	$59,640	$110,765
2031	25,140	14,670	$63,445	$1,492,035	1,825	1,140	$63,215	$125,115
2036	26,785	15,780	$66,980	$1,666,810	1,950	1,230	$66,465	$140,500
2041	28,425	16,905	$70,260	$1,853,720	2,080	1,320	$69,460	$157,100
2046	30,070	18,050	$73,855	$2,054,620	2,210	1,410	$72,760	$175,130
AAGR 2021 to 2046	**1.48%**	**1.80%**	**1.35%**	**2.90%**	**1.61%**	**1.83%**	**1.24%**	**3.06%**

Notes: PCPI = Per Capita Personal Income; AAGR = Average Annual Growth Rate; GRP = Gross Regional Product; All forecast values are rounded to nearest 5; Population, employment, and GRP are expressed in thousands; All monetary values are adjusted 2021 U.S. dollars from 2009 U.S. dollars.

Source: Woods and Poole Inc, Socioeconomic Data Report (Duval County, JMSA, Florida), Accessed 2021.

3.4.2. Fuel Consumption

Million Air is the Airport's FBO and reported through tenant interviews that fuel flowage is at an all-time high, operating at peak capacity daily. The majority of fuel sold at the Airport is jet fuel, followed by aviation gas (avgas). This aligns with industry-wide trends as published by the FAA's Aerospace Forecast. The FBO estimates that 90% of its annual business is related to military fueling, and 10% from civil business. The FBO expects military to decrease to 80% and civil to increase to 20% in the short-term.

A summary of the historical and forecast data within the FAA's Aerospace Forecast 2021 - 2041 related to GA fueling activity is documented within Table 3-16. Jet fuel is anticipated to grow at a 3.1% AAGR over the 20-year forecast period, with avgas consumption declining over the same period at 0.14% AAGR.

Table 3-6 – FAA Aerospace Fuel Consumption Trends (millions of gallons)

Year	Fixed-Wing Aircraft				Rotorcraft		Other		Total Fuel Consumed		
	Single-Engine Piston	Multi-Engine Piston	Turbo Prop	Turbo Jet	Piston	Turbine	Experimental & Other	Light Sport	Avgas	Jet Fuel	Total
Historical											
2010	133	54	187	1,123	11	125	22	1	221	1,435	1,656
2011	130	53	195	1,125	10	136	21	1	216	1,456	1,672
2012	126	54	209	1,077	10	149	16	1	206	1,435	1,641
2013	117	54	189	945	9	126	16	1	197	1,260	1,457
2014	120	48	199	1,135	11	132	29	1	210	1,466	1,676
2015	128	40	191	1,063	10	128	15	1	196	1,383	1,578
2016	137	42	207	1,117	10	113	17	1	206	1,437	1,643
2017	138	41	198	1,204	10	139	16	1	206	1,541	1,747
2018	152	50	234	1,455	9	132	20	1	232	1,820	2,052
2019	131	45	213	1,170	8	127	16	1	200	1,510	1,711
2020	121	44	214	941	7	114	11	1	184	1,269	1,453
Forecast											
2021	120	45	220	1,135	8	120	10	1	185	1,475	1,660
2026	115	40	235	1,525	9	135	16	1	185	1,895	2,080
2031	110	40	235	1,705	10	145	18	2	180	2,085	2,265
2036	105	40	240	1,850	10	155	19	2	175	2,245	2,420
2041	105	40	250	1,985	10	160	20	2	180	2,395	2,570
AAGR 2010 - 2020	**-0.90%**	**-1.85%**	**1.44%**	**-1.62%**	**-3.64%**	**-0.88%**	**-5.00%**	**0.00%**	**-1.67%**	**-1.16%**	**-1.23%**
AAGR 2021 - 2041	**-0.63%**	**-0.56%**	**0.68%**	**3.74%**	**1.25%**	**1.67%**	**5.00%**	**5.00%**	**-0.14%**	**3.12%**	**2.74%**

Note: Forecast values above 100 are rounded to the nearest 5.

Source: FAA, Aerospace Forecast, 2021.

3.4.3. General Aviation Aircraft Trends and Hours Flown

The FAA's Aerospace Forecast partners with industry experts and associations to compile data to support the forecast presented within the report. Table 3-7 summarizes historical and forecast data within the FAA's Aerospace Forecast for the active GA aircraft fleet. Active GA aircraft have historically declined at -0.70% AAGR, from 220,453 in 2011 to 204,980 in 2020. This decline is projected to reverse in the near-term, resulting in an overall increase of 0.07% AAGR between 2021 and 2041.

The FAA Aerospace Forecast also documents the total historical hours flown in relation to each aircraft type between the years 2011 and 2020. The forecast's data related to flight hours is presented in Tab;e 3-8, projecting a decrease in traditional piston aircraft flight hours over the 20-year forecast; conversely, turbine jet aircraft hours are anticipated to grow at a 4.94% AAGR.

3.4.4. Pilot Certification and Training

Active pilots are defined by the FAA as those persons with a pilot certificate and a valid medical certificate. The breakdown of active pilots based on flight certification helps identify the different demands within the broad GA market. The FAA 2021-2041 Aerospace Forecast related to active pilots is summarized in Table 3-9. Instrument-rated pilots are a subset of uniquely qualified pilots from the total number of pilots. Student pilots are included within the total number of active pilots.

The decline in active pilots between 2011 and 2017 was due to the aging active pilot population, in addition to the rising costs associated with becoming an active pilot and owning an aircraft. This trend has subsequently reversed over the recent 6-year period. The increasing number of active pilots since 2017 has been influenced through a decrease in regulation and adjusted FAA medical certificate requirements. This growth trend is expected to continue, reaching 493,815 active pilots in 2041.

Table 3-7 – FAA Projected General Aviation (Active Aircraft)

Note: All forecast values are rounded to the nearest 5.

Year	Piston – Fixed Wing			Turbine – Fixed Wing			Rotorcraft			**Experi-mental**	Sport Aircraft	Other	Total GA Fleet
	Single Engine	Multi Engine	Total	Turbo Prop	Turbo Jet	Total	Piston	Turbine	Total				
Historical													
2011	136,895	15,702	152,597	9,523	11,650	21,173	3,411	6,671	10,082	24,275	6,645	5,681	220,453
2012	128,847	14,313	143,160	10,304	11,793	22,097	3,292	6,763	10,055	26,715	2,001	5,006	209,034
2013	124,398	13,257	137,655	9,619	11,637	21,256	3,137	6,628	9,765	24,918	2,056	4,277	199,927
2014	126,036	13,146	139,182	9,777	12,362	22,139	3,154	6,812	9,966	26,191	2,231	4,699	204,408
2015	127,887	13,254	141,141	9,712	13,440	23,152	3,286	7,220	10,506	27,922	2,369	4,941	210,031
2016	129,652	12,986	142,638	9,779	13,751	23,530	3,344	7,233	10,577	27,585	2,478	4,986	211,794
2017	129,833	13,083	142,916	9,949	14,217	24,166	3,270	7,241	10,511	26,921	2,551	4,692	211,757
2018	130,179	12,861	143,040	9,925	14,596	24,521	3,082	6,907	9,989	27,531	2,554	4,114	211,749
2019	128,926	12,470	141,396	10,242	14,888	25,130	3,089	7,109	10,198	27,449	2,675	4,133	210,981
2020	127,920	12,395	140,315	10,205	15,245	25,450	3,065	7,090	10,155	24,455	2,145	2,460	204,980
AAGR 2011 - 2020	-0.66%	-2.11%	-0.80%	0.72%	3.09%	2.02%	-1.01%	0.63%	0.07%	0.07%	-6.77%	-5.67%	-0.70%
Forecast													
2021	126,745	12,320	139,065	10,170	15,620	25,790	3,070	7,145	10,215	25,250	2,465	3,085	205,870
2026	120,595	11,970	132,565	10,165	17,770	27,935	3,165	7,650	10,815	28,075	3,525	4,160	207,075
2031	114,990	11,720	126,710	10,390	20,065	30,455	3,300	8,280	11,580	29,965	4,180	4,180	207,070
2036	109,860	11,520	121,830	10,725	22,305	33,030	3,460	8,985	12,445	31,625	4,790	4,215	207,485
2041	105,540	11,365	116,905	11,385	24,395	35,780	3,640	9,750	13,390	33,050	5,415	4,250	208,790
AAGR 2021 - 2041	-0.84%	-0.39%	-0.80%	0.60%	2.81%	1.94%	0.93%	1.82%	1.55%	1.54%	5.97%	1.88%	0.07%

Note: All forecast values are rounded to the nearest 5.

Note: Forecast values are rounded to nearest 5.

Source: FAA, Aerospace Forecast, 2021.

Table 3-8 – FAA Projected General Aviation (Hours Flown)

Year	Piston – Fixed Wing			Turbine – Fixed Wing			Rotorcraft			Experimental	Sport Aircraft	Other	Total GA Hours
	Single Engine	Multi Engine	Total	Turbo Prop	Turbo Jet	Total	Piston	Turbine	Total				
Historical													
2011	11,844	1,782	13,626	2,463	3,407	5,871	757	2,654	3,411	1,203	278	181	24,570
2012	11,441	1,766	13,206	2,733	3,418	6,151	731	2,723	3,454	1,243	169	180	24,403
2013	10,706	1,646	12,352	2,587	3,488	6,076	636	2,312	2,949	1,191	173	135	22,876
2014	10,395	1,573	11,967	2,613	3,881	6,494	818	2,424	3,242	1,244	165	158	23,271
2015	11,217	1,608	12,825	2,538	3,837	6,375	798	2,496	3,294	1,295	191	162	24,142
2016	11,865	1,683	13,548	2,708	3,847	6,554	780	2,348	3,128	1,224	187	193	24,834
2017	12,047	1,536	13,583	2,625	4,065	6,690	782	2,538	3,320	1,241	209	168	25,212
2018	12,092	1,694	13,785	2,736	4,592	7,328	601	2,322	2,922	1,153	187	131	25,506
2019	12,700	1,731	14,431	2,619	3,926	6,546	628	2,369	2,997	1,269	189	135	25,566
2020	11,768	1,708	13,476	2,624	3,159	5,783	567	2,126	2,693	923	158	50	23,082
AAGR 2011 - 2020	**-0.06%**	**-0.42%**	**-0.11%**	**0.65%**	**-0.73%**	**-0.15%**	**-2.51%**	**-1.99%**	**-2.10%**	**-2.33%**	**-4.32%**	**-7.24%**	**-0.61%**
Forecast													
2021	11,805	1,690	13,495	2,700	3,840	6,540	605	2,305	2,910	1,015	185	75	24,220
2026	11,285	1,605	12,890	2,910	5,435	8,345	690	2,620	3,305	1,300	280	140	26,265
2031	10,710	1,555	12,265	2,990	6,245	9,235	760	2,895	3,655	1,470	340	140	27,105
2036	10,300	1,550	11,845	3,090	6,955	10,050	820	3,170	3,990	1,595	395	140	28,015
2041	10,185	1,580	11,760	3,295	7,640	10,935	885	3,465	4,350	1,715	450	145	29,355
AAGR 2021 - 2041	**-0.69%**	**-0.33%**	**-0.64%**	**1.10%**	**4.94%**	**3.36%**	**2.32%**	**2.52%**	**2.48%**	**3.44%**	**7.14%**	**4.86%**	**1.06%**

Note: Forecast values are rounded to nearest 5.

Source: FAA, Aerospace Forecast, 2021.

Table 3-9 – FAA Projected General Aviation (Active Pilots)

Year	Recreational	Sport	Private	Commercial	Airline Transport	Rotorcraft	Glider Only	Total Less	Instrument-Rated Pilots
Historical									
2011	230	4,070	194,440	120,870	142,510	15,220	21,140	498,470	314,120
2012	220	4,490	188,000	116,400	145,590	15,130	20,800	490,630	311,950
2013	240	4,820	180,210	108,210	149,820	15,110	20,380	478,800	307,120
2014	220	5,160	174,880	104,320	152,930	15,510	19,930	472,950	306,070
2015	190	5,480	170,720	101,160	154,730	15,570	19,460	467,310	304,330
2016	180	5,890	162,310	96,080	157,890	15,520	17,990	455,860	302,570
2017	155	6,100	162,460	98,160	159,830	15,360	18,140	460,190	306,650
2018	145	6,250	163,700	99,880	162,150	15,030	18,370	465,510	311,020
2019	130	6,470	161,110	100,860	164,950	14,250	19,140	466,900	314,170
2020	105	6,640	160,860	103,880	164,190	13,630	19,750	469,060	316,650
AAGR 2011 - 2020	**-5.43%**	**6.31%**	**-1.73%**	**-1.41%**	**1.52%**	**-1.04%**	**-0.66%**	**-0.59%**	**0.08%**
Forecast									
2021	100	6,810	160,750	103,900	166,400	13,350	20,300	471,610	317,000
2026	85	7,710	160,550	103,900	172,000	14,200	21,800	480,245	323,500
2031	70	8,855	155,900	103,500	178,000	15,450	22,500	484,275	330,600
2036	60	10,265	15,700	102,950	185,100	16,700	22,750	488,525	337,400
2041	50	11,615	147,200	102,500	191,600	17,950	22,900	493,815	343,800
AAGR 2021 - 2041	**-2.50%**	**3.53%**	**-0.42%**	**-0.07%**	**0.76%**	**1.72%**	**0.64%**	**0.24%**	**0.42%**

Notes: All forecast values are rounded to the nearest 5; Student pilots are not included as Active Pilots.
Source: FAA, Aerospace Forecast, 2021.

3.4.5. Flight Schools and Training Operations

FSCJ has a campus one mile northwest of Cecil and conducts flight training with its single-engine fleet of five to ten Cessna 172 aircraft at the Airport. The school also provides FAA-certified aircraft maintenance courses in a partnership with the JAA and Flightstar. The flight school's activity is directly driven by student load, which was below capacity in 2021.

There is no anticipation of a new flight school at the Airport; however, it was noted from the ATCT and FSCJ that local and regional flight schools are regularly planning flights at the Airport to perform training operations. In addition to the based and itinerant civil flight school activity, various military organizations utilize the Airport's facilities for flight training due to the size of the primary runway, crosswind runways, and the ability to conduct night operations.

3.4.6. NextGEN Technology and Policies

As technology continues to develop, the FAA has outlined their goal for integration of major technological advancements into the future. Next Generation Air Transportation System (NextGEN) is an ever-changing set of goals, technologies, policies, and procedures to improve the operations within the NAS.

These improvements and goals outlined through NextGEN help airports such as Cecil operate safer and more efficiently.

3.4.7. Significant Depressive Events and Aviation Safety

Since 2001, there have been three notable depressive events that influenced aviation demand: 9/11, the 2008 Global Recession, and the 2020 COVID-19 pandemic. Each event was unpredictable and dramatically different than the next, and generally recovery from one event does not signal that recovery from another will be the same, but they may be similar. Influencing factors related to government policy, economic impacts, psychological hesitations to flying, and others impact the severity of decline from the respective depressive events. Historically, Cecil has been able to recover from each event and is anticipated to overcome unforeseen depressive events in the future.

Aviation safety is constantly changing and adapting to modern technologies and threats. Cecil maintains a high level of security to protect its tenants and infrastructure. Changes in policy or regulations put in place by U.S. agencies, such as the U.S. Department of Homeland Security (DHS), are unlikely to adversely affect Cecil.

3.4.8. Maintenance, Repair, and Overhaul (MRO) Activity

MRO providers typically do not generate large volumes of operations at an airport. Turn times, or the time it takes to fully service an aircraft from arrival to departure, can take between four to seven months at Cecil. The JAA has positioned Cecil to be a premier MRO hub of the northeast Florida region.

Dependent on the MRO provider and specific contracts, an aircraft may arrive to the Airport via air- or land-based transport. MRO tenants at the Airport servicing military aircraft are restricted to a five-year planning horizon by their military clients, making extended forecast projections difficult. All MRO tenants, including military MRO operations, are expected to continue their historical growth at the Airport over the next five-year period based on tenant interviews and conversations with the JAA.

3.4.9. Intermodal Cargo

JAX has the most robust air cargo facilities within the local market. Air cargo facilities at Cecil would expand beyond the current vision of the Airport. Any expansion toward air cargo in the future must ensure that there are no adverse effects to the MRO role of Cecil or JAX's role and objectives.

3.4.10. Spaceport Drivers of Demand

Like historical trends of the commercial aviation industry, the average cost to the consumer must dramatically decrease in order for a robust and reliable commercial space industry to realize its full potential with respect to the space tourism market. Testing and MRO operations related to these potential vehicles provide a unique business opportunity for the Spaceport to capitalize on the research and development efforts within the industry. These operations require specific on-ground infrastructure, which were documented in later chapters.

3.4.11. Special Operations

The Airport regularly supports various special events that result in increased operational activity. These special events include regional military full-scale exercises, deployment of Federal Emergency Management Agency (FEMA) disaster relief teams, state aviation conferences such as Sun n' Fun that bring additional GA traffic to the area, and major sport competitions such as the Super Bowl. Each event generates various levels of traffic and types of aircraft to the Airport.

3.5. Demand Forecasting

This section outlines multiple forecasts related to Cecil using various methodologies. The culmination of the forecasts presents low-, medium- and high-growth scenarios for Cecil over the 20-year planning period.

3.5.1. Forecasting Assumptions

The forecasts presented in this chapter are unconstrained. Additionally, the following assumptions were considered as they pertain to forecasts of aviation demand:

- The Airport will continue to be categorized as a GA airport and not serve commercial air carriers.
- The Airport will continue to prioritize MRO activity.
- Socioeconomic data provided by Woods & Poole Economics, Inc. are indicative of existing and future conditions at the state and local levels.
- The Airport Sponsor will continue to maintain an active capital improvement program and pursue funding for necessary improvements as demand dictates.
- The FAA will continue to include the Airport in the NPIAS, meaning it will be eligible to receive grants under the Airport Improvement Program (AIP).
- The Spaceport will continue to hold a Launch Site Operator License for HTHL vehicles.
- The Spaceport will attract multiple tenants to base research and development efforts at Cecil.
- Future commercial, industrial, and residential growth will not restrict the operational activity at Cecil.

3.5.2. Spaceport Forecast Summary

Demand forecasts for Cecil Spaceport are categorized by operation type. The forecast undertaken in this section was based on the previous 2021 SDP's quasi-forecast. A weighting of probability based off the 2021 SDP was used to outline the deployment of various commercial space vehicles. These probabilities were applied to operational rates projected by the industry related to each vehicle or type of operation. This forecast further applied a probability of an operation basing at Cecil over other spaceports.

A range of forecasts was developed by taking the lower end of the probabilities and operations and the high end of probabilities and operations. This resulted in a low outcome of 48 Spaceport operations to 112 operations in a high outcome in the year 2041. The selected forecast used in this Master Plan is 78 annual Spaceport operations by 2041. Total operations include a variety of activities at the Spaceport, including engine testing operations, commercial launches, and support operations. The Spaceport's forecast is presented below in Table 3-10, with the 2021 SDP probability outline shown in Figure 3-4.

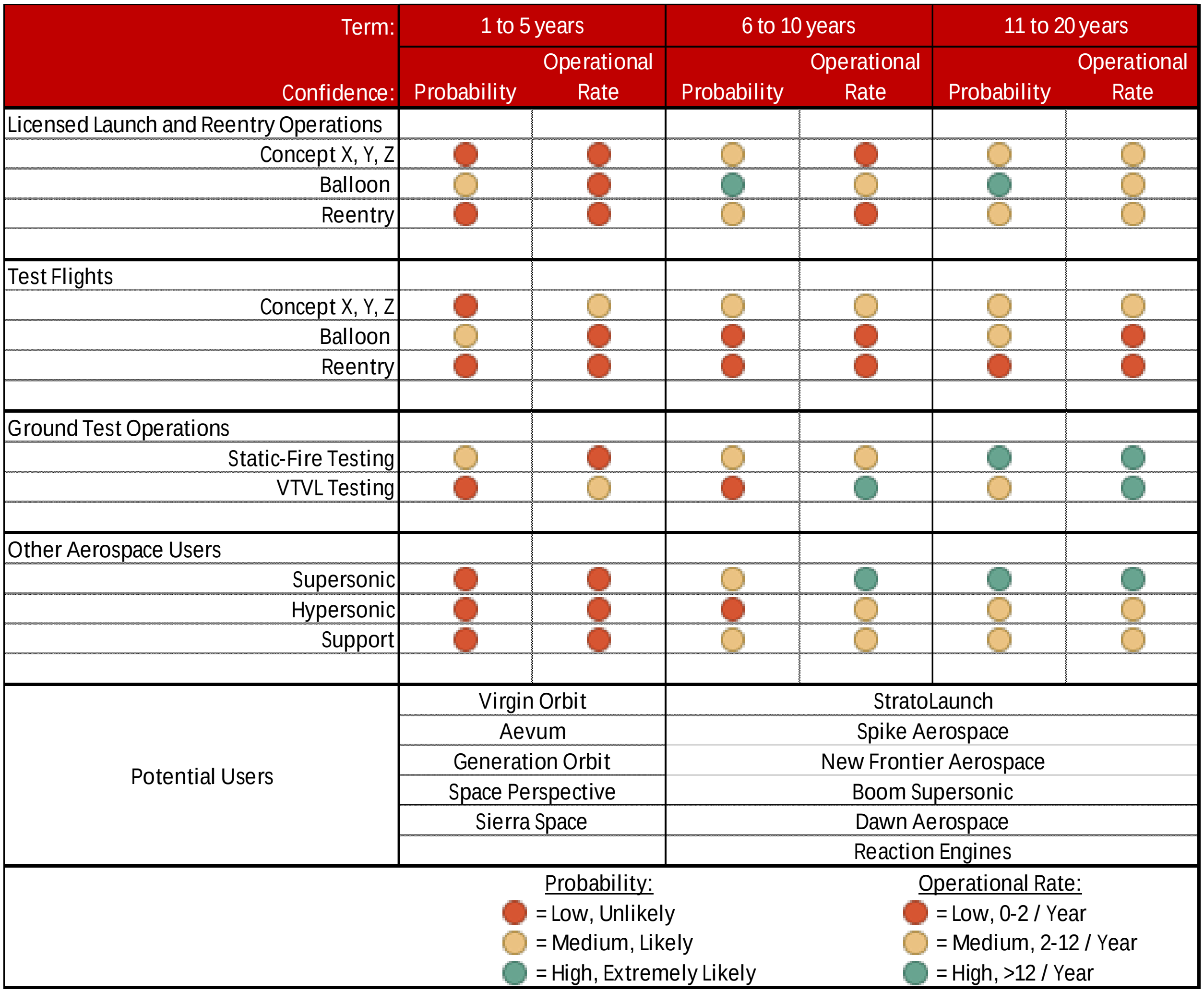
Unlike aviation activity, investment in commercial space operations does not rely on operational activity reaching certain thresholds. As the industry is in a constant state of research and development, most capital within aerospace is applied to these efforts. Therefore, the Spaceport can expect to see significant expansion of infrastructure to accommodate the forecast operations presented within this section.

Table 3-10 – Spaceport Forecast Activity

Type of Operation	Annual Operations		
	1 to 5 Years	6 to 10 Years	10 to 20 Years
Applied Probability Scenarios			
	Low	Medium	High
Annual Operational Rate	4	10	20
Operational Probability	25%	50%	75%
Licensed Operations Forecast			
Vehicle Concepts (X,Y,Z)	1	2	5
Balloon	2	7.5	7.5
Reentry	1	2	7.5
Total	**4**	**12**	**20**
Test Flights Forecast			
Vehicle Concepts (X,Y,Z)	2.5	5	5
Balloon	2	1	2
Reentry	1	1	1
Total	**6**	**7**	**8**
Ground Testing Forecast			
Static Fire	2	5	15
Vertical Take-off | Vertical Landing	2.5	5	10
Total	**5**	**10**	**25**
Other Aerospace Users Forecast			
Supersonic	1	10	15
Hypersonic	1	2.5	5
Support	1	5	5
Total	**3**	**18**	**25**
Total Forecast Annual Operations			
Total	**18**	**47**	**78**

Source: Kimley-Horn, 2025.

Figure 3-4 – Spaceport Vehicle Timeline and Operational Forecasting



Term:	1 to 5 years		6 to 10 years		11 to 20 years	
Confidence:	Probability	Operational Rate	Probability	Operational Rate	Probability	Operational Rate
Licensed Launch and Reentry Operations						
Concept X, Y, Z	🔴	🔴	🟡	🔴	🟡	🟡
Balloon	🟡	🔴	🟢	🟡	🟢	🟡
Reentry	🔴	🔴	🟡	🔴	🟡	🟡
Test Flights						
Concept X, Y, Z	🔴	🟡	🟡	🟡	🟡	🟡
Balloon	🟡	🔴	🔴	🔴	🟡	🔴
Reentry	🔴	🔴	🔴	🔴	🔴	🔴
Ground Test Operations						
Static-Fire Testing	🟡	🔴	🟡	🟡	🟢	🟢
VTVL Testing	🔴	🟡	🔴	🟢	🟡	🟢
Other Aerospace Users						
Supersonic	🔴	🔴	🟡	🟢	🟢	🟢
Hypersonic	🔴	🔴	🔴	🟡	🟡	🟡
Support	🔴	🔴	🟡	🟡	🟡	🟡
Potential Users	Virgin Orbit		StratoLaunch			
	Aevum		Spike Aerospace			
	Generation Orbit		New Frontier Aerospace			
	Space Perspective		Boom Supersonic			
	Sierra Space		Dawn Aerospace			
			Reaction Engines			

Probability:
🔴 = Low, Unlikely
🟡 = Medium, Likely
🟢 = High, Extremely Likely

Operational Rate:
🔴 = Low, 0-2 / Year
🟡 = Medium, 2-12 / Year
🟢 = High, >12 / Year

Source: Spaceport Development Plan, Kimley-Horn, 2021.

3.5.3. Based Aircraft

This section outlines the forecast analysis for based aircraft at the Airport. Commercial and military aircraft related to MRO tenant operations at the Airport are not reflected in the based aircraft count, although they maintain a substantial presence at the Airport and its facilities.

3.5.3.1. Forecast Methodologies Overview

Several methodologies were developed to forecast the number of based aircraft at the Airport. These methodologies included socioeconomic comparisons, FAA forecast trends, market share capture analysis, and other notable factors related to based aircraft at the Airport.

3.5.3.2. Socioeconomic: Population Variable Methodology

This forecast assumed that future based aircraft at the Airport would increase at the same rate as population growth for the JAX-MSA and Florida. As shown in Table 3-11, this methodology resulted in

111 based aircraft in 2041 utilizing the JAX-MSA population forecast, and 109 utilizing the Florida population forecast, with AAGRs of 1.61% and 1.48%, respectively.

Table 3-11 – Based Aircraft Forecast: Population Variable Method

Year	Jacksonville Metropolitan Area		Florida	
	Population	Based Aircraft	Population	Based Aircraft
2021	1,575	84	21,925	84
2026	1,695	90	23,500	90
2031	1,825	97	25,140	96
2036	1,950	104	26,785	103
2041	2,080	111	28,425	109
AAGR 2021 - 2041	**1.61%**		**1.48%**	

Note: Population expressed in thousands and rounded to the nearest 5.
Source: Woods and Poole, Inc. 2021.

3.5.3.3. Socioeconomic: Employment Variable Methodology

Another socioeconomic indicator that often impacts aviation-related activity is employment, as it can be a key indicator of an area's economic health. Like the population variable forecast, this forecast assumes based aircraft will increase at the same rate as employment. Results of this forecast method are depicted in Table 3-12. This methodology projected 115 based aircraft in 2041 utilizing the JAX-MSA population forecast, and 114 utilizing the Florida population forecast, with AAGRs of 1.83% and 1.80%, respectively.

Table 3-12 – Based Aircraft Forecast: Employment Variable Method

Year	Jacksonville Metropolitan Area		Florida	
	Employment	Based Aircraft	Employment	Based Aircraft
2021	965	84	12,440	84
2026	1,050	92	13,550	92
2031	1,140	99	14,670	99
2036	1,230	107	15,780	107
2041	1,320	115	16,905	114
AAGR 2021 - 2041	**1.83%**		**1.80%**	

Note: Employment is expressed in thousands and rounded to the nearest 5.
Sources: Woods and Poole Inc., 2021; Kimley-Horn, 2021.

3.5.3.4. Socioeconomic: Per Capita Personal Income Variable Methodology

PCPI was examined, as it can be a good indicator of a local population's propensity to travel or own aircraft. The results of the state's and JAX-MSA's PCPI forecasting methods are shown in Table 3-13. The PCPI variable method resulted in 105 based aircraft in 2041 utilizing the JAX-MSA population forecast, and 107 based aircraft utilizing the Florida population forecast, with AAGRs of 1.24 % and 1.35%, respectively.

Table 3-13 – Based Aircraft Forecast: Per Capita Personal Income Variable Method

Year	Jacksonville Metropolitan Area		Florida	
	PCPI	Based Aircraft	PCPI	Based Aircraft
2021	$55,665	84	$55,340	84
2026	$59,640	90	$59,585	90
2031	$63,215	95	$63,445	96
2036	$66,465	100	$66.980	102
2041	$69,460	105	$70,260	107
AAGR 2021 - 2041	**1.24%**		**1.35%**	

Note: All dollar amounts are 2009 U.S. dollars adjusted to 2021 U.S. dollars. PCPI values are rounded to the nearest 5.
Source: Woods and Poole Inc., 2021.

3.5.3.5. Socioeconomic: Gross Regional Product Variable Methodology

GRP is an indicator of a region's economic output. This methodology presumes based aircraft will grow in relation to the GRP over the 20-year forecast period. Table 3-14 shows the results of the GRP variable method, which resulted in 135 based aircraft in 2041 utilizing the JAX-MSA population forecast, and 133 based aircraft utilizing the Florida population forecast, with AAGRs of 3.06% and 2.90%, respectively. This methodology produced the upper range of the forecast analysis.

Table 3-14 – Based Aircraft Forecast: Gross Regional Product Variable Method

Year	Jacksonville Metropolitan Area		Florida	
	GRP	Based Aircraft	GRP	Based Aircraft
2021	$97,455	84	$1,173,588	84
2026	$110,765	95	$1,327,470	95
2031	$125,115	108	$1,492,035	107
2036	$140,500	121	$1,666,810	119
2041	$157,100	135	$1,853,720	133
AAGR 2021 - 2041	**3.06%**		**2.90%**	

Note: All dollar amounts are 2009 U.S. dollars adjusted to 2021 U.S. dollars expressed in millions; GRP values are rounded to the nearest 5.
Source: Woods and Poole Inc., 2021.

3.5.3.6. Adjusted Historical Trends and Studies

Growth rates from historical studies and data sets were used to linearly grow current based aircraft over the 20-year forecast period. Results of these forecasts are shown in Table 3-15.

Table 3-15 – Based Aircraft: Historical Trends Forecast

Year	TAF	FAA's Aerospace Forecast	Historical Growth Rate	FDOT 2017 FASP
2021	84	84	84	84
2026	84	84	86	84
2031	84	85	88	84
2036	84	85	90	84
2041	84	86	92	84
AAGR 2021 - 2041	**0.00%**	**0.10%**	**0.50%**	**0.00%**

Source: FAA, TAF, May 2021; FAA, Aerospace Forecast, 2021; FDOT, 2017 FASP, 2017; Kimley-Horn, 2021.

According to the FAA's Aerospace Forecast 2021-2041, aircraft ownership is anticipated to grow 0.1% annually over the next 20 years. This rate was applied to the number of based aircraft at the Airport in base year 2021 and held constant through 2041. This methodology results in 86 based aircraft by 2041.

The historical growth rate at the Airport over the previous 10 years is an AAGR of 0.50%. This historical growth was applied to the based aircraft count recorded in the base year 2021 and held constant over the 20-year forecast period between 2021 and 2041. This resulted in 92 based aircraft by 2041.

The FDOT 2017 Florida Aviation System Plan (FASP) and TAF methodologies applied AAGR within each forecast to the based aircraft count recorded in 2021. Both assumed the based aircraft would remain constant at 84 through 2041.

3.5.3.7. Market Share Forecast

Historical based aircraft totals and market share percentages were captured from the FAA's TAF data and presented within Table 3-16. The MSGA has grown at an AAGR of 0.64% increasing based aircraft from 888 to 945 over the historical period with some airports experiencing more rapid growth, such as Jacksonville Executive and Northeast Florida Regional Airports. Herlong Recreational, Fernandina Beach Municipal, and Cecil Airports have seen a decrease in overall market share of based aircraft within the region but have experienced increases in overall based aircraft.

Table 3-16 – Historical Based Aircraft within Local Market

Year	Herlong Recreational		Jacksonville International		Jacksonville Executive		Keystone Heights	
	Based Aircraft	Market Share	Based Aircraft	Market Share	Based Aircraft	Market Share	Based Aircraft	Market Share
2011	169	19%	42	5%	231	26%	52	6%
2012	174	19%	54	6%	232	25%	55	6%
2013	187	22%	60	7%	243	28%	55	6%
2014	159	19%	60	7%	226	26%	53	6%
2015	190	22%	39	5%	201	24%	50	6%
2016	169	20%	55	6%	209	25%	52	6%
2017	166	22%	36	5%	155	20%	45	6%
2018	166	23%	61	9%	96	13%	22	3%
2019	168	18%	61	7%	219	24%	22	2%
2020	170	18%	61	7%	224	24%	22	2%
2021	170	18%	61	6%	229	24%	22	2%
AAGR 2011 - 2021	**0.06%**	**-0.55%**	**4.52%**	**3.65%**	**- 0.09%**	**-0.68%**	**- 5.77%**	**-6.02%**

Year	Fernandina Beach Municipal		Northeast Florida Regional		Cecil		Total Based Aircraft
	Based Aircraft	Market Share	Based Aircraft	Market Share	Based Aircraft	Market Share	
2011	58	7%	256	29%	80	9%	888
2012	62	7%	267	29%	80	9%	924
2013	62	7%	167	19%	90	10%	864
2014	65	8%	202	24%	93	11%	858
2015	62	7%	210	25%	93	11%	845
2016	65	8%	210	25%	93	11%	853
2017	66	9%	210	27%	92	12%	770
2018	58	8%	221	31%	92	13%	716
2019	61	7%	304	33%	84	9%	919
2020	61	7%	307	33%	84	9%	929
2021	61	6%	318	34%	84	9%	945
AAGR 2011 - 2021	**0.52%**	**-0.12%**	**2.42%**	**1.67%**	**0.50%**	**-0.13%**	**0.64%**

Sources: FAA, TAF, May 2021; Kimley-Horn, 2025.

Based aircraft within the MSGA is anticipated to grow; however, historical data indicates based aircraft growth rates at Cecil will be less than the overall MSGA. Based upon this historical trend, the low growth scenario for the Airport results in the Airport's market share decreasing to 6.5% by 2041. Considering the recent trends in based aircraft market share, the medium growth scenario assumes the Airport will decrease market share to 8% by 2041. The high growth methodology was based on the 10-year historical average of 10% market capture. The scenario assumes the Airport would continue to account for 9% of the MSGA's aircraft over the 20-year forecast period.

Results from the three forecast scenarios detailed above are presented in Table 3-17. The high growth scenario projected 111 based aircraft by 2041 at 1.60% AAGR. Over the same 20-year period, the medium growth scenario forecasted 103 based aircraft, growing at 1.12% AAGR. The low growth scenario projected no growth from the base year's 84 based aircraft through 2041.

Table 3-17 – Based Aircraft Market Share Forecasts

Year	Total Based Aircraft	Low Growth Scenario		Medium Growth Scenario		High Growth Scenario	
		Market Share	Based Aircraft	Market Share	Based Aircraft	Market Share	Based Aircraft
2021	945	9.0%	84	9.0%	84	9.0%	84
2026	1,018	8.3%	84	8.7%	88	9.0%	88
2031	1,098	7.7%	84	8.4%	93	9.0%	95
2036	1,185	7.1%	84	8.2%	97	9.0%	102
2041	1,286	6.5%	84	8.0%	103	9.0%	111
AAGR 2021 - 2041	**1.80%**	**0.00%**		**1.12%**		**1.60%**	

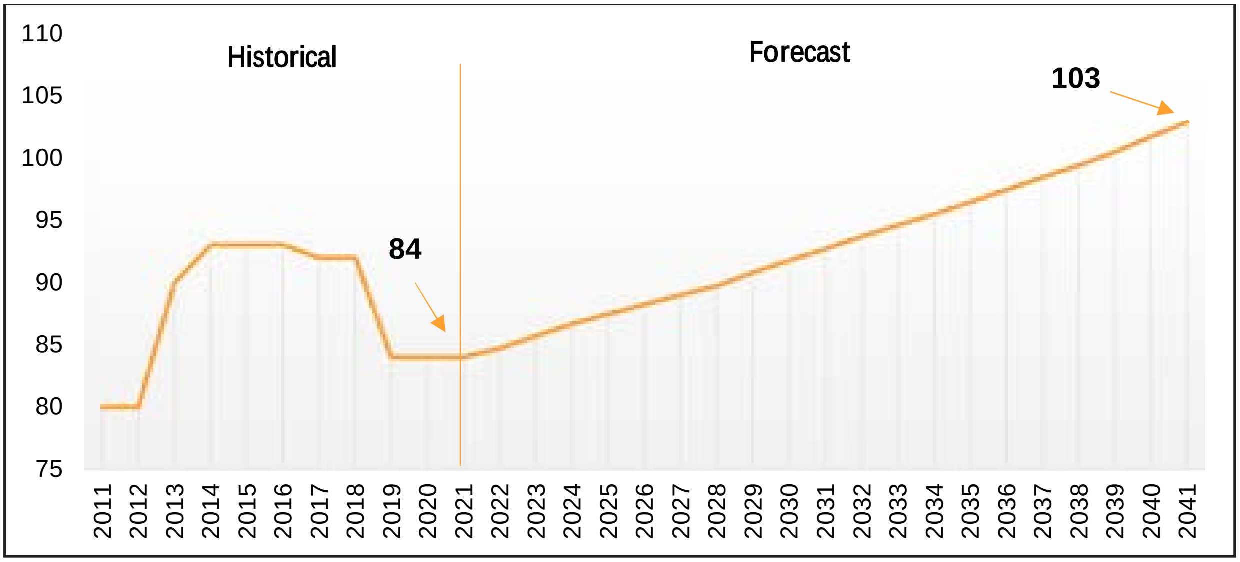
Sources: FAA, TAF, May 2021; Kimley-Horn, 2021.

3.5.3.8. Selected Based Aircraft Forecast

The MSGA is anticipated to experience growth in based aircraft between 2021 and 2041, as supported by historical regional based aircraft data trends, FAA GA active aircraft and pilot growth projections, and the FAA's TAF—resulting in 341 additional based aircraft within the region by 2041. Locally, the Airport's various tenants, including the flight school and military operators, unanimously expect growth in activity over the forecast period. Although the Airport has adequate services and facilities to accommodate growth, there is a strong focus to cater to MRO and military tenants. For this reason, the Airport is expected to experience growth in based aircraft, but not at the same rate as other airports within the region.

Based on these factors, the medium market share was selected as the based aircraft forecast for this Master Plan. This forecast projected 103 based aircraft by 2041, an increase of 19 from 2021 levels, growing at 1.12% AAGR (see Figure 3-5).

Figure 3-5 – Selected Based Aircraft Forecast



Sources: FAA, TAF, May 2021; Kimley-Horn, 2021.

3.5.3.9. Based Aircraft Fleet Mix Forecast

The overall fleet mix at the Airport has remained relatively consistent since 2011 with slight growth in single engine piston aircraft and military aircraft. Because there has been little fluctuation during that timeframe, it was assumed that the Airport's fleet mix by proportion of aircraft category would remain constant through the 20-year planning horizon (see Table 3-18).

Table 3-18 – Based Aircraft Fleet Mix Forecast

Year	Single-Engine	Multi-Engine	Jet	Helicopters	Military	Total
Historical						
2011	11	1	1	1	66	80
2016	13	1	1	1	76	93
2021	12	1	1	1	69	84
Forecast						
2026	13	1	1	1	72	88
2031	13	1	1	1	76	93
2036	14	1	1	1	80	97
2041	15	1	1	1	85	103
AAGR 2011 - 2021	0.50%	0.00%	0.00%	0.00%	0.50%	0.50%
AAGR 2021 - 2041	0.77%	0.00%	0.00%	0.00%	0.90%	0.85%

Sources: FAA, TAF, May 2021; FAA, Airport Data and Information Portal, Accessed December 2021; Kimley-Horn, 2021.

3.5.4. General Aviation Operations

Historically, GA operations have accounted for 43% of all operations generated at the Airport. This section presents various methods for forecasting GA operations at the Airport.

3.5.4.1. General Aviation Operations per Based Aircraft

Utilizing the selected based aircraft forecast, a variable analysis forecast was produced to project GA operational growth between 2021 and 2041. The forecast results are in Table 3-19. Base year 2021 generated 590 GA operations per single based aircraft. This ratio aligned with the historical average and was therefore held constant over the forecasting period, resulting in 60,700 operations by 2041 increasing at an AAGR of 1.12%.

Table 3-19 – General Aviation Operations per Based Aircraft

Year	Based Aircraft	Operations per Based Aircraft	Total Operations
Historical			
2011	80	366	29,251
2016	93	281	26,160
2021	84	590	49,591
Forecast			
2026	88	590	52,055
2031	93	590	54,705
2036	97	590	57,485
2041	103	590	60,700
AAGR 2021 - 2041	**1.12%**	**0.00%**	**1.12%**

Notes: Operation values above 1,000 are rounded to the nearest 5; AAGR = Average Annual Growth Rate.
Sources: FAA, TAF, May 2021; Kimley-Horn, 2021.

3.5.4.2. Socioeconomic: Population Variable Methodology

This forecast assumed that future GA operations at the Airport would increase at the same rate as population growth for the JAX-MSA and Florida (see Table 3-20). This methodology, when applied to the JAX-MSA's future growth projections, resulted in 65,555 annual GA operations by 2041 and a 1.61% AAGR. Utilizing Florida's growth projections during the same 20-year forecast period resulted in 64,290 annual GA operations growing at a 1.48% AAGR between 2021 and 2041.

Table 3-20 – Socioeconomic General Aviation Forecast: Population Variable Methodology

Year	Jacksonville Metropolitan Area		Florida	
	Population	General Aviation Operations	Population	General Aviation Operations
2021	1,575	49,591	22,925	49,591
2026	1,695	53,415	23,500	53,151
2031	1,825	57,420	25,140	56,965
2036	1,950	61,470	26,785	60,585
2041	2,080	65,555	28,425	64,290
AAGR2021 - 2041	**1.61%**		**1.48%**	

Notes: Population is expressed in thousands; All forecast values are rounded to the nearest 5.

Sources: Woods and Poole, Inc.; Kimley-Horn 2021.

3.5.4.3. Socioeconomic: Employment Variable Methodology

Like the population variable forecast, this method assumes GA operations would increase over time relative to forecast employment. The employment variable methodology, shown in Table 3-21, resulted in 67,750 annual GA operations by 2041, increasing at an AAGR of 1.83% when utilizing the JAX-MSA's employment data. Over the same time, using Florida's employment forecast data projected 67,400 annual GA operations by 2041, increasing operations by an AAGR of 1.80%.

Table 3-21 – Socioeconomic General Aviation Forecast: Employment Variable Methodology

Year	Jacksonville Metropolitan Area		Florida	
	Employment	General Aviation Operations	Employment	General Aviation Operations
2021	965	49,591	12,440	49,591
2026	1,050	54,095	13,550	54,025
2031	1,140	58,635	14,670	58,485
2036	1,230	63,160	15,780	62,915
2041	1,315	67,750	16,905	67,400
AAGR2021 - 2041	**1.83%**		**1.80%**	

Notes: Employment is expressed in thousands of jobs. All forecast values are rounded to the nearest 5.

Sources: Woods and Poole Inc.; Kimley-Horn, 2021.

3.5.4.4. Socioeconomic: Per Capita Personal Income Variable Methodology

A PCPI variable analysis was produced to forecast GA operations at the state and local level. This methodology, assuming GA operations grow alongside PCPI, resulted in 61,880 annual GA operations by 2041 utilizing JAX-MSAs forecast data, and 62,965 annual GA operations by 2041 utilizing Florida's forecasted PCPI. This resulted in an AAGR of 1.24% for the JAX-MSA forecast and 1.35% for Florida between 2021 and 2041. Results are shown in Table 3-22.

Table 3-22 – Socioeconomic General Aviation Forecast: PCPI Variable Methodology

Year	Jacksonville Metropolitan Area		Florida	
	PCPI	General Aviation Operations	PCPI	General Aviation Operations
2021	$55,665	49,591	$55,335	49,591
2026	$59,640	53,130	$59,585	53,400
2031	$63,215	56,315	$105,492	56,860
2036	$66,463	59,210	$111,370	60,025
2041	$69,460	61,880	$116,820	62,965
AAGR 2021 - 2041	**1.24%**		**1.35%**	

Notes: All values are rounded to the nearest 5. All dollar amounts are 2009 U.S. dollars adjusted to 2021 U.S. dollars.
Sources: Woods and Poole Inc.; Kimley-Horn, 2021.

3.5.4.5. Socioeconomic: Gross Regional Product Variable Methodology

This method assumed GA operations would grow in relation to GRP throughout the 20-year forecast period. Results are shown in Table 3-23. Utilizing the JAX-MSA's GRP forecast data, 80,000 annual GA operations were projected by 2041, increasing operations at an AAGR of 3.06%. Over the same period, Florida's forecasted GRP data resulted in 78,300 annual GA operations by 2041 with an AAGR of 2.90%. This represents the upper range of operations forecasts.

Table 3-23 – Socioeconomic General Aviation Forecast: Gross Regional Product Variable Methodology

Year	Jacksonville Metropolitan Area		Florida	
	GRP	General Aviation Operations	GRP	General Aviation Operations
2021	$97,500	49,591	$1,173,600	49,591
2026	$110,800	56,400	$1,327,500	56,100
2031	$125,100	63,700	$1,492,000	63,100
2036	$140,500	71,500	$1,666,800	70,400
2041	$157,100	80,000	$1,853,700	78,300
AAGR 2021 - 2041	**3.06%**		**2.90%**	

Notes: All values are rounded to the nearest 5. All dollar amounts are 2009 U.S. dollars adjusted to 2021 U.S. dollars and expressed in millions of U.S. dollars. AAGR = Average Annual Growth Rate.
Sources: Woods and Poole Inc.; Kimley-Horn, 2021.

3.5.4.6. Adjusted Historical Trends and Studies

Growth rates from historical studies and data sets were used to linearly grow GA annual operations for the Airport over a 20-year forecast period. Results of these forecasts are shown in Table 3-24.

Table 3-24 – General Aviation Operations: Adjusted Historical Studies and Trends

Year	FAA's Aerospace Forecast	Historical Growth Rate	FDOT 2017 FASP	2008 Master Plan
2021	49,591	49,591	49,591	49,591
2026	52,070	66,835	52,815	61,820
2031	54,550	84,075	56,040	74,050
2036	57,030	101,315	59,260	86,280
2041	59,510	118,560	62,535	98,510
AAGR 2021 - 2041	**1.00%**	**6.95%**	**1.30%**	**4.93%**

Notes: All forecast values rounded to the nearest 5. AAGR = Average Annual Growth Rate

Sources: FAA, TAF, May 2021; FAA, Aerospace Forecast, 2021; FDOT, 2017 FASP, 2017; Kimley-Horn, 2021.

According to the FAA's Aerospace Forecast 2021-2041, GA hours flown is anticipated to grow 1.00% annually between 2021 and 2041. Applying this rate to GA operations recorded for the base year, and held constant for the 20-year forecast period, resulted in 59,510 GA annual operations by 2041.

The historical growth rate between 2011 and 2021 generated at the Airport is an AAGR of 6.95%. Applying the rate to base year GA annual operations and holding the growth rate constant through 2021 to 2041, resulted in 118,560 annual GA operations by 2041.

The FDOT 2017 FASP projected an AAGR of 1.30% for the Airport. Applying the rate to base year GA operations and holding it constant throughout the 20-year forecast period, projected 62,535 annual GA operations by 2041.

Utilizing the growth rates for GA operations from the 2008 Master Plan, a 4.93% AAGR was applied to base year GA operations and held constant over the 20-year forecast, resulting in 98,510 annual GA operations by 2041.

3.5.4.7. Market Share Forecast

Historical GA operations were captured from the FAA's TAF data and are presented within Table 3-25. The MSGA has grown at an AAGR of 1.81%, increasing total annual GA operations to 504,112 in 2021 from 426,833 in 2011. Over the 10-year historical period, Herlong Recreational, JAX, Keystone Heights, Fernandina Beach Municipal, and Northeast Florida Regional Airports had AAGRs lower than the overall market compared to the historical TAF data, with Cecil and Jacksonville Executive airports experiencing AAGRs than the overall market for that same period. Cecil's historical market share increased from 7% of total GA operations recorded in the MSGA in 2011 to 10% in 2021.

The low growth scenario presented within this section assumed that the Airport's market share decreased from 10% to 9% by 2041. A 9% market share is Cecil's historical average from 2011 through 2021. This scenario results in 55,075 annual GA operations by 2041, with an AAGR of 0.55% over the 20-year period. The medium growth scenario assumed the Airport maintains its current market capture rate of 10% between 2021 and 2041, resulting in 61,195 GA annual operations by 2041, representing a 1.17% AAGR. Under a high growth scenario, the Airport would grow its market capture rate of total GA operations within the MSGA from 10% to 12% by 2041. This resulted in 67,315 annual GA operations anticipated by 2041, increasing at an AAGR of 1.79% between 2021 and 2041.

Results from the three forecast scenarios detailed above are presented in Table 3-26. Total MSGA annual GA operations were obtained from the FAA's TAF, and do not include air carrier operations.

Table 3-25 – Historical GA Operations Market Analysis

Year	Herlong Recreational		Jacksonville International		Jacksonville Executive		Keystone Heights	
	General Aviation	Market Share	General Aviation	Market Share	General Aviation	Market Share	General Aviation	Market Share
2011	78,000	18%	23,582	6%	104,682	25%	31,500	7%
2012	78,000	18%	20,396	5%	99,930	23%	31,500	7%
2013	78,000	18%	23,221	5%	91,570	21%	31,500	7%
2014	78,000	17%	21,681	5%	92,292	20%	31,500	7%
2015	78,000	17%	20,541	4%	118,355	25%	31,500	7%
2016	78,000	17%	20,770	4%	120,075	26%	31,500	7%
2017	78,000	17%	20,229	4%	122,467	27%	31,500	7%
2018	78,000	15%	22,016	4%	136,286	27%	31,500	6%
2019	78,000	15%	22,575	4%	144,514	28%	31,500	6%
2020	78,839	16%	16,993	3%	158,604	32%	31,990	7%
2021	79,687	16%	17,307	3%	159,632	32%	32,486	6%
AAGR 2011-2021	**0.22%**	**-1.35%**	**- 2.66%**	**-3.79%**	**5.25%**	**2.91%**	**0.31%**	**-1.27%**

Year	Fernandina Beach Municipal		Northeast Florida Regional		Cecil		Total General Aviation Operations
	General Aviation	Market Share	General Aviation	Market Share	General Aviation	Market Share	
2011	46,600	11%	113,218	27%	29,251	7%	426,833
2012	46,600	11%	119,169	27%	39,460	9%	435,055
2013	46,600	11%	128,176	29%	38,426	9%	437,493
2014	46,600	10%	132,527	29%	49,704	11%	452,304
2015	46,600	10%	132,548	29%	37,536	8%	465,080
2016	46,600	10%	138,528	30%	26,160	6%	461,637
2017	46,600	10%	132,606	29%	30,167	7%	461,571
2018	46,600	9%	156,950	31%	35,010	7%	506,362
2019	46,600	9%	142,696	28%	47,408	9%	513,296
2020	46,600	9%	118,057	24%	40,872	8%	491,955
2021	46,600	9%	118,809	24%	49,591	10%	504,112
AAGR 2011-2021	**0.00%**	**-1.53%**	**0.49%**	**-1.11%**	**6.95%**	**4.35%**	**1.81%**

Sources: FAA, TAF, May 2021; Kimley-Horn, 2021.

Table 3-26 – General Aviation Operations Market Share Forecast

Year	Total Operations in the Local Market	Low Growth Scenario		Medium Growth Scenario		High Growth Scenario	
		Capture	Operations	Capture	Operations	Capture	Operations
2021	504,110	10.0%	49,590	10.0%	49,590	10.0%	49,590
2026	544,740	9.8%	53,110	10.0%	54,475	10.5%	55,835
2031	565,990	9.5%	53,770	10.0%	56,600	11.0%	59,430
2036	588,365	9.3%	54,425	10.0%	58,835	11.5%	63,250
2041	611,935	9.0%	55,075	10.0%	61,195	12.0%	67,315
Operations AAGR 2021 - 2041	**1.07%**	**0.55%**		**1.17%**		**1.79%**	

Notes: All Forecast values rounded to the nearest 5. AAGR = Average Annual Growth Rate

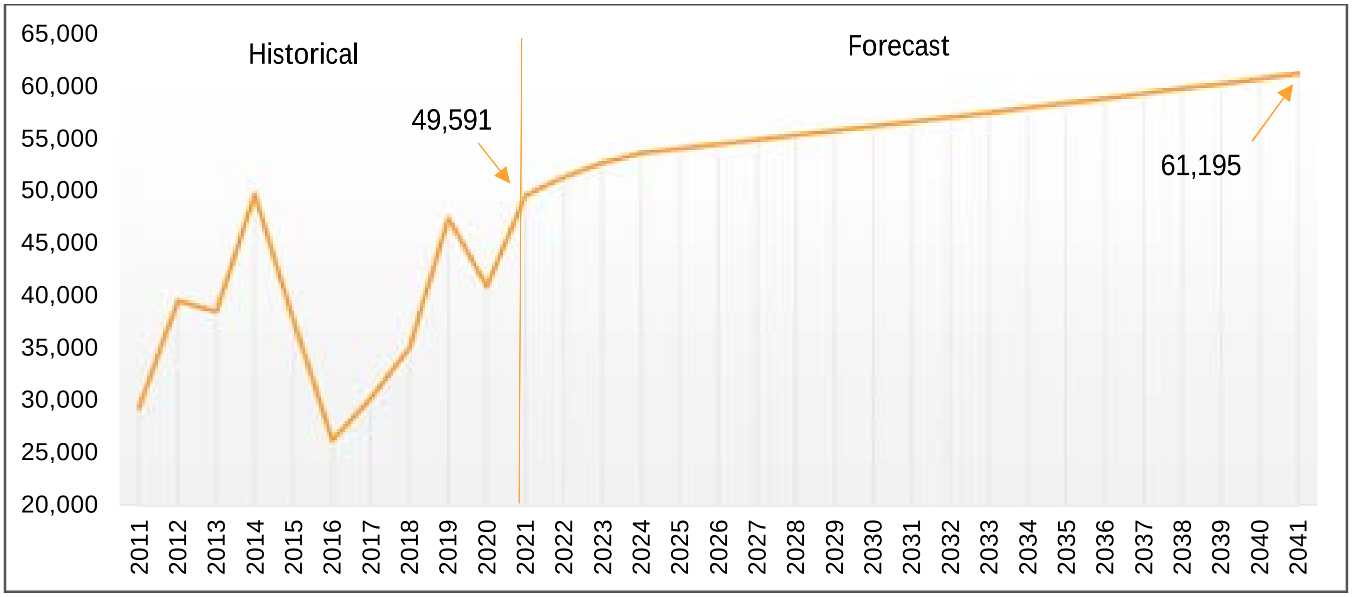
Sources: FAA, TAF, May 2021; Kimley-Horn, 2021.

3.5.4.8. Selected General Aviation Forecast

The Airport's GA activity has increased from 38% of total operations in 2011 to 54% of operations in 2021, expanding the Airport's market share within the MSGA over the same historical period. Growth in total GA operations at the Airport is anticipated in the future based on increased flight school activity and the MSGA's anticipated growth as noted in the TAF.

The medium growth market share scenario is the preferred forecast for GA activity at Cecil since it is anticipated that GA traffic, primarily flight training activity, will continue to use the Airport's facilities at the same rate as in base year 2021. According to FSCJ, the active flight school at the Airport, GA traffic has been attracted to the Airport recently due to the convenient geographical location near practice areas, the Airport is equipped with an Airport Traffic Control Tower (ATCT), and there is less congestion compared to other airports within the local area. The medium growth market share forecast methodology resulted in 61,195 annual GA operations by 2041, increasing at 1.17% AAGR (see Figure 3-6).

Figure 3-6 – Selected General Aviation Operations Forecast



Note: All forecast values are rounded to the nearest 5.

Sources: FAA, TAF, May 2021; FAA, OPSNET, Accessed December 2021; Jacksonville Aviation Authority, 2021; Kimley-Horn, 2021.

3.5.4.9. Local and Itinerant Split of General Aviation Operations

With itinerant flight school traffic increasing at the Airport, it is assumed the Airport will return to the 10-year historical average of 62% local operations and 38% itinerant operations by 2041. These percentages were applied to the preferred GA annual operations forecast, resulting in 37,730 local, and 23,465 itinerant annual GA operations by 2041 (see Table 3-27).

Table 3-27 – Local and Itinerant General Aviation Operations Forecast

Year	Local	Percent of Operations	Itinerant	Percent of Operations	Total
Historical					
2011	18,077	62%	11,174	38%	29,251
2016	14,340	55%	11,820	45%	26,160
2021	32,242	65%	17,349	35%	49,591
Forecast					
2026	34,960	64%	19,515	36%	54,475
2031	35,845	63%	20,755	37%	56,600
2036	36,770	62%	22,070	38%	58,840
2041	37,730	62%	23,465	38%	61,195
AAGR 2021 - 2041	**0.85%**	**-0.16%**	**1.76%**	**0.28%**	**1.17%**

Notes: All forecast values are rounded to the nearest 5. AAGR = Average Annual Growth Rate

Sources: FAA, OPSNET, Accessed December 2021; FAA, TAF, May 2021; Kimley-Horn, 2021.

3.5.5. Military Aviation Operations

Historically, military operations accounted for 57% of operational activity at the Airport. This section presents various methods for forecasting military operations at the Airport.

3.5.5.1. Socioeconomic Forecasting Overview

Although military activity is not typically tied to the same factors as general aviation, socioeconomic indicators were examined for forecasting purposes as it was assumed that data obtained from Woods and Poole, Inc. factored local military bases in their projections.

3.5.5.2. Socioeconomic: Population Variable Methodology

This methodology assumed military operations grow commensurate with population forecasts. Using the JAX-MSA's population forecast resulted in 56,055 annual military operations by 2041, increasing from 2021 to 2041 at an AAGR of 1.61%. Over the same period using Florida's population forecast resulted in 54,990 annual military operations by 2041, increasing at an AAGR of 1.48% (see Table 3-28).

Table 3-28 – Socioeconomic Military Operations Forecast: Population Variable Method

Year	Jacksonville Metropolitan Area		Florida	
	Population	Military	Population	Military
2021	1,575	42,418	22,925	42,418
2026	1,695	45,690	23,500	45,465
2031	1,825	49,115	25,140	48,640
2036	1,950	52,580	26,785	51,820
2041	2,080	56,055	28,425	54,990
AAGR 2021 - 2041	**1.61%**		**1.48%**	

Notes: Population is expressed in thousands; All forecast values are rounded to the nearest 5.

Sources: Woods and Poole, Inc.; Kimley-Horn 2021.

3.5.5.3. Socioeconomic: Employment Variable Methodology

This methodology assumed military operations grow relative to active employment. Utilizing the JAX-MSA's employment forecast data resulted in 57,950 annual military operations by 2041, increasing at an AAGR of 1.83%. Over the same period using Florida's employment forecast, 57,650 annual military operations are anticipated by 2041, increasing at an AAGR of 1.80% (see Table 3-29).

Table 3-29 – Socioeconomic Military Operations Forecast: Employment Variable Method

Year	Jacksonville Metropolitan Area		Florida	
	Employment	Military Operations	Employment	Military Operations
2021	965	42,418	12,440	42,418
2026	1,050	46,270	13,550	46,210
2031	1,140	50,155	14,670	50,025
2036	1,230	54,025	15,780	53,815
2041	1,315	57,950	16,905	57,650
AAGR 2021 - 2041	**1.83%**		**1.80%**	

Notes: Employment is expressed in thousands of jobs. All forecast values are rounded to the nearest 5.
Sources: Woods and Poole Inc.; Kimley-Horn, 2021.

3.5.5.4. Socioeconomic: Per Capita Personal Income Variable Methodology

This methodology assumes military operations will grow in relation to PCPI. Utilizing the JAX-MSA's PCPI forecast data resulted in a projection of 52,930 annual military operations by 2041, increasing at an AAGR of 1.24%. During the same period utilizing the state's PCPI forecast, 53,855 annual military operations are anticipated by 2041, increasing at an AAGR of 1.35% (see Table 3-30).

Table 3-30 – Socioeconomic Military Forecast: PCPI Variable Methodology

Year	Jacksonville Metropolitan Area		Florida	
	PCPI	Military Operations	PCPI	Military Operations
2021	$55,665	42,418	$55,335	42,418
2026	$59,640	45,450	$59,585	45,675
2031	$63,215	48,170	$105,492	48,635
2036	$66,463	50,645	$111,370	51,345
2041	$69,460	52,930	$116,820	53,855
AAGR 2021 - 2041	**1.24%**		**1.35%**	

Notes: All forecast values are rounded to the nearest 5. All dollar amounts are 2009 U.S. dollars adjusted to 2021 U.S. dollars.
Sources: Woods and Poole Inc.; Kimley-Horn, 2021.

3.5.5.5. Socioeconomic: Gross Regional Product Variable Methodology

This method assumes annual military operations will increase alongside GRP forecast data from Woods and Poole. Results from this methodology are shown in Table 3-31. Utilizing the JAX-MSA's forecast data related to GRP, 68,380 annual military operations are projected by 2041, increasing operations at an AAGR of 3.06%. Over the same period between 2021 and 2041, applying Florida's forecast data resulted in 67,000 annual military operations by 2041 with an AAGR of 2.90%.

Table 3-31 – Socioeconomic Military Forecast: Gross Regional Product Variable Method

Year	Jacksonville Metropolitan Area		Florida	
	GRP	Military Operations	GRP	Military Operations
2021	$97,500	42,418	$1,173,600	42,418
2026	$110,800	48,210	$1,327,500	47,980
2031	$125,100	54,455	$1,492,000	53,930
2036	$140,500	61,155	$1,666,800	60,245
2041	$157,100	68,380	$1,853,700	67,000
AAGR 2021 - 2041	**3.06%**		**2.90%**	

Notes: All dollar amounts are 2009 U.S. dollars adjusted to 2021 U.S. dollars and expressed in millions of U.S. dollars; AAGR = Average Annual Growth Rate; All forecast values are rounded to the nearest 5.

Sources: Woods and Poole Inc.; Kimley-Horn, 2021.

3.5.5.6. Historical Trends and Studies

Utilizing recent historical data, three forecasts were produced based on historical trends and studies related to the Airport. Results are detailed below and shown in Table 3-32.

Table 3-32 – Historical Trends Forecast

Year	Historical 15-Year Growth Rate	FAA TAF	Historical 10-Year Peak Forecast
2021	42,418	42,420	42,418
2026	43,880	42,420	47,205
2031	45,345	42,420	51,990
2036	46,810	42,420	56,775
2041	48,270	42,420	61,560
AAGR 2021 - 2041	**0.69%**	**0.00%**	**2.26%**

Notes: AAGR = Average Annual Growth Rate; All forecast values are rounded to the nearest 5

Sources: FAA, TAF, May 2021; FAA, OPSNET Database, Accessed December 2021; Jacksonville Aviation Authority, 2021; 13, 2021.

The historical 15-year AAGR of 0.69% was applied to 2021's base year total military operations, and held constant throughout the 20-year forecast, resulting in 48,270 annual military operations by 2041. The FAA's TAF projected AAGR of 0.0% to 2021's base year military operations and therefore, military operations are expected to remain constant at 42,420 through 2041.

A scenario developed assumed that military operations would return to its 10-year historical peak of 61,560 by 2041. This methodology resulted in an AAGR of 2.26% over the 20-year forecast period.

3.5.5.7. Market Share Forecast

Like the previous market share forecasts, the MSGA was used to identify local comparative airports to Cecil. Historically, military operations within the MSGA have declined at an annual rate of 1.34% rate over the 10-year period between 2011 and 2021. Cecil Airport's market share during the same 10-year period peaked at 71% of total military operations within the MSGA. Military operations historically comprise 11% to 17% of total operations within the MSGA (see Table 3-33).

High, medium, and low growth scenarios were developed for the Airport's future market share projections based on historical trends. The high growth scenario assumed that military operations market share at Cecil will grow from 67% in 2021 to 84% by 2041, resulting in 52,780 annual military operations, increasing operations by an AAGR of 1.22%. A medium growth scenario assumes the Airport would expand its current market share from 67% to 80% by 2041, which projects 50,175 annual military operations by 2041, increasing military operations at an AAGR of 0.91% over the 20-year forecast period. The low growth scenario assumes the Airport will increase its current market capture to 73% by 2041, representing 43,905 annual military operations by 2041 increasing at an AAGR of 0.18%. Table 3-34 summarizes the MSGA range of forecasts.

Table 3-33 – Historical Military Market Analysis

Year	Herlong Recreational		Jacksonville International		Jacksonville Executive		Keystone Heights	
	Military	Market Share	Military	Market Share	Military	Market Share	Military	Market Share
2011	2,700	4%	7,325	10%	9,159	13%	900	1%
2012	2,700	4%	6,003	8%	8,469	12%	900	1%
2013	2,700	3%	7,173	9%	8,447	11%	900	1%
2014	2,700	4%	6,628	9%	8,847	12%	900	1%
2015	2,700	3%	9,340	11%	10,083	11%	900	1%
2016	2,700	3%	16,323	18%	11,615	13%	900	1%
2017	2,700	4%	11,059	16%	9,680	14%	900	1%
2018	2,700	4%	8,801	12%	9,977	14%	900	1%
2019	2,700	4%	9,664	13%	10,135	14%	900	1%
2020	2,700	4%	9,939	16%	4,654	7%	900	1%
2021	2,700	4%	9,939	16%	4,654	7%	900	1%
AAGR 2011-2021	**0.00%**	**1.55%**	**3.57%**	**5.67%**	**- 4.92%**	**-4.13%**	**0.00%**	**1.55%**

Year	Fernandina Beach Municipal		Northeast Florida Regional		Cecil		Total Aircraft Operations	
	Military	Market Share	Military	Market Share	Military	Market Share	Military	General Aviation
2011	400	1%	3,900	5%	48,479	67%	72,863	426,833
2012	400	1%	3,330	5%	49,436	69%	71,238	435,055
2013	400	1%	3,215	4%	56,249	71%	79,084	437,493
2014	400	1%	3,376	4%	53,912	70%	76,763	452,304
2015	400	0%	3,160	4%	61,562	70%	88,145	465,080
2016	400	0%	3,142	3%	57,641	62%	92,721	461,637
2017	400	1%	2,532	4%	40,325	60%	67,596	461,571
2018	400	1%	2,364	3%	45,944	65%	71,086	506,362
2019	400	1%	2,302	3%	47,695	65%	73,796	513,296
2020	400	1%	2,076	3%	41,991	67%	62,660	491,955
2021	400	1%	2,076	3%	42,418	67%	63,087	504,112
AAGR 2011-2021	**0.00%**	**-9.94%**	**- 4.68%**	**-9.67%**	**-1.14%**	**-3.28%**	**-1.34%**	**1.81%**

Sources: FAA, TAF, May 2021; FAA, OPSNET, Accessed December 2021.

Table 3-34 – Military Operations Market Share Forecast

Year	Total Military Operations in the Market (per TAF)	Low Growth Scenario		Medium Growth Scenario		High Growth Scenario	
		Market Share	Cecil Operations	Market Share	Cecil Operations	Market Share	Cecil Operations
2021	63,087	67%	42,420	67%	42,420	67%	42,420
2026	62,720	69%	42,495	70%	44,060	72%	45,010
2031	62,720	70%	42,965	74%	46,100	76%	47,600
2036	62,720	72%	43,435	77%	48,140	80%	50,190
2041	62,720	73%	43,905	80%	50,175	84%	52,780
Operations AAGR 2021 - 2041	**-0.03%**	**0.18%**		**0.91%**		**1.22%**	

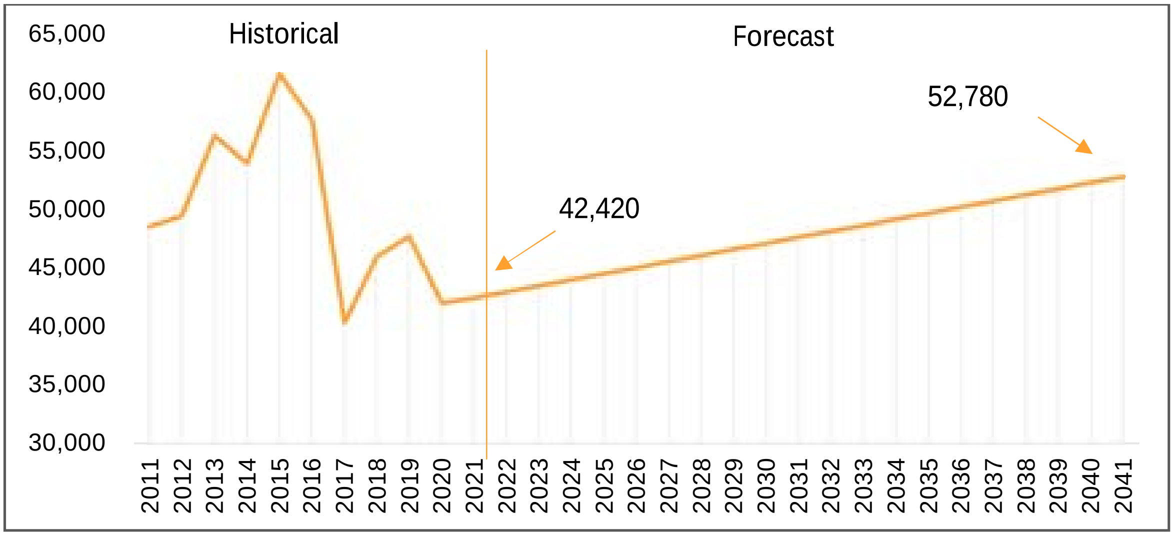
Notes: AAGR = Average Annual Growth Rate; All forecast values are rounded to the nearest 5.

Sources: FAA, TAF, May 2021; FAA, OPSNET Database, Accessed December 2021; Kimley-Horn, 2021.

3.5.5.8. Selected Military Operations Forecast

As military operations continue to relocate to more accommodating airfields over the forecast period, Cecil is expected to capture additional market share between 2021 and 2041. Million Air, the Airport's FBO, and various military MRO tenants anticipate growth into the future, with plans for expanding fueling capacity and other supporting services that will attract additional military traffic. Based on these trends, the high growth market share forecast was selected as the military operations forecast for the Airport, which projected 52,780 military operations by 2041, increasing at an AAGR of 1.22% throughout the 20-year period as illustrated in Figure 3-7.

Figure 3-7 – Selected Military Forecast



Note: Forecast values are rounded to the nearest 5.

Sources: FAA, TAF, May 2021; FAA, OPSNET Database, Accessed December 2021; Kimley-Horn, 2021

3.5.5.9. Local and Itinerant Split of Military Aviation Operations

Historically itinerant operations have increased from 20% of total military activity in 2011 to 30% in 2021 representing a 5% AAGR between 2011 and 2021. Consequently, local operations have declined from 80% to 70% over the same period. The historical trend related to itinerant activity is expected to continue, resulting in an increase from 30% of total military operations in the base year 2021 to 45% of military activity by 2041. Conversely, local operations are expected to decline over the same time to 55% of military activity at the Airport by 2041 (see **Error! Reference source not found.**).

Table 3-35 – Military Local and Itinerant Operations Forecast

Year	Local		Itinerant		Total
Historical					
2011	38,912	80%	9,567	20%	48,479
2016	38,693	67%	18,948	33%	57,641
2021	29,723	70%	12,695	30%	42,418
Forecast					
2026	29,840	66%	15,165	34%	45,010
2031	29,770	63%	17,835	37%	47,600
2036	29,495	59%	20,695	41%	50,190
2041	29,030	55%	23,750	45%	52,780
AAGR 2021 - 2041	**-0.12%**	**-0.83%**	**4.35%**	**1.62%**	**1.22%**

Note: All forecast values are rounded to the nearest 5.

Sources: FAA, TAF, May 2021; FAA, OPSNET Database, Accessed December 2021; Kimley-Horn, 2021.

3.5.6. Air Carrier Activity Projection

Air carrier activity, as noted within the FAA's and ATCT's operational data, is related to MRO activity at the Airport from commercial aviation aircraft, such as the Airbus A320 family of aircraft and the Boeing 757 family of aircraft. Due to no identifiable historical trends related to air carrier operations, the FAA's TAF was utilized, which projects the Airport to increase air carrier activity at an AAGR of 2.35% over the 20-year forecast period increasing base year operations from 424 to 623 by 2026. After 2026, the operations are projected to plateau and remain constant over the duration of the forecast (see Table 3-36). During the development of the Facility Requirements Chapter (March/April 2022), the FAA produced updated TAF data for Air Carrier activity. Therefore, this specific forecast was adjusted to align with the FAA's March 2022 TAF.

Table 3-36 - Air Carrier Operations Forecast

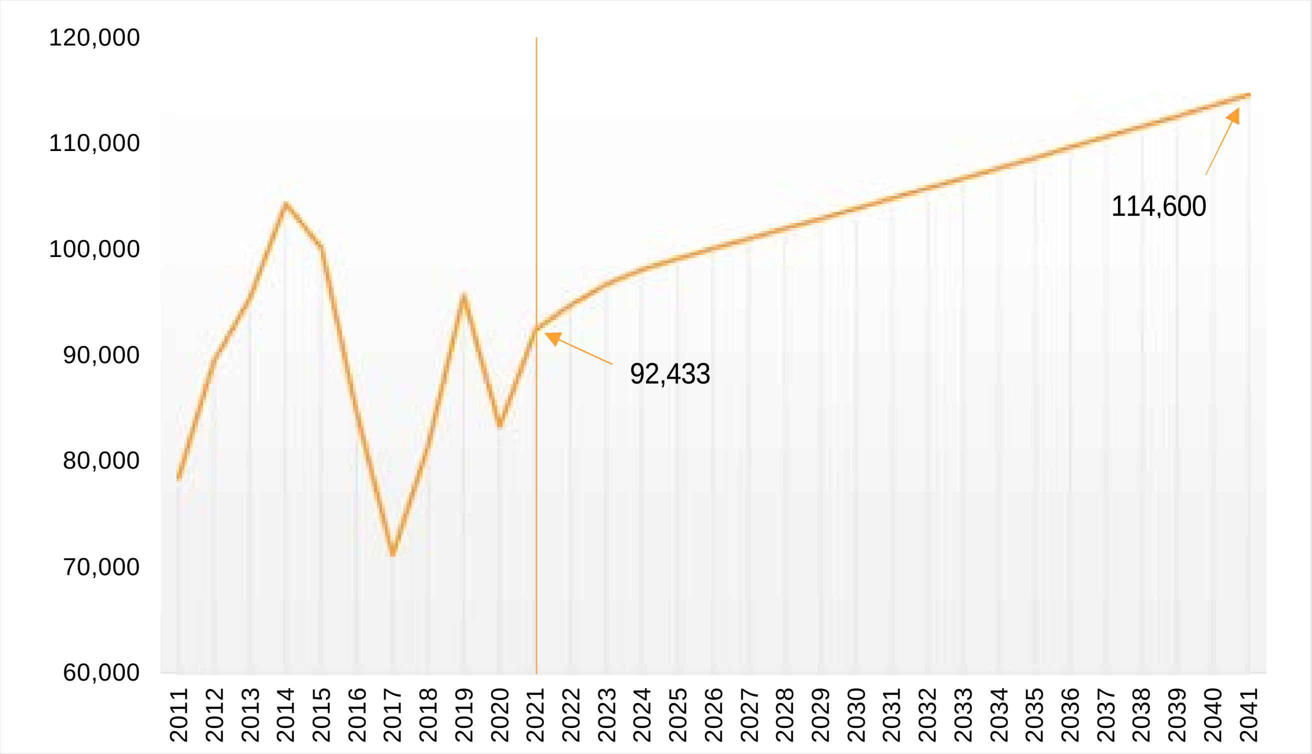
Year	Air Carrier Operations
2021	424
2026	623
2031	623
2036	623
2041	623
AAGR 2021 - 2041	2.35%

Source: FAA, TAF, May 2022.

3.5.7. Selected Forecast Summary

The combination of the three selected operations forecasts pertaining to GA, military, and air carrier at the Airport is illustrated in Figure 3-8**Error! Reference source not found.**. Overall aircraft operations are a nticipated to grow at an AAGR of 1.20% between 2021 and 2041, resulting in 114,600 total annual operations by 2041.

Figure 3-8 – Combined Selected Forecasts



Note: All forecast values are rounded to the nearest 5

Sources: FAA, TAF, May 2021; FAA, OPSNET Database, Accessed December 2021; Kimley-Horn, 2021.

3.5.8. Instrument Operations Forecast

The differentiation between Visual Flight Rules (VFR) and Instrument Flight Rules (IFR) relate to weather conditions and the type of operation being performed. VFR operations are conducted using the pilot's visual line of sight. IFR operations are conducted using the aircraft's instruments and onboard equipment. VFR activity represents most operations across the NAS. The historical and forecast VFR and IFR split of operations is detailed in Table 3-37. The forecast presented within this section is based upon the Airport increasing IFR operations by 7% over the 10-year historical period. This historical trend was applied to the base year increasing the percentage of IFR operations from 16% in 2021 to 25% in 2041, resulting in 28,650 IFR operations by 2041 and 85,950 VFR operations by 2041 as displayed within the table below.

Table 3-37 – Instrument Operations Forecast

Year	IFR	Percent of Operations	VFR	Percent of Operations
Historical				
2011	7,286	9%	71,120	91%
2016	17,649	21%	66,892	79%
2021	14,510	16%	77,920	84%
Forecast				
2026	18,040	18%	82,060	82%
2031	21,330	20%	83,490	80%
2036	24,860	23%	84,785	77%
2041	28,650	25%	85,950	75%
AAGR 2021 - 2041	**4.87%**	**2.96%**	**0.51%**	**-0.55%**

Notes: IFR = Instrument Flight Rules; VFR = Visual Flight Rules; All forecast values are rounded to the nearest 5.

Sources: FAA, TAF, May 2021; FAA, OPSNET Database, Accessed December 2021; Kimley-Horn, 2021.

3.5.9. Daytime/Evening Operations Forecast

Noise sensitivity pertaining to aircraft operations increases during nighttime hours. The FAA defines nighttime hours as between 10:00 PM to 7:00 AM. Due to the ATCT not operating on a 24/7 basis, the forecast was based on data provided by the JAA from the third-party operation monitoring system installed at the Airport, VirTower. The VirTower system became operational October 16, 2021, and the data reviewed in this forecast was limited to what was collected since system installation through December 16, 2021. Based on operational data provided by the Airport, approximately 2% of operations are conducted during nighttime hours. This percentage was applied to forecast total operations and held constant through the 20-year planning horizon resulting in 2,290 annual night operations by 2041 (see Table 3-38).

Table 3-38 – Day/Night Forecast

Year	Total Operations	Daytime	Nighttime
2021	92,435	90,585	1,850
2026	100,105	98,105	2,000
2031	104,820	102,725	2,095
2036	109,650	107,460	2,195
2041	114,600	112,305	2,290
AAGR 2021 - 2041	1.20%		

Note: All forecast values are rounded to the nearest 5.

Sources: VirTower Operations Data, 2021; Jacksonville Aviation Authority, 2021; FAA, TAF, May 2021; FAA, OPSNET Database, Accessed December 2021; Kimley-Horn, 2021.

3.5.10. Touch-and-Go Forecast

Touch-and-go operations pertain to aircraft that land on a runway and proceed to take off from that same runway without stopping. Touch-and-go activity relates to flight training and aircraft testing. The Air Traffic Control (ATC) manager estimated these operations make up 85% of total local GA operations. Based on discussions with ATC personnel, it was assumed that this percentage would remain constant through the 20-year planning horizon, resulting in 32,070 annual touch-and-go operations by 2041 (see Table 3-39).

Table 3-39 – Touch and Go Operations Forecast

Year	Total Local GA Operations	Touch and Go Operations
2021	32,242	27,405
2026	34,960	29,715
2031	35,845	30,470
2036	36,770	31,255
2041	37,730	32,070
AAGR 2021 - 2041	0.85%	

Note: All forecast values are rounded to the nearest 5.

Sources: Robinson Aviation, 2021; Jacksonville Aviation Authority, 2021; FAA, TAF, May 2021; FAA, OPSNET Database, Accessed December 2021; Kimley-Horn, 2021.

3.5.11. Peak Activity (Month, Day, and Hour)

Peak operations forecasting allows planners to ensure facilities are not over planned or underutilized. The FAA's OPSNET was queried for the historical years of 2014 through 2021, resulting in January being determined as the peak month of activity for the Airport. January accounted for 10% of total traffic in base year 2021. Forecasting peak month operations from 2021 to 2041, the historical percent average of 10% was held constant, resulting in 11,460 peak month operations by 2041. Peak month average day (PMAD) is determined from peak month forecast data, dividing operations by the days within the month, resulting in 370 PMAD by 2041.

Peak design day is utilized to better assess the peak demand experienced at the Airport on a regular basis. The FAA's OPSNET database was queried to analyze the 50 busiest days at the Airport. The 50th busiest day was determined to represent the Airport's peak design day, resulting in 446 operations. Applying the total operations forecast AAGR of 1.20% to the base year's peak design day over the forecast period resulted in a peak design day of 555 operations by 2041.

Peak design hour historical data was surveyed from the FAA's TFMSC database for the base year. The top 50 busiest hours recorded in 2021, with the exception of December due to availability of data, generated an average peak hour of 165 operations. Similar to previous forecasting, the total forecast operations AAGR of 1.20% was applied to the base year's peak hour average to forecast the peak hour operations for the Airport, resulting in 205 operations within the peak hour of activity by 2041. The forecasts discussed above are presented in Table 3-40.

Table 3-40 – Peak Month, Day, Hour Forecast

Year	Total	Peak Month	Peak Month Average Day	Peak Design Day	Peak Design Hour
2021	92,435	9,245	300	446	165
2026	100,105	10,010	325	470	175
2031	104,820	10,480	340	500	185
2036	109,650	10,965	355	525	195
2041	114,600	11,460	370	555	205
AAGR 2021 - 2041	1.20%				

Notes: All forecast values are rounded to the nearest 5. Peak month was determined to be January.
Sources: FAA, Traffic Flow Management System Count, Accessed December 2021; FAA, TAF, May 2021; FAA, OPSNET Database, Accessed December 2021; Kimley-Horn, 2021.

3.5.12. Operational Fleet Mix Forecast

Utilizing the forecasts within the previous sections, future fleet mix for the Airport was projected based on aircraft type and critical aircraft criteria. The following sections present forecasts relating to operational fleet mix at the Airport and critical design aircraft related to the Airport. Fleet mix forecasts are primarily based on the data within the FAA's TFMSC.

3.5.12.1. Aircraft Fleet Mix

Aircraft fleet mix was informed by the FAA's TFMSC database, sample data from the Airport's operation monitoring system, and the ATC manager. It was determined that the operational fleet mix was 20% helicopter operations, 18% jet operations, 40% piston operations, and 22% turbine operations.

The total operations AAGR of 1.20% was applied to base year 2021 operational data and held constant over the 20-year. The fleet mix forecast is shown in Table 3-41, resulting in 22,920 helicopter, 20,630 jet, 45,840 piston, and 25,210 turbine annual operations by 2041.

Table 3-41 – Annual Aircraft operations by Type

Year	Helicopter	Jet	Piston	Turbine	Total
Percent of Operations 2021 - 2041	**20%**	**18%**	**40%**	**22%**	
2021	18,487	16,638	36,973	20,335	92,433
2026	20,020	18,020	40,040	22,025	100,105
2031	20,965	18,870	41,930	23,060	104,820
2036	21,930	19,740	43,860	24,125	109,650
2041	22,920	20,630	45,840	25,210	114,600
AAGR 2021 - 2041	**1.20%**	**1.20%**	**1.20%**	**1.20%**	**1.20%**

Notes: All forecast values are rounded to the nearest 5. Data is limited to the recorded FAA TFMSC data.
Sources: FAA, Traffic Flow Management System Count, Accessed December 2021; FAA, TAF, May 2021; FAA, OPSNET Database, Accessed December 2021; Kimley-Horn, 2021.

3.5.12.2. Airport Reference Code and Critical Design Aircraft Forecast

A critical design aircraft is defined by the Airport Reference Code (ARC) and is used to determine sizing of infrastructure and safety areas at the Airport. The ARC is defined by the ADG and the Aircraft Approach Category (AAC). ADG accounts for aircraft tail height and wingspan, and AAC categorizes aircraft based on approach speeds. These design metrics are found in Table 3-42 and Table 3-43, respectively.

Table 3-42 – FAA Airplane Design Group

Airplane Design Group	Tail Height	Wingspan
I	Less than 20’	Less than 49’
II	20’ but less than 30’	49’ but less than 79’
III	30’ but less than 45‘	79’ but less than 118’
IV	45’ but less than 60’	118’ but less than 171’
V	60’ but less than 66’	171’ but less than 214’
VI	66’ but less than 80’	214’ but less than 262’

Source: FAA, AC 150/5300-13B Airport Design, 2022.

Table 3-43 – Aircraft Approach Category

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

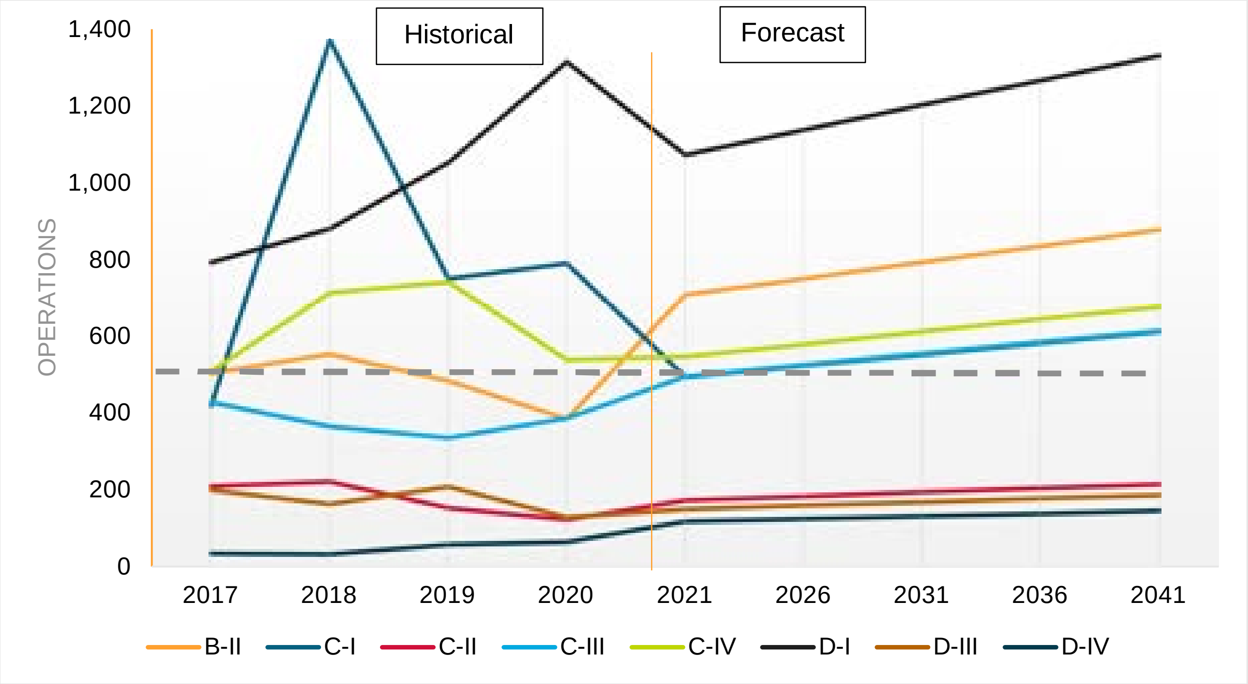
Source: FAA, AC 150/5300-13B Airport Design, 2022.

Airport Reference Code

The historical ARC designation for the Airport was a D-IV. The previously approved D-IV ARC for the Airport exceeded the FAA’s standards, which require 500 annual operations of the selected design aircraft. This exception was approved due to the Airport providing essential MRO services to the NAS and local aviation market. The higher ARC allowed the Airport to design for commercial MRO aircraft and continue to attract MRO tenant growth.

Historical data from the FAA’s TFMSC between the years 2016 and 2021 were analyzed to determine the existing ARC, resulting in a determination of an existing ARC of C-IV for the Airport. The future critical design aircraft was determined by applying the total forecast annual operations growth rate of 1.20% AAGR to the operations by ARC presented in base year 2021 and held constant through the 20-year forecast period. Aircraft with smaller ARCs, or that did not conduct a substantial number of operations, were excluded from the analysis. This forecast resulted in the Airport maintaining an ARC of C-IV. A substantial decrease in ARC, from D-IV to B-II, would require a significant overhaul in existing infrastructure. Further, the decrease would jeopardize the Airport’s financial viability as the region’s premier MRO facility, causing major tenants to be displaced. This is anticipated to negatively impact JAA and the NAS. Historical and forecast data related to the Airport’s ARC is presented within Figure 3-9 and Table 3-44**Error! Reference source not found.** below. For the reasons stated above, a C-IV ARC is j ustified for the Airport.

Figure 3-9 – Airport Reference Code (ARC) Forecast



Note: Data is limited to the recorded FAA TFMSC data.

Sources: FAA, Traffic Flow Management System Count, Accessed December 2021; FAA, TAF, May 2021; FAA, OPSNET Database, Accessed December 2021; Kimley-Horn, 2021.

Table 3-44 – Annual Operations Forecast by Airport Reference Code

ARC	Historical					Forecast			
	2016	2017	2018	2019	2021	2026	2031	2036	2041
B-II	503	553	483	385	708	750	795	835	880
C-I	419	1,371	750	791	493	525	550	580	610
C-II	210	221	152	122	173	185	195	205	215
C-III	428	364	335	386	495	525	555	585	615
C-IV	508	714	742	538	546	580	610	645	680
D-I	793	881	1,053	1,315	1,073	1,140	1,200	1,265	1,330
D-III	200	163	208	128	150	160	170	180	185
D-IV	34	32	57	64	117	125	130	140	145

Sources: FAA, Traffic Flow Management System Count, Accessed December 2021; FAA, TAF, May 2021; FAA, OPSNET Database, Accessed December 2021; Kimley-Horn, 2021.

Critical Design Aircraft

The representative critical aircraft for the Airport is the most frequently operating aircraft or grouping of aircraft within the C-IV ARC category. Table 3-45 depicts aircraft categorized as C-IV operating at the Airport. As shown in the table, the Boeing KC-135 Stratotanker has the most operations within the C-IV category in base year 2021; however, since the aircraft is related to military operations, it does not meet FAA design criteria. The next two most frequently operating aircraft in 2021 were the Boeing 757-200 and Boeing 767-200 aircraft, conducting 110 and 108 annual operations, respectively. The Boeing 767-200 was identified as the representative aircraft within the C-IV ARC category as it has a larger wingspan (156.2 feet) and faster approach speed (135 knots) than the Boeing 757-200.

Table 3-45 – Representative Aircraft Forecast

Aircraft	2021	2026	2031	2036	2041
B752 - Boeing 757-200	110	117	123	130	136
B762 - Boeing 767-200	108	114	121	127	134
B763 - Boeing 767-300	54	57	60	64	67
C130 - Lockheed 130 Hercules and C130J	87	92	97	103	108
K35R - Boeing KC-135 Stratotanker	133	141	149	157	165
Other C-IV Aircraft	54	57	60	64	67
Total C-IV Operations	546	579	612	644	677

Source: FAA, Traffic Flow Management System Count, Accessed February 2022.

The total aircraft operations forecast AAGR of 1.20% was applied to base year operations by C-IV ARC aircraft and held constant through the 20-year forecast period (see Table 3-45). Based on this analysis, the Boeing 767-200 is anticipated to remain the Airport's Critical Design Aircraft through 2041.

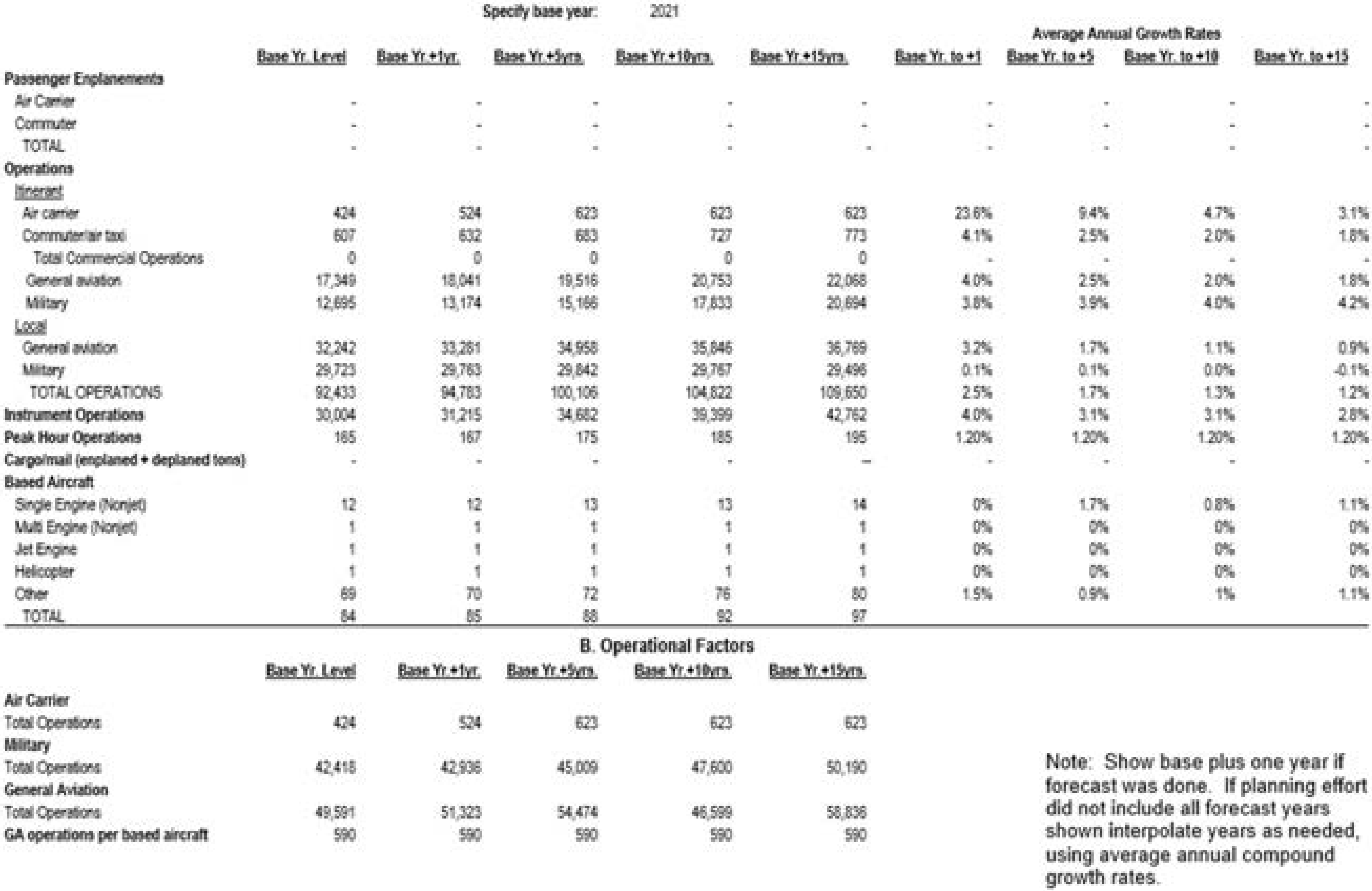
3.5.13. FAA Forecast Review and Approval and Variation from the FAA’s TAF

FAA Airport District Offices (ADOs) or Regional Airports Divisions are responsible for forecast approvals. When reviewing a sponsor’s forecast, the FAA must ensure the forecast is based on reasonable planning assumptions, uses current data, and is developed using appropriate methodologies. Additional discussion on assumptions and methodologies can be found in the APO report, *Forecasting Aviation Activity by Airport*. After a thorough review of the forecast, the FAA then determines if the forecast is consistent with the TAF. For all classes of airports, forecasts are considered consistent with the TAF if they meet the following criterion: Forecasts differ by less than 10% in the 5-year forecast period, and less than 15% in the 10-year forecast period. If the forecast is not consistent with the TAF, differences must be resolved if the forecast is to be used in FAA decision making. This may involve revisions to the airport sponsor’s submitted forecasts, adjustments to the TAF, or both.

The FAA-template tables below present a 15-year comparison of recommended forecasts developed in this chapter and forecasts identified within the most current TAF at the time of transmission for FAA approval, the FAA TAF issued March 2022. The tables were obtained from Appendix B and Appendix C of “*Forecasting Aviation Activity by Airport”* prepared for the FAA’s Office of Aviation Policy and Plans Statistics and Forecast Branch. As shown in Figure 3-10 and Figure 3-11 below, the Airport’s total operations forecast satisfies the FAA’s TAF tolerance criteria for approval at the ADO level. Based aircraft projections within the TAF are flat, which does not reflect the historical or anticipated future operating environment of the Airport. It is anticipated the TAF will update records to align with existing and anticipated operating environments at the Airport.

The FAA approved the forecasts presented herein on April 1, 2022.

Figure 3-10 – Appendix B Template for Summarizing and Documenting Airport Planning Forecasts



Specify base year: 2021

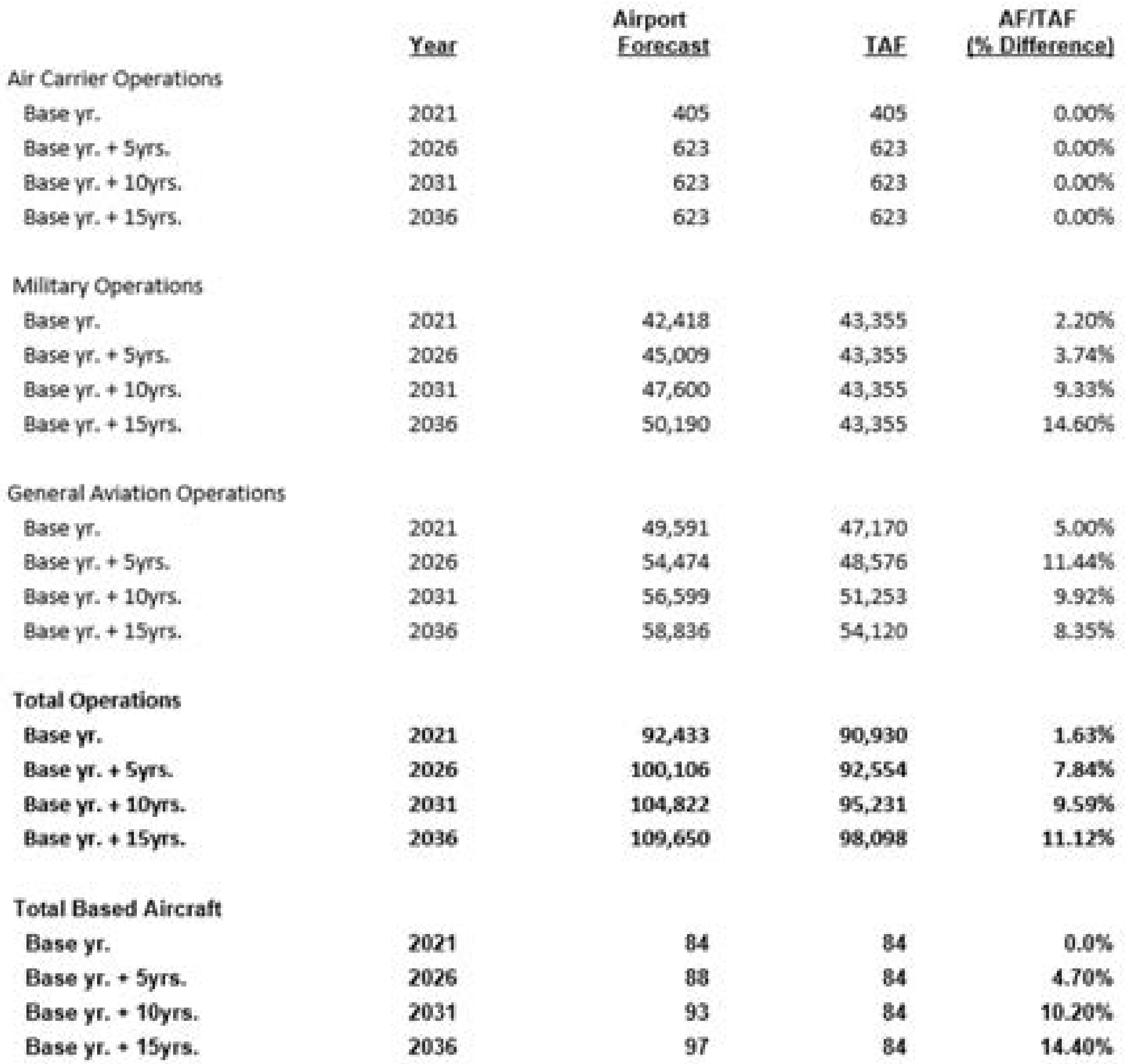
	Base Yr. Level	Base Yr.+1yr.	Base Yr.+5yrs.	Base Yr.+10yrs.	Base Yr.+15yrs.	Average Annual Growth Rates Base Yr. to +1	Base Yr. to +5	Base Yr. to +10	Base Yr. to +15
Passenger Enplanements									
Air Carrier	-	-	-	-	-	-	-	-	-
Commuter	-	-	-	-	-	-	-	-	-
TOTAL	-	-	-	-	-	-	-	-	-
Operations									
Itinerant									
Air carrier	424	524	623	623	623	23.6%	9.4%	4.7%	3.1%
Commuter/air taxi	607	632	683	727	773	4.1%	2.5%	2.0%	1.8%
Total Commercial Operations	0	0	0	0	0	-	-	-	-
General aviation	17,349	18,041	19,516	20,753	22,068	4.0%	2.5%	2.0%	1.8%
Military	12,695	13,174	15,166	17,833	20,694	3.8%	3.9%	4.0%	4.2%
Local									
General aviation	32,242	33,281	34,958	35,846	36,769	3.2%	1.7%	1.1%	0.9%
Military	29,723	29,763	29,842	29,767	29,496	0.1%	0.1%	0.0%	-0.1%
TOTAL OPERATIONS	92,433	94,783	100,106	104,822	109,650	2.5%	1.7%	1.3%	1.2%
Instrument Operations	30,004	31,215	34,682	39,399	42,762	4.0%	3.1%	3.1%	2.8%
Peak Hour Operations	165	167	175	185	195	1.20%	1.20%	1.20%	1.20%
Cargo/mail (enplaned + deplaned tons)	-	-	-	-	–	-	-	-	-
Based Aircraft									
Single Engine (Nonjet)	12	12	13	13	14	0%	1.7%	0.8%	1.1%
Multi Engine (Nonjet)	1	1	1	1	1	0%	0%	0%	0%
Jet Engine	1	1	1	1	1	0%	0%	0%	0%
Helicopter	1	1	1	1	1	0%	0%	0%	0%
Other	69	70	72	76	80	1.5%	0.9%	1%	1.1%
TOTAL	84	85	88	92	97				

B. Operational Factors

	Base Yr. Level	Base Yr.+1yr.	Base Yr.+5yrs.	Base Yr.+10yrs.	Base Yr.+15yrs.
Air Carrier					
Total Operations	424	524	623	623	623
Military					
Total Operations	42,418	42,936	45,009	47,600	50,190
General Aviation					
Total Operations	49,591	51,323	54,474	46,599	58,836
GA operations per based aircraft	590	590	590	590	590

Note: Show base plus one year if forecast was done. If planning effort did not include all forecast years shown interpolate years as needed, using average annual compound growth rates.

Figure 3-11 – FAA Appendix C Template for Comparing Airport Planning and TAF Forecasts



	Year	Airport Forecast	TAF	AF/TAF (% Difference)
Air Carrier Operations				
Base yr.	2021	405	405	0.00%
Base yr. + 5yrs.	2026	623	623	0.00%
Base yr. + 10yrs.	2031	623	623	0.00%
Base yr. + 15yrs.	2036	623	623	0.00%
Military Operations				
Base yr.	2021	42,418	43,355	2.20%
Base yr. + 5yrs.	2026	45,009	43,355	3.74%
Base yr. + 10yrs.	2031	47,600	43,355	9.33%
Base yr. + 15yrs.	2036	50,190	43,355	14.60%
General Aviation Operations				
Base yr.	2021	49,591	47,170	5.00%
Base yr. + 5yrs.	2026	54,474	48,576	11.44%
Base yr. + 10yrs.	2031	56,599	51,253	9.92%
Base yr. + 15yrs.	2036	58,836	54,120	8.35%
Total Operations				
Base yr.	**2021**	**92,433**	**90,930**	**1.63%**
Base yr. + 5yrs.	**2026**	**100,106**	**92,554**	**7.84%**
Base yr. + 10yrs.	**2031**	**104,822**	**95,231**	**9.59%**
Base yr. + 15yrs.	**2036**	**109,650**	**98,098**	**11.12%**
Total Based Aircraft				
Base yr.	**2021**	**84**	**84**	**0.0%**
Base yr. + 5yrs.	**2026**	**88**	**84**	**4.70%**
Base yr. + 10yrs.	**2031**	**93**	**84**	**10.20%**
Base yr. + 15yrs.	**2036**	**97**	**84**	**14.40%**

Chapter 4. Demand/Capacity and Facility Requirements

As documented in Chapter 3, was projected the Airport could experience levels of aircraft activity and based aircraft totals above historical levels during the 20-year forecast period. This chapter identified infrastructure and facilities needed at Cecil to accommodate forecast demand.

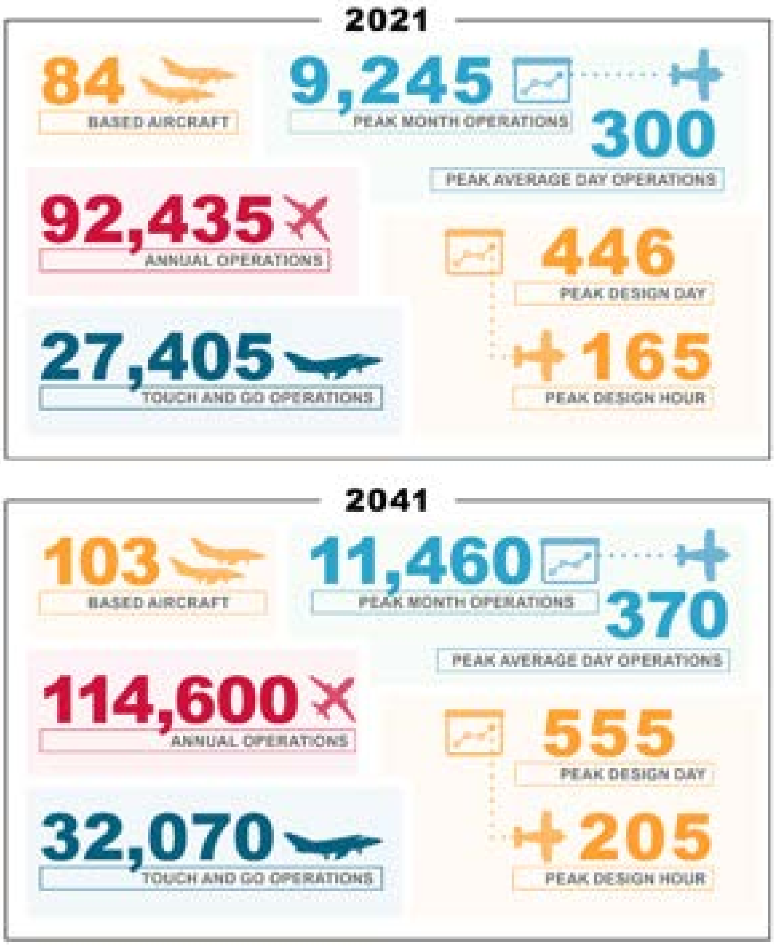
4.1. Introduction

Capacity analyses were conducted comparing forecast demand to existing infrastructure related to airside, landside, GA, spaceport, and support facilities. Based on the results from the analyses, facility requirements were developed. It cannot be overemphasized that actual demand will serve as the trigger to develop facility needs identified in this Chapter.

The forecast presented in Chapter 3 is summarized in Figure 4-1 and informed the demand capacity analysis presented within this chapter. The Airport is expected to increase annual operations from 92,435 in 2021 to 114,600 by 2041. The Airport is anticipated to experience an increase in based aircraft from 84 based aircraft in 2021 to 1,03 by 2041.

Supplementing both the overall forecast presented in Chapter 3 and the annual service volume presented in this chapter, feedback from the Airport personnel, tenants, and other stakeholders during TAC and PAC meetings, interviews, and public meetings were incorporated into this chapter.

Figure 4-1 – Forecast Summary



Source: Kimley-Horn, 2025

4.2. Airside

This section presents an analysis of Cecil's anticipated ability to accommodate forecast levels of demand related to airside infrastructure. As used in this Master Plan, airside is defined as the movement areas of the airport or more generally, the runway and taxiway system and supporting infrastructure.

4.2.1. Airport Service Role

The Airport's historical and existing role within the NAS is a public-use, GA airport as described within the FAA NPIAS. At a local level, the Airport is envisioned by the JAA to serve as the region's premier MRO. The role of the Airport at both the national and local levels is not anticipated to change over the 20-year forecast period.

4.2.2. FAA Airport Design Standards

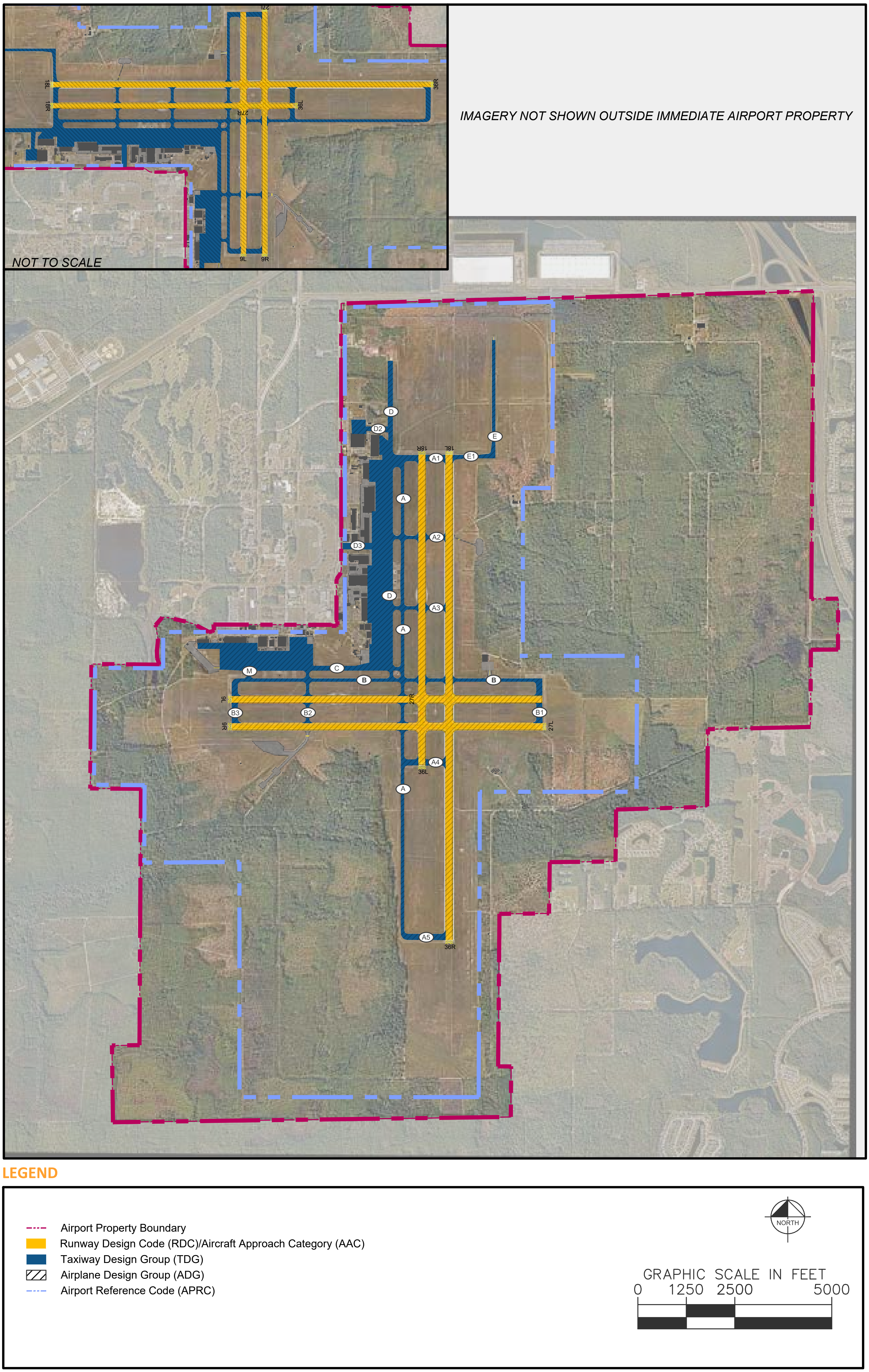
FAA Advisory Circular (AC) 150/5300-13B, *Airport Design*, defines the applicable airport design standards for Cecil. Some key design standards, how they are determined, associated safety areas they affect, and where they apply at an airport are defined in Table 4-1. A graphical representation of where the various design standards apply at Cecil is found in Table 4-2.

Table 4-1 – Applicability of FAA Design Standards

FAA Design Standards	Applies To	Applicable Facilities	Defined By
Airport Reference Code (ARC)	Entire Airport	N/A	Airport's highest RDC (minus the visibility component)
Runway Design Code (RDC)	Runway Environment	Runway Width Runway Shoulders Blast Pad Size Runway Safety Area Runway Obstacle Free Zone Runway Object Free Area Runway Protection Zone Hold Line Location Runway to Parallel Taxiway Separation Runway to Aircraft Parking Areas	RDC for an individual runway. The RDC is comprised of the Airplane Approach Category (AAC), Aircraft Design Group (ADG), and runway visibility minimums. The runway end with the most restrictive visibility minimums defines the visibility component for the runway.
Aircraft Approach Category (AAC) (included as part of the RDC)	Runway Environment	Runway Width Runway Safety Area Runway Object Free Area Runway Protection Zone Runway to Parallel Taxiway Separation	Approach speed
Taxiway Design Group (TDG)	Taxiway Environment Apron Areas	Taxiway Width Taxiway Edge Safety Margin Taxiway Shoulder Width Taxiway/Taxilane Centerline to Parallel Taxiway/Taxilane Centerline	Outer to outer main gear width and cockpit to main gear distance
Airplane Design Group (ADG) (included as part of the RDC)	Runway Environment Taxiway Environment Apron Areas	Taxiway Safety Area Taxiway Object Free Area Taxilane Object Free Area Taxiway Centerline to Parallel Taxiway/Taxilane Centerline Taxilane Centerline to Parallel Taxilane Centerline Taxiway Centerline to Fixed or Movable Object Taxilane Centerline to Fixed or Movable Object Taxiway Wingtip Clearance Taxilane Wingtip Clearance	Aircraft wingspan and tail height

Sources: FAA AC 150/5300-13B Airport Design, 2022; Kimley-Horn, 2025

Figure 4-2 – FAA Applicable Design Standards



Sources: Nearmap, accessed February 2022; Kimely-Horn 2025.

4.2.2.1. Airport Reference Code

The ARC is used to relate airport design criteria to the operational and physical characteristics of the aircraft types that will operate at the airport. The ARC is comprised of two components: 1) the Aircraft Approach Category (AAC), which is designated with a capital letter (A through E) and is based on operational characteristics (aircraft approach speed); and 2) the ADG, which is designated by a Roman numeral (I through VI) and is based on an aircraft's physical characteristics (tail height and wingspan).

One of the most important aspects of airside planning, is the consideration of an airport's critical design aircraft and its associated ARC. The FAA designs the critical design aircraft as the most demanding aircraft that conducts at least 500 operations per year at the airport. This may be one or a combination of multiple aircraft which present the most demand on the airport in terms of operational and physical characteristics.

AAC and ADG are detailed in Table 4-2 and Table 4-3, respectively.

Table 4-2 – Aircraft Approach Categories

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

Source: FAA AC 150/5300-13B Airport Design, 2022.

Table 4-3 – Airplane Design Group

Airplane Design Group	Tail Height (feet)	Wingspan (feet)
I	< 20'	< 49'
II	20' – < 30'	49' – < 79'
III	30' – < 45'	79' – < 118'
IV	45' – < 60'	118' – < 171'
V	60' – < 66'	171' – < 214'
VI	66' – < 80'	214' – < 262'

Source: FAA AC 150/5300-13B Airport Design, 2022.

The previously approved Airport Layout Plan (ALP) defined the ARC for Cecil as D-IV and the critical design aircraft as a Boeing 767-400 with the critical design aircraft for Runway 9L/27R changing to a King Air 300, an ARC of B-II, in the ultimate condition.

Chapter 3 analyzed the existing and future critical design aircraft for Cecil and determined the ARC is and is forecast to remain a C-IV and the Boeing 767-200 will continue to serve as the representative critical design aircraft. A review of FAA airport design standards for C-IV and D-IV found no differences between the two. Therefore, for the purpose of this Master Plan and accompanying ALP, the ARC is D-IV.

Chapter 3 also identified critical aircraft and ARC for the different user groups at Cecil (see Table 4-4). This provided an additional level of flexibility for future facilities to be tailored to the intended aircraft users.

Table 4-4 – Airport Reference Code and Critical Aircraft by User Group

User	Airport Reference Code	Critical Aircraft
Maintenance, Repair, and Overhaul (MRO)	C-IV	Boeing 757-200 Boeing 767-300
Military Support	C-IV	Boeing KC-135 Stratotanker
Military Fighter Jet	D-I	F/A 18 Hornet
General Aviation	B-II	Beech 200 Super King Cessna Excel/XLS

Source: Kimley-Horn, 2025.

4.2.2.2. Runway Design Code

While the ARC is used to relate overall airport design criteria to the operational and physical characteristics of the aircraft types that will operate at an airport, the RDC provides design standards that apply to a specific runway. These standards provide basic guidelines for a safe and efficient airport system and are based on the most demanding aircraft expected to use the runway. The RDC includes the same two ARC components (AAC and ADG) along with a third component, the approach visibility. As shown in Table 4-5, approach visibility refers to a runway's visibility minimums expressed by runway visual range (RVR) in terms of feet.

Table 4-5 – Visibility Minimums

Runway Visibility Range (feet)	Flight Visibility Category (statute miles)
VIS	Visual approaches only
5,000'	Not lower than 1 mile
4,000'	Lower than 1 mile, but not lower than ¾ mile
2,400'	Lower than ¾ mile, but not lower than ½ mile
1,600'	Lower than ½ mile, but not lower than ¼ mile
1,200'	Lower than ¼ mile

Source: FAA AC 150/5300-13B Airport Design, 2022.

The AAC and ADG for a particular runway may be less than the Airport's overall ARC, allowing for design standards to be tailored to the aircraft operating on a specific runway. This is the case with Runway 9L/27R, which has smaller critical design aircraft than the Airport's overall ARC designation. Table 4-6 summarizes the RDCs of the four runways at Cecil, along with the lowest approach minima for each runway end and the runway's critical aircraft.

Table 4-6 – Existing Runway Design Codes at Cecil

Runway	Critical Aircraft	Lowest Minima Approach	Runway Design Code
18L/36R	Boeing 767-200	Runway 18L – 300', 1-mile Runway 36R – 200', ½-mile	D-IV-2400
18R/36L	Boeing 767-200	Runway 18R – Visual Runway 36L – Visual	D-IV-VIS
9R/27L	Boeing 767-200	Runway 9R – 300', ¾-mile Runway 27L – 400', 1-mile	D-IV-4000
9L/27R	Beech 200 Super King	Runway 9L – Visual Runway 27R – Visual	B-II-VIS

Source: FAA AC 150/5300-13B Airport Design, 2022.

The standards related to RDCs were analyzed against existing infrastructure at Cecil to determine the appropriateness of facilities. Data related to this analysis are presented within Table 4-7 for the runways oriented north/south and Table 4-8 for runways orientated east/west. The runways generally comply with current FAA design standards; however, all runways are wider than required but lack runway shoulders. Consideration may be given to reducing the runway widths and providing shoulders.

Table 4-7 – Existing Runway Design Codes at Cecil – North/South Runways

Design Criteria		Runway 18L/36R		Runway 18R/36L	
		Existing Conditions	D-IV-2400	Existing Conditions	D-IV-VIS
Runway Design					
Runway Width		200’	200’[1]	200	200’
Shoulder Width		None	25’	None	25’
Blast Pad Width		200’	250’[1]	200’	200’
Blast Pad Length		100’	200’	200’	200’
Runway Protection					
Runway Safety Area (RSA)	Length Beyond Runway End	1,000’	1,000’	1,000’	1,000’
	Length Prior to Threshold	600’	600’	1,000’	1,000’
	Width	500’	500’	500	500’
Runway Object Free Area (ROFA)	Length Beyond Runway End	1,000’	1,000’	1,000’	1,000’
	Length Prior to Threshold	600’	600	1,000’	1,000’
	Width	800’	800’	800’	800’
Runway Obstacle Free Zone (ROFZ)	Length Beyond Runway End	200’	200’	200’	200’
	Width	400’	400’	400’	400’
Approach Runway Protection Zone	Length	1,700’ RWY 18L 2,500’ RWY 36R	1,700’ RWY 18L 2,500’ RWY 36R	1,700’	1,700’
	Inner Width	1,000’	1,000’	500’	500’
	Outer Width	1,510’ RWY 18L 1,750’ RWY 36R	1,510’ RWY 18L 1,750’ RWY 36R	1,010’	1,010’
Departure Runway Protection Zone	Length	1,700’	1,700’	1,700’	1,700
	Inner Width	500’	500’	500’	500’
	Outer Width	1,010’	1,010’	1,010’	1,010’
Runway Separation					
Holding Position		250’	250’	250’	250’
Parallel Taxiway Centerline		400’	400’	400’	400’
Aircraft Parking Area		500’	500’	500’	500’

Notes: Red text indicates deficiencies from design standards; The required width for a D-IV-2400 runway is 150 feet. However, to support Cecil Spaceport operations, it is recommended that Runway 18L/36R remain 200’ wide; Existing blast pad widths are considered as meeting design criteria because they are the same as the overall width of the existing runway plus existing shoulders.

Sources: FAA AC 150/5300-13B Airport Design, 2022; JAA provided CAD files; Google Earth.

Table 4-8 – Existing Runway Design Codes at Cecil – East/West Runways

Design Criteria		Runway 9R/27L		Runway 9L/27R	
		Existing Conditions	D-IV-4000	Existing Conditions	B-II-VIS
Runway Design					
Runway Width		200’	150’	200’	75’
Shoulder Width		None	25’	None	10’
Blast Pad Width		200’	200’	200’	95’
Blast Pad Length		100’ RWY 9L 100’ RWY 27R	200’	100’ RWY 9L 150’ RWY 27R[1]	150’
Runway Protection					
Runway Safety Area (RSA)	Length Beyond Runway End	1,000’	1,000’	300’	300’
	Length Prior to Threshold	600’	600’	300’	300’
	Width	500’	500’	150’	150’
Runway Object Free Area (ROFA)	Length Beyond Runway End	1,000’	1,000’	300’	300’
	Length Prior to Threshold	600’	600’	300’	300’
	Width	800’	800’	500’	500’
Runway Obstacle Free Zone (ROFZ)	Length Beyond Runway End	200’	200’	200’	200’
	Width	400’	400’	250’	250’
Approach Runway Protection Zone	Length	1,700’	1,700’	1,000’	1,000’
	Inner Width	1,000’	1,000’	500’	500’
	Outer Width	1,510’	1,510’	700’	700’
Departure Runway Protection Zone	Length	1,700’	1,700’	1,000’	1,000’
	Inner Width	500’	500’	500’	500’
	Outer Width	1,010’	1,010’	700’	700’
Runway Separation					
Holding Position		250’	250’	250’	200’
Parallel Taxiway Centerline		400’	400’	400’	400’[2]
Aircraft Parking Area		500’	500’	500’	250’
Helipad		1,050’	700’	350’	700’

Note: Red text indicates deficiencies from design standards.

1. Runway 9L27R was shortened, 27R utilizes old pavement for blast pad;

2. 240’ represents B-II separation, for the purposes of planning 400’ for D-IV will be utilized.

3. Existing blast pad widths are considered as meeting design criteria because they are the same as the overall width of the existing runway plus existing shoulders.

Sources: FAA Advisory Circular 150/5300-13B, Airport Design, 2022; JAA provided CAD files; Google Earth.

4.2.2.3. Taxiway Design Group

The taxiway design group (TDG) is a classification of aircraft based on outer-to-outer main gear width (MGW) and cockpit to main gear (CMG) distance. The TDG determines certain taxiway design standards such as the taxiway width, taxiway edge safety margin (TESM), taxiway shoulder width, and taxiway fillets. TDGs are applied to individual taxiways based upon the aircraft anticipated to use the facilities, preventing potential over- or under-building of taxiway infrastructure.

Airports experiencing a diverse mix of aircraft, like Cecil, often delineate TDGs based on the aircraft most frequently using the taxiway. Cecil's existing taxiway configuration layout limits the delineation of TDGs, since aircraft operating on the primary runway system operate on the same taxiway system as the secondary runway system. TDG categories for the types of aircraft and users at Cecil are in Table 4-9.

Table 4-9 – FAA Taxiway Design Group Standards

Design Criteria	Military Fighter Aircraft	General Aviation	Maintenance, Repair, and Overhaul / Military Support
Taxiway Design Group	2	2	5
Taxiway Width	35'	35'	75'
Taxiway Edge Safety Margin	7.5'	7.5'	14'
Taxiway Shoulder Width	15'	15'	30'

Note: Dimensions are in imperial feet and represent the minimum design standards per highest TDG classification.
Source: FAA AC 150/5300-13B, Airport Design, 2022.

Taxiway protection and separation standards are determined by the ADG. Applicable standards for the types of users are found in Table 4-10.

All taxiways at Cecil meet TDG and ADG design and separation standards. Four taxiway connectors provide direct access from apron areas to active runway pavement and increases the chance of runway incursions. Additional discussion related to non-standard taxiways is presented in subsequent sections.

Table 4-10 – FAA Taxiway Design Standards

Design Criteria	Military Fighter Jets	General Aviation	Maintenance, Repair, and Overhaul / Military Support
Airplane Design Group	I	II	IV
Taxiway Protection			
Taxiway Safety Area	49’	79’	171’
Taxiway Object Free Area	89’	124’	243’
Taxilane Object Free Area	79’	110’	224’
Taxiway Separation			
Taxiway Centerline to Parallel Taxiway/Taxilane Centerline	70’	102’	207’
Taxiway Centerline to Fixed or Movable Object	44.5’	62’	121.5’
Taxilane Centerline to Parallel Taxilane Centerline	64’	94’	198’
Taxilane Centerline to Fixed or Movable Object	39.5’	55’	112’
Wingtip Clearance			
Taxiway Wingtip Clearance	20’	23’	36’
Taxilane Wingtip Clearance	15’	16’	27’

Note: All distances are in US feet.

Source: FAA AC 150/5300-13B Airport Design, 2022.

4.2.3. Airfield Demand and Capacity

Airfield and airspace capacity requirements were based on the following objectives:

- Assess the airfield meets capacity throughout the planning horizon
- Assess access to runways, taxiways, and aprons can meet operational demand, future requirements, and FAA design criteria
- Ensure the airfield is “right sized” to meet forecast demand

Airfield capacity is defined by the maximum number of aircraft operations an airfield can accommodate in a specified period of time. Delay, or the difference between constrained and unconstrained aircraft operating times, increases as demand approaches capacity. Although specific aircraft maintenance and weather-related delays are unavoidable, optimizing airfield configuration to enhance traffic flow efficiency helps reduce the overall amount of aircraft delay experienced at Cecil.

Methodologies detailed in FAA AC 150/5060-5, Airport Capacity and Delay (effective September 23, 1983) formed the basis of airfield capacity evaluation of Cecil’s ability to accommodate current and projected levels of demand at the Airport. The evaluation assisted in identifying and justifying capacity-related airfield improvements through the planning horizon of this Master Plan. Average amount of aircraft delay was also determined pertaining to the peak periods of activity forecast for Cecil. The estimated airfield capacity and delay at Cecil can be expressed in the following measurements:

- **Annual Service Volume (ASV)** – The maximum number of aircraft operations the airfield can accommodate in a one-year period without excessive delay.
- **Hourly Capacity** – The maximum number of aircraft operations the airfield can safely accommodate under continuous demand in a one-hour period.
- **Peak Period Delay** – The total amount of aircraft delay, expressed in minutes, that could be experienced during the average peak hour of the peak month.

4.2.3.1. Airfield Capacity Calculation Factors

Detailed within this section are key operational factors and assumptions specific to Cecil that influenced the calculations of airfield capacity and delay.

Meteorological Conditions

Meteorological conditions influence utilization of runways. Variation in wind and/or visibility minimums may reduce airfield capacity since operating aircraft require more separation during instrument meteorological conditions (IMC). Weather conditions at Cecil are 85% VFR, 14% IFR, and 1% closed based on an FAA ADIP weather analysis between the years 2011 and 2020. The above percentages are weather conditions relating to a full 24-hour day; the vast majority of flight operations at Cecil occur during daytime hours.

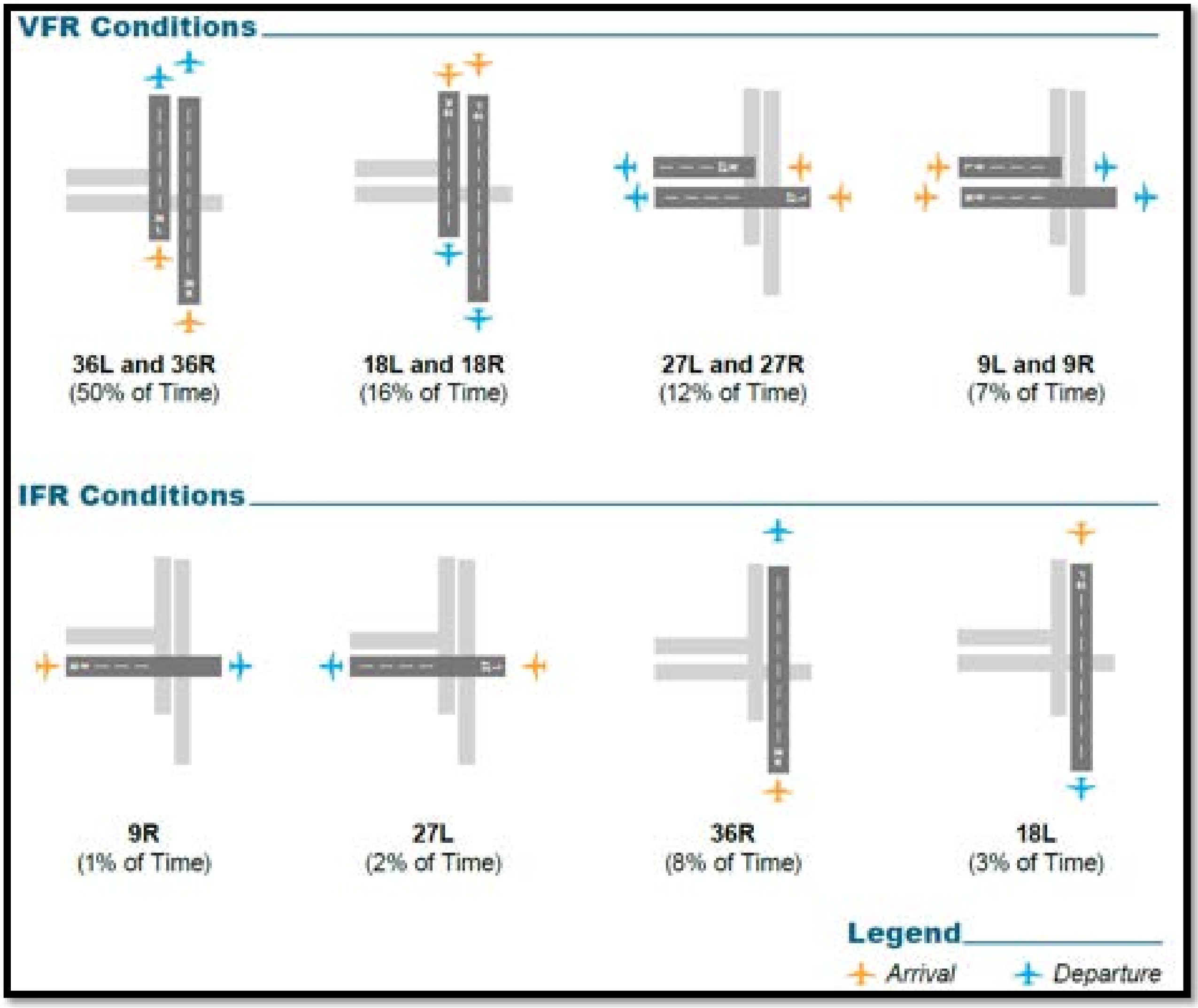
Runway Use Configurations

Airfield capacity is directly correlated to the number and orientation of active runways during various operating conditions and/or configurations. Airfield configuration may vary based on weather conditions, time of day, and/or the type of approach procedures available. Based on information gathered from the ATCT and a sample of the Airport’s operations recording system, runways orientated north-south are utilized approximately 78% of the time and runways orientated east-west are utilized approximately 22% of the time.

ATC only allows use of the two parallels that are most favorable to wind conditions at a given time. The north/south and east/west runways are not used concurrently. Only Runways 18L/36R and 9R/27L have instrument approach capabilities. Therefore, when IFR conditions are present, only one runway can be in use.

Figure 4-3 below illustrates the various runway configurations used at Cecil.

Figure 4-3 – Runway Configurations



Sources: Robinson Aviation, Inc. 2022; JAA, 2022; Kimley-Horn, 2025.

Aircraft Fleet Mix

Aircraft fleet mix index is a ratio related to weight of various classes of aircraft operating at the Airport. Due to different performance and wake turbulence characteristics, the size of aircraft operating at the Airport have a substantial impact on the airfield's capacity. The FAA states that heavier aircraft operating at an airfield require increased separation during approach and departure to avoid wake turbulence. The FAA has established four classes of aircraft based on their maximum certificated takeoff weight (MTOW):

- Class A – 12,500 pounds (lbs.) or less, single engine
- Class B – 12,500 lbs. or less, multi-engine
- Class C – 12,500 lbs. to 300,000 lbs.
- Class D – over 300,000 lbs.

An airport’s ARC and critical design aircraft are unrelated to the above aircraft classifications. The mix index ratio is calculated for each runway configuration utilized at the Airport with the formula:

[Total Class C Aircraft + (3 x Total Class D Aircraft)] / Total Operations = Aircraft Fleet Mix Index

It was assumed that most Class C and D aircraft filed a flight plan. Therefore, the FAA’s Traffic Flow Management System Counts (TFMSC) data reflect the amount of Class C and D aircraft using Cecil. TFMSC data for base year 2021 noted 4,062 Class C aircraft operations and 366 Class D operations. This resulted in an aircraft mix index of 6% when using the above formula applied to the 92,433 total operations recorded in 2021. Rotorcraft were not included within the C or D categories, as standard operating conditions do not warrant the same use of airfield infrastructure as fixed-wing aircraft.

Percentage of Touch-and-Go Operations

Feedback from the ATC manager and analysis in Chapter 3 concluded that 85% of local GA operations at the Airport are touch-and-go operations, representing approximately 30% of total activity at Cecil in 2021. An airfield with higher percentages of touch-and-go operations typically has greater airfield capacity than one with a higher percentage of itinerant operations.

Location of Taxiway Exits

Runway capacities are highest when the runways are complimented with full-length, parallel taxiways, ample exit taxiways, and no active runway crossings. These components reduce an aircraft’s runway occupancy time. FAA AC 150/5060-5 identifies the criteria for determining taxiway exit factors based on the number of taxiway exits, fleet mix index, percentage of aircraft arrivals, and an exit taxiway’s distance from the landing threshold. At Cecil, each set of parallel runways are serviced by a singular full-length parallel runway. An intersecting runway is not considered in the determination of a taxiway exit factor calculations. Table 4-11 details the taxiway exits relative to the arrival runway. Useful runway exits for an airport with fleet mix index between 0 and 20 are located 2,000 to 4,000 feet from the arrival runway threshold.

Table 4-11 – Taxiway Exit Locations

Runway	Taxiway Exit and Distance from Arrival Threshold
Runway 18L	**A2 at 2,000’** **A3 at 4,000’** A4 at 5,750’ B at 7,850’ A5 at Runway End
Runway 36R	A4 at 4,500’ B at 6,500’ A3 at 8,500’ A2 at 10,250’ A1 at Runway End
Runway 18R	**A2 at 2,000’** **A3 at 4,000’** B at 5,750’ A4 at Runway End
Runway 36L	**B at 2,250’** **A3 at 4,000’** A2 at 5,850’ A1 at Runway End
Runway 9R	**B2 at 2,000’** A at 4,400’ B1 at Runway End
Runway 27L	**A at 3,500’** B2 at 6,000’ B3 at Runway End
Runway 9L	**B2 at 2,000’** A at Runway End
Runway 27R	**B2 at 2,500’** B3 at Runway End

Notes: Distances calculated from arrival runway threshold. Bolded taxiways represent useful exits.
Sources: FAA, Airport Diagram, October 2021. Google Earth, Near-Map Satellite Imagery, Accessed February 2022.

Percent Arrivals

The percentage of arrivals was derived from the total operations recorded at the Airport. After discussion with the ATC manager and review of the standard operations at the Airport, it was determined that a factor of 50% arrivals was identified for the Airport.

Peak Activity Characteristics

As noted, peak month activity for base year 2021 generated 9,245 operations. Peak month average day (PMAD), which divides total operations by the amount of days within the peak month (January has 31 days), is 300 operations. For the airfield capacity peaking characteristics, the peak month peak hour was determined by analyzing historical activity for January 2021. The peak month peak hour was determined to be 84 operations, which represents the average of the top 50 busiest hours. The top three hours recorded within the month were excluded from the calculation to account for inaccuracies within the database.

Runway Hourly Capacity

Runway hourly capacity measures the maximum number of aircraft operations that can be serviced within an hour. FAA AC 150/5060-5 outlines a process for determining capacities at the Airport, considering weather conditions and fleet mix index. Runway hourly capacity is determined from the below equation:

Runway Hourly Capacity = C* x T x E

Where:

- C* = Hourly capacity Base
- T = Touch-and-Go Factor
- E = Exit Factor

Runway hourly capacities are shown in Table 4-12 below for both IFR and VFR conditions. The following section used the capacities determined within this section to assess weighted hourly airfield capacity, which is required to calculate ASV.

Table 4-12 – Runway Hourly Capacities

Hourly Capacity	Runway(s) in Use
During Visual Flight Rules	
216	Runway 9R and 9L
216	Runway 27L and 27R
247	Runway 18L and 18R
208	Runway 36R and 36L
During Instrument Flight Rules	
57	Runway 9R
57	Runway 27L
60	Runway 18L
56	Runway 36R

Sources: FAA, AC 150/5060-5, 1983; Kimley-Horn, 2025.

4.2.3.2. Annual Service Volume and Weighted Hourly Airfield Capacity

ASV is a representation of total airfield capacity. ASV accounts for runway configuration, touch-and-go activity, runway exit locations, meteorological conditions, and the weight class of aircraft at the Airport. To compute weighted hourly airfield capacity, FAA AC 150/5060-5 provides the following equation:

$$c_w = \left(\frac{(p_1 \cdot c_1 \cdot w_1)+(p_2 \cdot c_2 \cdot w_2)+\cdots+(p_n \cdot c_n \cdot w_n)}{(p_1 \cdot w_1)+(p_2 \cdot w_2)+\cdots+(p_n \cdot w_n)}\right)$$

Where:

- Cw = weighted hourly configuration
- Pn = percent of time configuration “n” is utilized (accounting for VFR and IFR conditions)
- Cn = hourly capacity of configuration “n”
- Wn = ASV weighting factor (based on the percent of maximum capacity)

The result of weighted hourly capacity for the Airport is approximately 206 aircraft operations. ASV was calculated using the following equation:

ASV = (Cw x D x H)

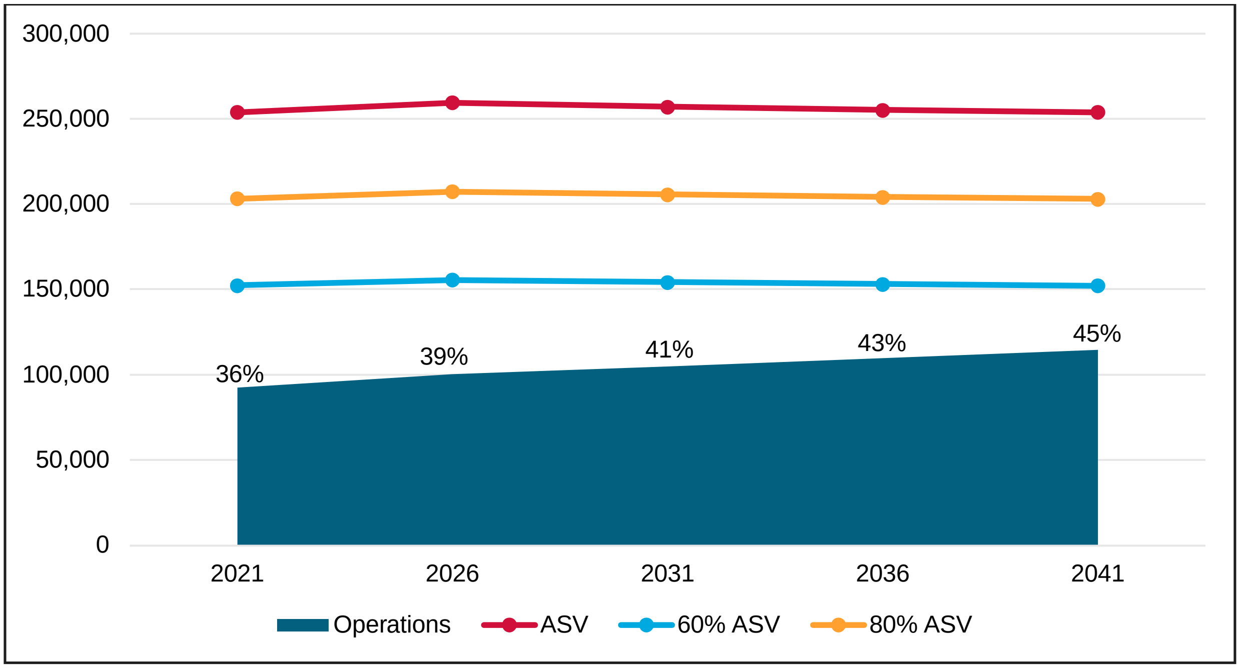
Where:

- ASV = annual service volume
- Cw = weighted hourly configuration
- D = ratio of annual demand to the average daily demand during peak month
- H = ratio of average daily demand to the design hour demand during the peak month

The resulting ASV was determined to be 253,890 aircraft operations. ASV, when applied to historical and forecast total operations, informs timelines for planning, design, and construction of capacity enhancement projects. If the Airport’s demand is at or above 60% of ASV, it is recommended to begin planning efforts to increase capacity. Once demand reaches 80% of ASV design and initial implementation for capacity enhancements should begin. These thresholds enable adequate time for planning and implementation prior to the airport experiencing significant delays. Figure 4-4 compares forecast demand at Cecil to the ASV. Annual operations are projected to increase from 36% of ASV in 2021 to 45% by 2041.

From this comparison of demand and capacity it is concluded that airfield capacity is sufficient to accommodate forecast operations. Considering the runway length and exit taxiways (that enhance capacity) there may be opportunities to further increase the ASV. The calculated hourly demand ratio used was four, which is lower than the typical 7 to 11 range as expressed in AC 150/5060.5B. Hourly peaks at the Airport are high due to military traffic peaks paired with civil GA traffic utilizing the Airport for flight training. The capacity of an airport is not constant and may vary over time depending upon airfield improvements, airfield or airspace geometry, ATC procedures, weather, and the fleet mix operating at the airport. The capacity of an airport can change with or without airfield improvements.

Figure 4-4 – Annual Service Volume Projection



Sources: FAA, AC 150/5060-5, 1983; JAA, 2021; Kimley-Horn, 2025.

4.2.3.3. Aircraft Delay

Calculating the average delay associated with each aircraft allows planners to estimate time between operations at the Airport. FAA AC 150/5060-5 Changes 1 and 2 provides an abbreviated method used to estimate delay at the Airport. This methodology accounts for arriving and departing traffic operating under VFR and IFR conditions, resulting in 0.15 minutes of delay per operation in 2021 at the Airport, increasing to delay of 0.25 minutes per operation by 2041. Total annual delay was determined via applying the delay per aircraft to total operations in the base year, and subsequent forecast years resulting in 480 annual hours of delay as displayed in Table 4-13. There is anticipated to be a slight increase in operational delay over the planning horizon at the Airport, but the extent of that increase and the associated delay is well below levels that would trigger a need for capacity enhancements.

Table 4-13 – Aircraft Delay

Year	Average Delay Per Aircraft (Minutes)	Total Annual Delay (Hours)	Annual Operations
2021	0.15	231	92,433
2026	0.18	290	100,105
2031	0.20	350	104,820
2041	0.25	480	114,600

Sources: FAA, AC 150/5060-5, 1983; JAA, 2021; Kimley-Horn, 2025.

4.2.3.4. Summary of Airfield Demand/Capacity

Cecil is not projected to reach a level of demand that would require significant capacity improvements over the planning horizon. This conclusion, however, does not mean that future opportunities to enhance airfield efficiency should not be considered. Improvements to runway occupancy time, ground movements, and the continued separation between distinct aircraft groups ensures the airfield will continue to operate below capacity, with the additional benefits related to increased safety.

As of 2021, only the northern 8,000 feet of Runway 18L/36R is eligible for FAA funding. The preceding analysis confirmed that the existing airfield is adequate for existing and forecast demand. For comparison, an analysis was conducted to assess the airfield capacity assuming only the northern 8,000 feet of Runway 18L/36R was available. Retaining the other variables as defined in the preceding analysis resulted in an ASV of approximately 110,000 operations. Assuming the Airport had one active runway, Runway 18L/36R, the Airport is operating at 84% of ASV in 2021, with 2041 forecast operations exceeding ASV at 104%. For this reason, a secondary runway is justified to accommodate existing, and forecast demands at the Airport. Because of how useful taxiway exits affect the ASV calculation, assuming the full length of Runway 18L/36R is available, ASV reduces to approximately 90,000 operations and 2021 operations levels of 92,433 would have exceeded the ASV capacity.

4.2.4. Airfield

This section focuses on the aircraft movement areas of Cecil. The analysis starts with the runway orientation and length and builds outward toward the Airport perimeter.

4.2.4.1. Weather and Wind Analysis

During the inventory phase of this Master Plan, ATC personnel and several tenants reported that winds favor the north-south runways approximately 70% of the time and the east-west runways the remaining 30% of the time. VirTower data collected from October 16, 2021 through January 24, 2022 was analyzed and found that during that limited time the north-south runways were used approximately 80% of the time. As these data conflicts with the overall crosswind analysis documented in Chapter 2, additional analysis was performed. The following methodology was used:

- Cecil Airport Automated Surface Observing System (ASOS) data was gathered from Iowa State University[35]
- Three years of data were collected and analyzed (from February 1, 2019 through January 31, 2022)
- The raw wind data were imported into Microsoft Excel and filtered into the standard wind rose format (speed and direction)
- Data were further filtered by season and time of data
    - Seasons were defined as:
        - Fall – September through November
        - Winter – December through February
        - Spring – March through May
        - Summer – June through August

---

[35] *Iowa State ASOS repository: https://mesonet.agron.iastate.edu/request/download.phtml?network=FL_ASOS, accessed February 2022.*

  - Times of day were divided as:
    - ATCT morning hours – 7:00 am to 12:00 pm
    - ATCT afternoon/evening hours – 12:00 pm to 9:00 pm
    - Nighttime/ATCT closed hours – 9:00 pm to 7:00 am

- This data was then used in the FAA Wind Rose Generator tool located within the ADIP to calculate the percent of wind coverage for the various runway configuration scenarios by season and time of day

From this analysis, several conclusions were drawn as explained below. As a reminder, a runway with crosswind coverage of 95% or greater is considered to meet standard.

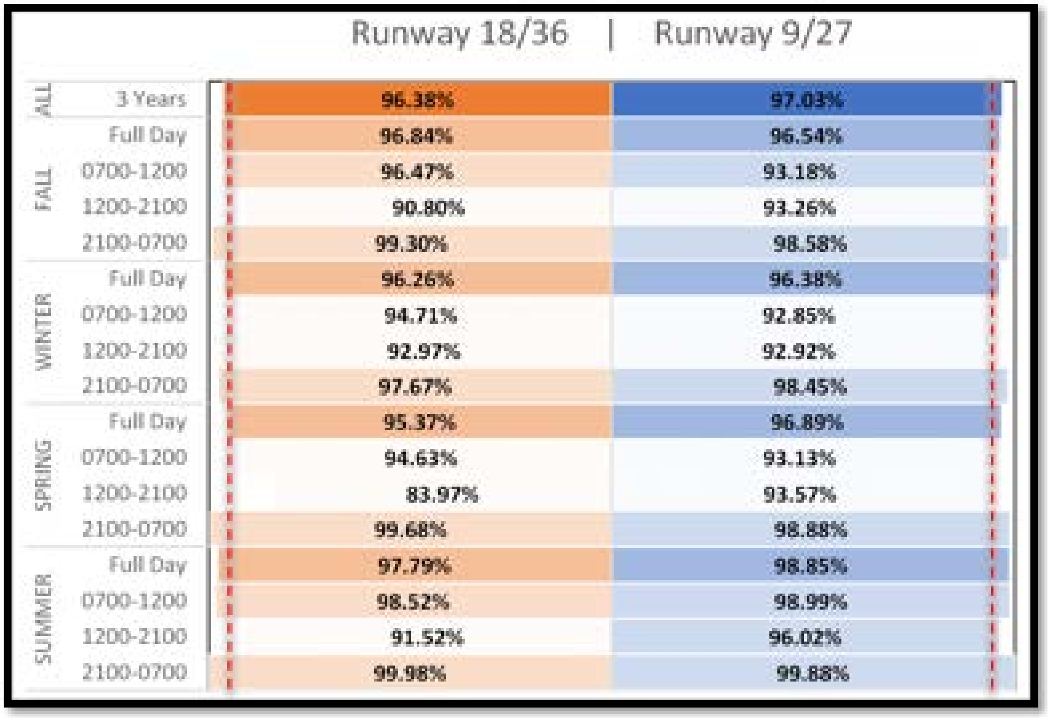
First, the existing runway configuration provides over 99% crosswind coverage down to 10.5 knots throughout the full three years of data. This is consistent with the 10 years of data analyzed during the inventory. Individual (exclusively north-south and east-west runway alignments) crosswind coverage also exceeds 96% on an annual basis.

Full days in each season were analyzed for the north-south and east-west runways individually and combined. It was concluded that, in each configuration, crosswind coverage exceeded 95% down to 10.5 knots. It was also found that in all seasons the nighttime/ATCT closed hours of 9:00 pm to 7:00 am that individual and combined runway configuration exceeded 97% crosswind coverage down to 10.5 knots. This represents nearly half of the day (11 hours) where winds are mainly calm. However, this period is estimated to only account for approximately 2% of annual operations. This skews the actual ability of runways to accommodate crosswinds during normal hours of operations; therefore, further analysis was warranted.

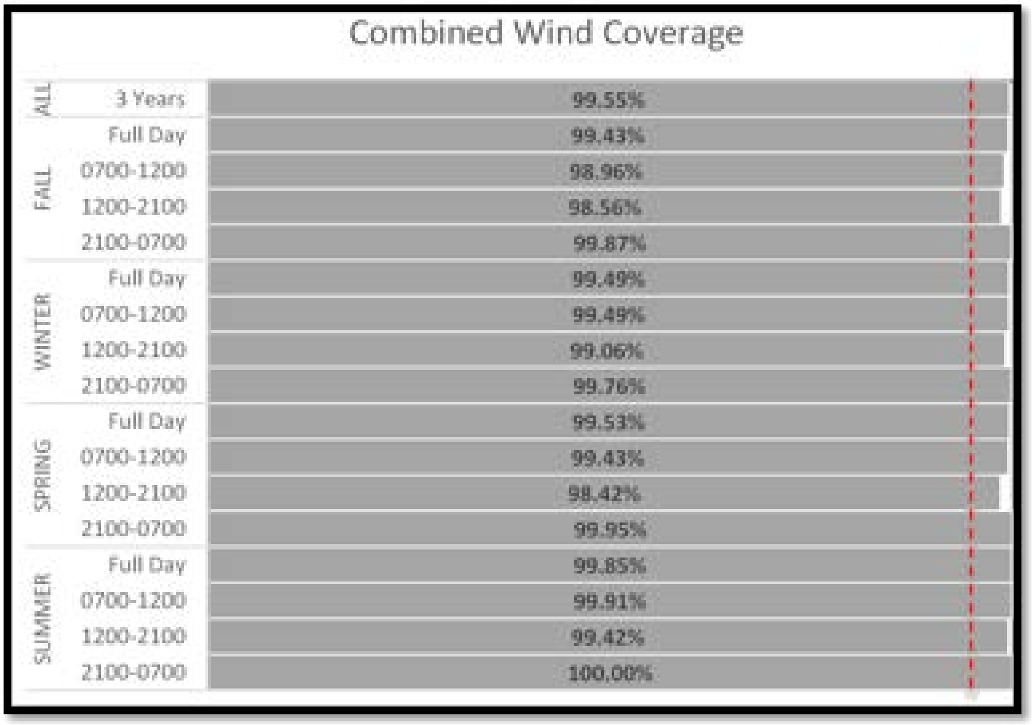
Based on the analysis conducted, when the ATCT is open (7:00 am to 9:00 pm), crosswind coverage down to 16 knots is provided more than 97% of the time for individual and combined runway configurations. Crosswind coverage for 10.5-knot and 13-knot winds slightly favor the east-west runway alignment. At a 13-knot crosswind in the spring and fall afternoon/evening hours, the coverage for the north-south runway decreases as low as 90.66% whereas the east-west runway crosswind coverage exceeds 95%. At 10.5 knots there are multiple instances that neither the north-south nor the east-west runways meet the 95% requirement. Specifically, ATCT morning hours in spring and ATCT afternoon/evening hours in the fall and spring. Fall ATCT morning hours favor the north-south runways and afternoon summer hours favor the east-west runways.

Figure 4-5 and Figure 4-6 graphically depicts the results of the analysis conducted. This analysis indicates a need for a crosswind runway, oriented east-west, to provide adequate crosswind coverage up to 13 knots due to seasonal and time of day variability of winds at Cecil. A 13-knot crosswind is the allowable crosswind component for ARC A-II and B-II aircraft. The GA critical design aircraft is the Beech 200 Super King/Cessna Excel/XLS, a B-II aircraft. Therefore, one of the east-west runways should be eligible for FAA AIP funding, at least to the extent of the critical B-II design aircraft requirements. An east-west runway will be included in subsequent airfield alternatives.

Figure 4-5 – Detailed 10.5-Knot Crosswind Coverage Analysis



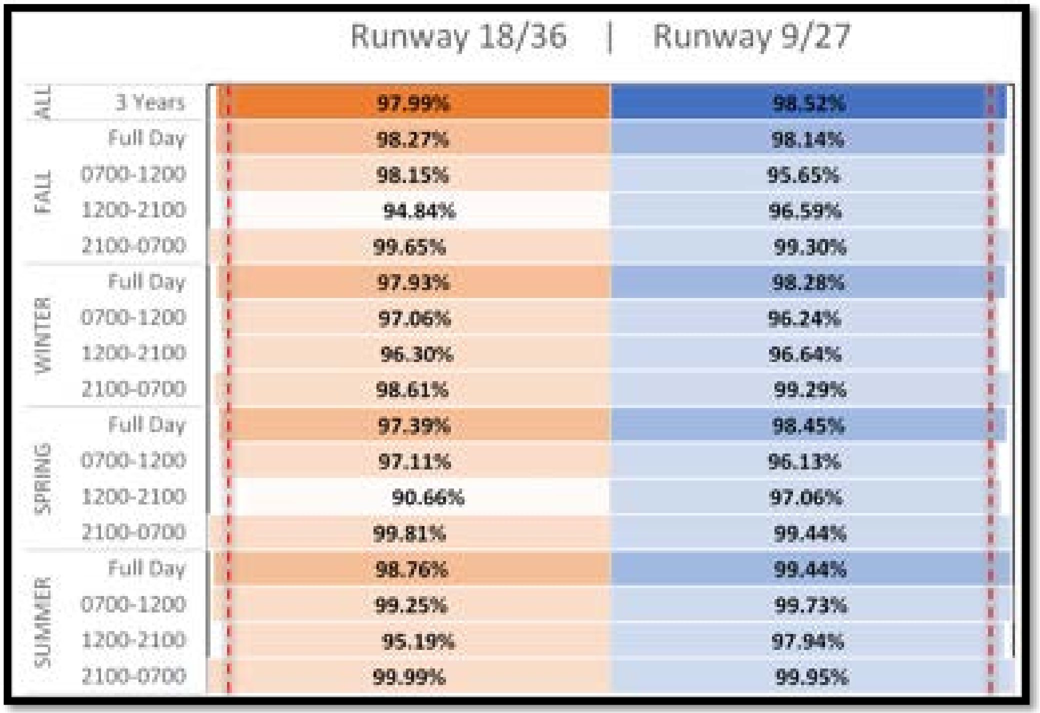
		Runway 18/36	Runway 9/27
ALL	3 Years	96.38%	97.03%
FALL	Full Day	96.84%	96.54%
	0700-1200	96.47%	93.18%
	1200-2100	90.80%	93.26%
	2100-0700	99.30%	98.58%
WINTER	Full Day	96.26%	96.38%
	0700-1200	94.71%	92.85%
	1200-2100	92.97%	92.92%
	2100-0700	97.67%	98.45%
SPRING	Full Day	95.37%	96.89%
	0700-1200	94.63%	93.13%
	1200-2100	83.97%	93.57%
	2100-0700	99.68%	98.88%
SUMMER	Full Day	97.79%	98.85%
	0700-1200	98.52%	98.99%
	1200-2100	91.52%	96.02%
	2100-0700	99.98%	99.88%



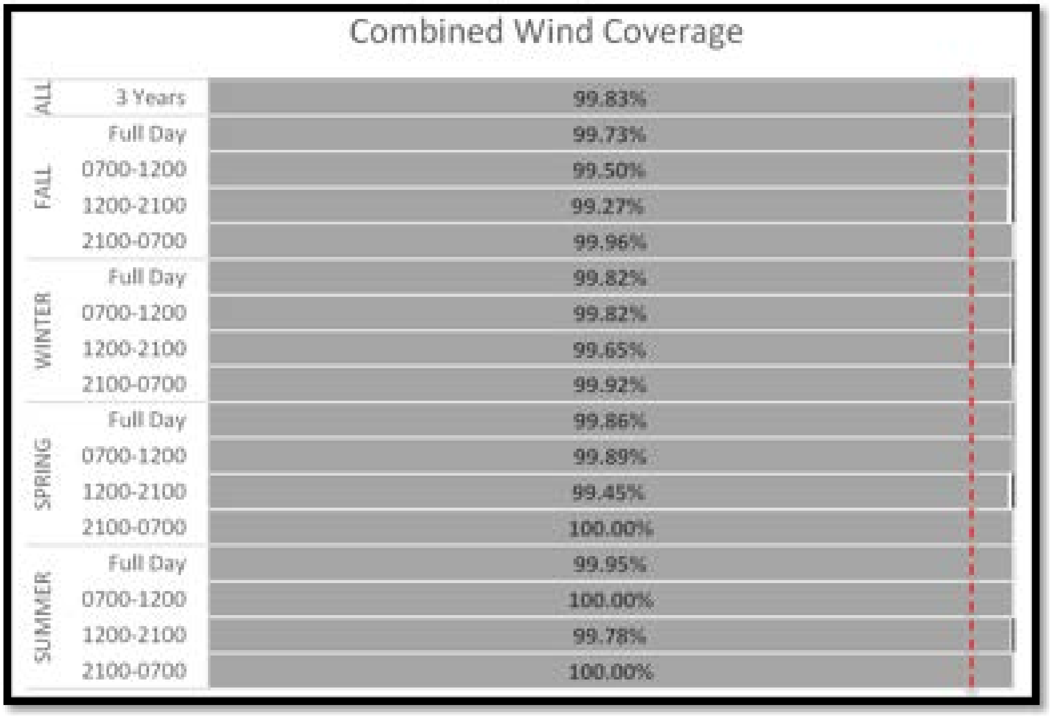
		Combined Wind Coverage
ALL	3 Years	99.55%
FALL	Full Day	99.43%
	0700-1200	98.96%
	1200-2100	98.56%
	2100-0700	99.87%
WINTER	Full Day	99.49%
	0700-1200	99.49%
	1200-2100	99.06%
	2100-0700	99.76%
SPRING	Full Day	99.53%
	0700-1200	99.43%
	1200-2100	98.42%
	2100-0700	99.95%
SUMMER	Full Day	99.85%
	0700-1200	99.91%
	1200-2100	99.42%
	2100-0700	100.00%

Sources: Iowa State ASOS repository: https://mesonet.agron.iastate.edu/request/download.phtml?network=FL_ASOS, accessed February 2022; Kimley-Horn, 2025.

Figure 4-6 – Detailed 13-Knot Crosswind Coverage Analysis



		Runway 18/36	Runway 9/27
ALL	3 Years	97.99%	98.52%
FALL	Full Day	98.27%	98.14%
	0700-1200	98.15%	95.65%
	1200-2100	94.84%	96.59%
	2100-0700	99.65%	99.30%
WINTER	Full Day	97.93%	98.28%
	0700-1200	97.06%	96.24%
	1200-2100	96.30%	96.64%
	2100-0700	98.61%	99.29%
SPRING	Full Day	97.39%	98.45%
	0700-1200	97.11%	96.13%
	1200-2100	90.66%	97.06%
	2100-0700	99.81%	99.44%
SUMMER	Full Day	98.76%	99.44%
	0700-1200	99.25%	99.73%
	1200-2100	95.19%	97.94%
	2100-0700	99.99%	99.95%



		Combined Wind Coverage
ALL	3 Years	99.83%
FALL	Full Day	99.73%
	0700-1200	99.50%
	1200-2100	99.27%
	2100-0700	99.96%
WINTER	Full Day	99.82%
	0700-1200	99.82%
	1200-2100	99.65%
	2100-0700	99.92%
SPRING	Full Day	99.86%
	0700-1200	99.89%
	1200-2100	99.45%
	2100-0700	100.00%
SUMMER	Full Day	99.95%
	0700-1200	100.00%
	1200-2100	99.78%
	2100-0700	100.00%

Sources: Iowa State ASOS repository: https://mesonet.agron.iastate.edu/request/download.phtml?network=FL_ASOS, accessed February 2022; Kimley-Horn, 2025.

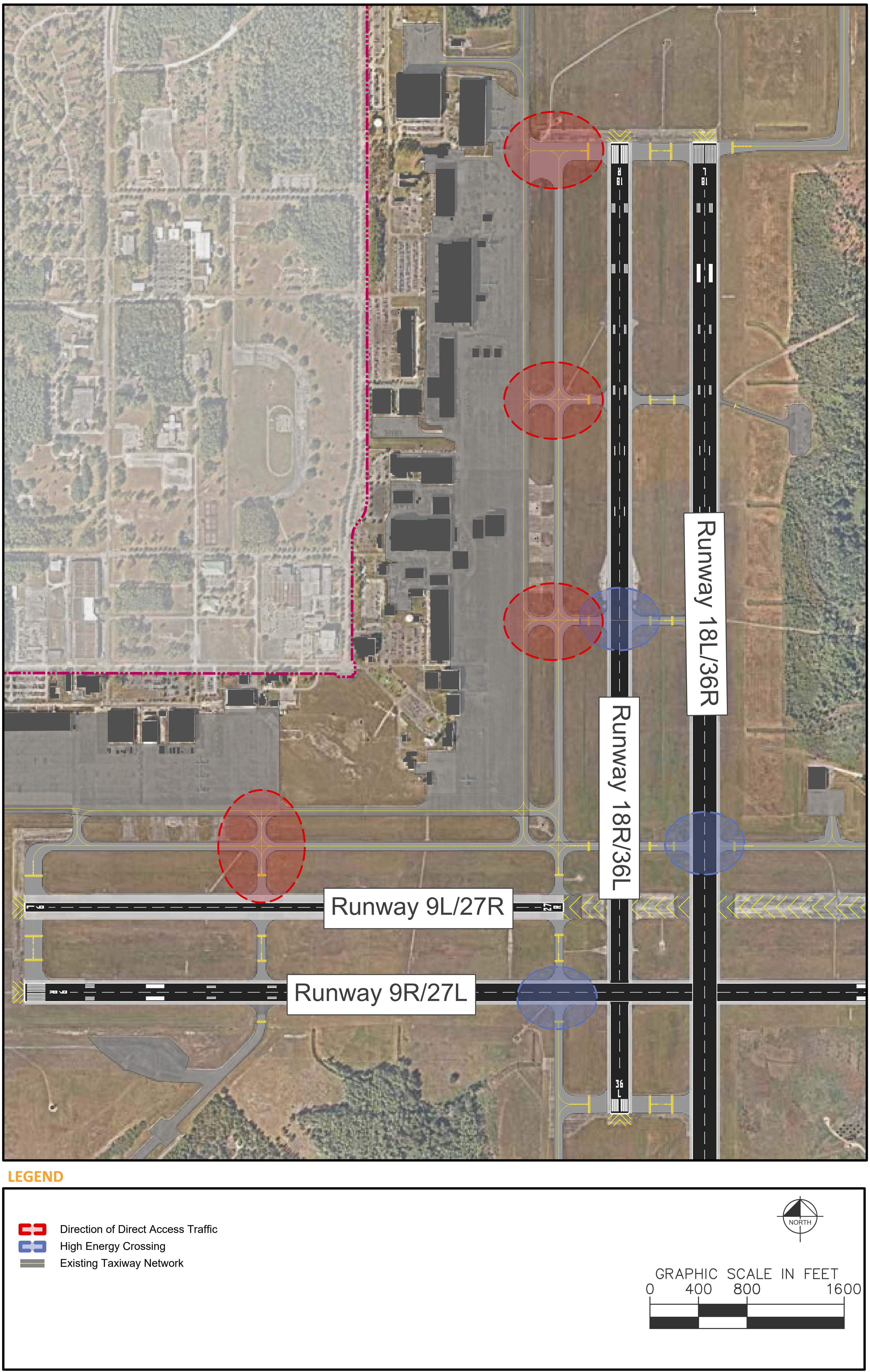
4.2.4.2. Compliance with FAA Airport Design Standards

In addition to design standards for safety areas and physical attributes of airfield infrastructure, recommended taxiway geometry and layouts are provided by the FAA to enhance safety. Conducting the analysis of the existing airfield layout, Cecil was found to be deficient in the following categories:

- **Direct Access** – Direct access is the term used for pavement that connects an apron area to an active runway without requiring the pilot to make a turn. These configurations can lead to pilot confusion resulting in potential runway incursions.
- **Taxiway Crossing the High Energy Segments of the Runway –** The middle third of a runway is the most dangerous area for taxiway crossings as this is the portion of runway where a pilot has the least amount of maneuverability to avoid a collision. Taxiway connectors are to be located at the outer thirds of a runway when possible. Cecil has four high energy crossings.

Figure 4-7 details these areas on the airfield. Further evaluation and potential mitigation methods will be detailed in the following Alternatives Chapter.

Figure 4-7 – Runway Incursion Mitigation Areas



Source: NearMap accessed June 2025; FAA, AC 150/5300-13B, 2022; Kimley-Horn, 2025.

4.2.4.3. Runway System

The runway system at Cecil is comprised of intersecting parallel runways, two of which are orientated north-south and remaining two orientated east-west. Each pair of parallel runways is serviced by a single full-length taxiway. As was demonstrated in Section 4.2.3, due to the volume, variety, and peak demands at the Airport, more than one runway is required. Also, Section 4.2.4.1 concluded that a crosswind runway is required. Therefore, for the remainder of this chapter the following nomenclature will be used: Runway 18L/36R is the primary runway, Runway 18R/36L is the secondary, and the 9/27 runways are the crosswind runways.

ASV calculations indicated two runways are required to meet forecast demand. Therefore, Runway 18L/36R is considered the primary runway and Runway 18R/36L is the secondary runway. The wind analysis indicated the need for a crosswind runway and Runways 9L/27R and 9R/27L are considered crosswind runways.

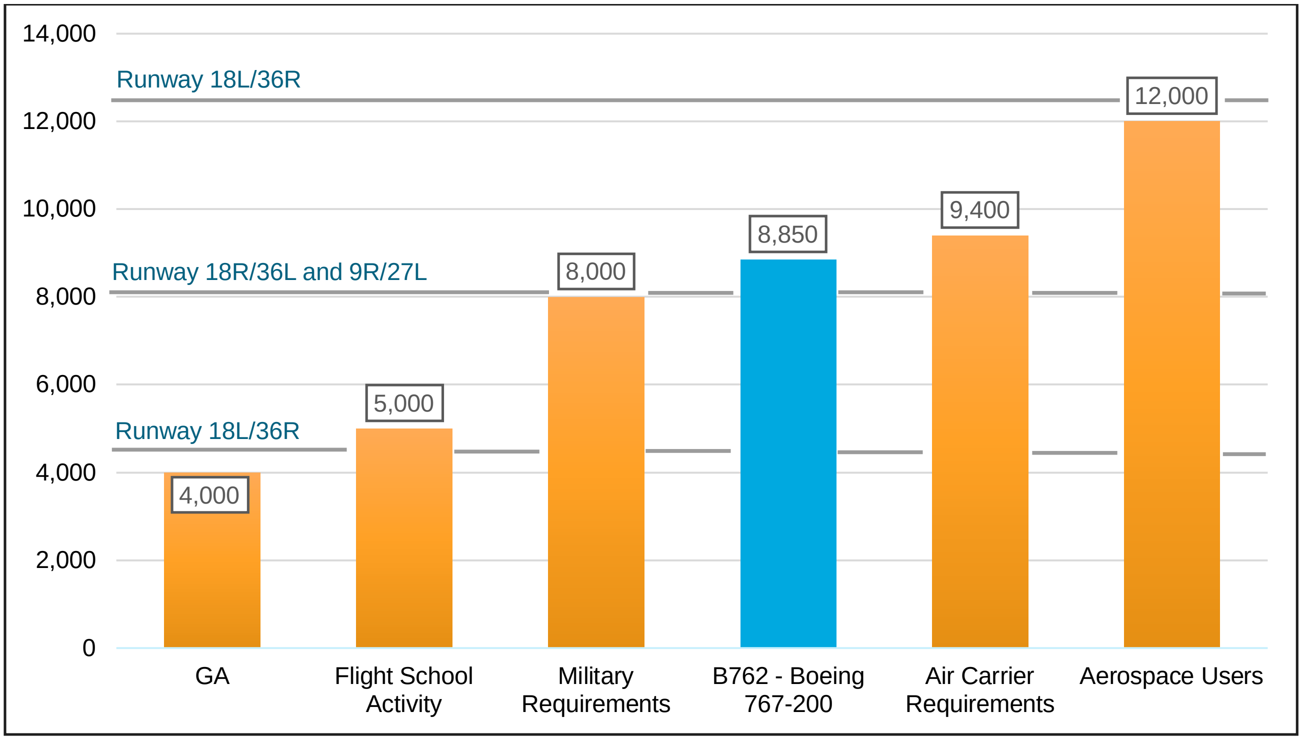
Runway Length

The Airport's existing runways vary in length; Runway 18L/36R is the longest at 12,503 feet and Runway 9L/27R is the shortest at 4,439 feet. Runway 18R/36L and Runway 9R/27L are 8,002 feet and 8,003 feet long, respectively. Runway 18L/36R serves as the Spaceport's singular runway and the Airport's primary runway commonly utilized by heavy jet aircraft. Runway 18R/36L and Runway 9R/27L are used by similar aircraft such as military jets and GA traffic, with Runway 9L/27R being utilized by occasional helicopter traffic and small aircraft. Runway length requirements for the different aircraft using Cecil were determined through a variety of methods, as described below:

- **Spaceport** – An analysis of HTHL vehicles that could operate out of Cecil Spaceport concluded that in order to meet 90% of vehicle requirements, a minimum of 12,000 feet must be maintained. This was influenced by the most demanding vehicle Virgin Galactic's Imagine. Other HTHL vehicles required a range of 8,000 feet to 10,000 feet of usable runway length.
- **Maintenance, Repair, and Overhaul**– Aircraft manufacturer manuals were used to determine appropriate sizing of runway length related to MRO aircraft activity. This resulted in a required 9,400-foot length in order to meet the needs of various air carrier aircraft operating regularly at the Airport. The critical design aircraft, the Boeing 767-200, was determined to need 8,850 feet in length to accommodate operations.
- **Military** – Runway length related to military operations was assessed based on tenant interviews and specific aircraft manufacturer manuals, which determined the required length to be 8,000 feet to accommodate existing operations.
- **General Aviation** – Runway length related to GA operations was assessed based on tenant interviews and specific aircraft manufacturer manuals. An assessment of commonly operated GA aircraft at the Airport determined the runway length requirement to be 4,000 feet long. After discussion with the flight school FSCJ, it was determined that 5,000 feet of useable runway was needed to accommodate routine stop-and-go training operation.

The analysis, as summarized in Figure 4-8 below, determined Runway 18L/36R meets the needs of all users at the Airport and Spaceport. Runways 18R/36L and Runway 9R/27L meet military requirements and exceed GA and FSCJ runway length requirements. Runway 9L/27R meets minimum distance required for typical GA traffic but not FSCJ's preferred length.

Figure 4-8 – Runway Length Analysis



Sources: Aircraft Manufacturer Aircraft Performance Charts; FAA, ADIP, Accessed February 2022; Kimley-Horn, 2025.

Culminating the runway length analysis in this section with the preceding capacity and wind analysis presented in respective Sections 4.2.3 and 4.2.4.1, the following conclusions were made, which influenced the alternatives development phase of this Master Plan:

- **Runway 18L/36R** – is to remain at its existing runway length to support Cecil Spaceport operations
- **Runway 18R/36L** – at a minimum should remain at its existing runway length to accommodate military aircraft with consideration given to extending the runway to 8,850 feet to accommodate the MRO aircraft
- **Runway 9R/27L** – is to remain at its existing runway length as reductions in runway length would reduce overall useability of the runway when crosswind conditions favor the east-west runway alignment for the smaller aircraft
- **Runway 9L/27R** – only meets runway length requirements for the smaller aircraft but does not meet the requirements for the stop-and-go training operations. Consideration may be given to extending this runway to a minimum of 5,000 feet in length.

Runway Width

Existing runway widths at Cecil exceed design standards. The extra pavement provides safety benefit as there are not paved shoulders. However, it increases maintenance costs associated with the Airport's runway system and the FAA will likely not financially support maintenance of pavement areas that exceed design standards. It is recommended that Runway 18L/36R remain at its existing width of 200 feet in support of Cecil Spaceport. The other runways should be narrowed to meet design standards: Runway

9R/27L to a 150 foot width and a 75 foot width for Runway 9L/27R. Runway 18R/36L was repaved to a 200 foot width, upon reconstruction, the Airport should assess if the full 200 foot width is required to support operations, or if a reduction to a 150 foot width with 25 foot shoulders is required.

Runway Shoulders

As noted, runways at Cecil are not equipped with paved shoulders, however, runways do exceed standard width, providing additional safety. With the recommended reductions in runway width, it is also recommended that runway shoulders be added to all runways. Runway 9L/27R requires 10-foot-wide shoulders and the other three runways require 25-foot-wide shoulders. For Runway 9L/27R the shoulders can be a stabilized surface such as turf, aggregate-turf, soil cement, lime, or bituminous stabilized soil to reduce the possibility of soil erosion and engine ingestion of foreign objects. The runways other than Runway 18L/36R shoulders can be designated via proper airfield markings on existing pavement areas.

Runway Blast Pads

Runway blast pads provide a paved area behind the runway to protect against blast erosion during jet aircraft operations. Runway blast pads, as previously discussed, do not meet the current dimensional design standard criteria. There have been no reports of jet blast erosion. Unlike other airfield infrastructure, blast pads do not require a Modification of Standard (MOS) if existing dimensions do not align with FAA standards. It is recommended that runway blast pad widths be adjusted to match the reduced runway widths plus recommended runway shoulders. Additionally, monitoring is recommended to ensure erosion does not occur beyond the blast pads.

Runway Grades

Runway grades at the Airport meet FAA design standards. A line-of-sight analysis was conducted as part of this Master Plan Update for each runway. This analysis assesses if any obstruction is present intersecting a straight line connecting two points from each runway end, 5 feet above the runway end. There were no obstructions found within this analysis for any of the runways.

Runway Safety Areas

RSAs are centered on the runway centerline and are intended to provide critical safety areas in case of aircraft overrun, undershoot, and lateral runway excursion. RSAs have standards related to grading, drainage, weight bearing capacity, and object clearing. RSAs cannot be modified via a MOS, and therefore must be continually monitored for compliance. A review of the Airport’s existing RSA was conducted and it was determined that the RSA areas for each runway meet FAA design standards.

Runway Obstacle Free Zones

ROFZs extend beyond the runway ends and provide airspace protection centered above the runway centerline. The ROFZs for each runway are compliant with FAA design standards.

Precision Obstacle Free Zones

POFZ is a specialized surface protecting a volume of airspace centered on a runway providing precision approaches that extends beyond the runway ends. The POFZ is 800 feet wide and 200 feet long. The POFZ is only in effect when an aircraft is actively conducting an IFR operation using vertical guidance. Only Runway 36R has an instrument approach with vertical guidance; therefore, the POFZ only applies to Runway 36R. The wing of an aircraft on Taxiway A5 at the hold line could potentially extend into the POFZ. It is recommended that an ILS critical area hold line be installed on Taxiway A5.

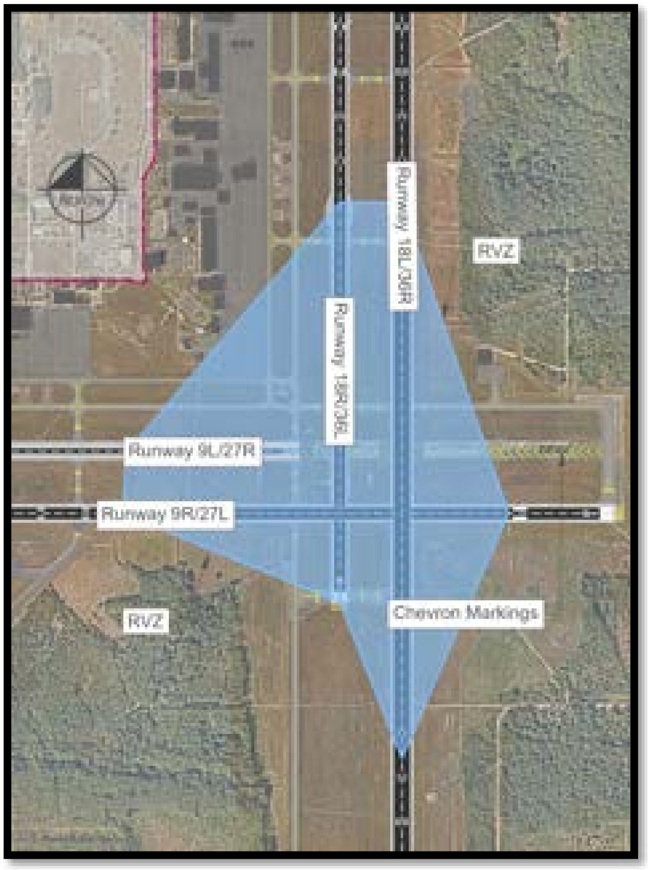
Runway Object Free Areas

ROFAs are centered on the runway, extending beyond the RSA to provide additional obstacle clearance for aircraft operations. Certain critical navigation equipment, as detailed within AC 150/5300-13B, are permissible within the ROFA. The ROFA dimensions are determined based upon the RDC. There are no deviations from ROFA standards for any of the runways at Cecil.

Runway Visibility Zone

The Runway Visibility Zone (RVZ) protects runway visual line-of-sight distances for landing and departing pilots. RVZs are used when a runway system contains intersecting runways. This zone, beginning five feet above ground level, is centered around the intersection of the runways and applies design metrics to each runway intersection based on guidance within the FAA’s AC 150/5300-13B. The RVZ precludes any fixed (parked) vehicles including aircraft. An analysis of the RVZ was performed and it was concluded that there are no fixed obstructions within the RVZ. While not within the RVZ, the Spaceport fabric hangar and Building 177 are near the RVZ line, and therefore represent the closest major infrastructure to the runway’s intersections. With the RVZ overlapping a segment of apron space, it is important the Airport ensures compliance with FAA standards related to the RVZ. The RVZ is only applicable when the ATCT is closed or non-operational.

Figure 4-9 – Runway Visibility Zone



Notes: Runway Visibility Zone (RVZ).

Sources: Nearmap accessed February 2022; FAA, AC 150/5300-13B Airport Design, 2022; Kimley-Horn 2023.

Runway Protection Zones

Runway Protection Zones (RPZs) are two-dimensional trapezoidal areas located prior to the approach and off the departure ends of runways, designated as safety areas to protect people on the ground. The FAA strongly recommends the Airport maintain ownership, preferably in fee simple, over RPZ areas. Ownership helps ensure compatible land use within the RPZ. JAA owns the RPZ areas for all runways and the RPZs are cleared of obstacles and within the Airport's property boundary at the Airport. Critical Navigational Aids (NAVAIDs) used for instrument approaches are within the RPZs; these are acceptable obstacles per the FAA's definition.

4.2.4.4. Taxiway System

The taxiway system services all runways and aprons at Cecil. This means that the most critical design metrics associated with the primary runway system are applied to the whole taxiway system. Like the runway system, FAA guidance within AC 150/5300-13B identifies taxiway geometry and safety areas.

Taxiway Width and Location

Taxiway width is observed to be 75 feet across all taxiways on the airfield. This aligns with TDG 5 standards within the FAA AC 150/5300-13B. The selected representative aircraft for the Airport is a Boeing 767-200, which is a TDG 5 aircraft; therefore, existing taxiway widths meet the FAA standard.

Proper location of taxiways ensure accessibility to and from the runway environment and maneuverability around the airfield. The taxiway system typically provides adequate access; however, during peak operational periods, the single parallel taxiway servicing a pair of parallel runways could experience various levels of congestion depending on the traffic loads. Also, as was noted in Section 4.2.3.1, there are no useful exits on Runway 36R for the mix of aircraft using the Airport during peak times. There are nine taxiway connectors providing access to the various runways across the airfield. As previously discussed, three taxiways provide direct apron to runway access. Opportunities to enhance maneuverability on the taxiways will be assessed in the subsequent chapter.

Taxiway Safety Area

The Taxiway Safety Area (TSA) dimensions are based on ADG. Therefore, existing TSA dimensions for the Airport are designed to an ADG IV standard. The TSA width is 171 feet for ADG IV aircraft. TSAs are met for all taxiways.

Taxiway/Taxilane Object Free Area

Taxiway/Taxilane object free areas (TOFAs/TLOFAs) are also determined by ADG. Existing taxiways are designed to an ADG IV standard. The TOFA width is 259 feet for ADG IV aircraft. The TLOFA is slightly reduced to 225 feet because aircraft are moving at slower speeds on taxilanes. Taxilane D3 is restricted to ADG-III aircraft, which reduces the required TLOFA width to 162 feet. TOFAs and TLOFAs are met for all taxiways and taxilanes, respectively.

Taxiway Edge Safety Margin

The TESM is determined by TDG and existing taxiways are designed to a TDG 5 standard 15 feet. The TESM is met for all taxiways.

4.2.4.5. Heliports

The 2012 FAA AC 150/5390-2C titled "Heliport Design" guides heliport design standards related to physical geometry and associated safety areas. Using VirTower data, the design helicopter for Cecil was determined to be a Eurocopter AS365 Dauphin as this model accounts for nearly 70% of helicopter traffic at the Airport. The Airport has two designated heliports: Heliport 1 on Taxiway B3 and Heliport 2 on Taxiway B2. In addition to using the heliports and runways, helicopters will also land and takeoff at the intersection of Taxiways B and M which is not a designated heliport. Design standards related to Heliports 1 and 2 are shown in Table 4-14 below. Each heliport meets existing FAA design standards.

Table 4-14 – Heliport Design Standards

Design Criteria	Design Standards	Existing Conditions	
		H1	H2
Touchdown and Liftoff Area (TLOF)	40' x 40'	40' x 40'	40' x 40'
Final Approach and Takeoff Area (FATO)	70' x 70'	70' x 70'	70' x 70'
Heliport Safety Area	90' x 90'	90' x 90'	90' x 90'
Heliport Protection Zone (HPZ) – Length	280'	280'	280'
HPZ – Inner Width	70'	70'	70'
HPZ – Outer Width	200'	200'	200'
Heliport Center to Small Aircraft Runway Centerline	300'	300'	300'

Source: FAA, AC 150/5390-2C, 2012.

4.2.4.6. Airfield NAVAIDs, Lighting, Markings, and Signage

NAVAIDs are any visual or electronic devices airborne or on the surface that provide critical navigational assistance to pilots. A detailed description of these systems was presented in Chapter 2. As noted in Chapter 2, Cecil has the following active NAVAIDs:

- Automated Surface Observing System (ASOS)
- Very High Frequency Omnidirectional Range Tactical Air Navigation System (VORTAC)
    - This system is decommissioned and anticipated to be demolished by the end of 2023.

- Distance Measuring Equipment (DME)
- Instrument Landing System (ILS)/Localizer (LOC)/Glide Slope Antenna (GS)
- Medium Intensity Approach Lighting System with Runway Alignment Indicator Lights (MALSR)
- Precision Approach Path Indicator (PAPI)
- Runway End Identifier Lights (REILs)
- Airport Beacon
- Compass Calibration Pad
- Wind Indicators

The Airport's existing NAVAIDs are reported in working condition. The existing NAVAID system is anticipated to be adequate for the expected levels of activity over the planning horizon given continued operability. Much of the airfield has airfield lighting systems installed. Taxilane E has reflectors delineating the edge of the taxilane. All taxiways are equipped with taxilane edge lights. With development occurring adjacent to Taxilane E, it is recommended the reflectors on Taxilane E be converted to edge lights to enhance visibility during periods of lowered visibility. The primary (Runway 18L/36R) and crosswind (Runway 9R/27L) runways have High Intensity Runway Lights (HIRL) installed. Apart from Taxilane E, existing airfield lighting is sufficient for existing and forecast demand at Cecil.

Airfield signage is adequate. Taxiway signs are present providing pilots maneuvering aircraft critical, directional, and informational data. Runway distance remaining signs are present on all runways. Airfield signage is determined to accommodate existing and forecast operations.

Runway marking requirements are based upon the aircraft approach category and approach minimums for a particular runway and are outlined by FAA AC 150/5340-1M. All runway markings for Runways 18L/36R, 9L/27R, and 9R/27L meet requirements. Runway 18R/36L does not meet standard, requiring aiming point markings to be installed on both runway ends. Consideration may be given to minimizing runway markings in areas where they exceed requirements; specifically, the touchdown zone markings on Runway 18R.

Regular maintenance of all JAA-owned NAVAIDs, painted airfield markings, and navigational signage is recommended throughout the long-term implementation of this Master Plan.

4.2.4.7. Pavement Strength

Pavement strength rating relates to the weight of aircraft utilizing a runway, landing gear type and geometry, and the volume of operations performed. Aircraft weighing more than the certified strength of a runway can occur at an infrequent rate; however, frequent runway use by heavier aircraft will result in reduction of useful life of the runway pavement. Pavement strengths were assessed from the existing ALP provided by the JAA and is summarized in Table 4-15. Also contained within Table 4-15 is the Pavement Classification Number (PCN), obtained from the ADIP.

During on-site interviews, tenants and airport maintenance staff expressed concern over existing runway pavement strength having the ability to withstand heavier and more demanding aircraft. The Boeing KC 135 military tanker aircraft regularly operates at the Airport, with maximum takeoff weight of 322,500 lbs. This aircraft exceeds runway strength ratings as displayed on the existing ALP. Dependent on continuous monitoring of conditions and pavement strength tests performed by the JAA and/or FDOT, an increase in pavement strength to accommodate heavier aircraft should be evaluated for the primary and secondary runways.

Table 4-15 – Pavement Strength Analysis

Runway	Pavement Classification Number (PCN)	Pavement Strength	Does it Satisfy Critical Aircraft Weight?
Runway 18L/36R	28 /R/B/X/T[1]	SW – 105,000 lbs. DW – 165,000 lbs. DTW – 315,000 lbs.	Yes – 315,000 lbs.
Runway 18R/36L	21 /F/A/Y/T	SW – 105,000 lbs. DW – 165,000 lbs. DTW – 315,000 lbs.	Yes – 315,000 lbs.
Runway 9R/27L	21 /F/A/X/T	SW – 105,000 lbs. DW – 165,000 lbs. DTW – 315,000 lbs.	Yes – 315,000 lbs.
Runway 9L/27R	27 /R/B/X/T	SW – 12,500 lbs. DW – 12,500 lbs. DTW – 12,500 lbs.	No – 14,000 lbs.

Notes: SW = Single Wheel; DW = Double Wheel; DTW = Double Tandem Wheel; lbs. = pounds. 1. Runway strengthening was recently completed. The PCN value will change and is currently pending FAA approval.
Sources: JAA, Cecil ALP, 2021; FAA, ADIP, Accessed March 2022.

4.2.5. Summary of Airfield Requirements

Overall, Cecil's facilities tend to meet, and in some cases, exceed requirements. With continued growth from tenants and increased air traffic, additional infrastructure is recommended alongside the resizing of facilities. These recommendations and requirements influenced alternatives developed for Cecil. The points below summarize the previous sections:

- **Runway 18L/36R, the Airport's primary runway, should retain its current dimensions** and shoulders added to continue supporting the Spaceport as well as the larger and heavier aircraft observed at Cecil
- **A secondary runway, Runway 18R/36L, is required** due to high peak demands experienced at the Airport
- **Crosswind coverage is not met for ARC A/B-I and A/B-II aircraft;** therefore, a crosswind runway is required for the smaller aircraft that use the Airport
- **Consideration may be given to extending specific runways** to meet MRO and stop-and-go activities at the Airport
- **Consideration may be given to decommissioning Runway 9L/27R**
- **Runway widths should be decreased** to align with modern FAA design standard criteria and runway shoulders provided. Concurrently, runway blast pad widths should also be adjusted to match the runway width plus the shoulders.
- **Install an ILS hold line on Taxiway A5**
- **Install MITL on Taxilane E**
- **Install aiming point markings on Runway 18R/36L**

4.3. Airspace Protection

Airspace protection ensures a safe and operable environment for all aircraft types. This section outlines the various airspace protection areas and facilities surrounding Cecil.

4.3.1. Title 14 Code of Federal Regulations Part 77

Title 14 Code of Federal Regulations Part 77 (Part 77) defines imaginary surfaces are applied to Cecil, centered around active runways. These surfaces are used to identify potential hazards to air navigation such as trees or cell towers. Dimensions of these surfaces are influenced by the instrument operation capabilities of the runway. The five Part 77 surfaces are described below and shown in Figure 4-10**Error! Reference source not found.**.[36]

- **Primary Surface –** The Primary Surface is longitudinally centered on a runway with the highest point of elevation being that of the respective runway centerline:
  - The Primary Surface extends 200 feet beyond each runway end
  - The width of the Primary Surface for Runways 18R/36L and 9L/27L is 500 feet and Runways 18L/36R and 9R/27L is 1,000 feet

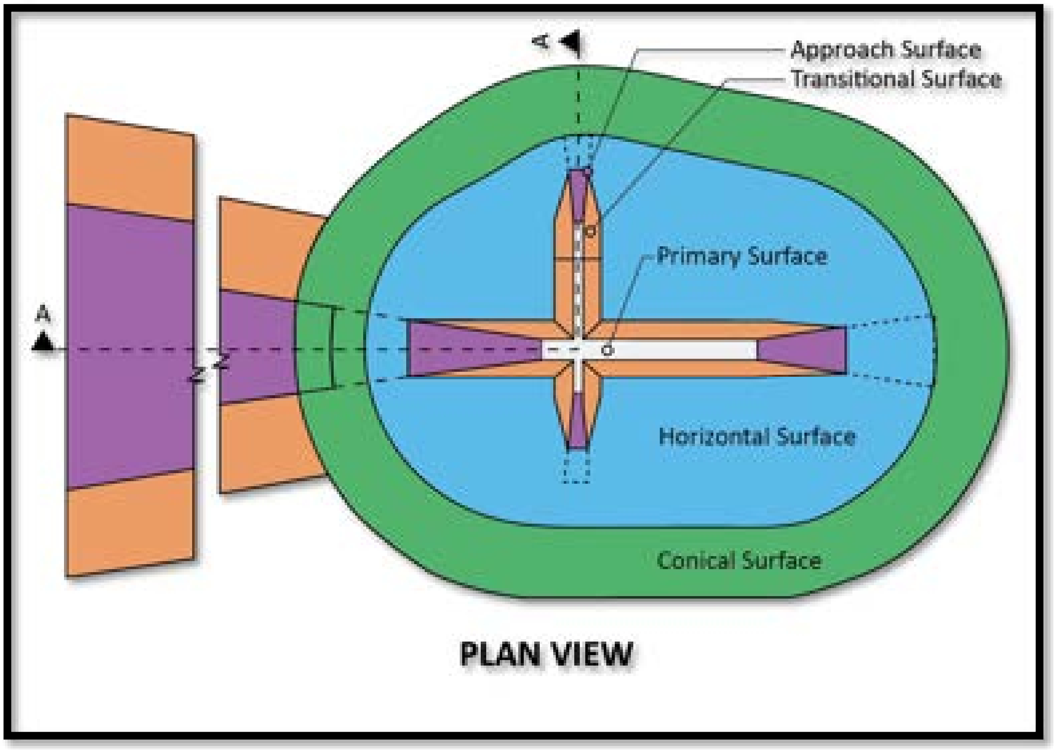
- **Transitional Surface –** Extends outward and upward at a 7:1 slope (for every seven feet in horizontal distance the surface increases in elevation by one foot) perpendicular to the runway and extended runway centerline. The width of these Transitional Surfaces are variable based upon runway elevation in relation to the elevation of the Horizontal Surface. For precision Approach Surfaces, which only applies to Runway 36R, the approach surface extends beyond the limits of the Conical Surface. A Transitional Surface measured horizontally at 5,000 feet wide on both sides of the approach surface for the portion that extends beyond the Conical Surface.
- **Approach Surface –** Approach Surfaces are trapezoidal in shape and the dimensions are determined by the approach capabilities of the respective runway end. All surfaces begin at the end of the Primary Surface with the inner width of the Approach Surface being equal to the width of the Primary Surface and are centered longitudinally on the extended runway centerline. The slope of the Approach Surface also varies depending upon the approach capabilities of the respective runway end. Table 4-16 delineates the dimensions and slopes of the approach surfaces as they apply to the existing runways at Cecil.
- **Horizontal Surface –** The Horizontal Surface is a flat plane that begins 150 feet above the Airport's elevation, defined as the highest point on any runway. The perimeter is defined by a series of arcs with specified radii centered at the ends of each primary surface. Tangents connect the adjacent arcs to form the outer perimeter. The radii for the arcs as applied to Cecil are as follows:
  - 10,000-foot radius applies to Runways 9R, 18L, 27L, and 36R
  - 5,000-foot radius applies to Runways 9L, 18R, 27R, and 36L

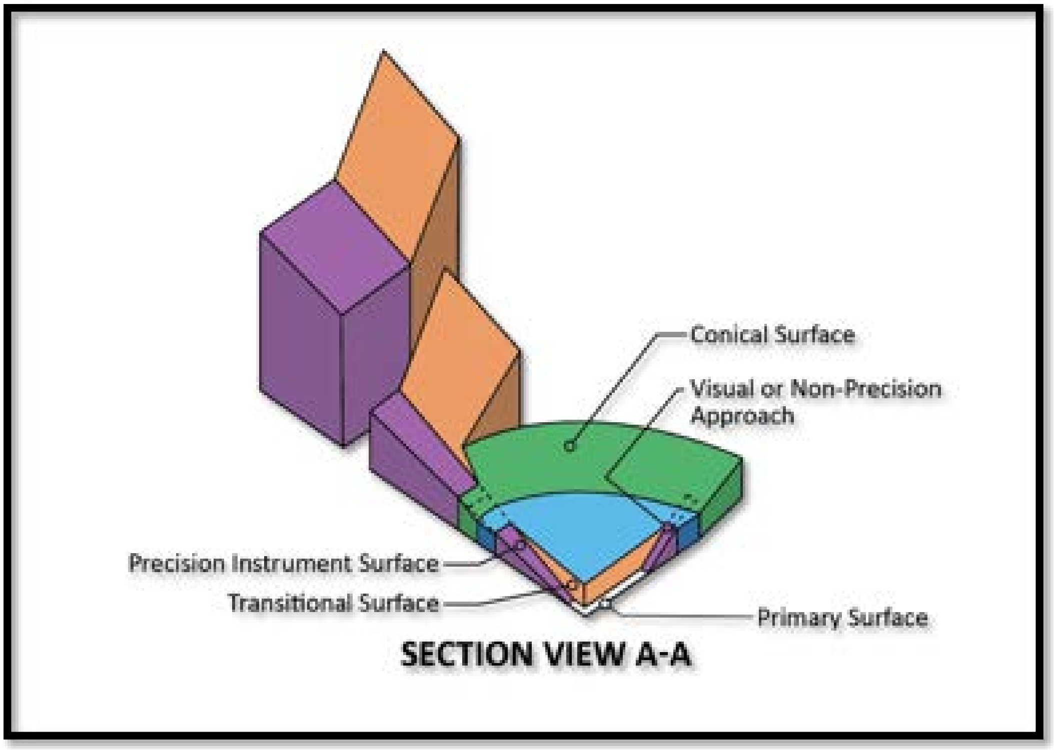
- **Conical Surface:** A Conical Surface extends upward and outward at a 20:1 slope from the outer limits of the Horizontal Surface for a horizontal distance of 4,000 feet.

---

[36] *NOAA, Imaginary Surfaces for Obstruction Evaluation, Accessed 2022.*

Figure 4-10 – Title 14 Code of Federal Regulations Part 77 Surfaces





Sources: FAA, ADIP, Accessed March 2022; Code of Federal Regulations Part 77; Kimley-Horn, 2025.

Table 4-16 – Existing Runway Part 77 Approach Surface Dimensions

Runway End	Inner Width	Outer Width	Length	Slope
18L	1,000’	3,500’	10,000’	34:1
36R	1,000’	16,000’	10,000’ / 40,000’	50:1 / 40:1
18R	500’	1,500’	5,000’	20:1
36L	500’	1,500’	5,000’	20:1
9R	1,000’	4,000’	10,000’	34:1
27L	1,000’	3,500’	10,000’	34:1
9L	500’	1,500’	5,000’	20:1
27R	500’	1,500’	5,000’	20:1

Notes: Slope is expressed as run (horizontal distance):rise (increase in elevation).
Sources: FAA, ADIP, Accessed March 2022; Code of Federal Regulations Part 77; Kimley-Horn, 2025.

4.3.2. Instrument Approach Procedure Requirements

Instrument Approach Procedures (IAP) provide a means for aircraft to approach and land at the Airport during IMC. Cecil has published IAPs on Runways 18L, 36R, 9R and 27L. Runway 36R has the lowest visibility minimum capabilities at ½-mile visibility, which utilizes an ILS and a MALSR. Runway 9R has the second lowest minima at ¾-mile, utilizing GPS technology paired with a MALSR. In subsequent phases of this Master Plan, consideration may be given to the following:

- **Develop a Non-precision Approach for Runway 18R/36L** – There are no IAPs available to the secondary runway. In order for a straight-in non-precision approach to be developed, the runway would need to be lit with either low or medium intensity runway lights and installation of a visual glide slope indicator (e.g., a PAPI) is recommended.
- **Install an ILS or Precision Approach Radar (PAR) and Develop an ILS or PAR Approach for Runway 9R/27L** – Military users expressed a desire for enhanced, full-precision instrument runway capabilities for the crosswind runway. A PAR approach would not be available for use by civil aircraft.

4.3.3. Runway End Siting Criteria

A runway end is defined by FAA AC 150/5300-13B as the physical end of the rectangular surface that constitutes a runway. FAA AC150/5300-13B guides preliminary design for establishing runway thresholds and departure ends. Runway thresholds are ideally located at runway ends; however, in select cases a threshold may be displaced to ensure compliance with Obstacle Clearance Surfaces (OCS), formally known as the Threshold Siting Surface (TSS). The size, shape, and slope of the OCS is dependent upon the instrument approach capabilities and types of aircraft expected to use the runway. FAA AC 150/5300-13B, Airport Design defines approach surface dimensions. There are no displaced landing thresholds at Cecil. Any enhancements to the approach capabilities of Runway 18R/36L or Runway 9R/27L will impact the OCS applied to the respective runway end.

Table 4-17 – Approach Surface Dimensions

Runway End	Surface	Offset from Threshold	Inner Width	Outer Width	Trapezoidal Length	Rectangular Length	Slope
18L	4	200’	400’	3,400’	10,000’	0’	20:1
36R	5	200’	400’	3,400’	10,000’	0’	34:1
	6	0’	400’	1,520’	10,200’	0’	30:1
18R	3	0’	400’	1,000’	1,500’	8,500’	20:1
36L	3	0’	400’	1,000’	1,500’	8,500’	20:1
9R	4	200’	400’	3,400’	10,000’	0’	20:1
27L	4	200’	400’	3,400’	10,000’	0’	20:1
9L	3	0’	400’	1,000’	1,500’	8,500’	20:1
27R	3	0’	400’	1,000’	1,500’	8,500’	20:1

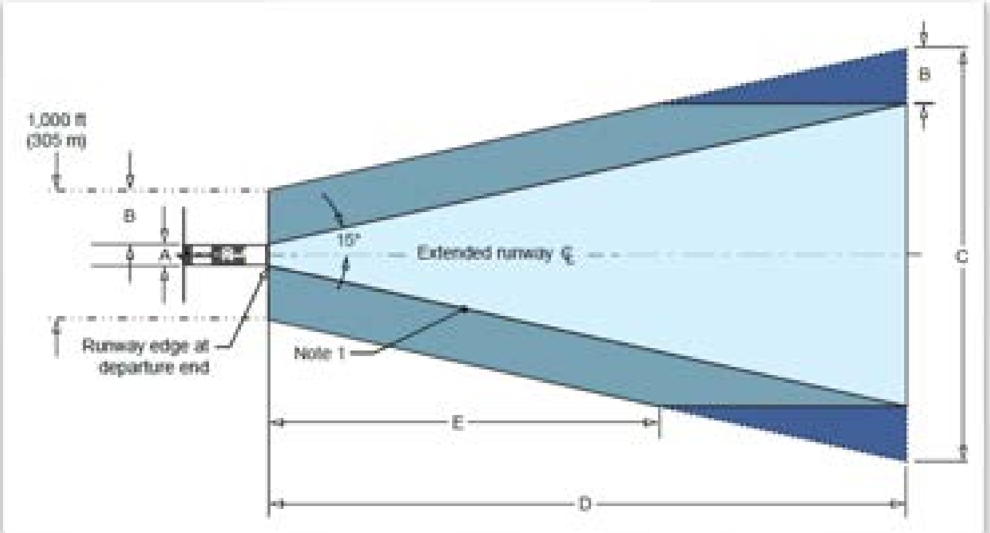
Notes: Slope is expressed as run (horizontal distance):rise (increase in elevation).

Sources: FAA, ADIP, Accessed March 2022; Tables 3-2 and 3-4 of AC 150/5300-13B Airport Design, 2022; Kimley-Horn, 2025.

4.3.4. Departure Surface

The departure surface, when clear of obstacles, allows pilots to follow standard departure procedures at the Airport. This surface applies to all runway ends and is a trapezoidal dimension with winged sides (see Figure 4-11). At the runway end, the surface rises upward to 150 feet above the runway end elevation point with an overall horizontal width of 1,000 feet. The surface continues to rise upward along the extended runway centerline at a slope of 40:1 until reaching 304 feet above runway end elevation, about 12,152 feet from the runway end. The outer width of the surface is 7,512 feet.

Figure 4-11 – Departure Surface Representation



Source: FAA, AC 5300-13B Airport Design, 2022.

4.3.5. Airport Traffic Control Tower and the Mission Control Center

Cecil's ATCT is staffed by Robinson Aviation, Inc. through the Federal contract tower program. Cecil's ATCT standard hours of operation are 7:00 am to 11:00 pm Monday through Friday with reduced weekend hours of 7:00 am to 9:00 pm. In July 2021, the JAA opened a new joint ATCT and mission control center facility, which meets existing and future facility demands throughout the planning horizon. The facilities have redundant utility access, are centered near midfield, and have line-of-sight to most areas of the airfield. Three line-of-sight issues were identified by ATCT:

- Taxilanes D2 and D3 are obstructed by hangars and buildings
    - The taxilanes are in the nonmovement area; therefore, these obstructed line-of-sight areas do not impact the ATC

- Taxiway A2 is partially obstructed due to recently erected temporary fabric hangars on the north apron
    - When additional apron or hangar space becomes available, these fabric hangars should be removed or relocated, resolving the line-of-sight issues

4.3.6. Commercial Space Flight Corridors and Operating Areas

Special use airspace routes exist for suborbital flights originating at Cecil. These were designed to accommodate an air-launch vehicle with specific characteristics. These corridors may potentially be utilized by commercial operators with vehicles which generally fall within the same parameters as those used to design the existing routes. If this is not possible, new airspace routes will be required to be developed. Use of existing, and any future, special use airspace routes will be required to coordinate with the FAA, JAA, Space Florida, and other agencies.

4.4. Landside Facility Requirements

Landside facilities are defined as areas surrounding the Airport and Spaceport. This section assessed requirements related to aircraft storage hangars, aircraft parking aprons, maintenance shops, roadway infrastructure, and MRO areas in addition to other critical support facilities.

4.4.1. General Aviation Terminal and Airport Administration Facilities

Million Air is the Airport's Fixed Base Operator (FBO), providing terminal space for GA pilots. Million Air maintains approximately 10,000 square feet of lobby space, conference room space, classroom areas, flight planning rooms, and dedicated pilot/passenger lounges with supporting FBO administration offices. ACRP Report 113, Guidebook on General Aviation Facility Planning (ACRP 113) includes sizing recommendations for GA terminal spaces. Based on forecast GA operations and planning factors in ACRP 113, 21,000 square feet of terminal space is needed in 2021 growing to 26,700 square feet by 2041.

Existing administration space is constrained at Million Air, and as such, the FBO was actively looking to expand administrative facilities at the Airport to meet anticipated demand and align closer with recommended space derived from applying ACRP 113 ratios.

The JAA's airport administration facility needs are met, and no additional administration space is anticipated during the planning horizon.

4.4.2. Based Aircraft Storage Facilities

The majority of based aircraft are stored on apron areas (covered or uncovered), and not within dedicated storage facilities such as hangars. Existing based aircraft infrastructure meets the needs of based aircraft at the Airport. By 2041, it is projected that 19 additional based aircraft will require storage facilities. It is anticipated that existing infrastructure will also support up to five of the forecast aircraft, with 14 aircraft requiring new storage solutions. Seven of the additional 14 based aircraft forecast requires conventional hangar space with the remaining aircraft requiring open apron space. In 2041, an additional 87,120 square feet (2 acres) of conventional hangar space and 76,250 square feet (1.75 acres) of apron space are required.

In 2022 the FBO changed ownership to Million Air, and while no major business changes were anticipated; Million Air is a nationally recognized FBO for corporate aircraft. Therefore, a FBO future flexibility requirement of 3 acres should be preserved for potential expansion of based and transient aircraft by the FBO.

4.4.3. Transient Aircraft Parking Facilities

Most transient aircraft parking at the Airport is limited to available apron space, as a majority of hangar space is dedicated to active MRO operations. Transient parking requirements were assessed for the Airport based upon annual peak design hour operations using ACRP 113 metrics. The transient parking demand is 24.9 acres of apron, a deficiency of 10.4 acres.

Future transient parking requirements for the Airport were determined by applying the transient aircraft forecast and fleet mix forecast to the peak design hour operations forecast. This analysis resulted in a future need of 30.6 acres of apron space, or a total increase of 16.1 acres from existing facilities. These requirements will supply transient aircraft parking for the 21 GA aircraft, 21 military jets, 6 helicopters, and 15 medium/large aircraft that are anticipated in 2041.

About 3.8 acres of apron space has historically been dedicated to hot fueling. These operations require enhanced spacing compared to traditional transient military jets with the fueling position requiring full pull-through capability in addition to fuel truck staging areas. It is anticipated concurrent hot fueling demands will continue to increase. Therefore, a requirement of 7.5 acres of apron dedicated to hot fueling is projected in 2041, a deficiency of 3.7 acres.

4.4.4. Air Cargo Facilities

There are no existing dedicated air cargo facilities at the Airport. Large scale cargo development within northeast Florida is focused around JAX. Therefore, JAA does not intend to provide sizeable air cargo facilities at the Airport; however, flexibility remains important to the JAA. Therefore, to provide space for a small cargo operator, 3.5 acres are recommended to be preserved by 2041. This is expected to be predominantly apron space.

4.4.5. Military Areas and Facilities

Cecil has a total of 59 acres leased by the FLARNG, USCG HITRON, and the Fleet Readiness Center. Both the FLARNG and USCG HITRON operate and base rotorcraft within these areas and their respective fleet mixes are not expected to change over the planning horizon. The Fleet Readiness Center primarily leases hangar space for dedicated MRO activity for the Boeing F-18 aircraft.

The FLARNG anticipates a marginal fleet increase to eight total based Boeing CH47 Chinook helicopters, which the existing apron space supports. Future development plans provided by FLARNG identified no increases in administration or hangar space. The preliminary plans include a small expansion to the apron and vehicle parking areas to enhance capacity during peak activity. The USCG HITRON operates at capacity and does not anticipate expansion of operations or facilities in the future. The Fleet Readiness Center does not require additional facilities to meet existing or future demand.

Existing space dedicated to military operators meets existing demand. These facilities continue to age and will require additional rehabilitation and/or general maintenance; therefore, replacement of existing military facilities is required by 2041. Military tenants have expressed interest in potentially co-locating new facilities to maximize usable military space.

It was noted in tenant interviews that additional secure ramp space is needed at Cecil and the security gates traversing Taxiway M and Taxilane C require modification to allow for larger aircraft to use the secured apron. Therefore, modifications of security gates and an apron expansion of 3.5 acres are required. which accommodates approximately three Boeing C-130 aircraft.

4.4.6. Maintenance, Repair, and Overhaul Facilities

In 2021, approximately 105 acres were used by MRO operators, inclusive of apron, hangar, shops, administration space, and vehicle parking. The approximate ratios of this space are 70% hangar and apron space; 11% shop and administrative areas; and 19% vehicle parking space. Historically, MRO tenants have been operating at the maximum capacity limits of their respective facilities with all reporting anticipated growth over the planning horizon.

Future MRO space requirements were derived from assumptions based on tenant growth projections, JAA's feedback, and publicly available industry trend data. It was estimated that 263 acres of space would be required for MRO tenants in 2041, an increase of 158 acres from 2021. Most MRO tenants, regardless of size or operation, suggested that short-term growth operations require additional space.

Boeing, one of the largest MRO tenants at the Airport occupying about 25 acres, is undergoing a multi-year long process of relocating their existing operations to a newly developed area located on the northeast airfield. This will result in the existing 25 acres Boeing occupies to become available for other uses. Boeing's new space encompasses approximately 50 acres, resulting in a net increase of MRO space at Cecil of 25 acres. The subsequent Alternatives Chapter will evaluate potential reuse of Boeing's existing leased facilities.

4.4.7. Aircraft Rescue and Fire Fighting Facilities

Aircraft Rescue and Fire Fighting (ARFF) facilities and personnel provide essential emergency services to Cecil and its users. The Jacksonville Fire and Rescue Department (JFRD) staffs the on-airport ARFF and fire stations (Stations 56 and 73, respectively). With no changes anticipated in the fleet mix operating at Cecil over the planning horizon, existing ARFF staff and equipment are anticipated to meet forecast demand. However, regular equipment maintenance and fleet upgrades along with recurrent staff training are required throughout the planning period.

4.4.8. Airport Support and Maintenance Facilities

Support facilities at the Airport relate to general airport maintenance, fuel storage, and other infrastructure. As Cecil experiences additional operations through the planning horizon, there will also be a greater demand on these facilities.

4.4.8.1. Airport Maintenance

Airport maintenance facilities are split between two locations: one located near the ATCT and ARFF station at midfield (Building 177), the other located within the northeast quadrant in Building 595. As heavier civil and military aircraft continue to operate at Cecil and supporting apron areas expand, additional airport maintenance needs are expected to increase. ACRP Report 113 recommends estimating airport maintenance facility requirements based upon an airport's total acreage. Using ACRP 113 recommendations, 6,400 square feet of maintenance space is required. Based on conversations with the Maintenance Manager for Cecil, existing facilities are deficient because they are not in one location, do not have enough enclosed space, and do not have the ability to pull equipment through the building.

Any new Airport maintenance facility should consolidate storage, maintenance, and operations; offer convenient airfield and landside access; provide sun protection; feature pull-through capabilities; and provide sufficient space for maneuverability.

Some specific requirements are:

- **10,000-square-foot maintenance facility** with shops, upper-level office space, pull-through capability and associated car parking
- **10,000-square-foot storage barn**, double load with pull-through capability, and an integrated crane
- **Direct airfield access**
- **Replace airport maintenance equipment when the existing equipment becomes unserviceable** via implementation of the Airport's maintenance equipment plan
- **Consider new pavement management equipment needs** as apron areas expand over the planning horizon
- **Wash rack** dedicated to Airport maintenance use equipped with an oil/water separator

4.4.8.2. Aviation Fuel Infrastructure

Fueling infrastructure at Cecil is owned and operated by Million Air. The existing fuel farm is located on the west apron near Building 10. Million Air receives an average of 20 fuel truck deliveries per night to meet the daily fuel demand as a result of the limited capacity of existing fuel tanks. Loaded fuel trucks are frequently staged on apron areas to support daily fueling demand with about 10 fuel trucks prepositioned on the north apron in direct support of hot fueling operations, which are time sensitive operations requiring high capacity, high flow rate supportive equipment.

As new development expands in the northeast quadrant, Million Air fuel trucks would be required to commute up to 4.75 miles from the fuel farm. There is not a paved road on the airside within the Airport security fence for the fuel trucks to use. The existing chip seal service road is insufficient. Additionally, having fuel trucks use the airfield and cross active runways is not viable. Based on daily fuel flowage rates, average nightly truck deliveries, existing travel distances/lack of infrastructure, and on-site interviews it was determined that historical demand has exceeded existing fuel infrastructure. It is recommended that additional fuel storage tanks are constructed to increase overall tank capacity to support existing levels of demand. This is consistent with Million Air's desire to add two to three 30,000-gallon tanks adjacent to its existing fuel farm.

An additional fuel farm location that would support ongoing and forecast expansion efforts in the northeast quadrant should be assessed. These tanks are expected to predominantly hold jet fuel, the primary fuel consumed at the Airport based on aircraft fleet mix and fueling records provided by Million Air and the JAA.

As of this writing, there are no self-service fueling facilities available. It has been reported that GA tenants and users experience long delays for their aircraft to be serviced. Therefore, it is recommended that a 24/7 self-service avgas facility be constructed. As most of the GA facilities are on the west apron, this would be an ideal location for such a facility.

4.4.8.3. Other Facilities

Other notable supporting landside facilities present at Cecil include:

- **Blast Walls –** The blast walls associated with the high-power engine run-up ramp redirects energy produced from aircraft exhaust and prevents erosion during engine testing operations. These walls meet existing aircraft demands and should be maintained throughout the planning horizon.
- **Wash Rack –** The Airport's wash rack is located on the west apron area, south of Hangar 14 and is in working condition. The wash rack is open to all tenants and provides the necessary drainage and oil/water separation infrastructure and support equipment to meet the existing and future demands at the Airport.
- **Hot Cargo Loading Ramp –** The hot cargo loading ramp is used to load/unload hazardous arms. This area is also used for engine run-ups and overflow parking during peak activity. The ramp is in poor condition and if the area is to continue to be used, the pavement requires reconstruction in the short-term.

4.4.9. Summary of Landside Facility Requirements

Overall, landside facilities meet existing demand during a typical day of operation. During periods of peak activity, demand has exceeded existing capacity and as development continues at Cecil, additional facilities are required. Table 4-18 identifies existing infrastructure, existing requirements, and forecast requirements for Cecil.

Table 4-18 – Landside Facility Requirements Summary

Facility/Infrastructure	2021 Requirements	2041 Requirements
Terminal Space ***(GA and Admin Facilities)***	Requires 11,000 square feet	Additional 6,700 square feet terminal space
Based Aircraft	Meets existing	Additional 3.75 acres
Transient Aircraft Parking ***(Including Hot Fueling)***	Deficient by 10.42 acres	Additional 16 acres
Maintenance, Repair, and Overhaul (MRO)	Meets existing/at limit	Additional 158 acres *(Inclusive of Boeing's expansion)*
Military Area	Meets existing	Additional 3.5 acres
Aircraft Rescue and Fire Fighting (ARFF)/Security	Meets existing	Meets future
Air Cargo Facilities	None	Additional 3.5 acres
Aviation Fueling Facilities	Requires additional 60,000 gallons of storage capacity	24/7 self-service avgas facility; additional fuel farm location in north east quadrant
Airport Maintenance	Meets existing	Consolidate facilities; 10,000-square-foot maintenance building and 10,000-square-foot storage barn

Sources: ACRP Report 113, Guidebook on General Aviation Facility Planning, 2014; JAA, 2022; Kimley-Horn, 2025.

4.5. Spaceport Facilities

Existing Spaceport facility requirements are based upon the 2021 Spaceport Development Plan (SDP) and meet existing Spaceport demand. Forecast activity at the Spaceport requires additional development summarized in Table 4-19. The SDP recommended a phased approach to meet future Spaceport needs.

Phase One recommends enhancing roadway and utility access to the Spaceport area. Phase One includes the relocation of the rocket engine test site and oxidizer loading area to the southwest, near the existing hot cargo pad. Additionally, Phase One recommends the identification and construction of fuel and oxidizer storage areas, which will mitigate operational impacts to the Airport and provide increased efficiency to Spaceport operations.

Design and construction efforts for supporting infrastructure is outlined in Phase Two. Aligning with actual growth and operator needs. Expansion is estimated to include 100,000 square feet of hangar and corresponding apron space (with a 300-foot depth) and 16,800 square feet of payload processing facilities. Toward the end of Phase Two, 60,000 square feet of multi-use/office space are recommended to further support ongoing aerospace operations and attract new tenants.

Phase Three is the ultimate planning phase within the 2021 SDP and where most development is anticipated to take place. During Phase Three, it is assumed the market will have matured from the existing research and development stage, resulting in clear and identifiable market participants and infrastructure requirements. Phase Three anticipates 255,000 square feet of additional hangar and corresponding apron space (with a 400-foot depth). Expansion of the multi-use office space by 60,000 square feet is recommended. Dependent upon commercial demand, a preserved area of 76,000 square feet allows for an aerospace terminal to be built, which would accommodate commercial flights for aerospace participants and increased administration facilities available at the Spaceport.

Table 4-19 – Spaceport Development Timeline

Category of Development	Planned Sizing	Operational Impact
Phase One (1 to 5 Years)		
Enhance Roadway Access	*Completed*	Attract various users
Increase Utility Access	*Completed*	Attract various users
Relocate and Expand Rocket Engine Testing Area	N/A	Increase in on-site rocket testing
Relocate Oxidizer Loading Area	N/A	Increase efficiency and safety
Identify Fuel and Oxidizer Storage Areas	N/A	Increase efficiency and safety
Phase Two (6 to 10 Years)		
Payload Processing Facility	16,800 square feet	Attract various users
Additional Hangar Development and Apron Space	100,000 square feet hangar space Apron with 300-foot depth	Increase in capacity and attract new users
Multi-Use/Office Space Building	60,000 square feet	Increase in capacity and attract new users
Phase Three (11 to 20 Years)		
Additional Hangar Development and Apron Space	255,000 square feet hangar space Apron with 400-foot depth	Increase in capacity and frequency of operations
Additional Multi-use/Office Space	60,000 square feet	Increase in capacity and frequency of operations
Aerospace Terminal	76,000 square feet	Increase in capacity and frequency of operations

Source: Kimley-Horn, Spaceport Development Plan, 2021.

4.6. Ground Access Facility Requirements

Ground access represents the connectivity in and around Cecil which is used by the workforce and users of the Airport and Spaceport along with the adjacent community. Requirements for this infrastructure assessed connectivity to existing and future landside facilities to the surrounding local area. New tenants with large workforces beginning operation at Cecil will be required to perform their own traffic studies.

4.6.1. Off-Airport Road System

Three main arterial roadways feed into local roadways, providing access between the local region, the Cecil Commerce area, and the Airport's existing infrastructure. Off-airport roadway infrastructure is limited to the northern half of the airfield with no easily accessible roadway access to Cecil from the south. The lack of southern access roads potentially restricts future development areas. Should alternatives explore development on the southern half of Cecil, additional off-airport road connectivity would be required.

Publicly available expansion plans identify roadway development to the east, enhancing connectivity between local areas and Cecil's non-aeronautical development areas. Contained within Cecil's non-aeronautical use Master Plan is a recommendation for a tollway bypass. The tollway bypass would further provide connectivity between Cecil and the surrounding region. Existing off-airport roadway infrastructure meets the requirements for the Airport and Spaceport as well as future demands given published plans are utilized to increase connectivity to Cecil's non-aeronautical use areas to the east.

4.6.2. On-Airport Road System

On-airport road system requirements were assessed based on travel time and connectivity to various landside/airside facilities at Cecil. Cecil's existing Vehicle Service Roads (VSRs) do not provide easy connectivity across the entire landside; however, as most of the existing development is in the northwest quadrant, infrastructure has met historical operational needs. As development continues at Cecil, the perimeter vehicle service road should be enhanced to better connect the various operational areas. It is recommended that as development and forecast operations increase, the following locations have unrestricted, secured connectivity via a VSR:

- Hot Cargo Ramp
- West Apron
- North Apron
- Northeast Development Area
- High Power Engine Run-up Ramp
- Spaceport Development Area

4.6.3. Vehicle Parking

As was noted in Chapter 2, overall vehicle parking is generally balanced at Cecil with some specific areas/tenants experiencing shortages at peak demand times. The key driver related to vehicle parking requirements is the active workforce of various tenants at Cecil and the expansion of the Spaceport's landside infrastructure. MRO activities in particular have higher vehicle parking demands than traditional based aircraft facilities found at a GA airport.

JAA's published Site Development Standards, along with the City of Jacksonville's development standards, guide vehicle parking requirements at Cecil. One parking stall is needed per 2,000 square feet of industrial space and three parking stalls are needed per 1,000 square feet of office space. An analysis of existing leases resulted in 2,279 stalls being the minimum required amount in 2021 and 5,692 stalls being required by 2041. Cecil meets the existing requirements with existing leases indicating 5,000 parking stalls. Cecil requires additional parking stalls to be provided to meet 2041's vehicle parking requirements. MRO tenants typically need more than the minimum parking requirements to support the full labor force. The number of stalls at Cecil provide enough capacity to accommodate current demand.

These standards are used for planning purposes. Each tenant is required to ensure adequate parking to meet their respective operational needs which typically results in a higher number than indicated by applying the development standards within this section.

Local regulations require 10% of vehicle parking area be designated for landscaped areas of new or expanded vehicle parking facilities. Therefore, in addition to 140,000-square-foot expansion of vehicle parking, 14,000 square feet of landscaping is assumed to be required by 2041.

4.6.4. Transit Connectivity

Limited existing transit accessibility is available to Cecil for workers or passengers/pilots via the public bus service. This service provides a few stops near the Airport for transit passenger egress and ingress. Given the size of facilities located at Cecil and the number of daily employees that commute to/from the Airport, consideration may be given to incorporate additional bus line stops within the Cecil Commerce area to directly service the Airport and the variety of tenants and users. Complimentary to this, the Alternatives Analysis investigate bus stops/bus pullouts at key locations in and around Cecil.

4.6.5. Summary of Ground Access Requirements

Ground access at Cecil has historically met requirements. Landside facilities are anticipated to expand in number and location throughout the planning horizon, resulting in a need to increase ground access facilities at Cecil. The following highlights requirements identified within this section:

- **Off-Airport Roadways –** Existing and planned roadway infrastructure connecting to Cecil provides adequate access, meeting existing needs. The introduction of the planned tollway bypass will further ensure the connectivity to/from Cecil to surrounding community. Should alternatives explore development on the southern half of Cecil, additional off-airport road connectivity will be required.
- **On-Airport Road –** The on-airport roadway system meets the existing demands of Cecil. As the Airport and Spaceport expand over the planning horizon, the available on-airport road network requires enhancement. The ultimate configuration should connect all essential non-movement operating areas.
- **Vehicle Parking –** Existing vehicle parking generally meets current demand. Vehicle parking capacity is exceeded along the west apron during peak times by various tenants. Overall vehicle parking capacity should be enhanced to meet existing and future needs for Cecil. At a minimum, vehicle parking should meet local regulations related to sizing and landscaped areas.
- **Transit Connectivity –** Consideration may be given to expand transit service at/to Cecil with potential bus stop/pullout areas provided.

4.7. Utilities

Utilities available at Cecil meet and exceed existing tenant needs. The utilities provided at Cecil are summarized within the points below:

- **Water –** Water services for Cecil are provided by two different high-capacity water treatment sites. Cecil is a part of the general Cecil Commerce Center water utility network which has a capacity flow of 75 million gallons per day. There are no water supply capacity issues.
- **Water for Fire Protection –** Cecil maintains a dedicated fire water system that provides tenants access to highly pressure water. There are two high-pressure pump stations supporting the fire water system. The individual tenant is responsible for adding whichever chemicals and flame retardants needed for their respective fire plans and for system development and maintenance within their facilities. Cecil's maintenance personnel are tasked with monitoring and upkeeping the system.
- **Sanitary Sewer –** Sanitary sewer is provided by the local treatment plant that has an on-site 52-million-gallon-a-day treatment plant capacity which meets forecast demand.
- **Stormwater –** Cecil mitigates stormwater flowage using a system of underground pipes and ditches along the landside roadways to route water runoff. The airfield is graded and sloped to ensure water does not pool on pavement and flows into drainage ditches, routing water away from the critical airfield areas. Cecil maintains a comprehensive SWPPP.
- **Electricity**: JEA provides electricity to Cecil. There is over 2,600 megawatts of installed generating capacity with multiple feeds and dual substations that exist on-site, meeting forecast demand.
- **Natural Gas –** Cecil has an existing 16-inch transmission line providing natural gas to Cecil and its users running along the Cecil Commerce Center. TECO Gas provides natural gas service to Cecil. Natural gas is used to power various boiler systems. These lines meet demand at Cecil.
- **Communications –** Fiber-optic communication lines provide a high-speed, reliable bandwidth connection to Cecil. These communication lines are available to most Airport users and plugs directly into the ATCT and MCC infrastructure.

The utilities detailed above can be expanded to meet the needs of future development. However, as development at Cecil expands, confirmation of utility capacity, especially as needs of the surrounding community increase, is required on a project-by-project basis. The Approach Road project will provide utility corridors to support development in the Spaceport and the northeast quadrant. Cecil also maintains utility corridors along local roadways adjacent to the north and west aprons ensuring the existing utility infrastructure remains protected.

4.8. Access Control and Perimeter Fencing

Perimeter fencing is installed along Cecil's entire property line with enhanced wildlife fencing in select locations to limit wildlife access points. Supplementing the perimeter fencing, Cecil maintains an access control system which requires positive identification to enter areas that allow access to the airfield. These systems, combined with independent tenant security protocols, meet existing and future demands related to security at Cecil.

As previously discussed, military tenants at Cecil have additional access and control requirements. Apron fencing and associated gates are present to restrict access to active military ramp areas. Additionally, outlining military apron areas with a red restricted line may further enhance security and positive control of military assets. These secured apron areas will also be used during instances where transient military fighter jets need to park at Cecil for an extended period of time due to required repairs.

4.9. Aeronautical Use Buffer

Historically, Cecil has experienced robust growth since transitioning to a public use civil aviation airport. Correspondingly, the Cecil Commerce Center and various commercial, industrial, and residential use areas surrounding the Airport have experienced growth. These areas outside Cecil are projected to experience continued elevated levels of demand for developable land near or within Cecil's property boundary throughout the planning horizon.

Due to historical growth patterns, and to ensure future land compatibility for Cecil beyond this Master Plan Update, it was determined that an aeronautical use buffer should be applied as a facility requirement. A growth ratio was developed based upon the previous section's identified requirements, resulting in a 20-year growth ratio of 1.11. The ratio was applied through 2071, a 50-year planning horizon, resulting in an aeronautical use buffer of 195 acres.

4.10. Summary of Facility Requirements

Table 4-20 represents the culmination of the Facility Requirements Chapter. A total of 1,652 acres are needed to meet existing aeronautical demands at the Airport and Spaceport, growing to 1,828 acres of space required by 2041. Including the aeronautical use buffer (195 acres) a total of 2,023 acres shall be preserved in this Master Plan to support aeronautical use of an additional 195 acres. Cecil's boundary encompasses more than 6,000 acres and therefore, it is unlikely that additional land will be required to support aeronautical development. Cecil has historically protected 1,398.6 acres of space for conservation efforts to enhance the health of the local ecosystem. This conservation area is expected to be maintained throughout the planning horizon. The remaining property can be used for aeronautical preservation or non-aeronautical use. The 2020 Cecil Airport Non-Aeronautical Master Plan identified 1,225 acres of space that could be used to develop commercial and industrial areas (non-aeronautical use) on Cecil's property. This development is predominantly planned along Cecil's most northeastern property line.

Table 4-20 – Cecil Facility Requirements Summary

Category	2021 Requirements *(in acres)*	2041 Requirements *(in acres)*
Airside		
Aircraft Movement Areas and Associated Safety Areas	**1,118**	**1,118**
Landside		
Maintenance, Repair, and Overhaul (MRO)[1]	105	263
Military Use[1]	59	62.5
Transient Aircraft	25	31
Based Aircraft[2]	20.5	24.5
Spaceport	320	320
Air Cargo (apron only)	N/A	3.5
Airport Support Infrastructure	3.7	4.8
Administrative and Terminal Space	0.3	.4
Landside Total	**533.5**	**709.7**
Summary		
Aeronautical Use Buffer	N/A	195
Total Aeronautical Use Acreage	1,652	2,022.9
Conservation Area	1,398.6	1,398.6
Total Airport Acreage	6,082	6,082
Available for Non-Aeronautical Uses	**3,031.9**	**2,660.7**

Notes:

1) Distances required were assessed from estimated historical operational areas.

2) FLARNG and USCG military apron areas are defined as based aircraft storage space.

Sources: ACRP Report 113, Guidebook on General Aviation Facility Planning, 2014; ADIP, FAA, 2022; Kimley-Horn, Spaceport Development Plan, 2021; JAA, 2022; Kimley-Horn, 2025.

Chapter 5. Alternatives Development and Evaluation

5.1. Introduction

Alternatives presented in this Chapter were intended to accommodate aviation demand forecasts and facility requirements developed in previous chapters of this Airport Master Plan Update. Feedback from the Master Plan’s Technical Advisory Committee (TAC), Planning Advisory Committee (PAC), and the public were also incorporated within this process. The following sections present alternative layouts to meet existing and forecast demand for Cecil. The preferred alternative is summarized at the conclusion of the chapter.

5.2. Basis of Concept Development

This section outlines the requirements identified to meet existing and future demands at Cecil, as well as documents the methodology and constraints that influenced the alternatives analysis presented in subsequent sections of this Chapter.

5.2.1. Requirements Overview

A summary of requirements and recommendations previously identified for Cecil Airport and Spaceport is in Table 5-1 and Table 5-2. These tables summarize the respective airfield and landside requirements associated with Cecil to align with FAA design standards and meet anticipated future demand. These requirements shaped the various alternatives presented within this Chapter.

Table 5-1 –Summary of Airfield Requirements

Airfield Infrastructure	Existing Condition	Future Condition
Runway Widths and Shoulders		
Runway 18L/36R	12,503 feet long by 200 feet wide, with no shoulders	Retain width and add 25-foot shoulders
Runway 18R/36L	8,002 feet long by 200 feet wide with no shoulders	Decrease width to 150 feet and add 25-foot shoulders*
Runway 9R/27L	8,003 feet long by 200 feet wide with no shoulders	Decrease width to 150 feet and add 25-foot shoulders
Runway 9L/27R	4,439 feet long by 200 feet wide with no shoulders	Decrease width to 75 feet and add 10-foot stabilized shoulders
Airfield Lighting		
Convert Taxiway E reflectors to edge lights	Reflectors	Medium intensity taxiway lights
Convert Taxilane D reflectors to edge lights	Reflectors	Medium intensity taxiway lights
NAVAIDs and Instrument Approach Procedures		
Enhancement to Runway 18R/36L instrument approach capabilities	Visual	Non-Precision Instrument (NPI)
Pavement Strength		
Increase pavement strength to Runway 9L/27R	Single wheel 12,500 pounds	Increase to above single wheel 14,000 pounds
Pavement Markings		
Runway 18R/36L	No aiming point markings	Install aiming point markings
Excess Pavement Removal		
North and West Apron	Pavement connecting apron to Taxiways A and B. Pavement is painted appropriately.	Removal of excess pavement.

Source: Kimley-Horn, 2025.

Table 5-2 – Landside Requirements Summary

Category	2021 Requirements *(in acres)*	2041 Requirements *(in acres)*
Landside Infrastructure		
Maintenance, Repair, and Overhaul (MRO)	105	263
Military Use	59	62.5
Transient Aircraft	25	31
Based Aircraft	20.5	24.5
Spaceport	320	320
Air Cargo (apron only)	N/A	3.5
Airport Support Infrastructure	3.7	4.8
Administrative and Terminal Space	0.3	0.4
Landside Total	**533.5**	**709.7**
Summary		
Aeronautical Use Buffer	N/A	195
Total Aeronautical Use Acreage	1,652	2,023
Conservation Area	1,639	1,399
Total Airport Acreage	6,082	6,082
Available for Non-Aeronautical Uses	3,032	2,661

Source: Kimley-Horn, 2025.

5.2.2. Alternative Development Methodology

Alternatives for Cecil were created utilizing a phased approach, building off the previous stage's conclusions. Alternative development began with airfield alternatives, which encompasses critical aircraft operational areas such as the runway and taxiway systems. Once a preferred airfield alternative was identified, Spaceport alternatives were developed based on the 2021 Spaceport Development Plan (SDP). Developed separately from the Spaceport facilities, the Airport's landside alternatives include three distinct alternatives to meet forecast demand at Cecil.

Concluding this chapter is the combination of Cecil's long-term layout (airfield, Spaceport, and landside). The selected alternative incorporated stakeholder input throughout and represents the Airport's and Spaceport's vision for future development.

Assumptions were developed to establish a baseline for analysis and inform the feasibility of various facility implementation strategies, including:

- The Cecil Airport and Spaceport will not expand its physical boundary.
- Runway 18L/36R will remain at existing length and width to support future MRO activity and Spaceport operations.
- Existing or proposed Airport tenant developments that include hangar construction and apron expansion will occur as planned and will satisfy that portion of demand identified in the summary of facility needs presented within the previous Chapter of this Master Plan.
    - This includes the planned Boeing facility relocation/expansion to the northeast.

- The FAA approved forecast represents the most accurate representation of future events available at the time of this Master Plan's creation.
- Planned public roadways within the northeastern quadrant of Cecil's property have undergone extensive planning and should not be altered from existing plans (namely the 2021 Spaceport Development Plan and the 2020 Non-Aeronautical Master Plan).

5.2.3. Existing Opportunities and Constraints

Overall, Cecil has many opportunities for development; however, environmental constraints significantly limit the location of potential developable sites. Table 5-3 summarizes the existing opportunities and constraints at Cecil. Constraints identified at Cecil are categorized as either hard or soft. Hard constraints are defined as influencing factors that cannot be negatively impacted in any way. Soft constraints are defined as influencing factors that if negatively impacted, have the potential to be mitigated to allow for development.

Table 5-3 – Summary of Opportunities and Constraints at Cecil

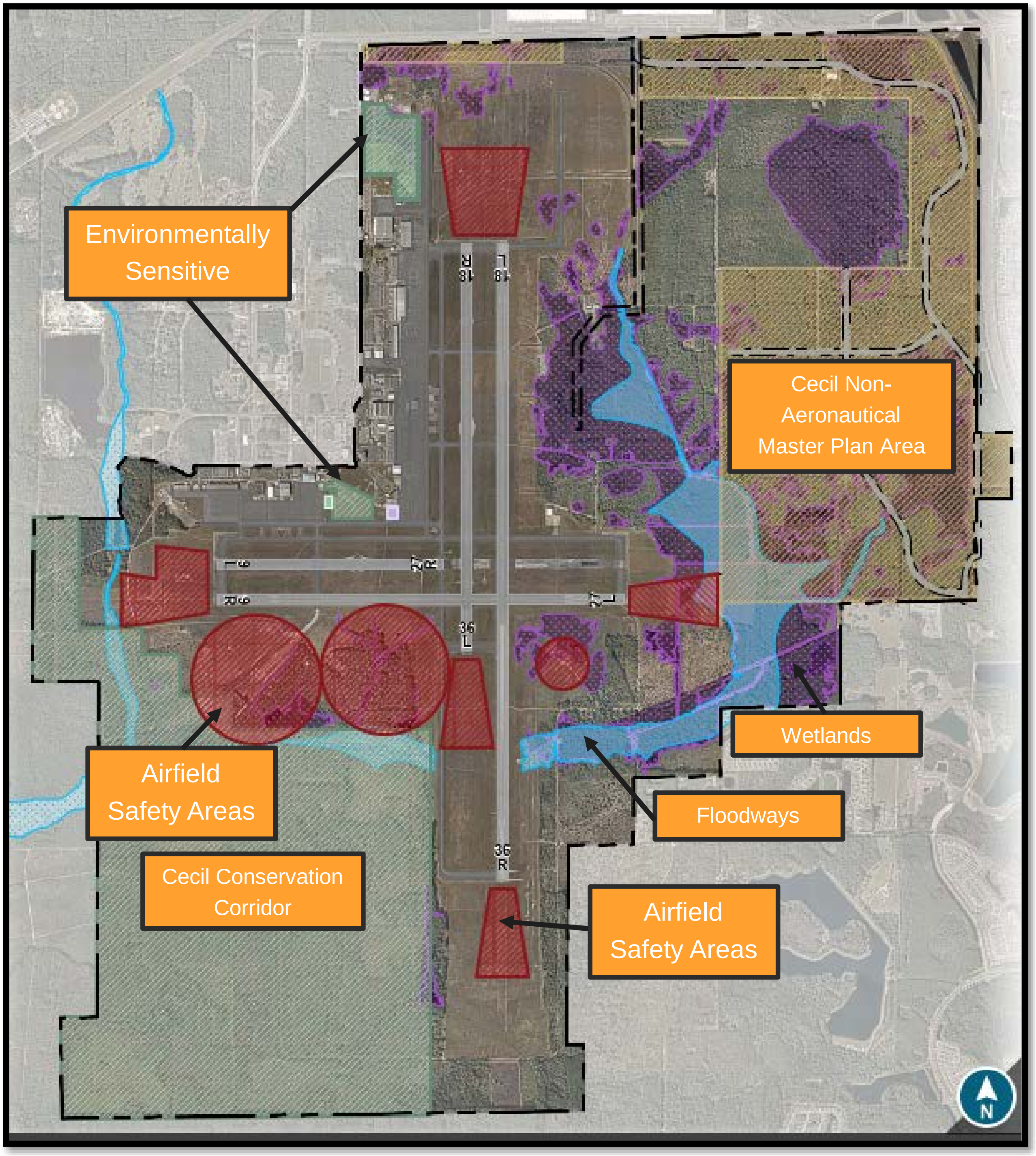
Influencing Factor	Description
Opportunities	
Greenfield areas	Due to Cecil's property size, there are several potential greenfield areas that could be used for development.
Spaceport operator's license	Cecil is one of 13 sites to have and maintain an FAA Spaceport Operators License. This allows the JAA to position Cecil to potentially capture horizontal launch operators.
Historical growth	Cecil has observed sustained growth since becoming a public-use airport. The forecast predicts this growth to continue, although at a slower rate than recent years.
Importance to the Department of Defense (DoD) and other military operators	Although a public-use airport, Cecil is often utilized by various DoD and state defense organizations to base at, or operate out of.
Unique market position	Cecil is one of the few airports providing extensive MRO capabilities within the northeast Florida region.
Floodways	Floodways run throughout Cecil's property. Floodways require specialized insurance plans and extensive mitigation costs. For this reason, these areas are hard constraints.
Wetlands	Wetlands have been identified throughout Cecil's property. Wetlands are essential to providing a healthy ecosystem to a variety of species within the surrounding area. These areas are categorized as **soft and hard** constraints, based upon the classification of wetlands. For additional wetlands information, refer to Chapter 2.

Influencing Factor	**Description**
Constraints	
Conservation areas	Cecil maintains a conservation corridor of approximately 1,400 acres. This area is situated in the southwest quadrant of Cecil's property. The conservation corridor is a **hard** constraint.
Non-Aeronautical development area(s)	The Non-Aeronautical Master Plan identified a 1,225-acre area, predominantly within the northeast quadrant of Cecil's property. This is a **soft** constraint for this master plan, as any need for aeronautical uses will take priority.
Environmentally hazardous area(s)	Environmentally hazardous areas at Cecil exist in two main areas in the northwest quadrant of property. One is a contaminated fuel spill area, the other is a hazardous material, including fuel, spill area. These constraints are considered **hard to soft** because the financial costs associated with "clean up" is high. Therefore, these areas should be avoided unless necessary.
Safety and protection surfaces	Protection surfaces associated with runways, taxiways, and navigational aids are **hard** constraints as it relates to Cecil. This will ensure that all alternatives developed meet or exceed FAA design standards.
Northeastern roadways	Extensive planning efforts have been undertaken by the JAA and local private and public entities to develop future connectivity within the northeastern quadrant of Cecil. It was determined via communication with the Airport and Spaceport that these roadways should be **hard** constraints.

Sources: Kimley-Horn, 2025.

Opportunities were leveraged when developing the alternatives. Constraints were respected, to the extent possible, and influenced the rating criteria for each alternative. Major constraint areas are shown within Figure 5-1.

Figure 5-1 – Main Constraints at Cecil



Notes: Red shaded areas represent critical airfield safety areas.

Sources: Nearmap, accessed February 2022; Jacksonville Aviation Authority; Environmental Protection Agency, 2021; FEMA, 2021; Kimley-Horn, 2025.

5.3. Evaluation Criteria

The following sections outline criteria used to assess viability of each alternative. These criteria are assessed using one of the following:

- **Quantitative Methods:**
    - Fixed or measurable amount
    - Analyzed via statistical data to support conclusions

- **Qualitative Methods:**
    - Dynamic conclusions
    - Analyzed via grouping various data to support conclusions
    - Comparative analysis between alternatives

5.3.1. Compliance with FAA Airport Design Standards

Compliance with FAA design standards are an important factor when obtaining funding from the FAA. A ‘+’ rating indicates all facility requirements and FAA design standards are met. Any alternative that does not meet FAA design standards and/or requirements will receive a ‘-’ rating. These ratings were derived using quantitative methods.

5.3.2. Meeting Facility Requirements

The Facility Requirements Chapter outlines additional facilities needed at the Airport and Spaceport with respect to Cecil’s forecast approved by the FAA. Each alternative was assessed based on the ability to meet ultimate facility requirements spacing needs. An alternative that meets these requirements was rated ‘+’. In a situation where the alternative meets most facility requirements, a ‘O’ rating was given. All other alternatives were rated ‘-‘. These ratings were derived utilizing quantitative methods.

5.3.3. Environmental Considerations

An alternative’s ability to mitigate impacts to both the natural environmental and its local social communities is crucial to maintaining a cohesive balance between development and health of a local area. If an alternative is anticipated to negatively impact a protected local social community and impact the natural environment in such a way that mitigation is unattainable, a ‘-‘ rating was given. A ‘+’ rating indicates there is no significant or unmanageable impacts expected to either the environment or local communities. If an alternative anticipates an impact to either the local community or the environment, but not the other, a ‘O’ rating was assigned.

5.3.4. Rough Order of Magnitude Costs

A high-level assessment of anticipated costs associated with each alternative was conducted, estimating the amount of new pavement or development that would be required. Proper capital allocation is vital to Cecil’s continued sustainability; therefore, each alternative was ranked against one another for their respective perceived associated costs. The alternatives that indicate the least cost to implement were rated ‘+’ and the costliest alternatives were rated ‘-‘. All other alternatives received a score of ‘O’. These ratings were derived using qualitative and quantitative methods. Preliminary screening focused on utilizing qualitative methods to filter the various alternatives, with the following chapter utilizing quantitative methods to establish phasing of projects included in the recommended alternative.

5.3.5. Construction and Phasing Considerations

Construction complexity and the level of disruption from the implementation of the alternative assists in determining the viability of an alternative. For the purposes of this screening, production of phasing plans and detailed analysis of project intricacies were not undertaken. An alternative’s impact to existing operations, both for Cecil’s daily users and its tenants, was assessed. Complex and expansive development may require closure of runways or taxiways. Like the cost considerations criterion, a comparative analysis was undertaken to rank alternatives from most disruptive to least disruptive. The alternative requiring the least amount of construction and time to implement was rated ‘+’ and alternatives that require the most amount of construction and time were rated ‘-‘. All other alternatives received a score of ‘O’. These ratings were derived using qualitative methods.

5.3.6. Operational Benefits

Operational benefits of an alternative are defined by facilities and infrastructure that increase the efficiency of operations at the Airport or consist of flexible infrastructure that can be utilized by a variety of users. An example of flexible space would be a multi-use open apron area. Alternatives that impact existing operations negatively will be rated as ‘-‘, whereas an alternative that is presumed to increase efficiency or flexibility for the Airport would be rated ‘+’.

5.3.7. Stakeholder Input and Social Benefits

Alternatives were presented to the TAC, the public (via a Public Open House), and the PAC to incorporate community into the viability of an alternative. If an alternative received predominantly negative sentiment and indicated a tenant’s inability to continue operations because of the alternative, a ‘-‘ rating was given to the alternative. If general sentiment was positive, the alternative was rated ‘+’. All other alternatives were given ‘O’, representing an alternative that had an overall neutral sentiment. Social benefits further assessed the anticipated economic impact to the community, typically as an estimation of jobs supported by a project. Ratings for these criteria were derived using qualitative methods.

5.3.8. Long-Term Flexibility

Long-term flexibility is defined by the allocation of area available and location of the previously defined aeronautical use buffer areas. This was determined by the alternative either providing additional aeronautical buffer area, or less, resulting in a ‘+’ or ‘-‘ accordingly. For landside screening, long-term flexibility is assessed by the location of the aeronautical buffer areas. If an area is in an ideal spot for future expansion, it was rated ‘+’, otherwise it was rated ‘-‘. For those alternatives, both airfield and landside, that were determined to be in-between the two rating scores, a ‘O’ was given.

5.4. Non-Development Alternative

Non-development alternatives were evaluated to establish a baseline of impacts to Cecil resulting from inaction to construct needed facilities at both the Airport and Spaceport. The evaluation considers whether facility improvements should occur at the Airport, or if another scenario would better serve existing and potential future Cecil tenants and users.

The three non-development alternatives that were examined include:

- No Construction/Development

- Relocation of Tenant Areas
- Transfer of Aviation Activities/Construction of a New Airport

The first alternative within this section considers no additional airfield, landside, or support facilities were to be constructed at Cecil, except for routine maintenance for the operational functionality of the Airport and Spaceport. This alternative does not satisfy existing or projected levels of demand identified in Chapter 3 and the subsequent facility requirements presented in Chapter 4. As such, the no-build alternative is not recommended as a viable development strategy.

The second alternative considers the relocation or transfer of property at the Airport and Spaceport. During onsite interviews, it was noted that leases for larger tenants are often not centralized to one area, potentially breaking up a tenant's operation. Although relocation would assist in the efficiency of operations for select tenants, relocation and transfer alone does not meet the existing or anticipated aviation and aerospace demands at Cecil.

The final non-development alternative assessed was an analysis of comparable airports within the region capable of meeting 100% of Cecil's tenant requirements, as well as the operational capacity to host Cecil's based aircraft and its transient and local aircraft operations. Within the Jacksonville area, there is not an aerospace facility with runway capabilities like Cecil's, nor does any facility maintain a FAA Spaceport Operator license for Horizontal Takeoff Horizontal Launch (HTHL) activity. This would result in the entire region being excluded from future commercial space activity, as well as losing the largest operational runway within the region. Furthermore, MRO operators require expansive hangar and maintenance facilities with supportive apron space. No airport surveyed within the region has the landside infrastructure required to accommodate existing, and forecast, MRO tenant activity at Cecil. As such, the relocation/transfer of aviation activities is not recommended as a viable option.

In rare situations, new airports may be constructed to address anticipated demand, enhance operational safety, or might be considered if the cost of redeveloping an existing airport exceeds the cost of building new facilities. Based on projected levels of aerospace demand and availability of developable land, construction of a new airport is not recommended as a viable development alternative for Cecil.

5.5. Airfield Alternatives

The alternatives analysis for the Airport was developed in a sequential order, with airfield alternatives being defined first. The airfield elements of an airport represent the most critical and capitally intensive infrastructure of an airport. Airfield alternatives within this Master Plan are focused on the following areas:

- Runway system
- Helipads
- NAVAID and Instrument Approach Procedures
- Taxiway system
- Airport design surfaces

5.5.1. Runway Alternatives

Determining the number, orientation, and length of the runway system is vital to ensure the Airport can meet its role within the national, state, and local airport system(s). For this reason, the runway system was evaluated first. All other airfield and landside infrastructure alternatives referenced the selected runway alternative(s) determined within this section.

5.5.1.1. Number of Runways and Orientation of Runways

The number of runways needed at Cecil was determined via the capacity analysis presented in Chapter 4. Assessing the capacity of the existing runway system and comparing the annual service volume (ASV) against historical and forecast operations, a parallel runway system (two runways) is required. From a capacity perspective, a third parallel runway is not required.

The orientation of runways is dictated by the prevailing wind conditions. The existing primary and secondary runways at Cecil are orientated north/south. As documented in Chapter 4, an extensive wind analysis was conducted, which concluded that a crosswind runway (orientated east-west) is required to meet seasonal and time of day variability of winds at Cecil for small GA aircraft inclusive of small- to medium-sized business jets and light military fighter jets.

5.5.1.2. Runway Lengths

Runway length is determined by the most critical or demanding aircraft consistently utilizing a runway. Due to the diverse fleet mix at the Airport, a detailed runway length analysis was undertaken by type of operator to determine appropriate runway sizing. Runway pavements eligible for FAA funding is limited to the minimum length required by the most critical aircraft. Table 5-4 below summarizes the potential runway lengths eligible to receive FAA AIP funding. All other pavement areas associated with the immediate runway system would require state or local funding sources. As a reminder, of the existing runway pavement at Cecil, the FAA only provides funding for the northern 8,000 feet of Runway 18L/36R.

Table 5-4 – Anticipated Runway Length Supported by the FAA

Runway	Potential AIP Funding-Eligible Runway Length	Reasoning for FAA Support	Facility Requirement
Runway 18L/36R *Primary*	8,000 feet	Support distance of critical aircraft (B762)	Remain at 12,503 feet
Runway 18L/36R *Secondary*	8,000 feet	Support distance for supplemental capacity related to peak traffic demands	Minimum of 8,002 feet or extend to 8,850 feet
Runway 9R/27L *Crosswind*	4,000 feet[1]	Support distance needed to meet crosswind component for typical B-II aircraft	Remain at 8,003 feet
Runway 9L/27R *Supplemental Crosswind*	Ineligible	No Additional Capacity Requirements Identified	Increase to a minimum of 5,000 feet or decommission

Notes:

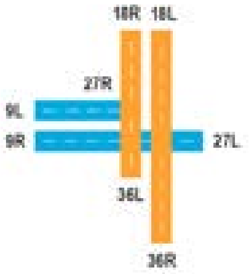
1. Insurance carriers typically require a minimum runway length of 5,000 feet for business jet operations on a particular runway.

Sources: Respective Manufacturers' Aircraft Performance Charts; FAA, Airport Improvement Program, 2022; Kimley-Horn, 2025.

5.5.1.3. Runway System Alternatives

This section presents six distinct runway alternatives for the Airport based on Cecil's facility requirements and forecast.

Runway Alternative 1 – Retain Existing Configuration



Runway Alternative 1, illustrated to the left, recommends retaining the existing runway configuration. To align with FAA design standards, it is recommended to reduce the width of Runways 18R/36L and 9R/27L to a standard width of 150 feet, with 25-foot shoulders on each side. Runway 18L/36R should retain its existing length and width dimensions and add 25-foot shoulders to each side. Runway 9L/27R will decrease to a width of 75 feet, with 10-foot shoulders on each side. There is no change to any runway lengths within this alternative.

The following pros and cons were identified for Runway Alternative 1.

Pros:

- Limited capital costs associated with the long-term build out.
- Retains existing airfield capacity of the Airport.
- Aligns three runway widths with current design standards, reducing runway pavement requiring regular maintenance.
- Retains full capability of Runway 18L/36R for Spaceport operations.

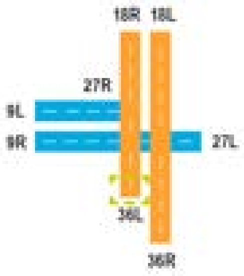
Cons:

- Runway 9L/27R remains unusable for most tenant operations.
- Restricts future landside development on the west ramp by retaining the secondary crosswind runway.
- Maintenance costs associated with retaining the limited operability of Runway 9L/27R.

TAC, PAC, and Public Feedback

General opinion for this alternative centered around the secondary crosswind runway, with tenants voicing concern that existing length limits the operability of Runway 9L/27R. Existing dimensions for Runway 18L/36R, Runway 18R/36L, and Runway 9R/27L had unanimous consent that the length and widths met, or exceeded, historical and anticipated operational demand. The public sentiment for this alternative was favorable.

Runway Alternative 2 – Extend Runway 18R/36L 848 feet to the South



As seen to the left, Runway Alternative 2 retains the four-runway configuration and includes an extension to the south end of Runway 18R/36L. With the extension, Runway 18R/36L will be 8,850 feet long and capable of accommodating a Boeing 767 at its maximum takeoff weight (MTOW). Like the previous runway alternative, Runway Alternative 2 proposes reducing the width of Runways 18R/36L and 9R/27L to a standard width of 150 feet, with 25-foot shoulders on each side. Runway 18L/36R retains its existing dimensions, adding 25-foot shoulders to each side. Runway 9L/27R will decrease to a runway width of 75 feet, with 10-foot shoulders on each side.

The following pros and cons were identified for Runway Alternative 2.

Pros:

- Retains existing airfield capacity of the Airport.
- Aligns three runway widths with current design standards, reducing runway pavement requiring regular maintenance.
- Retains full capability of Runway 18L/36R for Spaceport operations.
- Enhances secondary runway to support the critical aircraft at MTOW.

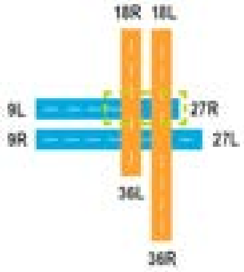
Cons:

- Runway 9L/27R remains unusable for most tenant operations.
- Restricts future landside development on the west ramp by retaining the secondary crosswind runway.
- Maintenance costs associated with retaining the limited operability of Runway 9L/27R.
- Requires new taxiways to connect with the new runway end location.
- Since the Boeing 767 and similar large commercial aircraft are using the Airport for MRO activities, they are not at MTOW; therefore, the extension of Runway 18R/36L is of little benefit. Additionally, should a longer runway length be needed, Runway 18L/36R remains a viable option.

TAC, PAC, and Public Feedback

The PAC and public viewed Runway Alternative 2 as unfavorable, due to the extension of a Runway 18R/36L. The TAC was neutral, leaning unfavorable due to the lack of need for Runway 18R/36L to be extended and no enhancement to the secondary crosswind runway.

Runway Alternative 3 – Extend Runway 9L/27R to the East



Runway Alternative 3, shown to the left, explored extending Runway 9L/27R to a minimum runway length of 5,000 feet. Extending the easterly end of Runway 9L/27R 561 feet results in the new Runway 27R end being located in between the north/south runways. From a geometric and operational perspective, this is less than ideal. Therefore, the runway was extended 1,736 feet to the east, placing the new Runway 27R threshold east of Runway 18L/36R and its associated safety areas. The resulting length of Runway 9L/27R is 6,175 feet. To align with current FAA design standards, the width of Runway 9L/27R is to be 75 feet with 10-foor shoulders on each side.

Like the previous two runway alternatives, Runway Alternative 3 recommends aligning the width of Runways 18R/36L and 9R/27L to a standard width of 150 feet, with 25-foot shoulders on each side. Runway 18L/36R is proposed to 200 feet wide and adding 25-foot shoulders to each side.

The following pros and cons were identified for Runway Alternative 3.

Pros:

- Aligns three runway widths with current design standards, reducing runway pavement requiring regular maintenance.
- Retains full capability of Runway 18L/36R for Spaceport operations.
- Enhances the secondary crosswind runway to support a broader range of aircraft.

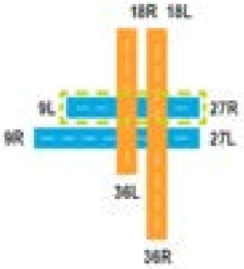
Cons:

- Restricts future landside development on the west ramp by retaining the secondary crosswind runway.
- Requires a new taxiway connector.
- Large construction project, impacting both north/south runways, and associated costs with the Runway 9L/27R 1,736-foot extension.
- Critical safety areas expand to the east, potentially restricting development within the Spaceport Development Area.
- With the Runway 27R end located closer to the Spaceport, some Spaceport operations (e.g., oxidizer loading), could result in a closure of Runway 9L/27R.

TAC, PAC, and Public Feedback

The PAC and public viewed Runway Alternative 3 as favorable, due to a perceived increase in airfield capacity. The TAC was in favor of the alternative since enhancements to Runway 9L/27R would allow for additional GA aircraft to utilize the runway (flight school aircraft performing stop-and-go operations and typical corporate jet traffic).

Runway Alternative 4 – Relocate and Extend Runway 9L/27R



To provide a supplemental crosswind runway that is only 5,000 feet long, Runway Alternative 4 (shown to the left) explores the option of translating Runway 9L/27R to the east. Prior to Cecil being transferred to the JAA for civilian use, Runway 9L/27R was 8,000 feet long. When Runway 9L/27R was shortened, the westerly runway end was held constant, and the runway was shortened to a point where the 27R Runway end was co-located with Taxiway A. The previous runway pavement east of Taxiway A was not removed but was marked with chevrons indicating the pavement is unusable. No maintenance work has been performed on the chevroned runway pavement; therefore, it is assumed that reconstruction of the pavement would be required to support aircraft operations.

Runway Alternative 4 proposes a 5,000-foot-long, 75-foot wide, runway with the Runway 27R end restored to its former location, then building from east to west. A 5,000-foot-long runway avoids the complicated runway intersection geometry described in Runway Alternative 3.

This alternative right-sizes the widths of Runways 18R/36L and 9R/27L to 150 feet and includes 25-foot shoulders on each side. Runway 18L/36R retains its existing dimensions, adding 25-foot shoulders to each side.

The following pros and cons were identified for Runway Alternative 4.

Pros:

- Aligns three runway widths with current design standards, reducing runway pavement requiring regular maintenance.
- Retains full capability of Runway 18L/36R for Spaceport operations.
- Enhances the secondary crosswind runway to support a broader range of aircraft.
- Increases airfield circulation by locating the Runway 9L end nearer to the FBO and flight school apron areas.

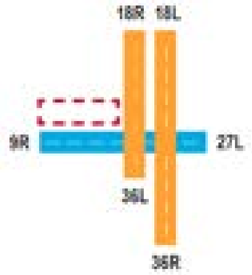
Cons:

- Restricts future landside development on the west ramp by retaining the secondary crosswind runway.
- Critical safety areas shift to the east, restricting future landside development and potentially creating new restrictions on existing developments.
- Requires new taxiway to connect with the new runway end location.
- With the Runway 27R end located closer to the Spaceport, some Spaceport operations (e.g., oxidizer loading), could result in a closure of Runway 9L/27R.
- Large construction project, impacting both north/south runways, and associated costs with the reconstruction of former runway pavement that has not been maintained.
- Translation of Runway 9L/27R closer to sensitive noise receptors.

TAC, PAC, and Public Feedback

The PAC and public viewed Runway Alternative 4 as unfavorable, due to a shift in runway to the east, pushing traffic closer to residential areas to the southeast. The TAC was in favor of the alternative since enhancements to Runway 9L/27R would allow for additional GA aircraft to utilize the runway (flight school aircraft performing stop-and-go operations and typical corporate jet traffic). Additionally, the TAC scored this alternative high in operational enhancements, with aircraft taxi times being reduced due to the new runway end being located closer to existing ramp areas. There was concern regarding moving critical safety areas to the east, most notably the runway protection zone (RPZ) is anticipated to overlap a wooded area on the east side and portions of the west ramp on the west side.

Runway Alternative 5 – Decommission Runway 9L/27R



Because Runway 9L/27R is limited in usability in its current state, Runway Alternative 5 (shown to the left) proposes decommissioning the runway. Along with this, existing taxiway connectors which cross existing Runway 9L/27R should be strengthened as needed to ensure they can support large aircraft operating on the airfield. This alternative reduces runway widths to 150 feet for Runways 18R/36L and 9R/27L and provides 25-foot shoulders on each side of these runways. Shoulders, 25 feet on each side, are also added to Runway 18L/36R, and the existing width of 200 feet is retained. The following pros and cons were identified for Runway Alternative 5.

Pros:

- Aligns two runway widths with current design standards and decommissions Runway 9L/27R which is of limited usability, reducing runway pavement requiring regular maintenance.
- Retains full capability of Runway 18L/36R for Spaceport operations.
- Increases prime landside development area near the west ramp.
- Allows for an enhanced taxiway and helipad system.

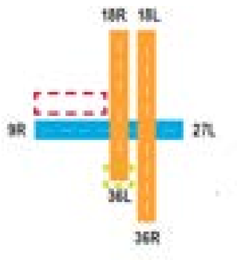
Cons:

- Reduces the overall long-term capacity of the Airport.
- Reduced capacity when winds dictate an east/west traffic flow.
- Existing helipads have limited use and future helipads may not offset the flexibility Runway 9L/27R provides for helicopter training operations.

TAC, PAC, and Public Feedback

The TAC was opposed to this alternative, as it limits the operational capability of the Airport. The PAC and public averaged a neutral sentiment, with some parties strongly in favor, and some strongly opposed. The predominant concern related to Runway Alternative 5 was voiced from the ATC Manager, who stated that if the secondary crosswind was to be decommissioned, all traffic would have to flow to the single crosswind. The diverse traffic mix at Cecil would make the task of managing air traffic unreasonable; and therefore, certain traffic would be turned away, or experience significant delays. JAA favored this alternative and countered that the smaller GA traffic is not the ideal traffic for Cecil and there are other airports in the JAA system that are better suited for large volumes of small GA aircraft.

Runway Alternative 6 – Decommission Runway 9L/27R and Extend Runway 18R/36L to the South



Runway Alternative 6, shown to the left, combines Runway Alternatives 2 and 5. This alternative decommissions Runway 9L/27R and extends Runway 18R/36L south 848 feet. Additionally, Runways 18R/36L and 9R/27L are reduced to 150 feet wide. All runways include future 25-foot shoulders on each runway side. Since Runway Alternative 6 is a combination of Runway Alternatives 2 and 5, it has similar pros and cons.

Pros:

- Aligns two runway widths with current design standards and decommissions Runway 9L/27R which is of limited usability, reducing runway pavement requiring regular maintenance.
- Retains full capability of Runway 18L/36R for Spaceport operations.
- Enhances the secondary runway to support the critical aircraft at MTOW.
- Increases prime landside development area near the west ramp.
- Allows for an enhanced taxiway and helipad system.

Cons:

- Since the Boeing 767 and similar large commercial aircraft are using the Airport for MRO activities, they are not at MTOW; therefore, the extension of Runway 18R/36L is of little benefit. Additionally, should a longer runway length be needed, Runway 18L/36R remains a viable option.
- Reduces the overall long-term capacity of the Airport.
- Inability to segregate aircraft types when winds dictate an east/west traffic flow.
- Existing helipads have limited use and future helipads may not offset the flexibility Runway 9L/27R provides for helicopter training operations.

TAC, PAC, and Public Feedback

The PAC and public did not have a unanimous opinion for Runway Alternative 6. The TAC scored this alternative poorly due to the extension of Runway 18R/36L and decommissioning of the secondary crosswind runway. Overall, the TAC was concerned that operations would be more constrained with the decommissioning of the crosswind runway.

5.5.1.4. Runway System Alternatives Screening

Screening results for the various runway alternatives presented in the previous sections are shown in Figure 5-2. Each alternative received a positive score in FAA Design Standard Compliance and Facility Requirement criteria. Ratings varied for all other screening criteria.

Figure 5-2 – Runway Alternatives Screening

Screening Criteria	Alternative					
	1	2	3	4	5	6
FAA Design Standard Compliance	+	+	+	+	+	+
Facility Requirements	+	+	+	+	+	+
Financial Feasibility	+	O	O	-	+	O
Airspace Impacts	O	O	+	+	-	-
Environmental Considerations	O	O	-	-	+	O
Phasing and Constructability	+	O	-	-	O	O
Social Benefits/Stakeholder Input	+	O	+	-	O	O
Operational Benefits	O	-	+	+	O	O
Long-Term Flexibility	O	O	-	-	+	+

Notes: + Positive Score, O Neutral Score, - Negative Score
Source: Kimley-Horn, 2025.

Runway alternatives assuming a runway extension on either the crosswind or the secondary runway scored lower relative to other alternatives, with extensions to the secondary runway scoring the worst. For this reason, these alternatives were omitted from further consideration.

Runway Alternatives 1 and 5 were closely rated, both receiving five positive scores. Runway Alternative 1 rates slightly better overall because it does not have any negative scores. Therefore, Runway Alternatives 1 and 5 were advanced forward for additional consideration.

5.5.1.5. Evaluation of Final Runway Alternatives

Additional discussion of the two highest ranking runway alternatives is presented below, followed by a final selection of the preferred runway configuration that is advanced to subsequent alternatives development.

Runway Alternative 1 – Retain Existing Configuration

Runway Alternative 1, illustrated in Figure 5-3, details the ultimate proposed runway system and associated safety/protection areas as defined by the FAA and described in Chapter 4. This alternative was selected as one of the final runway alternatives due to its high scoring in FAA design standard compliance, facility requirements, financial feasibility, phasing and construction, and social/stakeholder benefits.

This alternative decreases the width of all runways, except for Runway 18L/36R. No pavement removal is required to reduce the runway widths. Rather, runway edge striping would be relocated. For Runway 9R/27L, the runway edge lights would also need to be relocated. For Runway 18L/36R, additional pavement is required for 25-foot-wide shoulders which may include adjustments of runway edge lights.

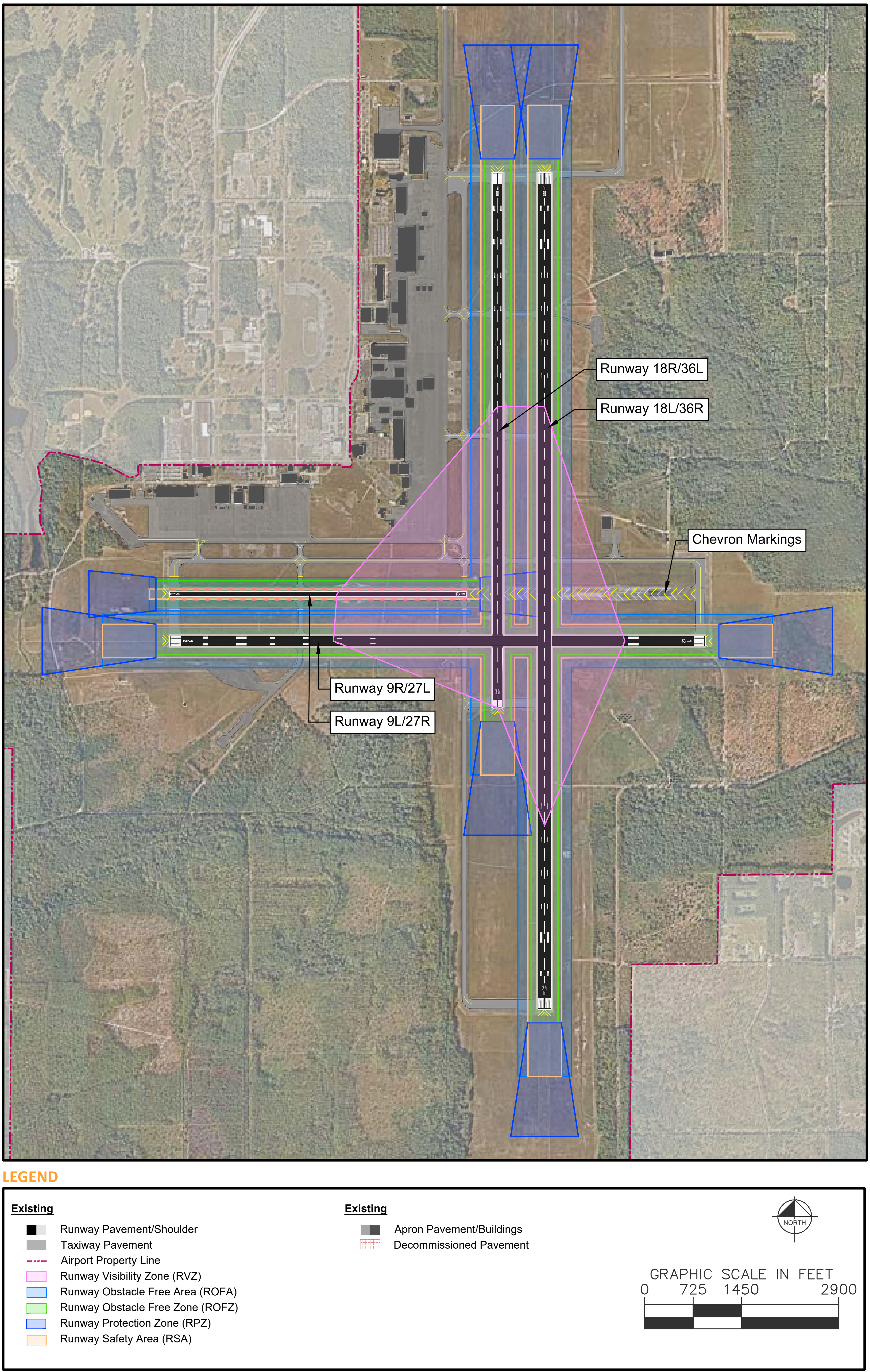
Retaining the existing runway configuration is assumed to have the least operational impacts as it relates to constructability and phasing of the ultimate configuration because it has the least amount of new construction required. Other screening criteria for this runway alternative were scored a neutral rating, as the alternative did not have a definitive positive or negative impact relative to existing conditions or to the other alternatives.

Retaining existing runway pavement areas was noted to be a potential concern for JAA, as the Runway 9L/27R does not provide direct support for most on-airport operations and revenues and there will be ongoing maintenance costs. Additionally, retaining the existing runway configuration impedes future expansion of existing landside areas at the Airport, specifically as it relates to Runway Visibility Zone (RVZ) and other safety areas and setbacks associated with the runway.

Runway Alternative 5 – Decommission Runway 9L/27R

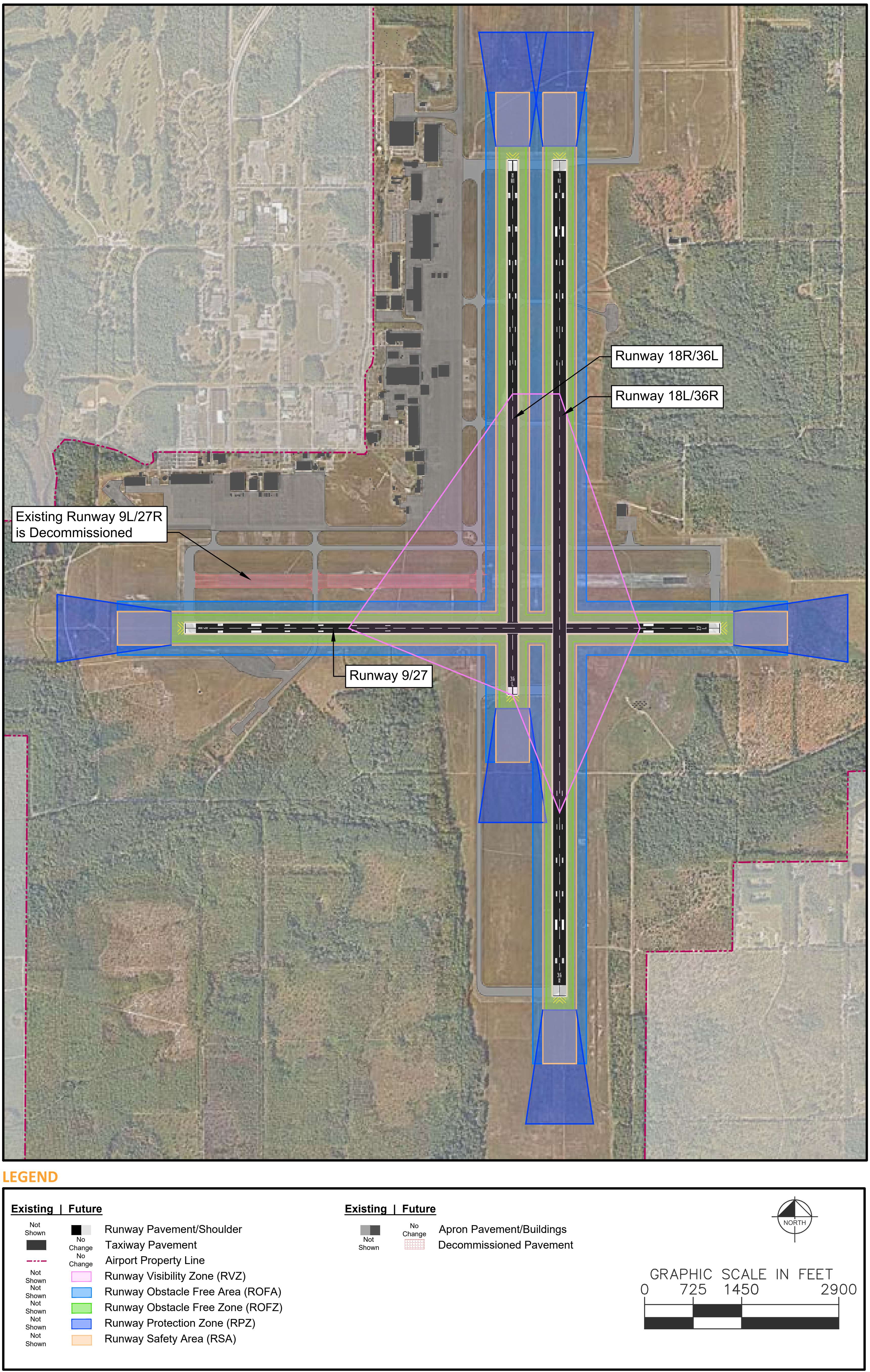
As previously described, Runway Alternative 5 decommissions Runway 9L/27R; a more detailed illustration of this alternative is included as Figure 5-4. Runway Alternative 5 scored high ratings related to the following criteria: FAA design standard compliance, facility requirements, financial feasibility, environmental considerations, and long-term flexibility. Runway Alternative 5 received a negative score for the airspace criterion because in a crosswind configuration air traffic loses the ability to segregate the diverse mix of traffic onto two runways. For fixed-wing aircraft, historically, air traffic only operates in a north/south or east/west flow. While flexibility may exist to operate the east/west and north/south runways concurrently, presently air traffic controllers do not operate the airfield in this manner. Other screening criteria were scored with a neutral rating.

Figure 5-3 – Runway Alternative 1 – Retain Existing Configuration



Notes: Decommissioned pavement areas are future condition, at the end of useful life.
Source: FAA, AC 150/5300-B Airport Design, 2022; Kimley-Horn, 2025.

Figure 5-4 – Runway Alternative 5 – Decommission Runway 9L/27R

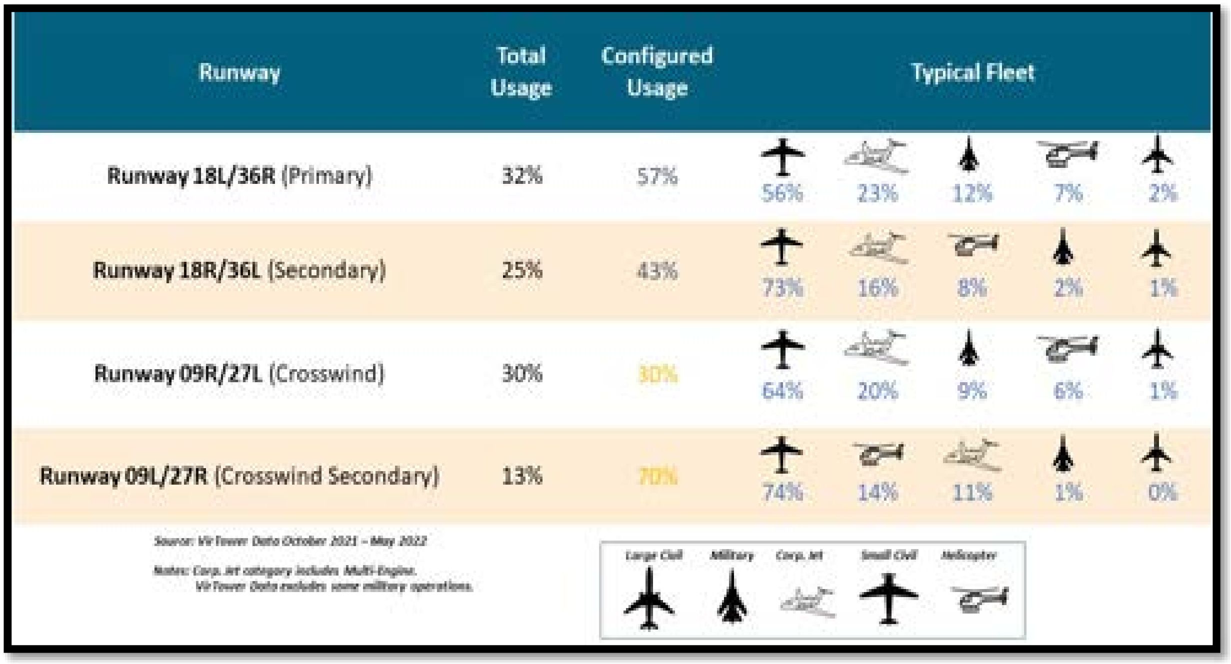


Notes: Decommissioned pavement areas are future condition, at the end of useful life.

Source: FAA, AC 150/5300-B Airport Design, 2022; Kimley-Horn, 2025.

The decision to decommission or close a runway is a significant one. Therefore, additional analysis was performed to understand frequency of operations on Runway 9L/27R and by which types of aircraft. Figure 5-5 summarizes the total percentage of time a particular runway is used and when the operations are in a north/south or east/west flow how much each runway within the pair is used. As seen in Figure 5-5, Runway 9L/27R is only used 13% of the time. When winds favor the east/west runways, Runway 9L/27R is used 70% of the time with most of the operations being by small civil GA aircraft and helicopters (which would include both military and civilian). These data were derived from the VirTower system installed at Cecil. Continued monitoring of runway usage by JAA is recommended.

Figure 5-5 – Runway Use Data by Runway Configuration and Aircraft Type



Runway	Total Usage	Configured Usage	Typical Fleet				
Runway 18L/36R (Primary)	32%	57%	✈ 56%	✈ 23%	✈ 12%	🚁 7%	✈ 2%
Runway 18R/36L (Secondary)	25%	43%	✈ 73%	✈ 16%	🚁 8%	✈ 2%	✈ 1%
Runway 09R/27L (Crosswind)	30%	30%	✈ 64%	✈ 20%	✈ 9%	🚁 6%	✈ 1%
Runway 09L/27R (Crosswind Secondary)	13%	70%	✈ 74%	🚁 14%	✈ 11%	✈ 1%	✈ 0%

Source: VirTower Data October 2021 – May 2022

Notes: Corp. Jet category includes Multi-Engine.
VirTower Data excludes some military operations.

As demonstrated above, Runway 9L/27R is the least used runway at Cecil. This is because as the runway presently exists, it is restricted to small airplanes only and is of insufficient length to accommodate stop-and-go training operations by FSCJ. Therefore, the runway is of limited usefulness. Other runway alternatives explored options to lengthen the runway and while they were well received by the TAC, the costs to enhance the usefulness of the runway seem to outweigh the benefits and revenue potential.

A recent pavement preservation project was completed on Runway 9L/27R which extends the useful pavement life, with ongoing minor maintenance to fill cracks and seal the pavement, through about 2035. Therefore, decommissioning the runway in the short-term would not be in JAA's best interest and decommissioning Runway 9L/27R would only be considered viable in the outer years of the Master Plan.

5.5.1.6. Runway Alternatives Conclusion

Based upon the analysis presented above, feedback from the TAC, PAC, and public, and input from JAA, it was determined that Runway Alternative 1 will serve as the basis of the Master Plan in the short- and medium-term phases, through 2031, and into the long-term phase. Runway Alternative 5 represents the long-term recommendation for the runway system. Within the long-term phase of the Master Plan, Runway 9L/27R pavement is expected to reach the end of its useful life and a significant pavement rehabilitation project would be required. When this occurs, Runway 9L/27R would be decommissioned. Until the pavement rehabilitation is required, JAA is committed to maintaining Runway 9L/27R by filling cracks and sealing the runway pavement, as needed.

Runway Alternative 5 is anticipated to decrease the overall financial commitment of JAA to the runway system while minimally impacting operations at Cecil and allowing for additional landside development. The limitations on the operations at Cecil is anticipated to impact small transient flight training aircraft, which do not provide notable revenues to JAA. Sizing the runway system to meet existing and forecast demand is critical to maintaining a healthy financial balance.

5.5.2. Enhanced Instrument Approach Procedures

It is recommended that a straight-in non-precision approach be established for Runway 18R/36L. This instrument approach would enhance the capacity of the Airport during peak operations and provide a secondary approach procedure for times when Runway 18L/36R is unavailable. Based on conversations with Airport staff, a non-precision approach was previously available for Runway 18R. A straight-in non-precision approach requires either Low or Medium Intensity Runway Lights (LIRL or MIRL, respectively). If runway lights are not present, only a circling approach can be established to the runway. Runway lights may impact military night vision training exercises currently performed on Runway 18R/36L.

Non-precision instrument runway markings are present on the Runway 36L end. Runway 18R features precision instrument runway markings. Each runway end requires aiming point markings. This is required regardless of the instrument approach capability of the runway because the runway is greater than 4,000 feet in length and supports jet aircraft operations. Therefore, no additional runway markings are required for an instrument approach procedure to be established on Runway 18R/36L.

No visual glide slope indicators (e.g., Precision Approach Path Indicators [PAPIs]) are present on Runway 18R/36L. A PAPI is recommended, but not required for a straight-in non-precision approach to be established. Additionally, approach lights are not required; however, if approach lights are present, a further reduction in visibility minimums would be possible. Because of the cost to install and maintain an approach light system, one is not recommended for Runway 18R/36L.

5.5.3. Taxiway System

The taxiway system was assessed based upon the preferred runway alternative. The taxiway system provides navigation between landside facilities and runway system at Cecil. The primary focus of the taxiway alternatives developed for Cecil relate to the following:

- Reduce identified potential runway incursion issues due to taxiway geometry.
- Increase efficiency and usability of the airfield.
- Increase connectivity to future development areas, inclusive of the Spaceport Development Area.
- Leverage new development space associated with decommissioning Runway 9L/27R in the long-term.

The following sections detail the taxiway system alternatives developed for Cecil. All taxiway alternatives assume the following:

- Long-term buildout assumes taxiway edge lighting systems across the airfield.
- All taxiways will be designed and constructed to accommodate a ADG IV, TDG 5 aircraft.
- Existing taxiway fillets will remain, with all future projects ensuring that taxiway fillets meet current FAA design standards at the time of design and construction.
- Taxiway shoulders are recommended alongside future expansion and rehabilitation efforts.

5.5.3.1. Runway Incursion Mitigation

A high-level Runway Incursion Mitigation (RIM) analysis was conducted for Cecil to assess alternatives that mitigate high energy taxiway crossings and direct apron/runway access geometry present at Cecil. During the May 25, 2022, TAC meeting, a brainstorming session was held to assess the best path forward to modify taxiway geometry to reduce the potential of runway incursions.

Modifications are recommended to Taxiways A2 and A3 because they provide direct access from the north apron to Runways 18R/36L and 18L/36R. The portion of Taxiways A2 and A3 between the north apron and Taxiway A are recommended to be relocated 300 feet to the south. Relocation of the taxiways will occur when the taxiway pavement requires rehabilitation.

Taxiway B2 was identified as providing direct apron/runway access and crosses the middle third of Runway 9L/27R. With the decommissioning of Runway 9L/27R, the middle third runway crossing is removed. Decommissioning of the runway also enables expansion of the west apron and the direct apron/runway access can be mitigated with this development. Therefore, no relocation of Taxiway B2 is proposed.

In addition to taxiways, excess apron pavement that historically connected to active taxiways were also assessed for possible safety enhancements. The pavement is properly painted as unusable area; however, it is the FAA’s general preference to remove unused airfield pavement to reduce potential inadvertent access of unusable taxiways. Therefore, it is recommended that the excess pavement areas be removed, reducing the potential for them to generate Foreign Object Debris(FOD).

5.5.3.2. Taxiway System Recommendation Development

The following three taxiway alternatives were developed to enhance the connectivity of the airfield and allow for potential future aeronautical development areas to have airfield access. Each taxiway alternative scenario presented below includes both taxiway RIM projects identified in the previous section. Because the runway system evolves over time, these taxiway alternatives are described by phase and subsequent phases build upon the preceding alternative.

Taxiway Recommendations – Short-/Medium-Term

Taxiway recommendations for the short-/medium-term are depicted within Figure 5-6 and represent a baseline for the taxiway system enhancements. In addition to correcting the RIM issues, an additional extension of Taxilane D to the north is needed to support potential landside development. To support future aeronautical development to the northeast, existing Taxiway E1 is recommended to be extended eastward. The existing hot cargo pad and engine runup area requires rehabilitation. Anchors should also be installed to enable high-power runups by large aircraft. This area will also support the static rocket-engine testing and additional anchors should be provided to secure the test stand and rockets.

Further supporting the initial development of the Spaceport, a taxiway and small apron area are proposed for oxidizer loading. This new apron is located west of, and connecting, to Taxiway A and south of Runway 9R/27L. The location was selected by the Spaceport Development Plan (SDP) to allow for oxidizer loading without impacting runway operations. Presently, oxidizer loading occurs on Taxiway B1, and setback distances include the existing Spaceport hangar and offices and closes both east/west runways.

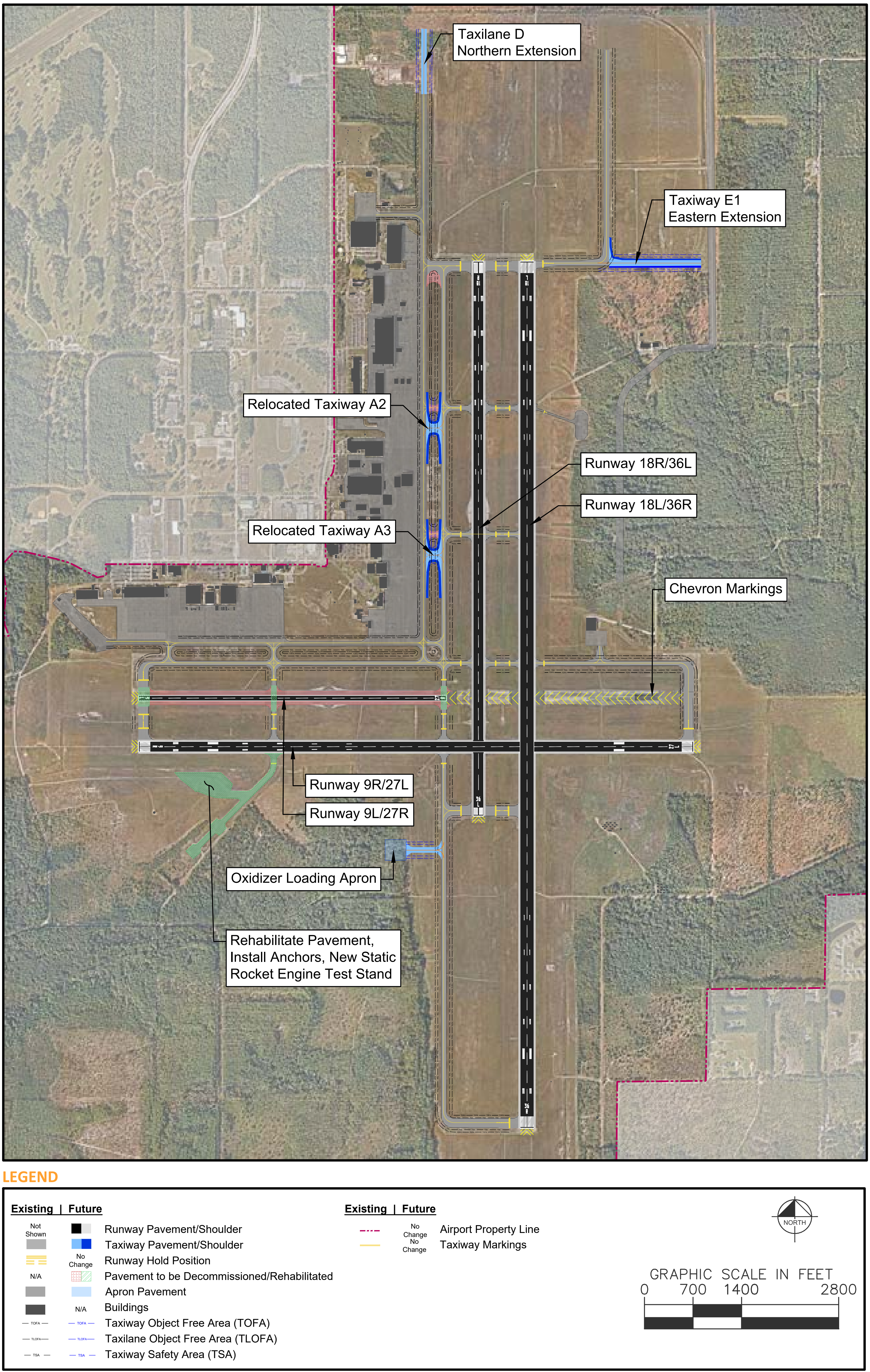
Taxiway Recommendations – Medium-/Long-Term

Figure 5-7 builds off the above recommendations. Construction of a new partial parallel taxiway designated as Taxiway F, east of Runway 18L/36R, is proposed. Taxiway F would initially be approximately 2,500 feet long spanning from Taxiway E1 on the north to the existing high power run-up pad. This taxiway would provide connection between Runway 18L/36R, Taxilane E1, and the high power run-up pad. Taxiway F is important to maintaining operational efficiency at Cecil, as without an eastern parallel taxiway, aircraft accessing the northeastern development would have frequent crossings of both north/south runways. Taxiway F may impact the existing high-power runup area, which is recommended to be displaced eastward to avoid Taxiway F’s Taxiway Object Free Area (TOFA) dependent on design.

Taxiway Recommendations – Long-Term/Ultimate Planning Horizon

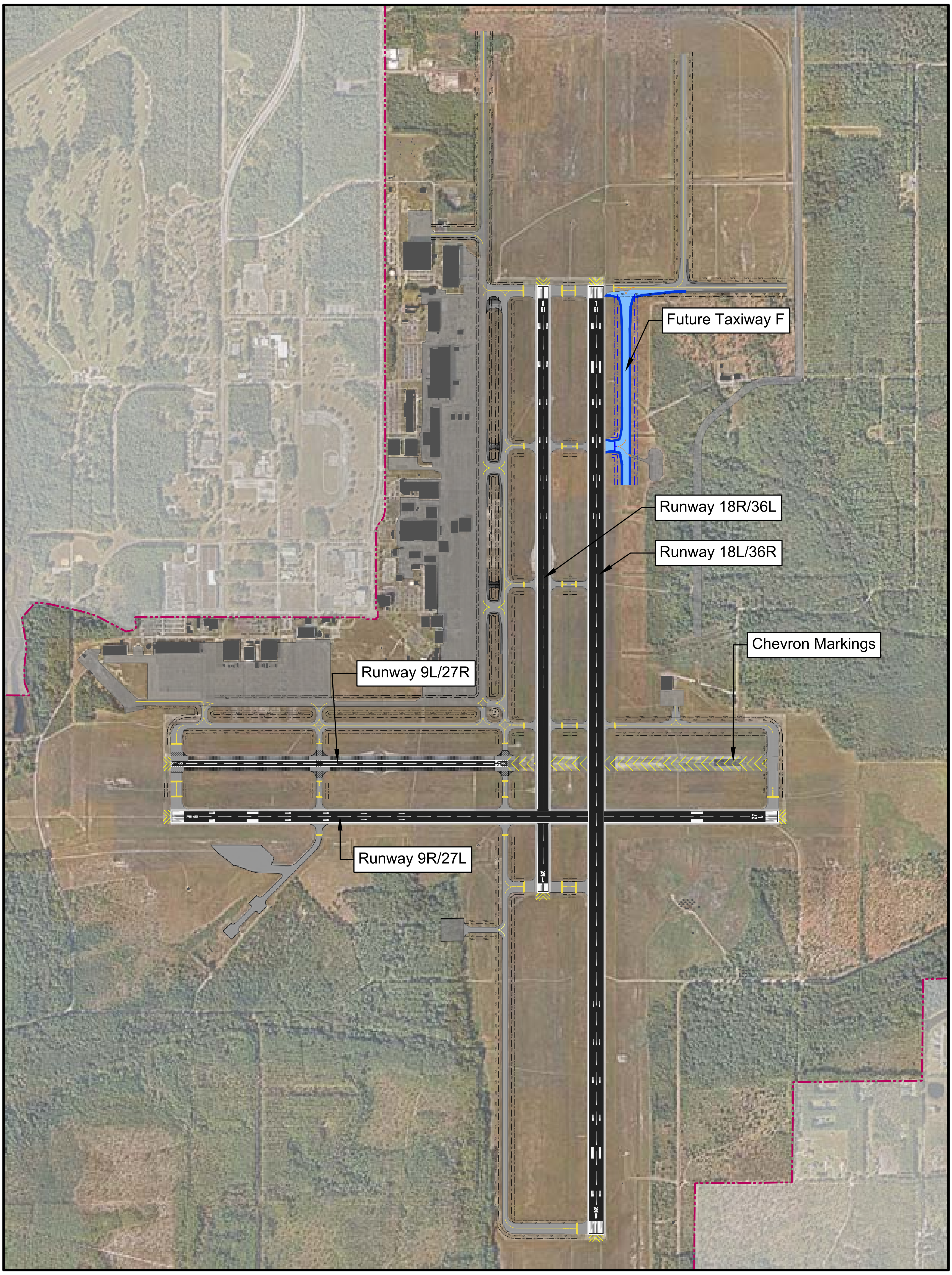
The ultimate configuration of the taxiways recognizes the decommissioning of Runway 9L/27R and further expands on the above recommendations (see Figure 5-8). Taxiway F would be extended to meet Taxiway B. Taxiway E1 is proposed to extend eastward to connect future development areas to airside facilities. This extension requires gates to be installed on each side of Approach Road to prevent auto-traffic from entering the taxiway. The decommissioned runway is proposed to be converted to a parallel taxiway extending from Taxiway B3 to Taxiway A. This new taxiway will be referred to as relocated Taxiway B. A secondary parallel taxiway is proposed between the runway converted to a taxiway and Runway 9R/27L. The taxiway centerline to runway centerline separation of the secondary parallel taxiway is 400 feet. The dual parallel taxiway system will provide enhanced airfield maneuverability around the western airfield. The existing portion of Taxiway B between Taxiway A and Taxiway B3 would be closed to accommodate potential expansion of the west apron and associated landside development. Future southern expansion of the west apron should not provide direct access to Runway 9R/27L; therefore, future apron to taxiway connectors should be offset from Taxiway B2.

Figure 5-6 – Short-/Medium-Term Taxiway Recommendations



Source: FAA, AC 150/5300-13B Airport Design, 2022; Kimley-Horn, 2025.

Figure 5-7 – Medium/Long-Term Taxiway Recommendations



LEGEND

Existing	Future	
Not Shown	■	Runway Pavement/Shoulder
■	■	Taxiway Pavement/Shoulder
☰	☰	Runway Hold Position
N/A	▨	Pavement to be Decommissioned/Rehabilitated
■	■	Apron Pavement
■	N/A	Buildings
— TOFA —	— TOFA —	Taxiway Object Free Area (TOFA)
— TLOFA—	— TLOFA—	Taxilane Object Free Area (TLOFA)
— TSA —	— TSA —	Taxiway Safety Area (TSA)

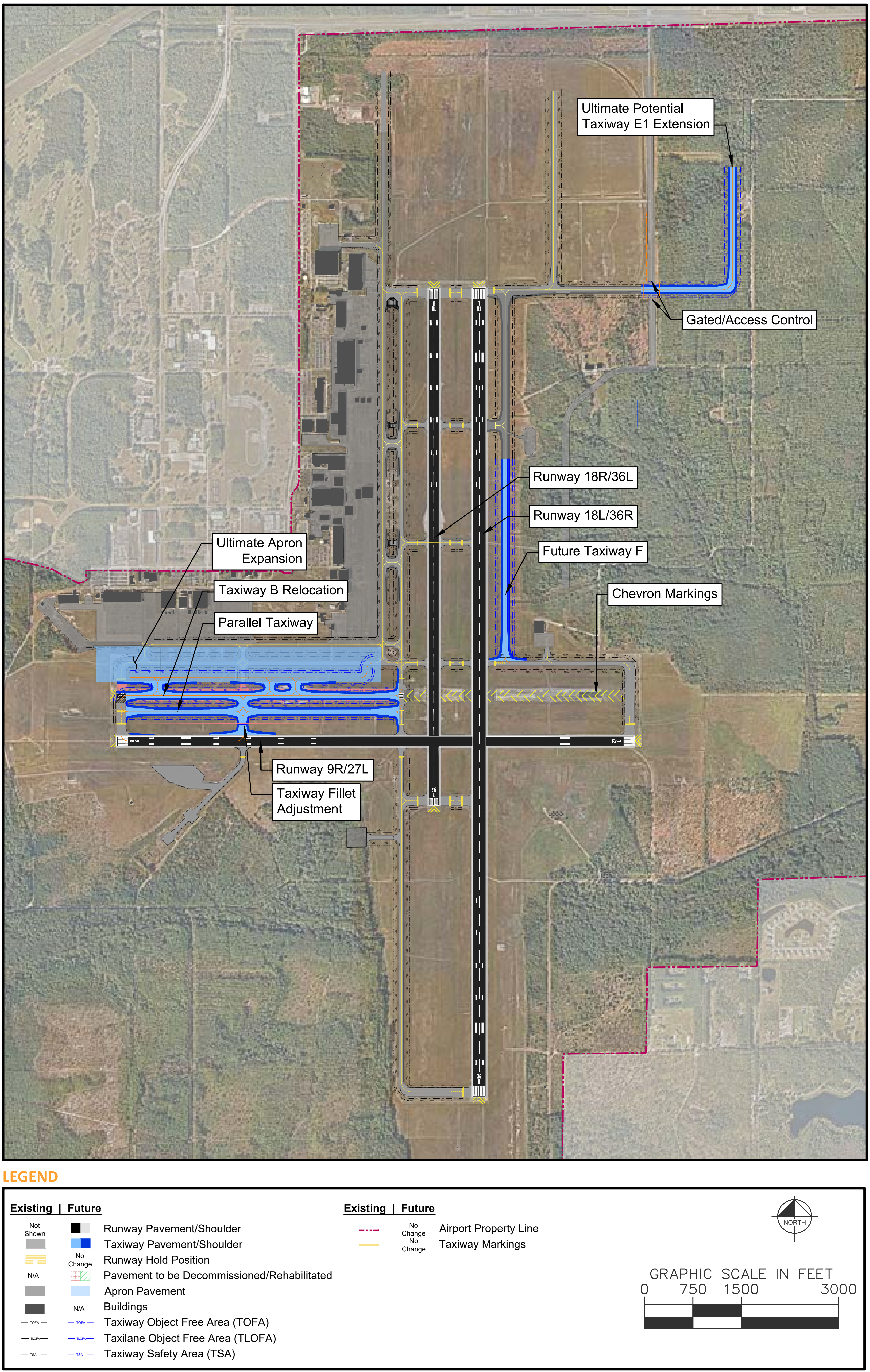
Existing	Future	
-·-·-	No Change	Airport Property Line
—	—	Taxiway Markings

NORTH

GRAPHIC SCALE IN FEET
0 700 1400 2800

Notes: Taxiway improvements shown on Figure 5-6 are depicted as existing conditions within this exhibit.
Source: FAA, AC 150-5300-13B Airport Design, 2022; Kimley-Horn, 2025.

Figure 5-8 – Long-Term/Ultimate Taxiway Recommendations



Notes: Taxiway improvements shown on Figure 5-6 and Figure 5-7 are depicted as existing conditions within this exhibit. Northeastern taxiway extension crosses Approach Road. Gated access control systems are required.
Source: FAA, AC 150/5300-13B Airport Design, 2022; Kimley-Horn, 2025

5.5.3.3. Taxiway Recommendations Summary

The above recommendations were presented to the JAA, TAC, and PAC for feedback. Feedback indicated that a full parallel taxiway east of Runway 18L/36R was not supported by anticipated operations. Therefore, only a partial parallel taxiway from Taxiway B to Taxiway E is recommended. Additionally, provisions for Taxiway E1 to extend east of Approach Road were discussed and will be included in subsequent phases of this Master Plan.

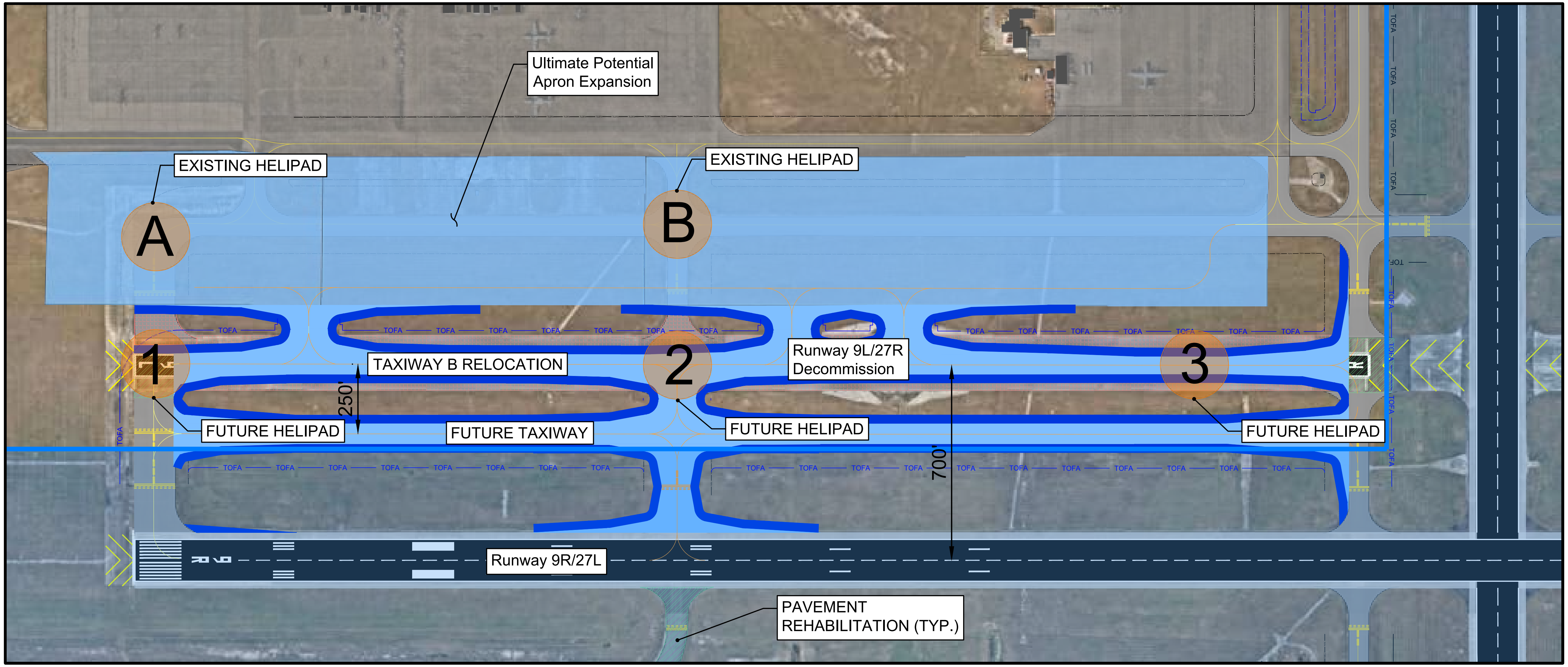
5.5.4. Helipads

Cecil has two existing helipads designated as H1 and H2. H1 is located on Taxiway B3 and H2 is located on Taxiway B2, just south of Taxiway B. These helipads are 70 feet by 70 feet and meet FAA design standards. Due to the proximity of the helipads relative to Runway 9L/27R (350-foot separation from runway centerline), there cannot be simultaneous operations on the runway and the helipads. For this reason, along with the frequency of helicopter training activities, helicopter traffic is often routed to Runway 9L/27R for operations according to the ATC manager. The existing configuration meets forecast demand; however, Runway 9L/27R will be decommissioned in the long-term which will likely impact helicopter operations.

When Runway 9L/27R is decommissioned and concurrent with development of the new dual parallel taxiway system in its place, it is proposed to relocate the two helipads to relocated Taxiway B and add a third helipad (see Figure 5-9). Relocated Taxiway B will be separated by 700 feet from runway centerline to taxiway centerline and will therefore allow for simultaneous runway/helipad operations. Each helipad should be 70 feet by 70 feet (see Figure 5-9).

During the third TAC meeting on May 25, 2022, the ATC manager opined that three helipads are not needed on the basis that the existing two helipads are not fully utilized. This is likely due to the extensive helicopter activity on Runway 9L/27R. Based on the presumed operational impact from losing the secondary crosswind, and to increase operational flexibility by reducing the need to accommodate all east/west flow helicopter traffic on Runway 9R/27L, three helipads are provided. Alternatively, an elongated Touchdown and Liftoff Area (TLOF) could be provided on relocated Taxiway B, which would increase the number of helicopters that can be in the pattern. The consolidated long-term airfield alternative is depicted in Figure 5-10**.**

Figure 5-9 – Existing and Ultimate Helipad Configurations



LEGEND

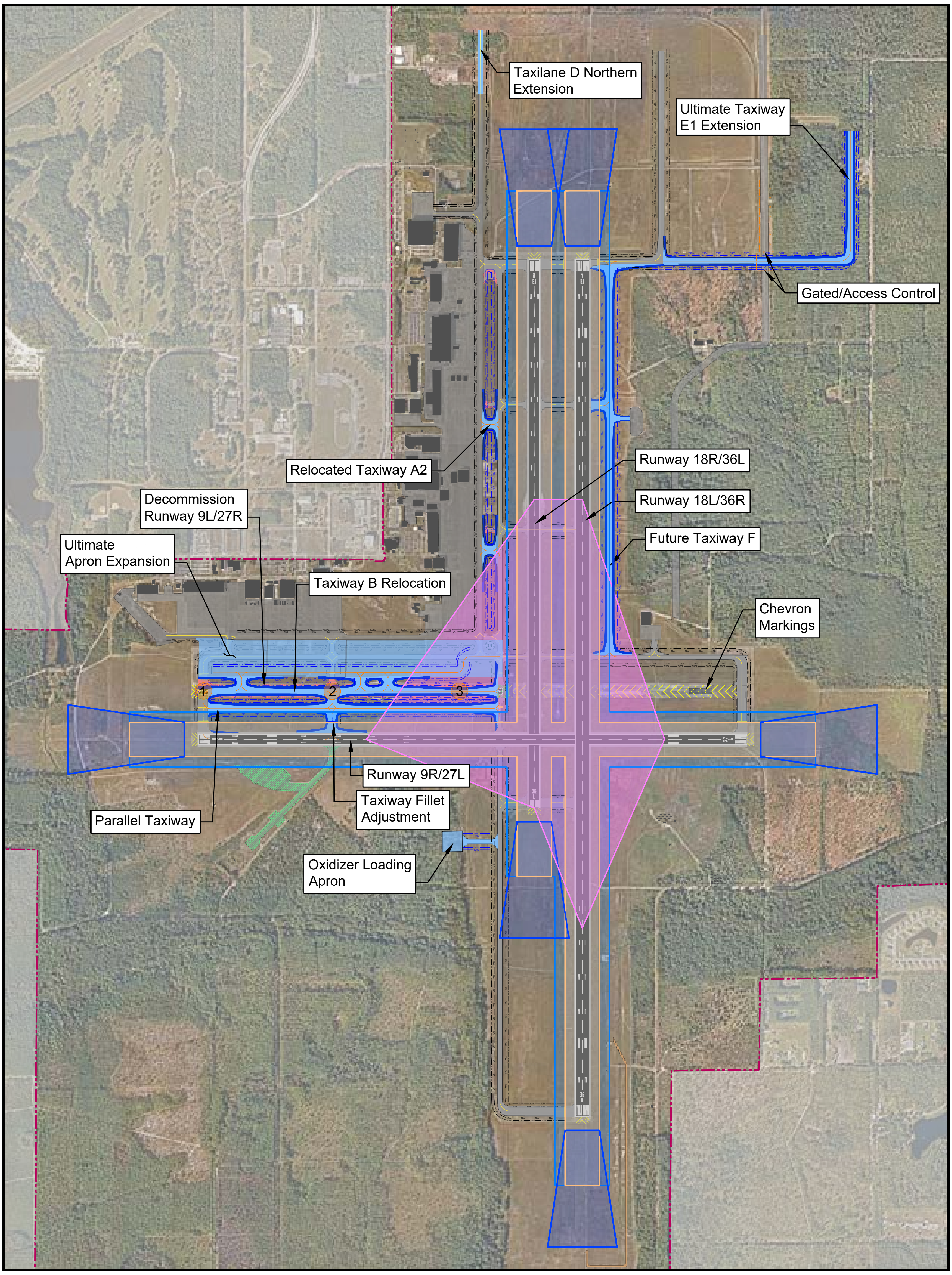
Existing	Future	
▆	▆	Taxiway Pavement/Shoulder
▆	▆	Apron Pavement
Ⓐ	①	Helipad Location
— TOFA —	— TOFA —	Taxiway Object Free Area (TOFA)
Not Shown	▨	Pavement Removal
—	—	Taxiway Markings
Not Shown	▭	Runway Object Free Area (ROFA)

NORTH

GRAPHIC SCALE IN FEET
0 200 400 800

Note: Helipads are defined as a dedicated area for takeoff and landing operations at Cecil; Existing Helipad locations are to be decommissioned and relocated, as depicted within the figure above.
Source: FAA, AC 150/5390-2D, 2023; FAA, AC 150/5300-13B Airport Design, 2022; Kimley-Horn, 2025.

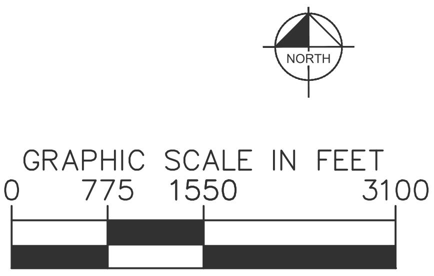
Figure 5-10 – Consolidated Airfield Alternative



LEGEND

Existing	Future	
Not Shown	■□	Runway Pavement/Shoulder
■	■■	Taxiway Pavement/Shoulder
☰	☰	Runway Hold Position
N/A	▨▨	Pavement to be Decommissioned/Rehabilitated
■	■	Apron Pavement
■	N/A	Buildings
— TOFA —	— TOFA —	Taxiway Object Free Area (TOFA)
— TLOFA—	— TLOFA—	Taxilane Object Free Area (TLOFA)
— TSA —	— TSA —	Taxiway Safety Area (TSA)

Existing	Future	
-·-·-	No Change	Airport Property Line
—	—	Taxiway Markings
Not Shown	—x—	Gate/Fencing
Not Shown	□	Runway Safety Area (RSA)
Not Shown	□	Runway Object Free Area (ROFA)
Not Shown	□	Runway Protection Zone (RPZ)
Not Shown	□	Runway Visibility Zone (RVZ)
Not Shown	●	Helipad/Helicopter Area



Notes: This exhibit includes all taxiway recommendations; Runway Alternative 5 is shown as the ultimate runway configuration; The ultimate condition for helicopter locations are shown; Runway and taxiway decommissioning will occur at the end of pavement useful life.
Source: FAA, AC 150/5300-13B Airport Design, 2022; Kimley-Horn, 2025.

5.6. Spaceport Alternatives

The following subsections detail analyses and conclusions within the 2021 SDP. There have been no notable industry changes nor legislative changes since the SDP; therefore, it is assumed that the recommendations within the SDP represent the most accurate information for this Master Plan.

5.6.1. Spaceport Alternative 1

Spaceport Alternative 1 focuses on large-scale landside infrastructure and roadway development throughout the Spaceport Development Area (see Figure 5-11). Landside development was primarily based on Boeing 747-8 specifications that would allow larger aerospace support aircraft to operate at Cecil Spaceport. As part of the large-scale landside improvements shown, a taxiway addition along with large aprons and hangars were included within this alternative that would have the capability to support and house larger aircraft or many smaller aircraft on the field.

The current Spaceport apron has been extended to the east to become one large common-use apron with two support hangars on the north edge as well as a payload processing facility to be used by aerospace tenants. Additionally, three large buildings were included as landside infrastructure to be used as leased space for aerospace tenant offices and support areas. Roadway infrastructure that connects to Approach Road from the north was included in this alternative to provide access routes that run east and west within the Spaceport Development Area. Roadway routing provides minimal impact to the floodway that separates the east and west regions of the Spaceport Development Area. East side development consists of 110 acres of land that will be used for future development to provide space for tenants to build custom manufacturing and support infrastructure at Cecil Spaceport. Basic site preparation was included in plans for east side development that include clearing, grubbing, and the identification of utility connections.

Spaceport Alternative 1 features the following pros and cons:

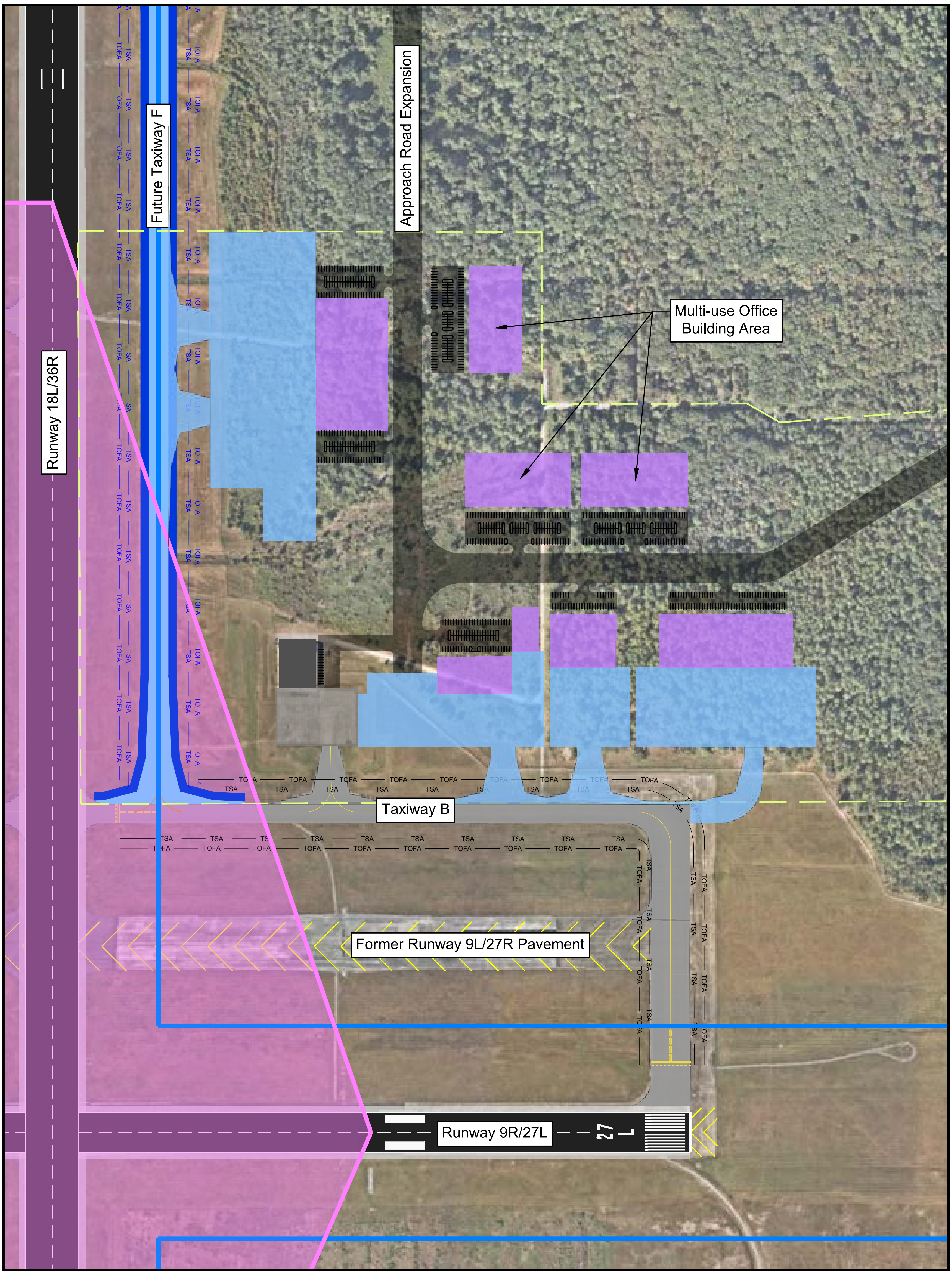
Pros:

- Roadway design minimizes impacts to existing floodway.
- Provides infrastructure for large aerospace vehicles up to the Boeing 747-8.
- East side provides area for custom infrastructure with backbone utility connections present.
- Space for multiple tenants and support operations.

Cons:

- Large aircraft are constrained to operate on the west side of development area.
- Restricts future development on the west side of the development area.
- This alternative does not include a terminal facility/public viewing area.

Figure 5-11 – Spaceport Alternative 1



LEGEND

Existing	Future	
▨	■	Taxiway Pavement/Shoulder
▨	■	Apron Pavement
■	■	Buildings
— TOFA —	— TOFA —	Taxiway Object Free Area (TOFA)
- -	No Change	Spaceport Development Boundary
—	—	Taxiway Markings
Not Shown	☐	Runway Object Free Area (ROFA)
Not Shown	☐	Runway Visibility Area (RVZ)

NORTH

GRAPHIC SCALE IN FEET
0 200 400 800

Notes: Future buildings located near future apron areas are proposed hangar spaces, unless noted otherwise.
Source: FAA, AC 150-5300-13B Airport Design, 2022; Kimley-Horn, 2025.

5.6.2. Spaceport Alternative 2

Figure 5-12 illustrates Spaceport Alternative 2, which is a variation that continues to focus on large-scale infrastructure development to support Boeing 747-8 or similar operations. A taxiway addition along with additional large aprons and hangars were also included in this alternative. Spaceport Alternative 2 includes larger hangers as part of west side development as well as an additional support building for landside infrastructure. The current Spaceport apron has been extended and an additional hangar for a total of three have been planned along the north edge as part of this alternative. A variation of internal access routes were included in this alternative. East side development stays the same to include 110 acres of basic infrastructure for future development.

Spaceport Alternative 2 features the following pros and cons:

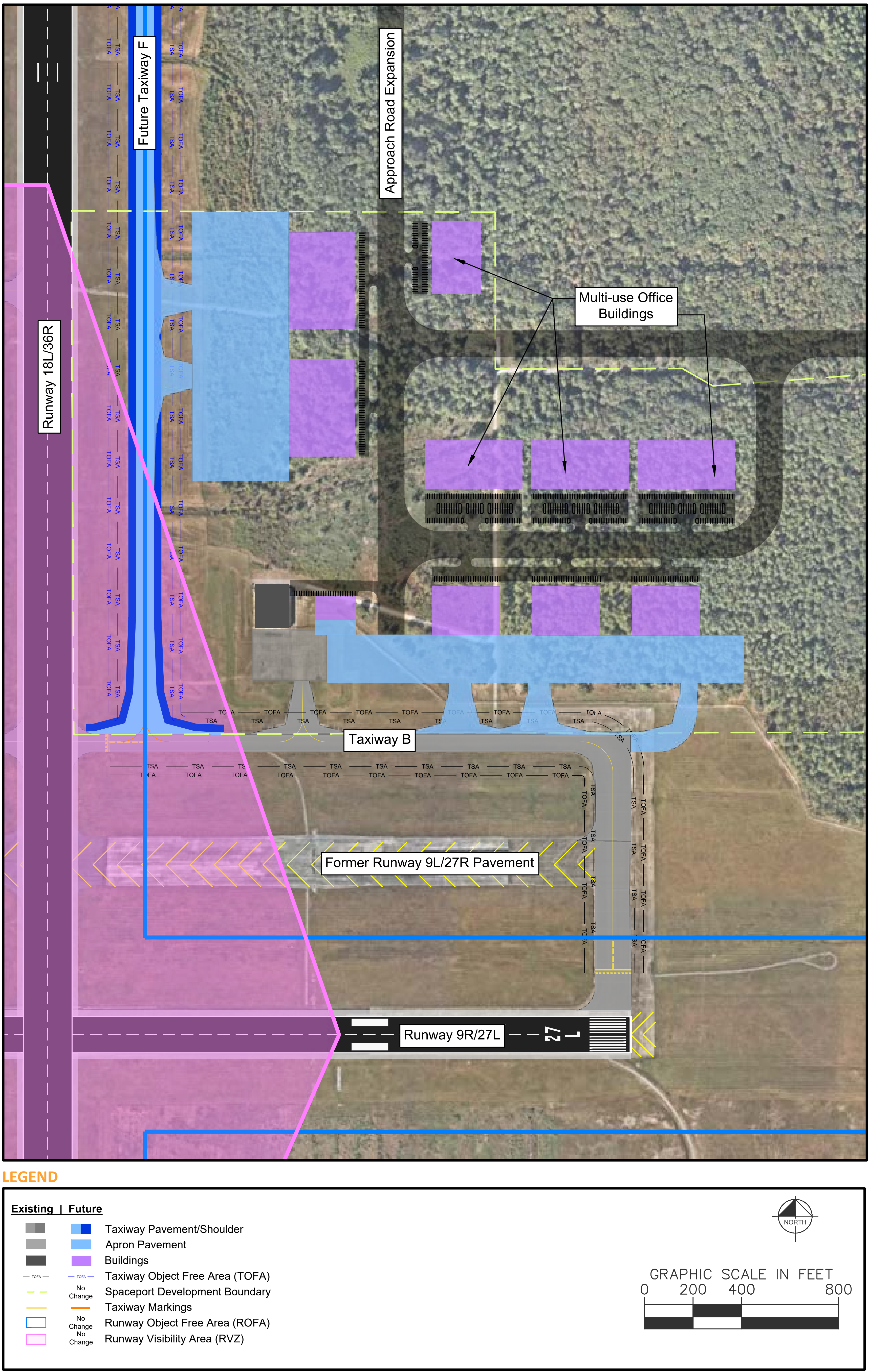
Pros:

- Provides infrastructure for large aerospace vehicles up to the Boeing 747-8.
- East side provides area for custom infrastructure with general backbone connections present.
- Space for multiple tenants and support operations.
- Provides a large common-use apron for efficient use of space.

Cons:

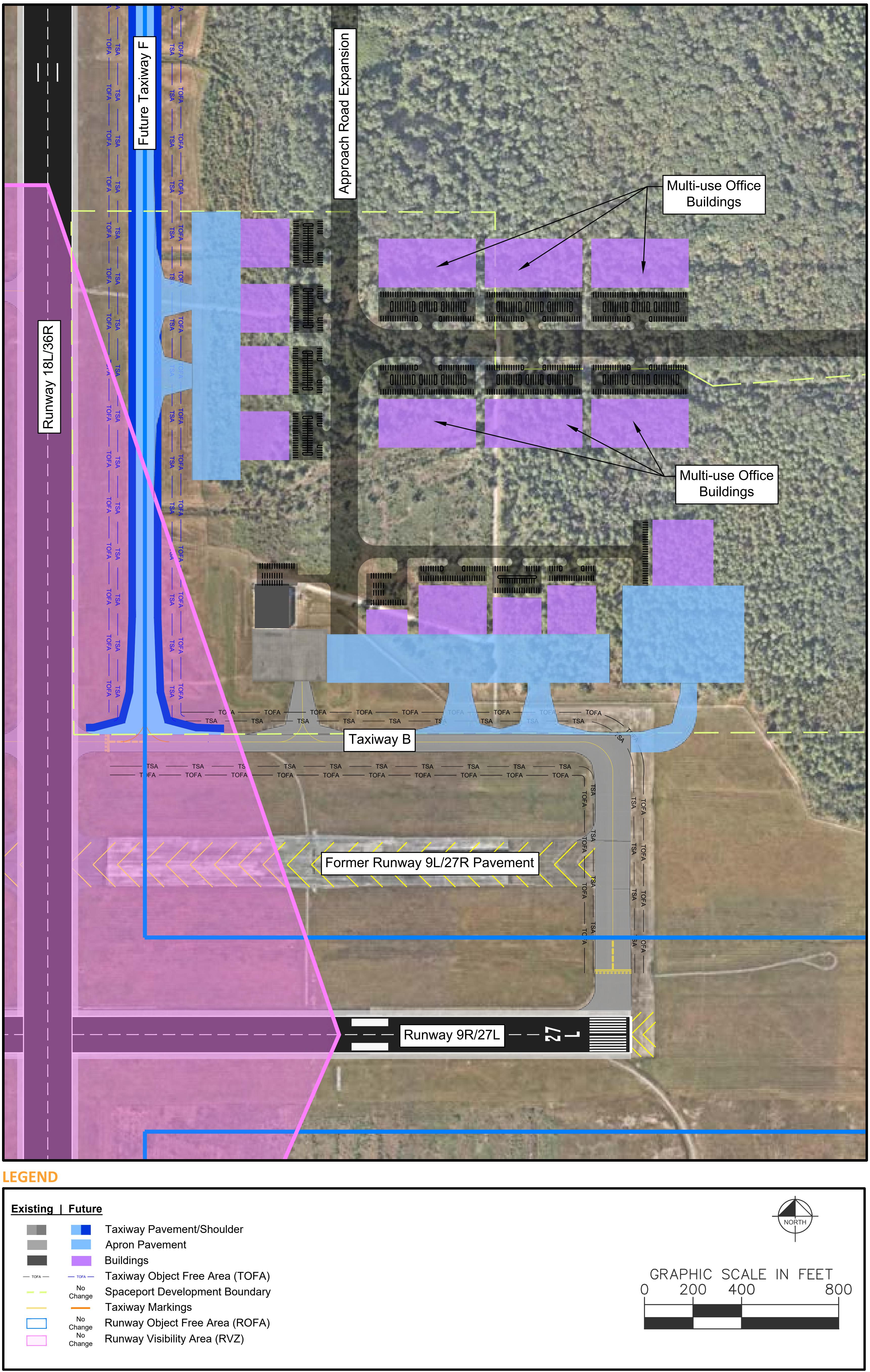
- Large aircraft are constrained to operate on the west side of development area.
- Restricts future development on the west side of the development area.
- This alternative does not include a terminal facility/public viewing area.
- Roadway design impacts existing floodway creating higher cost for mitigation.
- Common-use apron does not provide clear delineation of tenant spaces.

Figure 5-12 – Spaceport Alternative 2



Note: Future buildings located near future apron areas are proposed hangar spaces, unless noted otherwise.
Source: FAA, AC 150/5300-13B Airport Design, 2022; Kimley-Horn, 2025.

Figure 5-13 – Spaceport Alternative 3



Note: Future buildings located near future apron areas are proposed hangar spaces, unless noted otherwise.
Source: FAA, AC 150/5300-13B Airport Design, 2022; Kimley-Horn, 2025.

5.6.3. Spaceport Alternative 3

Spaceport Alternative 3 (see Figure 5-13) was designed around a variation in roadway, landside, and airside infrastructure configurations previously defined. This alternative shows a scaled-down depiction of development to the west with four smaller hangars on a smaller apron. The taxiway addition was still included in this alternative. The current Spaceport apron has still been extended but includes three hangars that vary in size. An additional apron east of the Spaceport apron extension capable of supporting larger aircraft was included. Landside infrastructure consists of six larger support buildings for aerospace tenant use with roadway infrastructure like Spaceport Alternative 2. East side development stays the same to include 110 acres of basic infrastructure for future development.

Spaceport Alternative 3 features the following pros and cons:

Pros:

- Provides infrastructure for large aerospace vehicles on multiple aprons.
- East side provides area for custom infrastructure with backbone utility connections present.
- Space for multiple tenants and support operations.
- Provides two large common-use aprons for efficient use of space.

Cons:

- Restricts future airside development on the west side of the development area.
- This alternative does not include a terminal facility/public viewing area.
- Roadway design and landside infrastructure is outside the development boundary and impacts existing floodway creating higher mitigation cost.
- Common-use apron does not provide clear delineation of tenant spaces.
- Roadway design only provides a single access route to the east side of the development area.

5.6.4. Spaceport Alternative 4

Spaceport Alternative 4 is the preferred alternative and is an integration of preferred elements from the other three Spaceport Alternatives (see Figure 5-14). Site improvements in this alternative include west side development like what is depicted in Spaceport Alternative 3 with a taxiway addition and a scaled-down apron and three-hangar configuration. The current Spaceport apron has been extended and includes two smaller hangars on the north edge and a payload processing facility like what is shown in Spaceport Alternative 1. East of the current spaceport apron are two additional aprons with single hangars adjacent to them on the north side. These large hangars can support large aerospace aircraft and operations. Roadway infrastructure is from Spaceport Alternative 2, as the roadway will still connect the east side and west side development with minimal impact to the floodway. East side development stays the same to include 110 acres of basic infrastructure for future development that provides ultimate customization to prospective aerospace tenants looking to build a range of facilities.

Spaceport Alternative 4, the preferred Spaceport alternative, features the following pros and cons:

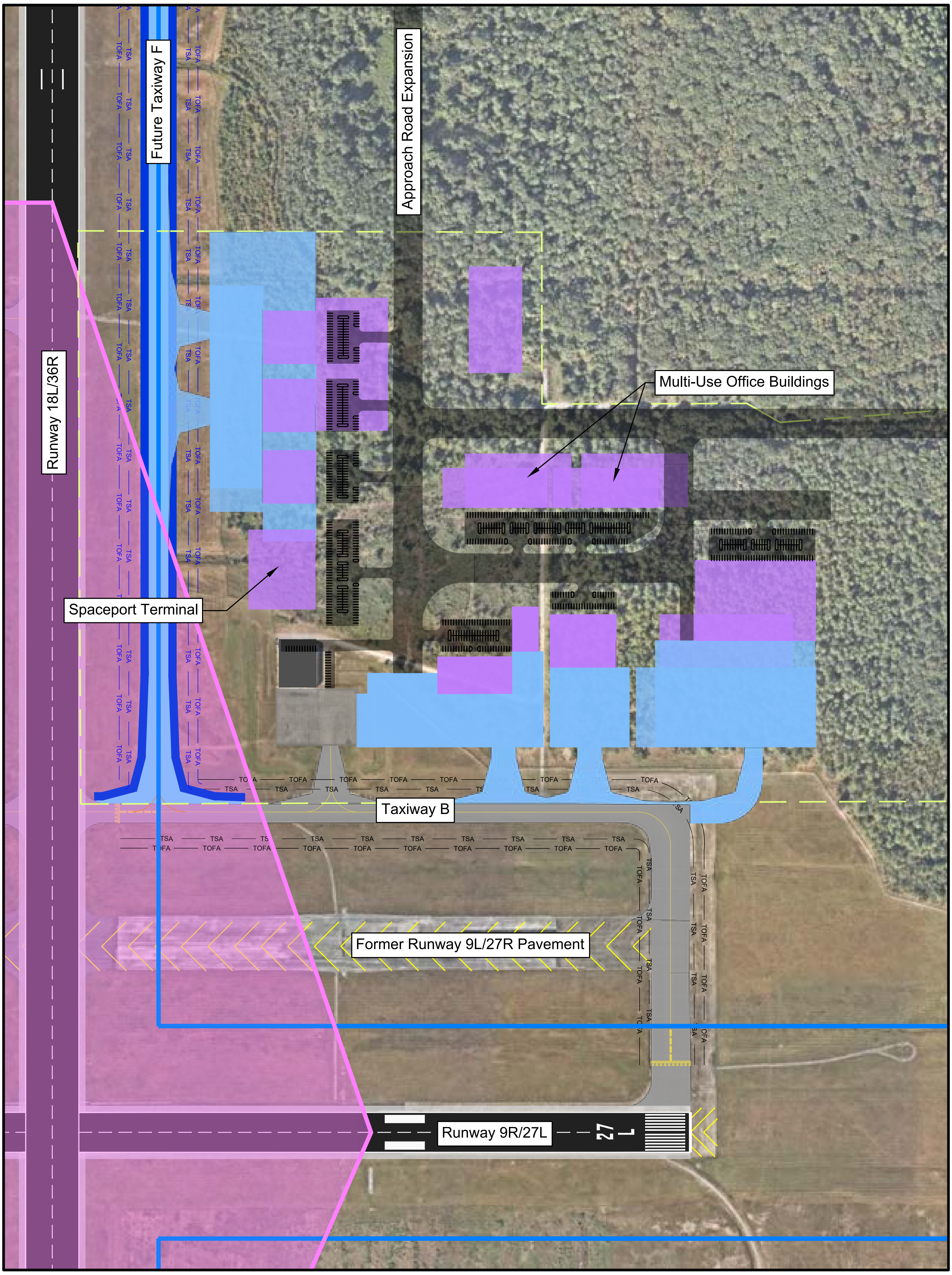
Pros:

- Provides infrastructure for extra-large aerospace vehicles up to the Stratolaunch ROC aircraft.
- East side provides area for custom infrastructure with backbone utility connections present.
- Space for multiple tenants and support operations.
- Provides a large common-use apron for efficient use of space.
- Roadway design minimizes impacts to existing floodway.
- Loop road provides easy access to east/west roadway from southern hangars.
- Includes a terminal facility.
- Variety of sizes for aprons and hangars to suit the needs of a variety of tenants.

Cons:

- Restricts future airside development on the west portion of the development area.
- Common-use apron does not provide clear delineation of tenant spaces.

Figure 5-14 – Spaceport Alternative 4



LEGEND

Existing	**Future**	
▨	▨	Taxiway Pavement/Shoulder
▨	▨	Apron Pavement
■	■	Buildings
— TOFA —	— TOFA —	Taxiway Object Free Area (TOFA)
– –	No Change	Spaceport Development Boundary
—	—	Taxiway Markings
☐	No Change	Runway Object Free Area (ROFA)
☐	No Change	Runway Visibility Area (RVZ)

NORTH

GRAPHIC SCALE IN FEET
0 200 400 800

Note: Future buildings located near future apron areas are proposed hangar spaces, unless noted otherwise.
Source: FAA, AC 150/5300-13B Airport Design, 2022; Kimley-Horn, 2025.

5.7. Landside and Ground Access Alternatives

Once the recommended airfield and Spaceport preferred alternatives were established, three distinct landside alternatives were developed for Cecil. These alternatives were scored utilizing the same screening criteria defined in Section 5.3. Input from the JAA and TAC were also incorporated.

Due to the unique development opportunities and MRO focus of Cecil, alternatives presented below utilize a “land use planning” methodology, in which each alternative seeks to meet future demand by defining land use blocks. These blocks attempt to meet all requirements related to aircraft parking, administration and supportive spaces, and automobile parking for each “land use” category. This methodology does not seek to outline or predict future facility layouts or parking configurations because most uses will be highly tailored to individual tenants as Cecil continues to develop.

5.7.1. Landside Alternative Assumptions

Assumptions for the landside alternatives are listed below:

- Roadway connectivity and proposed development areas documented within the Cecil Non-Aeronautical Plan Master Plan were viewed as soft constraints.
- Environmental areas (defined as either a floodway, wetland, or hazardous material area) are to be avoided to the extent possible, with floodways and prime wetlands being a hard constraint.
- Approach Road, which is in design, is a hard constraint.
- Each tenant’s new development would perform a roadway/traffic study to ensure there are no adverse traffic impacts from any new construction.
- High-power runup ramp will be relocated to the southwest apron.

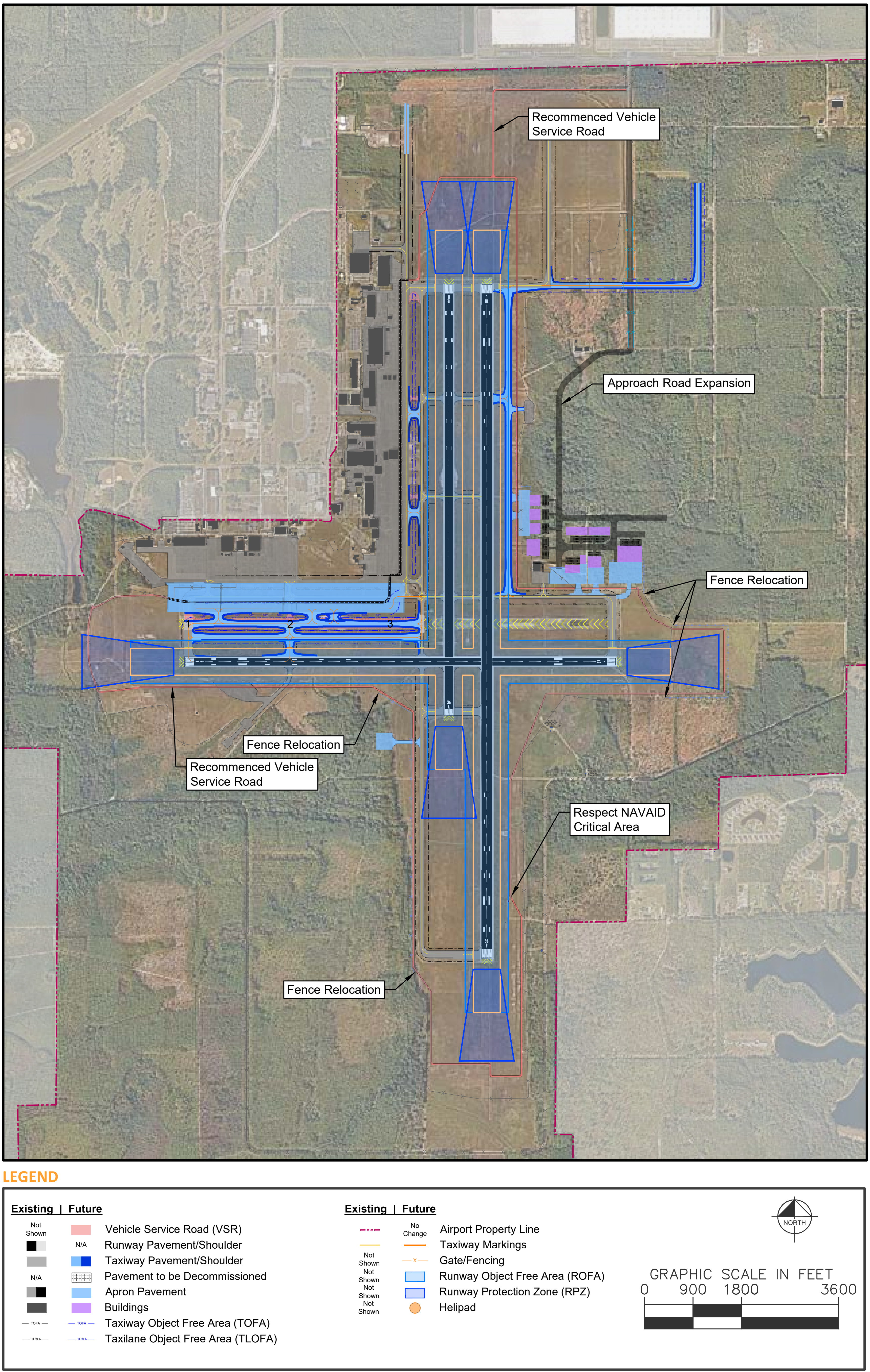
5.7.2. Vehicle Service Road Enhancements

Throughout the creation of this Master Plan and during stakeholder outreach and on-site interviews, the concern for the lack of airside connectivity, primarily to/from the northwest and northeast quadrants was frequently voiced. It was determined that the Airport and Spaceport required an enhanced vehicle service road (VSR) to support any future landside development.

The proposed VSR connects the main apron areas to one another allowing for fuel trucks, airport maintenance equipment, and other support vehicles to safely traverse around the facility within the secured area. The VSR is to be clear of runway and taxiway/taxilane obstacle free areas, thus avoiding disruption of movement area operations at the Airport. The VSR is proposed to be a two-way, 30-foot-width paved roadway. The proposed VSR network is shown in Figure 5-15. Primary landside connections for the VSR are the following:

- Connect the north apron to the northeast development area.
- Connect the north and northeast apron to the high-power engine runup apron.
- Connect the Spaceport area to the north and northeast apron.
- Connect the southwest engine runup apron and future oxidizer loading area to the existing roadways (this requires ensuring that existing roadways can support occasional large semi-truck traffic).
- Connect future Spaceport landside infrastructure and the proposed oxidizer loading area.

Figure 5-15 – Proposed Vehicle Service Road Network



Source: FAA, AC 150/5300-13B Airport Design, 2022; Kimley-Horn, 2025.

5.7.3. Potential Aircraft Rescue Fire Fighting Facility Relocation

During the stakeholder engagement throughout this study and during discussion of alternatives for future development, it was a proposed that the Aircraft Rescue and Fire Fighting (ARFF) facility be relocated to allow for additional transient/based aircraft area. A very preliminary and high-level analysis was undertaken in this Master Plan. Prior to any relocation of the ARFF facility detailed analysis, potentially including modeling, of response routes and times is required.

Sizing of a new ARFF facility should retain existing shop and apron space and accommodate future expansion compatibility. The ARFF facility location should ensure the following:

- Immediate and unimpeded access to the airfield.
- Response time is maximized for all areas of the airfield.
- Maximize vision of the total airfield.

Response times and other ARFF facility location siting criteria are guided by FAA Advisory Circular (AC) 150/5210-15A. Ensuring compliance with the AC is essential to preserving life and property in case of an aeronautical emergency at Cecil. Factoring in all criteria for a new ARFF facility, three alternative locations were identified. Location 1, near the existing Spaceport fabric hangar, was determined to be the only potentially feasible location because it provides:

- Shortest response time to various areas of the airfield.
- Visual sight line for most of the airfield.
- Immediate and unimpeded access to the airfield.

This location would require the following adjustments to the preferred Spaceport Alternative identified above:

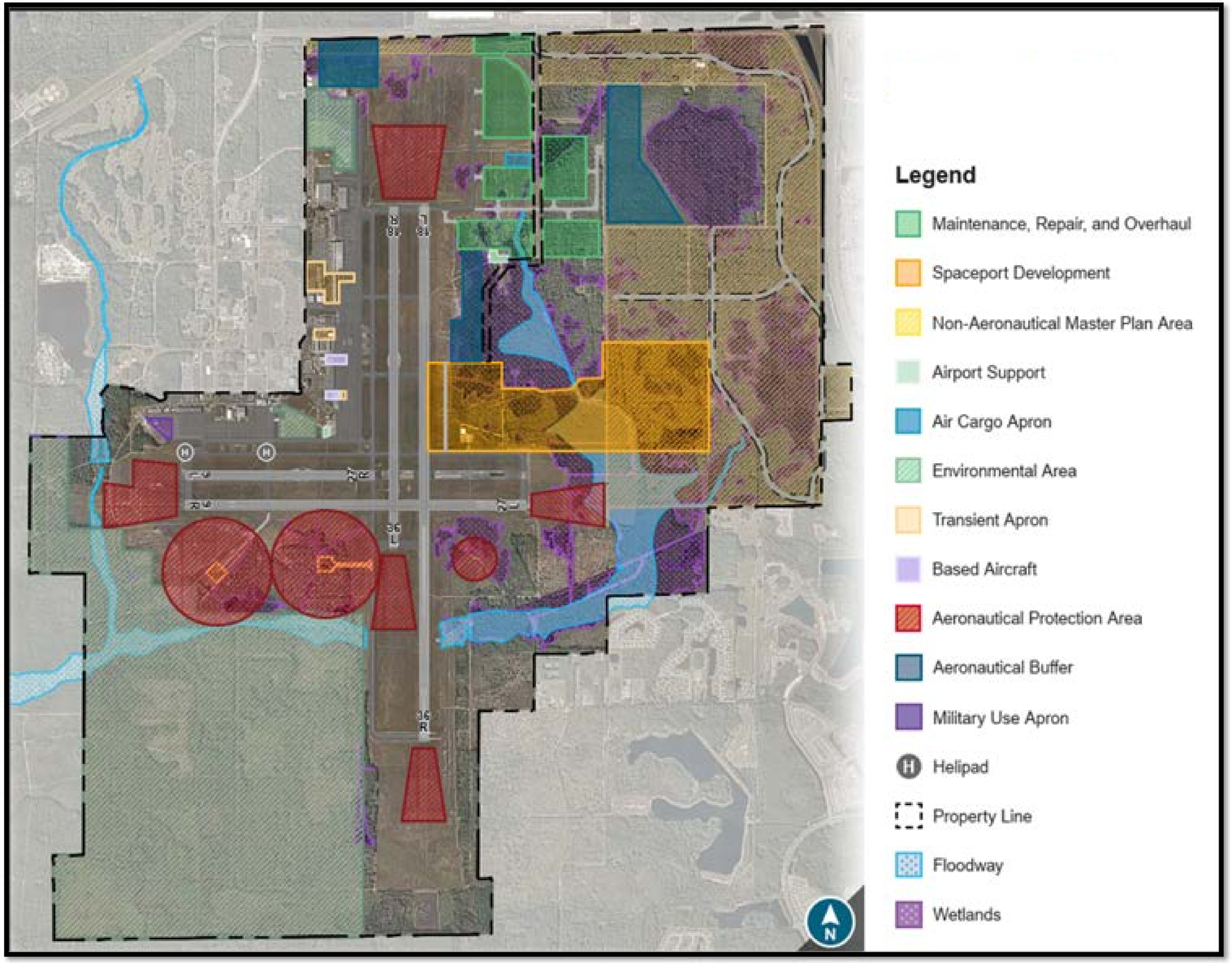
- The proposed Spaceport terminal would be required to shift north.
- The proposed Spaceport hangars and apron areas would be required to shift to the north.

In addition to an expanded ARFF facility siting study, if the ARFF facilities were to be relocated near the Spaceport, it would be essential that ARFF response routes and operations remain uninterrupted. Therefore, relocation of the rocket engine testing and oxidizer loading operations would need to occur first. This Master Plan does not recommend relocation of the ARFF facilities.

5.7.4. Landside Alternative 1

Landside Alternative 1, illustrated in Figure 5-16, proposes all future MRO demand will be accommodated within the greenfield areas in the northeast quadrant. The new development areas would leverage existing and proposed Taxiways E and E1 to provide connectivity between MRO facilities and the airfield. When development occurs to the east of Approach Road security infrastructure, such as gated access, fencing, and signage, are required at the taxilane/road crossing. There are a total of four preserved areas dedicated for future MRO expansion. Of these four areas: three impact delineated wetlands, one impacts a floodway, and one runs adjacent to a former military bunker. These locations were selected based on existing JAA future site preference, leveraging existing utility and roadway infrastructure, and to mitigate impacts on environmentally sensitive areas.

Figure 5-16 – Landside Alternative 1



Notes: Figure above was presented at a public open house meeting.
Source: FAA, AC 150/5300-13B Airport Design, 2022; Kimley-Horn, 2025.

As greenfield sites are developed to the northeast, this alternative proposes that MRO tenants with decentralized operations will transition to the new development area to centralize workflows, vacating existing leaseholds. These vacated apron and hangar spaces would subsequently be converted to meet future transient and/or based aircraft needs. It is assumed, based on existing Airport lease information, that two acres of temporary fabric hangar space (leased apron space) will be transitioned to transient/based aircraft use. It was also assumed that Building 880 and its supporting apron area, encompassing about 2.7 acres, would be repurposed for transient/based aircraft use. Landside Alternative 1 proposes demolishing Building 313 (existing office/support building) and transient aircraft apron/hangars to be built replacing the former building and a portion of the adjacent auto-parking lot.

Landside Alternative 1 consolidates all Airport maintenance facilities to the northeast, adjacent to Building 595. This will require an additional 35,000-square-foot building to support vehicle storage, shop space, and maintenance bays.

A modest 3.5-acre air cargo ramp is proposed in the northeast quadrant, south of the new Boeing facility. This location is ideal as it provides direct access to 103rd Street, a major arterial roadway, via Approach Road. Although air cargo is not immediately forecast for the Airport, it was identified as a potential future development need, and to create a flexible Master Plan, space is designated in the landside alternatives. It is anticipated that the proposed 3.5-acre apron would accommodate a small cargo operation, with no permanent office or processing infrastructure (aside from temporary office assets and appropriate auto and ground service equipment [GSE] parking).

Military area expansion is shown as additional apron pavement on the western edge of the west apron, allowing for increased fixed wing aircraft or helicopter parking positions to accommodate future demand.

Three aeronautical buffer areas were defined in Landside Alternative 1: northwest corner of the airport (at the corner of 103rd Street and Aviation Avenue); east of the greenfield MRO area and west of the prime wetland area; and south of the MRO areas, parallel with Runway 18L/36R and east of the high-power runup. The northwest aeronautical buffer overlaps area previously designated to be non-aeronautical use. However, due to its relation to existing Taxilane D and the relatively low cost to extend Taxilane D northward to provide airfield access, aeronautical uses for this area represent a higher and better use. As this area is not required to meet forecast demand, with FAA’s approval, temporary non-aeronautical uses can be allowed until the area is needed for aeronautical uses. Below are the pros and cons of Landside Alternative 1.

Pros:

- Preserved MRO areas leverage existing landside infrastructure such as Approach Road expansion and utility corridors.
- Meets most land area requirements as defined in Chapter 4.
- Fully incorporates the preferred 2021 SDP preferred alternative.

Cons:

- Requires existing MRO space to be transitioned to transient/based aircraft use.
- Proposes demolition of existing building assets.
- MRO development may require a roadway/taxilane crossing.
- Wetlands are impacted if each MRO preserved area is to be fully developed.

- One MRO preservation area is located atop a known floodway.
- Does not take advantage of a decommissioned crosswind runway.
- Focuses all future landside development to the northeast.

TAC and PAC Feedback

This alternative was presented at the third TAC meeting. Discussions with the TAC revolved around the general layout of each alternative and preliminary screening results. The points below summarize the TAC's feedback on Landside Alternative 1:

- The group was hesitant on the conversion of existing MRO facilities to transient/based aircraft use.
- Negative sentiment for proposed transient aircraft use area which requires building demolition.
- Positive sentiment related to the MRO preserved locations.
- Positive sentiment for relocation of the airport maintenance facilities to allow for transient/based aircraft usage.
- Highly in favor of aeronautical buffer area along the eastern boundary of Runway 18R/36L.

5.7.5. Landside Alternative 2

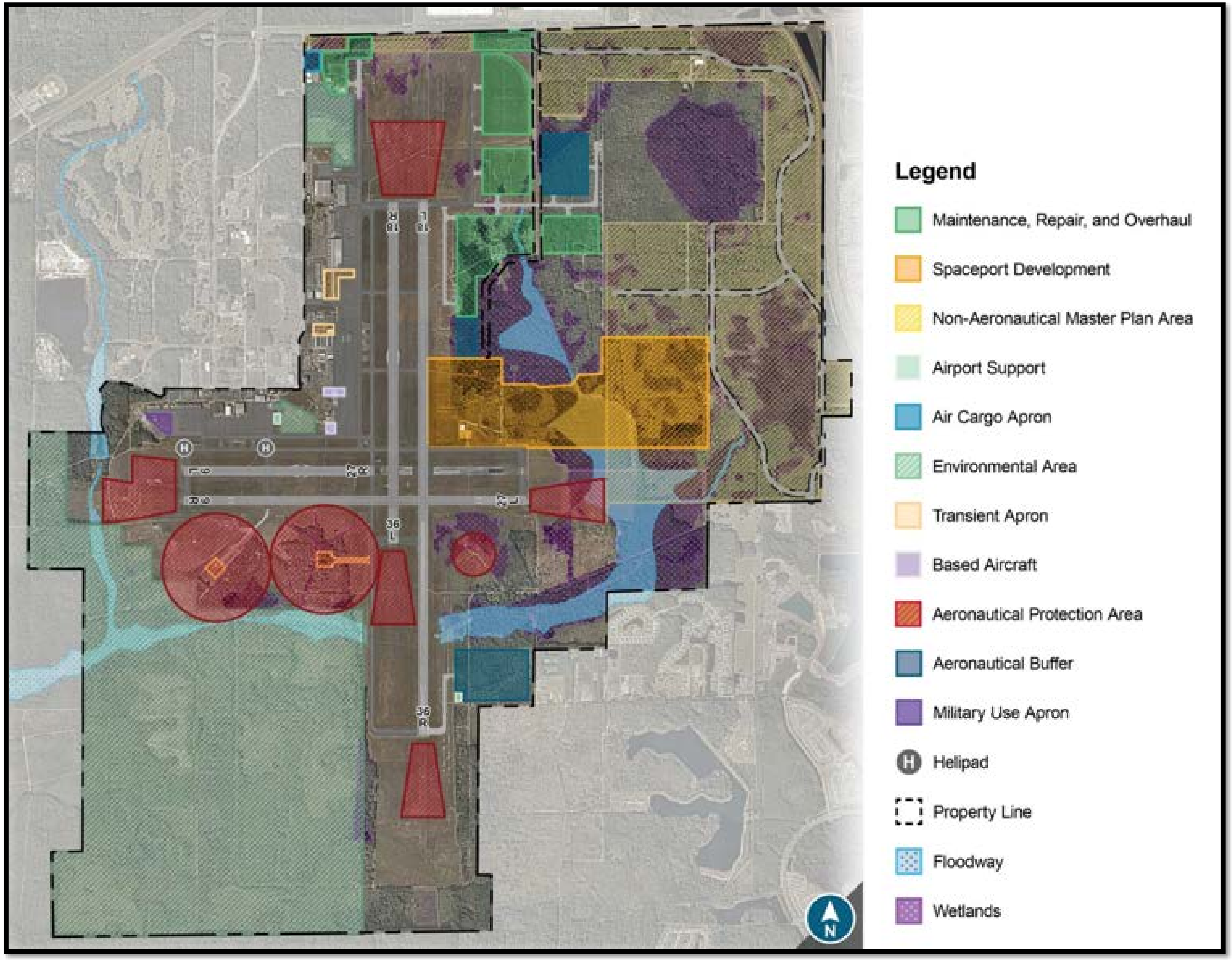
Landside Alternative 2 (see Figure 5-17) proposes the majority of future MRO demand to be accommodated within the greenfield areas located in the northeast quadrant. Like Landside Alternative 1, Taxiways E and E1 will be leveraged as will a taxilane crossing Approach Road and its related security infrastructure. Preserved MRO area on the northeast quadrant is shown as four distinct areas. This landside alternative proposes preserving MRO area parallel with Runway 18R/36L, which would impact the high-power runup apron. MRO development is proposed in the northwest corner of the Airport near Building 1005.

An air cargo apron is located west of, and adjacent to, the northwest MRO area. This location provides direct access to Aviation Avenue and is anticipated to support a small cargo operation.

Based and transient aircraft requirements are met by converting previous MRO facilities anticipated to be vacated by existing tenants moving to new facilities in the northeast quadrant to usable hangar space. Removal of temporary fabric hangars increases the amount of apron available by approximately two acres. An additional two acres of apron space and a 4.5-acre parcel inclusive of existing hangar and apron space would also be repurposed in Landside Alternative 2.

Airport maintenance is to be consolidated and relocated to a new facility in the southeastern quadrant. The new airport maintenance facility is proposed to be at least 35,000 square feet, which would allow airport operations the ability to house and service airport equipment indoors, without being exposed to direct sunlight. This relocation aligns with existing unpaved vehicle service roads, which would be paved. Additionally, as there is no off-airport access to this portion of Cecil, new gated access would be required from Branan Field Road. Additional utilities may also be required to this currently undeveloped area of Cecil.

Figure 5-17 – Landside Alternative 2



Notes: Figure above was presented at a public open house meeting.
Source: FAA, AC 150/5300-13B Airport Design, 2022; Kimley-Horn, 2025

Military area expansion is shown as additional apron pavement on the western edge of the west apron, allowing for increased fixed wing aircraft or helicopter parking positions to accommodate future demand.

Aeronautical buffer areas were provided in three locations: adjacent to the new consolidated airport maintenance facility in the southeast quadrant; parallel with Runway 18L/36R south of the MRO area, north of the Spaceport Development Area, and west of Approach Road; and in the northeast quadrant, east of Approach Road.

Below are the pros and cons of Landside Alternative 2.

Pros:

- Preserved MRO areas leverage existing landside infrastructure such as Approach Road expansion and utility corridors.
- Meets most land area requirements as defined in Chapter 4.
- Fully incorporates the preferred 2021 SDP preferred alternative.
- No demolition of existing assets.

Cons:

- Requires existing MRO space to be transitioned to transient/based aircraft use.
- MRO development may require a roadway/taxilane crossing.
- Wetlands are impacted if each MRO preserved area is to be fully developed.
- One MRO preservation area is located atop a known floodway.
- Does not take advantage of a decommissioned crosswind runway.
- Additional wetlands impact compared to Landside Alternative 1.
- Air cargo apron adjacent to Aviation Avenue is not preferred.

TAC and PAC Feedback

This alternative was presented at the third TAC meeting. Discussions with the TAC revolved around the general layout of each alternative and preliminary screening results. The points below summarize the TAC's feedback on Landside Alternative 2:

- The group was hesitant on the conversion of existing MRO facilities to transient/based aircraft use.
- Positive sentiment related to the MRO preserved locations.
- Negative sentiment for relocation of the airport maintenance facilities.
- Negative sentiment for the southeast aeronautical buffer area.
- Favored MRO development preservation along the eastern boundary of Runway 18R/36L.
- Air cargo apron to the northwest was highly favorable.
- When compared to Landside Alternative 1, the TAC liked less existing MRO facilities being transitioned to other uses.

5.7.6. Landside Alternative 3

Landside Alternative 1 was used as the basis for the development of Landside Alternative 3. There are some minor differences with the configuration of the air cargo and MRO areas in the northwest corner and aeronautical buffer areas locations are different. Three aeronautical buffers areas are included in

Landside Alternative 3: parallel with Runway 18L/36R south of the MRO area, north of the Spaceport Development Area, and west of Approach Road; and two in the southeast quadrant, one south of Runway 9R/27L and north of the floodway and the other south of the floodway and east of a future parallel taxiway.

A key difference in Landside Alternative 3 is that this alternative explores development opportunities when Runway 9L/27R is decommissioned. With the runway decommissioned the west apron can be extended to the south. It is proposed that Taxilane C be relocated to the new southern edge of the west apron. This apron expansion enables additional MRO, based aircraft, and transient aircraft areas.

Other features that are unique to Landside Alternative 3 include:

- The eastward expansion of the north apron, removing Taxilane D and connecting the north apron to Taxiway A, to provide additional MRO and transient aircraft parking space.
- Full parallel taxiway (Taxiway F) east of Runway 18L/36R.
- Partial parallel taxiway south of Runway 9R/27L connecting Taxiway F to the Runway 27L end.

Below are the pros and cons of Landside Alternative 3. Landside Alternative 3 is illustrated after this section in Figure 5-18.

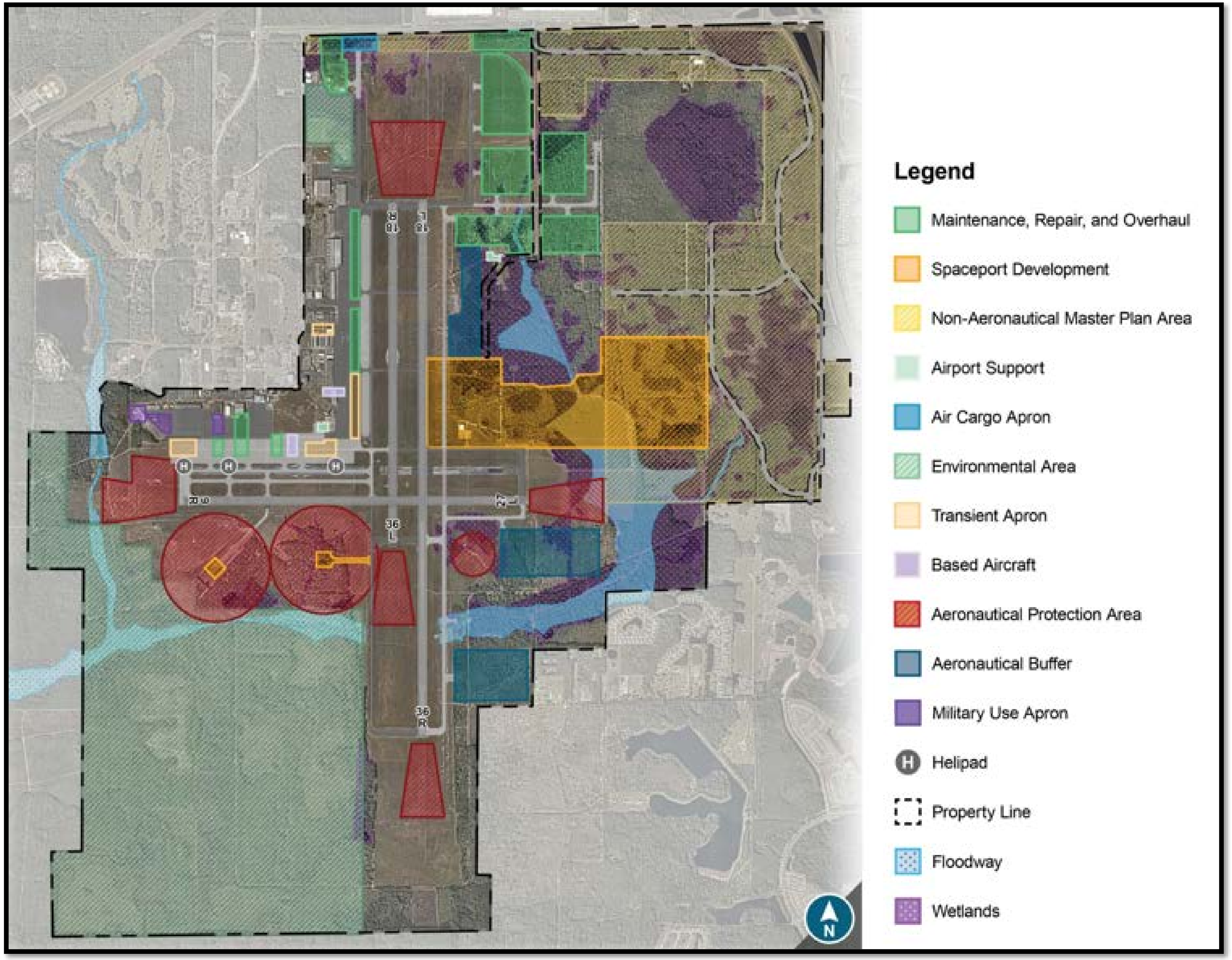
Pros:

- Preserved MRO areas leverage existing landside infrastructure such as Approach Road expansion and utility corridors.
- Exceeds land area requirements as defined in Chapter 4.
- Fully incorporates the 2021 SDP preferred alternative.
- Leverages decommissioning of the crosswind runway to provide additional landside development opportunities.
- Air cargo apron location was highly favored and provides maximum flexibility for other occasional uses.

Cons:

- Requires existing MRO space to be transitioned to transient/based aircraft use.
- MRO development may require a roadway/taxilane crossing.
- Wetlands are impacted if each MRO preserved area is to be fully developed.
- One MRO preservation area is located atop a known floodway.
- Aeronautical buffers located in the southeast quadrant is strongly opposed and difficult to develop.
- Proposes development areas beyond the needs of this Master Plan.

Figure 5-18 – Landside Alternative 3



Notes: Figure above was presented at a public open house meeting.
Source: FAA, AC 150/5300-13B Airport Design, 2022; Kimley-Horn, 2025.

TAC and PAC Feedback

This alternative was presented at the third TAC meeting. Discussions with the TAC revolved around the general layout of each alternative and preliminary screening results. The points below summarize the TAC's feedback on Landside Alternative 3:

- The group was hesitant on conversion of existing MRO facilities to transient/based aircraft use.
- Negative sentiment for aeronautical buffer areas in the southeast quadrant especially given the proximity to existing residential areas.
- Positive sentiment related to the MRO preserved locations.
- Positive sentiment for relocation of the airport maintenance facilities to allow for transient/based aircraft usage.
- Highly in favor of aeronautical buffer area along the eastern boundary of Runway 18R/36L.
- Opposed extending north apron to the east.

5.7.7. Landside Alternative 1a

Based upon feedback from the TAC and JAA, a fourth alternative was developed. As seen in Figure 5-19, Landside Alternative 1a represents a blending of Landside Alternatives 1 and 2. Most of Landside Alternative 1a is based on Landside Alternative 1. The exception is the development in the northwest corner matches Landside Alternative 2.

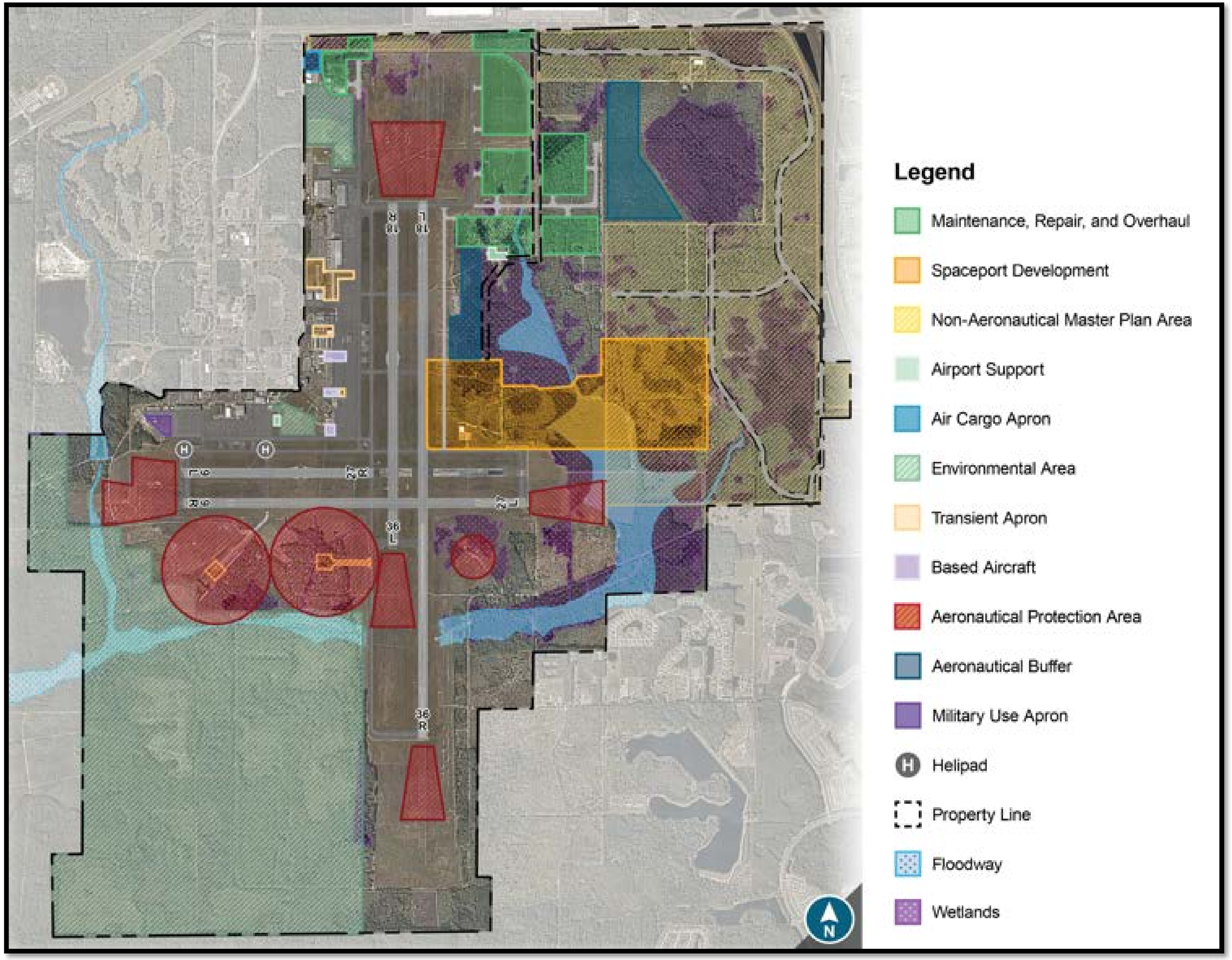
Pros:

- Preserved MRO areas leverage existing landside infrastructure such as Approach Road expansion and utility corridors.
- Meets most land area requirements as defined in Chapter 4.
- Fully incorporates the preferred 2021 SDP preferred alternative.
- Cargo apron in the northwest with direct access to 103rd Street provides good roadway access.

Cons:

- Requires existing MRO space to be transitioned to transient/based aircraft use.
- Proposes demolition of existing building assets.
- MRO development may require a roadway/taxilane crossing.
- Wetlands are impacted if each MRO preserved area is to be fully developed.
- One MRO preservation area is located atop a known floodway.
- Does not take advantage of a decommissioned crosswind runway.
- Focuses all future landside development to the northeast.

Figure 5-19 – Landside Alternative 1a



Notes: Figure above was presented at a public open house meeting.
Source: FAA, AC 150/5300-13B Airport Design, 2022; Kimley-Horn, 2025.

5.7.8. Evaluation of Landside Alternatives

The landside alternatives described in the preceding sections were evaluated against the criteria defined in Section 5.3 and the results are summarized in Figure 5-20.

Figure 5-20 – Landside Screening Analysis

Screening Criteria	Alternative			
	1	2	3	1a
FAA Design Standard Compliance	+	+	+	+
Facility Requirements	+	+	+	+
Financial Feasibility	O	+	-	O
Airspace Impacts	-	-	-	-
Environmental Considerations	+	O	-	+
Phasing and Constructability	O	+	-	O
Social Benefits/Stakeholder Input	O	O	+	O
Operational Benefits	+	O	+	+
Long-Term Flexibility	+	-	+	+

Notes: + Positive Score, O Neutral Score, - Negative Score, - N/A
Source: Kimley-Horn, 2025.

Landside Alternative 1 scored high in environmental consideration and operational benefit. Long-term flexibility scored ‘O’ due to the ideal location of aeronautical buffer areas apart from the northeastern portion, which if developed, could result in aircraft congestion issues on Taxiway E1. The alternative further assumes the highest portion of existing MRO facilities to be transitioned to other use cases, requiring existing tenants beyond Boeing to be potentially relocated to meet transient and based aircraft requirements. As Landside Alternative 1a was based largely on Landside Alternative 1, the scoring of them was the same.

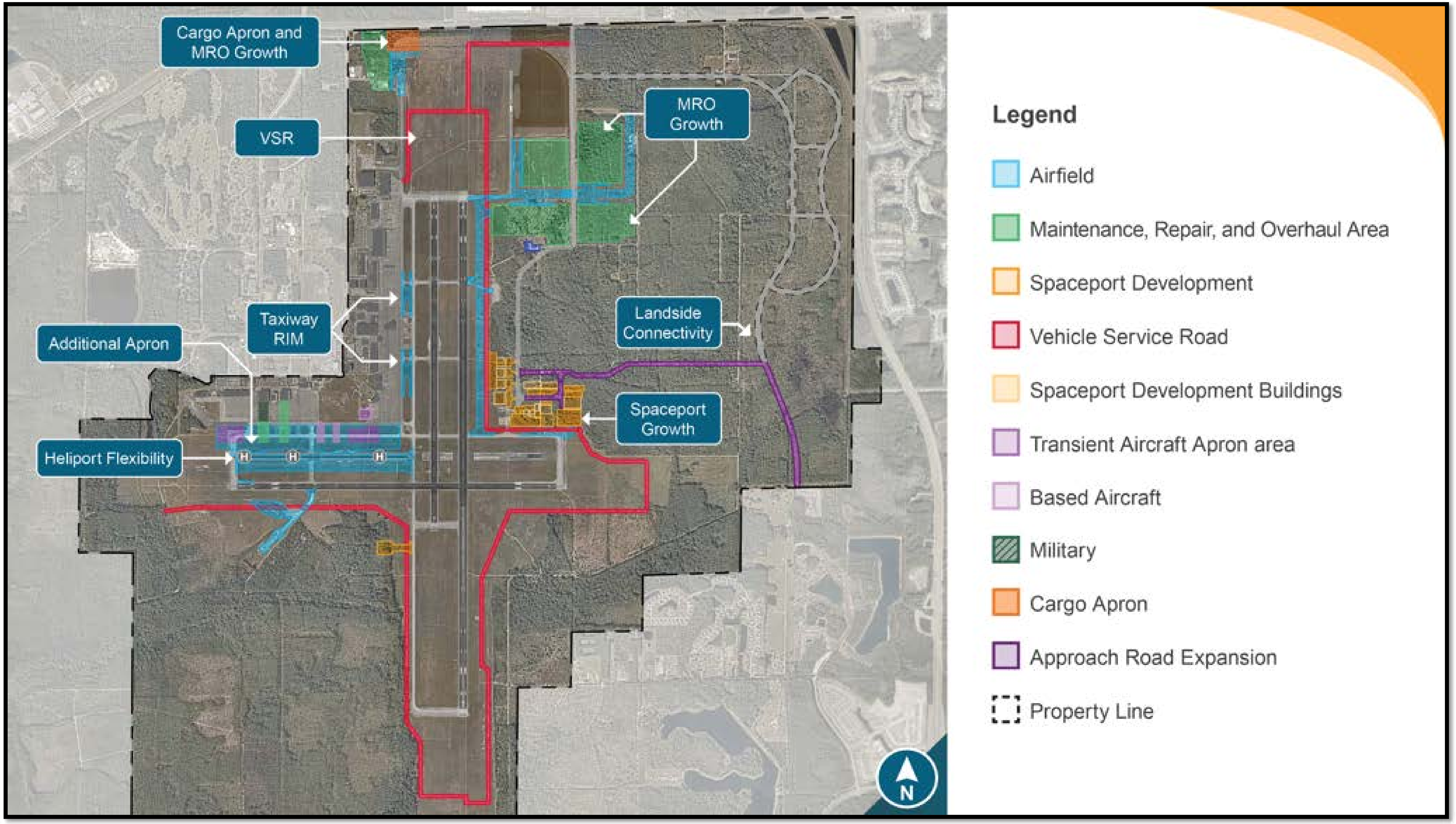
Landside Alternative 2 scored high in constructability and phasing and preliminary financial feasibility by limiting the amount of infrastructure to be converted to alternate uses. Long-term flexibility scored negatively because of the southeastern aeronautical buffer areas. Development in the southeast quadrant does not align with existing JAA plans and is near residential areas. Environmental considerations score ‘O’, due to increased impacts to wetland areas.

Overall, Landside Alternative 3 alternative scores high in FAA design compliance and meets the facility requirements. Landside Alternative 3 provides the maximum amount of landside developable space, as it leverages the decommissioned runway to expand landside development areas. Due to this, the alternative proposes the most amount of construction and therefore was rated ‘-‘ for financial feasibility, environmental impacts, and phasing/constructability.

5.8. Preferred Development Alternative

The preferred development alternative, shown in , is a culmination of the preferred recommendations presented within each of the preceding sections. The preferred development alternative represents the ultimate buildout of Cecil for the 20-year planning horizon. The next Chapter delineated phasing and financial planning elements to derive a Recommended Development Plan (RDP).

Figure 5-21 – Preferred Development Alternative



Notes: Figure above was presented at a public open house meeting.
Source: FAA, AC 150/5300-13B Airport Design, 2022; Kimley-Horn, 2025.

Chapter 6. Phased Airport Development and Financial Plan

This Chapter of the Master Plan Update recommends project phasing for the preferred alternative shown at the conclusion of the Alternatives Chapter. This Chapter further documents the financial feasibility of implementing the recommendations found throughout this Master Plan Update. Opinions of Probable Costs (OPCs) for each project were obtained in 2022. OPCs should be re-assessed and updated as proposed projects transition from high-level planning to engineering and construction. Additionally, implementation of any project recommended within the Recommended Development Plan (RDP) will depend on obtaining environmental clearance, the availability of public and private funds, FAA programming, the JAA priorities, and demand.

Project identification numbers were attributed to each recommended project to reference the recommendation throughout this Chapter. Identification numbers are not necessarily indicative of timing or anticipated costs.

6.1. Noise Modeling

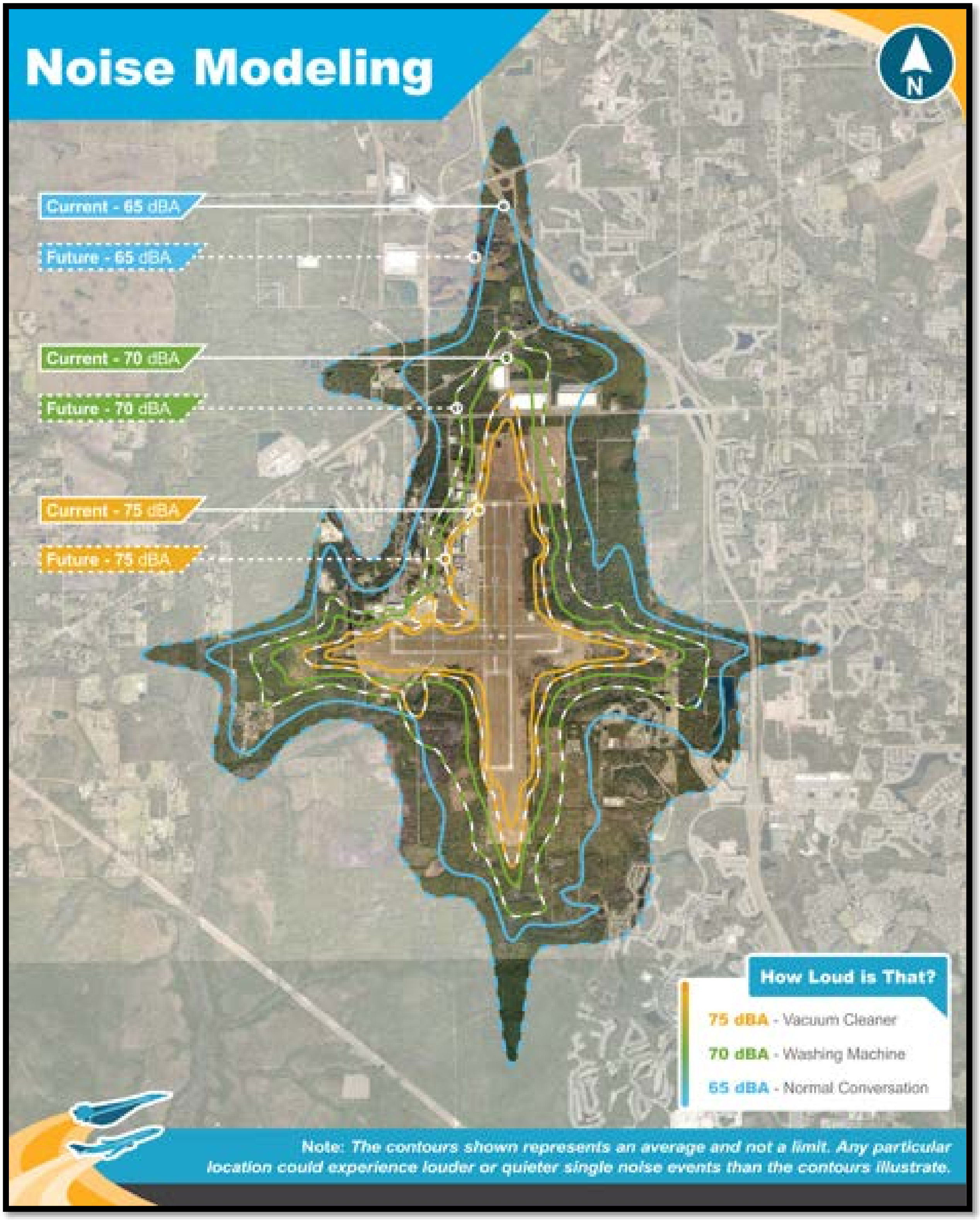
As part of this Airport and Spaceport Master Plan, noise modeling was performed that incorporates existing and forecast Airport and Spaceport operations. Resulting noise contours were presented as part of the October 20, 2022, Public Open House. The full noise modeling report is contained in Appendix A and the existing and future noise contours are shown in Figure 6.1, derived from this report.

Airport-specific noise is driven primarily from transient military traffic, which will operate in and out of Cecil throughout the 20-year planning horizon. These aircraft often are performing patterns, or specific flight routes, centered around the Airport’s runways.

Spaceport operations that contribute most to the noise footprint of Cecil are associated with static rocket engine testing, which infrequently occurs now and is forecast to be up to 50 times annually at the end of the planning horizon. Most Spaceport operations are underwing operations, and the rocket or payload launch occurs over the ocean.

Noise modeling helps inform local municipalities in creating proper zoning and land use guidance. As a standalone entity, the JAA does not have the ability or jurisdiction to directly modify zoning or land use planning. The JAA continues to proactively engage with the City of Jacksonville, Clay County, and Duval County to promote compatible development adjacent to Cecil.

Figure 6-1 – Cecil Noise Contours



Source: Blue Ridge Research and Consulting, LLC, 2022; Kimley-Horn, 2025.

6.2. Phasing and Implementation Plan

The recommended facility improvements developed for the preferred alternative were presented in Chapter 5. These improvements included airfield and landside components that considered on-Airport or Spaceport land uses, Airport or Spaceport access points, and other support facilities. The RDP presented within this chapter includes recommended facilities from the Preferred Alternative and JAA planned and programmed projects.

Non-infrastructure projects such as planning studies, construction design, and equipment upgrades are not shown in the figure, but these costs are included in estimates and financial analysis presented in subsequent sections of this Chapter.

The RDP further considers phasing and timing for implementation of individual projects and the dependence of projects on one another. Implementation of the RDP is planned to occur in four phases, as described below, with all ultimate projects grouped into a fourth phase. Unforeseen macro-/micro-economic events may result in a different schedule of development than what is proposed in the RDP.

6.2.1. Implementation Plan

Projects shown within this section do not make a distinction between design and construction. Such distinctions are elaborated on in subsequent sections. Project timing is based upon anticipated demand and funding availability, and as presented below, are grouped in four distinct phases. Following discussions in early 2023, the JAA noted some projects from the Master Plan may begin in 2028, due to funding already obligated to existing projects and maintenance needs. The only exception to this is the north VSR. The points below do not indicate priority within individual phases. Refer to Figure 6.2 at the conclusion of this section for planned priorities related to development at Cecil.

6.2.1.1. Phase 1 (0 – 5 Years)

Phase 1 projects are of the highest priority identified in the Master Plan and include short-term pavement maintenance needs. All Phase 1 projects are shown in Figure 6.2 and listed below.

- Taxiway A pavement rehabilitation – RDP #1
- North VSR segment – RDP #2
- Eastern Taxilane E1 expansion – RDP #3
- Spaceport support apron (oxidizer loading area) – RDP #A

6.2.1.2. Phase 2 (6 – 10 Years)

Phase 2 continues with pavement maintenance and includes development areas to accommodate additional demand at Cecil. All Phase 2 projects are presented in Figure 6.3 and listed below.

- Hot Cargo Apron reconstruction – RDP #5
- Relocate Taxiways A2 and A3 (the segment between the north apron and Taxiway A) – RDP #10
- Southwestern VSR segment – RDP #4
- Airport maintenance relocation and expansion – RDP #6
- Spaceport development – RDP #D
    - Relocate rocket engine test stand to the Hot Cargo Apron and provide utilities (electricity and water)
    - Auto-parking expansion

  - Hangar development
  - Apron expansion and taxiway connection

- Northeastern MRO growth area (inclusive of apron, hangar, and auto-parking area) – RDP #7

6.2.1.3. Phase 3 (11 – 20 Years)

All Phase 3 projects are centered around expanding facilities and capacity of Cecil. Phase 3 projects are presented in Figure 6.2 and listed below.

- New parallel taxiway east of Runway 18L/36R (Phases 1 and 2) – RDP #8/14
- Northwestern tenant growth area (apron, taxilane, auto parking, and hangar) – RDP #9
- Air cargo apron – RDP #12
- Northeastern MRO growth area (inclusive of apron, hangar, and auto-parking area) – RDP #11
- Spaceport development – RDP #D
  - Roadway expansion
  - Large auto-parking lot to support existing and future development
  - Hangar development
  - Apron expansion and taxiway connections

- Eastern VSR segment – RDP #13

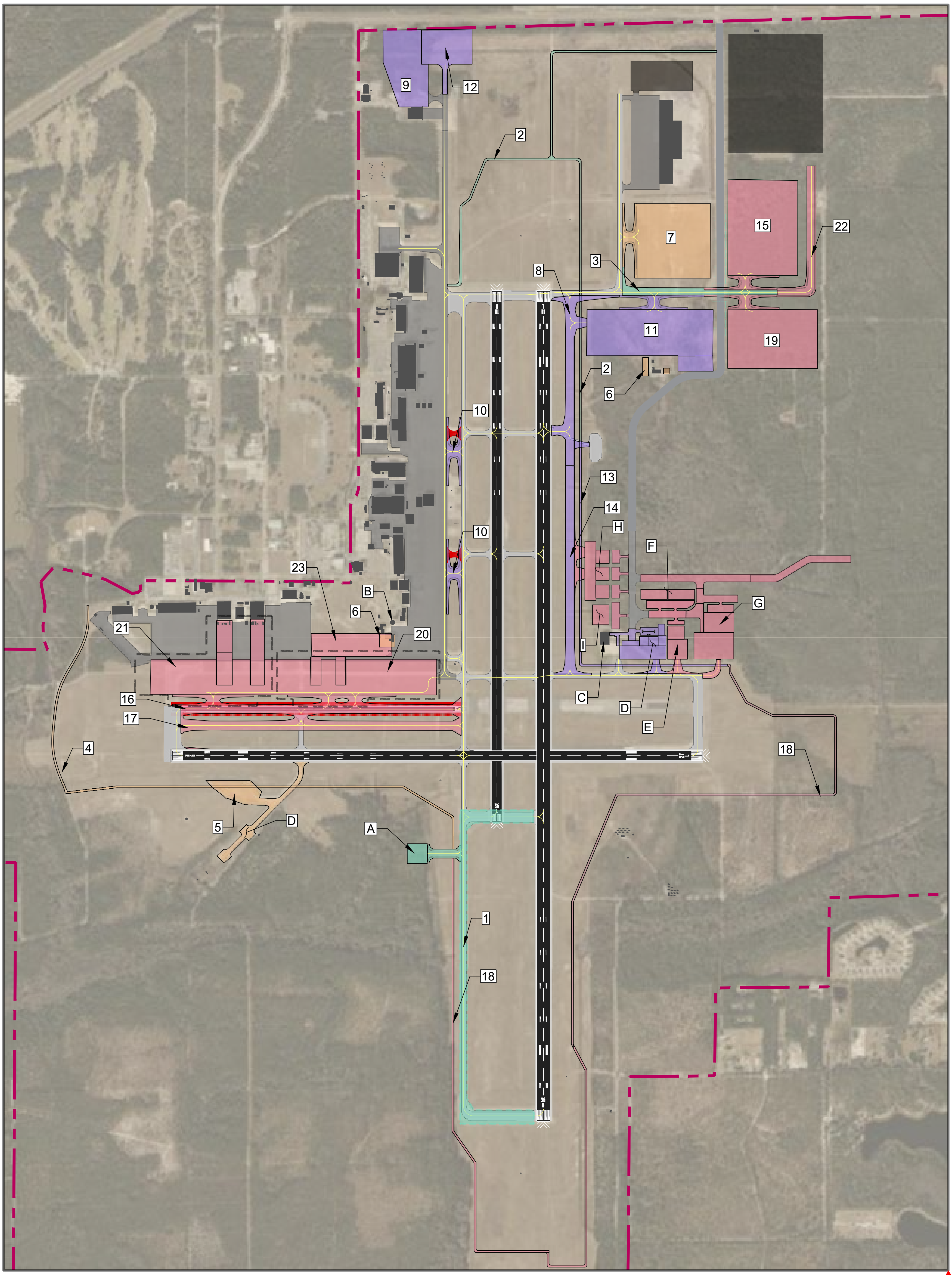
6.2.1.4. Phase 4 (20+ Years)

Phase 4 represents the projects needed to achieve the ultimate configuration shown in the Preferred Alternative. These projects will occur near the end or possibly even beyond the 20-year planning horizon of this Master Plan. All Phase 4 projects are presented within Figure 6.2 and are listed below.

- Decommission Runway 9L/27R (once the pavement reaches the end of its useful life) – RDP #16
- Dual parallel taxiways for Runway 9R/27L – RDP #17
- Long-Term Northeastern MRO growth area (inclusive of apron, hangar, and auto-parking area) – RDP # 15/19
- Taxilane E1 extension – RDP #22
- Apron expansion near Fixed Base Operator (FBO) and Fuel Farm – RDP #24
- West apron expansion (Phases 1, 2, and 3) – RDP #20/21/23
  - Apron
  - Private transient hangar development
  - Private MRO workshop development
  - Office space for military tenants

- Southern VSR segment – RDP #18
- Spaceport development – RDP #F/G/H
  - Connect spaceport roadway with southeastern public roadway
  - Multi-use office/research buildings
  - Apron expansion and taxiway connections
  - Hangar development
  - Multi-use terminal building

Figure 6-2 – Recommended Development Plan



LEGEND

Existing	Future	
Not Shown	■	Runway Pavement/Shoulder
N/A	▨	Pavement to be Decommissioned/Rehabilitated
N/A	🟩	Phase 1 Projects (2025 - 2029)
N/A	🟧	Phase 2 Projects (2030 - 2034)
N/A	🟪	Phase 3 Projects (2035 - 2044)
N/A	🟥	Phase 4 Projects (2045+)
-·-·-	No Change	Airport Property Line

Notes: This exhibit includes all taxiway recommendations; Runway Alternative 5 is shown as the ultimate runway configuration; The ultimate condition for helicopter locations are shown; Runway and taxiway decommissioning will occur at the end of pavement useful life.
Source: FAA, AC 150/5300-13B Airport Design, 2022; Kimley-Horn, 2025.

6.2.1.5. Maintenance, Repair, and Overhaul Block Areas

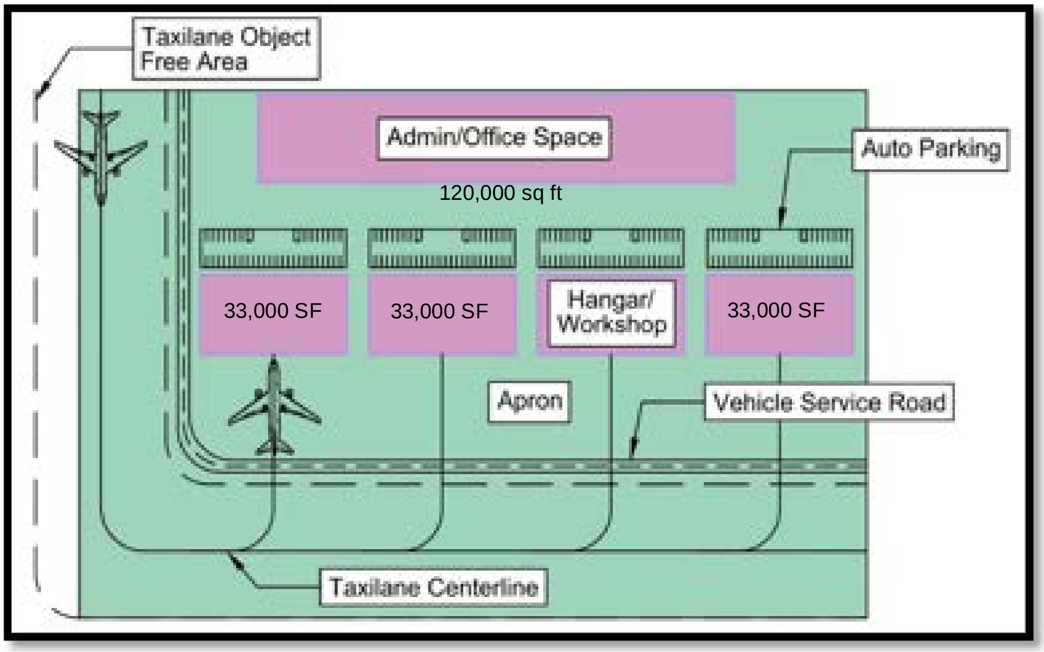
MRO development is highly dependent on specific tenant needs. This Master Plan provides MRO development areas that are represented by large blocks to meet forecast demand over the 20-year planning horizon. This method of planning helps provide flexibility across the planning horizon to the Airport. The assumptions applied to each MRO block were as follows:

- **Design Criteria:**
  - Critical Aircraft: Boeing 767-200
  - Space for multiple Boeing 737-Max 8 (or equivalent)
  - Airport Reference Code: D-IV
  - Taxiway Design Group: 5

- **Planned Development:**
  - Administration and office space accounts for 10% of the space provided
  - Auto-vehicle parking and landscaping accounts for 20% of the space provided
  - Aircraft apron accounts for 50% of the space provided
  - Hangar/Workshop accounts for 20% of space provided

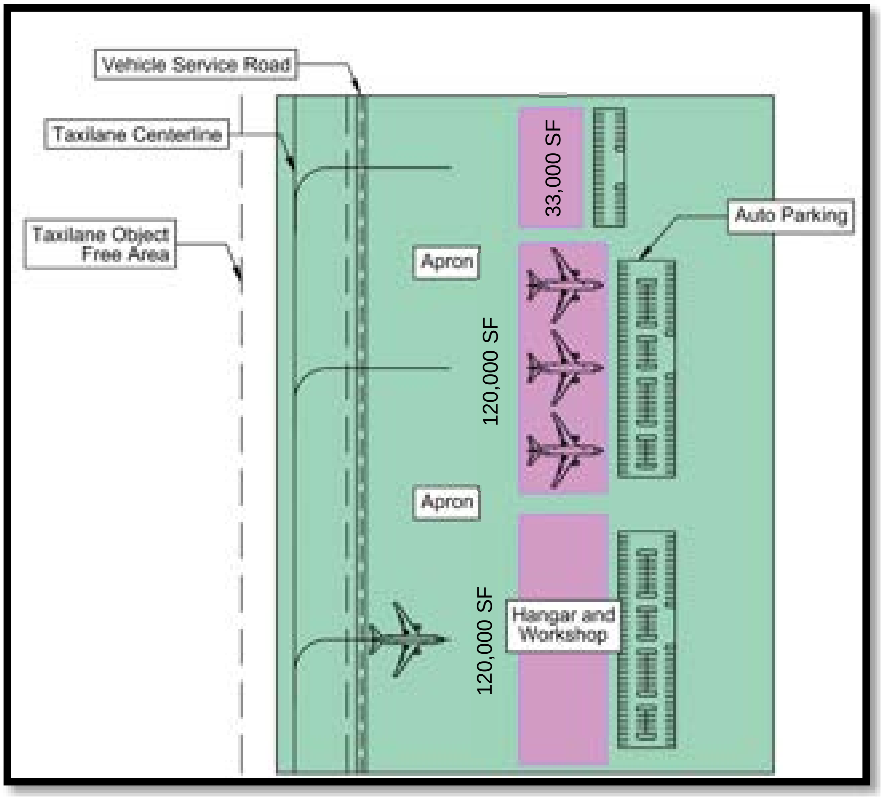
Figures 6.3, 6.4, and 6.5 below illustrate the potential layouts that align with the above assumptions and fit inside the development areas identified within the RDP. These layouts help visualize what is possible and inform the OPCs presented in subsequent sections of this Chapter. Figure 6.3 shows a future scenario where several small MRO tenants fully develop an entire site. The hangar and workshop buildings represent a 33,000-square-foot building footprint with a separate large multi-use administration building**.** Figures 6.4 and 6.5 assume a future scenario in which a larger MRO site is developed. The hangar workshop buildings shown represent 120,000-square-foot buildings and 33,000-square-foot buildings are shown, which can be utilized as either additional hangar/workshop space or administration and office space.

Figure 6-3 – MRO Block Area Layout 1



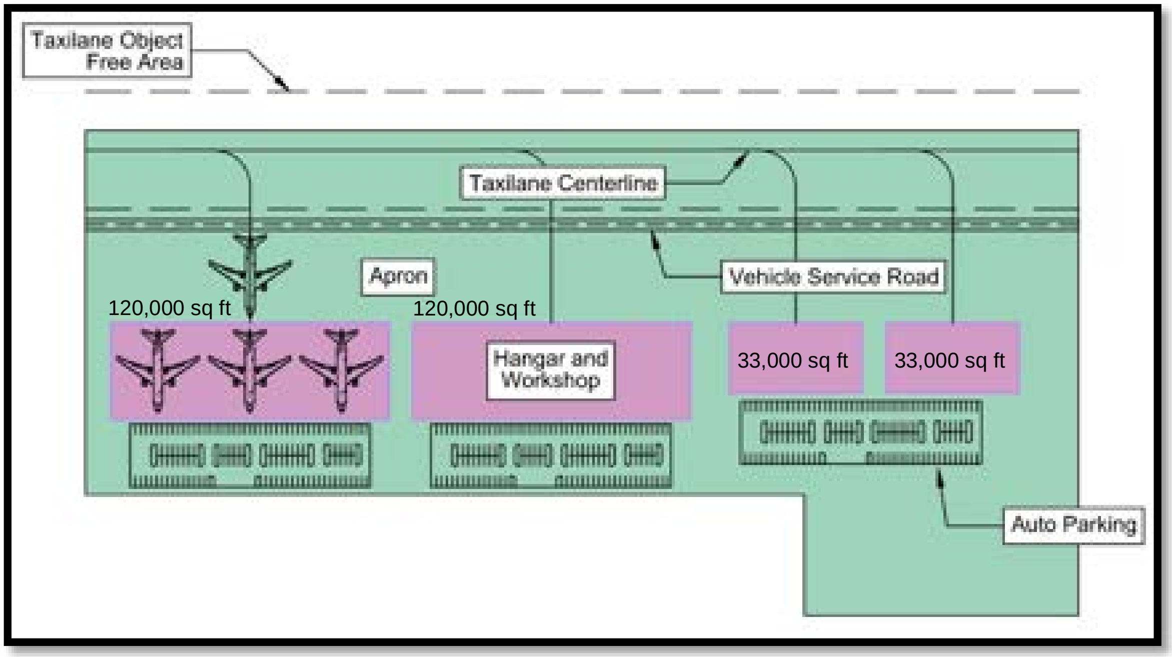
Source: *Kimley-Horn, 2025.*

Figure 6-4 – MRO Block Area Layout 2



Source: *Kimley-Horn, 2025.*

Figure 6-5 – MRO Block Area Layout 3



Source: Kimley-Horn, 2025.

6.2.2. Refinements to the Recommended Development Plan

Section 1.4 described refinements made to the RDP and Cecil between September 2023 and June 2025. These updates are reflected on the approved ALP drawing set and briefly summarized below.

- Boeing facility was constructed and operations relocated.
- Approved LSOL.
- New large MRO development (Otto Aviation)
- Existing Helipads 1 and 2 will be decommissioned by JAA.

6.3. Environmental Planning Strategies

This section identifies the environmental documentation anticipated and assesses the Airport and Spaceport's ability to maintain sustainability when implementing the recommended projects throughout the 20-year planning horizon.

6.3.1. Anticipated Environmental Documentation

Most projects on airports and spaceports require environmental documentation under the National Environmental Policy Act (NEPA) prior to design and construction. Therefore, it is important to have a strategy for obtaining required environmental approvals for projects prior to design. It is anticipated that for certain projects, FAA approval of the Airport Layout Plan (ALP) will be conditional upon subsequent environmental review. In addition, other NEPA-related environmental considerations at the Airport or Spaceport may include drainage and impacts to sensitive habitat or hazardous waste sites on property.

There are three primary types of environmental documentation requirements typically associated with airport improvement projects:

- **Categorical Exclusion (CatEx):** Some actions do not individually or cumulatively have a significant effect on the human environment, and therefore do not require either an Environmental Assessment (EA) or an Environmental Impact Statement (EIS). If an action falls within one of the CatEx groups, and the FAA approves a CatEx, then the action can proceed without an EA and EIS. The typical timeframe to document a CatEx and receive FAA approval is two to six months.
- **Environmental Assessment (EA):** An EA is a public document prepared by a Sponsor providing sufficient evidence to determine whether a proposed action would require preparation of an EIS or a Finding of no Significant Impact (FONSI). The average completion timeframe for an EA is ranged between six months to a full year.
- **Environmental Impact Statement (EIS):** An EIS is a public document required for development actions that may "significantly affect the quality of the human environment." An EIS describes the impacts on the environment because of a proposed action, the impacts of alternatives, and plans to mitigate impacts. The average completion timeframe for an EIS is two to three years.

The projects included in the RDP that are anticipated to require environmental review are presented in Table 6.1 and Table 6.2 below.

It should be noted that the cost estimates developed for the Capital Improvement Plan (CIP) later within this Chapter include contingency costs for CatEx documentation. CatEx documentation, for the purposes of this Chapter, are assumed to be accomplished during the design phase of a project. All other environmental documentation are shown as individual projects within the CIP. Often construction will group multiple projects, potentially increasing the impact of development requiring additional environmental documentation.

Table 6-1 – Anticipated Environmental Documentation – Airport Projects

RDP Project Numbering	Recommended Project	Environmental Documentation
1	Taxiway A Rehabilitation	CatEx
2	North VSR Segment	CatEx
3	Eastern Taxilane E1 Expansion	CatEx
4	Southwestern VSR Segment	CatEx
5	Hot Cargo Apron Reconstruction	CatEx
6	Airport Maintenance Relocation	CatEx
7	Northeastern MRO Growth Area	EA
8	New Parallel Taxiway East of Runway 18L/36R (Phase 1)	CatEx
9	Northwestern Tenant Growth Area	CatEx
10	Relocate Taxiways A2 and A3	CatEx
11	Northeastern MRO Growth Area	EA
12	Air Cargo Apron	CatEx
13	Eastern VSR Segment	CatEx
14	New Parallel Taxiway East of Runway 18L/36R (Phase 2)	CatEx
15	Northeastern MRO Growth Area	EA
16	Decommission Runway 9L/27R	CatEx
17	Dual Parallel Taxiways for Runway 9R/27L	CatEx
18	Southern VSR Segment	CatEx
19	Long-Term Northeastern MRO Growth Area	EA
20	West Apron Expansion Phase 1	EA
21	West Apron Expansion Phase 2	EA
22	Taxilane E1 Extension	CatEx
23	West Apron Expansion Phase 3	EA
24	Apron Expansion near FBO and Fuel Farm	EA + Other *(see notes)*

Notes: RDP Project Number 24 is anticipated to require extensive hazardous material clean-up, which may require further environmental studies from agencies such as the U.S Army Corps of Engineers; CatEx = Categorical Exclusion; EA = Environmental Assessment; EIS = Environmental Impact Statement; RDP = Recommended Development Plan; VSR = Vehicle Service Road; MRO = Maintenance, Repair, and Overhaul; FBO = Fixed Base Operator.

Source: Kimley-Horn, 2025.

Table 6-2 – Anticipated Environmental Documentation – Spaceport Projects

RDP Project Numbering	Recommended Project	Environmental Documentation
A	Spaceport Support Apron (Oxidizer Loading Area)	CatEx
B	Spaceport Mission Control Enhancements	-
C	Existing Spaceport Area Enhancements	-
D	Relocate Rocket Engine Test Stand to the Hot Cargo Apron and Provide Utilities Auto-Parking Expansion Hangar Development Apron Expansion	EA
E	Roadway Expansion Auto-Parking Development Hangar Development Apron Expansion and Taxiway Connector	EA
F	Multi-Use Office/Research Buildings and Associated Auto-Parking	EA
G	Auto-Parking Development Hangar Development Apron Expansion and Taxiway Connector	EA
H	Auto-Parking Development Hangar Development Apron Expansion and Taxiway Connectors	EA
I	Multi-Use Terminal Building	EA

Notes: CatEx = Categorical Exclusion; EA = Environmental Assessment; EIS = Environmental Impact Statement; RDP = Recommended Development Plan.

Source: Kimley-Horn, 2025.

6.3.2. Additional Spaceport Environmental Planning Documentation

The act of obtaining or maintaining an FAA launch site operator license, reentry site license, launch license, reentry license, or experiment permit are Federal Actions and require compliance with NEPA. Strategies for NEPA compliance associated with commercial space licensing and permitting were identified. This license was renewed on January 2025.

Cecil Launch Site Operator License – The Launch Site Operator License (LSOL) must be renewed every five years in accordance with 14 C.F.R. Part 413.23. The LSOL renewal process is considered a federal action and requires NEPA compliance. This can typically be accomplished through a written re-evaluation of previous NEPA documentation. The FAA may require a written re-evaluation be submitted in conjunction with the LSOL renewal application 90 days prior to the LSOL expiration. If a written re-evaluation of existing or previous documentation reveals a need for additional NEPA review due to possible environmental impacts, this must be accomplished prior to the FAA's approval for an LSOL renewal.

Possible reasons for additional NEPA review may include but are not limited to:

- An increase in operational cadence
- A change in propellant combinations
- New or proposed aerospace infrastructure development
- Modifications to types of launch operations
- Updated biological resources data
- Increase in surrounding development and population density

A list of possible NEPA documentation for LSOL compliance is provided in the Table 6.3 below:

Table 6-3 – Applied Unit Costs

NEPA Documentation	Purpose	Documentation Timeline	Typical Cost
Written Re-evaluation	Evaluate current or previous environmental documentation to determine if environmental impacts associated with LSOL are comparable.	3 – 6 months	$40K – $60K
Categorical Exclusion	Determine if categories of actions have a significant impact on the human environment that may require an EA or EIS.	6 months – 1 year	$60K – $100K
Environmental Assessment (EA)	Determine if a proposed action would require preparation of an environmental impact statement or a finding of no significant impact.	2 – 5 years	$100K – $300K
Environmental Impact Statement (EIS)	A detailed written statement that is required by section 102(2)(C) of NEPA for a proposed major Federal action significantly affecting the quality of the human environment.	3 – 7 years	$800k+

Notes: Cost and duration of NEPA review is dependent on unique variables and may not align with general information represented within this table; Costs are represented in 2023 US Dollars; EA = Environmental Assessment; EIS = Environmental Impact Statement.

Sources: Kimley-Horn, 2025.

6.3.3. Sustainability Initiatives

As stated previously within this Master Plan Update, the JAA is focused on maintaining sustainability. The JAA has committed to acting in the best interest of the environment and will seek to continue and further existing sustainability plans in place over the course of the planning horizon. The points below summarize sustainability initiatives in-place at Cecil Airport, as of January 2023.

- **Conservation Corridor:** The JAA preserves approximately 1,400 acres of land to enhance local natural environments. This area, identified in previous sections, protects nearly 300 acres of wetlands, creates approximately 30 acres of new wetlands, and routes stormwaters to a roughly 500-acre area that pools water for wildlife. This conservation land acts as a major wildlife attractant, and therefore maintaining the existing wildlife fencing is critical.

  - **Future Action:** Since these areas are set aside in perpetuity by the JAA, maintenance of these areas is important across the planning horizon. This includes restricting impactful development and monitoring the local ecosystem's health.

- **Gopher Tortoise Mitigation Bank:** The JAA maintains approximately 230 acres dedicated to the relocation of gopher tortoises from across the state. There are certain areas within the state that these tortoises cannot be relocated from; for additional information refer to the Airport's website.
  - **Future Action:** The JAA should continue to commit to maintaining this program. It is recommended the Airport and Spaceport further investigate other natural species, animal or plant, which can also be added to this program. It should be ensured that new species are compatible with the existing gopher tortoise population.

- **Community Participation:** The JAA partners closely with the Restoration Advisory Board (RAB) on natural clean-up issues and other related matters. The RAB is responsible for coordinating with the local community to provide information on this program and solicit feedback from the community.
  - **Future Action:** The JAA intends to continue partnering with the RAB to ensure a healthy and sustainable ecosystem remains on Airport property.

- **Reducing Paper Waste:** As part of this Master Plan Update, the JAA has assisted in coordinating with the consultant to minimize printed materials and rely on electronic versions for quality control efforts. Eliminating paper waste helps ensure there is not unnecessary environmental resources wasted such as trees and water.
  - **Future Action:** This is an important process to repeat for future projects when applicable, since according to the Paperless Project 2014, the U.S. uses 68 million trees each year to produce paper and paper products. Eliminating paper waste directly reduces the trees and water needed to produce paper products.

- **Enhancing Waste Management:** The JAA can further investigate enhancing waste management systems at the Airport and Spaceport by encouraging the following:
  - Develop waste and recycling pilot programs for specific waste streams.
  - Ensure tenants properly store and dispose of electronic equipment.
  - Develop and implement construction and demolition waste diversion contract requirements for projects at the Airport and Spaceport.

This section is not to be representative of each sustainability plan in place at the Airport and Spaceport, or within the JAA. This section documents enacted plans and those that are planned to be enacted over the planning horizon that directly benefit the local environment.

6.4. Project Cost Analysis

This section identifies OPCs for each project within the RDP and influencing financial factors associated with recommended projects.

6.4.1. Financial Assumptions

A funding plan was organized using reasonable assumptions based on information available at the time of development. Some of these assumptions, such as funding sources, may not occur as planned due to unforeseen circumstances and events. End results may vary, and such variations may be material. It is important to note that this Chapter was assembled in 2022/2023, while experiencing high inflation and uncertainty within the greater economy.

The funding plan presented within this section is considered preliminary and should not be used to obtain forms of financing or to support the sale of bonds. Individual projects require detailed cost estimates and financial analysis to be implemented. Additionally, if forecast aviation activity does not occur, construction costs rise too high, or if project funding does not become available, phased projects identified in the RDP may be postponed.

The estimated costs for RDP projects considered regional qualities when creating cost estimates. Estimates per square footage were developed, which account for both hard construction costs and soft construction costs. In addition to baseline material construction costs obtained by querying FDOT's Airport Pavement Management System (APMS) data and other internal engineering sources. A factor of 60% was applied to all Master Plan projects to account for:

- +20% general costs
- +20% mobilization and maintenance of traffic
- +10% contingency
- +5% quality assessment and control
- +5% administration costs

Soft costs were determined to be an additional 10% of total construction cost for general design and overhead. All projects shown had escalation costs applied to account for rising inflation and general rate increases over the planning horizon. An increase of 7% was used for short-term projects to be completed by 2025, decreasing to 5% increase for projects completed in 2026 and beyond.

Other assumptions made for planning purposes include:

- Entitlement grants from FAA AIP were projected assuming the annual maximum amount would be received.
- FDOT grants, AIP discretionary grants, and other State and Federal capital outlay funds were assumed to be available for eligible projects.
- Apron pavement is assumed to be portland cement concrete (PCC). All other pavement is assumed to be asphalt.
- 2022 raw material costs would not significantly decrease in price over the planning horizon.
- Environmental Study Costs:
  - CatEx = $50,000 added to design costs
  - EA = $200,000 separate from design and construction
  - EIS = Not Applicable

6.4.1.1. Applied Unit Costs

Table 6.4 summarizes the OPCs related to individual unit costs. These costs created the foundation for each project identified within this Chapter.

Table 6-4 – Applied Unit Costs

Cost Item	Unit Cost *(per square foot)*
Taxiway Pavement	$ 28.50
Apron Pavement	$ 60.00
Taxiway Shoulder	$ 14.50
Typical Small Support Building	$ 100.00
Landscaped Area	$ 2.00
Large Hangar/Workshop Building	$ 375.00
Large Administration Offices/Workshop Building	$ 300.00
Auto-Parking and Roadway Pavement(s)	$ 14.50

Notes: Unit costs are represented in 2023 US Dollars.

Sources: Kimley-Horn, 2025.

6.5. Financial Plan

This section combines existing CIPs specific to the Airport and Spaceport with existing budget plans that were provided by the JAA, as of December 2022. The following sections also identified available funding sources for projects within the RDP.

6.5.1. JAA Combined Capital Improvement Plan

Table 6.5 combines the Airport and Spaceport's existing CIPs with the Master Plan RDP. During this Master Plan, the JAA was provided a combined CIP, inclusive of JAA's system of airports. For the purposes of this section, and relevance to the Master Plan, Table 6.5 was limited to projects anticipated at Cecil Airport and Spaceport.

The JAA intends to utilize data within the table to inform budget discussions throughout the planning horizon. Funding sources identified within Table 6.5 are further described within the following sections. Figure 6.6 supplements Table 6.5, summarizing total costs over the planning horizon based on identified funding sources. Figure 6.7 details funding sources based by phase.

Table 6-5 – Cecil Airport and Spaceport Combined Capital Improvement Plan (1 of 4)

Airport / Spaceport	RDP No.	Project	Total Cost	JAA	FAA Grants			FDOT Grants		Other	Private
					BIL/Other	Entitlements	Discretionary	FDOT	Space Florida		
2024 – 2029											
Airport	1	Taxiway A Rehabilitation	$ 15,000,000	$ 12,500,000	-	-	-	$ 2,500,000	-	-	-
	2	North VSR Segment [Design]	$ 553,300	$ 553,300	-	-	-	-	-	-	-
	2	North VSR Segment [Construct]	$ 4,979,700	$ 4,979,700	-	-	-	-	-	-	-
	3	Eastern Taxilane E1 Expansion [Design and Construct]	$ 13,200,000	$ 1,320,000	-	-	-	-	-	$ 11,880,000	-
		Total Airport	**$ 33,733,000**	**$ 19,353,000**	**$ -**	**$ -**	**$ -**	**$ 2,500,000**	**$ -**	**$ 11,880,000**	**$ -**
Spaceport	A	Spaceport Support Apron (Oxidizer Loading Area)	$ 700,000	$ 350,000	-	-	-	$ 350,000	-	-	-
		Liquid Propellant Storage	$ 1,600,000	$ 800,000	-	-	-	-	-	-	$ 800,000
		Design and Construct Liquid Oxidizer Farm	$ 500,000	$ 250,000	-	-	-	-	-	-	$ 250,000
	B	Spaceport Mission Control Enhancements	$ 3,700,000	$ 3,700,000	-	-	-	-	-	-	-
		Solid Propellant Storage Bunker Relocation Improvements	$ 300,000	$ 150,000	-	-	-	$ 150,000	-	-	-
		Total Spaceport	**$ 6,800,000**	**$ 5,250,000**	**$ -**	**$ -**	**$ -**	**$ 500,000**	**$ -**	**$ -**	**$ 1,050,000**
2030 – 2034											
Airport	4	Southwest VSR Segment [Design]	$ 450,200	$ 225,100	-	-	-	$ 225,100	-	-	-
	4	Southwest VSR Segment [Construct]	$ 4,052,000	$ 2,026,000	-	-	-	$ 2,026,000	-	-	-
	5	Hot Cargo Apron Reconstruction [Design]	$ 2,680,000	$ 1,072,000	-	-	-	$ 1,072,000	-	-	$ 536,000
	5	Hot Cargo Apron Reconstruction [Construct]	$ 26,800,000	$ 10,720,000	-	-	-	$ 10,720,000	-	-	$ 5,360,000
	6	Airport Maintenance Relocation [Design]	$ 359,000	$ 179,500	-	-	-	$ 179,500	-	-	-
	6	Airport Maintenance Relocation [Construct]	$ 3,590,000	$ 2,154,000	-	-	-	$ 1,436,000	-	-	-
	7	Northeastern MRO Growth Area [Environmental Study – EA]	$ 200,000	-	-	-	-	-	-	-	$ 200,000
	7	Northeastern MRO Growth Area [Design and Construct]	$ 171,522,700	-	-	-	-	-	-	-	$ 171,522,700
		Total Airport	**$ 209,653,900**	**$ 16,376,600**	**$ -**	**$ -**	**$ -**	**$ 15,658,600**	**$ -**	**$ -**	**$ 177,618,700**
Spaceport	C	Existing Spaceport Area Enhancements [Design]	$ 150,000	$ 150,000	-	-	-	-	-	-	-
		Total Spaceport	**$ 150,000**	**$ 150,000**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**

Table 6-5 – Cecil Airport and Spaceport Combined Airport Capital Improvement Plan (2 of 4)

Airport / Spaceport	RDP No.	Project	Total Cost	JAA	FAA Grants			FDOT Grants		Other	Private
					BIL/Other	Entitlements	Discretionary	FDOT	Space Florida		
2035 – 2044											
Airport	8	New Parallel Taxiway East of Runway 18L/36R (Phase 1) [Design]	$ 994,400	$ 49,700	-	$ 895,000	-	$ 49,700	-	-	-
	8	New Parallel Taxiway East of Runway 18L/36R (Phase 1) [Construct]	$ 8,949,600	$ 447,500	-	$ 8,054,600	-	$ 447,500	-	-	-
	9	Northwestern Tenant Growth Area [Design and Construct]	$ 84,414,000	-	-	-	-	-	-	-	$ 84,414,000
	10	Relocate Taxiways A2 and A3 [Design]	$ 356,400	$ 17,800	-	-	$ 320,800	$ 17,800	-	-	-
	10	Relocate Taxiways A2 and A3 [Construct]	$ 3,207,600	$ 160,400	-	-	$ 2,886,800	$ 160,400	-	-	-
	11	Northeastern MRO Growth Area [Environmental Study - EA]	$ 200,000	-	-	-	-	-	-	-	$ 200,000
	11	Northeastern MRO Growth Area [Design and Construct] **	$ 198,033,300	-	-	-	-	-	-	-	$ 198,033,300
	12	Air Cargo Apron [Design]	$ 2,629,000	$ 1,577,400	-	-	-	-	-	$ 1,051,600	-
	12	Air Cargo Apron [Construct]	$ 23,661,000	$ 14,196,600	-	-	-	-	-	$ 9,464,400	-
	13	Eastern VSR Segment [Design] **	$ 268,400	$ 13,400	-	$ 241,600	-	$ 13,400	-	-	-
	13	Eastern VSR Segment [Construct] **	$ 2,415,600	$ 2,415,600	-	-		-		-	-
	14	New Parallel Taxiway East of Runway 18L/36R (Phase 2) [Design] **	$ 1,461,900	$ 73,100	-	$1,315,700	-	$ 73,100	-	-	-
	14	New Parallel Taxiway East of Runway 18L/36R (Phase 2) [Construct] **	$ 13,157,200	$ 657,900	-	$ 11,841,400	-	$ 657,900	-	-	-
		Total Airport	**$339,748,400**	**$19,609,400**	**$ -**	**$22,348,300**	**$3,207,600**	**$1,419,800**	**$ -**	**$10,516,000**	**$282,647,300**
Spaceport	D	Spaceport Development [Environmental Study - EA]	$ 200,000	-	-	-	-	-	-	-	$ 200,000
	D	Spaceport Development [Design and Construct]	$ 39,380,000	-	-	-	-	-	-	-	$ 39,380,000
		Total Spaceport	**$ 39,580,000**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ 39,580,000**

Table 6-5 – Cecil Airport and Spaceport Combined Airport Capital Improvement Plan (3 of 4)

Airport / Spaceport	RDP No.	Project	Total Cost	JAA	FAA Grants			FDOT Grants		Other	Private
					BIL/Other	Entitlements	Discretionary	FDOT	Space Florida		
2045+											
Airport	15	Northeastern MRO Growth Area [Environmental Study - EA]	$ 200,000	-	-	-	-	-	-	-	$ 200,000
	15	Northeastern MRO Growth Area [Design and Construct] **	$ 207,828,400	-	-	-	-	-	-	-	$ 207,828,400
	16	Decommission Runway 9L/27R [Design and Construct]	$ 14,773,000	$ 7,386,500	-	-	-	$ 7,386,500	-	-	-
	17	Dual Parallel Taxiways for Runway 9R/27L [Environmental Study - EA]	$ 200,000	-	-	-	-	-	-	-	$ 200,000
	17	Dual Parallel Taxiways for Runway 9R/27L [Design and Construct] **	$ 14,476,000	$ 7,238,000	-	-	-	$7,238,000	-	-	-
	18	Southern VSR Segment [Design and Construct] **	$ 10,087,000	$ 10,087,000	-	-	-	-	-	-	-
	19	Long-Term Northeastern MRO Growth Area [Environmental Study – EA]	$ 200,000	-	-	-	-	-	-	-	$200,000
	19	Long-Term Northeastern MRO Growth Area [Design and Construct] **	$164,874,600	-	-	-	-	-	-	-	$ 164,874,600
	20	West Apron Expansion Phase 1 [Environmental Study - EA]	$ 200,000	-	-	-	-	-	-	-	$ 200,000
	20	West Apron Expansion Phase 1 [Design and Construct]	$ 170,335,100	-	-	-	-	-	-	-	$ 170,335,100
	21	West Apron Expansion Phase 2 [Environmental Study - EA]	$ 200,000	-	-	-	-	-	-	-	$ 200,000
	21	West Apron Expansion Phase 2 [Design and Construct]	$ 287,695,000	-	-	-	-	-	-	-	$ 287,695,000
	22	Taxilane E1 Extension	$ 10,417,000	$ 5,208,500	-	-	-	$ 5,208,500	-	-	-
	23	West Apron Expansion Phase 3 [Environmental, Design, and Construct]	$ 25,233,100	-	-	-	-	-	-	-	$ 25,233,100
	Total Airport		**$ 906,719,200**	**$ 29,920,000**	**$ -**	**$ -**	**$ -**	**$19,833,000**	**$ -**	**$ -**	**$ 856,966,200**

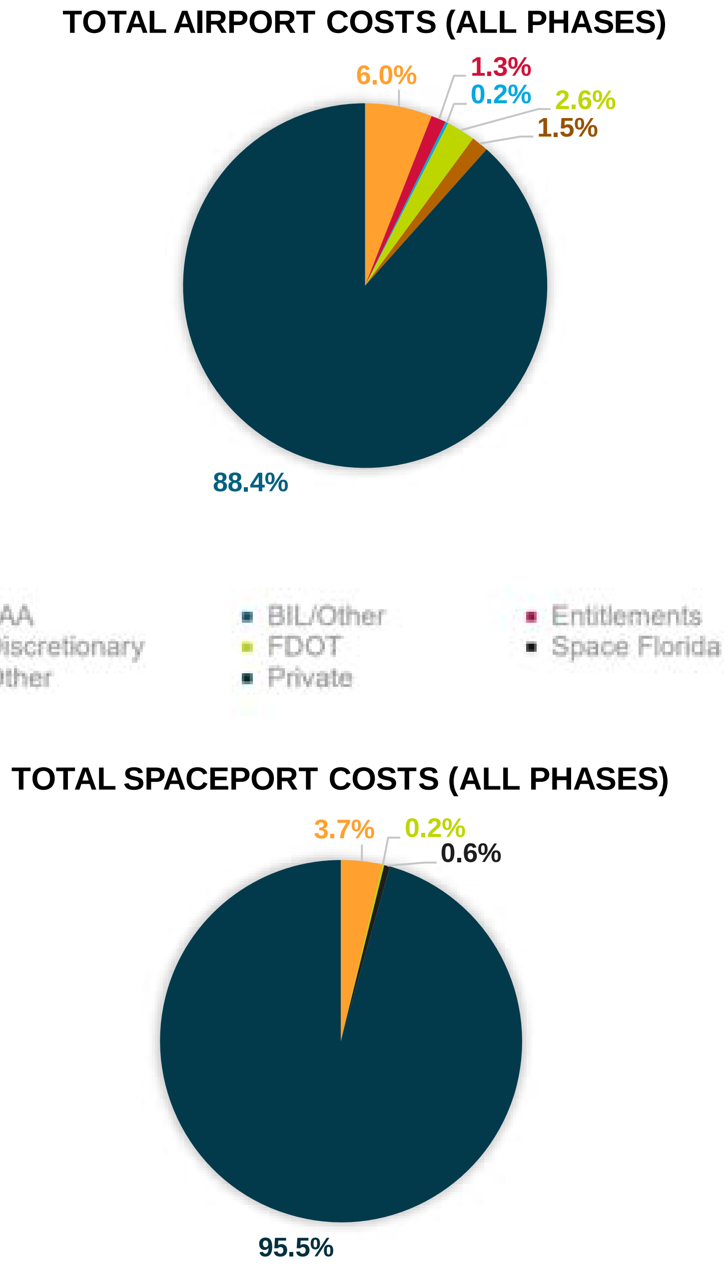
Table 6-5 – Cecil Airport and Spaceport Combined Airport Capital Improvement Plan (4 of 4)

Airport / Spaceport	RDP No.	Project	Total Cost	JAA	FAA GRANTS			FDOT GRANTS		Other	Private
					BIL/Other	Entitlements	Discretionary	FDOT	Space Florida		
2045+											
Spaceport	E	Spaceport Development [Environmental Study - EA]	$ 200,000	-	-	-	-	-	-	-	$ 200,000
	E	Spaceport Development [Design and Construct] **	$ 31,691,100	$ 2,510,000	-	-	-	-	$ 1,584,600	-	$ 27,596,500
	F	Multi-Use Office/Research Buildings and Associated Auto-Parking [Environmental Study - EA]	$ 200,000	-	-	-	-	-	-	-	$ 200,000
	F	Multi-Use Office/Research Buildings and Associated Auto-Parking [Design and Construct] **	$ 45,000,000	-	-	-	-	-	-	-	$ 45,000,000
	G	Spaceport Development [Environmental Study - EA]	$ 200,000	-	-	-	-	-	-	-	$ 200,000
	G	Spaceport Development [Design and Construct] **	$ 74,263,000	-	-	-	-	-	-	-	$ 74,263,000
	H	Spaceport Development [Environmental Study - EA]	$ 200,000	-	-	-	-	-	-	-	$ 200,000
	H	Spaceport Development [Design and Construct] **	$ 62,634,000	-	-	-	-	-	-	-	$ 62,634,000
	I	Multi-Use Terminal Building [Environmental Study - EA]	$ 200,000	-	-	-	-	-	-	-	$ 200,000
	I	Multi-Use Terminal Building [Design and Construct] **	$ 25,586,000	$ 2,558,600	-	-	-	-	-	-	$ 23,027,400
	Total Spaceport		**$240,174,100**	**$ 5,068,600**	**$ -**	**$ -**	**$ -**	**$ -**	**$ 1,584,600**	**$ -**	**$ 233,520,900**

*Notes: ** Items represent projects contingent on other recommended development projects; All values are rounded to the nearest hundred dollars; JAA = Jacksonville Aviation Authority; BIL = Bipartisan Infrastructure Law; FDOT = Florida Department of Transportation; MRO = Maintenance, Repair, and Overhaul; EA = Environmental Assessment; VSR = Vehicle Service Road.*

Sources: JAA, 2023; FDOT, 2023; Kimley-Horn, 2025.

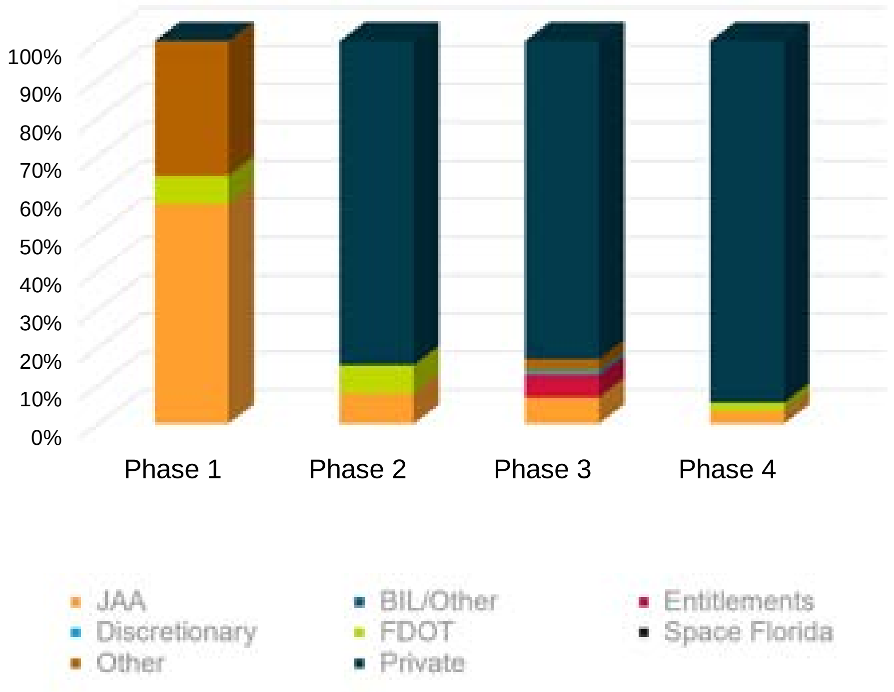
Figure 6-6 – Cecil Airport and Spaceport Capital Improvement Plan Funding Sources (Summary)



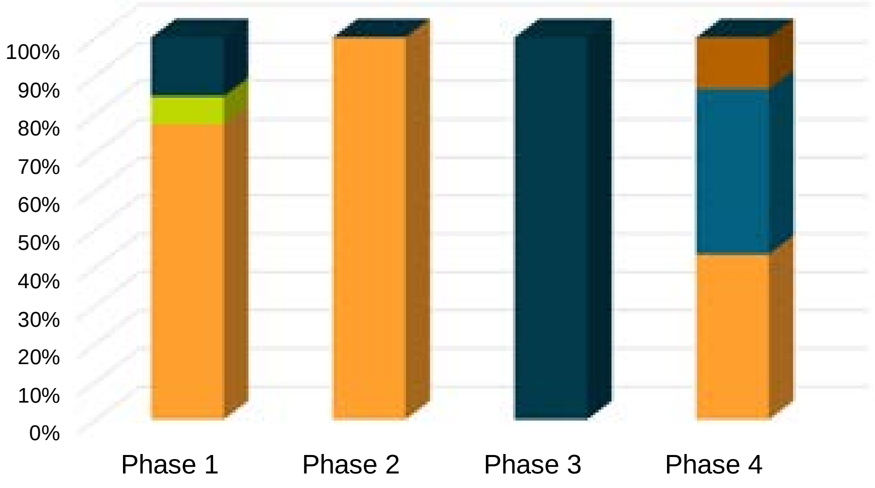
Notes: JAA = Jacksonville Aviation Authority; BIL = Bipartisan Infrastructure Law; FDOT = Florida Department of Transportation; Anticipated Space Florida funding is shown as black.
Sources: JAA, 2023; FDOT, 2023; Kimley-Horn, 2025.

Figure 6-7 – Cecil Airport and Spaceport Capital Improvement Plan Funding Sources by Phase

Airport Projects



Spaceport Projects



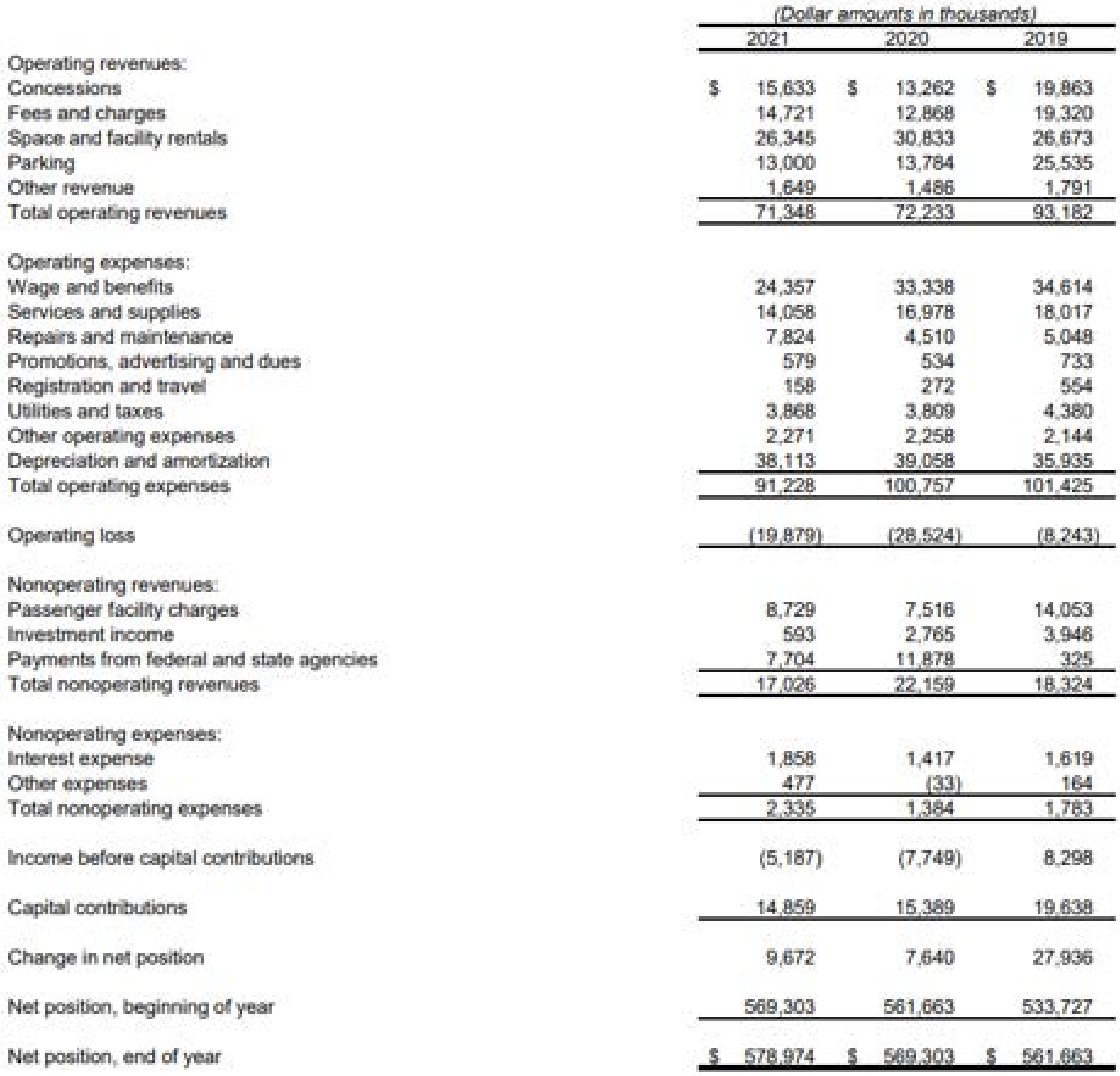
Notes: Phase 1 (2024-2029); Phase 2 (2030-2034); Phase 3 (2035-2044); Phase 4 (2045+); JAA = Jacksonville Aviation Authority; BIL = Bipartisan Infrastructure Law; FDOT = Florida Department of Transportation; Anticipated Space Florida funding is shown as black.

Sources: JAA, 2023; FDOT, 2023; Kimley-Horn, 2025.

6.5.2. Airport/Spaceport Revenue and Expenses

An analysis of the Airport and Spaceport’s historical revenues and expenses was conducted to inventory the historical financial environment. Figure 6.8 includes relevant revenue and expense data related to Cecil. The report queried was an Annual Comprehensive Financial Report (ACFR) published in 2021. JAA actively maintains a healthy and sustainable financial environment and has the flexibility to fund infrastructure projects across its airport system. As it relates to Cecil Airport and Spaceport, priority setting will be crucial to plan for future projects requiring JAA direct contributions.

Figure 6-8 – JAA Revenues and Expenses (2019, 2020, and 2021)



	(Dollar amounts in thousands)		
	2021	2020	2019
Operating revenues:			
Concessions	$ 15,633	$ 13,262	$ 19,863
Fees and charges	14,721	12,868	19,320
Space and facility rentals	26,345	30,833	26,673
Parking	13,000	13,784	25,535
Other revenue	1,649	1,486	1,791
Total operating revenues	71,348	72,233	93,182
Operating expenses:			
Wage and benefits	24,357	33,338	34,614
Services and supplies	14,058	16,978	18,017
Repairs and maintenance	7,824	4,510	5,048
Promotions, advertising and dues	579	534	733
Registration and travel	158	272	554
Utilities and taxes	3,868	3,809	4,380
Other operating expenses	2,271	2,258	2,144
Depreciation and amortization	38,113	39,058	35,935
Total operating expenses	91,228	100,757	101,425
Operating loss	(19,879)	(28,524)	(8,243)
Nonoperating revenues:			
Passenger facility charges	8,729	7,516	14,053
Investment income	593	2,765	3,946
Payments from federal and state agencies	7,704	11,878	325
Total nonoperating revenues	17,026	22,159	18,324
Nonoperating expenses:			
Interest expense	1,858	1,417	1,619
Other expenses	477	(33)	164
Total nonoperating expenses	2,335	1,384	1,783
Income before capital contributions	(5,187)	(7,749)	8,298
Capital contributions	14,859	15,389	19,638
Change in net position	9,672	7,640	27,936
Net position, beginning of year	569,303	561,663	533,727
Net position, end of year	$ 578,974	$ 569,303	$ 561,663

Notes: The table above shows major sources and the percentage of operating revenues and expenses for fiscal years 2021, 2020, and 2019. This exact table was unaudited, although the greater financial report from which this table came was.
Sources: JAA, 2023 (https://www.flyjax.com/content2015.aspx?id=76).

6.5.3. Funding Sources

Assumed funding sources are described in detail below. Each of the funding sources available to the Airport and Spaceport have unique availability, eligibility, and timing constraints. While funding availability is discussed, it should not be assumed that all funds projected to be available would be allocated to projects identified within the RDP.

As seen within the previous sections, a vast majority of projected development will arise from private investments and funding sources. These sources may be existing or future users of the Airport and Spaceport. This Chapter does not attempt to predict future private funding sources. It cannot be overemphasized that the timing and availability of funds are not guaranteed. Actual development will be contingent upon actual demand, environmental clearance, and availability of funds. If the Airport cannot secure enough capital for a given planning year based on the planned sources, it is assumed that the Airport would apply to secure other funds, to account for the difference. This document is to be used for planning purposes only.

6.5.3.1. Airport Improvement Program (AIP) Grants

The AIP is the FAA's grant program to fund planning and development of public-use airports. Airports must be listed in the NPIAS to be eligible for AIP grants. These grants can be used for projects related to enhancing airport safety, capacity, security, and environmental concerns. Most airfield capital improvements or rehabilitation projects are eligible for AIP funding, and in some cases, terminals, hangars, and nonaviation development may be eligible. While most grants are focused on construction, some professional services to support projects are eligible, for example, planning and design. AIP grants fall into two categories: entitlement grants and discretionary grants, as described below.

Entitlement Grants

AIP funds are first distributed to major entitlement categories such as primary, cargo, and GA. Primary commercial service airports receive a guaranteed minimum level of annual federal funds based on enplaned passengers. The Airport receives entitlement funds as a nonprimary airport. Since the Airport does not have scheduled or unscheduled air service from a certificated air carrier or more than 10,000 annual enplanements, the Airport receives a fixed amount of $150,000 in entitlement funds annually, which can be banked for up to four years. Since JAA operates a system of airports, it can pool entitlement money from its various airports to fund specific projects.

As of 2022, the Airport does not maintain a balance of unused entitlement grant monies. The earliest fiscal year in which entitlement money becomes available for use on projects identified within this Master Plan Update would be fiscal year 2027. For planning purposes, if using FAA entitlement funds, it was assumed to be an 90/10 split, with the JAA funding 5% and FDOT funding the remaining 5% of the total project amount. During Phase 3 (2035-2044), approximately $22.3 million are planned to be primarily from FAA Entitlement programs.

Discretionary Grants

After funding entitlement grants, remaining AIP funds are distributed as discretionary grants. After set-aside projects including airport noise mitigation and the Military Airport Program (MAP), discretionary funds are distributed according to a national prioritization formula. Previously, as a military installation that was closed as part of the Base Realignment and Closure Act, Cecil received MAP funding. However, Cecil is no longer eligible for MAP funding; therefore, the JAA does not anticipate receiving additional MAP funding in the future. The Airport can finance 90% of eligible project costs using discretionary funds as a GA airport, though this percentage may differ based on the amount of available discretionary funds that are administered. Approximately $3.2 million of discretionary funding will be needed through the planning horizon.

6.5.3.2. Florida Department of Transportation (FDOT)

FDOT seeks to provide funding assistance at the state level for airports across Florida's aviation network. FDOT also funds commercial space-related projects via Space Florida and other economic grants.

Aviation Grant Program

The FDOT Aviation Office developed the Aviation Grant Program to provide for a safe, cost-effective, and efficient statewide aviation transportation system. The Aviation Grant Program can fund projects related to planning, designing, constructing, or maintaining public-use aviation facilities. The Program is funded from the State Transportation Trust Fund.

For GA airports such as the Airport, FDOT may provide up to 50% of the local share of project costs when federal funding is available. For example, FDOT provides up to 5% of project costs when the FAA provides 90% funding. When no federal funding is available, FDOT may provide up to 80% of total project costs. FDOT may also provide up to 50% of the costs to build on-airport revenue-producing capital improvements.

Project purpose and timing will heavily influence the availability of certain funds at an FDOT level. JAA conservatively assumes FDOT will provide a maximum of 50% of funding for projects. It is anticipated that approximately $38.4 million of state grants will be needed through the planning horizon for Airport specific projects, in addition to $500,000 in Spaceport-related projects not exclusively tied to Spaceport operations.

6.5.3.3. Spaceport Specific Funding

The primary funding source for exclusive Spaceport projects, aside from private funding, is anticipated to be Space Florida. Space Florida is an active participant in funding spaceport-related studies and projects across Florida. Space Florida requires a licensed launch operation to have occurred or have assurance that one will occur within a year of Space Florida funding. While the Spaceport has previously received funding from Space Florida for projects, without any licensed launch occurring since January 2023, or planned to occur for the 2023 calendar year, this funding source is assumed to not be available within the short-term planning horizon. After a successful launch operation in the future, Space Florida funding is anticipated to be available. Approximately $1.6 million is needed for all Spaceport development projects shown within the RDP. This funding is projected for projects expanding the Spaceport's infrastructure within Phase 4 (20+ years).

Space Transportation Infrastructure Matching Grants (STIM)

Space Florida utilizes qualifying applications to develop a proposed list of spaceport discretionary capacity improvement projects to be submitted to the FDOT. If eligible, prioritized spaceport projects may be included in the FDOT five-year work program of transportation improvement projects. This application is mandatory prior to Space Florida prioritizing candidate projects for available State and/or Federal funding. Matching funds may be used for construction of spaceport facilities infrastructure recommended by master plans in Florida spaceport territories, which includes Cecil Spaceport.

Spaceport Improvement Program Planning and Engineering

Spaceport planning projects relate directly to aerospace demands and ideally spur development of future spaceport growth. Examples of eligible projects include spaceport master plans, environmental studies, surveys, launch site licensing, spaceport facility and feasibility assessments, and siting studies. The primary goal of the JAA should be to attain a Spaceport Re-entry license, to be funded by Space Florida.

6.5.3.4. Local Funding

Local funding is provided by the Airport or Spaceport Sponsor, which is the JAA. Local funding is needed to support projects that are not eligible for federal or state grant funding and for the local match requirements from federal and state grants. Typical local funding options leverage capital contributions, operating revenues, local bonds and treasury notes, and other income-generating opportunities that the JAA has access to when funding projects.

Based on anticipated availability of federal and state grants, approximately $85.3 million of JAA funding will be needed to support Airport specific projects over the planning horizon, in addition to $10.5 million for Spaceport-related projects. In total, it is anticipated that JAA will need to invest $95.7 million to implement the RDP as discussed in this document. It is imperative that prioritization of development matches growth at the Airport and Spaceport and JAA's other airports.

Of the $95.7 million: $24.6 million is anticipated within the planned Phase 1, $16.5 million is projected for Phase 2, and $19.6 million is needed for Phase 3; therefore, the JAA should plan to fund $60.7 million over the 20-year planning horizon. Phase 4 requires an additional $35 million to complete all projects identified within the RDP.

6.5.3.5. Third Party / Private Funding

Projects identified in the RDP that provide direct benefit to a tenant or that are anticipated to occur on private leaseholds will likely not be eligible for AIP or State grants. As such, the JAA has indicated that it will seek third-party financing where appropriate as a funding source for specific projects in the RDP. As an MRO-focused Airport, most of the proposed development will be by private entities designing and constructing dedicated and custom facilities to meet their requirements.

Approximately $500.9 million in private funding is needed throughout the 20-year planning horizon. Of the $500.9 million, it is anticipated that $40.6 million will be directly related to private Spaceport development. Projects identified in Phase 4, which extends beyond the 20-year planning horizon, requires another $1.1 billion in private funding, of which $274.1 million relates directly to private Spaceport development. In total, to realize the RDP, $1.6 billion in private investment is needed at Cecil.

6.5.3.6. Other Funding

During the preparation of this Chapter and analyzing the historical financial planning of the Airport and Spaceport, a number of recommended projects were identified as not having a direct source of funding. These projects may be eligible for FAA or FDOT funding, private investment, local funding, or some combination thereof. These projects were categorized as *Other* and represent a need of $22.4 million in funding. Funding sources for these projects will be identified at a later time by JAA.

6.5.4. Summary of Financial Plan Findings

The OPCs for this Master Plan were developed during 2022-2023, which witnessed historic inflation rate increases alongside construction costs increases. Due to this, OPCs within this Chapter may be over-, or under- stated compared to actual future dollar amounts required to realize a particular project. Therefore, this Chapter should be used for general planning purposes only, with a detailed cost assessment conducted prior to implementation of each major recommended development project. As individual project planning is occurring, it is strongly encouraged that JAA update the Master Plan OPCs to account for then current costs and project scope. Table 6.6 summarizes the funding sources during each phase.

Table 6-6 – Cecil Airport and Spaceport Summarized Capital Improvement Plan

Airport / Spaceport	Total Cost	JAA	FAA GRANTS			FDOT GRANTS		Other	Private
			BIL/Other	Entitlements	Discretionary	FDOT	Space Florida		
Phase 1 (2024 – 2029)									
Airport	$ 33,733,000	$ 19,353,000	-	-	-	$ 2,500,000	-	$ 11,880,000	-
Spaceport	$ 6,800,000	$ 5,250,000	-	-	-	$ 500,000	-	-	$ 1,050,000
Total	**$ 40,533,000**	**$ 24,603,000**	**-**	**-**	**-**	**$ 3,000,000**	**-**	**$ 11,880,000**	**$ 1,050,000**
Phase 2 (2030 – 2034)									
Airport	$ 209,653,900	$ 16,376,600	-	-	-	$ 15,658,600	-	-	$ 177,618,700
Spaceport	$ 150,000	$ 150,000	-	-	-	-	-	-	-
Total	**$ 209,803,900**	**$ 16,526,600**	**-**	**-**	**-**	**$ 15,658,600**	**-**	**-**	**$ 177,618,700**
Phase 3 (2035 – 2044)									
Airport	$ 339,748,400	$19,609,400	-	$22,348,300	$3,207,600	$1,419,800	-	$ 10,516,000	$ 282,647,300
Spaceport	$ 39,580,000	-	-	-	-	-	-	-	$ 39,580,000
Total	**$ 379,328,400**	**$19,609,400**	**-**	**$22,348,300**	**$3,207,600**	**$1,419,800**	**-**	**$ 10,516,000**	**$ 322,227,300**
Phase 4 (2045+)									
Airport	$ 906,719,200	$ 29,920,000	-	-	-	$ 19,833,000	-	-	$ 856,966,200
Spaceport	$ 240,174,100	$ 5,068,600	-	-	-	-	$ 1,584,600	-	$ 233,520,900
Total	**$ 1,146,893,300**	**$ 34,988,600**	**-**	**-**	**-**	**$ 19,833,000**	**$ 1,584,600**	**-**	**$ 1,090,487,100**
All Phases (2024 – 2045+)									
Airport	$ 1,489,854,500	$85,259,000	-	$22,348,300	$3,207,600	$39,411,400	-	$ 22,396,000	$ 1,317,232,300
Spaceport	$286,704,100	$ 10,468,600	-	-	-	$ 500,000	$ 1,584,600	-	$ 274,150,900
Total	**$ 1,776,558,600**	**$95,727,600**	**-**	**$22,348,300**	**$3,207,600**	**$39,911,400**	**$ 1,584,600**	**$ 22,396,000**	**$ 1,591,383,100**

Notes: JAA = Jacksonville Aviation Authority; BIL = Bipartisan Infrastructure Law; FDOT = Florida Department of Transportation.

Sources: JAA, 2023; FDOT, 2023; Kimley-Horn, 2025.

Cecil
Cecil Airport

Cecil
Cecil Spaceport

JAA Jacksonville Aviation Authority

Kimley»Horn
Expect More. Experience Better.

APPENDIX A

Noise and Emissions Study
for Cecil Airport and Spaceport Master Plan

Blue Ridge Research and Consulting, LLC

BRRC Report 22-12 (Final)

Noise and Emissions Study for Cecil Airport and Spaceport Master Plan

14 June 2023

Prepared for:
Andrew Scanlon
Kimley-Horn
Andrew.Scanlon@kimley-horn.com

Blue Ridge Research and Consulting, LLC
29 N Market St, Suite 700
Asheville, NC 28801
828.252.2209
BlueRidgeResearch.com

Prepared by:
Alexandria Salton
Ben Manning
Michael James

Contract:
Project Number: 093876000
Project Name: VQQ Cecil Airport MPU
KHA Client Name: Jacksonville Aviation Authority

TABLE OF CONTENTS

TABLE OF FIGURES

TABLE OF TABLES

1 INTRODUCTION

Cecil Airport (VQQ) is a general and industrial aviation public use airport and Federal Aviation Administration (FAA) licensed horizontal launch commercial spaceport located in northeast Florida (Figure 1). Jacksonville Aviation Authority (JAA) has selected the Kimley-Horn and Associates, Inc. (Kimley-Horn) Team to prepare an updated airport and spaceport master plan for VQQ. This project updates the 2008 Airport Master Plan and the 2012 Cecil Spaceport Master Plan for VQQ. In support of the updated master plan, Blue Ridge Research and Consulting, LLC (BRRC) conducted a noise and emissions study associated with Cecil Airport and Spaceport operations for two scenarios: the current scenario (referred to as "Baseline 2021") and the projected future scenario (referred to as "Future 2041"). The following sections present the noise and emissions modeling data and results used to evaluate potential impacts from baseline and future Cecil Airport and Spaceport operations. Section 2 describes Cecil Airport and Spaceport's tenants. Section 3 provides relevant airfield information regarding runways/helipads, maintenance/run-up pads, and rocket engine test sites. Section 4 describes the current and future operations modeled for Cecil Airport and Spaceport. Finally, the noise contour and emissions inventory results are presented in Section 5 and Section 6, respectively.

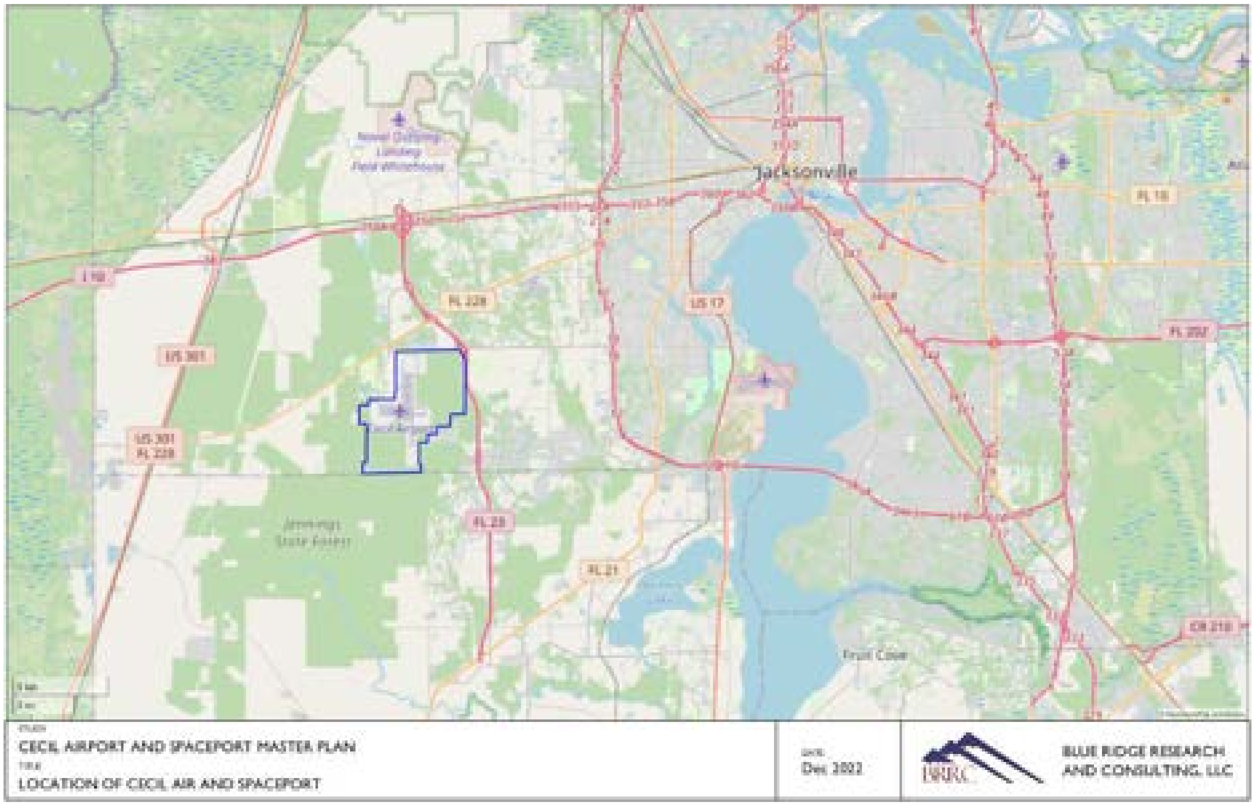


Figure 1. Map of Cecil Airport and Spaceport's Location

2 CECIL AIRPORT AND SPACEPORT TENANTS

Cecil Airport and Spaceport's tenants include military, commercial, and general aviation operations and offer a wide range of services including maintenance repair and overhaul activities, flight testing, and engine testing.

2.1 Airport Tenants

Noise and emissions are modeled for current and future flight and maintenance activities conducted at Cecil Airport by the following tenants/groups.

- The Boeing Company
- Florida Air National Guard
- Florida Army National Guard (FLARNG)
- Flightstar Aircraft Services, Inc.
- Florida State College at Jacksonville (FSCJ)
- ManTech
- Million Air, Fixed Base Operator (FBO)
- Robinson Aviation, Contract Tower Operator
- Tactical Air Support
- U.S. Coast Guard Helicopter Interdiction Tactical Squadron (HITRON)
- U.S. Customs and Border Protection (USCBP)

2.2 Spaceport Tenants

Cecil Spaceport is an active FAA-licensed launch site for commercial horizontal takeoff and horizontal landing reusable launch vehicles (RLVs). Horizontal RLVs are launch systems that can take off and land on conventional runways. Although there are currently no horizontal RLV operations at Cecil Spaceport, the spaceport license application includes support for RLV's.

In addition to horizontal RLV operations, Cecil Spaceport provides additional aerospace support including rocket engine testing. Current spaceport operations include limited rocket engine testing with plans to support testing of larger rocket engines with greater frequency in the future.

3 AIRFIELD INFORMATION

Cecil Airport is a public use airport and commercial spaceport located southwest of the City of Jacksonville in northeast Florida and is one of four public use airports in the Jacksonville Airport System. The following sub-sections describe the locations of the airport runways and helipads, airport maintenance and run-up locations, and spaceport rocket engine tests sites.

3.1 Runways and Helipads

Cecil Airport has four runways ranging from 4,439 to 12,503 feet (ft) in length, each with a width of 200 ft. The runways are described in Table 1 and shown in Figure 2, where MSL stands for the altitude above the mean sea level.

Table 1. Runways at Cecil Airport

Runway	Length	Width	End	Coordinates	Elevation
18L/36R	12,503 ft	200 ft	18L	30.235017°N 81.874105°W	79.1 ft MSL
			36R	30.200639°N 81.873802°W	71.6 ft MSL
18R/36L	8,002 ft	200 ft	18R	30.234999°N 81.876322°W	79.3 ft MSL
			36L	30.213001°N 81.876127°W	70.2 ft MSL
9R/27L	8,003 ft	200 ft	9R	30.215647°N 81.891668°W	76.6 ft MSL
			27L	30.215816°N 81.866331°W	63.9 ft MSL
9L/27R	4,439 ft	200 ft	9L	30.217572°N 81.891686°W	79.6 ft MSL
			27R	30.217665°N 81.877633°W	71.5 ft MSL

Cecil Airport has two helipads as described in Table 2 and shown in Figure 2. Helicopter operations are modeled to and from helipad H1 only. H1 is used almost exclusively, with very few helicopter operations to/from H2.

Table 2. Helipads at Cecil Airport

Helipad	Dimensions	Coordinates	Elevation
Helipad H1	70 x 70 ft	30.218610°N 81.891458°W	77.5 ft MSL
Helipad H2	70 x 70 ft	30.218527°N 81.885508°W	73.7 ft MSL

Figure 2. Map of Runways and Helipads at Cecil Airport

3.2 Airport Maintenance/Run-up Locations

Cecil Airport's maintenance/static run-up locations are described in Table 3 and shown in Figure 3. These locations were obtained via interviews with airport tenants, the airport manager, and Air Traffic Control (ATC). The heading refers to the direction of the aircraft nose/helicopter front relative to true north.

Table 3. Maintenance and Ground Run-up Static Pad Locations at Cecil Airport

Map ID	Description	Coordinates	Heading
High Power	High Power Location Fighter Tie Down	30.228542°N 81.871667°W	310°
BoeingR	Boeing Ramp	30.224390°N 81.880186°W	180°
BoeingF	Future Boeing Ramp	30.241143°N 81.869608°W	90°
36RHold	Runway 36R Hold	30.200841°N 81.875308°W	90°
27LHold	Runway 27L Hold	30.215803°N 81.868194°W	180°
ArmyR	Florida Army National Guard Ramp	30.220858°N 81.891440°W	0°
Compass	Compass Rose	30.219783°N 81.893461°W	300°
ManTechR	ManTech Ramp	30.226713°N 81.880326°W	270°
TacAirSupR	Tactical Air Support Ramp	30.221739°N 81.886068°W	270°
HotPit	Hot Pit	30.228716°N 81.879468°W	0°
FSCJR	FSCJ Flight School Ramp	30.221409°N 81.886677°W	270°
CustomsBP	U.S. Customs and Border Protection Ramp	30.220921°N 81.887880°W	90°
B2_Taxi	B2 Taxiway	30.218266°N 81.885515°W	0°
USCG	U.S. Coast Guard Ramp	30.220541°N 81.889389°W	90°
FlightStar	Flightstar Ramp	30.232375°N 81.879377°W	90°
A2_Taxi	A2 Taxiway	30.229178°N 81.875185°W	90°

Figure 3. Cecil Airport Maintenance/Static Run-up Locations

3.3 Spaceport Rocket Engine Test Sites

Cecil Spaceport's rocket engine test sites are described in Table 4 and shown in Figure 4. The heading describes the direction of the rocket plume as measured relative to true north. Static engine testing currently operates from Test Site 1, but the proposed future year operations allow for larger engine tests and will occur at Test Site 2.

Table 4. Cecil Spaceport Rocket Engine Test Sites

Test Site Name	Description	Coordinates	Heading
Test Site 1	Current Test Site	30.219854°N 81.870434°W	180°
Test Site 2	Future Test Site	30.211407°N 81.889450°W	223°

Figure 4. Map of Cecil Spaceport Rocket Engine Test Sites

4 OPERATIONS DATA

This section presents a summary of the Cecil Airport and Spaceport operations data collected to support the noise and emissions modeling. The BRRC and Kimley-Horn team collected the baseline and future airport/spaceport operations data via interviews with Air Traffic Control (ATC), airfield management, the Fixed Base Operator (FBO) Million Air, and aircraft and helicopter maintainers and pilots. The objective of the data collection effort was to obtain the necessary modeling inputs, including annual operations, runway/helipad utilization, operation types, flight track and flight profile data, maintenance operational data, and spaceport rocket data. The collected data were compiled and organized into an extensive data validation package (operations tables spreadsheet and flight track maps pdf) covering all modeling inputs for existing and future aircraft operations. The data validation package was sent to each interviewee for their review, approval, and validation. For brevity and to summarize the primary modeling parameters used, a limited number of elements from the data package are also included in this report. Cecil Airport flight operations and maintenance/run-up operations are described in Section 4.1 and 4.2, respectively. Cecil Spaceport flight operations and static engine test operations are described in Section 4.3 and 4.4, respectively.

4.1 Airport Flight Operations

The subsections below detail the modeling data collected from each tenant/group located at Cecil Airport. The data collected includes the current and projected annual operations, runway/helipad utilization, operation types, and acoustic day/night utilization. Flight track details are summarized in Appendix A, including tables describing the flight track directions and maps of all modeled flight tracks.

4.1.1 Annual Operations

The annual operations modeled at Cecil Airport are presented in the following section for the Baseline 2021 and Future 2041 scenarios.

Baseline 2021

Cecil Airport's Baseline 2021 scenario includes 95,000 annual operations as summarized in Table 5. Baseline 2021 annual operations were derived from:

- Tenant interviews for the military, industry, and flight school tenant groups (including the pilots and maintainers of each aircraft type);
- ATC and airfield management interviews;
- Virtower data between November 1st, 2021 through May 30th, 2022 for civil aircraft and certain military aircraft types (which contains the aircraft type, runway used, and time of arrival or departure); and
- FBO (Million Air) data logs for transient military aircraft (i.e., the aircraft that use the hot pit refueling) not included in the Virtower data.

The annual operations presented in Table 5 are organized by tenant/aircraft type and aircraft. Operations are categorized into four groups: military tenants, transient military aircraft, industry/flight school tenants, and civil aircraft.

Military Tenants:

- The U.S. Coast Guard flies the MH-65 helicopter, modeled in the Aviation Environmental Design Tool (AEDT) using the Eurocopter AS365 Dauphin helicopter (because the MH-65 is the military variant of the AS365 Dauphin). The U.S. Coast Guard MH-65's have 25,000 annual operations, which include 2,500 annual sorties and 4 pattern events per sortie (or 20,000 annual closed pattern operations).
- The U.S. Customs and Border Protection (USCBP) P-3s have 1,040 annual operations, which include 260 annual sorties and an average of 1 pattern per sortie (or 520 annual closed pattern operations).
- The Florida Air National Guard F-15E uses Cecil Airport for hot pit refueling. The Florida Air National Guard has 1,344 annual operations which include 672 annual sorties.
- The Florida Army National Guard flies UH-60, CH-47, and EC-145 helicopters at Cecil Airport. On average, the helicopters fly 1.5 patterns per sortie. The UH-60 has 2,750 annual operations (550 annual sorties). The CH-47 has 2,500 annual operations (500 annual sorties). The EC-145 has 1,500 annual operations (300 annual sorties).

Transient Military Aircraft:

- The transient military aircraft group includes fighter jets, cargo aircraft, other aircraft, and helicopters. Cecil Airport has 16,032 annual transient military aircraft operations.

Industry / Flight School Tenants:

- Tactical Air Support retrofits the F-5E aircraft. Tactical Air Support has 630 annual operations which include 105 annual sorties (90 test flights per year plus 15 outbound flights after retrofit testing) and 2 patterns per sortie (or 420 annual closed pattern operations).
- Boeing upgrades the F/A-18E/F, C-40, and P-8 aircraft at Cecil Airport. The F/A-18E/F has 96 annual operations which include 40 annual test flights and 16 annual closed pattern operations. The C-40 and P-8 each have 10 annual test flight operations (with no closed patterns).
- ManTech flies the P-8 aircraft and has 12 annual operations (with no closed patterns).
- Flightstar operations at Cecil Airport consist of several different narrow and wide body civil aircraft types, but the most common aircraft types are the Boeing 737 and Airbus A300. Thus, these are the two aircraft types modeled in AEDT for Flightstar operations. The B-737 and A300 have 168 annual operations each (with no closed patterns).
- The flight school for Florida State College at Jacksonville (FSCJ) primarily flies the Cessna 172 (comprising approximately 95% of all flights). The FSCJ Cessna 172's have 5,616 annual operations which include 624 annual sorties and 3.5 patterns per sortie on average (or 4,368 annual closed pattern operations).

Civil Aircraft:

- The civil aircraft group includes general aviation aircraft (GA), business jets, air carriers, and helicopters. Cecil Airport has 38,125 annual civil aircraft operations.

Table 5. Baseline 2021 Annual Aircraft Operations Modeled at Cecil Airport

Tenants / Aircraft Type	Aircraft	Flight Operations			
		Arrivals	Departures	Closed Patterns	Total
Military Tenants					
US Coast Guard	**MH-65**	2,500	2,500	20,000	**25,000**
USCBP	**P-3**	260	260	520	**1,040**
Florida Air National Guard	**F-15E**	672	672	-	**1,344**
Florida Army National Guard	**UH-60**	550	550	1,650	**2,750**
	CH-47	500	500	1,500	**2,500**
	EC-145	300	300	900	**1,500**
				Subtotal:	**34,134**
Transient Military Aircraft					
Fighter	**F/A-18E/F**	822	822	-	**1,644**
	F-15E	1,439	1,439	-	**2,878**
	F-35	617	617	-	**1,234**
	T-45	1,233	1,233	-	**2,466**
	T-38	43	43	-	**86**
	T-6	103	103	206	**412**
Cargo	**C-130J (and C-2)**	234	234	234	**702**
	C-17	311	311	-	**622**
	C-5M	77	77	-	**154**
	C-32 (B757-200)	21	21	-	**42**
Other	**KC-10**	234	234	-	**468**
	KC-46	234	234	-	**468**
	KC-135R	467	467	-	**934**
	C-21	261	261	260	**782**
	P-8 (and P-3)	357	357	714	**1,428**
	E-2	434	434	-	**868**
Helicopters	**CH-53**	278	278		**555**
	H-60	144	144		**289**
				Subtotal:	**16,032**
Industry / Flight School Tenants					
Tactical Air Support	**F-5**	105	105	420	**630**
Boeing	**F/A-18E/F**	40	40	16	**96**
	P-8	5	5	-	**10**
	C-40	5	5	-	**10**
ManTech	**P-8**	6	6	-	**12**
Flightstar	**B373**	84	84	-	**168**
	A300	84	84	-	**168**
FSCJ Flight School	**Cessna 172**	624	624	4,368	**5,616**
				Subtotal:	**6,710**
Civil Aircraft					
GA	**Cessna 172/182/ PA-28**	7,215	7,215	20,202	**34,632**
	PA-44	556	556	1,557	**2,669**
Business Jets	**Dornier 328**	142	142	-	**284**
	Learjet 40 (and Gulfstream V)	94	94	-	**189**
Air Carrier	**B737 (and C-40)**	47	47	-	**93**
	A320	36	36	-	**71**
	A300	20	20	-	**40**
Helicopters	**EC-135**	73	73	-	**147**
				Subtotal:	**38,125**
				Total:	**95,000**

Future 2041

Cecil Airport's annual operations are projected to increase 20.6% from 95,000 in 2021 (Baseline) to 114,600 in 2041 (Future). Table 6 displays the percentage increase, rounded to whole numbers, in total operations based on tenant interviews for each tenant and aircraft group between 2021 and 2041. The largest increases are for the Boeing (P-8, C-40) and ManTech (P-8) operations at 400% growth from 2021 to 2041. Cecil Airport's Future 2041 annual operations are summarized in Table 7.

Future 2041 fleet-mix is projected to stay the same with the exception of the Florida Air National Guard's F-15E aircraft being replaced with the F-35A (modeled in AEDT using the F/A-18E/F Super Hornet as a surrogate). Future 2041 patterns per sortie remain unchanged from the Baseline 2021 annual operations.

Table 6. Percentage Increase in Total Annual Aircraft Operations from 2021 to 2041

Tenants / Aircraft Type	Percent Increase from 2021 to 2041
Transient Military Aircraft	
US Coast Guard	4%
USCBP	15%
Florida Air National Guard	12%
Florida Army National Guard (CH-47)	20%
Florida Army National Guard (UH-60, EC-145)	0%
Transient Military Aircraft	
Fighter, Cargo, & Other	56%
Helicopters	18%
Industry / Flight School Tenants	
Tactical Air Support	0%
Boeing (F/A-18E/F)	100%
Boeing (P-8, C-40)	400%
ManTech	400%
Flightstar	79%
FSCJ Flight School	28%
Civil Aircraft	
GA, Business Jets, Air Carrier, & Helicopters	18%

Table 7. Future 2041 Annual Aircraft Operations Modeled at Cecil Airport

Tenants / Aircraft Type	Aircraft	Flight Operations			
		Arrivals	Departures	Closed Patterns	Total
Military Tenants					
US Coast Guard	**MH-65**	2,600	2,600	20,800	**26,000**
USCBP	**P-3**	300	300	600	**1,200**
Florida Air National Guard	**F-35A**	750	750	-	**1,500**
Florida Army National Guard	**UH-60**	550	550	1,650	**2,750**
	CH-47	600	600	1,800	**3,000**
	EC-145	300	300	900	**1,500**
				Subtotal:	**35,950**
Transient Military Aircraft					
Fighter	**F/A-18E/F**	1,284	1,284	-	**2,569**
	F-15E	2,250	2,250	-	**4,501**
	F-35	964	964	-	**1,928**
	T-45	1,928	1,928	-	**3,856**
	T-38	67	67	-	**134**
	T-6	161	161	322	**644**
Cargo	**C-130J (and C-2)**	366	366	366	**1,098**
	C-17	486	486	-	**973**
	C-5M	120	120	-	**241**
	C-32 (B757-200)	33	33	-	**66**
Other	**KC-10**	366	366	-	**732**
	KC-46	366	366	-	**732**
	KC-135R	730	730	-	**1,461**
	C-21	408	408	408	**1,224**
	P-8 (and P-3)	558	558	1,117	**2,234**
	E-2	679	679	-	**1,357**
Helicopters	**CH-53**	328	328		**657**
	H-60	171	171		**342**
				Subtotal:	**24,747**
Industry / Flight School Tenants					
Tactical Air Support	**F-5**	105	105	420	**630**
Boeing	**F/A-18E/F**	80	80	32	**192**
	P-8	25	25	-	**50**
	C-40	25	25	-	**50**
ManTech	**P-8**	30	30	-	**60**
Flightstar	**B373**	150	150	-	**300**
	A300	150	150	-	**300**
FSCJ Flight School	**Cessna 172**	800	800	5,600	**7,200**
				Subtotal:	**8,782**
Civil Aircraft					
GA	**Cessna 172/182/ PA-28**	8,539	8,539	23,909	**40,987**
	PA-44	658	658	1,843	**3,159**
Business Jets	**Dornier 328**	168	168	-	**336**
	Learjet 40 (and Gulfstream V)	112	112	-	**223**
Air Carrier	**B737 (and C-40)**	55	55	-	**110**
	A320	42	42	-	**84**
	A300	24	24	-	**47**
Helicopters	**EC-135**	87	87	-	**173**
				Subtotal:	**45,121**
				Total:	**114,600**

4.1.2 Runway and Helipad Use

The modeled runway and helipad usage at Cecil Airport is presented in the following section for the Baseline 2021 and Future 2041 scenarios.

Baseline 2021

Cecil Airport's Baseline 2021 runway/helipad utilizations are summarized in Table 8 and organized by group and tenant/aircraft type and general operation type (arrival, departure, closed pattern). Baseline 2021 runway utilization was derived from Virtower data for civil aircraft, tenant aircraft, and helicopters. Because some transient military aircraft are missing in the Virtower data (specifically the ones that fly into Cecil to refuel), those aircraft were assumed to have the same runway utilization as the transient military aircraft that are part of the Virtower data. The Virtower data does not contain tenant/group information, so if certain tenants only utilize specific runways, and the transients of the same aircraft type utilize all runways, then the modeling must use the tenant estimates on runway utilization (to separate out the tenant aircraft runway utilization from the transient aircraft runway utilization). The Florida Air National Guard F-15s only use specific runways and the Florida Army National Guard and Coast Guard helicopters arrive and depart from either helipad H1 or the Bravo-Mike taxiway intersection (300 ft east of H1). However, transient F-15s and helicopters utilize all runways. Because of this difference in runway utilization between the tenants and the transients, the runway utilization for the Florida Air National Guard, Florida Army National Guard, and Coast Guard were derived from tenant interviews. Note, as helipad H1 and the Bravo-Mike taxiway intersection are within 300 ft of each other, only helipad H1 was used to model the arrival and departures from both sites.

Future 2041

Runway 09L/27R will be decommissioned and removed by 2041. Thus, for Cecil Airport's Future 2041 runway utilizations, the percentages of operations associated with Runway 09L and 27R were added to Runway 09R and 27L, respectively.

Table 8. Baseline 2021 Distribution of Runway/Helipad Use at Cecil Airport

Tenants / Aircraft Type	Flight Operations	Runway / Helipad								
		09L	09R	18L	18R	27L	27R	36L	36R	H1
Military Tenants										
US Coast Guard	Arrival	-	-	-	-	-	-	-	-	100%
	Departure	-	-	-	-	-	-	-	-	100%
	Closed Pattern	31%	20%	-	30%	-	-	-	17%	2%
USCBP	Arrival	-	16%	29%	6%	20%	-	4%	25%	-
	Departure	-	15%	29%	4%	19%	-	4%	29%	-
	Closed Pattern	-	27%	33%	1%	23%	-	1%	15%	-
Florida Air National Guard	Arrival	-	-	16%	-	35%	-	-	49%	-
	Departure	-	5%	-	-	-	-	-	95%	-
Florida Army National Guard	Arrival	-	10%	-	-	-	-	20%	-	70%
	Departure	-	-	-	-	-	-	-	-	100%
	Closed Pattern	-	30%	-	-	-	-	70%	-	-
Transient Military Aircraft										
Fighter	Arrival	-	16%	29%	6%	20%	-	4%	25%	-
	Departure	-	15%	29%	4%	19%	-	4%	29%	-
	Closed Pattern	-	27%	33%	1%	23%	-	1%	15%	-
Cargo	Arrival	-	23%	12%	18%	25%	-	10%	12%	-
	Departure	-	10%	24%	9%	22%	-	16%	19%	-
	Closed Pattern	-	23%	12%	18%	25%	-	10%	12%	-
Other	Arrival	-	15%	29%	6%	21%	-	4%	25%	-
	Departure	-	15%	29%	4%	19%	-	4%	29%	-
	Closed Pattern	-	27%	33%	1%	23%	-	-	16%	-
Helicopters	Arrival	-	14%	4.5%	6%	8.5%	-	3.5%	13.5%	50%
	Departure	-	-	-	-	-	-	-	-	100%
Industry / Flight School Tenants										
Tactical Air Support	Arrival	-	16%	29%	6%	20%	-	4%	25%	-
	Departure	-	15%	29%	4%	19%	-	4%	29%	-
	Closed Pattern	-	27%	33%	1%	23%	-	1%	15%	-
Boeing (F/A-18E/F)	Arrival	-	16%	29%	6%	20%	-	4%	25%	-
	Departure	-	15%	29%	4%	19%	-	4%	29%	-
	Closed Pattern	-	27%	33%	1%	23%	-	1%	15%	-
Boeing (P-8 and C-40)	Arrival	-	14%	13%	10%	16%	-	2%	45%	-
	Departure	-	11%	16%	7%	14%	-	17%	35%	-
ManTech	Arrival	-	14%	13%	10%	16%	-	2%	45%	-
	Departure	-	11%	16%	7%	14%	-	17%	35%	-
Flightstar	Arrival	-	14%	13%	10%	16%	-	2%	45%	-
	Departure	-	11%	16%	7%	14%	-	17%	35%	-
FSCJ Flight School	Arrival	-	18%	13%	13%	24%	-	10%	22%	-
	Departure	-	20%	5%	8%	26%	-	23%	18%	-
	Closed Pattern	-	41%	3%	26%	8%	-	11%	11%	-
Civil Aircraft										
GA	Arrival	5%	13%	13%	13%	19%	5%	10%	22%	-
	Departure	6%	14%	5%	8%	15%	11%	23%	18%	-
	Closed Pattern	11%	30%	3%	26%	8%	-	11%	11%	-
Business Jets	Arrival	1%	15%	19%	9%	17%	4%	11%	24%	-
	Departure	-	18%	14%	9%	21%	-	19%	19%	-
Air Carriers	Arrival	-	14%	13%	10%	16%	-	2%	45%	-
	Departure	-	11%	16%	7%	14%	-	17%	35%	-
Helicopters	Arrival	15%	13%	9%	12%	7%	10%	7%	27%	-
	Departure	3%	6%	11%	5%	25%	15%	20%	15%	-

4.1.3 Operation Type

The operational types modeled at Cecil Airport are presented in the following section for the Baseline 2021 and Future 2041 scenarios.

Baseline 2021

The distribution of Cecil Airport flight operations among the types of arrivals, departures, and pattern operations is presented in Table 9. The arrivals at Cecil Airport include overhead break arrivals (typically done by fighter jets), straight-in instrument flight rules (IFR) arrivals, and straight-in visual flight rules (VFR) arrivals. The departures for most aircraft are standard departures, but for the fighter jets, the percentages between military departures and afterburner departure are displayed. For the fixed wing aircraft, the two pattern types are IFR or ground-controlled approach (GCA) box patterns and inside VFR or a closed pull-up pattern. Additional pattern types for the helicopters include water bucket patterns (only for the CH-47), hot cargo area patterns, and sling load patterns.

Future 2041

The operation type distribution percentages are the same between the Baseline 2021 and Future 2041 scenarios with one exception: the distribution between departure operation types conducted by Florida Air National Guard's current F-15E aircraft are different than their future replacements, the F-35A. Thus, Table 9 displays the distribution of all aircraft, including the F-15E, by operation type (Baseline 2021), and Table 11 displays the distribution for the only change in operation type percentages, the F-35A (Future 2041).

Table 9. Baseline 2021 Distribution of Military, Civil, and Transient Aircraft Operations by Operation Type

Tenants / Aircraft Type	Arrivals			Departures		Closed Patterns				
	Overhead Break	IFR Straight-in	VFR Straight-in	Military / Standard	Afterburner	IFR / GCA Box	Inside VFR / Closed Pull-up	CH-47 Water Bucket	Hot Cargo	Sling Load
Military Tenants										
US Coast Guard	-	-	100%	100%	-	2%	96%	-	-	2%
USCBP	-	30%	70%	100%	-	5%	95%	-	-	-
Florida Air National Guard (F-15E)	90%	10%	-	15%	85%	-	-	-	-	-
Florida Army National Guard	-	5%	95%	100%	-	-	15%	10%	50%	25%
Transient Military Aircraft										
Fighter	75%	25%	-	50%	50%	10%	90%	-	-	-
Cargo and Other	-	100%	-	100%	-	-	100%	-	-	-
Helicopters	-	-	100%	100%	-	5%	95%	-	-	-
Industry / Flight School Tenants										
Tactical Air Support	80%	10%	10%	-	100%	10%	90%	-	-	-
Boeing (F/A-18E/F)	99%	1%	-	-	100%	-	100%	-	-	-
Boeing (P-8 and C-40)	-	100%	-	100%	-	-	-	-	-	-
ManTech	-	100%	-	100%	-	-	-	-	-	-
Flightstar	-	40%	60%	100%	-	-	100%	-	-	-
FSCJ Flight School	-	40%	60%	100%	-	-	100%	-	-	-
Civil Aircraft										
GA, Business Jets, and Air Carrier	-	100%	-	100%	-	10%	90%	-	-	-
Helicopters	-	-	100%	100%	-	5%	95%	-	-	-

Table 10. Future 2041 Distribution of F-35A Operations by Operation Type (All Other Aircraft Distributions Remain Unchanged from Baseline 2021)

Tenants / Aircraft Type	Arrivals			Departures		Closed Patterns				
	Overhead Break	IFR Straight-in	VFR Straight-in	Military / Standard	Afterburner	IFR / GCA Box	Inside VFR / Closed Pull-up	CH-47 Water Bucket	Hot Cargo	Sling Load
Military Tenants										
Florida Air National Guard (F-35A)	90%	10%	-	-	100%	-	-	-	-	-

4.1.4 Time of Day

The operational time of day modeled at Cecil Airport are presented in the following section for the Baseline 2021 and Future 2041 scenarios.

Baseline 2021

To account for increased sensitivity to noise at night, the Day-Night Average Sound Level (DNL) metric applies an additional 10 dB adjustment to events during the acoustical nighttime period, defined as 10 PM to 7 AM. The distribution of Cecil Airport arrival, departure, and closed pattern flight operations between acoustic day (7 AM to 10 PM) and acoustic night (10 PM to 7 AM) was collected via Virtower data and tenant interviews. These data are presented in Table 11.

Future 2041

The time-of-day distribution percentages are projected to remain steady between the Baseline 2021 and Future 2041 scenarios.

Table 11. Distribution of Arrival, Departure, and Pattern Operations by Acoustic Time of Day

Tenants / Aircraft Type	Arrivals		Departures		Closed Patterns	
	Acoustic Day (0700-2200)	Acoustic Night (2200-0700)	Acoustic Day (0700-2200)	Acoustic Night (2200-0700)	Acoustic Day (0700-2200)	Acoustic Night (2200-0700)
Military Tenants						
US Coast Guard	74%	26%	98%	2%	97%	3%
USCBP	99%	1%	100%	-	99%	1%
Florida Air National Guard	100%	-	100%	-	-	-
Florida Army National Guard	99%	1%	99%	1%	100%	-
Transient Military						
All Transient Military Aircraft and Helicopters	97%	3%	99%	1%	97%	3%
Industry / Flight School Tenants						
Boeing	100%	-	100%	-	100%	-
ManTech	100%	-	100%	-	-	-
FlightStar	97%	3%	97%	3%	-	-
FSCJ Flight School	97%	3%	99%	1%	97%	3%
Civil Aircraft						
All Civil Aircraft and Helicopters	95%	5%	99%	1%	99%	1%

4.2 Airport Maintenance/Run-up Operations

The annual maintenance/run-up operations at Cecil Airport are presented in the following section for the Baseline 2021 and Future 2041 scenarios.

Baseline 2021

Cecil Airport's Baseline 2021 annual maintenance/run-up operations are summarized in Table 12. Maintenance/Run-up operations data includes run-up locations, annual run-up events, engine power settings, durations of the engine runs, number of engines running, and heading of the aircraft during the engine runs. The locations of the maintenance/run-up operations are listed in Table 3 and displayed in Figure 2 within Section 3.2.

Future 2041

The Future 2041 annual maintenance/run-up operations are summarized in Table 13. The baseline and future scenario maintenance/run-up operations are the same with two exceptions:

- The Boeing low power runs will move from the existing Boeing Ramp (baseline) to the future Boeing Ramp (future); and
- The Florida Air National Guard's idle hot refueling engine runs of the F-15E (baseline) will be replaced with the F-35A (future).

Table 12. Baseline 2021 Annual Maintenance and Run-up Operations at Cecil Airport

Group	Aircraft Type	Run-up Type	Location	Future 2041 Annual Run-up Events		Reported Power Setting	Average Duration (min)	Number of Engines	Heading
				Acoustic Day 0700-2200	Acoustic Night 2200-0700				
Military Tenants									
US Coast Guard	**MH-65**	Maintenance Runs	USCG	40	-	N/A	45	2	Into Wind
		Pre-Flight Runs		2,450	50		15	2	
USCBP	**P-3**	Low Power Engine Runs	USCBP	48	-	Idle	5	2	East
		High Power Engine Runs	36R Hold / 27L Hold	48	-	Idle	10	2	Into Wind
						High Power	3	2	
		Low Power Maintenance Runs	USCBP	304	16	Idle (1,500 Shaft HP)	20	4	East
		High Power Maintenance Runs	B2_Taxi	143	7	4,600 SHP per engine	20	2	Into Wind
Florida Air National Guard	**F-15E**	Hot Pit Refueling	Hot Pit	672	-	Idle	20	2	North
Florida Army National Guard	**UH-60**	Ground Runs	Army R	50	-	N/A	15	2	Into Wind
		Hover at Compass Rose	Compass	17	-		5	2	
	CH-47	Ground Runs	Army R	50	-		15	2	Into Wind
		Hover at Compass Rose	Compass	17	-		5	2	
	EC-145	Ground Runs	Army R	50	-		15	2	Into Wind
		Hover at Compass Rose	Compass	17	-		5	2	
Transcient Military Aircraft									
All Transcient Military Aircraft	**F/A-18E/F**	Hot Pit Refueling	Hot Pit	884	-	Idle	20	2	North
	F-15E			884	-			2	
	F-35			253	-			1	
	T-45			253	-			1	
	E-2			253	-			2	
	C-130J			136	-			4	
	C-17			181	-			4	
	KC-135R			272	-			4	
	C-5			45	-			4	
	KC-10			136	-			4	
	KC-46			136	-			4	
	C-21			152	-			2	
	P-8			208	-			2	
	C-32 (B757-200)			12	-			2	
	T-6			60	-			1	

Table 12. Baseline 2021 Annual Maintenance and Run-up Operations at Cecil Airport (continued)

Group	Aircraft Type	Run-up Type	Location	Future 2041 Annual Run-up Events		Reported Power Setting	Average Duration (min)	Number of Engines	Heading
				Acoustic Day 0700-2200	Acoustic Night 2200-0700				
Industry / Flight School Tenants									
Tactical Air Support	**F-5**	Low Power Engine Runs	Tactical Air Support R	60	-	Idle	8	2	West
						80%	22	2	
		High Power Engine Runs	High Power	30	-	Idle	20	1	
						80%	6	1	
						Mil	3	1	
						A/B	1	1	
Boeing	**F/A-18E/F**	High Power Engine Runs	High Power	50	-	Idle	5	2	Northwest
						80%	5	2	
						Mil	2.5	2	
						A/B	2.5	2	
		Low Power Engine Runs	Boeing R	200	-	Idle	54	2	South
						80%	6	2	
	C-40	High Power Engine Runs	36R Hold / 27L Hold	1	-	80% N1	5	2	Into Wind
		Low Power Engine Runs	Boeing R	2	-	Idle	60	2	
ManTech	**P-8**	Low Power Engine Runs	Mantech R	6	-	Idle	30	2	West
Flightstar	**B737**	Low Power Maintenance Runs	Flightstar	168	-	Idle (3,000 lbs)	20	2	Into Wind
		High Power Maintenance Runs	A2_Taxi	35	-	Idle (3,000 lbs)	10	2	
						High Power (20,000 lbs)	10	2	
FSCJ Flight School	**Cessna 172/152**	Maintenance Program Test Runs	FSJC R	27	-	Idle	300	1	West
						Mid	120	1	
						Mil	60	1	

Table 13. Future 2041 Annual Maintenance and Run-up Operations at Cecil Airport

Group	Aircraft Type	Run-up Type	Location	Future 2041 Annual Run-up Events		Reported Power Setting	Average Duration (min)	Number of Engines	Heading
				Acoustic Day 0700-2200	Acoustic Night 2200-0700				
Military Tenants									
US Coast Guard	**MH-65**	Maintenance Runs	USCG	40	-	N/A	45	2	Into Wind
		Pre-Flight Runs		2,450	50		15	2	
USCBP	**P-3**	Low Power Engine Runs	USCBP	55	-	Idle	5	2	East
		High Power Engine Runs	36R Hold / 27L Hold	55	-	Idle	10	2	Into Wind
						High Power	3	2	
		Low Power Maintenance Runs	USCBP	350	18	Idle (1,500 Shaft HP)	20	4	East
		High Power Maintenance Runs	B2_Taxi	164	8	4,600 SHP per engine	20	2	Into Wind
Florida Air National Guard	**F-35A**	Hot Pit Refueling	Hot Pit	750	-	Idle	20	2	North
Florida Army National Guard	**UH-60**	Ground Runs	Army R	50	-	N/A	15	2	Into Wind
		Hover at Compass Rose	Compass	17	-		5	2	
	CH-47	Ground Runs	Army R	65	-		15	2	Into Wind
		Hover at Compass Rose	Compass	22	-		5	2	
	EC-145	Ground Runs	Army R	50	-		15	2	Into Wind
		Hover at Compass Rose	Compass	17	-		5	2	
Transcient Military Aircraft									
All Transcient Military Aircraft	**F/A-18E/F**	Hot Pit Refueling	Hot Pit	1,382	-	Idle	20	2	North
	F-15E			1,382	-			2	
	F-35			396	-			1	
	T-45			396	-			1	
	E-2			396	-			2	
	C-130J			213	-			4	
	C-17			283	-			4	
	KC-135R			425	-			4	
	C-5			70	-			4	
	KC-10			213	-			4	
	KC-46			213	-			4	
	C-21			238	-			2	
	P-8			325	-			2	
	C-32 (B757-200)			19	-			2	
	T-6			94	-			1	

Table 13. Future 2041 Annual Maintenance and Run-up Operations at Cecil Airport (continued)

Group	Aircraft Type	Run-up Type	Location	Future 2041 Annual Run-up Events		Reported Power Setting	Average Duration (min)	Number of Engines	Heading
				Acoustic Day 0700-2200	Acoustic Night 2200-0700				
Industry / Flight School Tenants									
Tactical Air Support	**F-5**	Low Power Engine Runs	Tactical Air Support R	80	-	Idle	8	2	West
						80%	22	2	
		High Power Engine Runs	High Power	50	-	Idle	20	1	
						80%	6	1	
						Mil	3	1	
						A/B	1	1	
Boeing	**F/A-18E/F**	High Power Engine Runs	High Power	60	-	Idle	5	2	Northwest
						80%	5	2	
						Mil	2.5	2	
						A/B	2.5	2	
		Low Power Engine Runs	Boeing F	240	-	Idle	54	2	South
						80%	6	2	
	C-40	High Power Engine Runs	36R Hold / 27L Hold	10	-	80% N1	5	2	Into Wind
		Low Power Engine Runs	Boeing F	20	-	Idle	60	2	
ManTech	**P-8**	Low Power Engine Runs	Mantech R	30	-	Idle	30	2	West
Flightstar	**B737**	Low Power Maintenance Runs	Flightstar	302	-	Idle (3,000 lbs)	20	2	Into Wind
		High Power Maintenance Runs	A2_Taxi	63	-	Idle (3,000 lbs)	10	2	
						High Power (20,000 lbs)	10	2	
FSCJ Flight School	**Cessna 172/152**	Maintenance Program Test Runs	FSJC R	35	-	Idle	300	1	West
						Mid	120	1	
						Mil	60	1	

4.3 Spaceport Flight Operations

The subsections below detail the modeling data collected for spaceport operations at Cecil Spaceport. The annual spaceport flight operations are presented for the Baseline 2021 and Future 2041 scenarios. The data collected includes annual flight operations, fleet mix, runway utilization, and acoustic day/night utilization. Spaceport flight operations data were collected via interviews with Cecil Spaceport and JAA personnel.

Baseline 2021

No spaceport flight operations are modeled for the Baseline 2021 scenario.

Future 2041

Cecil Spaceport plans to support up to 26 Concept X and 26 Concept Z RLV flight operations by 2041.

The **Concept X RLV** is an all-in-one dual-propulsion vehicle. The Concept X RLV takes off from a runway using jet power, similar to an airplane, and flies to a designated operating area and altitude before igniting its rocket engines to reach its apogee in sub-orbit. The Concept X RLV is able to land horizontally by either restarting its jet engines or by gliding unpowered.

- The Concept X's jet powered launches and landings at Cecil Spaceport are modeled using the F/A-18E/F Super Hornet as a surrogate.
- Rocket powered flight operations are modeled using Virgin Orbit's LauncherOne as a representative vehicle. The LauncherOne's NewtonThree engine uses LOX/RP-1 propellant, generating a sea level thrust of approximately 335 kilonewtons and mass flow rate of 120 kilograms/second.

The **Concept Z RLV** is a two-part vehicle consisting of a reusable carrier aircraft and a reusable or an expendable space vehicle. The carrier aircraft is powered by jet engines and designed/modified to carry the vehicle to a designated operating area and altitude, where the two components detach, and the rocket engines of the space vehicle ignite. The carrier aircraft returns under jet power for a normal aircraft landing. The space vehicle may return for a horizontal landing or be expended.

- The Concept Z carrier aircraft's launches and landings are modeled using the Boeing 747-400.
- Rocket powered flight operations are modeled using Rocketplane XP as a representative vehicle. The Rocketplane's engine uses LOX/RP-1 propellant, generating a sea level thrust of approximately 160 kilonewtons and mass flow rate of 65 kilograms/second.

The modeled annual spaceport flight operations for the Future 2041 scenario are summarized in Table 14. The future Concept X/Z operations are expected to occur on Runway 18L/36R. The runway utilization was derived from the airport runway utilization (Table 8) for all non-GA/helicopter operations. A nominal flight track was used to model the Concept X and Z flight operations.

Table 14. Future 2041 Annual RLV Flight Operations Modeled at Cecil Spaceport

Vehicle Name/ Representative	**Runway Name**	**Runway Use**	**Annual Operations** Acoustic Day 0700 – 2200	Acoustic Night 2200 – 0700	Total
Concept X	18L	46%	10	2	12
Rocketplane	36R	54%	11	3	14
Concept Z	18L	46%	10	2	12
LauncherOne	36R	54%	11	3	14

4.4 Spaceport Static Engine Test Operations

The modeled annual spaceport static engine test operations for the Baseline 2021 and Future 2041 scenarios are summarized in Table 15.

Baseline 2021

Cecil Spaceport currently supports up to twelve 100-second static engine tests operations per year at its Test Site 1. The noise and emissions from the Baseline 2021 static engine test operations are modeled using the Rocket Lab Rutherford as a representative engine. The Rutherford engine uses LOX/RP-1 as propellant, generating a sea level thrust of approximately 25 kilonewtons and mass flow rate of 7 kilograms/second.

Future 2041

Static engine testing is projected to increase to 52 annual operations. These future operations will be conducted at Cecil Spaceport's Test Site 2 to accommodate testing of larger engines. The noise and emissions from the Future 2041 static engine test operations are modeled using the Virgin Orbit NewtonThree as a representative engine. The NewtonThree engine uses LOX/RP-1 as propellant, and is significantly larger than the Rutherford, generating a sea level thrust of approximately 335 kilonewtons and mass flow rate of 120 kilograms/second.

Table 15. Annual Static Engine Test Operations Modeled at Cecil Spaceport

Scenario	**Engine**	**Location**	**Duration**	**Annual Operations** Acoustic Day 0700 – 2200	Acoustic Night 2200 – 0700	Total
Baseline 2021	Rutherford	Test Site 1	100 sec	10	2	12
Future 2041	NewtonThree	Test Site 2	100 sec	48	4	52

5 NOISE MODELING RESULTS

Civil, military, and commercial space operations generate noise that has the potential to affect residents and land uses. The FAA's Aviation Environmental Design Tool (AEDT) Version 3e [1] (see Appendix D.1) was used to model noise generated from Cecil Airport's civil, military, and commercial space "aviation" activities. BRRC's Rocket Noise and Emissions Simulation Model (RUMBLE) Version 4.1 [2] (see Appendix D.2) was used to model the rocket propulsion noise from Cecil Spaceport's commercial space activities.

The cumulative noise results (civil + military + commercial space) are presented in the form of Day Night Average Sound Level (DNL) contours in Section 5.1. DNL is FAA's primary noise metric to quantify the cumulative exposure of individuals to noise from aviation activities [3]. As the DNL metric may not fully describe the noise experienced during a commercial space noise event, supplemental noise metrics are presented in Section 5.2 to evaluate potential impacts to people and structures.

An overview of the basics of sound is provided in Appendix C. Additionally, a comprehensive listing of acoustical terminology and definitions is available in the American National Standards Institute's (ANSI) "Acoustical Terminology" standard (ANSI S1.1-1994) [4].

5.1 Potential for Long-Term Community Annoyance

The potential for long-term community annoyance is assessed using DNL. DNL accounts for the A-weighted sound exposure level (SEL) of all noise events in an average annual day; and accounts for increased sensitivity during the acoustical nighttime period. DNL is based on long-term cumulative noise exposure and has been found to correlate with long-term community annoyance for regularly occurring events, including aircraft, rail, and road noise [5, 6]. Exhibit 4-1 of FAA Order 1050.1F [3] defines the FAA's significance threshold for noise. An action is considered significant if it would increase noise in a noise-sensitive area by DNL 1.5 dBA or more, and the resulting noise exposure level is at least DNL 65 dBA. For example, an increase from DNL 65.5 dBA to 67.0 dBA is considered a significant impact, as is an increase from DNL 63.5 dBA to 65.0 dBA. The DNL contours at Cecil Airport are presented in the following section for the Baseline 2021 and Future 2041 scenarios.

Baseline 2021

The Cecil Airport and Spaceport DNL contours from 60 dBA to 85 dBA are presented in Figure 5 for Baseline 2021 activities. In general, the shape of the Cecil Airport and Spaceport Baseline 2021 DNL contours outline the runways, maintenance locations, and rocket static engine test site. The extension of the contours along the runway centerlines, several miles past the runway thresholds, is due to straight-in arrivals.

The contour "hooks" to the north/south from Runway 9/27 and east/west from Runway 18L/36R are driven by the Super Hornet departures and overhead break arrivals. Note, the Super Hornet overhead break arrivals only break south from Runway 9/27 and east from Runway 18L/36R. For reference, Figure 6 displays the DNL 65 dBA contour with the arrival, departure, and pattern flight tracks of the F/A-18E/F Super Hornet.

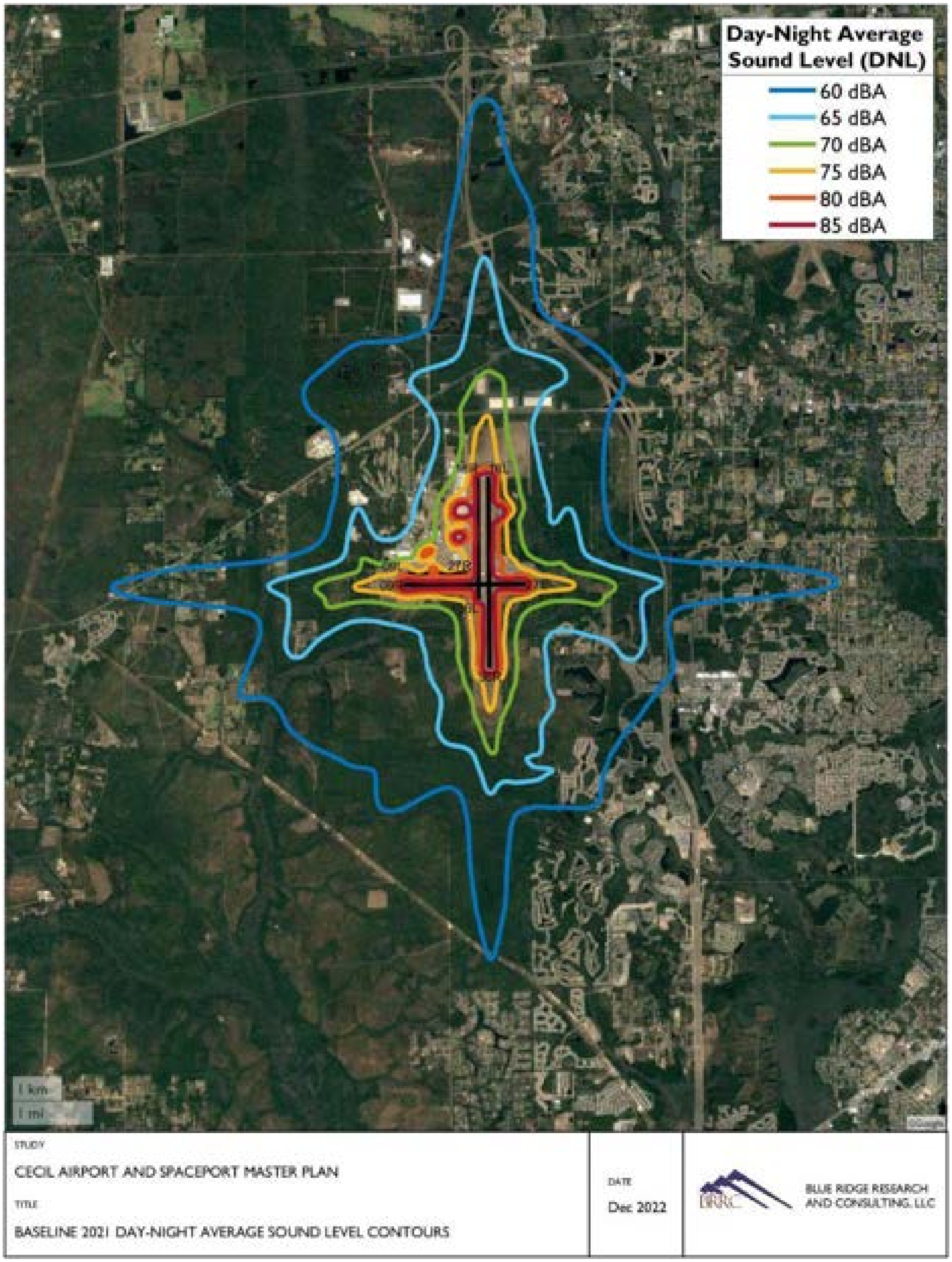


Figure 5. Baseline 2021 DNL Noise Contours at Cecil Airport and Spaceport

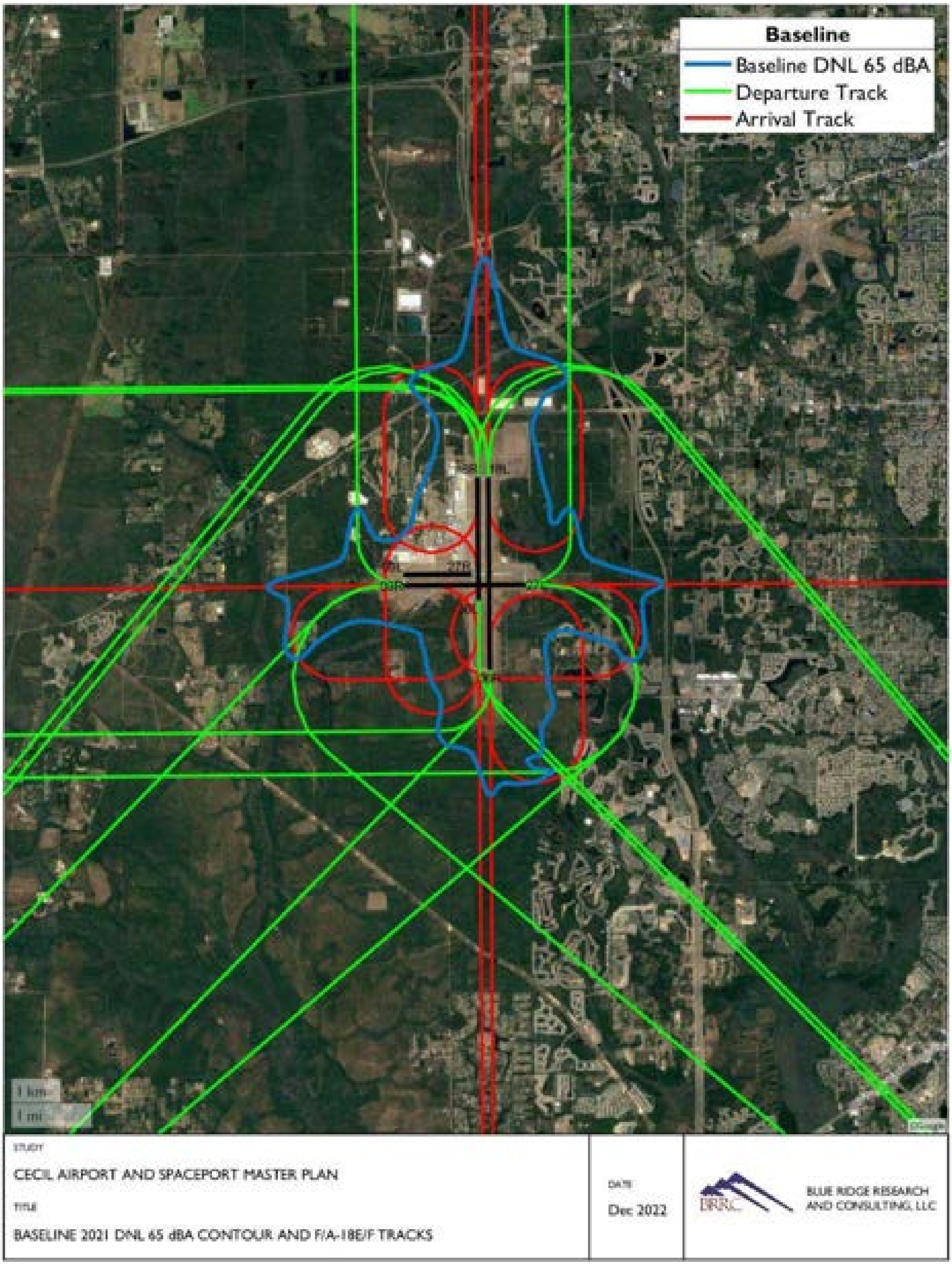


Figure 6. Baseline 2021 DNL 65 dBA with F/A-18E/F Overhead Break Arrival and Departure Tracks

Future 2041

The Cecil Airport and Spaceport DNL contours from 60 dBA to 85 dBA are presented in Figure 7 for Future 2041 activities. These Future 2041 DNL contours are similar in shape to the Baseline 2021 contours because the flight tracks are identical between the two scenarios. However, the increase in operations for the Future 2041 scenario results in larger DNL contours in all areas relative to the Baseline 2021 contours. Additionally, the increase in rocket engine static test operations for the Future 2041 scenario is reflected in the DNL contours near the rocket engine test site.

A comparison between the Baseline 2021 and Future 2041 DNL 65 dBA contours is presented in Figure 8. The Future 2041 DNL contours expand in all areas, although there is a larger gap (i.e., the difference in distance between the Baseline and Future 65 dBA DNL contours) to the east of Runway 18L/36R. This is because the closed patterns and overhead break arrivals on this runway for the fighter jet aircraft are to the east. There is also a large increase in the "hook" to the west that is located north of Runway 18L/36R. This is due to the heavily utilized departure tracks that turn west/southwest from Runways 36L and 36R.

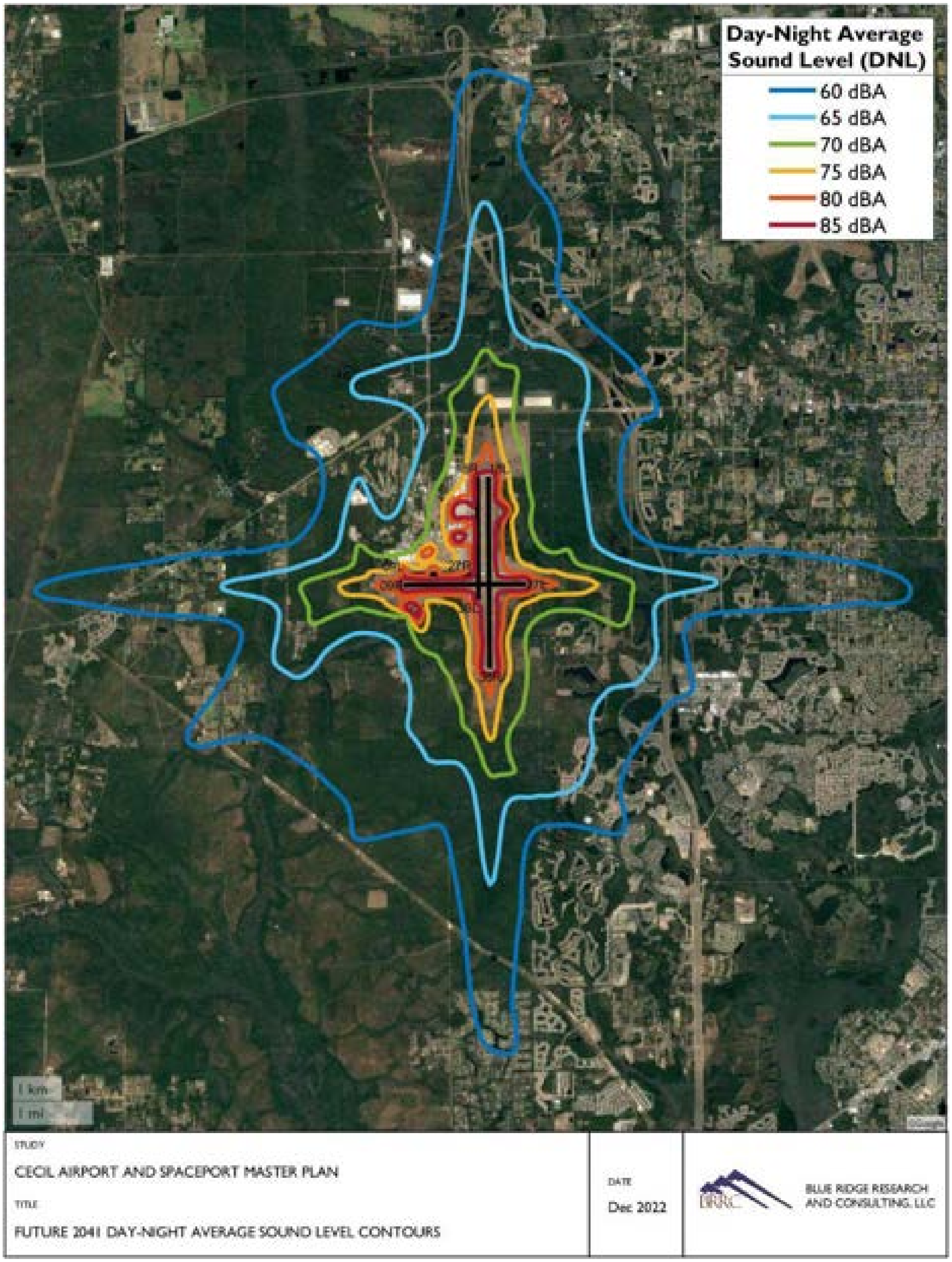


Figure 7. Future 2041 DNL Noise Contours at Cecil Airport and Spaceport

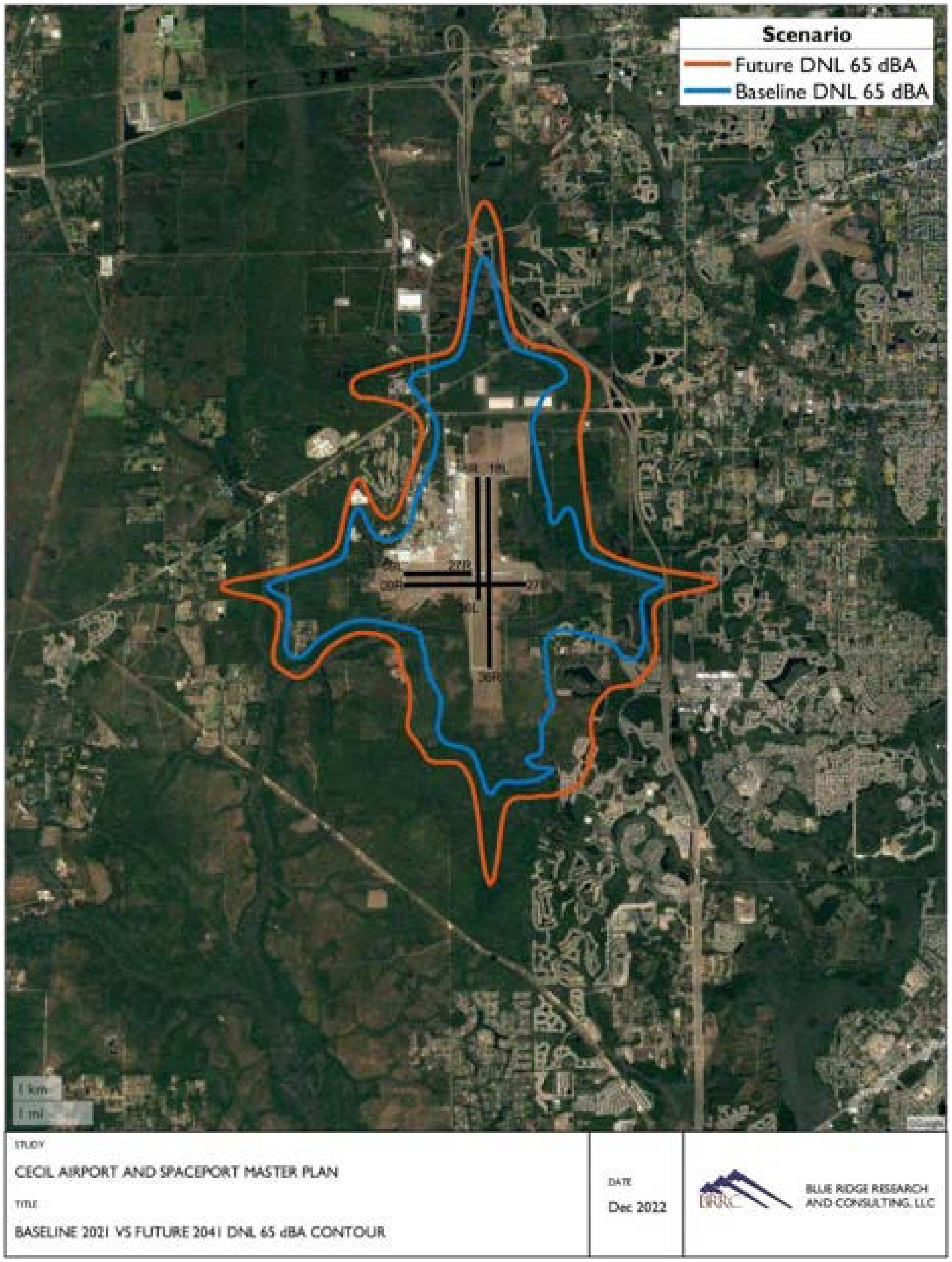


Figure 8. Baseline 2021 (Blue) vs Future 2041 (Red) 65 dBA DNL Contour

5.2 Supplemental Rocket Propulsion Noise Results

The DNL metric may not fully describe the noise experienced during a commercial space noise event; thus, supplemental noise metrics are provided to assist in evaluating the potential impacts to people and structures. The modeled noise generated by Cecil Spaceport static rocket engine test operations are presented with respect to two noise effects: noise-induced hearing impairment and noise-induced vibration effects on structures.

The jet engine noise from the Concept X's jet engines and the Concept Z's carrier aircraft are included in the AEDT aircraft noise modeling results. As the Concept X/Z's rocket engines do not ignite until the vehicles are at altitudes greater than 40,000 ft, the effect of the noise on the community is negligible. Thus, the RUMBLE noise modeling results presented in this section are limited to the Cecil Spaceport static engine test operations.

Noise-Induced Hearing Impairment

U.S. government agencies provide guidelines on permissible noise exposure limits to unprotected human hearing. These guidelines are in place to protect human hearing from long-term continuous daily exposures to high noise levels and aid in the prevention of noise-induced hearing loss (NIHL). A number of federal agencies have set exposure limits on non-impulsive noise levels, including the Occupational Safety and Health Administration (OSHA) [7], National Institute for Occupational Safety and Health (NIOSH) [8], and the Department of Defense (DoD) Occupational Hearing Conservation Program [9]. The most conservative of these upper noise level limits is the OSHA standard, which specifies that exposure to continuous steady-state noise is limited to a maximum of 115 dBA. At 115 dBA, the allowable exposure duration is 15 minutes for OSHA and 28 seconds for NIOSH and DoD. Maximum A-weighted Sound Level ($L_{A,max}$) can be used to identify potential locations where hearing protection should be considered for rocket operations.

The modeled $L_{A,max}$ contours are presented in Figure 9 for Baseline 2021 static engine test operations at Test Stand 1 and in Figure 10 for Future 2041 static engine test operations at Test Stand 2. The Baseline 2021 static engine test operations at Test Stand 1 may generate levels at or above an $L_{A,max}$ of 115 dBA within 417 feet of Test Stand 1, as shown in Figure 9. The Future 2041 static engine test operations at Test Stand 2 may generate levels at or above an $L_{A,max}$ of 115 dBA within 1.4 miles of Test Stand 2, as shown in Figure 10. The entire land area encompassed by the Baseline 2021 or Future 2041 $L_{A,max}$ 115 dBA noise contours lie within the boundaries of Cecil Airport and Spaceport.

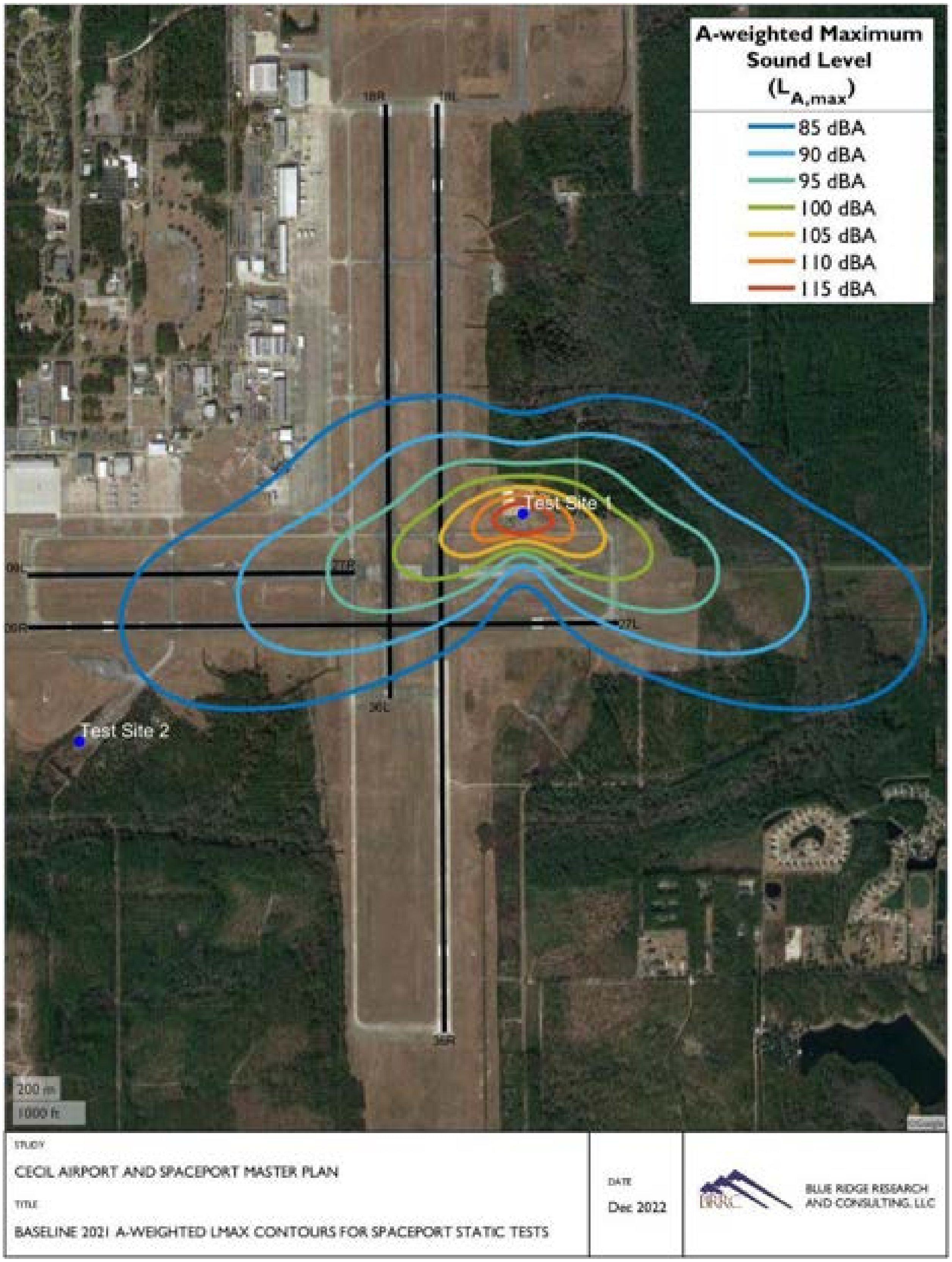


Figure 9. Baseline 2021 A-weighted Maximum Sound Level Contours at Cecil Spaceport

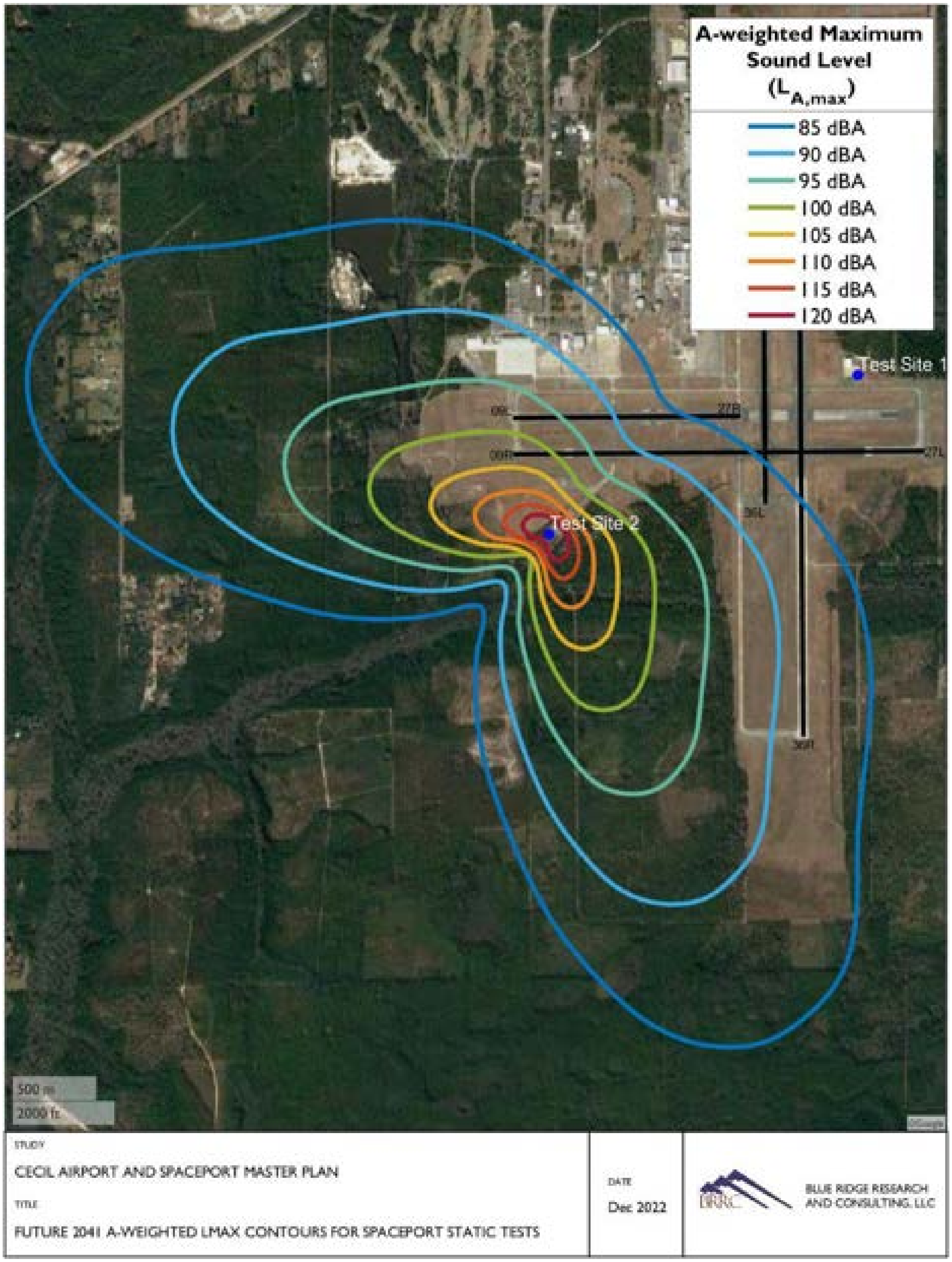
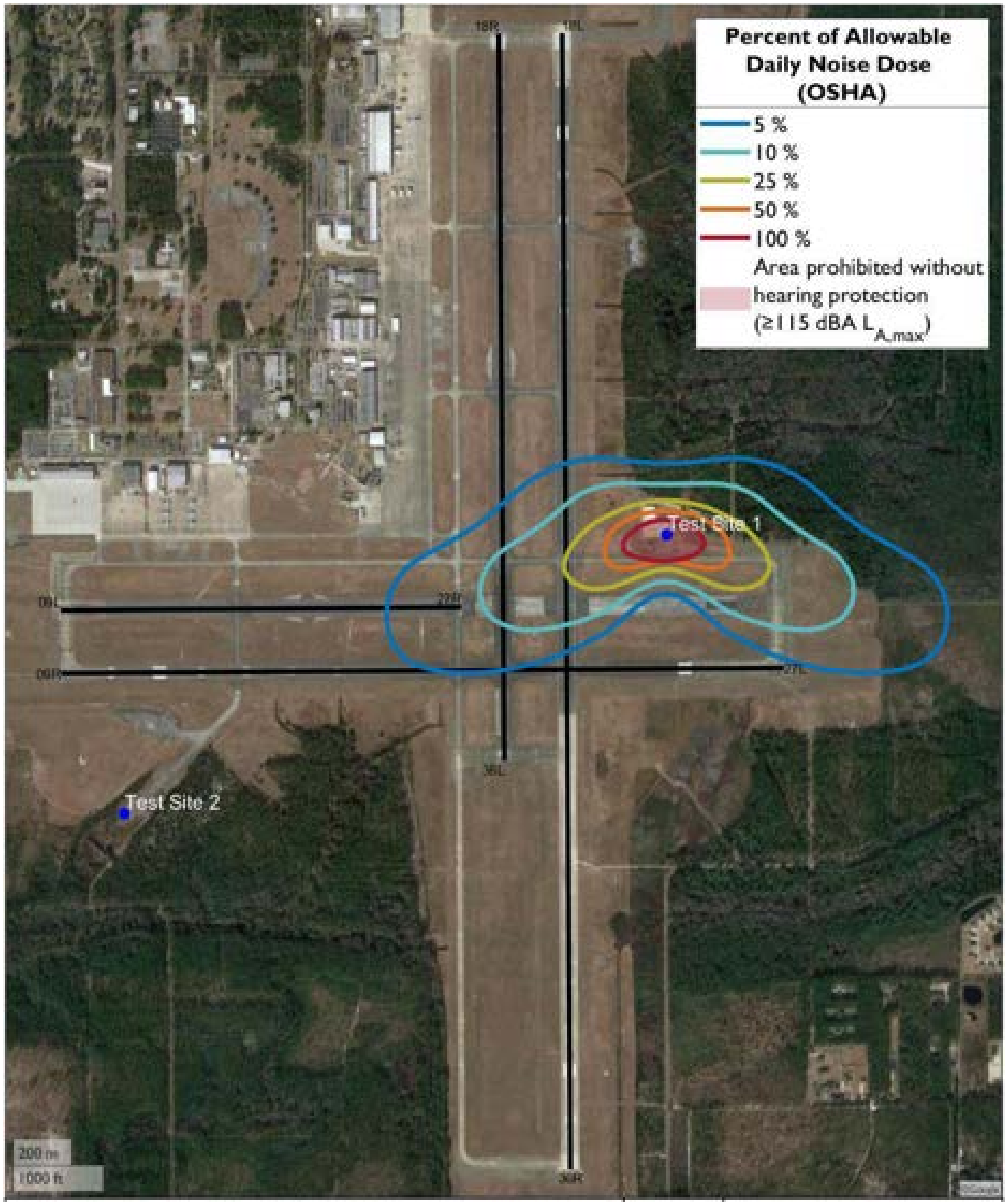


Figure 10. Future 2041 A-weighted Maximum Sound Level Contours at Cecil Spaceport

In addition to the maximum exposure limits, OSHA standards also specify a daily noise dose which accounts for the energy over the duration of the event(s). Although the daily noise dose metric was established to protect workers against NIHL, the results can also help contextualize the noise exposure in the community. The level of exposure is typically calculated in terms of a daily noise dose, which is a function of the sound exposure normalized to an 8-hour workday. For example, a person will reach 100% of their daily noise dose after 15 minutes of exposure to 115 dBA. A person will also reach 100% of their daily noise dose after 8 hours of exposure to 90 dBA.

The modeled allowable daily noise dose contours are presented in Figure 11 for Baseline 2021 static engine test operations at Test Stand 1 and in Figure 12 for Future 2041 static engine test operations at Test Stand 2. People in the community will reach less than 5% of their daily noise dose when exposed to noise from a single Baseline 2021 or Future 2041 static engine test operation. Thus, the potential for impacts from Cecil Spaceport static engine test operations to people in the community with regards to hearing conservation is negligible.



STUDY
CECIL AIRPORT AND SPACEPORT MASTER PLAN
TITLE
BASELINE 2021 DAILY NOISE DOSE FOR SPACEPORT STATIC TESTS
DATE
Dec 2022
BLUE RIDGE RESEARCH AND CONSULTING, LLC

Figure 11. Baseline 2021 Allowable Daily Noise Dose Contours at Cecil Spaceport

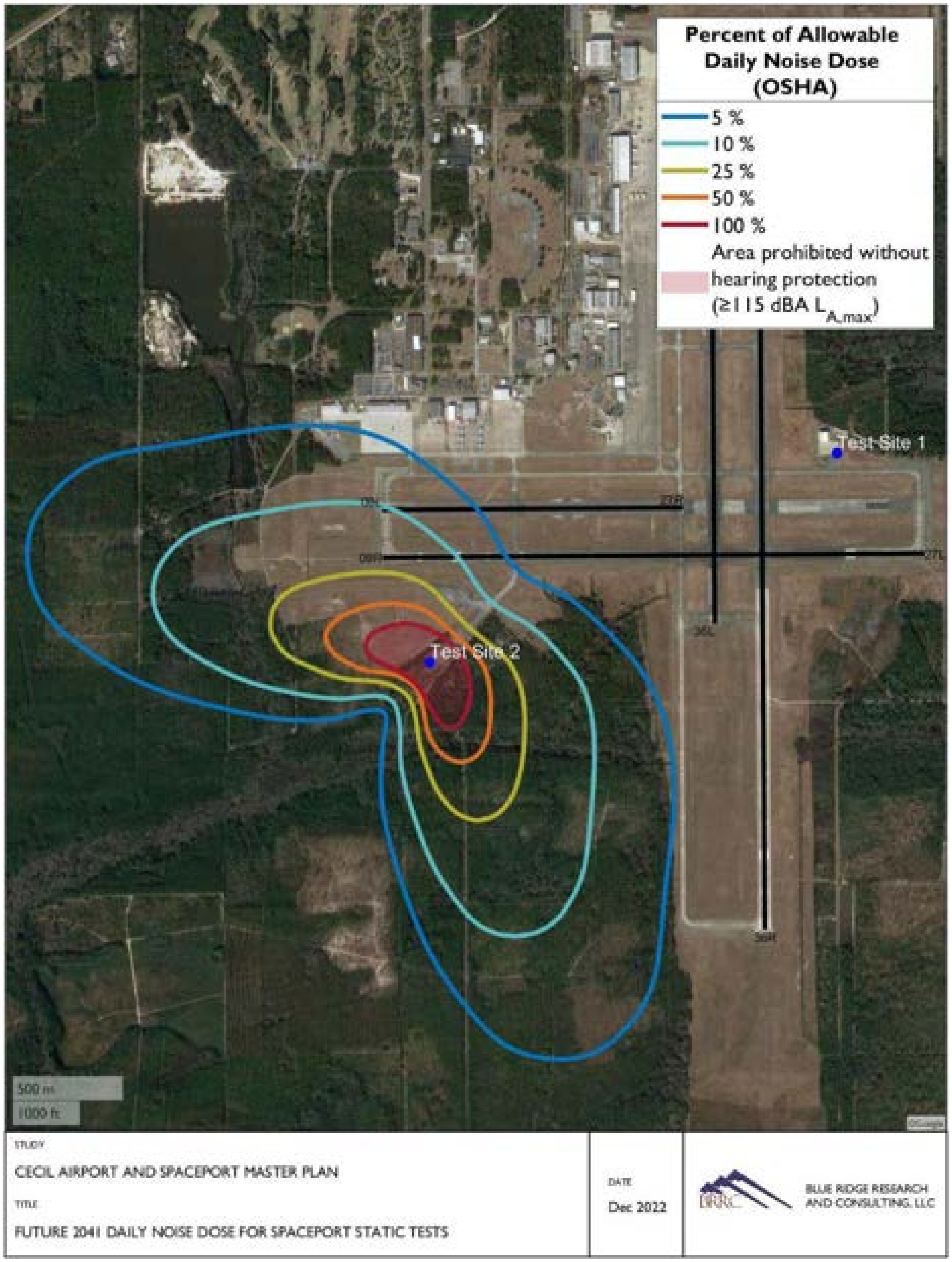


Figure 12. Future 2041 Allowable Daily Noise Dose Contours at Cecil Spaceport

Noise-Induced Vibration Effects on Structures

Windows are typically the most sensitive components of a structure to launch vehicle noise. Infrequently, plastered walls and ceilings may also be affected. The potential for damage to a structure depends on the incident sound, the condition and material of the structural element, and the installation of each element.

A National Aeronautics and Space Administration (NASA) technical memo [10] concluded that the probability of structural damage is proportional to the intensity of the low frequency sound. The conclusions were based on community responses to 45 ground tests of the first and second stages of the Saturn V rocket system conducted in Southern Mississippi over a period of five years. The memo found that the estimated number of damage claims is one in 100 households exposed to an average continuous sound level of 120 dB (unweighted) and one in 1,000 households exposed to 111 dB (unweighted).

The modeled contours for the potential of damage claims are presented in Figure 13 for Baseline 2021 static engine test operations at Test Stand 1 and in Figure 14 for Future 2041 static engine test operations at Test Stand 2. The 1:1,000 damage claims and 1:100 damage claims contours from Cecil Spaceport static engine test operations lie within the boundaries of Cecil Airport and Spaceport.

Figure 13. Baseline 2021 Potential for Damage Claims Contours at Cecil Spaceport

Figure 14. Future 2041 Potential for Damage Claims Contours at Cecil Spaceport

6 EMISSIONS MODELING RESULTS

Emissions inventories were computed for Cecil Airport and Spaceport operational activity against a database of emission factors based on engine manufacturer, model, and operational mode. An emissions inventory provides the total amount or mass of pollutants generated by various sources during a specific period. The FAA's Aviation Environmental Design Tool (AEDT) Version 3e [1] (see Appendix D.1) was used to model emissions generated from Cecil Airport's civil, military, and commercial space "aviation" activities. BRRC's Rocket Noise and Emissions Simulation Model (RUMBLE) Version 4.1 [2] (see Appendix D.3) was used to model the rocket propulsion emissions from Cecil Spaceport's commercial space activities.

The emissions results are presented in the form of emissions inventories, which enumerate the masses of the various pollutants emitted as a result of Cecil Airport and Spaceport operations. Section 6.1 presents the Cecil Airport emissions inventory (civil + military + commercial space) and Section 6.2 presents the Cecil Spaceport emissions inventory.

6.1 Airport Emissions

The emissions related to aircraft operations at Cecil Airport were modeled using AEDT. The results of the emissions modeling are expressed in the form of an emissions inventory, which enumerates the amounts of pollutants emitted by the aircraft operations. The annual emissions inventory for all taxiing, landings and takeoffs, and engine run-ups of all modeled aircraft are shown in Table 16 for the Baseline 2021 and Future 2041 scenarios. Note, the annual emissions inventory for taxiing operations was developed using AEDT's default inputs.

The six most common air pollutants with known health impacts that were regulated as criteria pollutants by the 1970 Clean Air Act are:

- Carbon Monoxide (CO),
- Volatile Organic Compounds (VOC),
- Oxides of Nitrogen (NO_x),
- Sulfur Oxides (SO_x),
- Particulate Matter (PM) 2.5, and
- Particulate Matter (PM) 10.

Only these criteria pollutants and Green House Gas (GHG) Carbon Dioxide (CO_2) emissions are presented in Table 16. The full emissions output data from AEDT for the Baseline 2021 and Future 2041 scenarios is displayed in Appendix B. The emission inventory for the criteria pollutants is provided below the 3,000 ft above ground level (AGL) mixing height. The mixing height is defined as the height above the surface throughout which a pollutant can be dispersed. The full extent of the climb and rise (to above 10,000 ft AGL) was used for the CO_2 emissions, as the standard for GHG is to present the full emissions of all flights regardless of mixing height.

The Baseline 2021 and Future 2041 emissions results in Table 16 are followed by a presentation of the increase in annual emissions from Baseline 2021 to Future 2041. All emissions increased with one exception: VOC's from engine run-ups decreased for the Future 2041 scenario due to the Florida Air National Guard's replacement of the F-15E with the F-35A by 2041.

Table 16. Annual Pollutant Mass in Metric Tons (10^3 kg) Per Year Emitted by Cecil Airport Baseline 2021 and Future 2041 Operations

	CO	VOC	NO_x	SO_x	PM10	PM2.5	CO_2
Baseline 2021							
Taxiing	144.9	39.7	9.8	3.7	0.3	0.3	9,858
Landings and Takeoffs	284.3	46.6	55.1	10.6	1.0	1.0	44,358
Engine Run-ups	328.4	55.5	381.7	47.1	5.6	5.6	126,754
Total	757.7	141.8	446.6	61.3	6.9	6.9	180,970
Future 2041							
Taxiing	218.5	64.6	12.9	5.1	0.5	0.5	13,836
Landings and Takeoffs	393.2	72.7	78.1	15.0	1.4	1.4	64,306
Engine Run-ups	477.2	54.2	538.1	63.4	6.2	6.2	170,915
Total	1088.8	191.6	629.0	83.6	8.1	8.1	249,057
Increase from Baseline 2021 to Future 2041							
Taxiing	+73.6	+24.9	+3.1	+1.5	+0.2	+0.2	+3,978
Landings and Takeoffs	+108.8	+26.2	+23.0	+4.4	+0.4	+0.4	+19,947
Engine Run-ups	+148.7	-1.3	+156.4	+16.4	+0.6	+0.6	+44,161
Total	+331.1	+49.8	+182.4	+22.3	+1.2	+1.2	+68,087

6.2 Spaceport Emissions

The emissions related to rocket propulsion at Cecil Spaceport were modeled using RUMBLE. Emissions that are generated below the mixing height are due to the rocket static engine testing operations. Emissions generated above the mixing height are due to the rocket-powered portion of the Concept X and Concept Z flight operations. Note, the emissions from the Concept X's jet powered flight operations and the Concept Z's carrier aircraft operations are included in the AEDT modeling results presented in Section 6.1.

The pollutant masses emitted below the 3,000 ft AGL mixing height are presented in Table 17 for the criteria pollutants as well as GHG carbon dioxide (CO_2) and water (H_2O). CO_2 and water vapor (H_2O) are the pollutants emitted in the greatest quantities because they are the products of complete combustion between oxygen and RP-1 (kerosene). However, the combustion process in a rocket engine is typically incomplete. Carbon monoxide (CO) and a small amount of black carbon (BC) are emitted due to incomplete combustion inside the rocket engine. Black carbon, commonly known as soot, is the only significant source of particulate matter (PM) emitted. Furthermore, nitrogen oxides (NO_x) are emitted due to afterburning between the extremely high-temperature exhaust plume and nitrogen from the surrounding air. No alumina (Al_2O_3) or chlorine species (Cl_x) are emitted because the propellant does not include aluminum or chlorine compounds. RUMBLE does not model sulfur dioxide (SO_2) and volatile organic compound (VOC) emissions. SO_2 emissions are negligible because sulfur impurities occur in extremely low concentrations in RP-1. Additionally, VOCs are not typically emitted by launch vehicles. Table 17 provides the emissions inventory for the Baseline 2021 and Future 2042 scenarios, followed by the increase in annual emissions from Baseline 2021 to Future 2041.

Table 17. Annual Pollutant Mass in Metric Tons (10^3 kg) Per Year Emitted by Baseline 2021 and Future 2041 Cecil Spaceport Static Rocket Engine Test Operations

	CO	VOC	NO_x	SO_x	PM10	PM2.5	CO_2	H_2O
Baseline 2021								
Rocket Engine Tests	0.01	-	0.27	-	0.01	0.01	7	3
Future 2041								
Rocket Engine Tests	1.13	-	20.58	-	0.62	0.62	583	233
Increase from Baseline 2021 to Future 2041								
Rocket Engine Tests	+1.12	-	+20.31	-	+0.61	+0.61	576	230

The pollutant masses emitted above the 3,000 ft AGL mixing height are presented in Table 18 by atmospheric layer and are limited to the stratosphere and mesosphere. The amount of each pollutant emitted varies with altitude due to altitude-dependent chemical processes. At low altitudes, CO is nearly completely oxidized to CO_2 by reactions with oxygen molecules from the surrounding air. However, the rate of oxidation decreases at higher altitudes because fewer oxygen molecules are present in the lower-density air. Thus, the amount of CO increases as altitude increases. Similarly, BC is nearly completely oxidized to CO and CO_2 at low altitudes, but the amount of BC also increases at higher altitudes due to decreasing oxidation. Conversely, since NO_x is formed by afterburning between the high-temperature exhaust plume and nitrogen from the surrounding air, NO_x production decreases with altitude because fewer nitrogen molecules are present in the lower-density air.

Table 18. Annual Pollutant Mass in Metric Tons (10^3 kg) Per Year Emitted by Future 2041 Cecil Spaceport Flight Operations

		CO	VOC	NO_x	SO_x	PM10	PM2.5	CO_2	H_2O
Future 2041									
Concept X/Y	Stratosphere	3.6	-	0.21	-	1.8	1.8	321	131
	Mesosphere	19.7	-	0.00	-	2.5	2.5	62	37
	Total	23.3	-	0.21	-	4.3	4.3	383	168

APPENDIX A AIRPORT FLIGHT TRACKS

A.1 Flight Track Directions

The traffic flow/flight tracks for arrivals, departures, and patterns at Cecil Airport were developed based on the discussions with each of the tenants and Air Traffic Control. Cecil Airport's flight track directional flow utilizations for each operation type and runway/helipad are summarized in Table 19 through Table **24**.

- Aircraft departures from Runways 18/36 are presented in Table 19,
- Aircraft departures from Runways 9/27 are presented in Table 20,
- Aircraft arrivals from Runways 18/36 are presented in Table 21,
- Aircraft arrivals from Runways 9/27 are presented in Table 22,
- Aircraft patterns are presented in Table 23, and
- Helicopter departure, arrival, and pattern directions are presented in Table **24**.

Flight track maps for each tenant/group are presented in Appendix A.2.

- The U.S. Customs and Border Protection (USCBP) sorties are categorized as mission sorties (60%) or training sorties (40%). Approximately 70% of the mission sorties fly to the southwest (South America) and 30% fly to the southeast (around Cuba). Training sorties fly exclusively to the west.
- Florida Air National Guard flights depart and arrive 70% of the time from the east over the water and 30% of the time from the southeast (Lake George).
- Florida Army National Guard flights fly 40% to the southwest, 30% to the east to southeast (south of NAS JAX Class Delta), and 30% of flights depart in random directions or IFR departures.
- Tactical Air Support flights go to the Live Oak MOA to the west 85% of the time and the remaining 15% of test flights utilize a stereo route to go around the JAX airport airspace. This routes the F-5 down to the south around the downtown area and out to the Warning Area over the water.
- Flightstar aircraft operations were modeled with equal traffic utilization in all directions.

Table 19. Cecil Airport Aircraft Departures Distributions from Runways 18L/36R and 18R/36L (NM = Nautical Mile)

Flight Track	Military Tenants		Transient	Industry / Flight School Tenants			Civil Aircraft
	USCBP	Florida Air National G.	All Transient Military	Tactical Air Support	Boeing and ManTech	FSCJ Flight School	All Civil Aircraft
Departures from Runway 18L							
Southwest	42%	-	25%	-	-	20%	25%
Southeast	18%	-	25%	-	50%	15%	25%
West	40%	-	25%	-	50%	60%	25%
North	-	-	25%	-	-	5%	25%
Southeast (turn 2 NM past runway end)	-	-	-	15%	-	-	-
West (turn 2 NM past runway end)	-	-	-	85%	-	-	-
Departures from Runway 18R							
Southwest	42%	-	25%	-	-	20%	25%
Southeast	18%	-	25%	-	50%	15%	25%
West	40%	-	25%	-	50%	60%	25%
North	-	-	25%	-	-	5%	25%
Southeast (turn 2 NM past runway end)	-	-	-	15%	-	-	-
West (turn 2 NM past runway end)	-	-	-	85%	-	-	-
Departures from Runway 36L							
Southwest	42%	-	25%	-	-	20%	25%
Southeast	18%	-	25%	-	50%	15%	25%
West	40%	-	25%	-	50%	60%	25%
North	-	-	25%	-	-	5%	25%
Southeast (turn 2 NM past runway end)	-	-	-	15%	-	-	-
West (turn 2 NM past runway end)	-	-	-	85%	-	-	-
Departures from Runway 36R							
Southwest	42%	-	25%	-	-	20%	25%
Southeast	18%	-	25%	-	50%	15%	25%
West	40%	-	25%	-	50%	60%	25%
East (longer straight-out segment)	-	70%	-	-	-	-	-
Southeast (longer straight-out segment)	-	30%	-	15%	-	-	-
North	-	-	25%	-	-	5%	25%
West (turn 2 NM past runway end)	-	-	-	85%	-	-	-

Table 20. Cecil Airport Aircraft Departure Distributions from Runways 09L/27R and 09R/27L (NM = Nautical Mile)

Flight Track	Military Tenants		Transient	Industry / Flight School Tenants			Civil Aircraft
	USCBP	Florida Air National G.	All Transient Military	Tactical Air Support	Boeing and ManTech	FSCJ Flight School	All Civil Aircraft
Departures from Runway 18L							
Southwest	-	-	-	-	-	20%	25%
Southeast	-	-	-	-	-	15%	25%
West	-	-	-	-	-	60%	25%
North	-	-	-	-	-	5%	25%
Departures from Runway 09R							
Southwest	42%	-	20%	-	-	20%	20%
Southeast	18%	30%	20%	-	50%	15%	20%
West	40%	-	20%	-	50%	60%	20%
East	-	70%	20%	-	-	-	20%
North	-	-	20%	-	-	5%	20%
Southeast (turn 2 NM past runway end)	-	-	-	15%	-	-	-
West (turn 2 NM past runway end)	-	-	-	85%	-	-	-
Departures from Runway 27L							
Southwest	42%	-	25%	-	-	20%	25%
Southeast	18%	-	25%	-	50%	15%	25%
West	40%	-	25%	85%	50%	60%	25%
North	-	-	25%	-	-	5%	25%
Southeast (turn 2 NM past runway end)	-	-	-	15%	-	-	-
Departures from Runway 27R							
Southwest	-	-	-	-	-	20%	25%
Southeast	-	-	-	-	-	15%	25%
West	-	-	-	-	-	60%	25%
North	-	-	-	-	-	5%	25%

Table 21. Cecil Airport Aircraft Arrival Distributions to Runways 18L/36R and 18R/36L

Flight Track	Military Tenants		Transient		Industry / Flight School Tenants			Civil Aircraft
	USCBP	Florida Air National G.	Military Fighters	Military Cargo	Tactical Air Support	Boeing F/A-18E/F	FSCJ Flight School	Civil Aircraft & Boeing P-8
Arrivals to Runway 18L								
Straight-in (IFR and VFR)	100%	10%	25%	100%	20%	2%	43%	100%
Overhead Break from Southeast	-	27%	25%	-	12%	49%	-	-
Overhead Break from East	-	63%	25%	-	-	-	-	-
Overhead Break from West	-	-	25%	-	68%	49%	-	-
VFR Straight-in from West	-	-	-	-	-	-	36%	-
VFR Straight-in from South	-	-	-	-	-	-	21%	-
Arrivals to Runway 18R								
Straight-in (IFR and VFR)	100%	-	25%	100%	20%	2%	43%	100%
Overhead Break from Southeast	-	-	38%	-	12%	49%	-	-
Overhead Break from West	-	-	37%	-	68%	49%	-	-
VFR Straight-in from West	-	-	-	-	-	-	36%	-
VFR Straight-in from South	-	-	-	-	-	-	21%	-
Arrivals to Runway 36L								
Straight-in (IFR and VFR)	100%	-	25%	100%	20%	2%	61%	100%
Overhead Break from Southeast	-	-	38%	-	12%	49%	-	-
Overhead Break from West	-	-	37%	-	68%	49%	-	-
VFR Straight-in from West	-	-	-	-	-	-	36%	-
VFR Straight-in from North	-	-	-	-	-	-	3%	-
Arrivals to Runway 36R								
Straight-in (IFR and VFR)	100%	10%	25%	100%	20%	2%	61%	100%
Overhead Break from Southeast	-	27%	25%	-	12%	49%	-	-
Overhead Break from East	-	63%	25%	-	-	-	-	-
Overhead Break from West	-	-	25%	-	68%	49%	-	-
VFR Straight-in from West	-	-	-	-	-	-	36%	-
VFR Straight-in from North	-	-	-	-	-	-	3%	-

Table 22. Cecil Airport Aircraft Arrivals to Runways 09L/27R and 09R/27L

Flight Track	Military Tenants		Transient		Industry / Flight School Tenants			Civil Aircraft
	USCBP	Florida Air National G.	Military Fighters	Military Cargo	Tactical Air Support	Boeing F/A-18E/F	FSCJ Flight School	Civil Aircraft & Boeing P-8
Arrivals to Runway 09L								
Straight-in (IFR and VFR)	-	-	-	-	-	-	76%	100%
VFR Straight-in from South	-	-	-	-	-	-	21%	-
VFR Straight-in from North	-	-	-	-	-	-	3%	-
Arrivals to Runway 09R								
Straight-in (IFR and VFR)	100%	-	25%	100%	20%	2%	76%	100%
Overhead Break from Southeast	-	-	38%	-	12%	49%	-	-
Overhead Break from West	-	-	37%	-	68%	49%	-	-
VFR Straight-in from South	-	-	-	-	-	-	21%	-
VFR Straight-in from North	-	-	-	-	-	-	3%	-
Arrivals to Runway 27L								
Straight-in (IFR and VFR)	100%	10%	25%	100%	20%	2%	40%	100%
Overhead Break from Southeast	-	27%	38%	-	12%	49%	-	-
Overhead Break from East	-	63%	37%	-	-	-	-	-
Overhead Break from West	-	-	-	-	68%	49%	-	-
VFR Straight-in from West	-	-	-	-	-	-	36%	-
VFR Straight-in from South	-	-	-	-	-	-	21%	-
VFR Straight-in from North	-	-	-	-	-	-	3%	-
Arrivals to Runway 27R								
Straight-in (IFR and VFR)	-	-	-	-	-	-	40%	100%
VFR Straight-in from West	-	-	-	-	-	-	36%	-
VFR Straight-in from South	-	-	-	-	-	-	21%	-
VFR Straight-in from North	-	-	-	-	-	-	3%	-

Table 23. Cecil Airport Aircraft Closed Patterns

Flight Track	Military Tenants		Transient		Industry / Flight School Tenants			Civil Aircraft
	USCBP	Florida Air National G.	Military Fighters	Military Cargo	Tactical Air Support	Boeing F/A-18E/F	FSCJ Flight School	Civil Aircraft & Boeing P-8
Patterns on Runway 18L/36R								
1 NM Abeam - 0.5 NM Final	95%	-	-	-	-	-	100%	100%
1 NM Abeam - 1 NM Final	-	-	90%	100%	90%	100%	-	-
2 NM Abeam IFR Radar Pattern	5%	-	10%	-	10%	-	-	-
Patterns on Runway 18R/36L								
1 NM Abeam - 0.5 NM Final	95%	-	-	-	-	-	100%	100%
1 NM Abeam - 1 NM Final	-	-	90%	100%	90%	100%	-	-
2 NM Abeam IFR Radar Pattern	5%	-	10%	-	10%	-	-	-
Patterns on Runway 09R/27L								
1 NM Abeam - 0.5 NM Final	95%	-	-	-	-	-	100%	100%
1 NM Abeam - 1 NM Final	-	-	90%	100%	90%	100%	-	-
2 NM Abeam IFR Radar Pattern	5%	-	10%	-	10%	-	-	-
Patterns on Runway 09L/27R								
1 NM Abeam - 0.5 NM Final	-	-	-	-	-	-	100%	100%

Table 24. Cecil Airport Helicopter Departures, Arrivals, and Closed Patterns

Helicopter Operations	US Coast Guard	Florida Army National Guard	Helicopters: Civil and Transient Military
Departures			
Southwest	2%	40%	25%
Southeast	-	30%	25%
West	-	15%	25%
East	2%	15%	25%
Southeast to Doctors Lake Direct	48%	-	-
Southeast to Doctors Lake Westbound	48%	-	-
Arrivals			
Southwest	2%	40%	25%
Southeast	-	30%	25%
West	-	15%	25%
East	2%	15%	25%
Southeast from Doctors Lake Direct	48%	-	-
Southeast from Doctors Lake West of Pad	48%	-	-
Closed Patterns			
VOR Slope Landings (C04)	-	30%	-
Sling Loads (C03)	2%	9%	-
Water Bucket Pattern (C02)	-	16%	-
Runway 18L Pattern Work (C01)	15%	-	17%
IFR Pattern on 36R (C05)	2%	-	-
18R/36L Pattern Work (C06)	30%	-	32%
09R/27L Pattern Work (C07)	20%	14%	20%
09L/27R Pattern Work (C08)	31%	-	31%

A.2 Airport Flight Track Maps

This section presents the modeled flight track maps. The maps are organized by tenant and operation type (i.e., departures, arrivals, and closed patterns). Note that the Florida Air National Guard F-35A tracks for the Future 2041 scenario are identical to the Florida Air National Guard F-15E tracks displayed in this section.

A.2.1 U.S. Customs and Border Protection Flight Track Maps

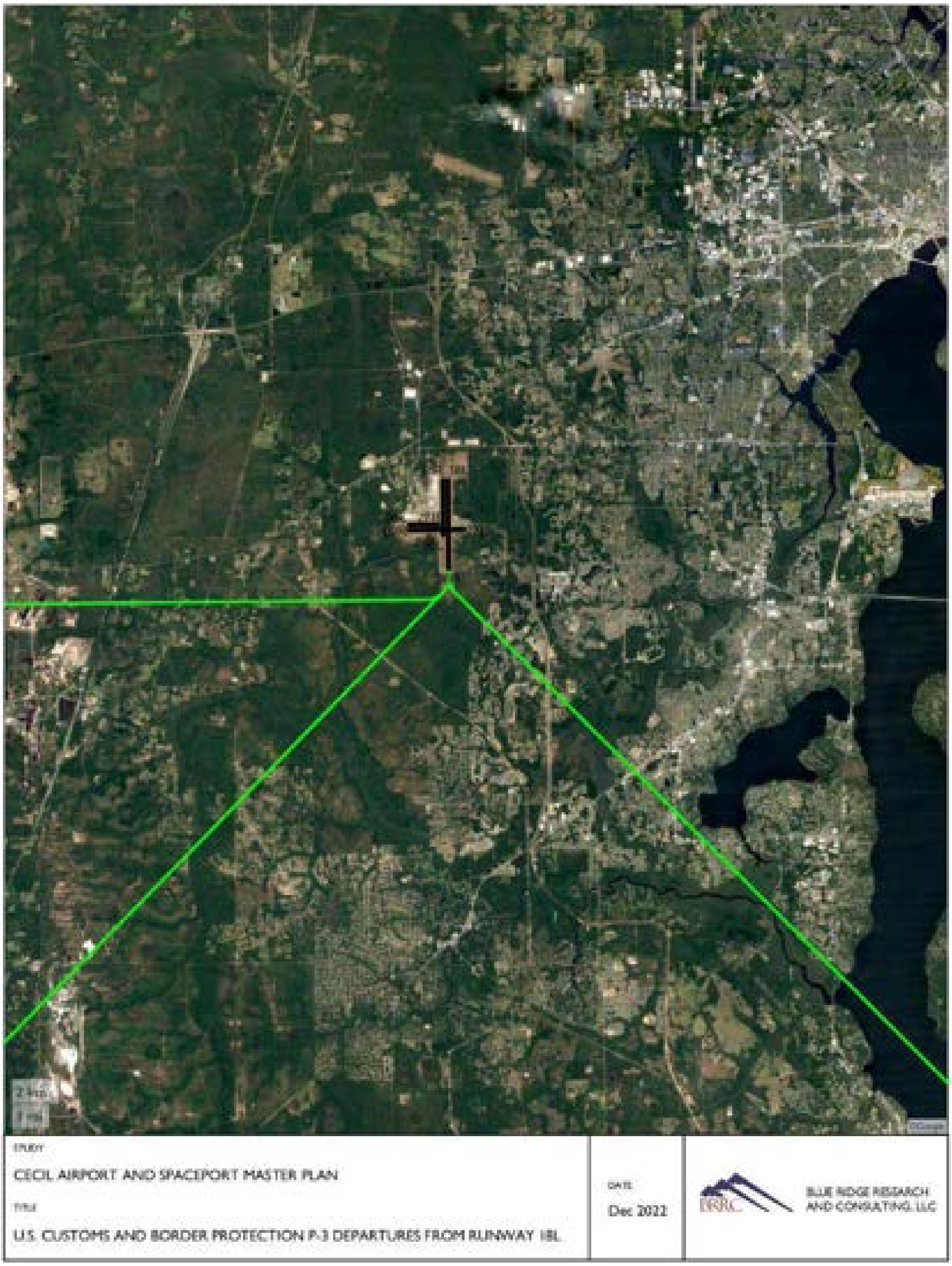
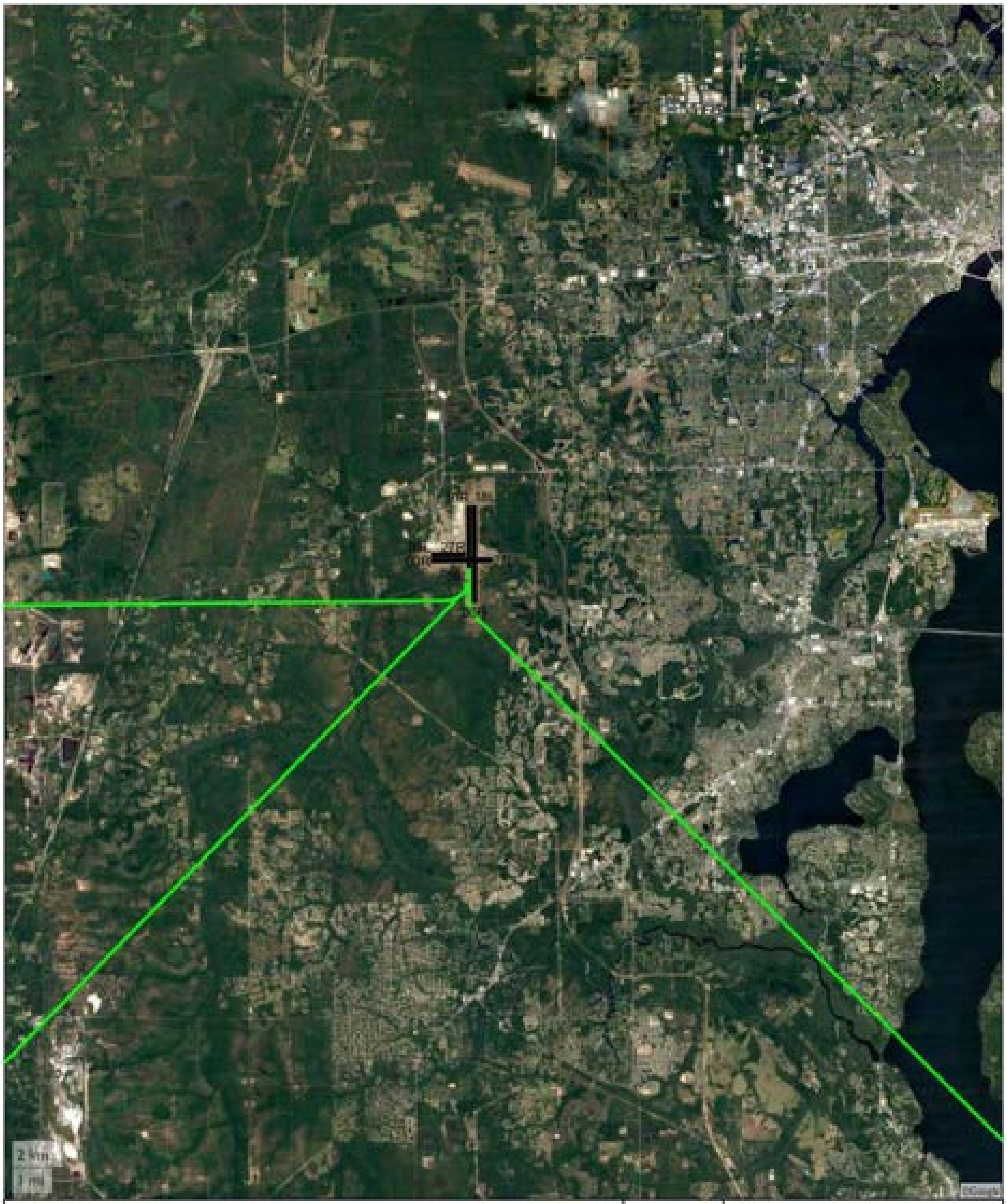


Figure 15. U.S. Customs and Border Protection P-3 Departures from Runway 18L



STUDY
CECIL AIRPORT AND SPACEPORT MASTER PLAN
TITLE
U.S. CUSTOMS AND BORDER PROTECTION P-3 DEPARTURES FROM RUNWAY 18R
DATE
Dec 2022
BLUE RIDGE RESEARCH
AND CONSULTING, LLC

Figure 16. U.S. Customs and Border Protection P-3 Departures from Runway 18R

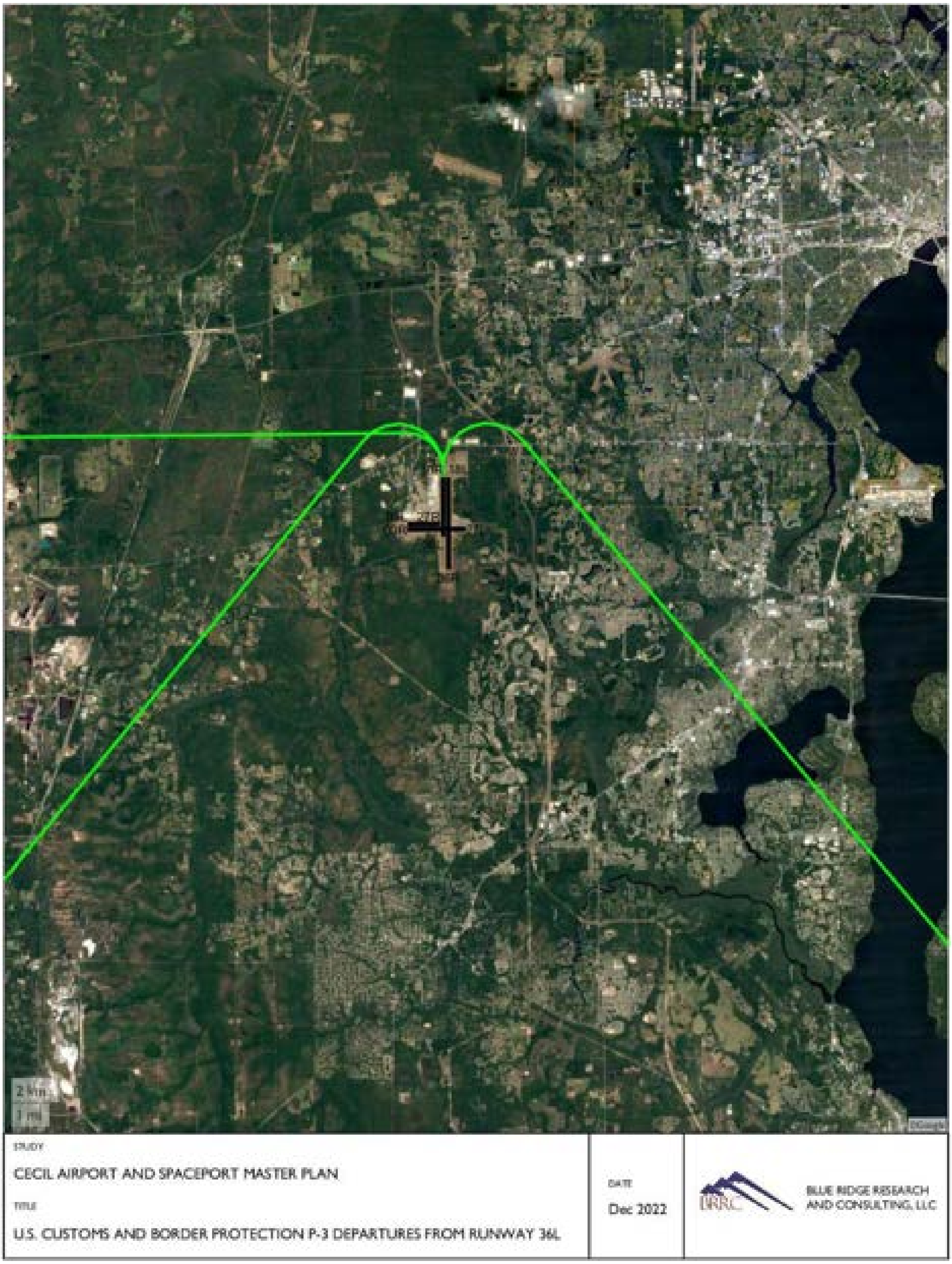


Figure 17. U.S. Customs and Border Protection P-3 Departures from Runway 36L

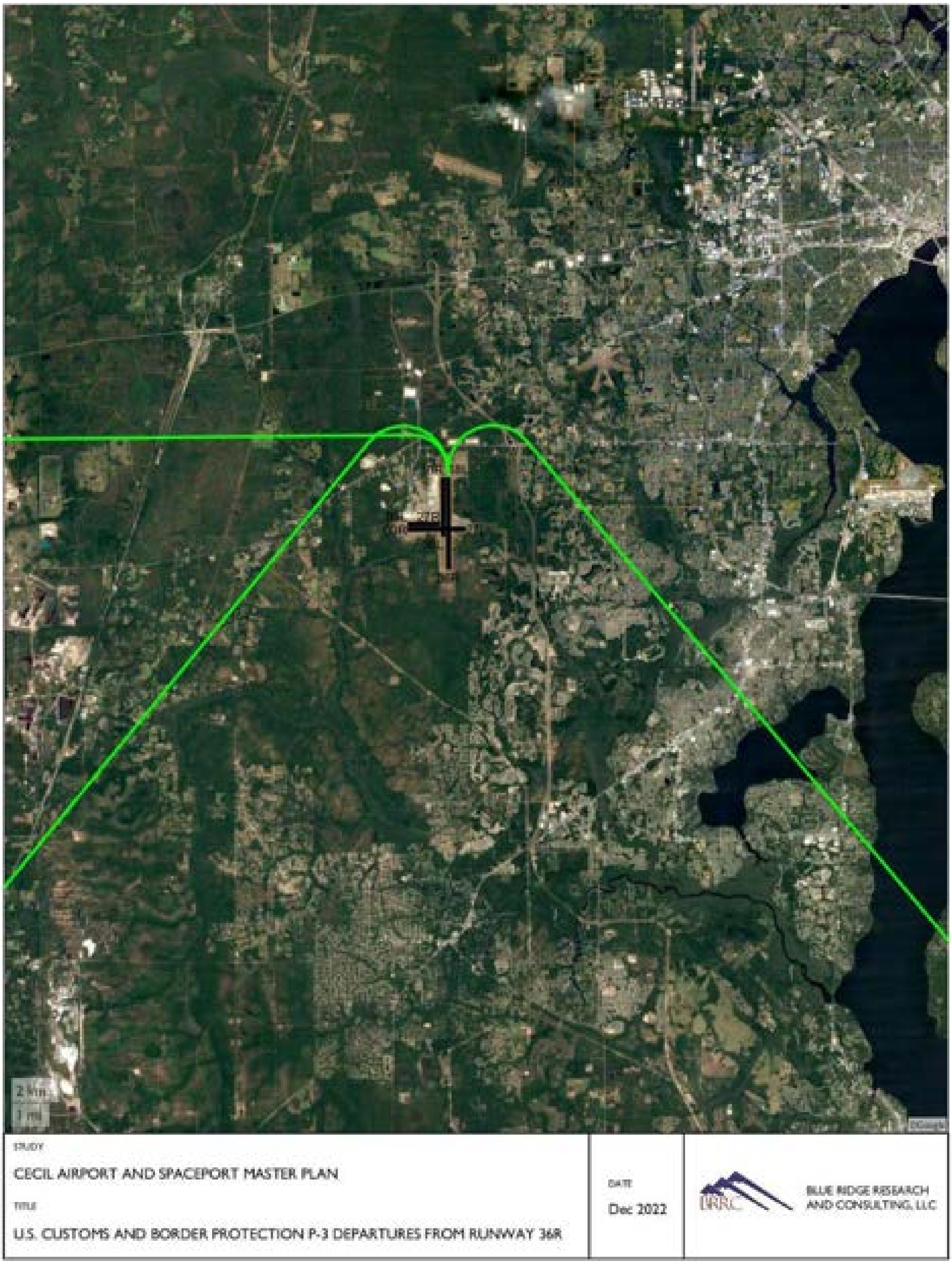


Figure 18. U.S. Customs and Border Protection P-3 Departures from Runway 36R

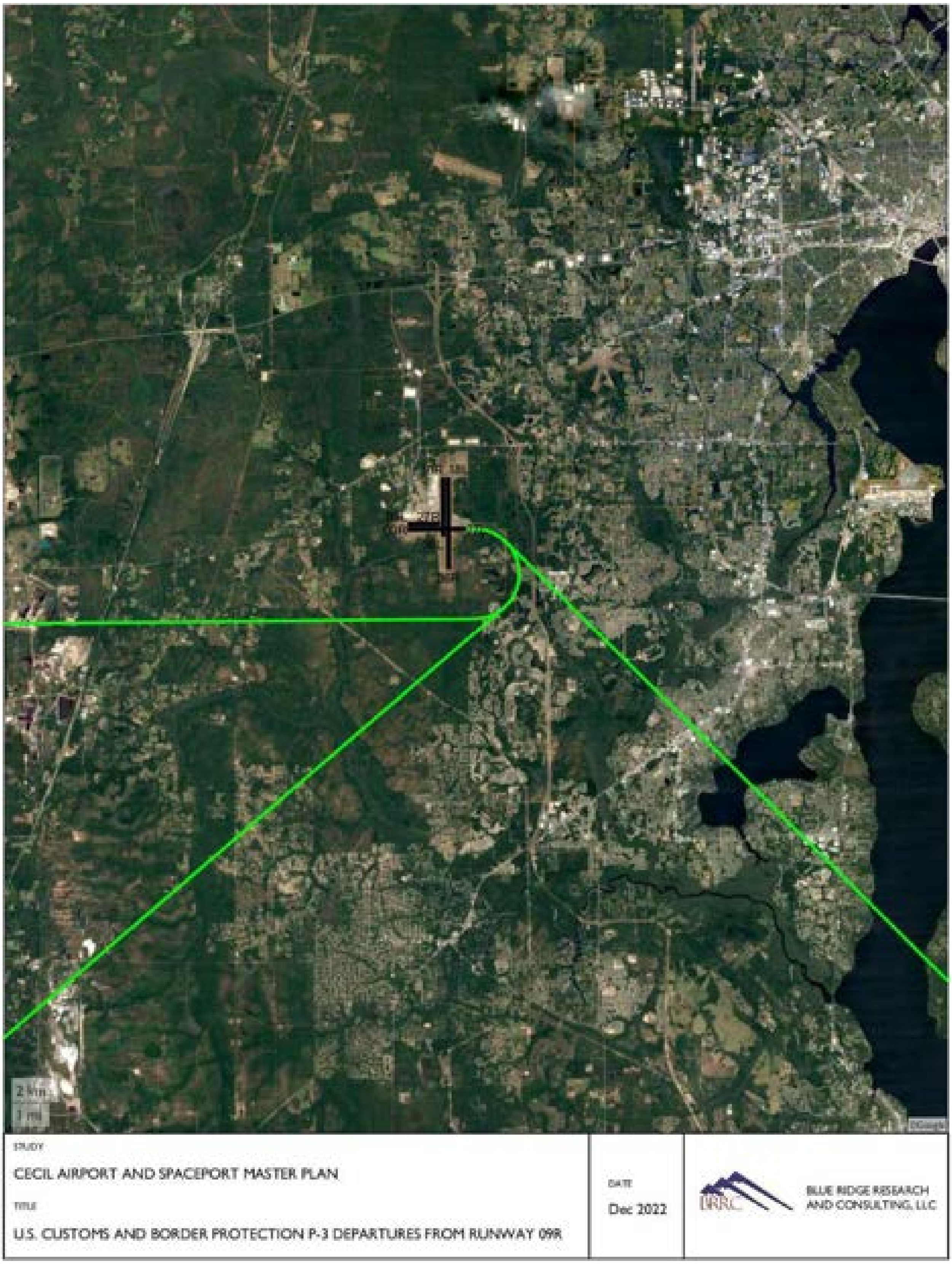


Figure 19. U.S. Customs and Border Protection P-3 Departures from Runway 09R

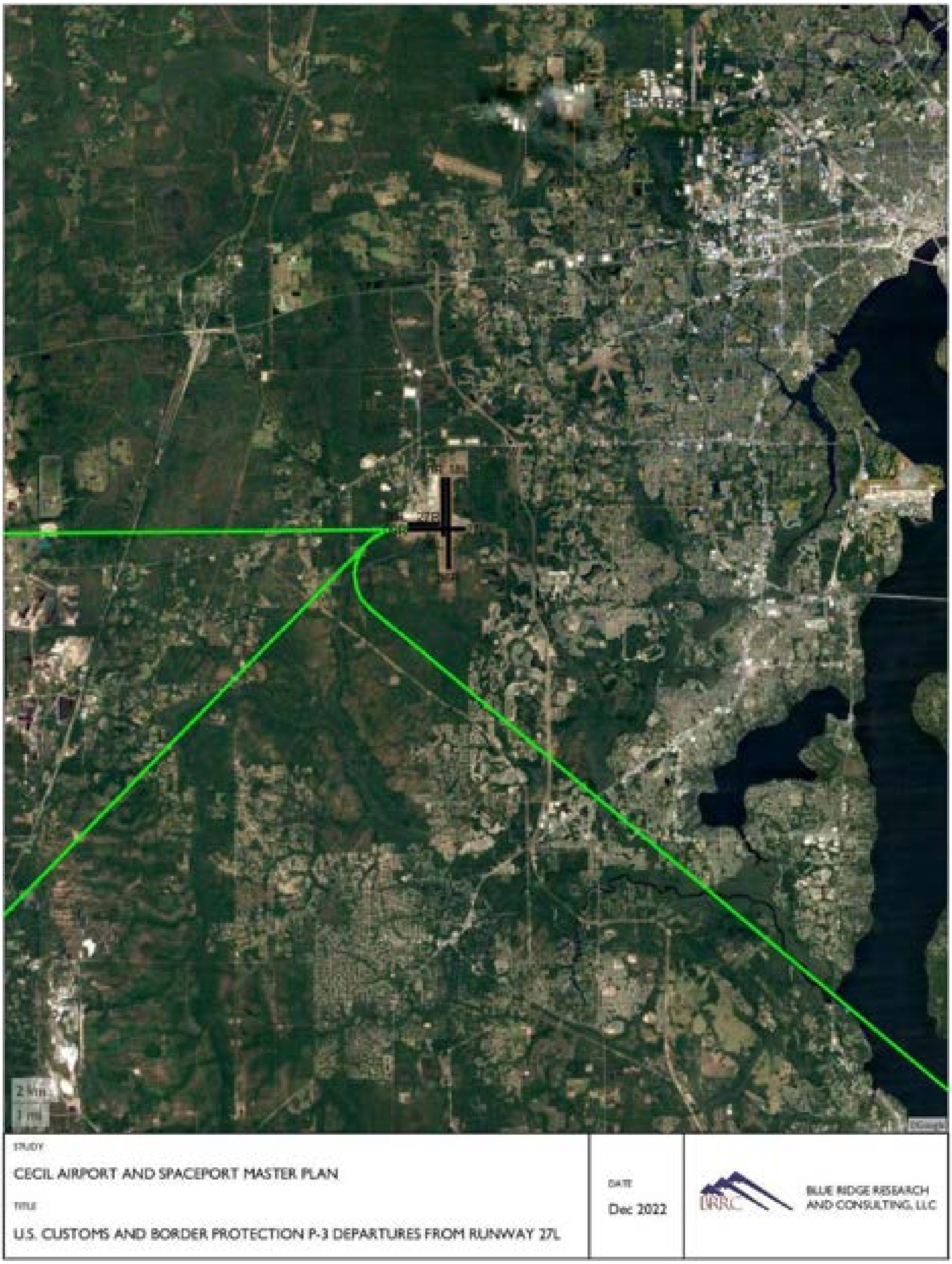


Figure 20. U.S. Customs and Border Protection P-3 Departures from Runway 27L

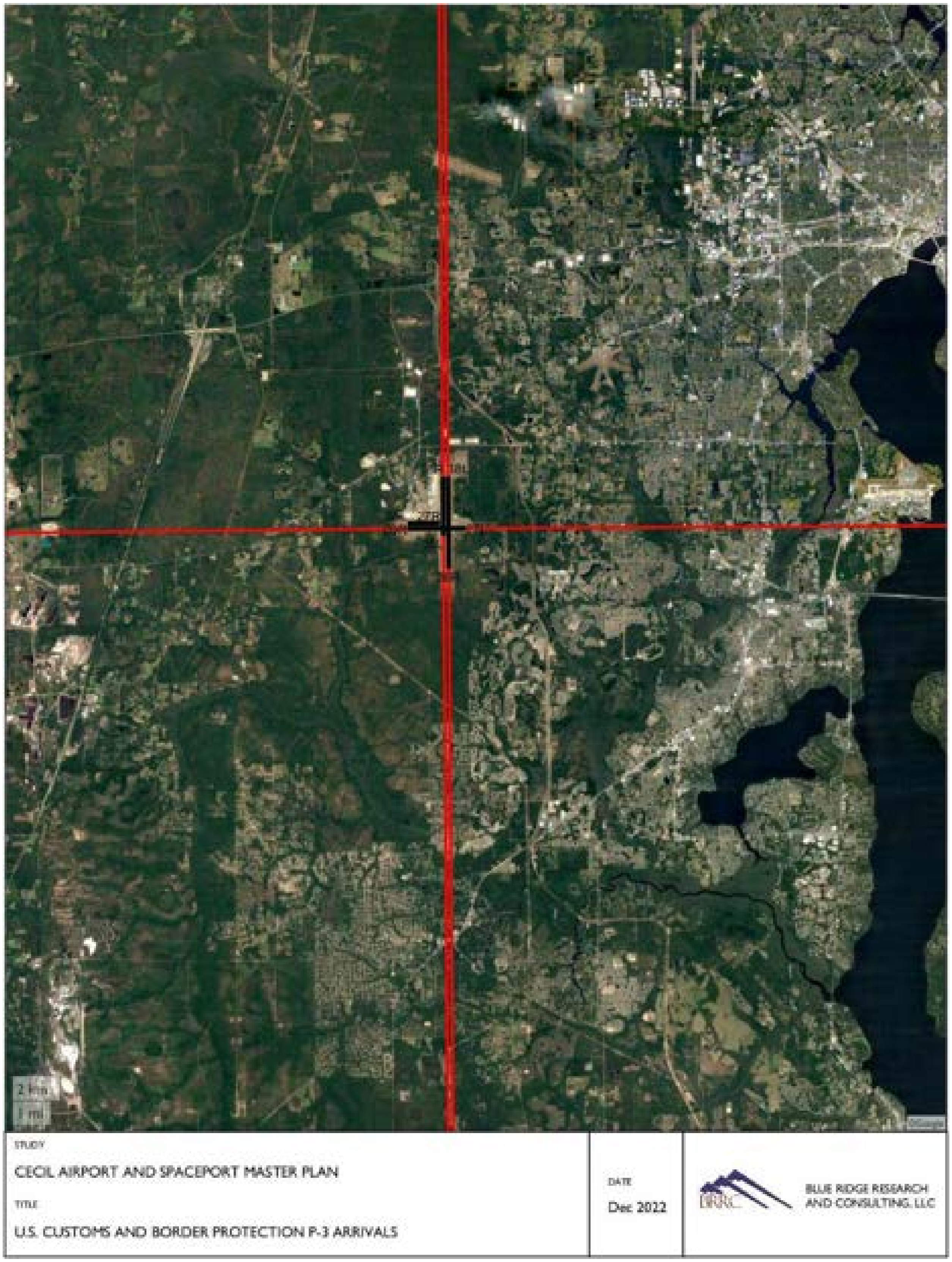
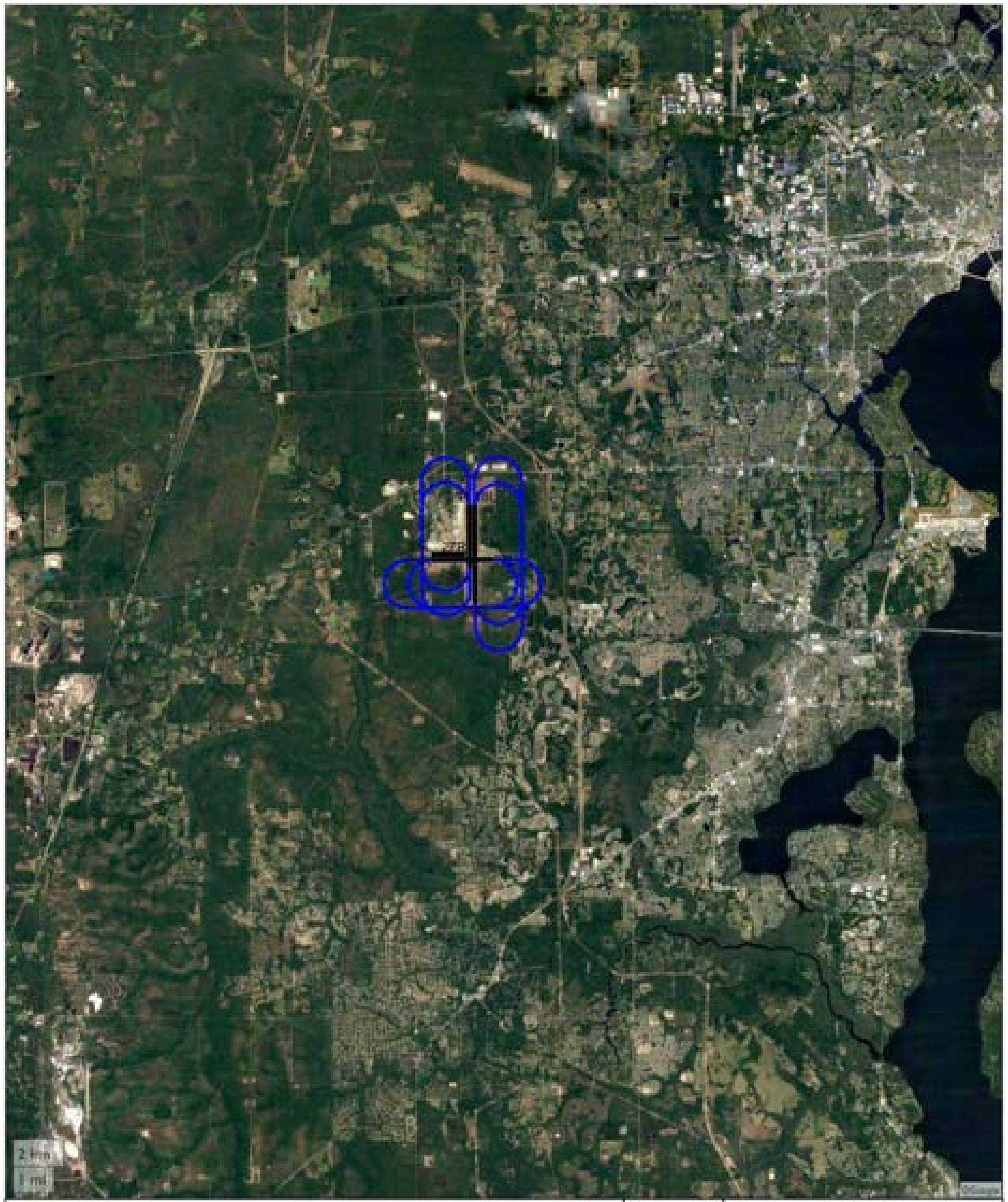


Figure 21. U.S. Customs and Border Protection P-3 Arrivals



STUDY
CECIL AIRPORT AND SPACEPORT MASTER PLAN
TITLE
U.S. CUSTOMS AND BORDER PROTECTION P-3 VFR CLOSED PATTERNS
DATE
Dec 2022
BLUE RIDGE RESEARCH AND CONSULTING, LLC

Figure 22. U.S. Customs and Border Protection P-3 VFR Closed Patterns

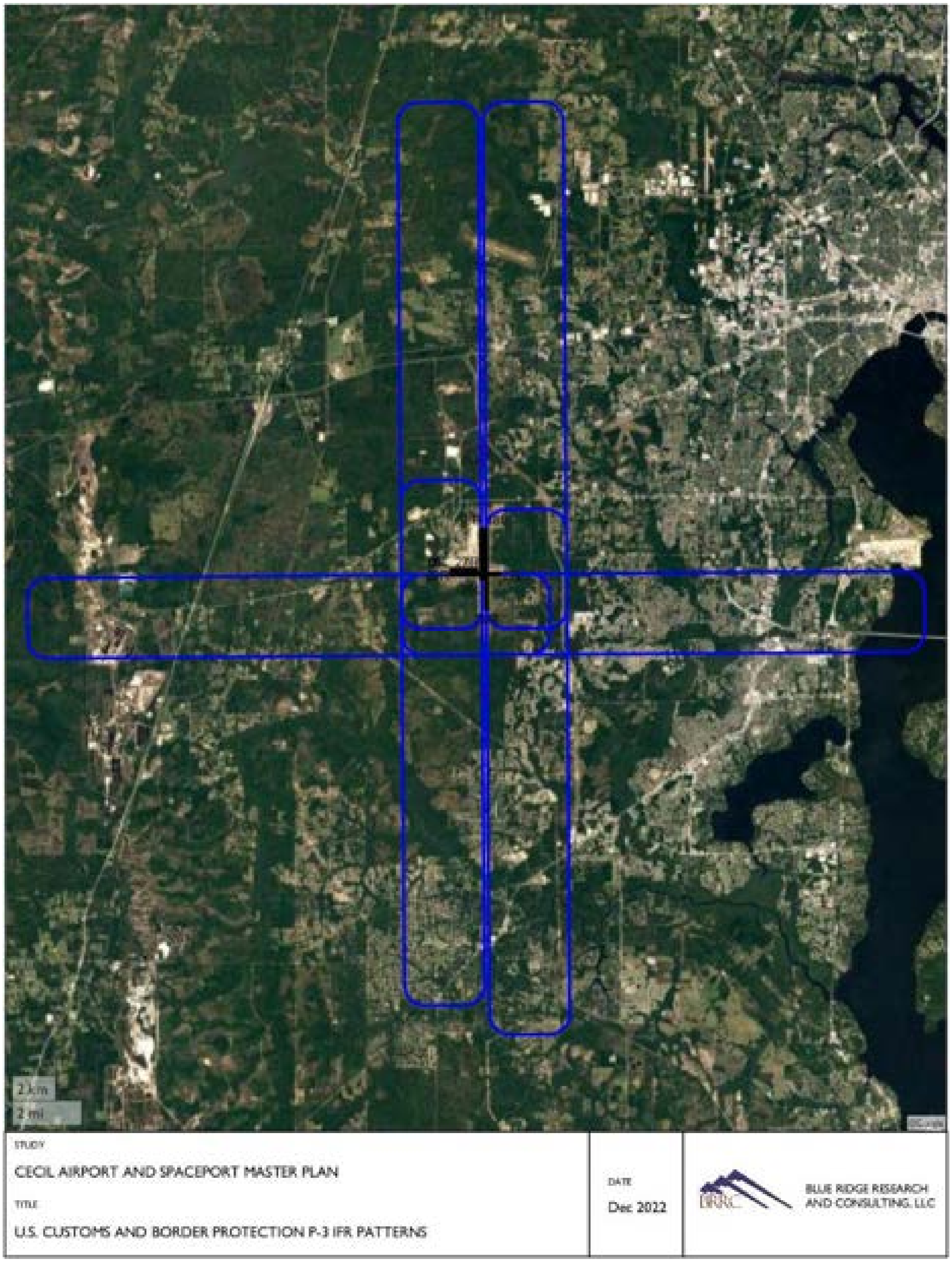
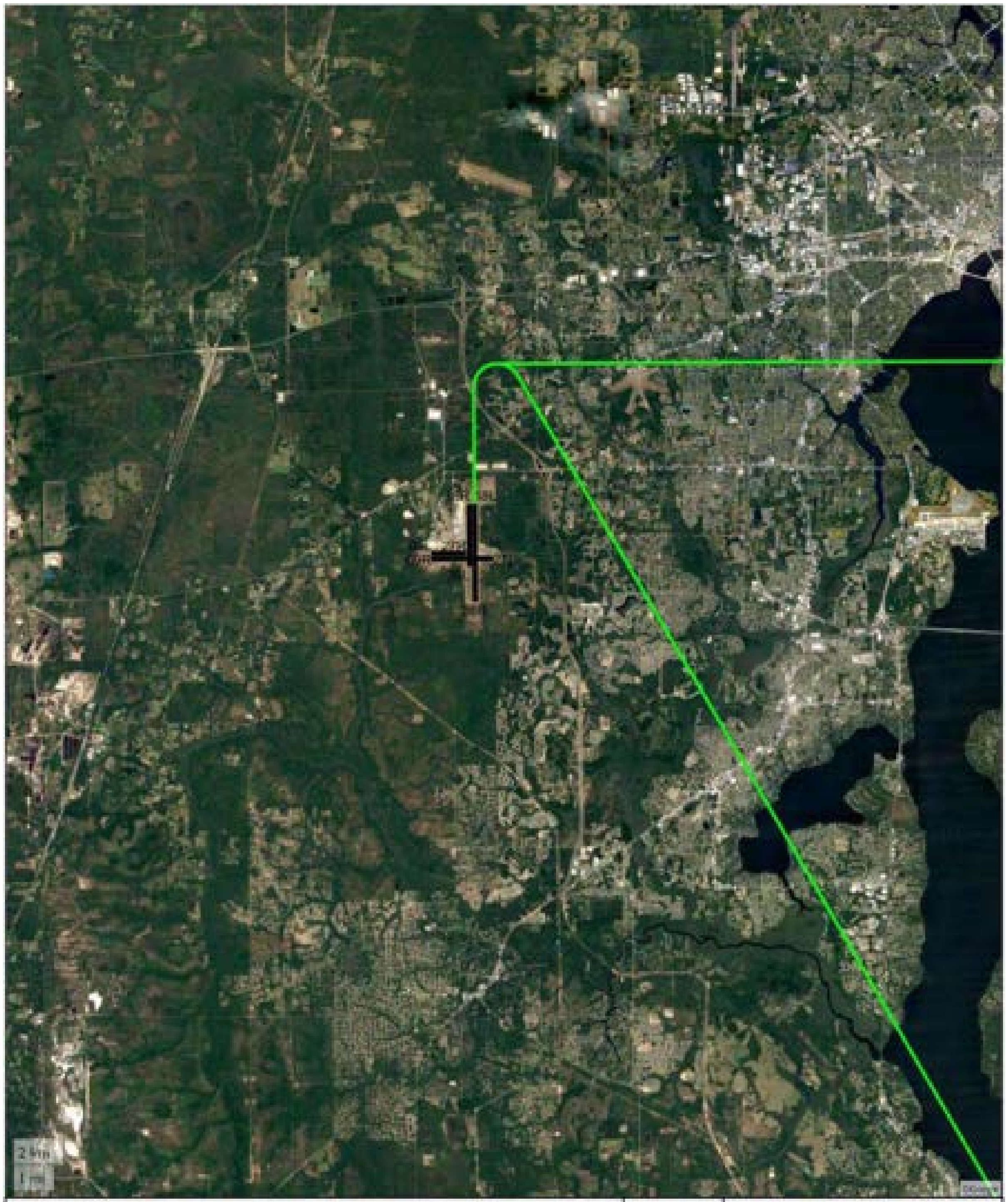


Figure 23. U.S. Customs and Border Protection P-3 IFR Patterns

A.2.2 Florida Air National Guard Flight Track Maps



STUDY
CECIL AIRPORT AND SPACEPORT MASTER PLAN
TITLE
FLORIDA AIR NATIONAL GUARD F-15 DEPARTURES FROM RUNWAY 36R
DATE
Dec 2022
BLUE RIDGE RESEARCH AND CONSULTING, LLC

Figure 24. Florida Air National Guard F-15 Departures from Runway 36R

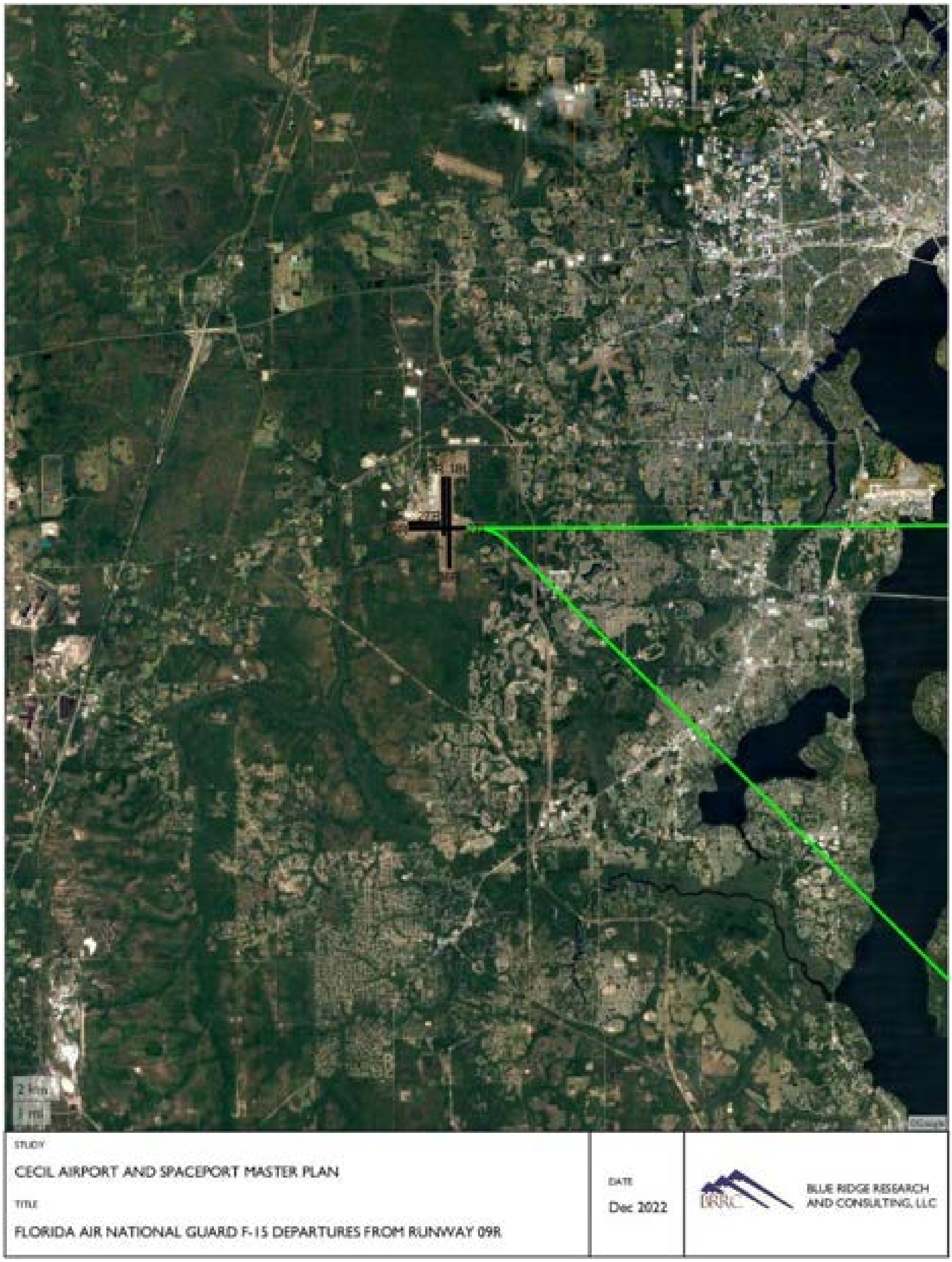


Figure 25. Florida Air National Guard F-15 Departures from Runway 09R

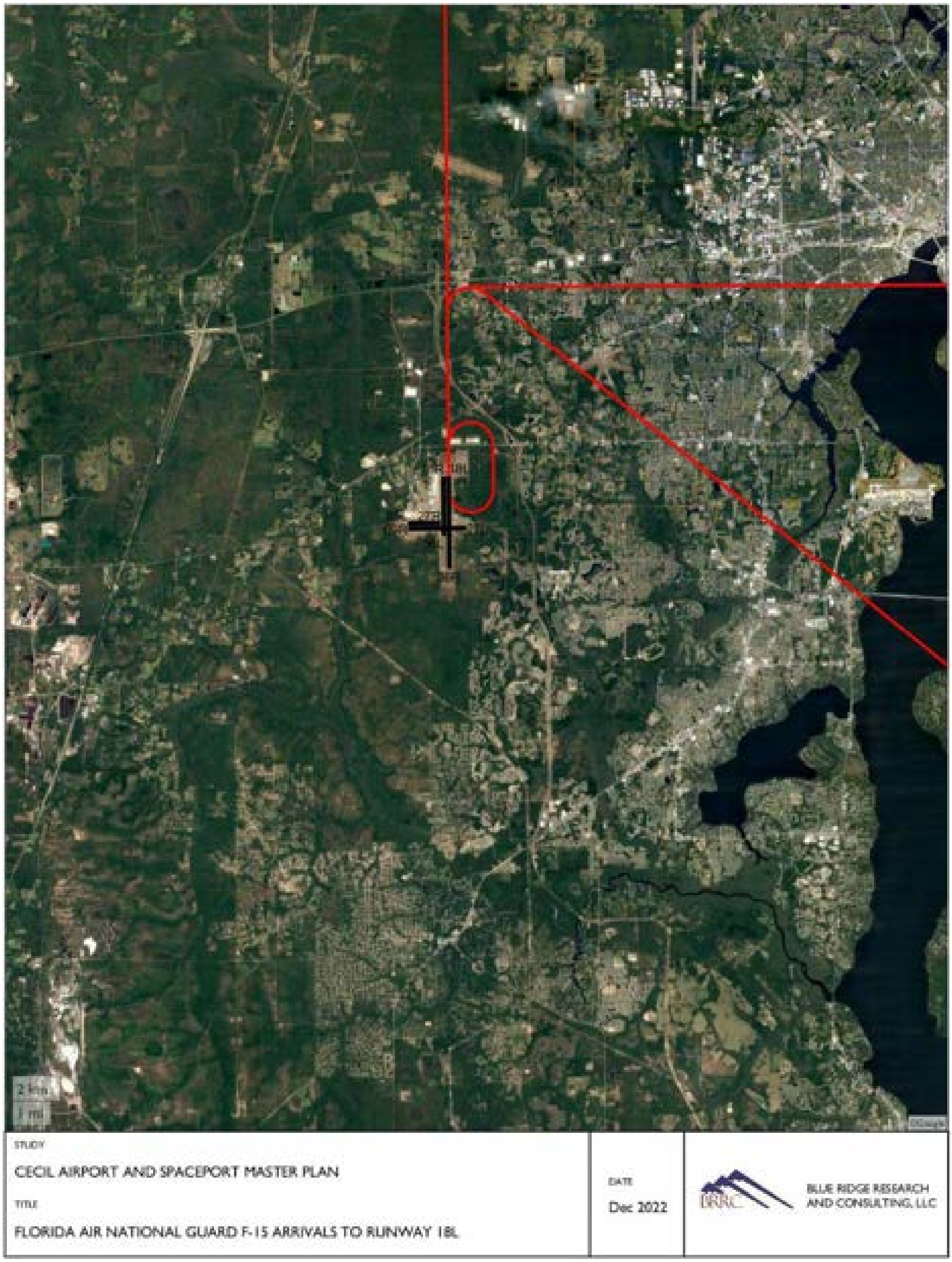


Figure 26. Florida Air National Guard F-15 Arrivals to Runway 18L

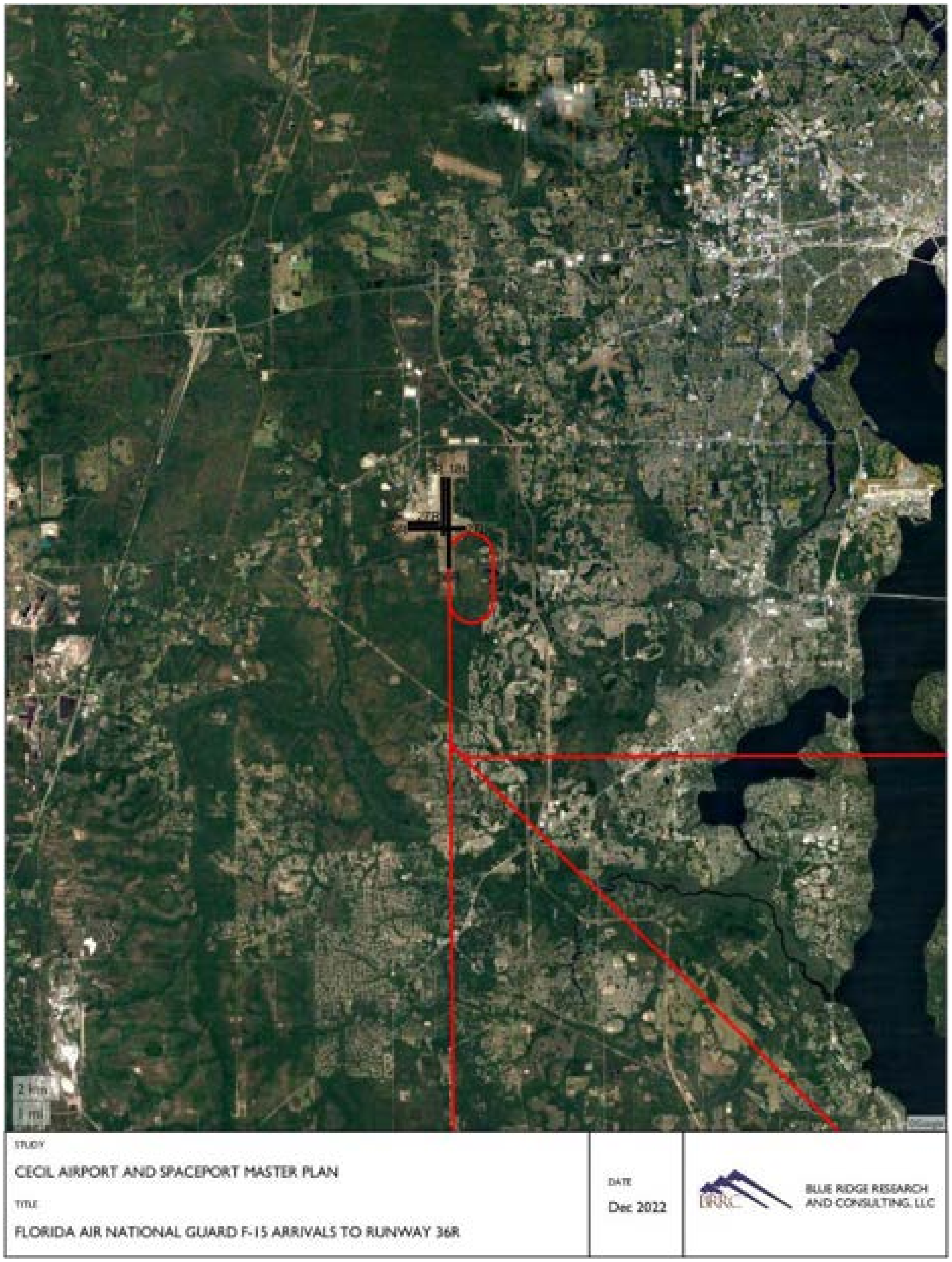


Figure 27. Florida Air National Guard F-15 Arrivals to Runway 36R

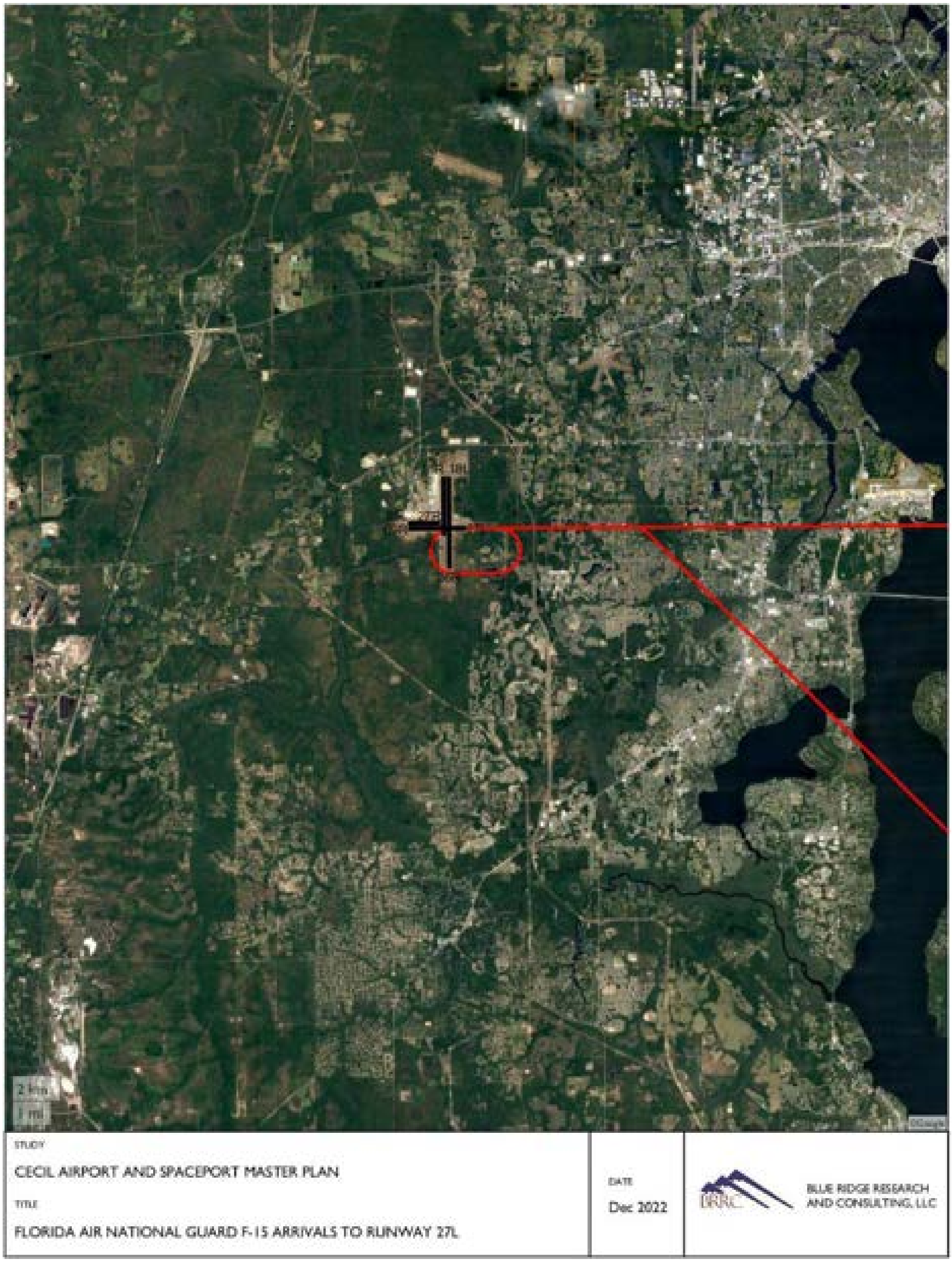


Figure 28. Florida Air National Guard F-15 Arrivals to Runway 27L

A.2.3 Tactical Air Support Flight Track Maps

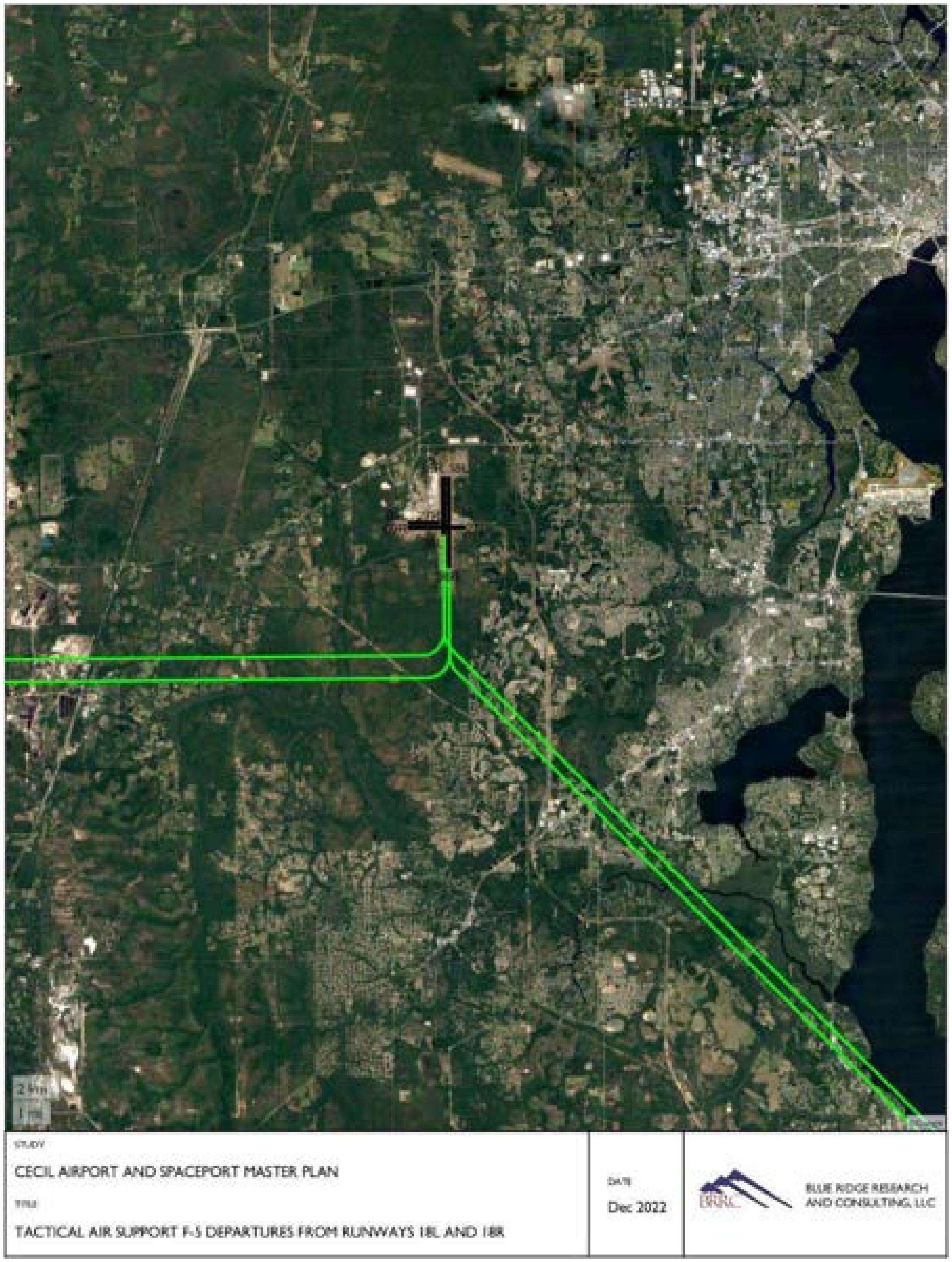


Figure 29. Tactical Air Support F-5 Departures from Runways 18L and 18R

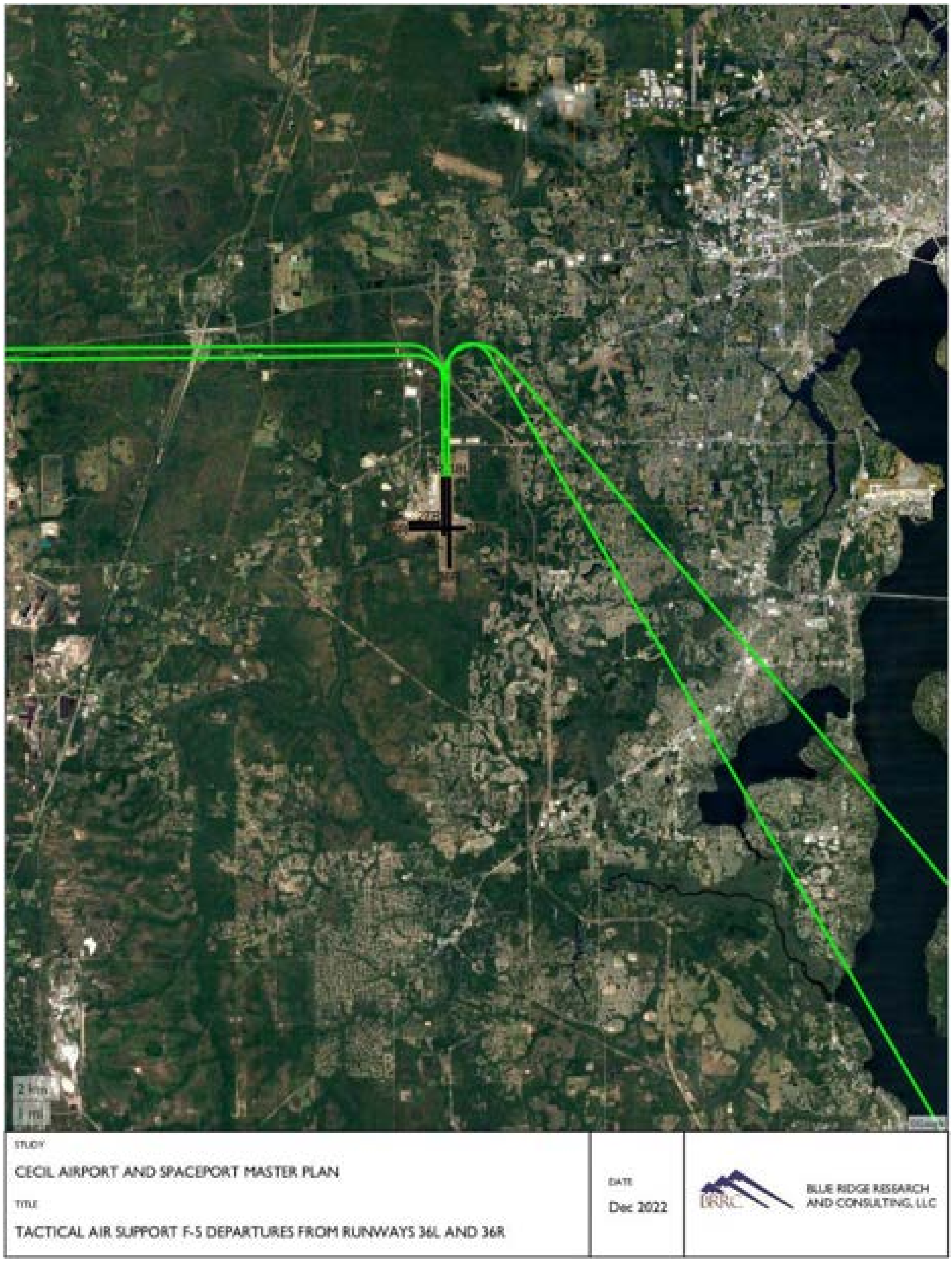


Figure 30. Tactical Air Support F-5 Departures from Runways 36L and 36R

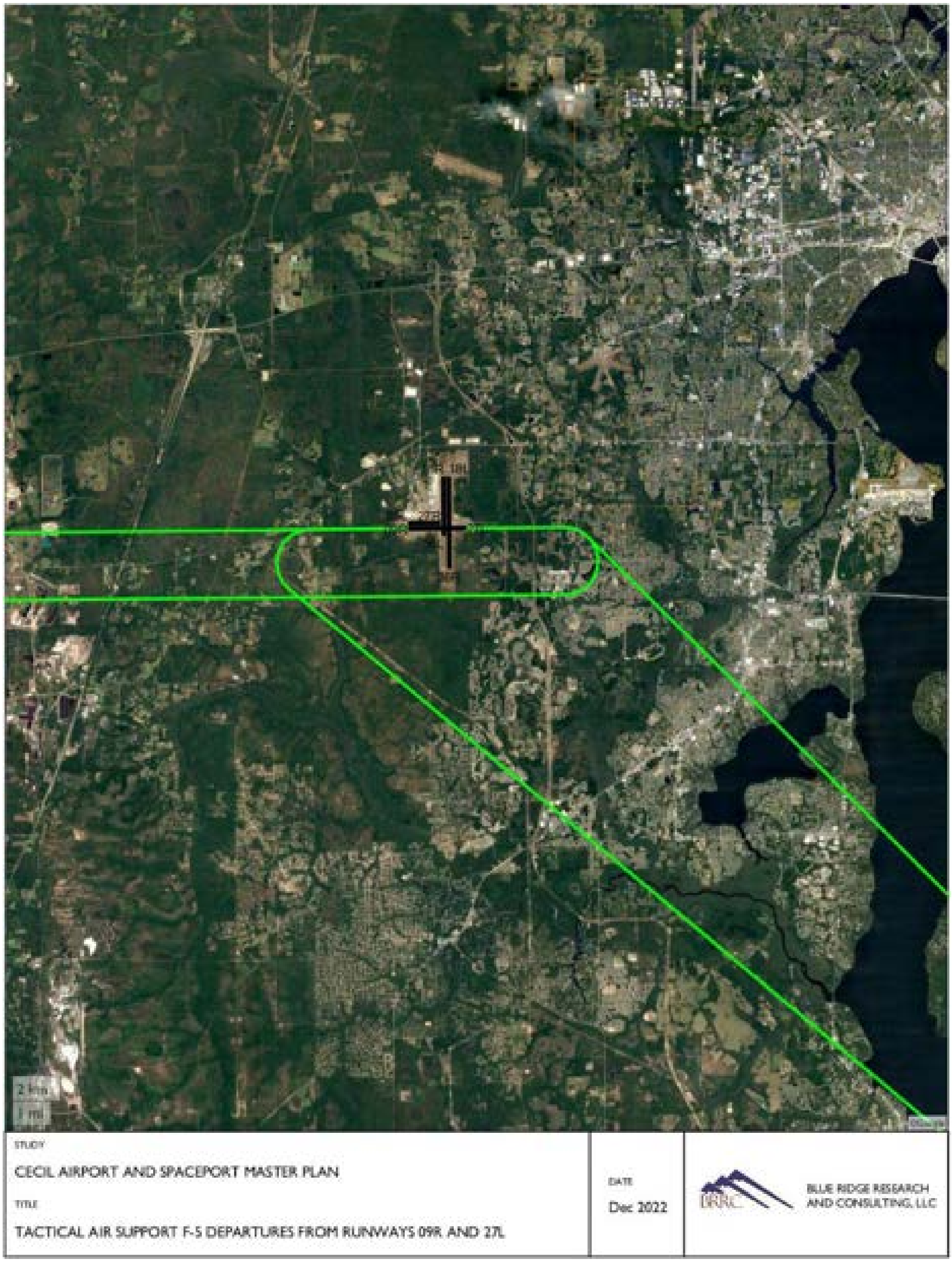


Figure 31. Tactical Air Support F-5 Departures from Runways 09R and 27L

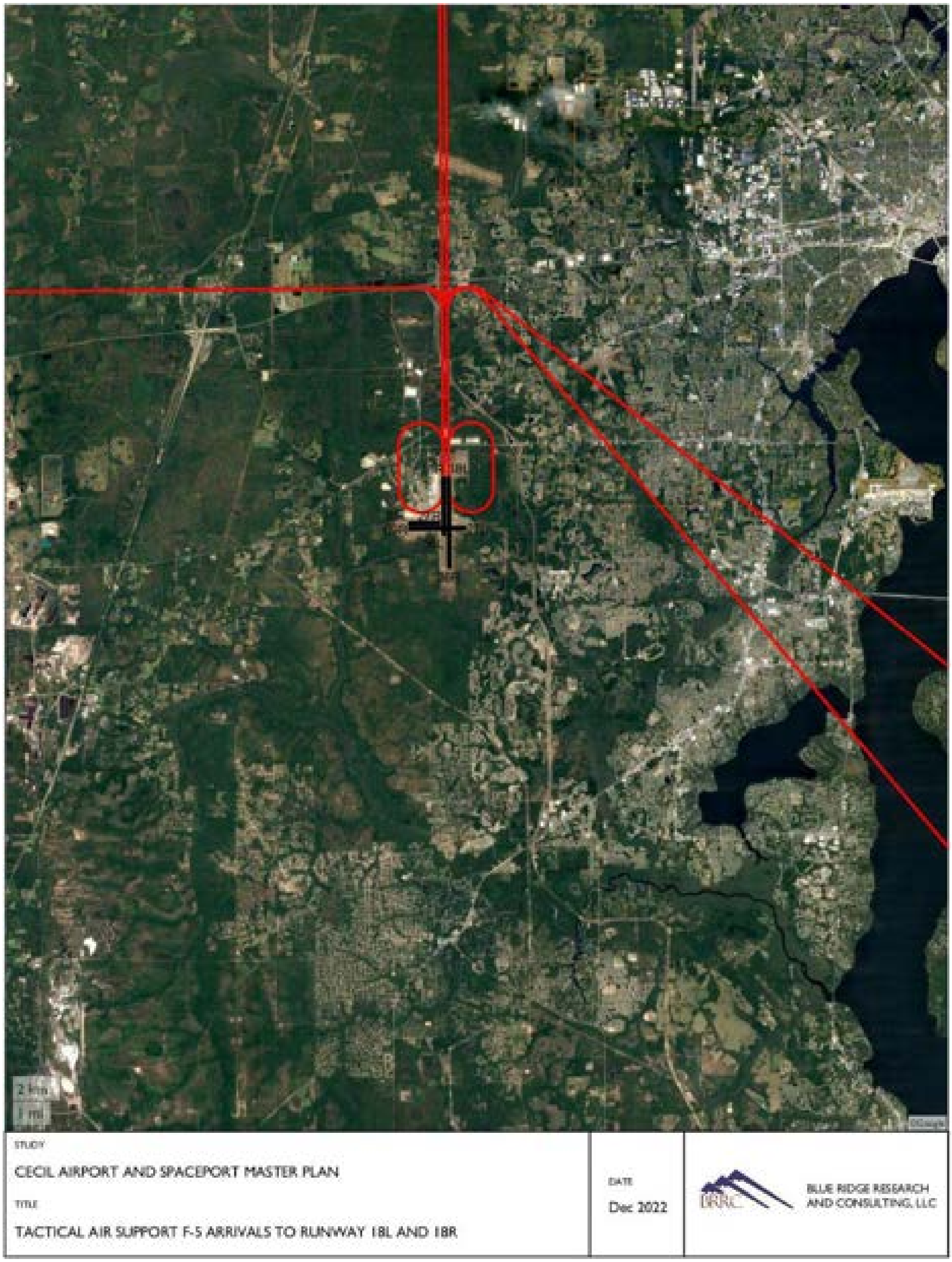


Figure 32. Tactical Air Support F-5 Arrivals to Runways 18L and 18R

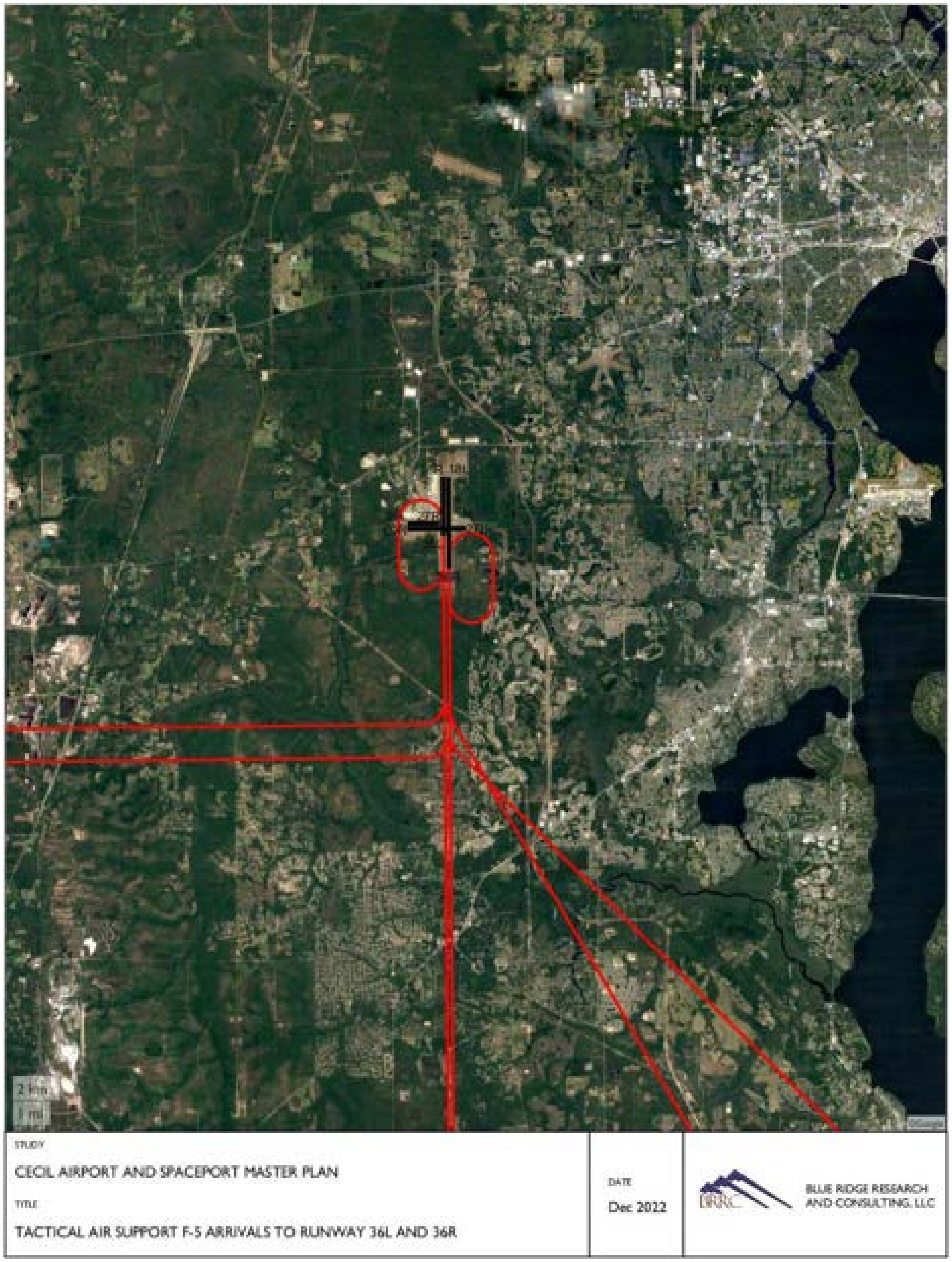


Figure 33. Tactical Air Support F-5 Arrivals to Runways 36L and 36R

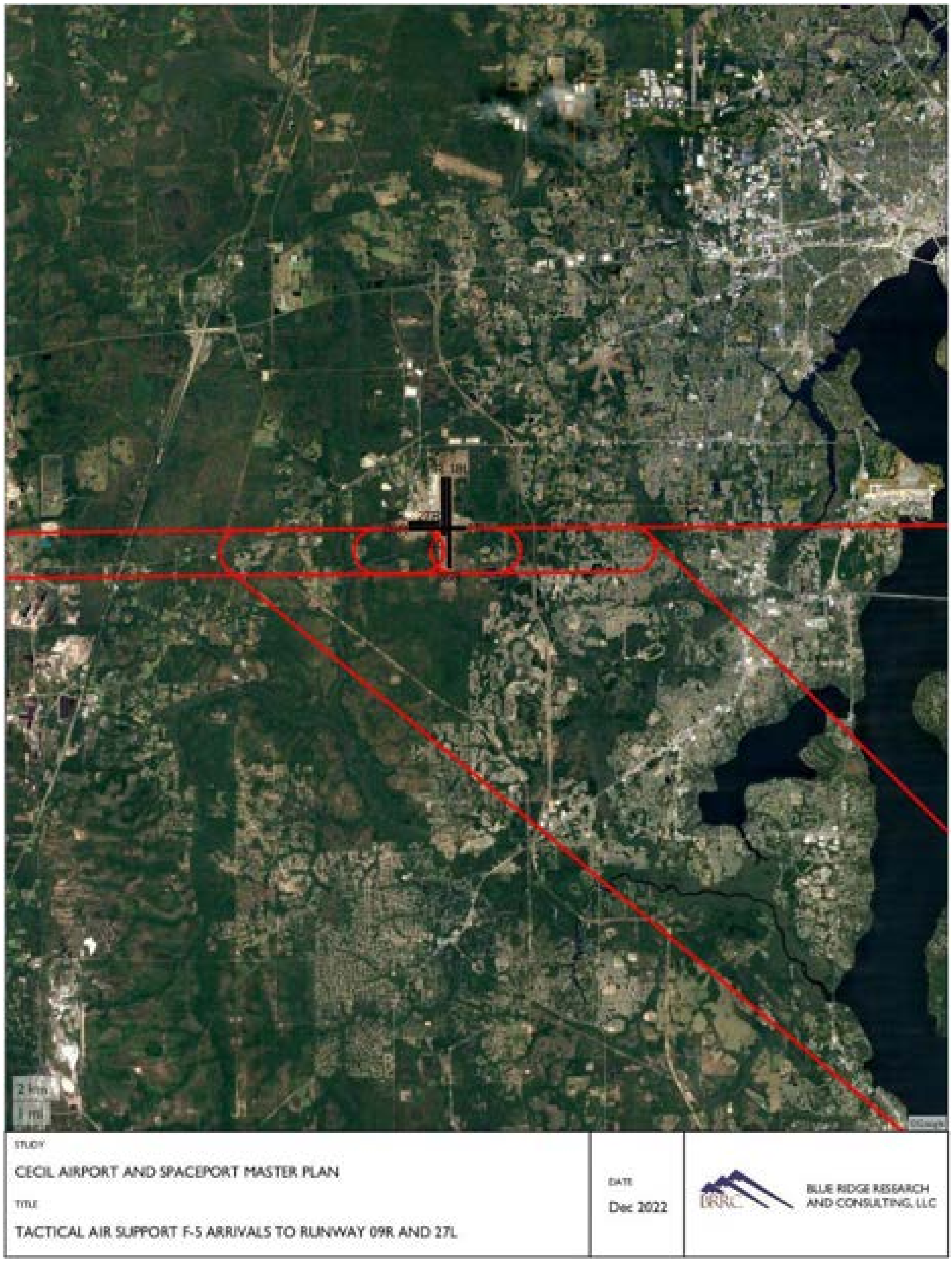
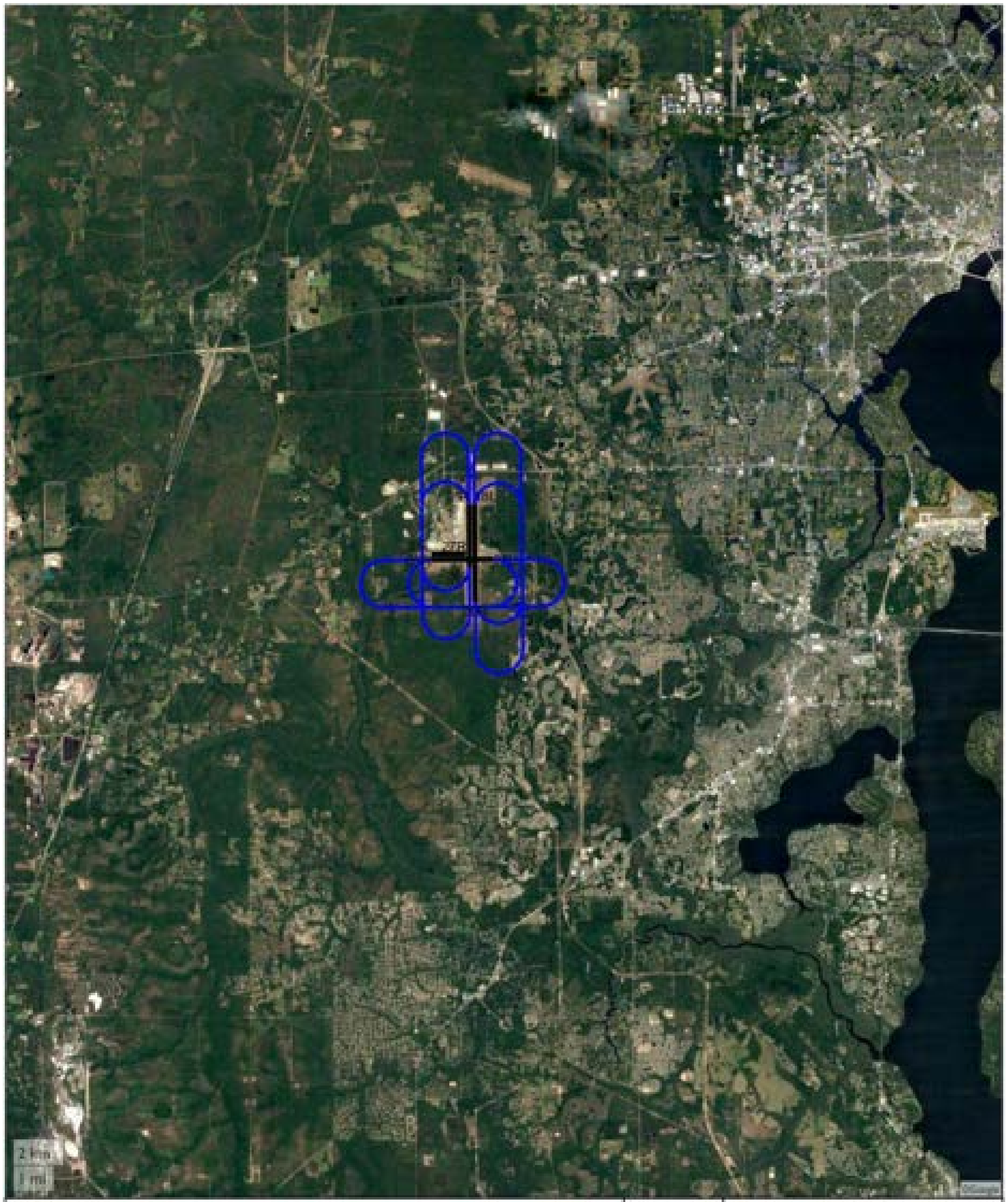


Figure 34. Tactical Air Support F-5 Arrivals to Runways 09R and 27L



STUDY
CECIL AIRPORT AND SPACEPORT MASTER PLAN
TITLE
TACTICAL AIR SUPPORT F-5 VFR CLOSED PATTERNS

DATE
Dec 2022

BLUE RIDGE RESEARCH AND CONSULTING, LLC

Figure 35. Tactical Air Support F-5 VFR Closed Patterns

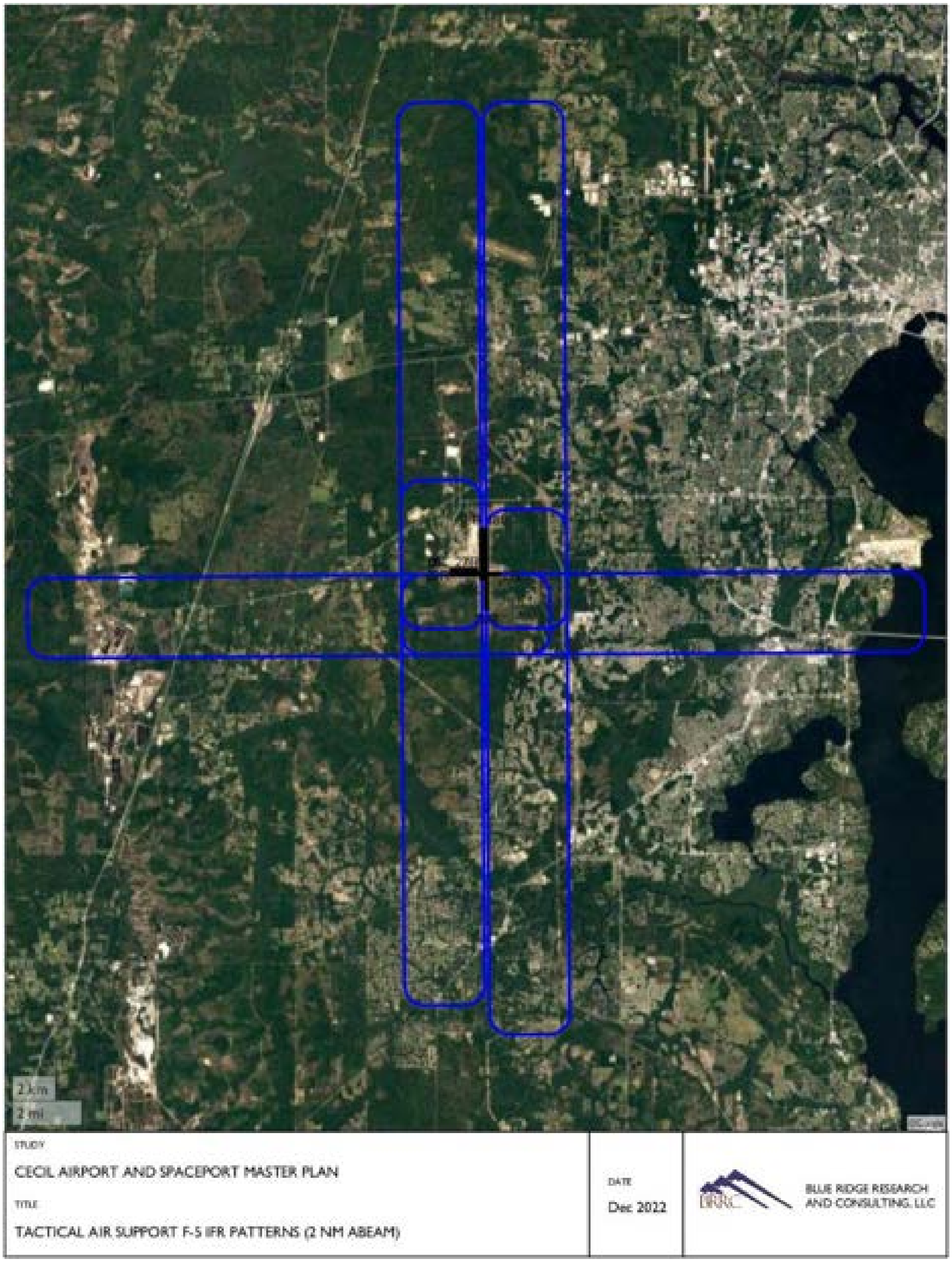


Figure 36. Tactical Air Support F-5 IFR Patterns (2 NM Abeam)

A.2.4 Boeing Flight Track Maps

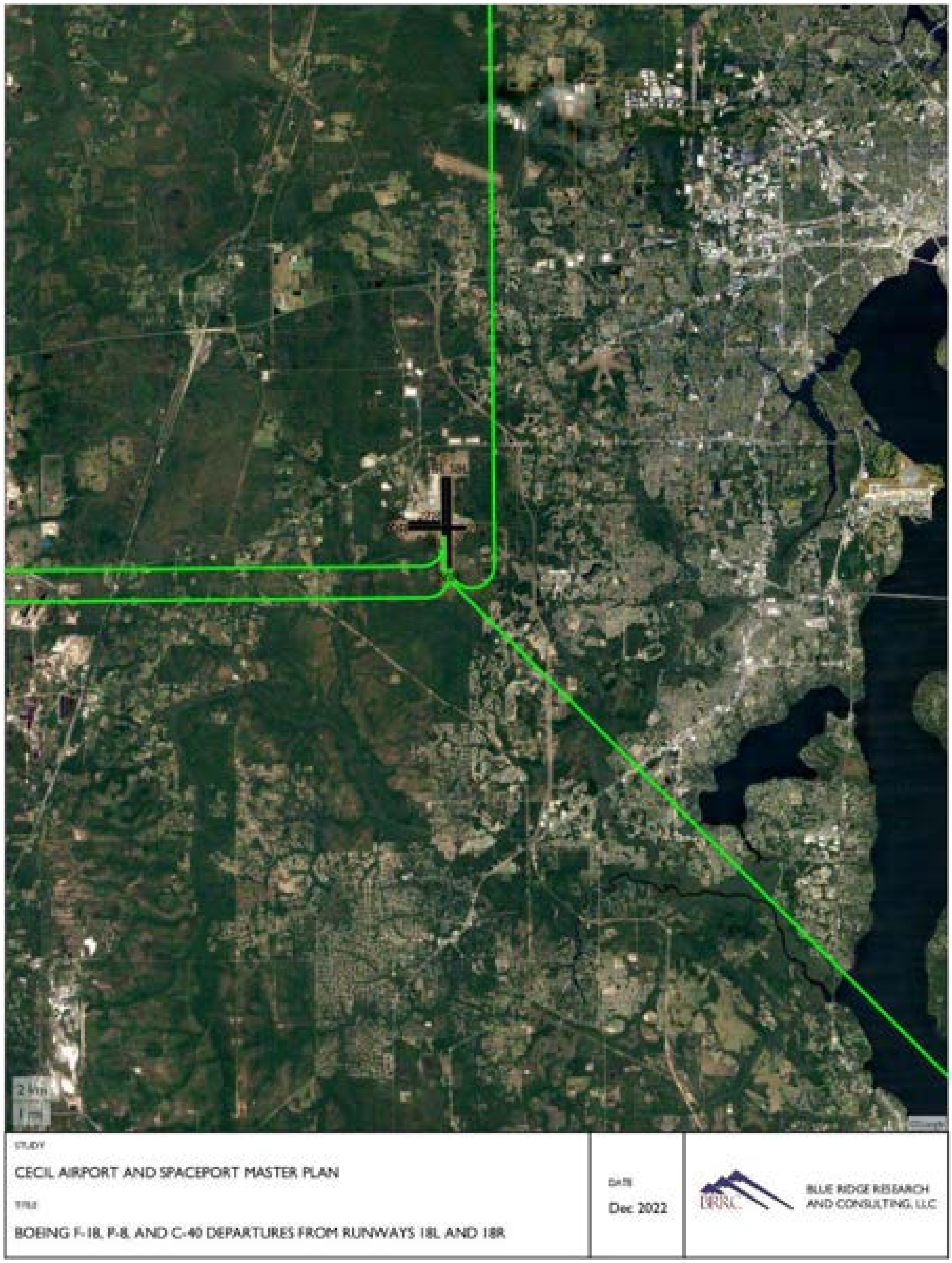


Figure 37. Boeing F-18, P-8, and C-40 Departures from Runways 18L and 18R

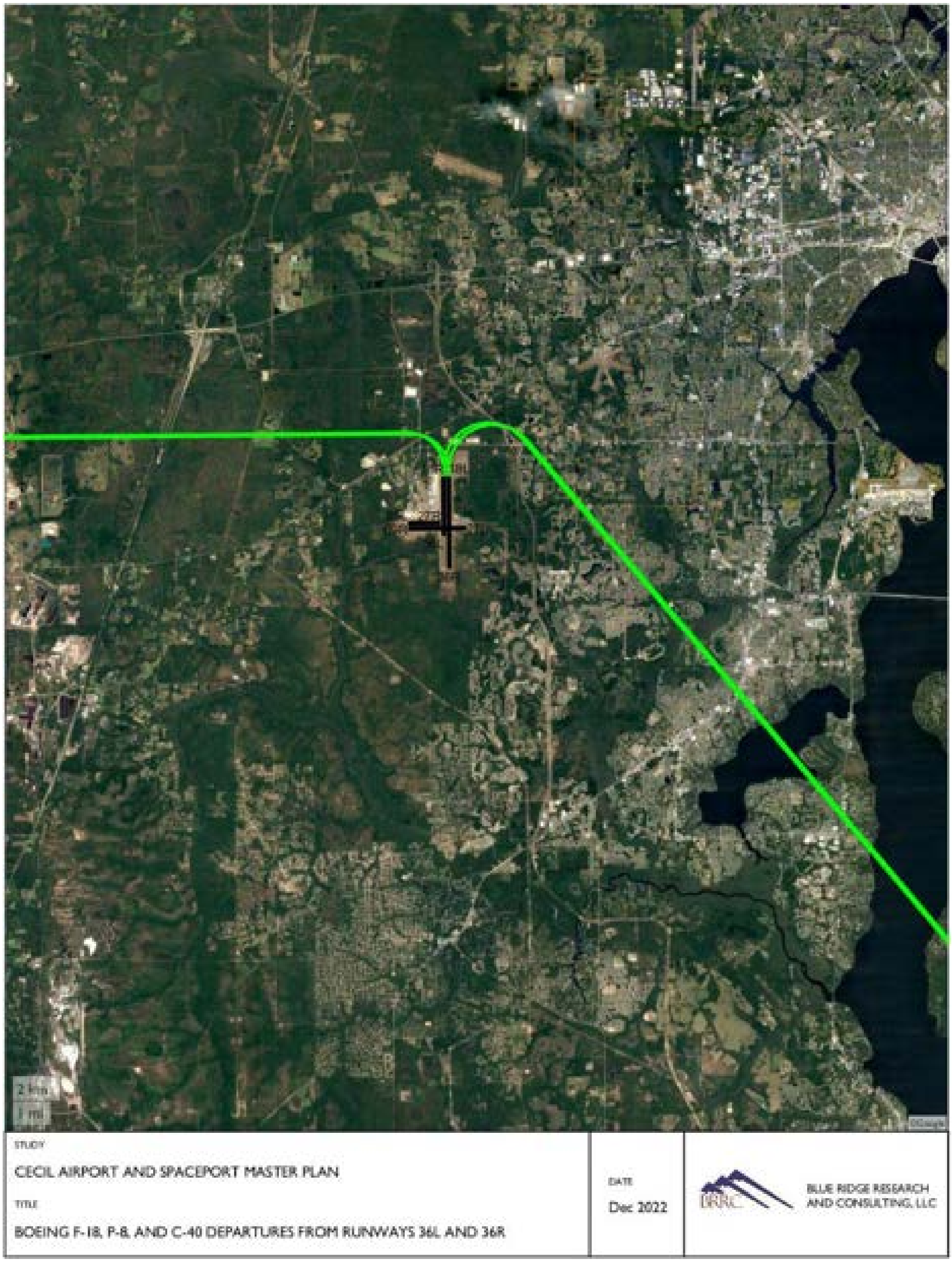


Figure 38. Boeing F-18, P-8, and C-40 Departures from Runways 36L and 36R

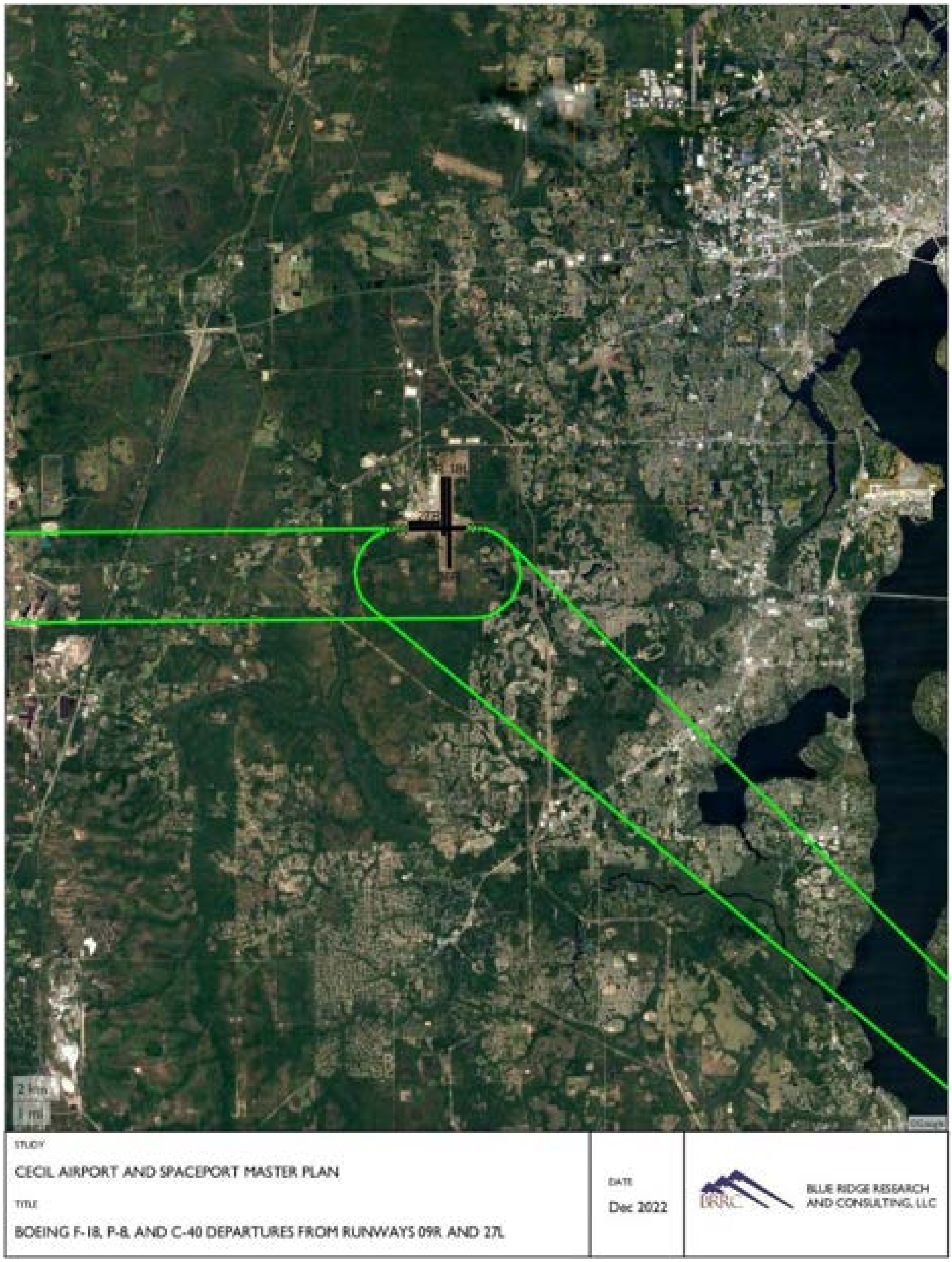


Figure 39. Boeing F-18, P-8, and C-40 Departures from Runways 09R and 27L

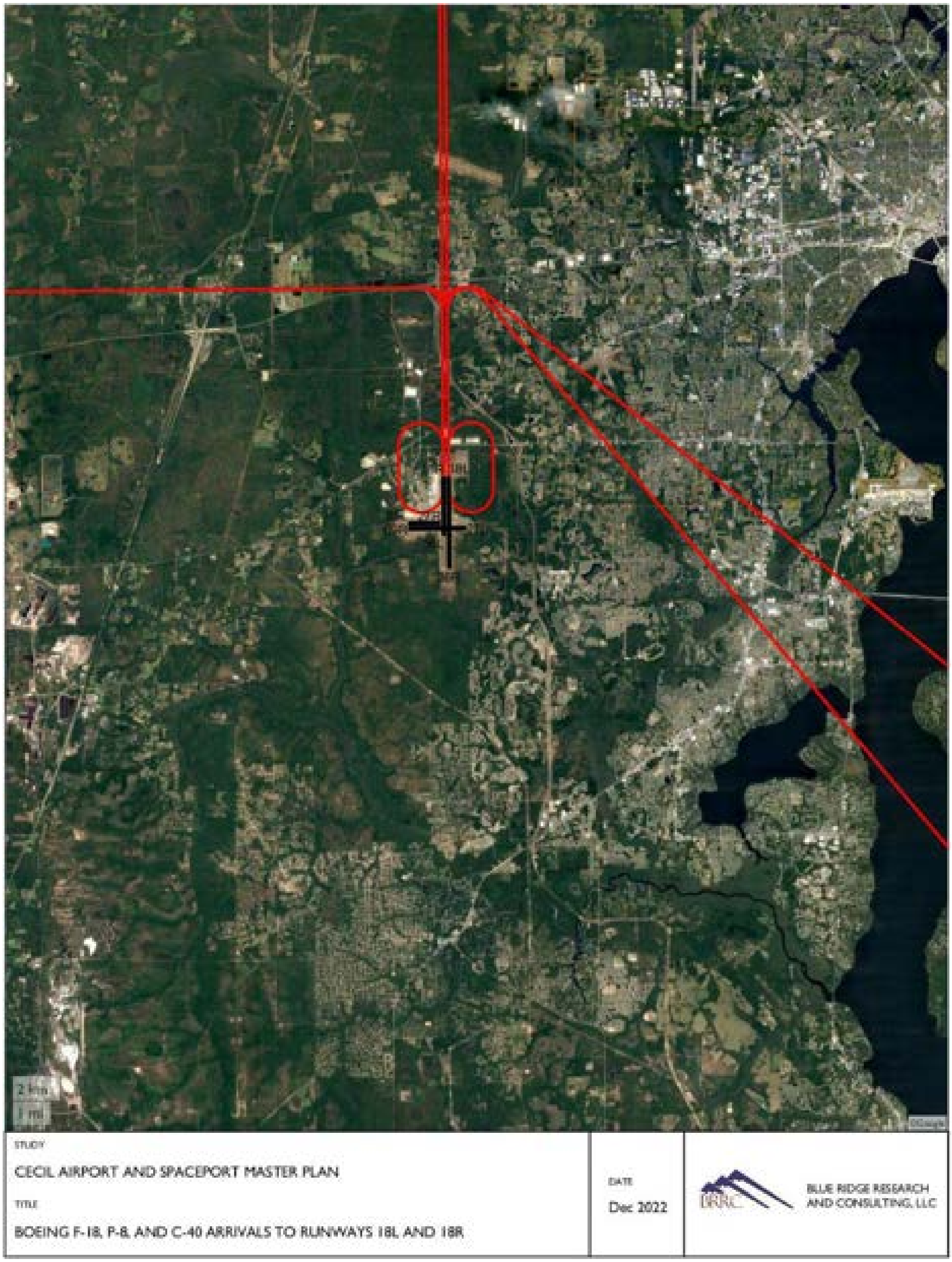


Figure 40. Boeing F-18, P-8, and C-40 Arrivals to Runways 18L and 18R

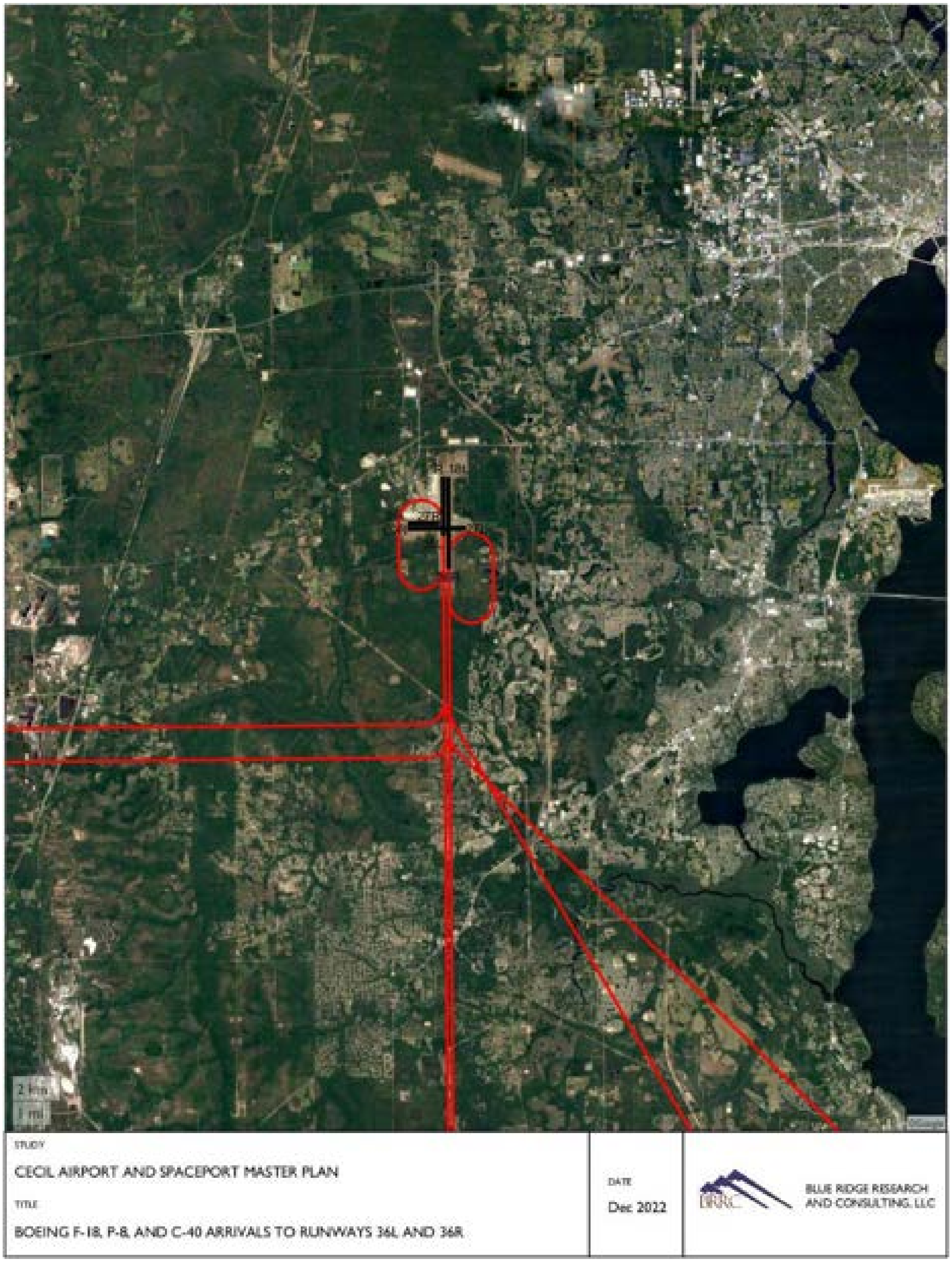
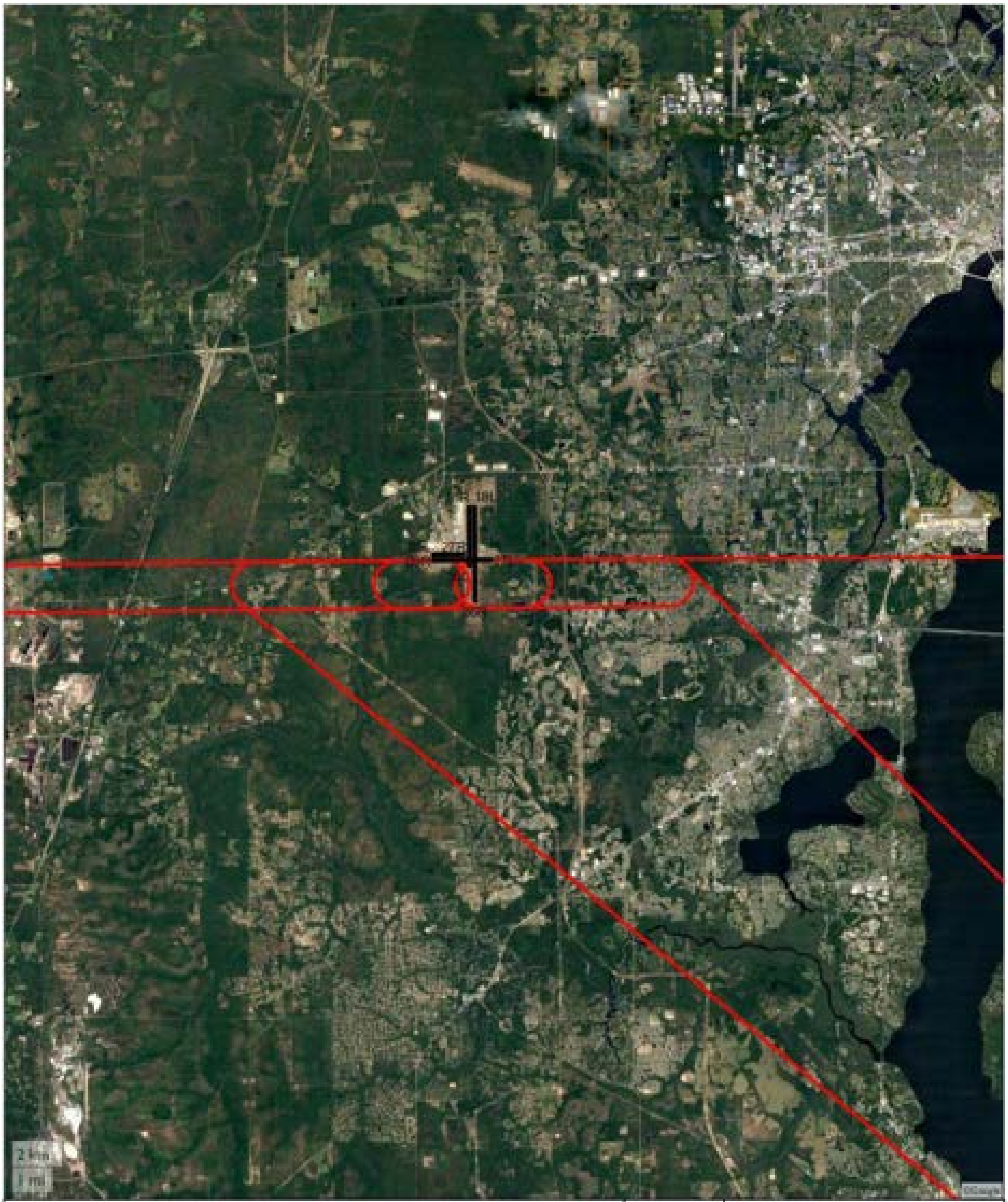


Figure 41. Boeing F-18, P-8, and C-40 Arrivals to Runways 36L and 36R



STUDY
CECIL AIRPORT AND SPACEPORT MASTER PLAN
TITLE
BOEING F-18, P-8, AND C-40 ARRIVALS TO RUNWAYS 09R AND 27L

DATE
Dec 2022

BLUE RIDGE RESEARCH
AND CONSULTING, LLC

Figure 42. Boeing F-18, P-8, and C-40 Arrivals to Runways 09R and 27L

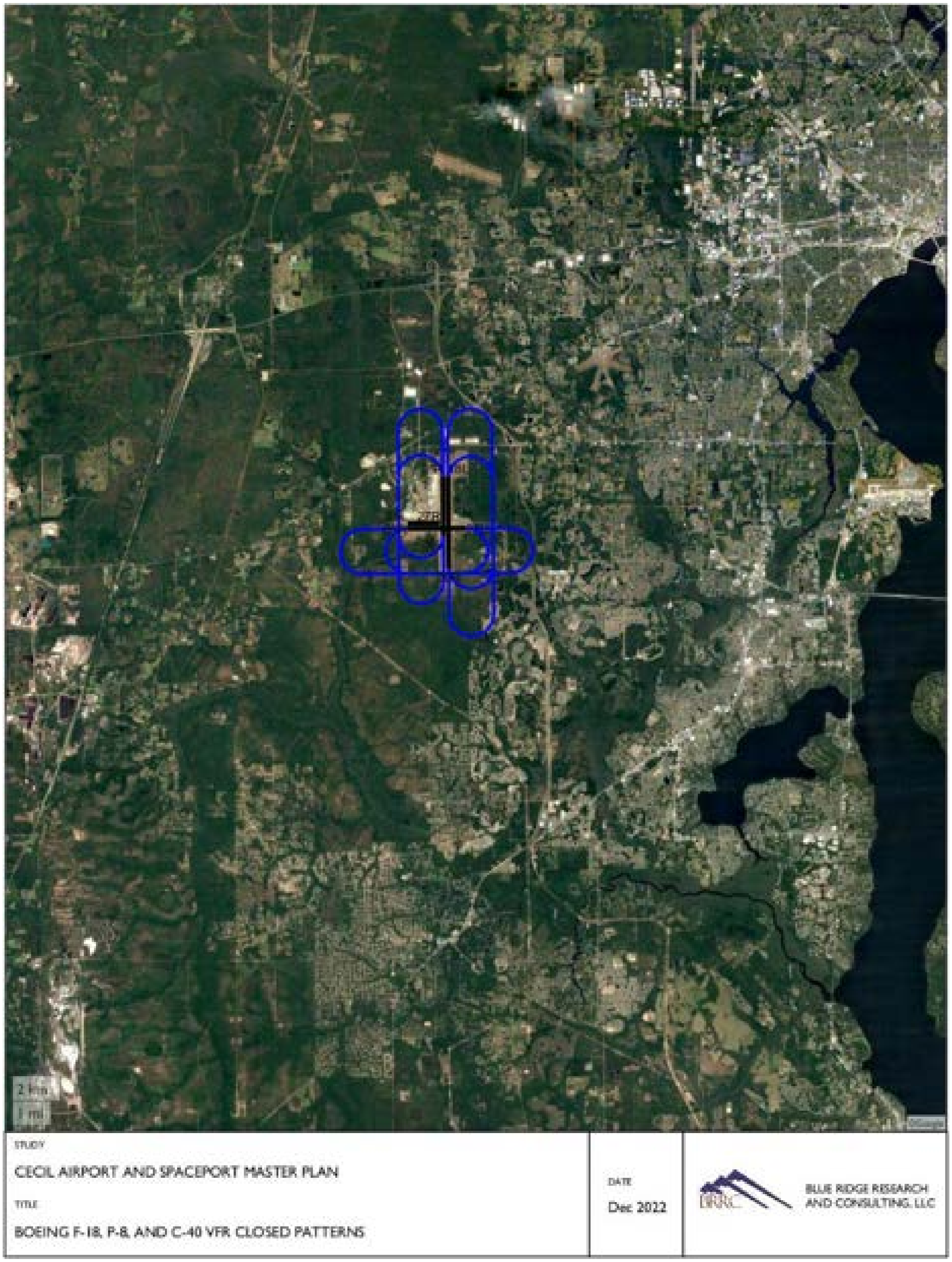


Figure 43. Boeing F-18, P-8, and C-40 VFR Closed Patterns

A.2.5 FSCJ Flight School Flight Track Maps

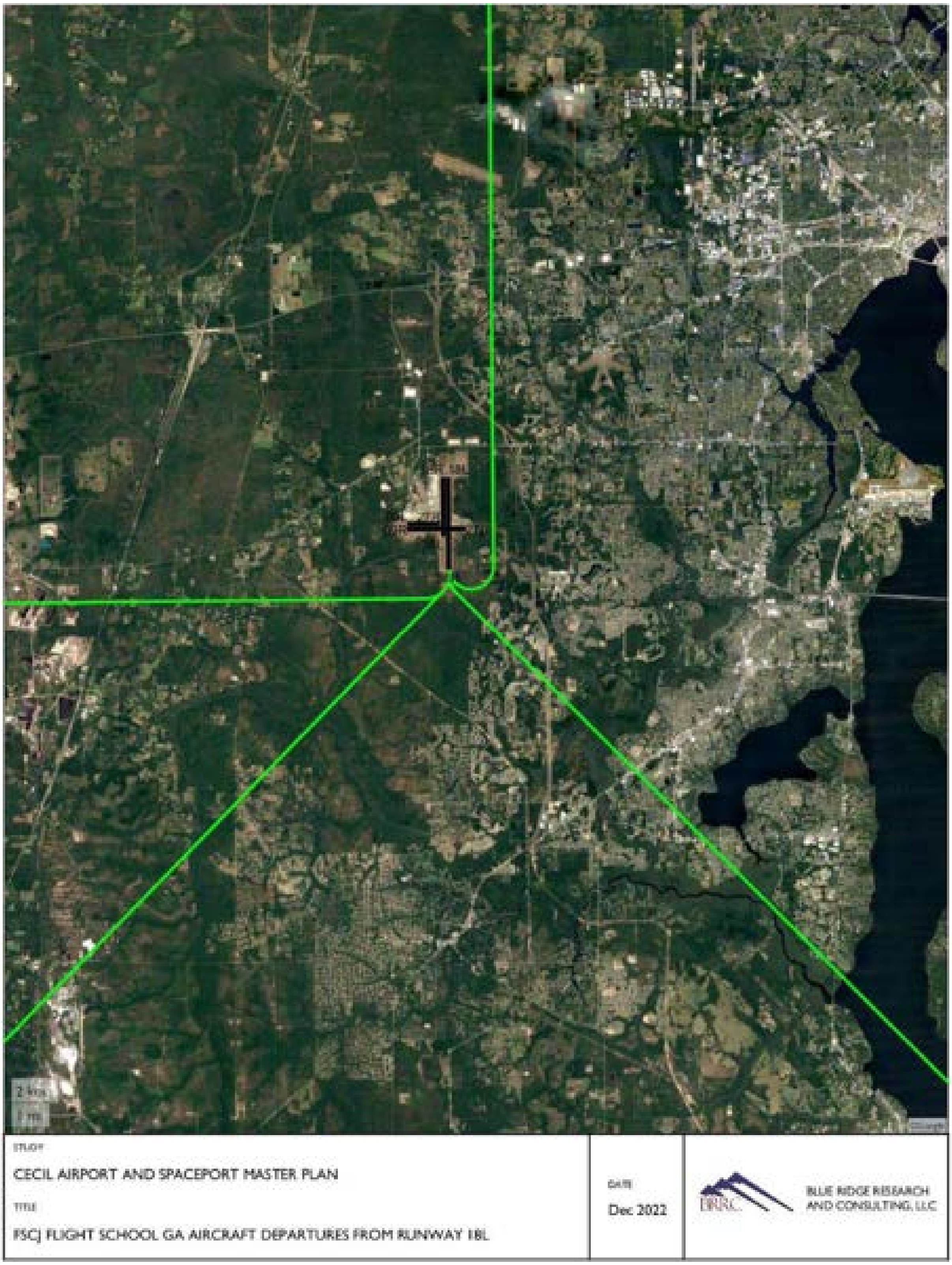


Figure 44. FSCJ Flight School GA Aircraft Departures from Runway 18L

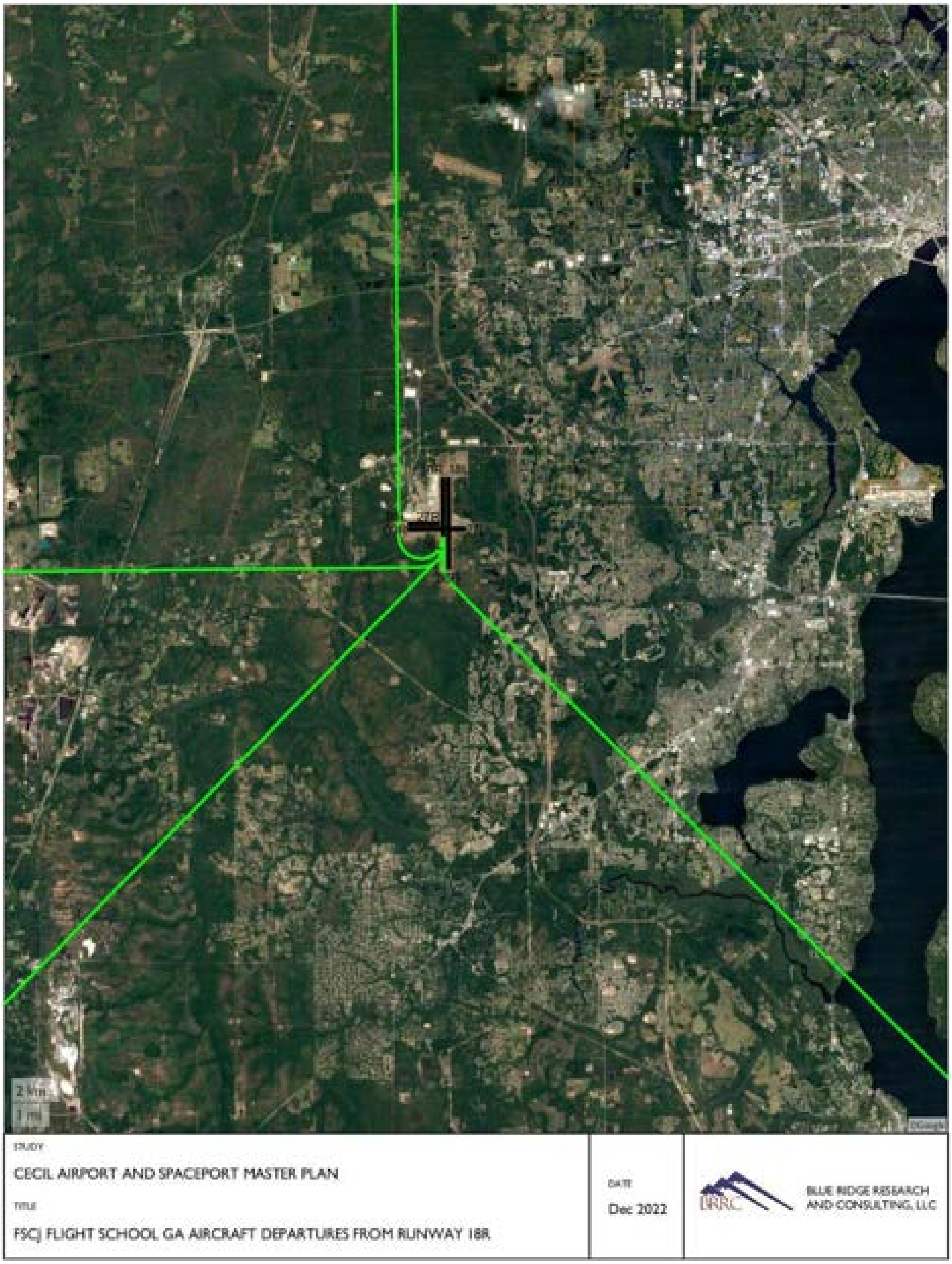
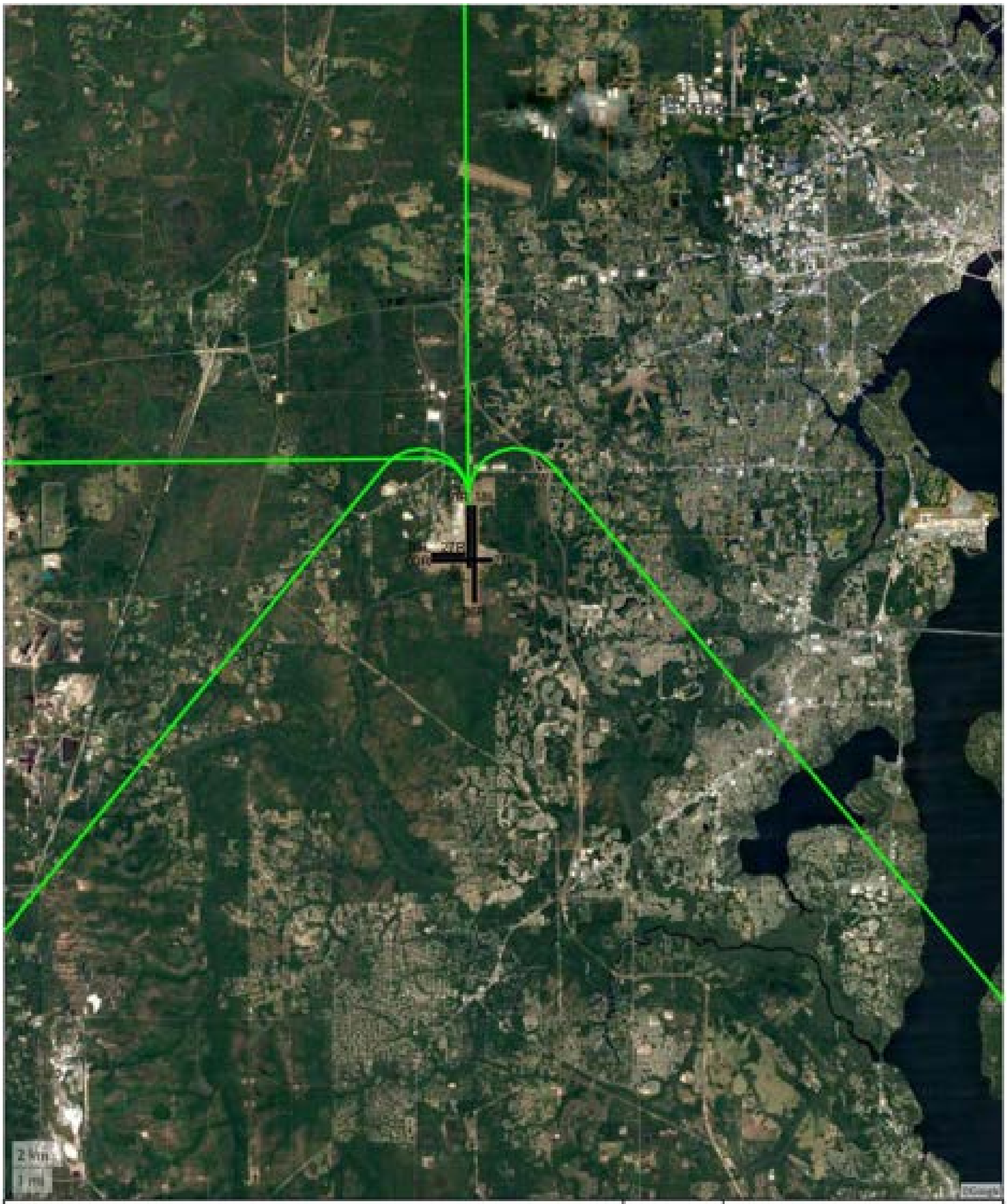


Figure 45. FSCJ Flight School GA Aircraft Departures from Runway 18R



STUDY
CECIL AIRPORT AND SPACEPORT MASTER PLAN
TITLE
FSCJ FLIGHT SCHOOL GA AIRCRAFT DEPARTURES FROM RUNWAY 36L

DATE
Dec 2022

BLUE RIDGE RESEARCH
AND CONSULTING, LLC

Figure 46. FSCJ Flight School GA Aircraft Departures from Runway 36L

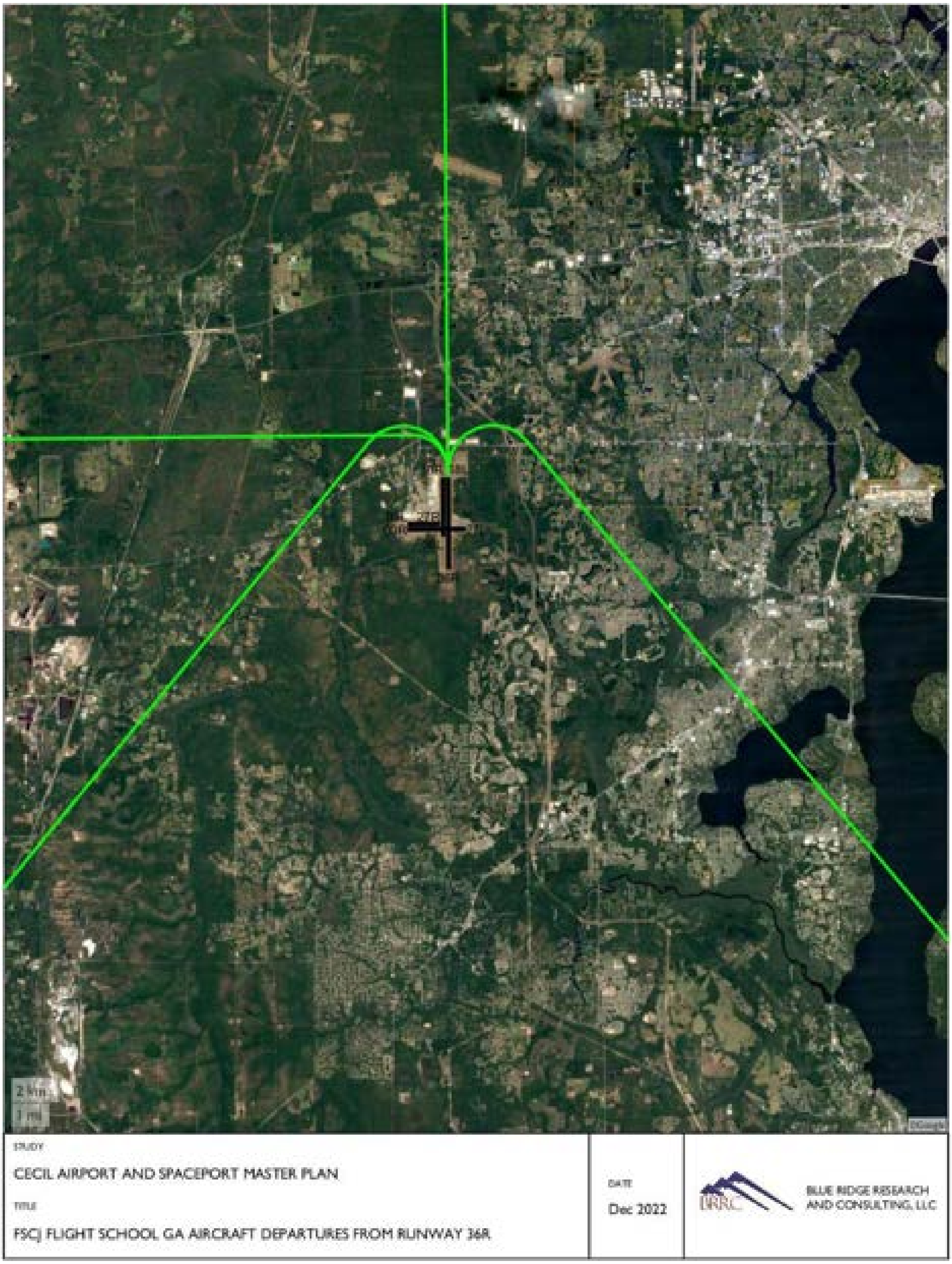
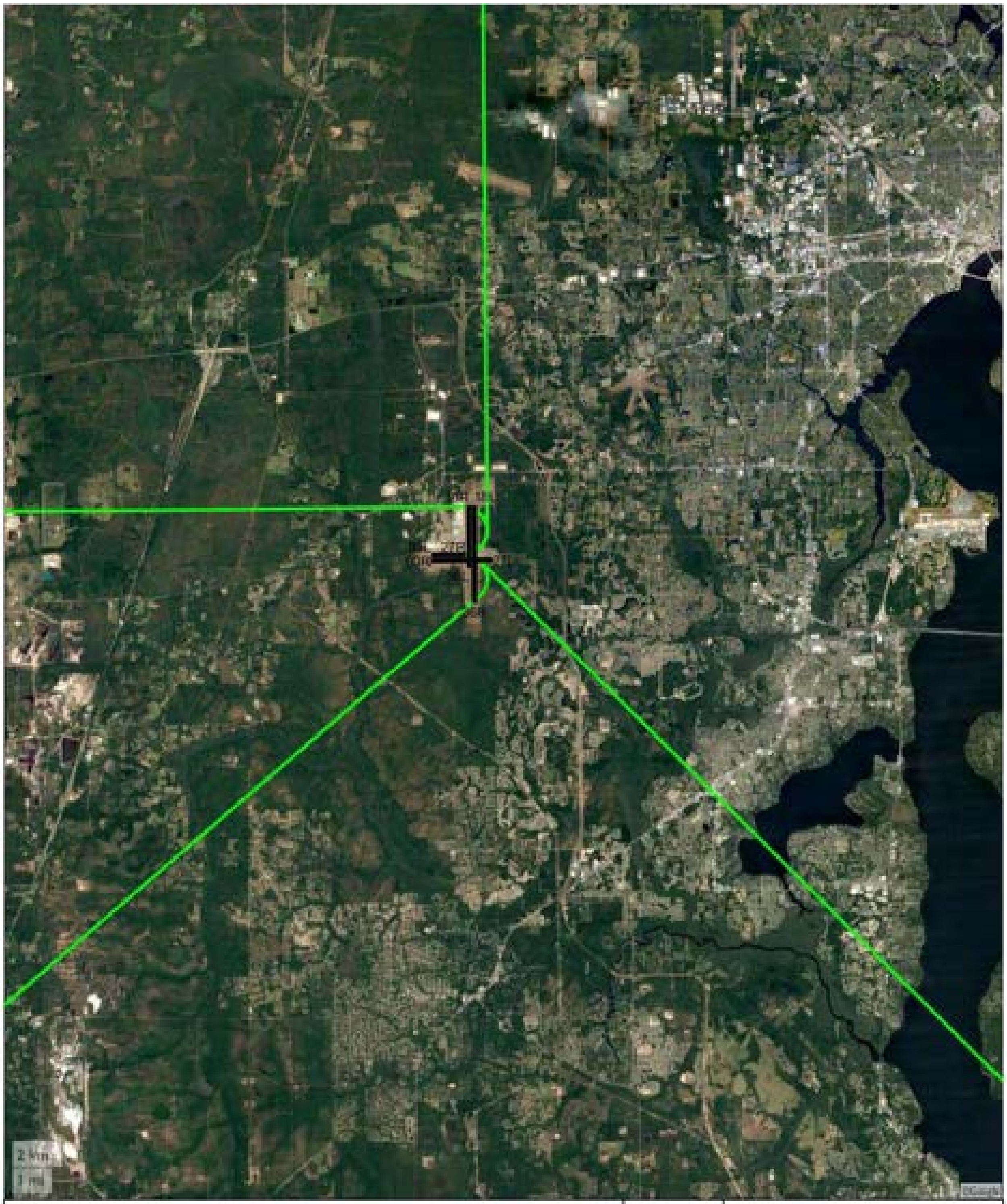
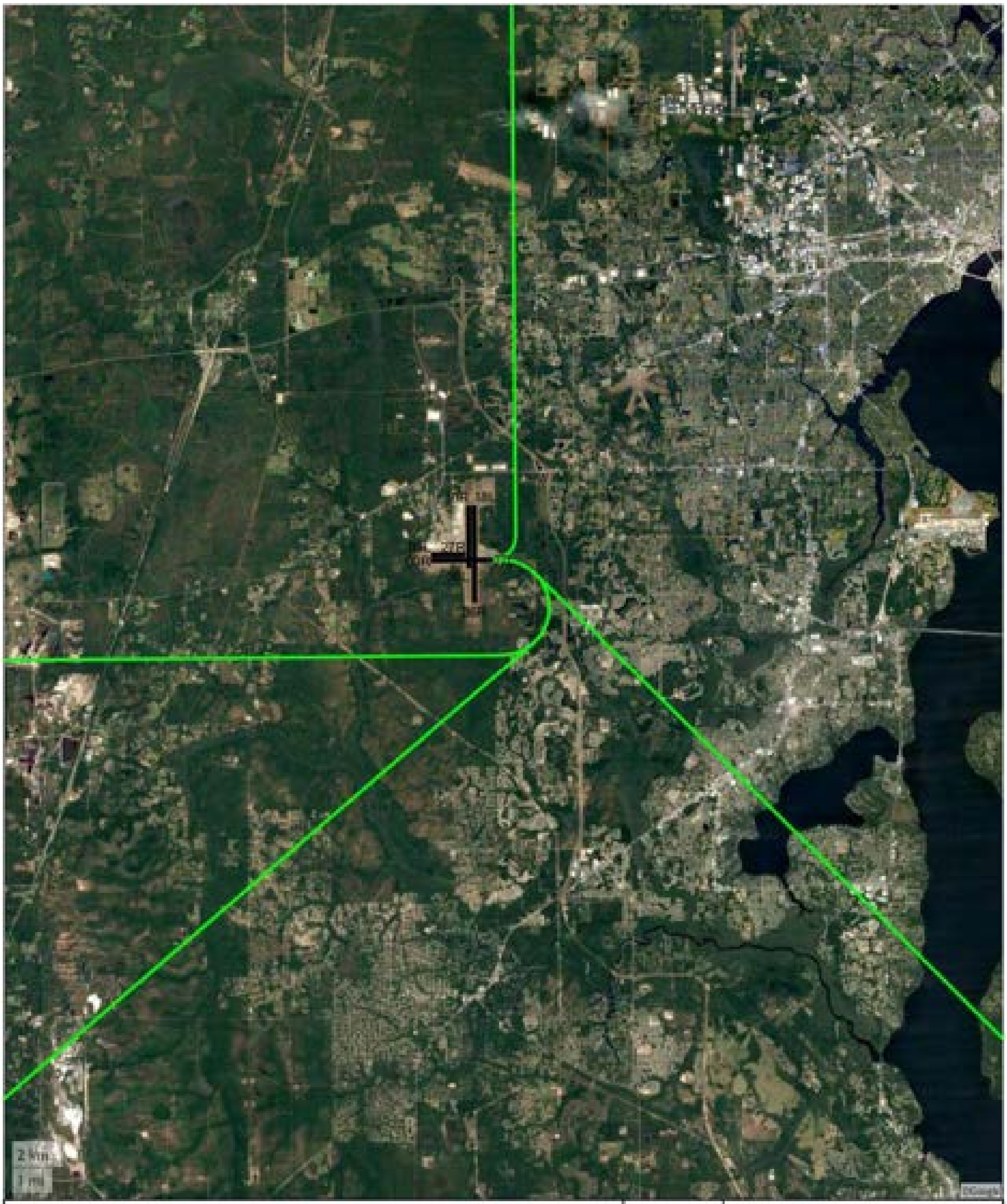


Figure 47. FSCJ Flight School GA Aircraft Departures from Runway 36R



STUDY
CECIL AIRPORT AND SPACEPORT MASTER PLAN
TITLE
FSCJ FLIGHT SCHOOL GA AIRCRAFT DEPARTURES FROM RUNWAY 09L
DATE
Dec 2022
BLUE RIDGE RESEARCH AND CONSULTING, LLC

Figure 48. FSCJ Flight School GA Aircraft Departures from Runway 09L



STUDY
CECIL AIRPORT AND SPACEPORT MASTER PLAN
TITLE
FSCJ FLIGHT SCHOOL GA AIRCRAFT DEPARTURES FROM RUNWAY 09R
DATE
Dec 2022
BLUE RIDGE RESEARCH AND CONSULTING, LLC

Figure 49. FSCJ Flight School GA Aircraft Departures from Runway 09R

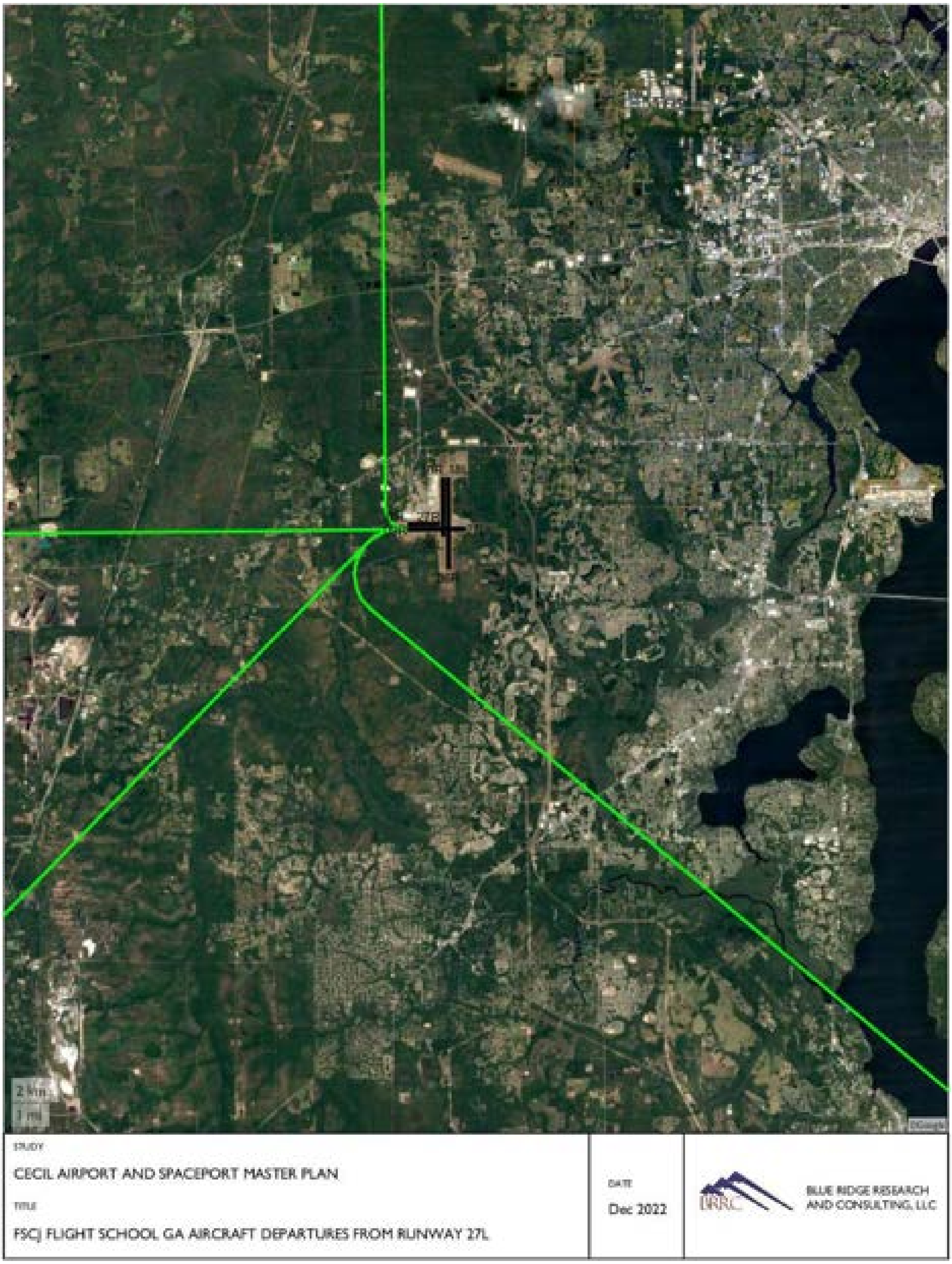


Figure 50. FSCJ Flight School GA Aircraft Departures from Runway 27L

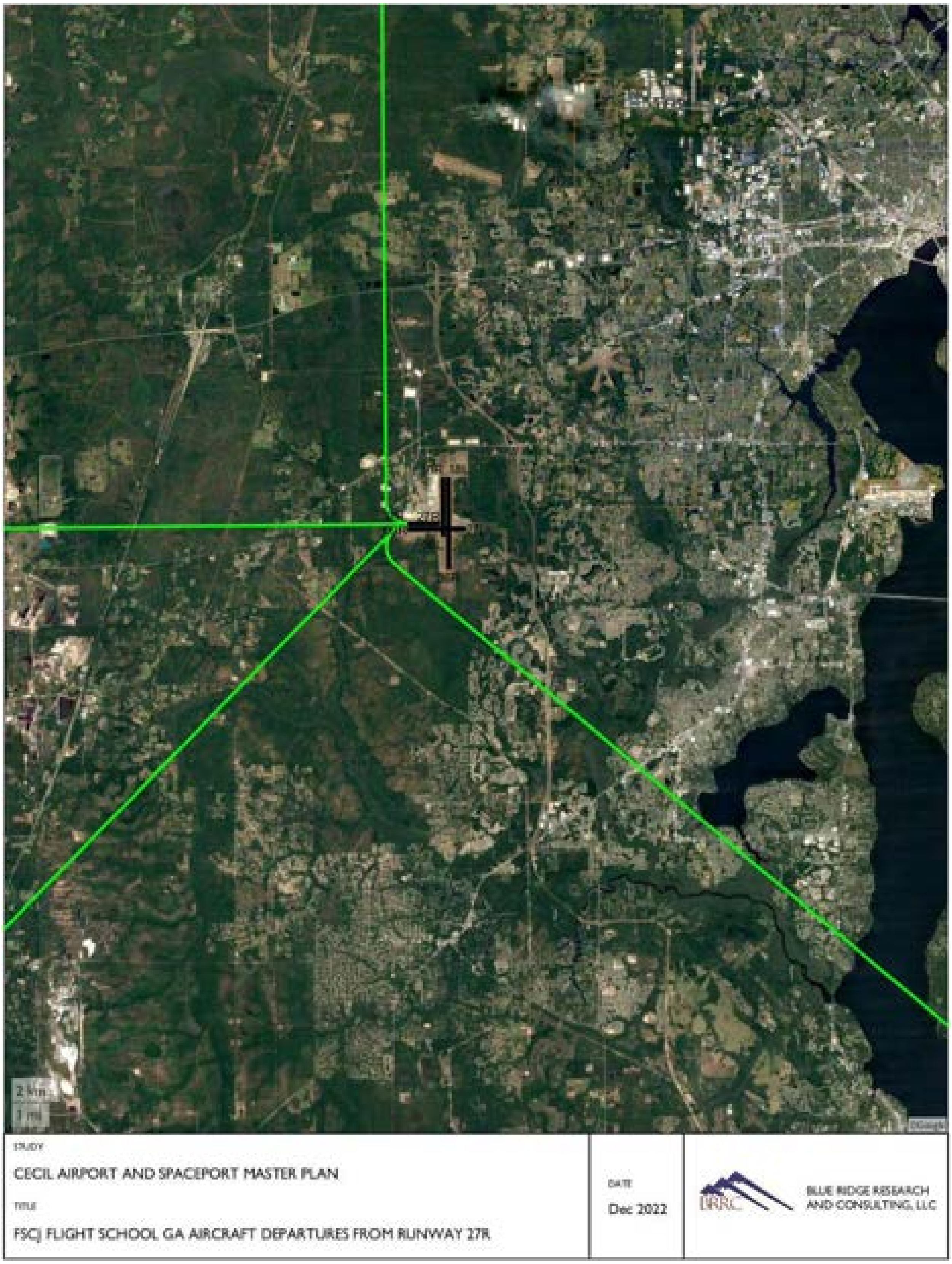


Figure 51. FSCJ Flight School GA Aircraft Departures from Runway 27R

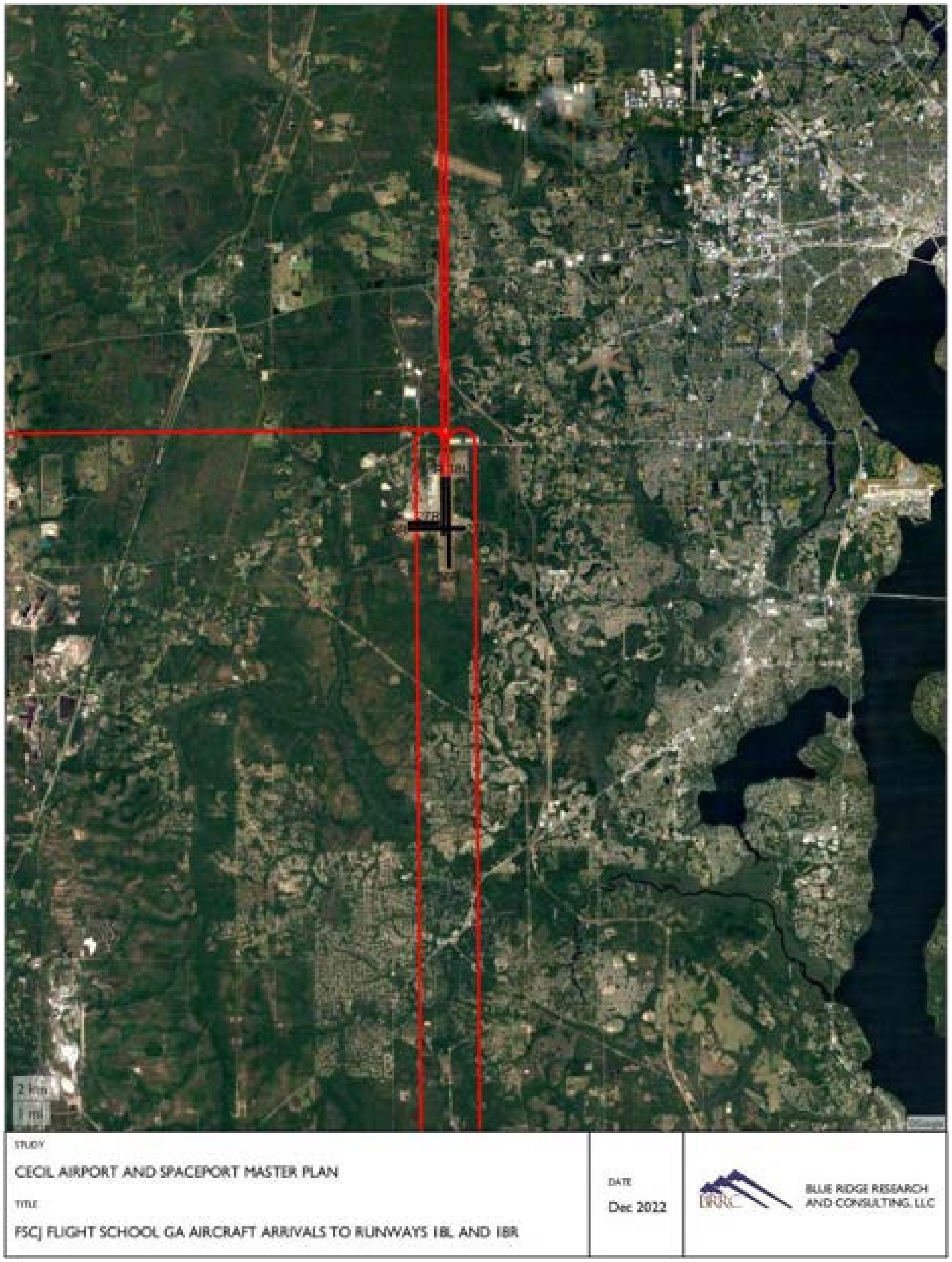
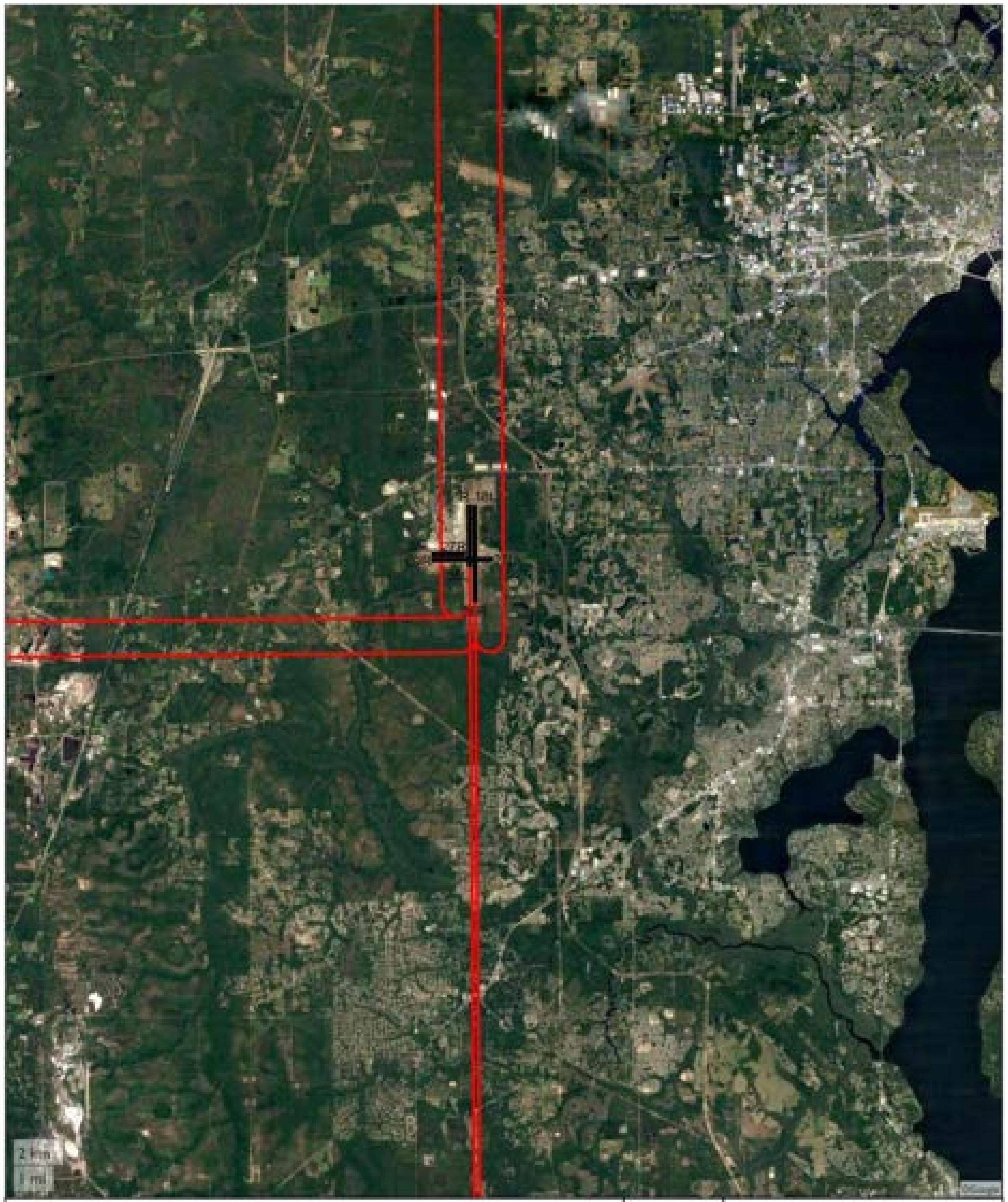


Figure 52. FSCJ Flight School GA Aircraft Arrivals to Runways 18L and 18R



STUDY
CECIL AIRPORT AND SPACEPORT MASTER PLAN
TITLE
FSCJ FLIGHT SCHOOL GA AIRCRAFT ARRIVALS TO RUNWAYS 36L AND 36R

DATE
Dec 2022

BLUE RIDGE RESEARCH
AND CONSULTING, LLC

Figure 53. FSCJ Flight School GA Aircraft Arrivals to Runways 36L and 36R

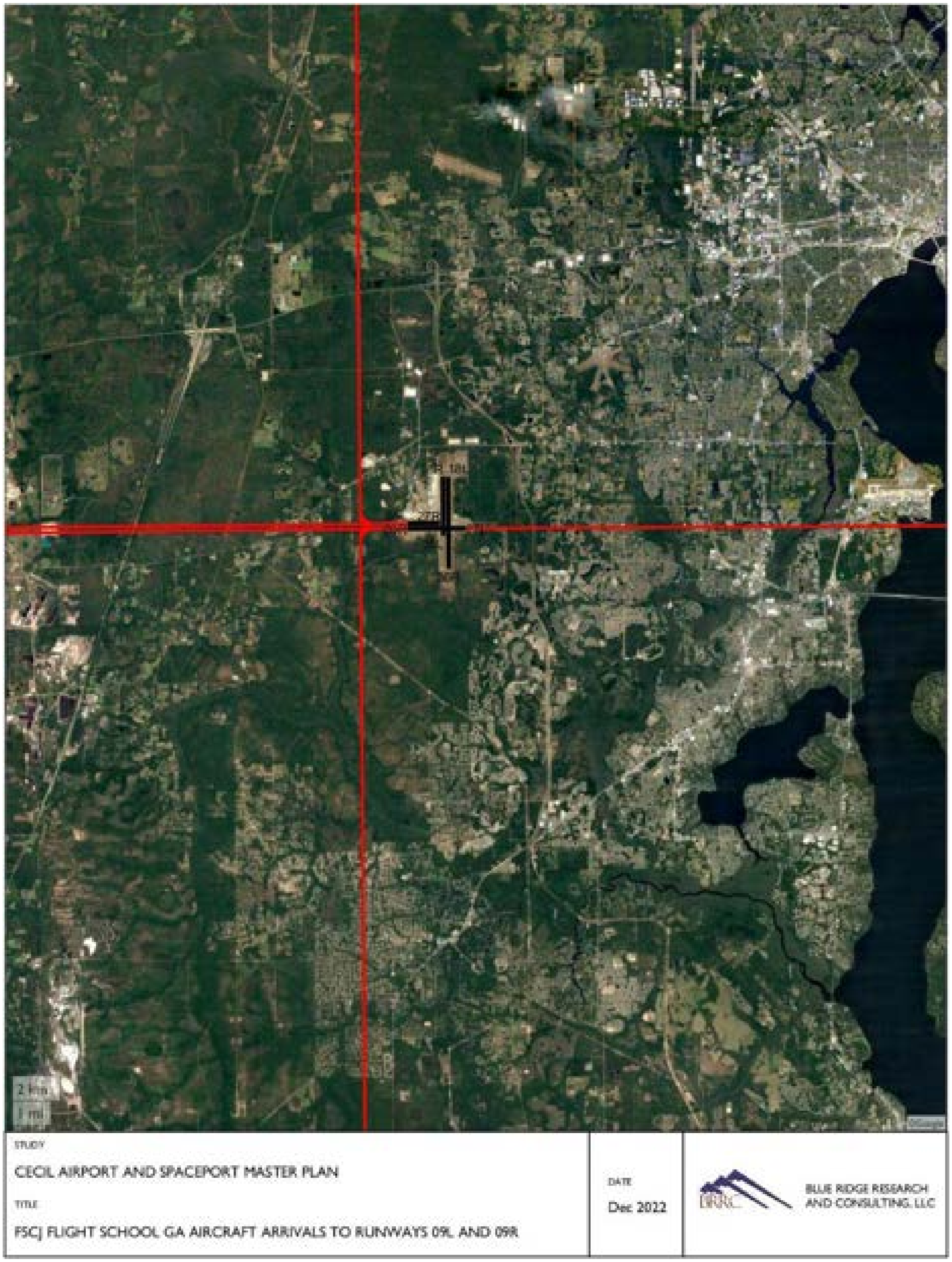


Figure 54. FSCJ Flight School GA Aircraft Arrivals to Runways 09L and 09R

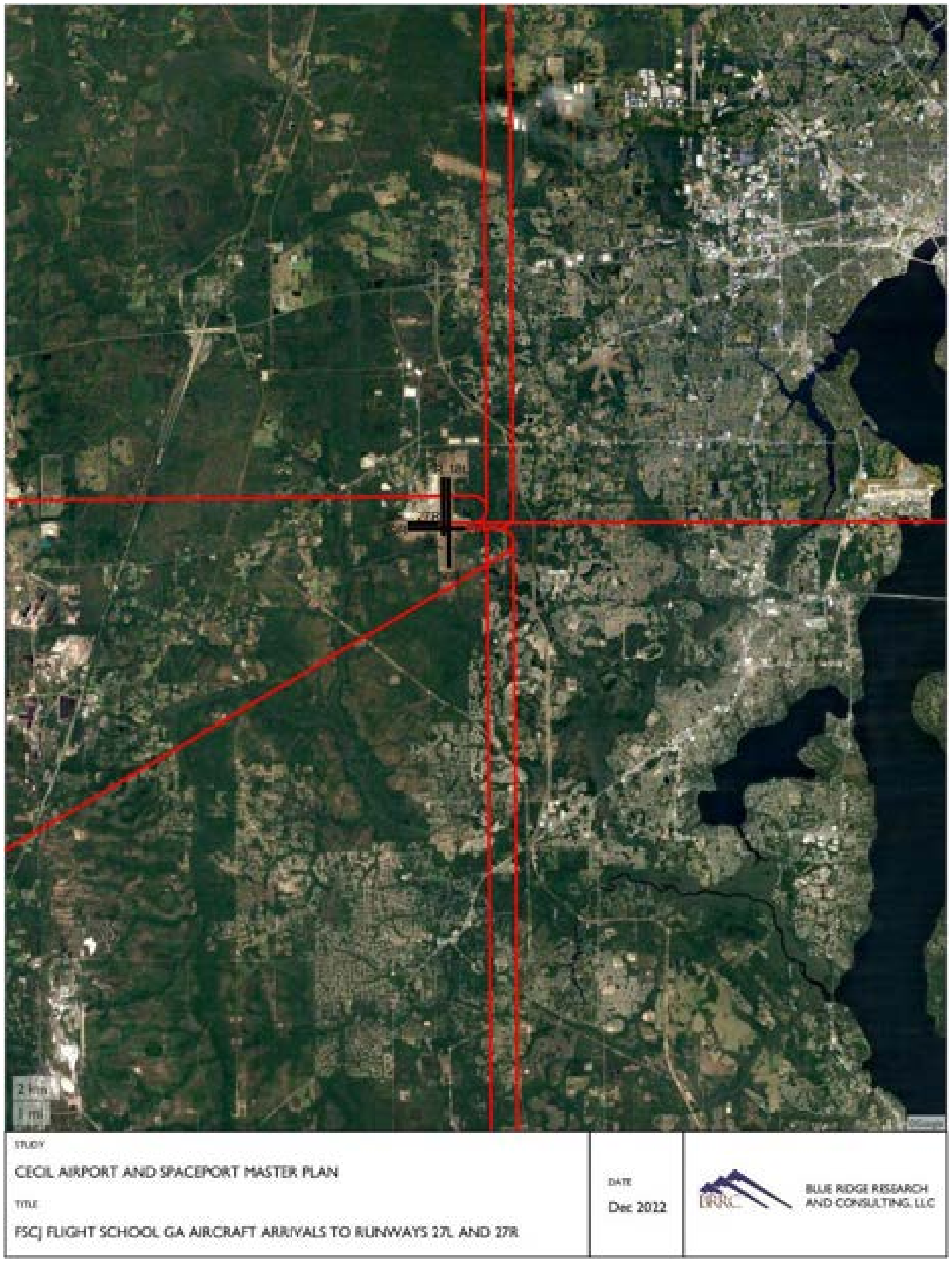
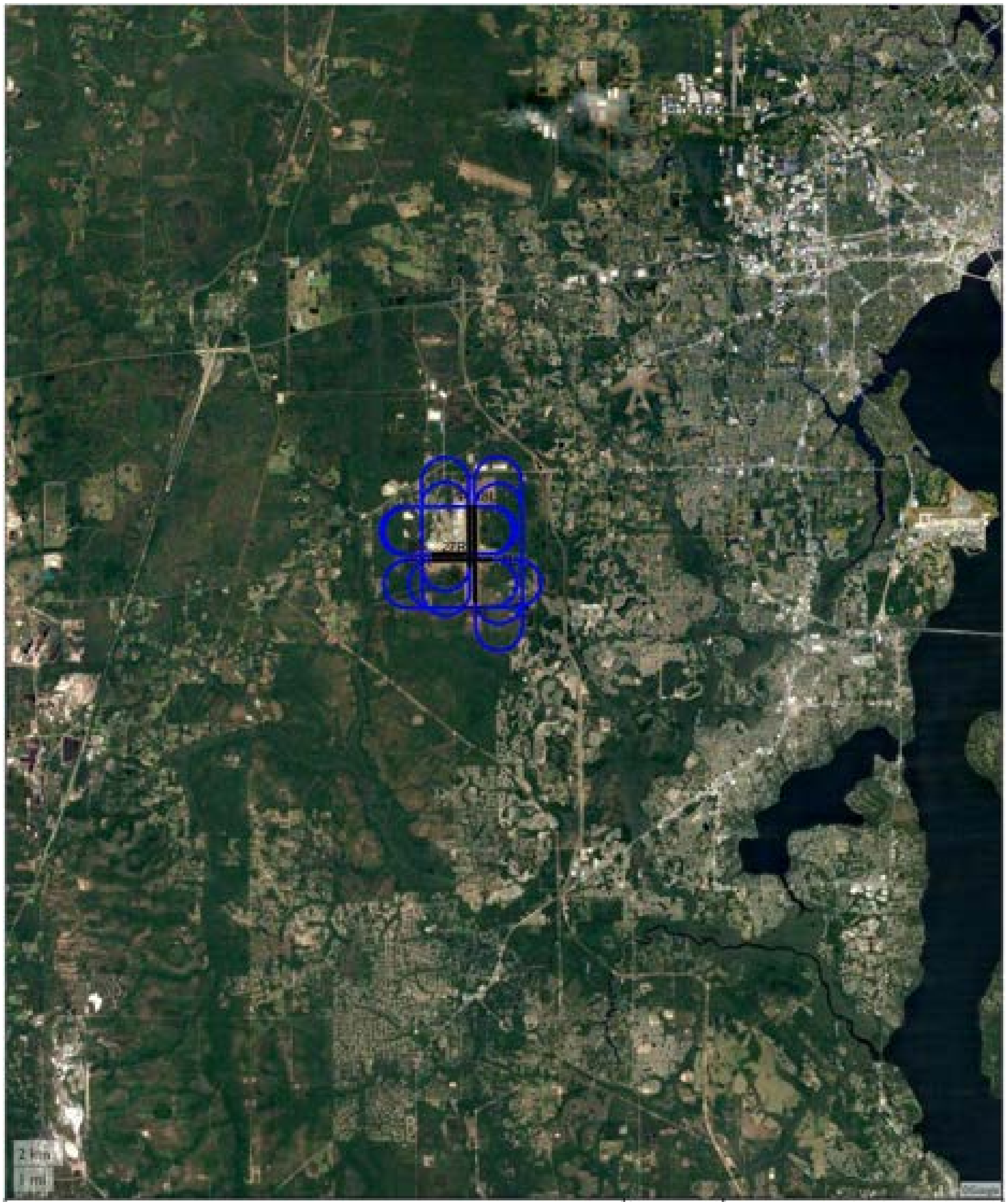


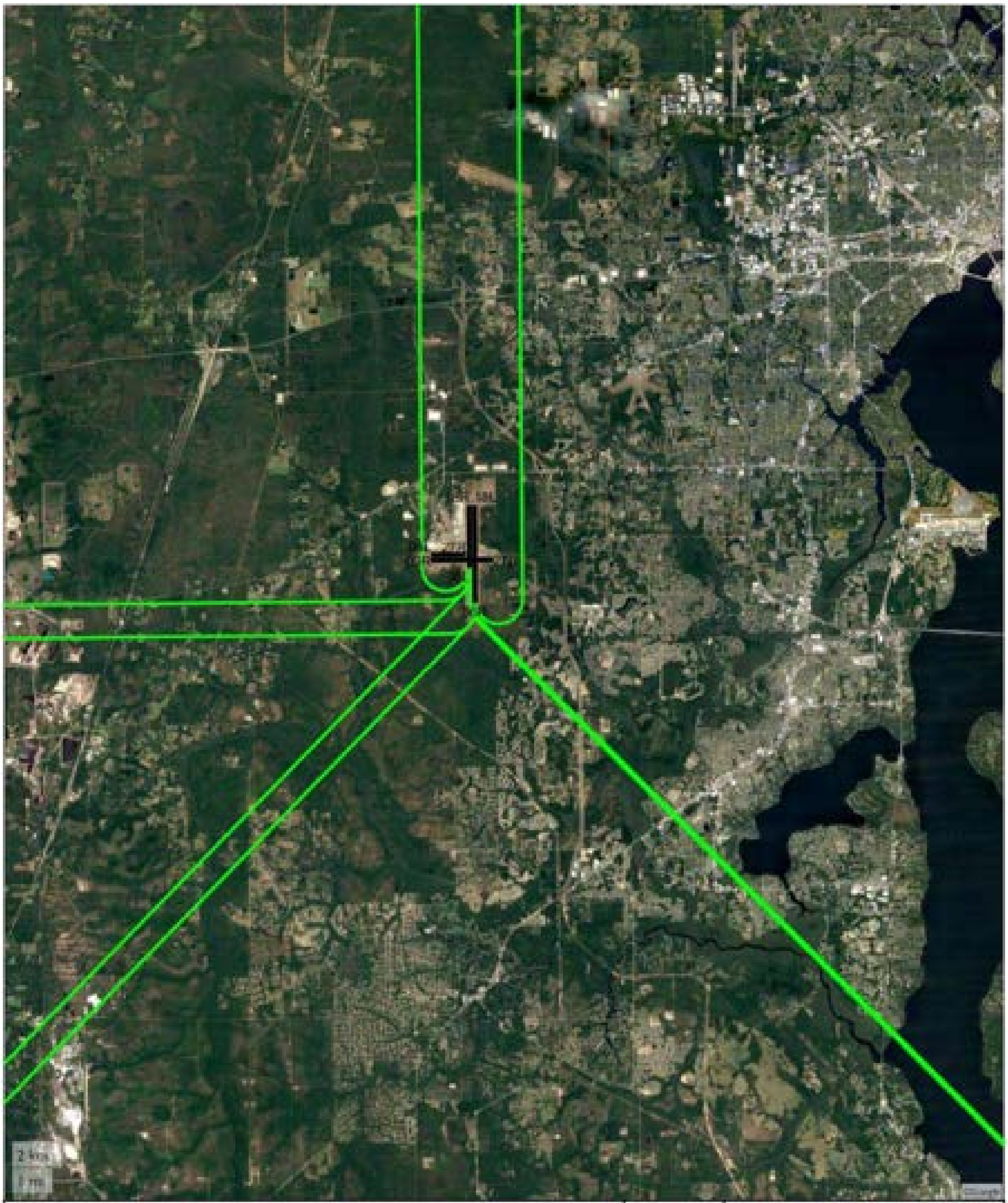
Figure 55. FSCJ Flight School GA Aircraft Arrivals to Runways 27L and 27R



STUDY
CECIL AIRPORT AND SPACEPORT MASTER PLAN
TITLE
FSCJ FLIGHT SCHOOL GA AIRCRAFT VFR CLOSED PATTERNS
DATE
Dec 2022
BLUE RIDGE RESEARCH AND CONSULTING, LLC

Figure 56. FSCJ Flight School GA Aircraft VFR Closed Patterns

A.2.6 Civilian Flight Track Maps



STUDY
CECIL AIRPORT AND SPACEPORT MASTER PLAN
TITLE
CIVILIAN AIRCRAFT DEPARTURES FROM RUNWAYS 18L AND 18R
DATE
Dec 2022
BLUE RIDGE RESEARCH AND CONSULTING, LLC

Figure 57. Civilian Aircraft Departures from Runways 18L and 18R

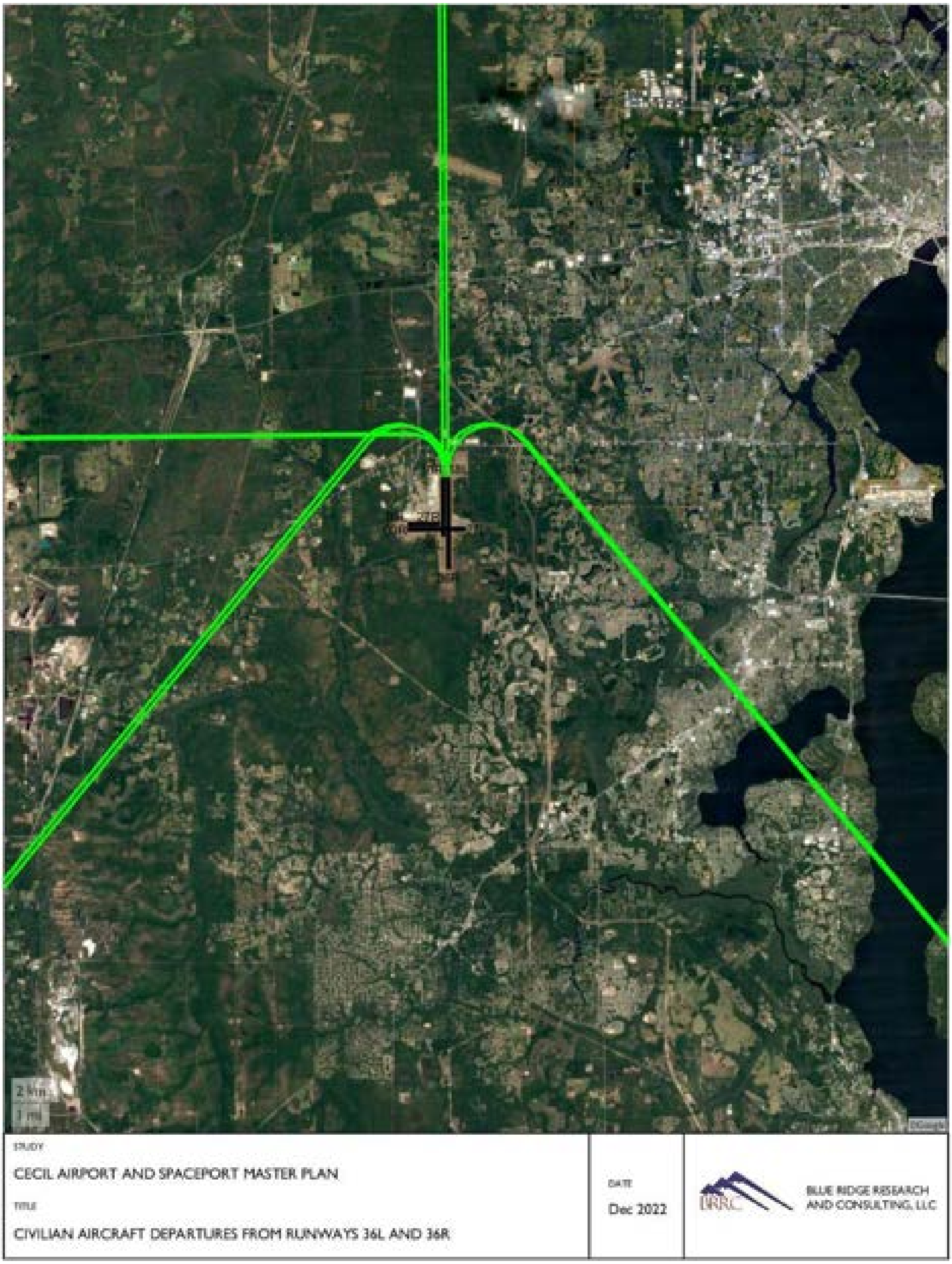
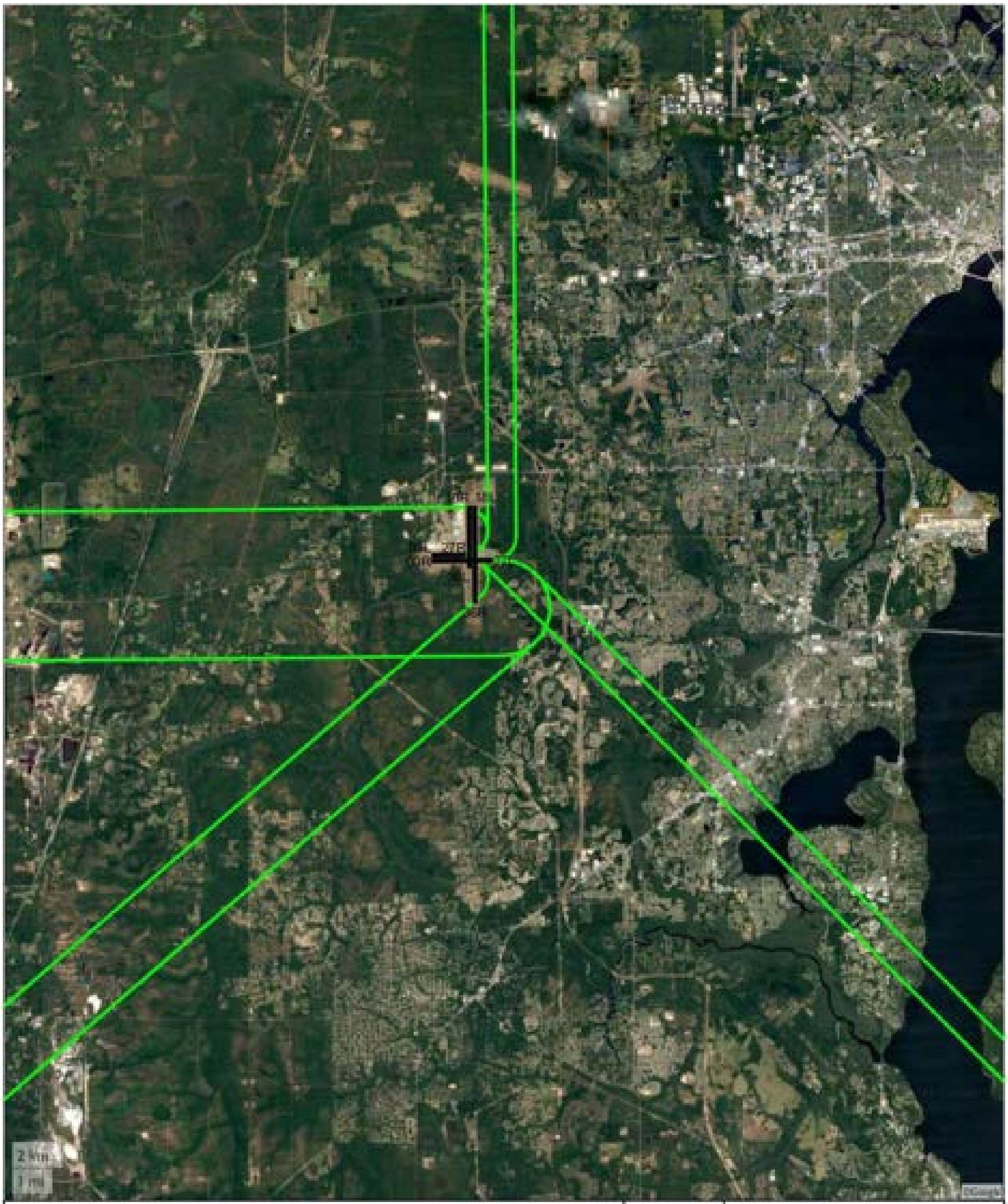


Figure 58. Civilian Aircraft Departures from Runways 36L and 36R



STUDY
CECIL AIRPORT AND SPACEPORT MASTER PLAN
TITLE
CIVILIAN AIRCRAFT DEPARTURES FROM RUNWAY 09L (GA ONLY) AND 09R
DATE
Dec 2022
BLUE RIDGE RESEARCH AND CONSULTING, LLC

Figure 59. Civilian Aircraft Departures from Runways 09L (GA Only) and 09R

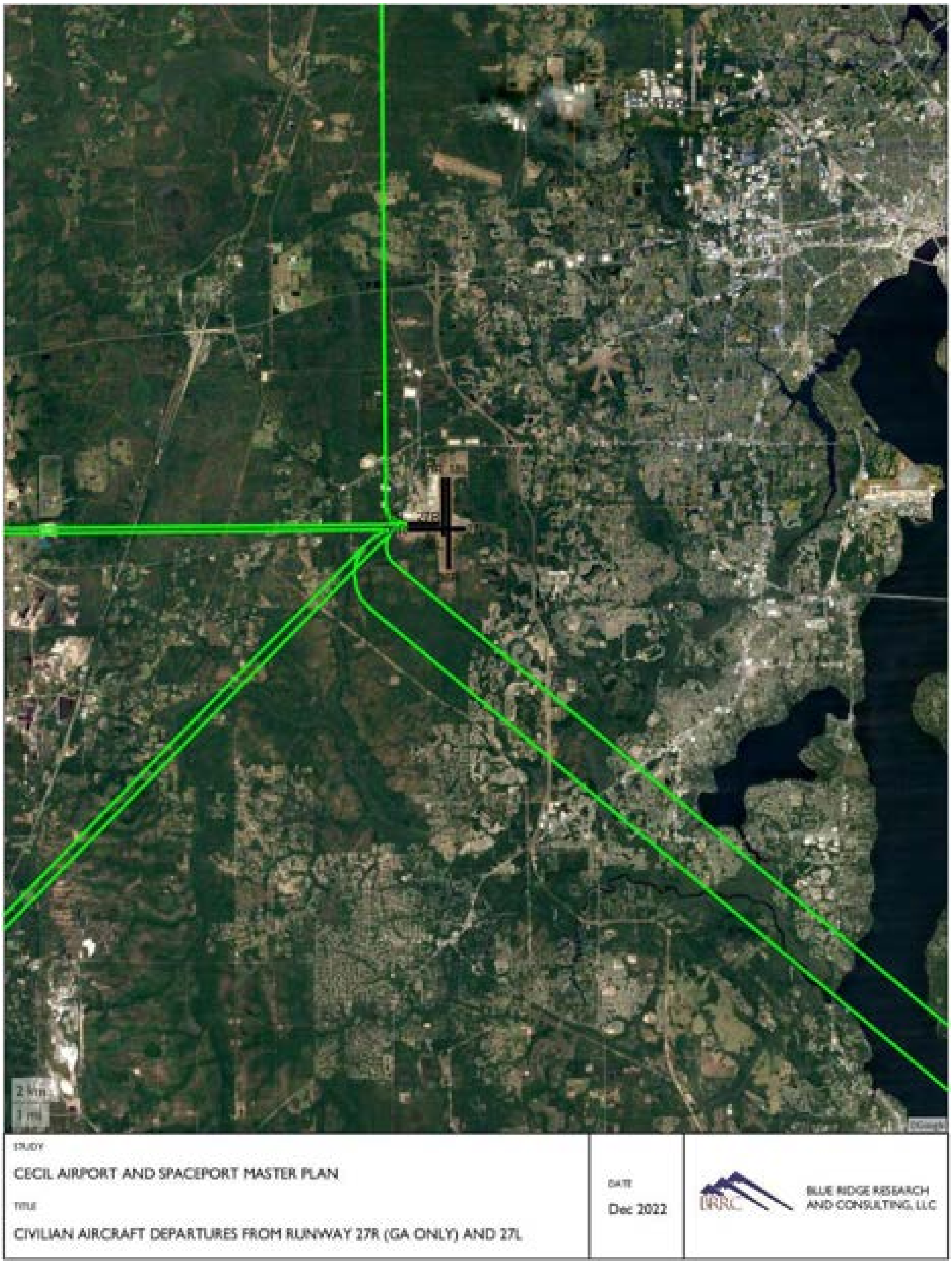


Figure 60. Civilian Aircraft Departures from Runways 27R (GA Only) and 27L

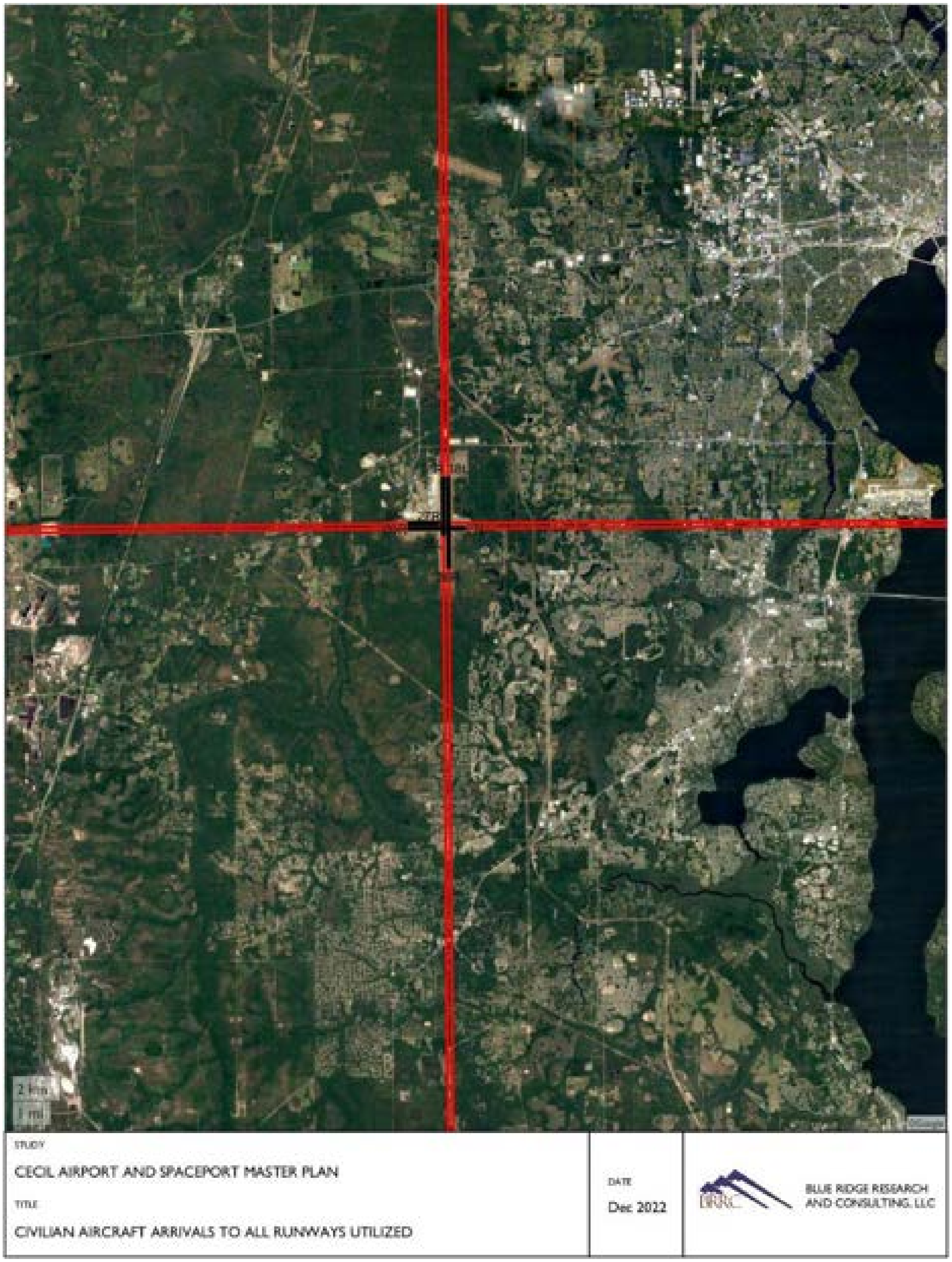


Figure 61. Civilian Aircraft Arrivals to All Runways Utilized

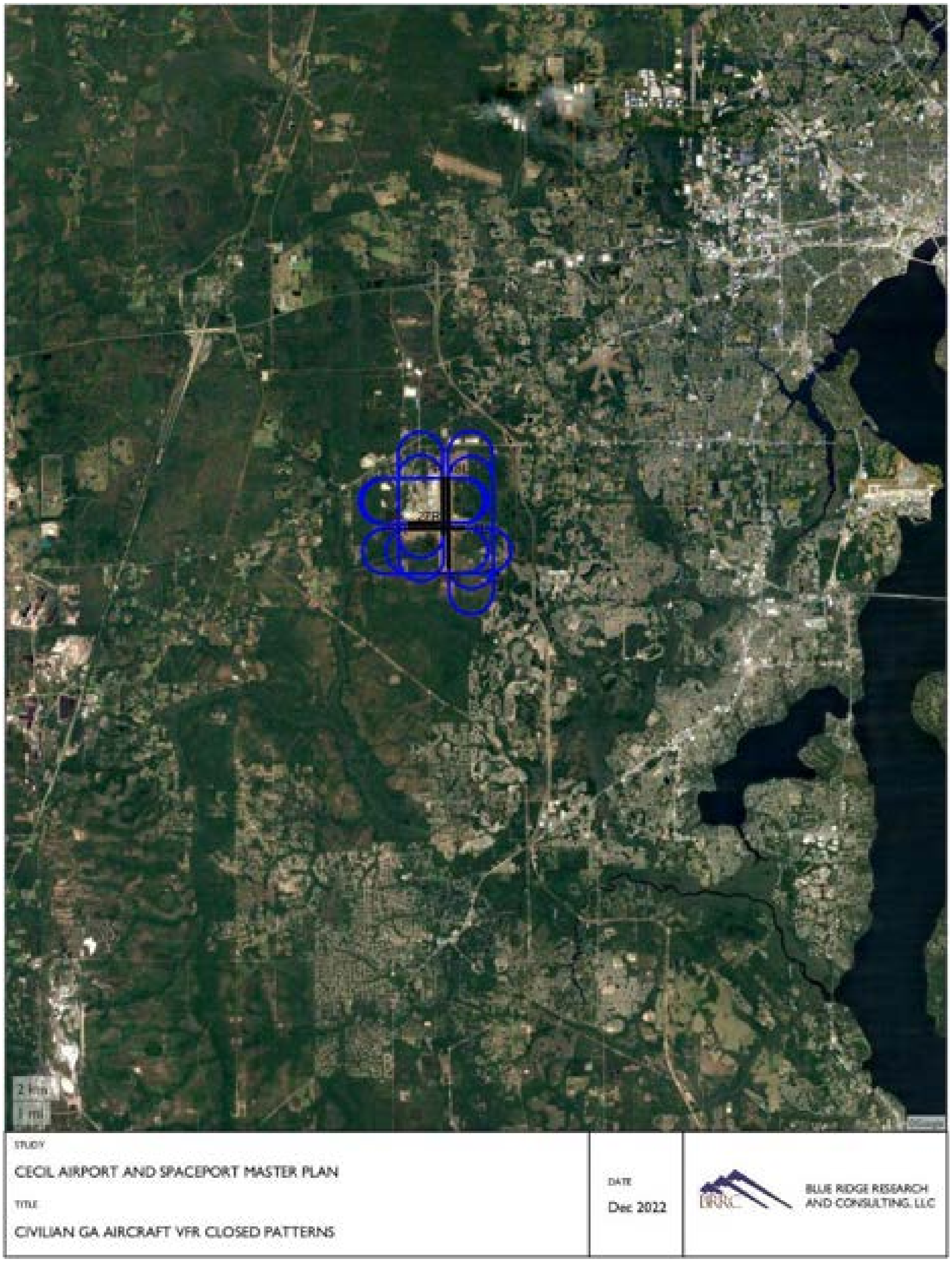


Figure 62. Civilian GA Aircraft VFR Closed Patterns

A.2.7 Transient Military Flight Track Maps

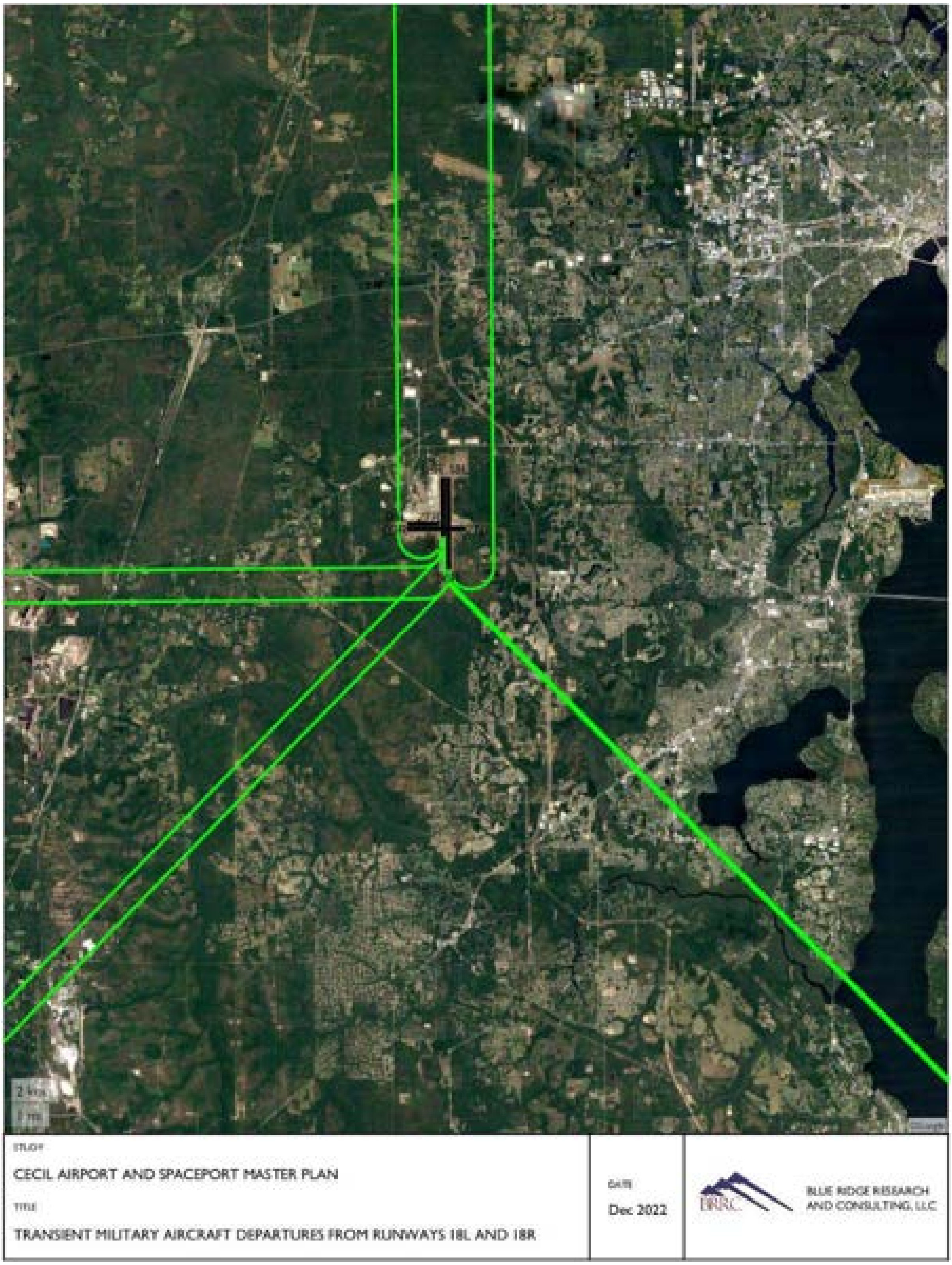


Figure 63. Transient Military Aircraft Departures from Runways 18L and 18R

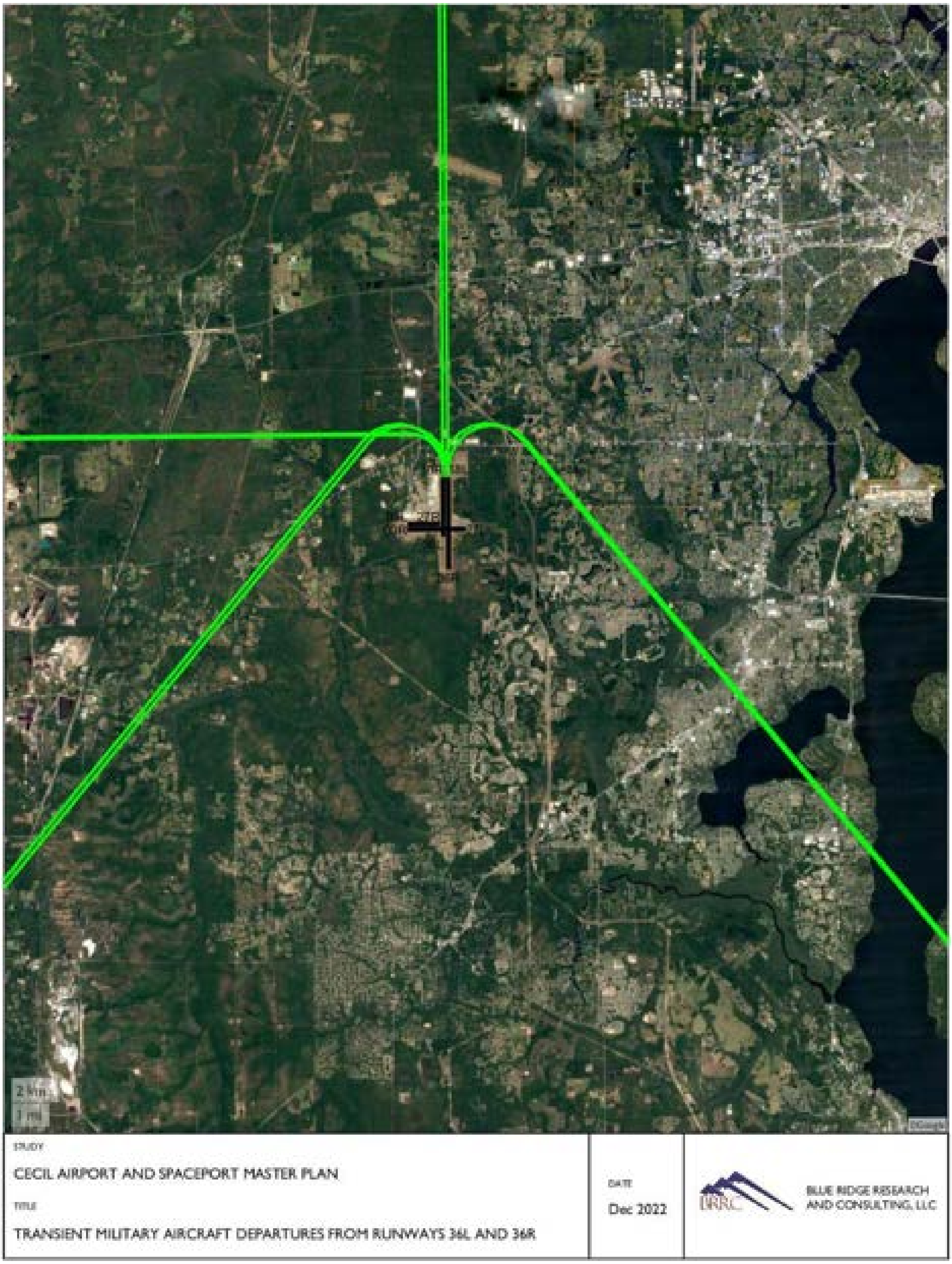


Figure 64. Transient Military Aircraft Departures from Runways 36L and 36R

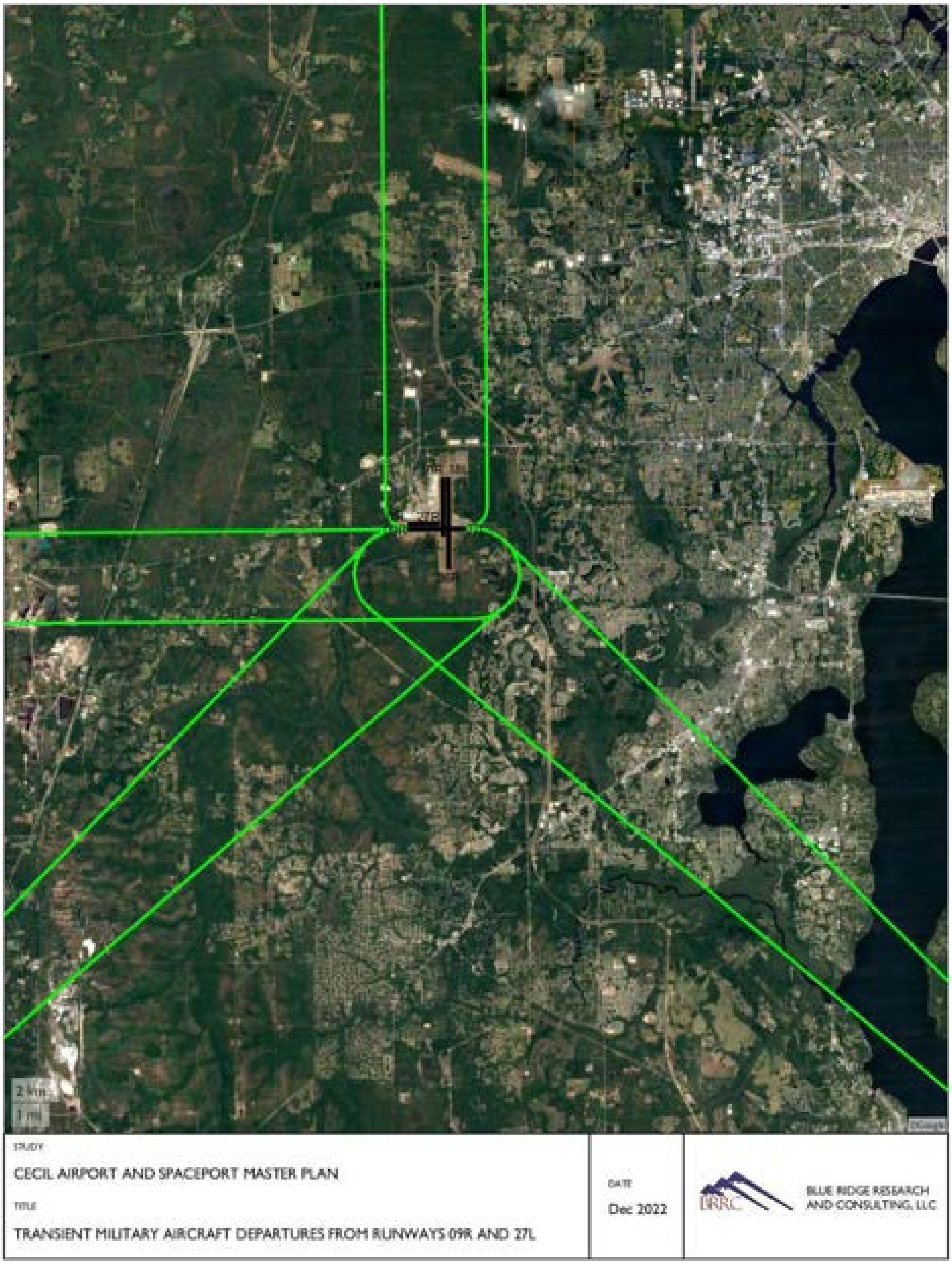
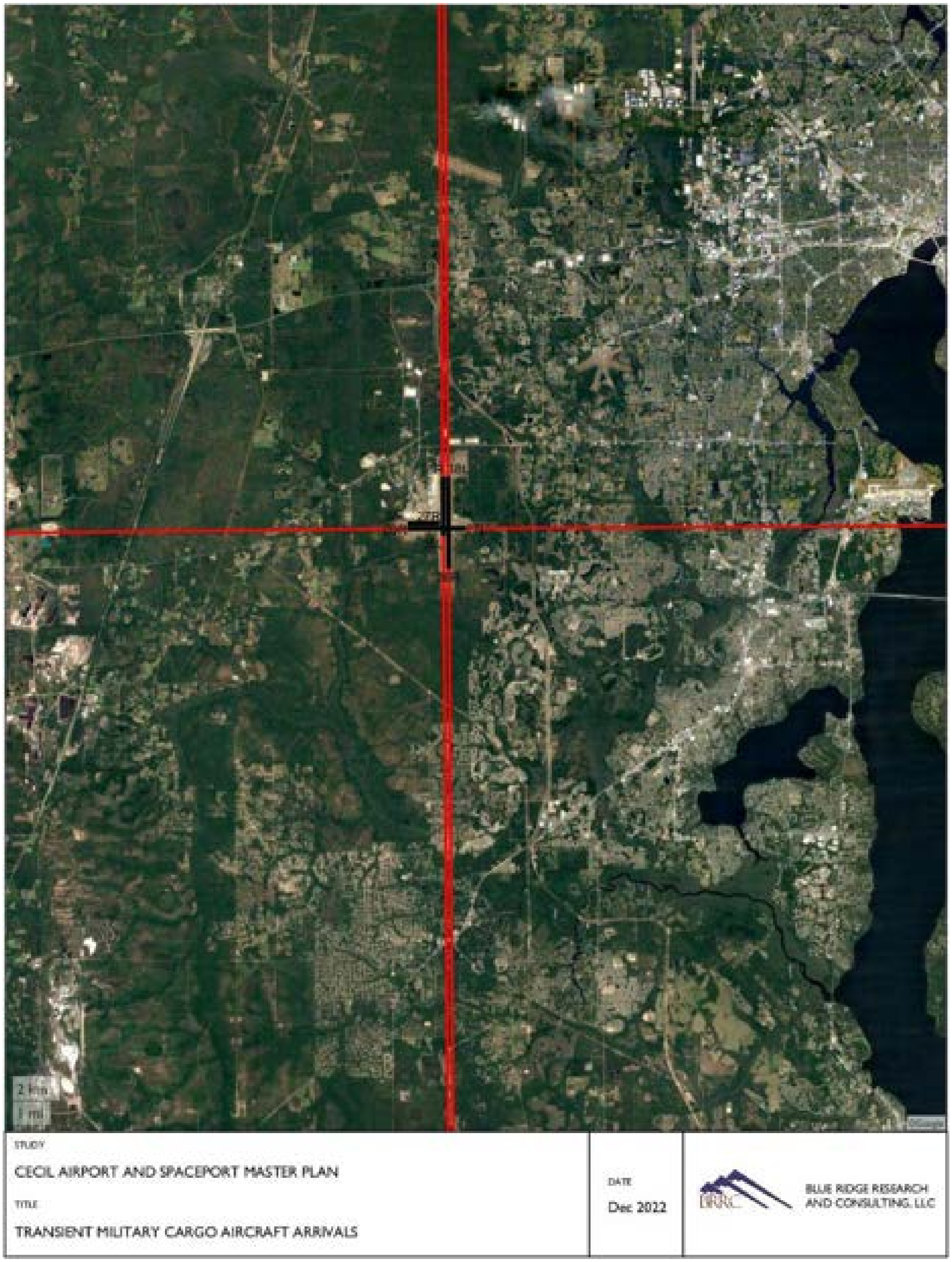


Figure 65. Transient Military Aircraft Departures from Runways 09R and 27L



STUDY
CECIL AIRPORT AND SPACEPORT MASTER PLAN
TITLE
TRANSIENT MILITARY CARGO AIRCRAFT ARRIVALS
DATE
Dec 2022
BLUE RIDGE RESEARCH AND CONSULTING, LLC

Figure 66. Transient Military Cargo Aircraft Arrivals

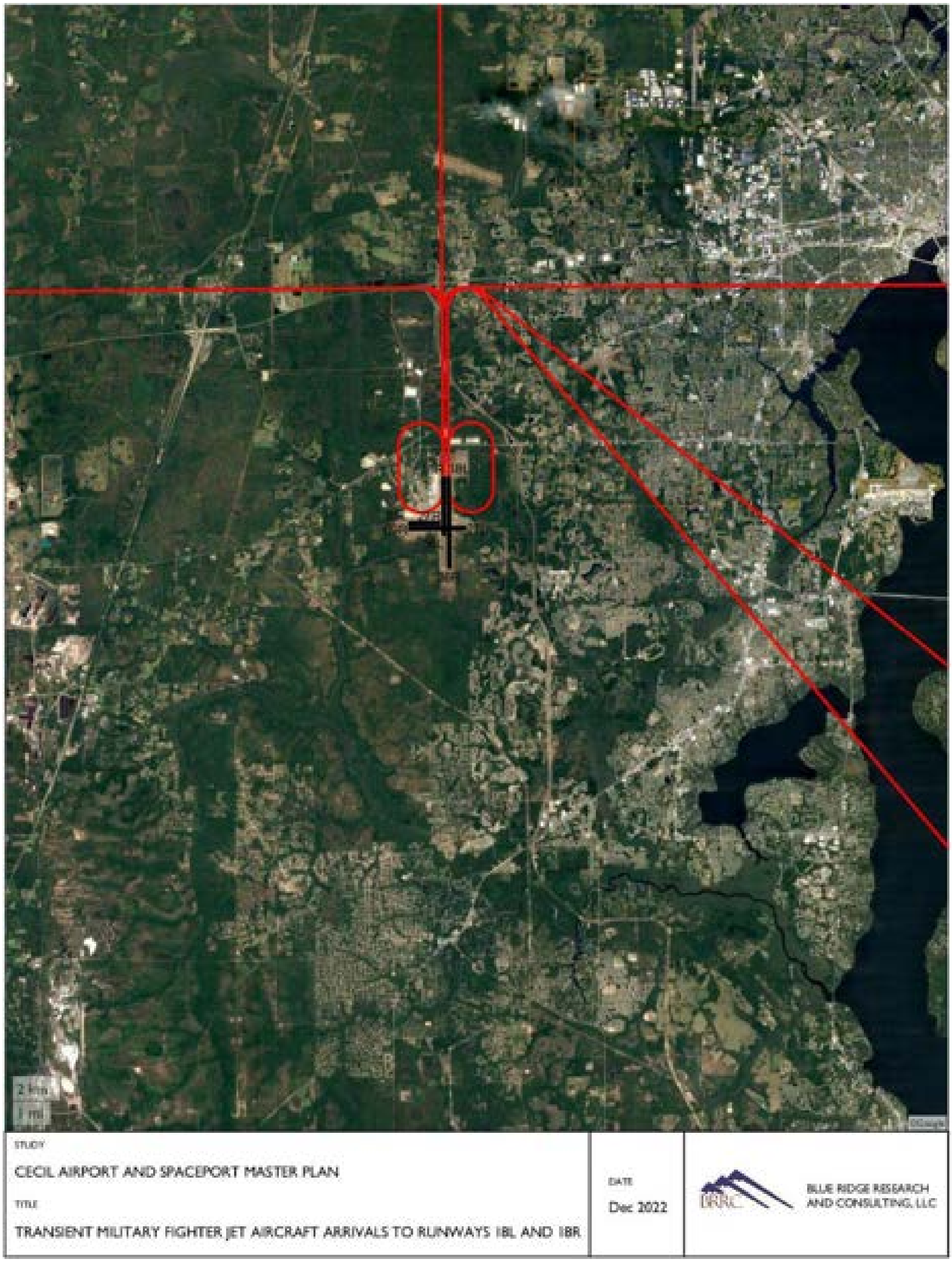


Figure 67. Transient Military Fighter Jet Aircraft Arrivals to Runways 18L and 18R

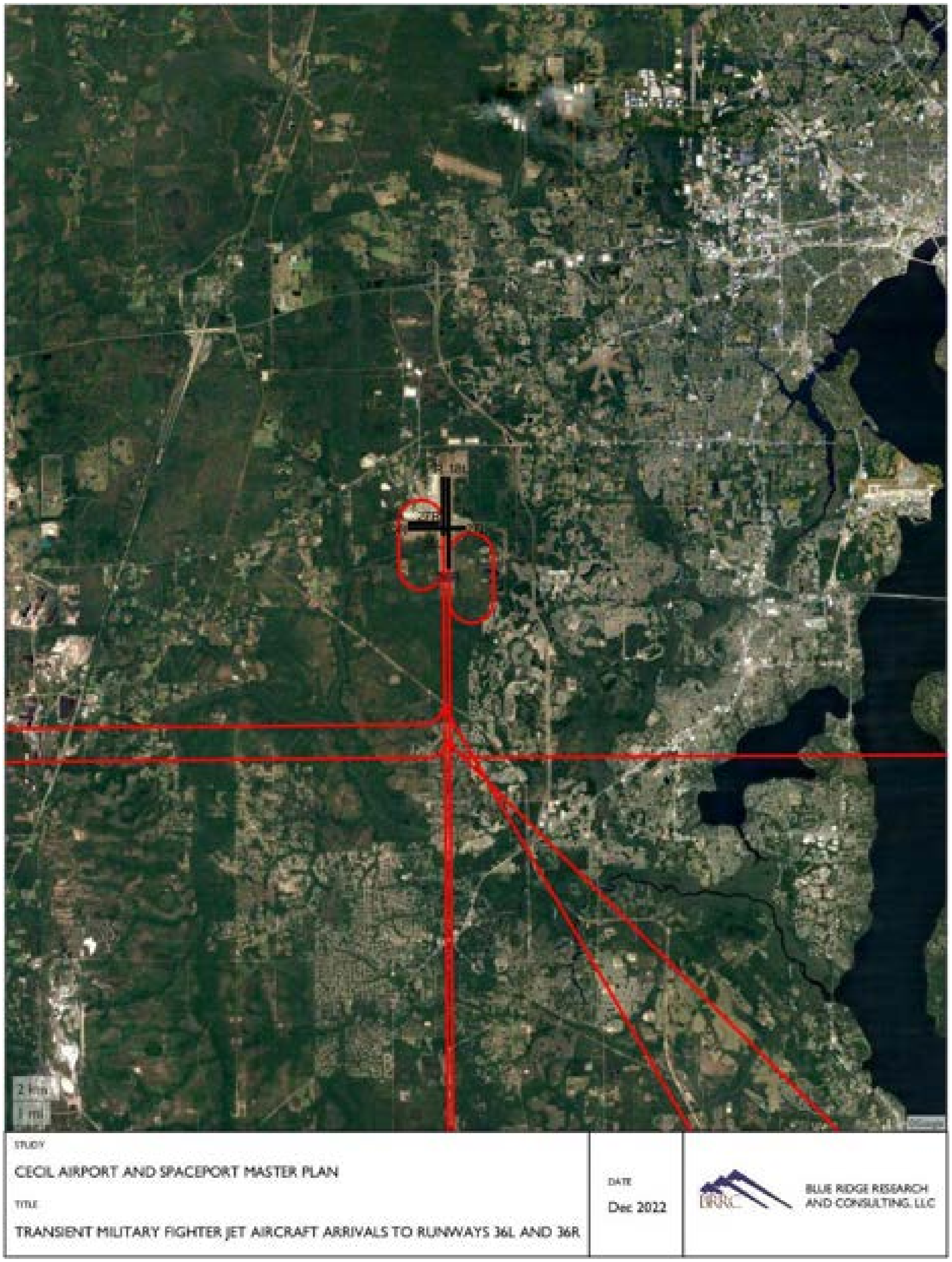


Figure 68. Transient Military Fighter Jet Aircraft Arrivals to Runways 36L and 36R

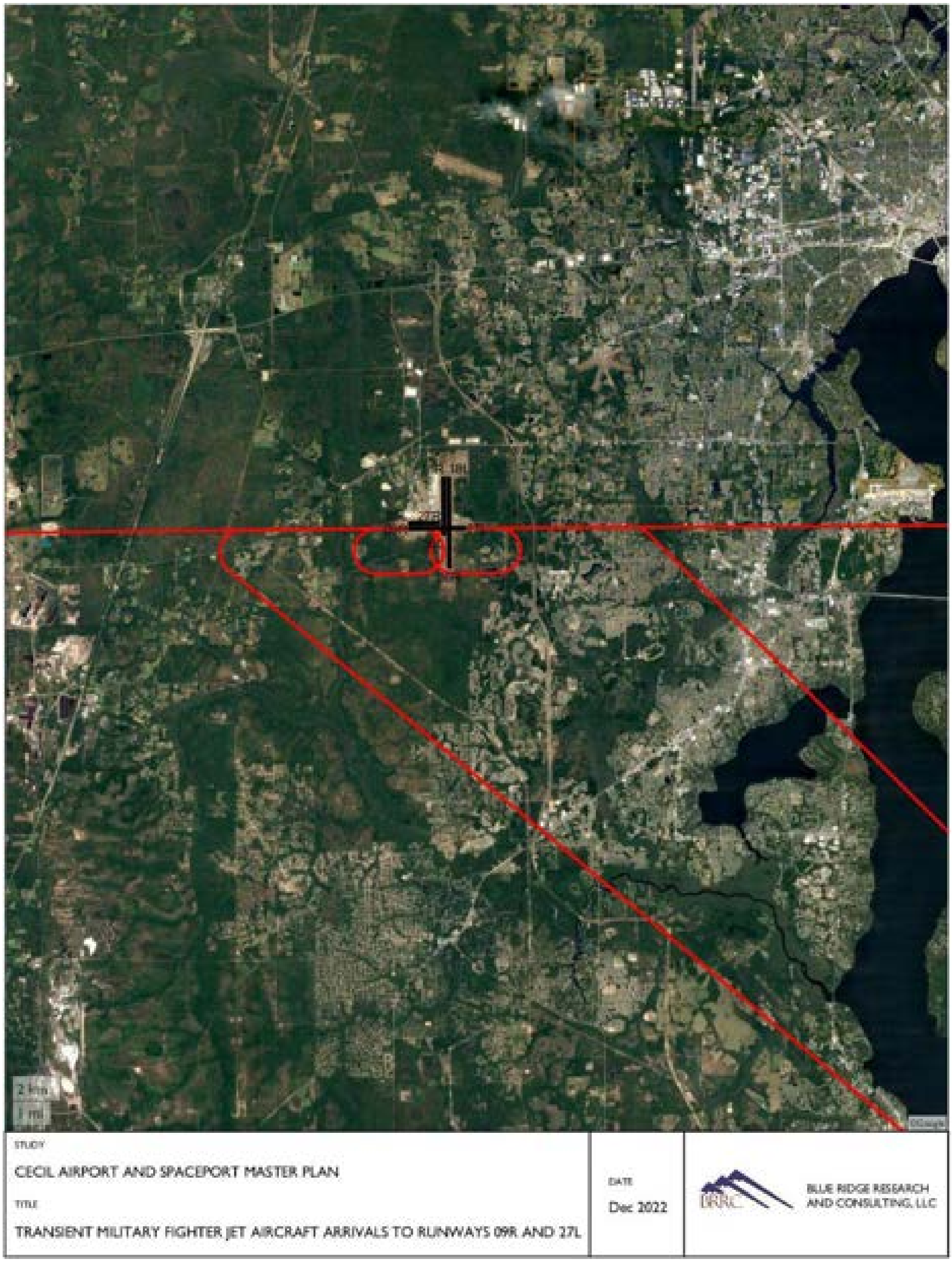


Figure 69. Transient Military Fighter Jet Aircraft Arrivals to Runways 09R and 27L

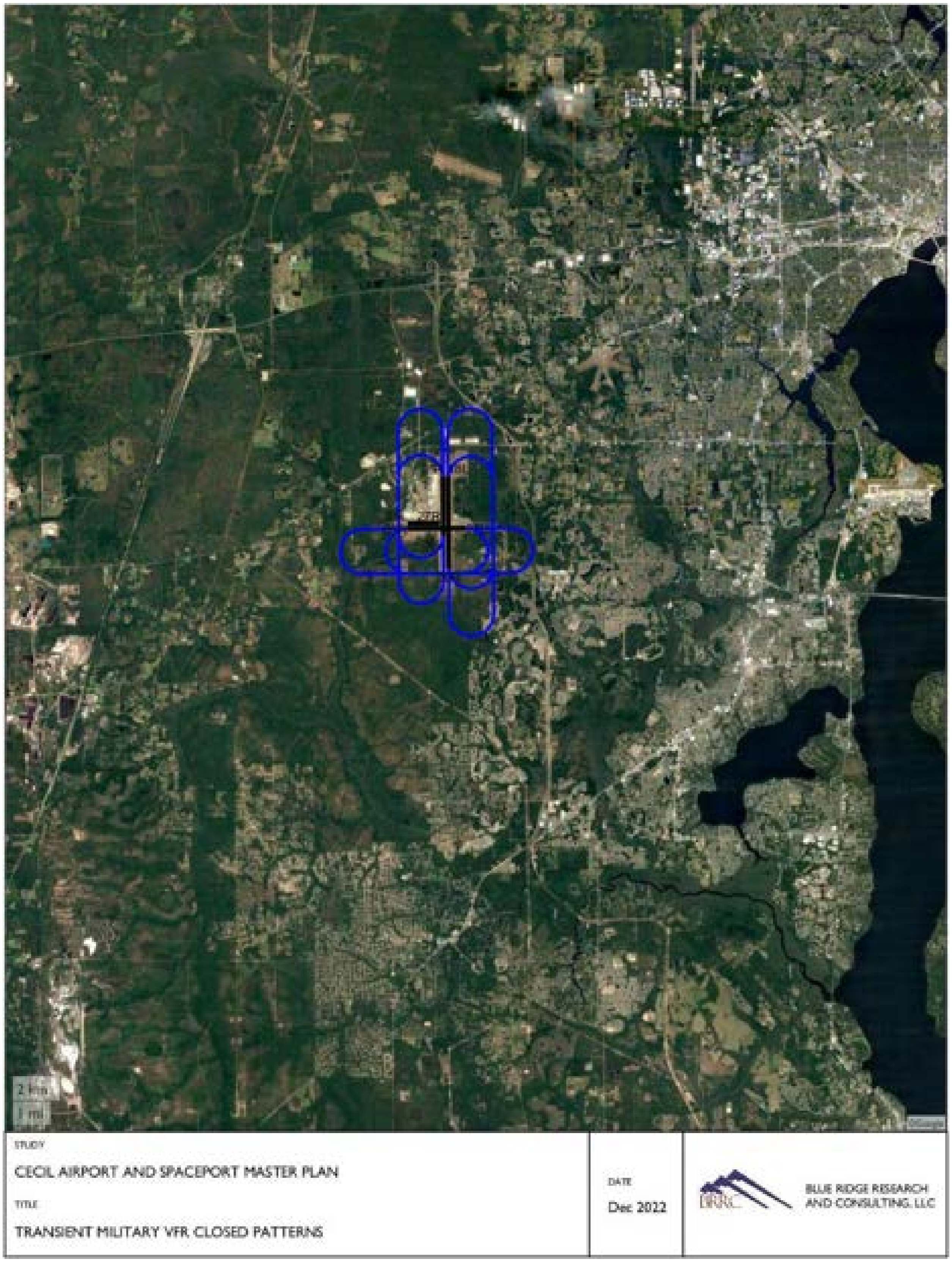
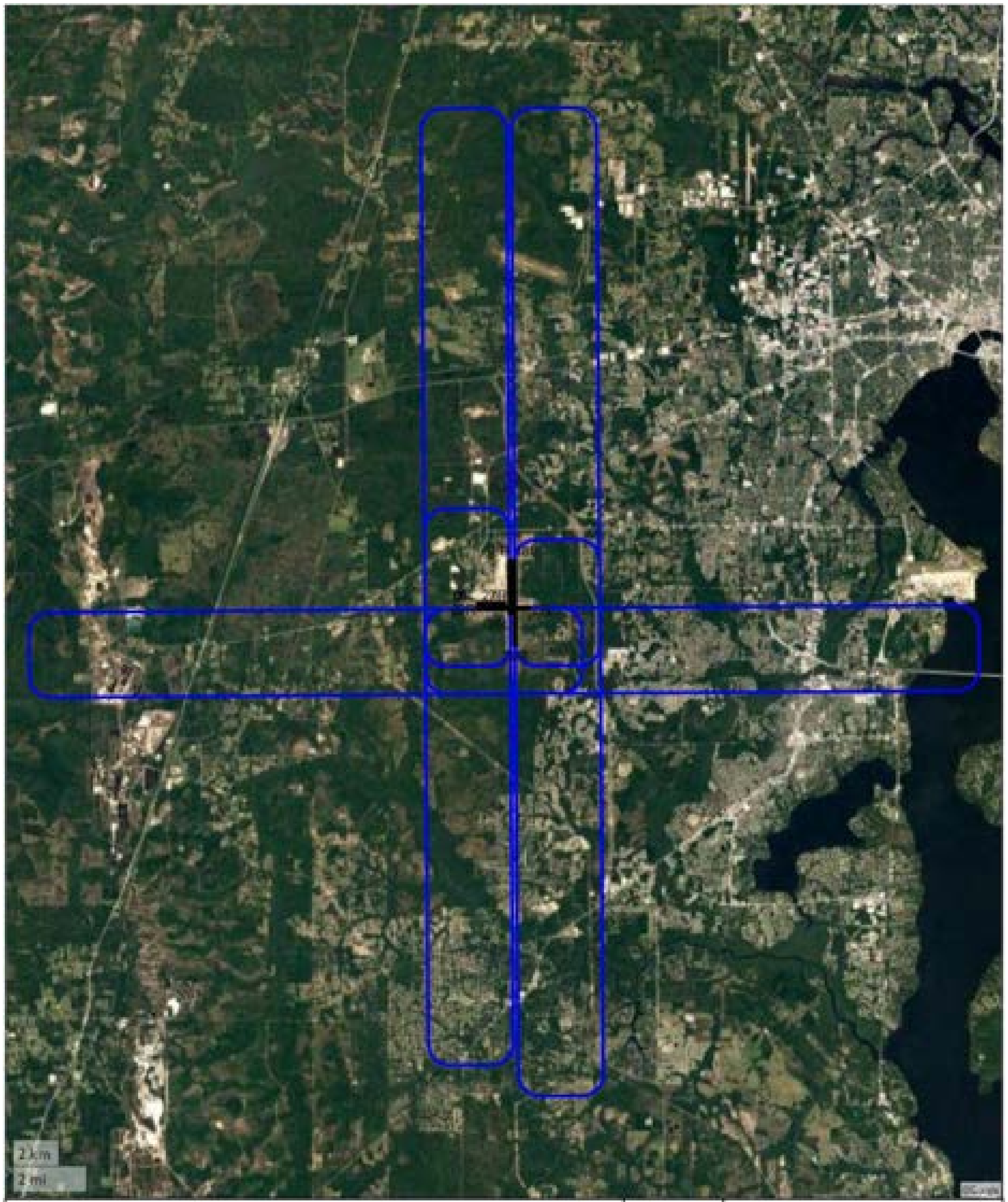


Figure 70. Transient Military Fighter Jet Aircraft VFR Closed Patterns



STUDY
CECIL AIRPORT AND SPACEPORT MASTER PLAN
TITLE
TRANSIENT MILITARY FIGHTER JET IFR PATTERNS

DATE
Dec 2022

BLUE RIDGE RESEARCH
AND CONSULTING, LLC

Figure 71. Transient Military Fighter Jet Aircraft IFR Patterns

A.2.8 Florida Army National Guard Flight Track Maps

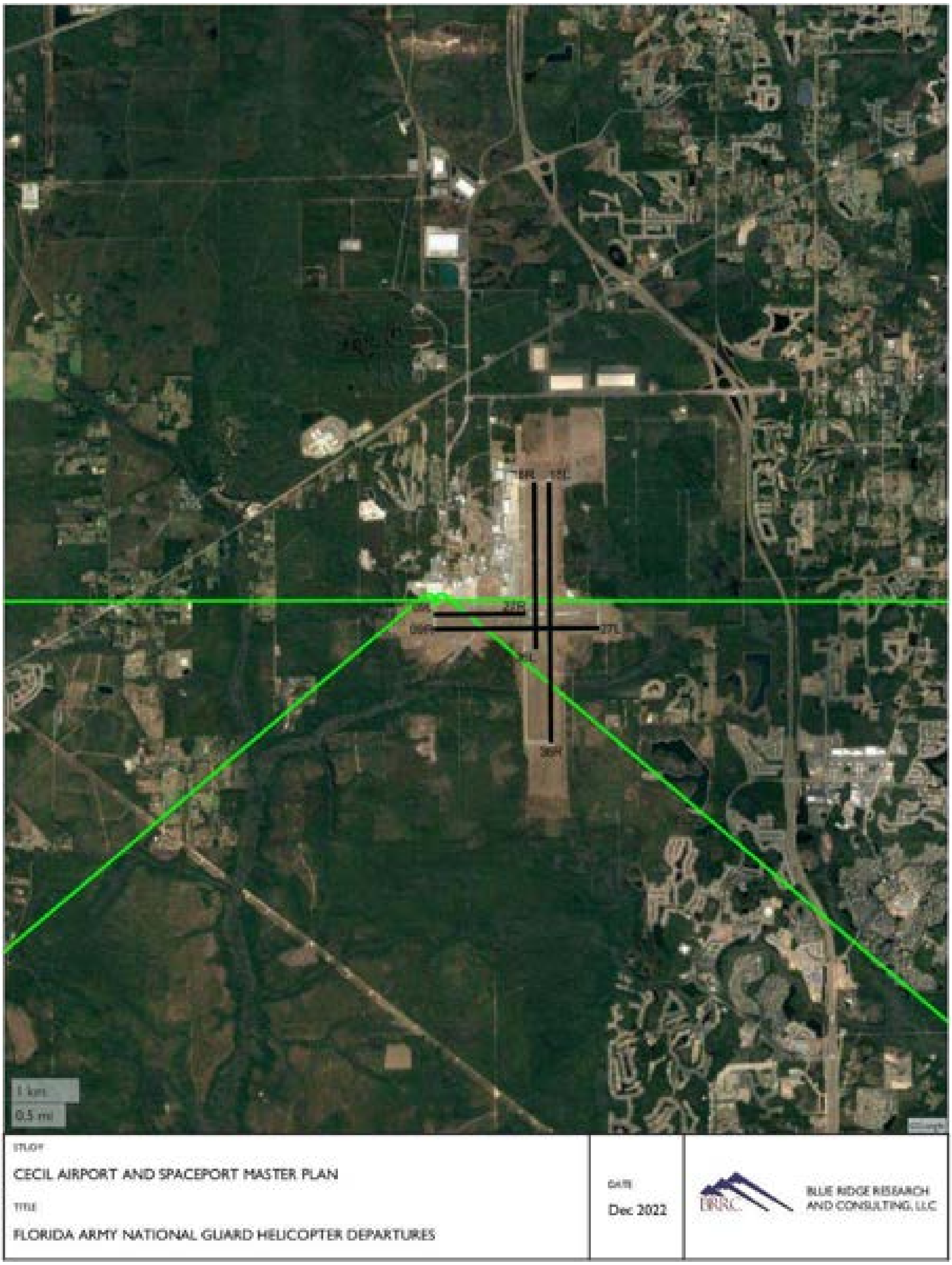


Figure 72. Florida Army National Guard Helicopter Departures

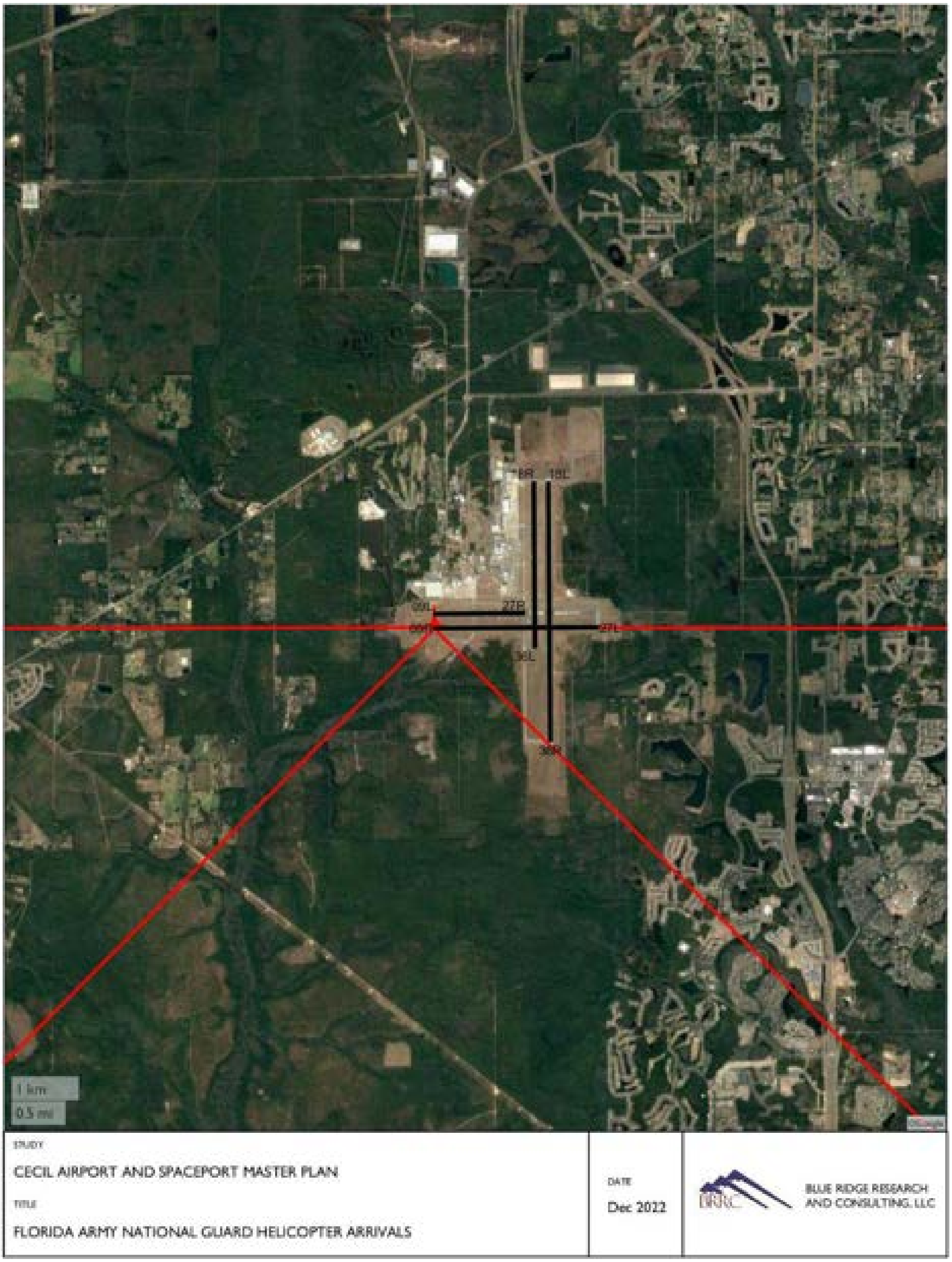


Figure 73. Florida Army National Guard Helicopter Arrivals

STUDY
CECIL AIRPORT AND SPACEPORT MASTER PLAN
TITLE
FLORIDA ARMY NATIONAL GUARD HELICOPTER PATTERNS

DATE
Dec 2022

BLUE RIDGE RESEARCH AND CONSULTING, LLC

Figure 74. Florida Army National Guard Helicopter Patterns

A.2.9 U.S. Coast Guard Flight Track Maps

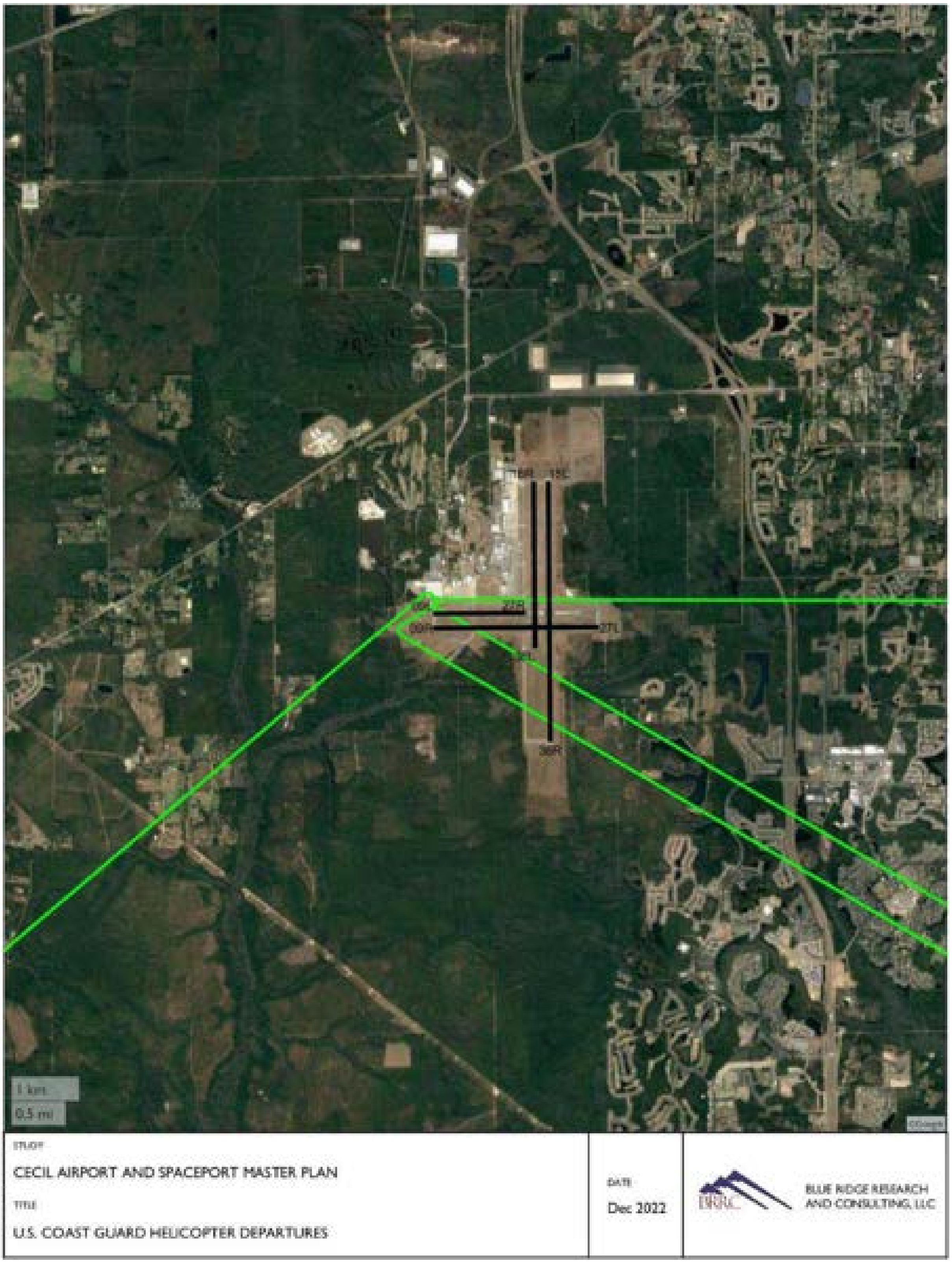


Figure 75. U.S. Coast Guard Helicopter Departures

Figure 76. U.S. Coast Guard Helicopter Arrivals

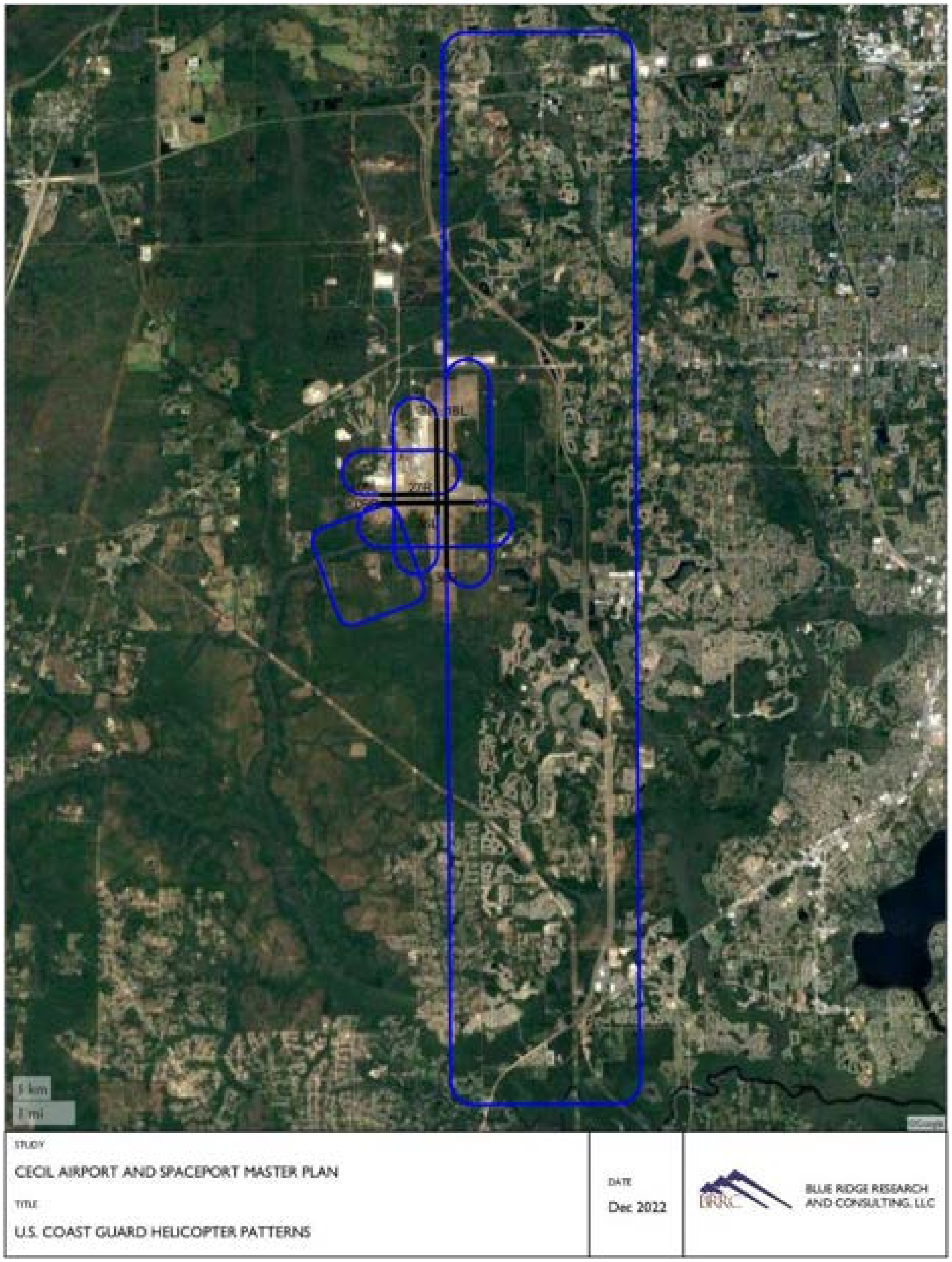
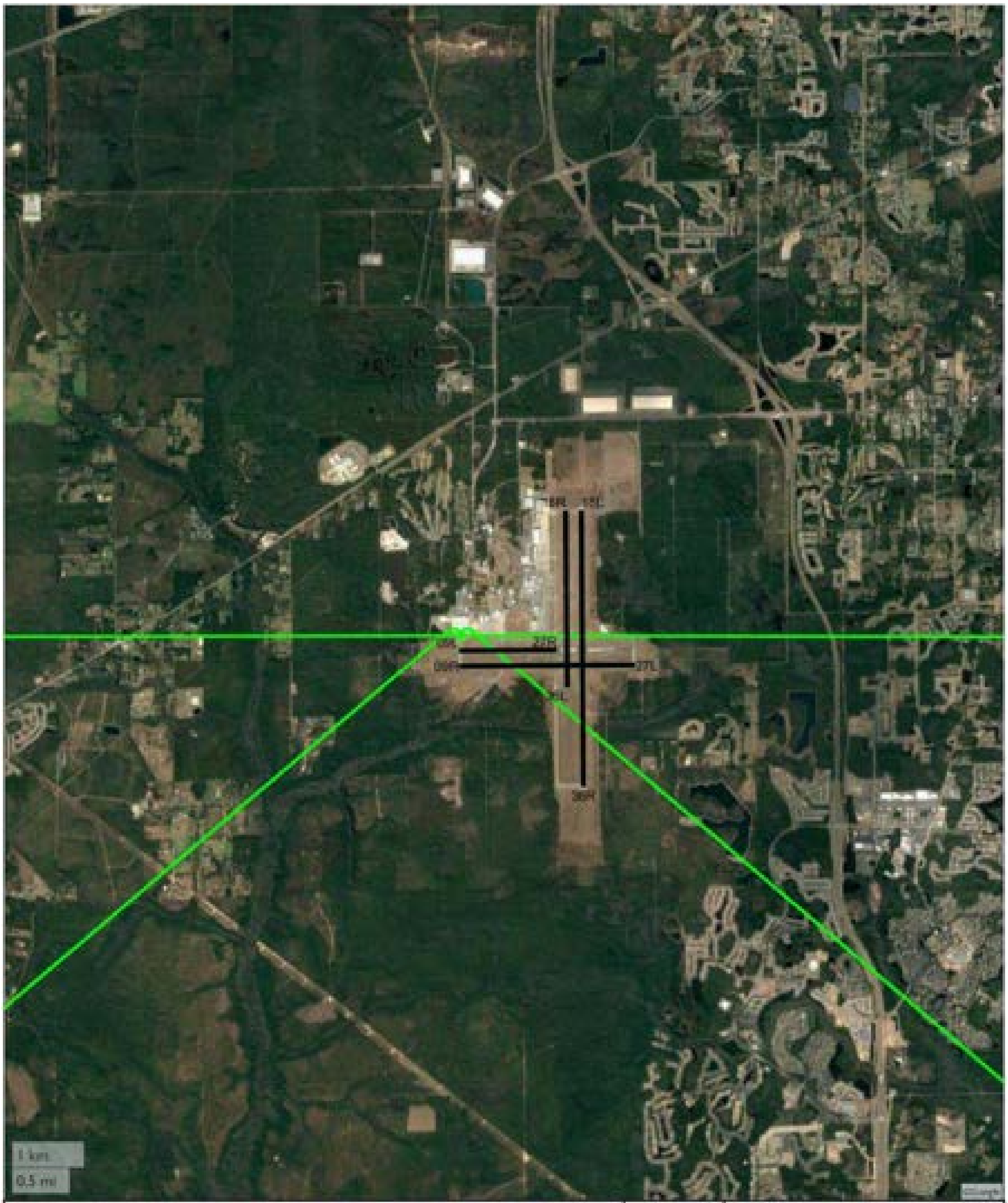


Figure 77. U.S. Coast Guard Helicopter Patterns

A.2.10 Civil and Transient Helicopter Flight Track Maps



STUDY
CECIL AIRPORT AND SPACEPORT MASTER PLAN
TITLE
CIVIL AND TRANSIENT HELICOPTER DEPARTURES
DATE
Dec 2022
BLUE RIDGE RESEARCH AND CONSULTING, LLC

Figure 78. Civil and Transient Helicopter Departures

STUDY
CECIL AIRPORT AND SPACEPORT MASTER PLAN
TITLE
CIVIL AND TRANSIENT HELICOPTER ARRIVALS

DATE
Dec 2022

BLUE RIDGE RESEARCH AND CONSULTING, LLC

Figure 79. Civil and Transient Helicopter Arrivals

STUDY
CECIL AIRPORT AND SPACEPORT MASTER PLAN
TITLE
CIVIL AND TRANSIENT HELICOPTER PATTERNS
DATE
Dec 2022
BLUE RIDGE RESEARCH AND CONSULTING, LLC

Figure 80. Civil and Transient Helicopter Patterns

APPENDIX B AIRPORT EMISSIONS RESULTS

The emissions related to aircraft operations at Cecil Airport were modeled using AEDT. The emissions inventory and fuel burn are displayed for the Baseline 2021 and Future 2041 annual fuel burn and emissions in Table 25 and Table 26, respectively. Aircraft emissions are provided for the following pollutants:

- Carbon Monoxide (CO),
- Total Hydrocarbons (THC),
- Total Organic Gases (TOG),
- Volatile Organic Compounds (VOC),
- Non-Methane Hydrocarbons (NMHC),
- Oxides of Nitrogen (NO_x),
- Methyl Phenyl Sulfoxide (PMSO),
- Volatile Organic Particulate Matter (PMFO),
- Particulate Matter (PM),
- Carbon Dioxide (CO_2),
- Water (H_2O), and
- Sulfur Oxides (SO_x).

Table 25. Baseline 2021 Annual Fuel Burn and Emissions in Metric Tons (10^3 kg) Per Year from Cecil Airport Operations

Mode	Fuel	CO	THC	TOG	VOC	NMHC	NOx	PMSO	PMFO	CO2	H2O	SOx	PM 2.5	PM 10
Taxi Out	2,104	98.1	23.7	27.2	26.9	27.1	6.6	0.1	0.1	6,637	2,602	2.5	0.2	0.2
Climb Ground	3,585	105.6	24.3	27.8	27.5	27.7	17.2	0.2	0.2	11,312	4,435	4.2	0.4	0.4
Climb Below 1000 ft AFE	4,676	153.1	26.0	29.7	29.4	29.6	27.0	0.2	0.3	14,753	5,784	5.5	0.5	0.5
Climb Below Mixing Height	5,869	172.4	26.4	30.2	29.8	30.0	37.1	0.2	0.3	18,517	7,260	6.9	0.6	0.6
Climb Below 10000 ft AFE	8,705	227.9	27.7	31.7	31.2	31.4	69.2	0.3	0.4	27,465	10,768	10.2	0.9	0.9
Above 10000 ft AFE	1,153	12.1	3.2	3.7	3.6	3.7	18.0	0.0	0.0	3,637	1,426	1.4	0.1	0.1
Descend Below 10000 ft AFE	4,202	150.1	17.2	19.6	19.3	19.5	27.8	0.1	0.3	13,255	5,197	4.9	0.5	0.5
Descend Below Mixing Height	3,165	111.9	14.9	17.0	16.8	16.9	18.0	0.1	0.2	9,986	3,915	3.7	0.4	0.4
Descend Below 1000 ft AFE	2,007	80.2	12.5	14.3	14.1	14.2	8.6	0.1	0.1	6,332	2,483	2.4	0.2	0.2
Descend Ground	1,148	47.8	11.4	13.1	12.9	13.0	3.6	0.0	0.1	3,623	1,421	1.3	0.1	0.1
Taxi In	1,021	46.8	11.3	12.9	12.8	12.9	3.2	0.0	0.1	3,221	1,263	1.2	0.1	0.1
Full Flight	14,059	390.2	48.0	54.9	54.1	54.5	115.0	0.5	0.7	44,358	17,391	16.5	1.5	1.5
Ground	40,176	328.4	48.3	55.8	55.5	55.8	381.7	1.7	3.7	126,754	49,695	47.1	5.6	5.6

Table 26. Future 2041 Annual Fuel Burn and Emissions in Metric Tons (10^3 kg) Per Year from Cecil Airport Operations

Mode	Fuel	CO	THC	TOG	VOC	NMHC	NOx	PMSO	PMFO	CO2	H2O	SOx	PM 2.5	PM 10
Taxi Out	2,948	147.4	38.3	44.0	43.6	43.9	8.6	0.1	0.2	9,302	3,647	3.5	0.4	0.4
Climb Ground	5,152	159.5	39.0	44.8	44.4	44.7	24.8	0.2	0.4	16,255	6,373	6.0	0.6	0.6
Climb Below 1000 ft AFE	6,571	216.5	41.0	47.0	46.5	46.8	38.3	0.3	0.4	20,731	8,128	7.7	0.7	0.7
Climb Below Mixing Height	8,448	240.6	41.5	47.6	47.1	47.4	54.3	0.3	0.5	26,652	10,450	9.9	0.9	0.9
Climb Below 10000 ft AFE	12,868	310.5	43.2	49.4	48.8	49.2	104.1	0.5	0.6	40,599	15,918	15.1	1.3	1.3
Above 10000 ft AFE	1,595	18.6	3.6	4.2	4.2	4.2	23.5	0.1	0.0	5,032	1,973	1.9	0.2	0.2
Descend Below 10000 ft AFE	5,918	202.3	25.5	29.2	28.8	29.0	37.9	0.2	0.4	18,673	7,321	6.9	0.6	0.6
Descend Below Mixing Height	4,363	152.6	22.7	26.0	25.6	25.8	23.8	0.2	0.3	13,766	5,398	5.1	0.5	0.5
Descend Below 1000 ft AFE	2,649	111.3	19.8	22.7	22.4	22.6	10.4	0.1	0.2	8,358	3,277	3.1	0.3	0.3
Descend Ground	1,614	72.4	18.6	21.4	21.2	21.3	4.8	0.1	0.1	5,093	1,997	1.9	0.2	0.2
Taxi In	1,437	71.1	18.5	21.2	21.0	21.1	4.2	0.1	0.1	4,534	1,778	1.7	0.2	0.2
Full Flight	20,382	531.5	72.2	82.8	81.8	82.3	165.5	0.8	1.0	64,306	25,212	23.9	2.1	2.1
Ground	54,173	477.2	47.2	54.6	54.2	54.5	538.1	2.3	3.7	170,915	67,010	63.4	6.2	6.2

APPENDIX C BASICS OF SOUND

Any unwanted sound that interferes with normal activities or the natural environment is defined as noise. Three principal physical characteristics are involved in the measurement and human perception of sound: intensity, frequency, and duration [11].

- **Intensity** is a measure of a sound's acoustic energy and is related to sound pressure. The greater the sound pressure, the more energy is carried by the sound and the louder the perception of that sound.
- **Frequency** determines how the pitch of the sound is perceived. Low-frequency sounds are characterized as rumbles or roars, while high-frequency sounds are typified by sirens or screeches.
- **Duration** is the length of time the sound can be detected.

Intensity

The loudest sounds that can be comfortably detected by the human ear have intensities a trillion times higher than those of sounds barely audible. Because of this vast range, using a linear scale to represent the intensity of sound can become cumbersome. As a result, a logarithmic unit known as the decibel (abbreviated dB) is used to represent sound levels. A sound level of 0 dB approximates the threshold of human hearing and is barely audible under extremely quiet listening conditions. Normal speech has a sound level around 60 dB. Sound levels above 120 dB begin to be felt inside the human ear as discomfort. Sound levels between 130 and 140 dB are experienced as pain [12].

Because of the logarithmic nature of the decibel unit, sound levels cannot be simply added or subtracted and are somewhat cumbersome to handle mathematically. However, some useful rules help when dealing with sound levels. First, if a sound's intensity is doubled, the sound level increases by 3 dB, regardless of the initial sound level. For example:

$$50\text{ dB} + 50\text{ dB} = 53\text{ dB, and } 70\text{ dB} + 70\text{ dB} = 73\text{ dB.}$$

Second, the total sound level produced by two sounds with different levels is usually only slightly more than the higher of the two. For example:

$$50.0\text{ dB} + 60.0\text{ dB} = 60.4\text{ dB.}$$

On average, a person perceives a change in sound level of about 10 dB as a doubling (or halving) of a sound's loudness. This relation holds true for both loud and quiet sounds. A decrease in sound level of 10 dB represents a 90% decrease in sound intensity but only a 50% decrease in perceived loudness because the human ear does not respond linearly [11]. In the community, "it is unlikely that the average listener would be able to correctly identify at a better than chance level the louder of two otherwise similar events which differed in maximum sound level by < 3 dB" [13].

Frequency

Sound frequency is measured in terms of cycles per second or hertz (Hz). Human hearing ranges in frequency from 20 Hz to 20,000 Hz, although perception of these frequencies is not equivalent across this range. Human hearing is most sensitive to frequencies in the 1,000 to 4,000 Hz range. Most sounds are not simple pure tones, but contain a mix, or spectrum, of many frequencies. Sounds with different spectra are perceived differently by humans even if the sound levels are the same. Weighting curves have been developed to correspond to the sensitivity and perception of different types of sound. A-weighting and C-weighting are the two most common weightings. These two curves, shown in Figure 81, are adequate to quantify most environmental noises. A-weighting puts emphasis on the 1,000 to 4,000 Hz range to match the reduced sensitivity of human hearing for moderate sound levels. For this reason, the A-weighted decibel level (dBA) is commonly used to assess community sound.

Very loud or impulsive sounds, such as explosions or sonic booms, can sometimes be felt, and they can cause secondary effects, such as shaking of a structure or rattling of windows. These types of sounds can add to annoyance and are best measured by C-weighted sound levels, denoted dBC. C-weighting is nearly flat throughout the audible frequency range and includes low frequencies that may not be heard but cause shaking or rattling. C-weighting approximates the human ear's sensitivity to higher intensity sounds. Note, "unweighted" sound levels refer to levels in which no weighting curve has been applied to the spectra. Unweighted levels are appropriate for use in examining the potential for noise impacts on structures.

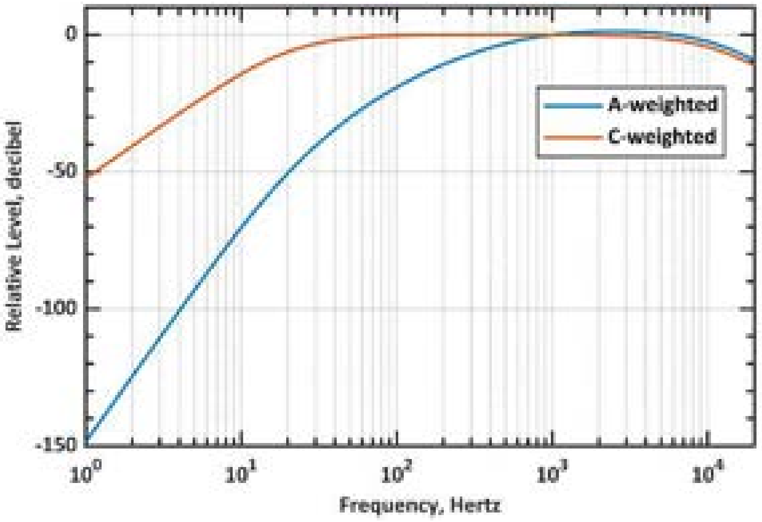


Figure 81. Frequency Adjustments for A-weighting and C-weighting [14]

Duration

The third principal physical characteristic involved in the measurement and human perception of sound is duration, which is the length of time the sound can be detected. Sound sources can vary from short durations to continuous, such as back-up alarms and ventilation systems, respectively. Sonic booms are considered low-frequency impulsive noise events with durations lasting a fraction of a second. A variety of noise metrics have been developed to describe noise over different time periods.

Common Sounds

Common sources of noise and their associated levels are provided for comparison to the noise levels from the proposed action.

A chart of A-weighted sound levels from everyday sound sources [15] is shown in Figure 82. Some sources, like the air conditioners and lawn mower, are continuous sounds whose levels are constant for a given duration. Some sources, like the ambulance siren and motorcycle, are the maximum sound during an intermittent event like a vehicle pass-by. Other sources like "urban daytime" and "urban nighttime" (not shown in Figure 82) are averages over extended periods [16]. Per the United States Environmental Protection Agency, "Ambient noise in urban areas typically varies from 60 to 70 dB but can be as high as 80 dB in the center of a large city. Quiet suburban neighborhoods experience ambient noise levels around 45-50 dB" [17].

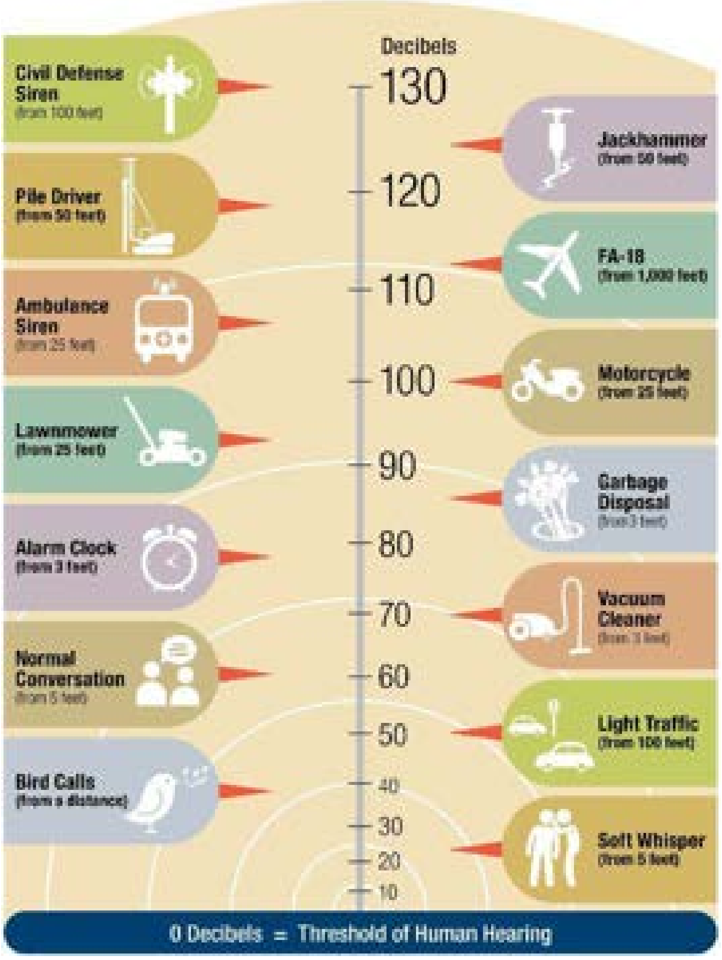


Figure 82. Typical A-weighted Levels of Common Sounds [18]

APPENDIX D NOISE AND EMISSIONS MODELS

D.1 FAA's Aviation Environmental Design Tool (AEDT)

Analyses of aircraft noise and emissions exposure around commercial airfield facilities are carried out using FAA's AEDT [19]. AEDT is the required tool for the environmental review of infrastructure projects and other Federal actions affecting airports and airspace in the United States [20]. Noise and emissions modeling for Cecil Airport was performed using the latest version of AEDT, version 3e.

AEDT contains Airport and Fleet databases which store airport-specific and aircraft-specific data used in its noise and emissions environmental models. AEDT's data input module allows the user to enter the project-specific data including the flight tracks, flight profiles along each track by each aircraft, numbers of flight operations, run-up coordinates, run-up profiles, and run-up operations. After the operational parameters are defined, AEDT uses the user-specified data in combination with relevant data from its Airport and Fleet databases to calculate:

- The Day-Night Average Sound Level (DNL) values on a grid of ground locations on and around the facility; and
- The emissions inventories, which enumerate the amounts of pollutants emitted by commercial aviation operations.

AEDT is most accurate for comparing "before-and-after" community noise and emissions effects, which would result from the implementation of proposed changes or alternative noise/emissions control actions when the calculations are made in a consistent manner.

D.2 BRRC’s Rumble Rocket Propulsion Noise Model

Rocket propulsion systems, such as solid-propellant motors and liquid-propellant engines, generate high-amplitude broadband noise. Most of the noise is created by the rocket plume interacting with the atmosphere and the combustion noise of the propellants. Although rocket noise radiates in all directions, it is highly directive, meaning that a significant portion of the source’s acoustic power is concentrated in specific directions.

Rumble 4.1, the Rocket Propulsion Noise and Emissions Simulation Model, developed by Blue Ridge Research and Consulting, LLC (BRRC), is the noise model used to predict the noise associated with the proposed operations. The core components of the model are visualized in Figure 83 and are described in the following subsections.

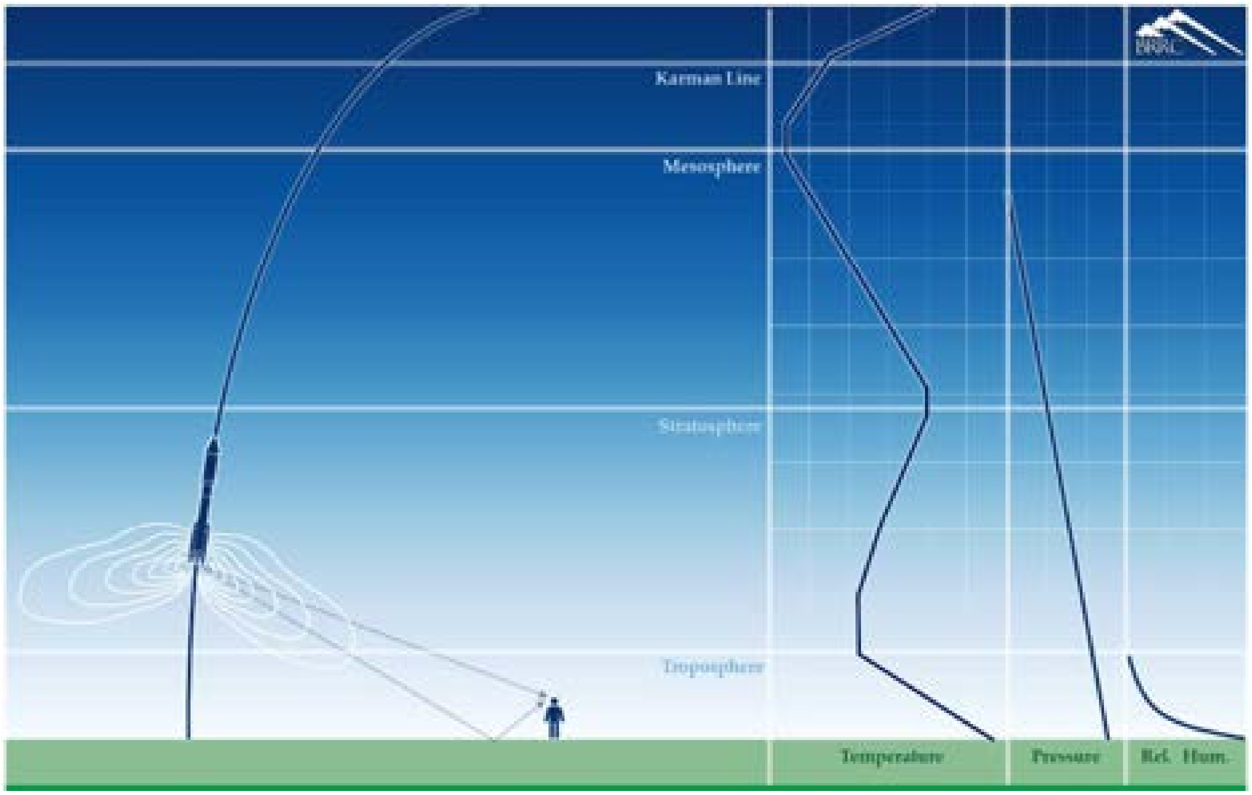


Figure 83. Conceptual Overview of Rocket Noise Prediction Model Methodology

D.2.1 Source

The rocket noise source definition considers the acoustic power of the rocket, forward flight effects, directivity, and the Doppler effect.

Acoustic Power

Eldred’s Distributed Source Method 1 (DSM-1) [21] is utilized for the source characterization. The DSM-1 model determines the vehicle’s total sound power based on its total thrust, exhaust velocity, and the engine/motor’s acoustic efficiency. BRRC’s recent validation of the DSM-1 model showed good agreement between full-scale rocket noise measurements and the empirical source curves [21]. The acoustic efficiency of the rocket engine/motor specifies the percentage of the mechanical power converted into acoustic power. The acoustic efficiency of the rocket engine/motor was modeled using Guest's variable acoustic efficiency [22]. Typical acoustic efficiency values range from 0.2% to 1.0% [23]. In the far-field, distributed sound sources are modeled as a single compact source located at the nozzle exit with an equivalent total sound power. Therefore, propulsion systems with multiple tightly clustered equivalent engines can be modeled as a single engine with an effective exit diameter and total thrust [23]. Additional boosters or cores (that are not considered to be tightly clustered) are handled by summing the noise contribution from each booster/core.

Directivity

Rocket noise is highly directive, meaning the acoustic power is concentrated in specific directions, and the observed sound pressure will depend on the angle from the source to the receiver. NASA's Constellation Program has made significant improvements in determining the directivity of rockets [24]. These directivity indices (DI) incorporate a larger range of frequencies and angles than previously available data. Subsequently, improvements were made to the formulation of the NASA DI [25] accounting for the spatial extent and downstream origin of the rocket noise source. These updated DI are used for this analysis.

D.2.2 Propagation

The sound propagation from the source to receiver considers the ray path, atmospheric absorption, and ground interference.

Ray Path

The model assumes straight line propagation between the source and receiver to determine propagation effects. For straight rays, sound levels decrease as the sound wave propagates away from a source uniformly in all directions. The rocket propulsion noise model components are calculated based on the specific geometry between source (vehicle trajectory point) to receiver (grid point). The position of the vehicle, described by the trajectory, is provided in latitude and longitude, defined relative to a reference system (e.g., World Geodetic System 1984) that approximates the Earth's surface by an ellipsoid. The receiver grid is also described in geodetic latitude and longitude, referenced to the same reference system as the trajectory data, ensuring greater accuracy than traditional flat earth models.

Atmospheric Absorption

Atmospheric absorption is a measure of the sound attenuation from the excitation of vibration modes of air molecules. Atmospheric absorption is a function of temperature, pressure, and relative humidity of the air. The propulsion noise model utilizes an atmospheric profile, which describes the variation of temperature, pressure, and relative humidity with respect to the altitude. Standard atmospheric data sources [26-29] were used to create a composite atmospheric profile for altitudes up to 66 miles. The atmospheric absorption is calculated using formulas found in ANSI Standard S1.26-1995 (R2004) [30]. The result is a sound-attenuation coefficient, which is a function of frequency, atmospheric conditions, and distance from the source. The amount of absorption depends on the parameters of the atmospheric layer and the distance that the sound travels through the layer. The total sound attenuation is the sum of the absorption experienced from each atmospheric layer.

Nonlinear propagation effects can result in distortions of high-amplitude sound waves [31] as they travel through the medium. These nonlinear effects are counter to the effect of atmospheric absorption [32, 33]. However, recent research shows that nonlinear propagation effects change the perception of the received sound [34-40], but the standard acoustical metrics are not strongly influenced by nonlinear effects [41, 42]. The overall effect of nonlinear propagation on high-amplitude sound signatures and their perception is an ongoing area of research, and it is not currently included in the propagation model.

Ground Interference

The calculated results of the sound propagation using DSM-1 provide a free-field sound level (i.e., no reflecting surface) at the receiver. However, sound propagation near the ground is most accurately modeled as the combination of a direct wave (source to receiver) and a reflected wave (source to ground to receiver) as shown in Figure 83. The ground will reflect sound energy back toward the receiver and interfere both constructively and destructively with the direct wave. Additionally, the ground may attenuate the sound energy, causing the reflected wave to propagate a smaller portion of energy to the receiver. RUMBLE accounts for the attenuation of sound by the ground [43, 44] when estimating the received noise. The model assumes a five-foot receiver height and a variable ground impedance to account for grass (soft) or water (hard) ground surfaces. To account for the random fluctuations of wind and temperature on the direct and reflected wave, the effect of atmospheric turbulence is also included [43, 45].

D.2.3 Receiver

The received noise is estimated by combining the source and propagation components. The basic received noise is modeled as overall and spectral level time histories. This approach enables a range of noise metrics relevant to environmental noise analysis to be calculated and prepared as output. If a range of launch azimuths is being considered, the received noise represents the highest metric level generated from any launch azimuth within that range. For example, the noise metric level at a single receiver is modeled for every possible launch azimuth within the specified range, and the maximum of the range of levels is stored for the single receiver. This process is repeated for each receiver in the defined grid, and noise metric contours are developed from the grid of receivers.

D.3 BRRC's RUMBLE Rocket Emissions Model

RUMBLE 4.1 was the model used to predict the emissions associated with the proposed operations. Development of the RUMBLE emissions model was funded by FAA under Airport Cooperative Research Program (ACRP) Project 02-85 [46], administered by the Transportation Research Board (TRB), a unit of the National Academies of Sciences, Engineering, and Medicine. The RUMBLE emissions modeling methodology was developed to produce accurate emissions estimates relevant to environmental analysis of commercial space operations. The model is applicable to inflight and static operations of vertical and horizontal launch vehicles.

D.3.1 Emissions Background

Launch vehicle propulsion systems, such as liquid-propellant rocket engines and solid rocket motors, produce emissions through a series of chemical reactions, as shown in Figure 84. First, combustion occurs between the fuel and oxidizer inside the rocket engine. Next, the combustion products expand and accelerate through the nozzle, where additional chemical reactions may occur. Finally, the chemical species in the high-temperature exhaust plume may continue to react with each other and the surrounding air in a process called afterburning.

The combustion products present at the nozzle exit plane are called the *primary emissions* of the rocket engine. The products formed by afterburning and other reactions in the high-temperature exhaust plume are referred to as *secondary emissions*. The chemical species emitted into the atmosphere after the rocket has passed by and the exhaust plume has cooled to the ambient temperature include contributions from both the primary and secondary emissions. RUMBLE is designed to estimate these *final emissions* since they are the chemical species that the vehicle ultimately emits into the atmosphere.

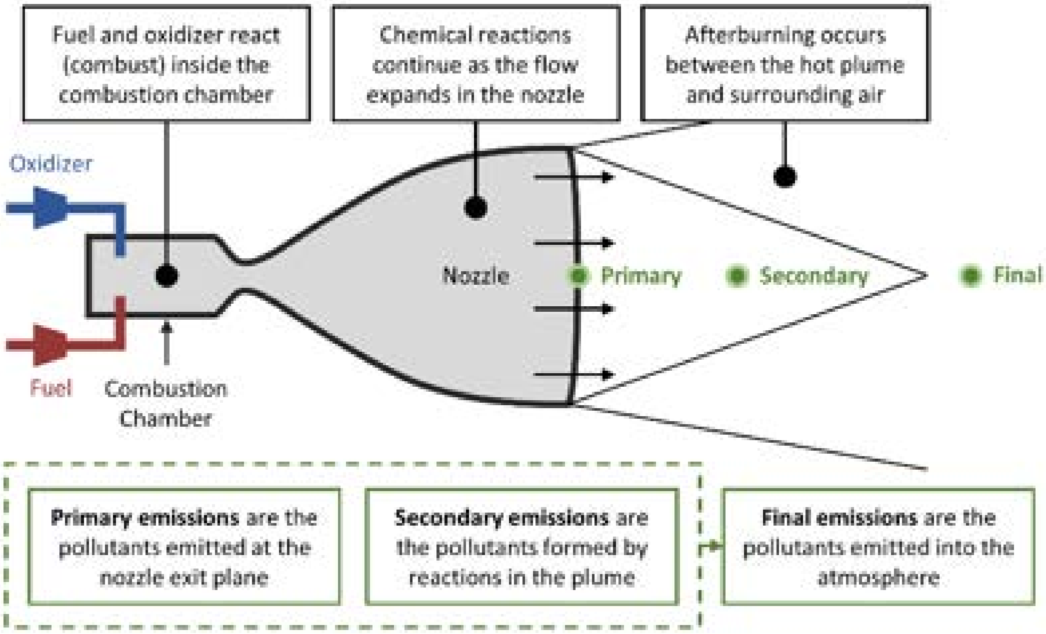


Figure 84. Diagram of the Chemical Processes in a Rocket Engine that Produce the Primary, Secondary, and Final Emissions

D.3.2 Emissions Modeling Methodology

The RUMBLE emissions model calculates the mass of each pollutant emitted by commercial space operations. The calculations are first performed at the most detailed level (i.e., individual trajectory segment), and the results are aggregated to produce the propellant burn report and emissions inventory.

First, the propellant mass burned by a single engine during an individual trajectory segment is calculated by

$$\begin{bmatrix}\text{Propellant}\\\text{Mass}\end{bmatrix} = \begin{bmatrix}\text{Propellant}\\\text{Mass Flow Rate}\end{bmatrix} \times \begin{bmatrix}\text{Segment}\\\text{Duration}\end{bmatrix}$$

where the duration of the trajectory segment is the time between successive points in the trajectory. The propellant mass flow rate is computed from the time-varying weight provided in the trajectory.

Next, the mass of each pollutant emitted by a single engine during an individual trajectory segment is calculated by

$$\begin{bmatrix}\text{Pollutant}\\\text{Mass}\end{bmatrix} = \begin{bmatrix}\text{Emissions}\\\text{Index}\end{bmatrix} \times \begin{bmatrix}\text{Propellant}\\\text{Mass}\end{bmatrix}$$

The emissions indices are the factors that relate the amount of propellant burned to the amount of each pollutant emitted by the engine. Emissions indices are discussed in more detail in Section D.3.3.

The main output of the RUMBLE emissions model is the emissions inventory. The emissions inventory enumerates the masses of the various pollutants emitted as a result of commercial space operations. RUMBLE aggregates the detailed pollutant mass calculations over the number of engines, trajectory segments, and operations to compute the total amount of each pollutant emitted. In accordance with FAA guidelines, RUMBLE reports the emissions inventory in the troposphere below and above the mixing height (3,000 ft), the stratosphere, and the mesosphere.

D.3.3 Emissions Indices

RUMBLE uses emissions indices to estimate the total amounts of the various pollutants emitted by space vehicles. Emissions indices are the factors that relate the amount of propellant burned to the amount of each pollutant emitted by a rocket engine. The emissions index for a specific pollutant reports the outcome of the complex series of chemical reactions that occur within the rocket engine and exhaust plume as a single number.

Primary Emissions Indices

The primary emissions are the chemical species present at the nozzle exit plane due to processes that occur inside the rocket engine. The primary emissions indices were predicted using the computer program Chemical Equilibrium with Applications (CEA) [47, 48]. CEA was developed at the NASA Glenn Research Center for the purpose of calculating the chemical equilibrium composition and thermodynamic properties of any chemical system.

A key application of CEA is the prediction of theoretical rocket engine performance and emissions. To predict rocket engine emissions, CEA requires the propellant (fuel and oxidizer) species, mixture ratio, combustion chamber pressure, and nozzle area ratio as input parameters.

Using these vehicle-specific input parameters, CEA performs calculations at several locations inside the rocket engine, including the combustion chamber, throat, and nozzle exit plane. The results at each location include the chemical composition, which is reported in terms of mole fractions or mass fractions of the combustion products. The mass fractions at the nozzle exit plane are directly proportional to the primary emissions indices.

Final Emissions Indices

However, the primary emissions indices at the nozzle exit plane are not the final emissions indices used in the emissions model. The chemical species in the high-temperature exhaust plume outside the rocket engine may continue to react with each other and with the surrounding air to produce secondary emissions. These secondary emissions modify and add to the final pollutant species that the rocket ultimately emits into the atmosphere. The formation of secondary emissions in the exhaust plume is a complex process involving finite-rate chemical kinetics, non-isentropic shocks and expansion waves, and turbulent dispersion. Prior studies have shown that the formation of secondary emissions depends most strongly on the chemical composition of the rocket exhaust plume and the altitude. Estimates for the secondary emissions from commercial space vehicles were developed under ACRP Project 02-85 [46]. RUMBLE implements these estimates to calculate the final emissions indices based on the primary emissions indices computed by CEA and the altitude from the nominal trajectory.

REFERENCES

[1] U. S. D. V. Center, "Aviation Environmental Design Tool (AEDT) Version 3e Technical Manual," 2022.

[2] M. M. James, A. R. Salton, M. F. Calton, and S. V. Lympany, "Rumble Launch Vehicle Noise and Emissions Simulation Model Version 3.0 User Guide," Blue Ridge Research and Consulting, LLC, 2020.

[3] "FAA Order 1050-1F," Federal Aviation Administration, 2015.

[4] *Acoustical Terminology*, ANSI, New York, 1994.

[5] T. J. Schultz, "Synthesis of social surveys on noise annoyance," *J Acoust Soc Am,* vol. 64, no. 2, pp. 377-405, Aug 1978, doi: 10.1121/1.382013.

[6] L. S. Finegold, C. S. Harris, and H. E. von Gierke, "Community Annoyance and Sleep Disturbance: Updated Criteria for Assessing the Impacts of General Transportation Noise on People," *Noise Control Engineering Journal,* vol. 42, 1, 1993.

[7] "Occupational Noise Exposure," in "Occupational Safety and Health Standards," U.S. Department of Labor, 1910.95.

[8] "Criteria for a Recommended Standard, Occupational Noise Exposure," U.S. Department of Health and Human Services, DHHS (NIOSH) Publication No. 98-126, 1998.

[9] "Hearing Conservation Program (HCP)," Department of Defense, 6055.12, 2010.

[10] S. H. Guest and R. M. S. Slone Jr., "Structural Damage Claims Resulting from Acoustic Environments Developed During Static Test Firing of Rocket Engines," NASA Marshall Space Flight Center, 1972.

[11] "Appendix H2: Discussion of Noise and Its Effect on the Environment," U.S. Navy, 2016.

[12] B. Berglund, T. Lindvall, and D. H. Schwela, "Guidelines for Community Noise," World Health Organization, 1999.

[13] F. Fahy and D. Thomspon, *Fundamentals of Sound and Vibration*. CRC Press, 2015.

[14] *Electroacoustics - Sound Level Meters - Part 1: Specifications*, ANSI, New York, 2014.

[15] C. M. Harris, *Handbook of Acoustical Measurements and Noise Control*. 1998.

[16] "Appendix B - Noise Modeling, Methodology, and Effects," in "United States Air Force F-35A Operational Beddown - Air National Guard Environmental Impact Statement," U.S. Air Force, 2020.

[17] "Protective Noise Levels: Condensed Version of EPA Levels Document," U.S. Environmental Protection Agency, Washington D.C., EPA 550/9-79-100, November 1978 1978.

[18] "Appendix A: Aircraft Noise Assessment," in "NAS Oceana Strike Fighter Transition: Final EA," U.S. Department of the Navy, 2017.

[19] U. S. D. V. Center, "Aviation Environmental Design Tool (AEDT) Version 3e User Manual," 2022.

[20] FAA. "Aviation Environmental Tools Suite." www.faa.gov/about/office_org/headquarters_offices/apl/aee/research/models (accessed 2022).

[21] M. M. James, A. R. Salton, K. L. Gee, T. B. Neilsen, and S. A. McInerny, "Full-scale rocket motor acoustic tests and comparisons with empirical source models," *J Acoust Soc Am,* vol. 18, March 31 2014, doi: 10.1121/1.4870984.

[22] S. H. Guest, "Acoustic Efficiency Trends for High Thrust Boosters," NASA, TN_D-1999, 1964.

[23] K. M. Eldred, "Acoustic Loads Generated by the Propulsion System," NASA, SP-8072, 1971.

[24] J. Haynes and R. J. Kenny, "Modifications to the NASA SP-8072 Distributed Source Method II for Ares I Lift-off Environment Predictions," *AIAA,* vol. 2009-3160, 2009.

[25] M. M. James, A. R. Salton, K. L. Gee, T. B. Neilsen, S. A. McInerny, and R. J. Kenny, "Modification of directivity curves for a rocket noise model," 2014.

[26] "Terrestrial Environment (Climatic) Criteria Guidelines for use in Aerospace Vehicle Development," NASA, 1993.

[27] *Handbook of Astronautical Engineering*. McGraw-Hill, 1961.

[28] "U.S. Standard Atmosphere," National Oceanic and Atmospheric Administration, National Aeronautics and Space Administration, United States Air Force, 1976.

[29] "Global Gridded Upper Air Statistics, National Climatic Data Center, ASCII Data Format, 1980 - 1995, Version 1.1," National Climatic Data Center, 1996.

[30] *Method for Calculation of the Absorption of Sound by the Atmosphere*, ANSI, New York, 1995.

[31] S. A. McInerny, K. L. Gee, J. M. Downing, and M. M. James, "Acoustical Nonlinearities in Aircraft Flyover Data," in *AIAA*, 2007, vol. 3654, doi: 10.2514/6.2007-3654.

[32] S. A. McInerny and S. M. Ölçmen, "High-intensity rocket noise: Nonlinear propagation, atmospheric absorption, and characterization," *J Acoust Soc Am,* vol. 117, no. 2, pp. 578-591, 2005, doi: 10.1121/1.1841711.

[33] D. F. Pernet and R. C. Payne, "Non-linear propagation of signals in air," *Journal of Sound and Vibration,* vol. 17, 3, 1970.

[34] K. L. Gee, V. W. Sparrow, A. A. Atchley, and T. B. Gabrielson, "On the Perception of Crackle in High-Amplitude Jet Noise," *AIAA Journal,* vol. 45, no. 3, pp. 593-598, 2007, doi: 10.2514/1.26484.

[35] J. E. Ffowcs Williams, J. Simson, and V. J. Virchis, "Crackle: an annoying component of jet noise," *Journal of Fluid Mechanics,* vol. 71, 2, pp. 251-271, 1975, doi: 10.1017/S0022112075002558.

[36] K. L. Gee, P. B. Russavage, T. B. Neilsen, S. Hales Swift, and A. B. Vaughn, "Subjective rating of the jet noise crackle percept," *J Acoust Soc Am,* vol. 144, no. 1, p. EL40, Jul 2018, doi: 10.1121/1.5046094.

[37] P. B. Russavage, T. B. Neilsen, K. L. Gee, and S. Hales Swift, "Rating the perception of jet noise crackle," in *Proceedings of Meetings on Acoustics*, 2018, vol. 33, no. 1, p. 040001, doi: 10.1121/2.0000821. [Online]. Available: https://www.ncbi.nlm.nih.gov/pubmed/30075649

[38] S. H. Swift, K. L. Gee, and T. B. Neilsen, "Testing two crackle criteria using modified jet noise waveforms," *J Acoust Soc Am,* vol. 141, no. 6, p. EL549, Jun 2017, doi: 10.1121/1.4984819.

[39] S. H. Swift, K. L. Gee, T. B. Neilsen, J. M. Downing, and M. M. James, "Exploring the use of time-sensitive sound quality metrics and related quantities for detecting crackle," in *173rd Meeting of Acoustical Society of America*, Boston, Massachusetts, June 25-29 2017, doi: 10.1121/2.0000544.

[40] K. L. Gee, T. B. Neilsen, A. T. Wall, J. M. Downing, M. M. James, and R. L. McKinley, "Propagation of crackle-containing noise from high-performance engines," *Noise Control Engineering Journal,* vol. 64, no. 1, pp. 1-12, 2016.

[41] K. L. Gee *et al.*, "The role of nonlinear effects in the propagation of noise from high-power jet aircraft," *J Acoust Soc Am,* vol. 123, no. 6, pp. 4082-93, Jun 2008, doi: 10.1121/1.2903871.

[42] K. L. Gee *et al.*, "Measurement and Prediction of Noise Propagation from a High-Power Jet Aircraft," *AIAA,* 2006.

[43] C. I. Chessell, "Propagation of noise along a finite impedance boundary," *J Acoust Soc Am,* vol. 62, no. 4, 1977.

[44] Embleton, "Effective flow resistivity of ground surfaces determined by acoustical measurements," 1983.

[45] Diagle, "Effects of atmospheric turbulence on the interference of sound waves above a finite impedance boundary," *J Acoust Soc Am,* 1979.

[46] M. M. James, S. V. Lympany, A. R. Salton, R. C. Miake-Lye, and R. L. Wayson, "Commercial Space Vehicle Emissions Modeling," Draft Final Report, ACRP Project 02-85, 2020.

[47] S. Gordon and B. J. McBride, "Computer Program for Calculation of Complex Chemical Equilibrium Compositions and Applications: I. Analysis," NASA Reference Publication 1311, Cleveland, Ohio, 1994.

[48] B. J. McBride and S. Gordon, "Computer Program for Calculation of Complex Chemical Equilibrium Compositions and Applications: II. Users Manual and Program Description," NASA Reference Publication 1311, Cleveland, Ohio, 1996.

APPENDIX B

AIRPORT LAYOUT PLAN UPDATE

File Name: K:\SLC_Aviation\VQQ\Air and Space Master Plan\CADD\VQQ ALP Files\Sheet Set\01 Title Sheet.dwg - Title Sheet
Modified / By: June 9, 2025 4:09:02 PM / Cody.Orvis
Plotted / By: 12:46:24 PM / Orvis, Cody

FDOT APPROVAL BLOCK

SPONSOR APPROVAL BLOCK

FAA APPROVAL BLOCK

Jacksonville Aviation Authority

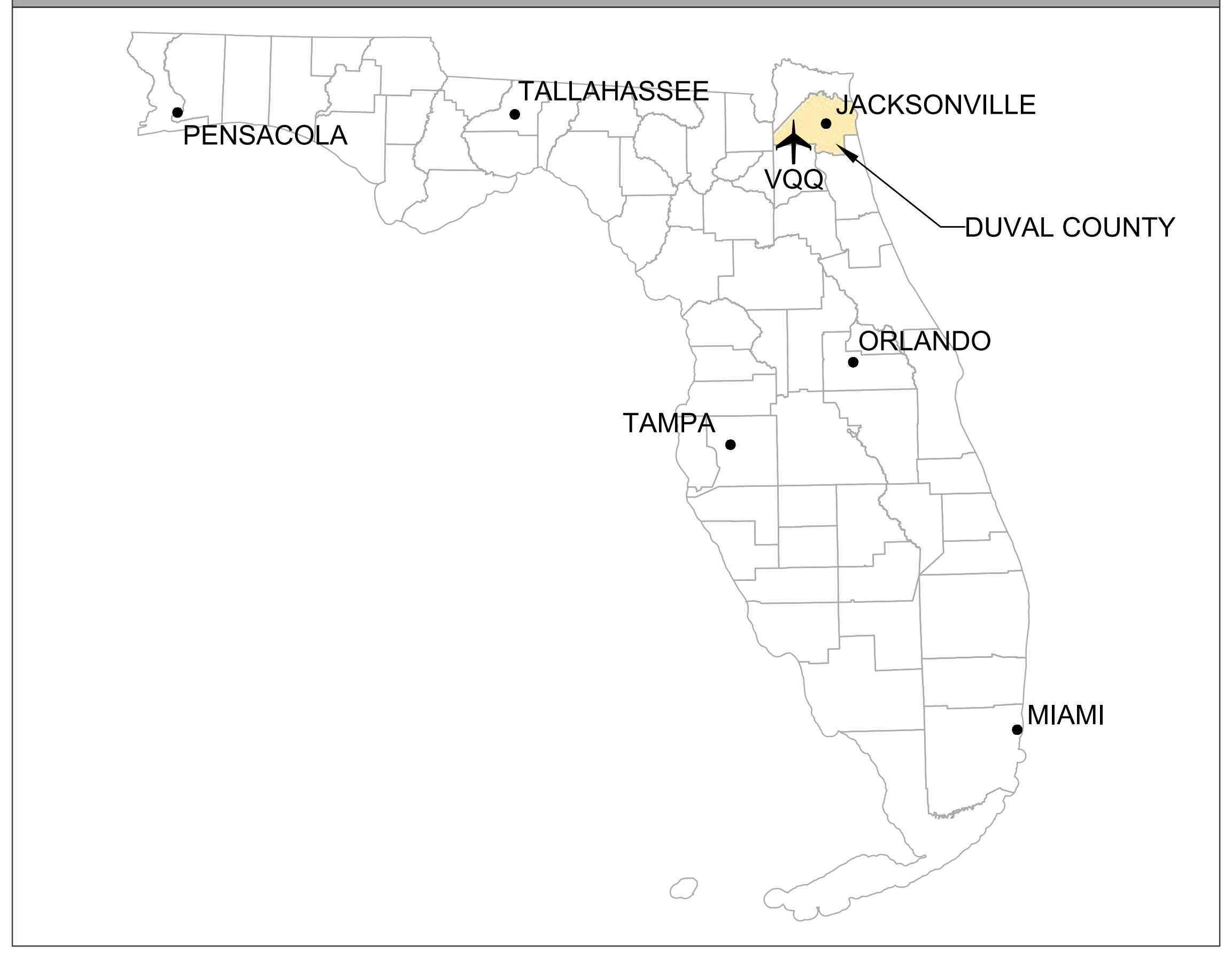
Cecil Airport and Spaceport (VQQ)

Jacksonville, Florida

Airport Layout Plan

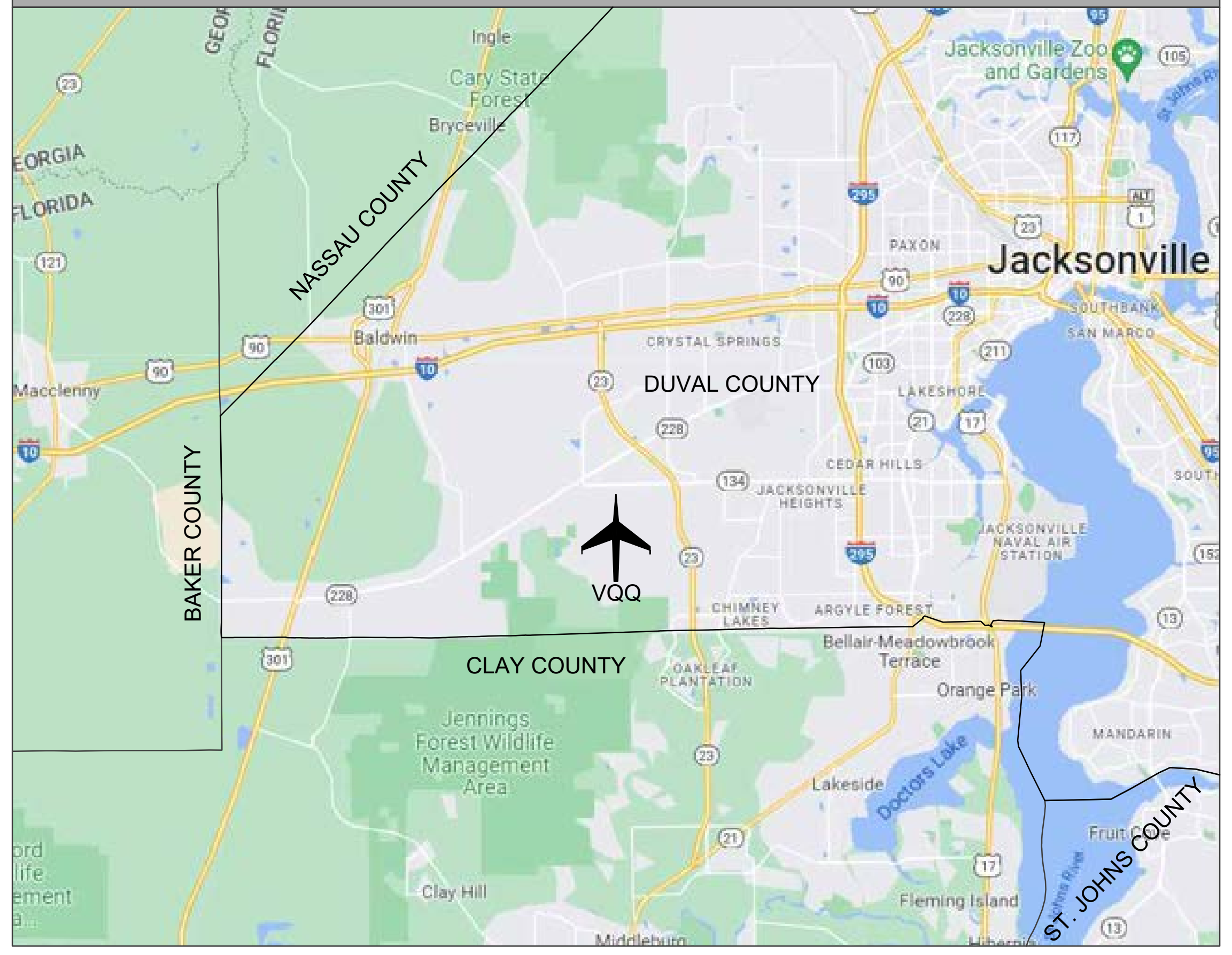
June 2025

STATE MAP



NOT TO SCALE

LOCATION MAP



NOT TO SCALE

VICINITY MAP

NOT TO SCALE

SHEET SET

SHEET TITLE	SHEET NUMBER	REVISION DATE
TITLE SHEET	01	06/2025
DATA TABLES - SHEET 1	02	06/2025
DATA TABLES - SHEET 2	03	06/2025
EXISTING AIRPORT LAYOUT PLAN	04	06/2025
FUTURE AIRPORT LAYOUT PLAN	05	06/2025
FUTURE AIRPORT LAYOUT PLAN - NW	06	06/2025
FUTURE AIRPORT LAYOUT PLAN - NE	07	06/2025
FUTURE AIRPORT LAYOUT PLAN - SW	08	06/2025
FUTURE AIRPORT LAYOUT PLAN - SE	09	06/2025
BUILDING AREA PLAN - NORTH	10	06/2025
BUILDING AREA PLAN - WEST	11	06/2025
BUILDING AREA PLAN - EAST	12	06/2025
PART 77 SURFACES - OVERALL	13	06/2025
PART 77 SURFACES - APPROACH PROFILES	14	06/2025
RUNWAY CENTERLINE PROFILES	15	06/2025
OBSTRUCTIONS TABLE	16	06/2025
RUNWAY 9L INNER APPROACH	17	06/2025
RUNWAY 27R INNER APPROACH	18	06/2025
RUNWAY 9R INNER APPROACH	19	06/2025
RUNWAY 27L INNER APPROACH	20	06/2025
RUNWAY 18L INNER APPROACH	21	06/2025
RUNWAY 36R INNER APPROACH	22	06/2025
RUNWAY 18R INNER APPROACH	23	06/2025
RUNWAY 36L INNER APPROACH	24	06/2025
RUNWAY 18L/36R DEPARTURES	25	06/2025
RUNWAY 9R/27L DEPARTURES	26	06/2025
LAND USE DRAWING	27	06/2025
AIRPORT PROPERTY MAP - SHEET 1	28	06/2025
AIRPORT PROPERTY MAP - SHEET 2	29	06/2025
LAUNCH SITE BOUNDARY	30	06/2025
SPACEPORT DEVELOPMENT PLAN	31	06/2025

ABBREVIATIONS

ADG	Airplane Design Group
ALD	Airport Layout Drawing
ALP	Airport Layout Plan
APP.	Approach
APRC	Approach Reference Code
ARFF	Aircraft Rescue and Fire Fighting
ARP	Airport Reference Point
ASOS	Automated Surface Observing System
ASPH	Asphalt
ASR	Airport Surveillance Radar
ATCT	Airport Traffic Control Tower
Ave.	Avenue
AWOS	Automated Weather Observing System
BRL	Building Restriction Line
CL	Centerline
DEP	Departure
DPRC	Departure Reference Code
Dr.	Drive
DT	Displaced Threshold
EXIST.	Existing
E/ELV.	Existing Elev. Elevation
FAA	Federal Aviation Administration
FBO	Fixed Based Operator
FUT.	Future
GA	General Aviation
GPS	Global Positioning System
GS	Glide Slope Indicator
HIRL	High Intensity Runway Lighting
Hwy.	Highway
IFR	Instrument Flight Rules
Kts.	Knots
LAT.	Latitude
LBS	Pounds
LDA	Landing Distance Available
Long.	Longitude
MISC.	Miscellaneous
MITL	Medium Intensity Taxiway Light
MRO	Maintenance, Repair, and Overhaul
MSL	Mean Sea Level
N/A	Not Applicable
NAD	North American Datum
NAVAID	Navigational Aid
NAVD	North American Vertical Datum
NDB	Non-directional Beacon
NVG	Not Vertically Guided
No.	Number
NPIAS	National Plan of Integrated Airport Systems
N/S/E/W	North/South/East/West
OBS.	Obstruction
OFZ	Runway Obstacle Free Zone
PACS	Primary Airport Control Station
PAPI	Precision Approach Path Indicator
PCN	Pavement Classification Number
PIR	Precision Instrument Runway
Pt.	Point
RDC	Runway Design Code
REQ.	Required
ROFA	Runway Object Free Area
RPZ	Runway Protection Zone
RSA	Runway Safety Area
RVZ	Runway Visual Zone
RWY	Runway
SACS	Secondary Airport Control Station
SPRS	Sponsor
St.	Street
TBD	To Be Determined
TDG	Taxiway Design Group
TDZE	Touchdown Zone Elevation
TESM	Taxiway Edge Safety Margin
Temp.	Temperature
TL	Taxilane
TODA	Takeoff Distance Available
TOFA	Taxiway Object Free Area
TORA	Takeoff Run Available
TSA	Taxiway Safety Area
TSS	Threshold Siting Surface
TWY	Taxiway
UNKN	Unknown
VSR	Vehicle Service Road

NO.	DATE	REVISIONS	BY	APPR.	SPRS. APPR.
5					
4					
3					
2					
1					

Kimley»Horn

111 E Broadway Suite #600
Salt Lake City, UT 84111
(385) 212 - 3176

FAA DISCLAMER

THE CONTENTS OF THIS PLAN DO NOT NECESSARILY REFLECT THE OFFICIAL VIEWS OR POLICY OF THE FEDERAL AVIATION ADMINISTRATION (FAA). ACCEPTANCE OF THIS DOCUMENT BY THE FAA DOES NOT IN ANY WAY CONSTITUTE A COMMITMENT ON THE PART OF THE UNITED STATES TO PARTICIPATE IN ANY DEVELOPMENT DEPICTED HEREIN NOR DOES IT INDICATE THAT THE PROPOSED DEVELOPMENT IS ENVIRONMENTALLY ACCEPTABLE IN ACCORDANCE WITH APPROPRIATE PUBLIC LAW.

JAA Jacksonville Aviation Authority
Cecil Cecil Airport
Cecil Cecil Spaceport

Jacksonville Aviation Authority
Cecil Airport and Spaceport
JACKSONVILLE, FLORIDA

AIP GRANT
3-12-0032-023-2021

SHEET NAME
TITLE SHEET

BY
APPR.

JAA PROJECT NO. 21-18-42001
DATE: June 2025
DRAWN BC
DESIGNED KH
CHECKED BG
APPROVED AS
SHEET 01 OF 31

CECIL AIRPORT AND SPACEPORT - AIRPORT LAYOUT PLAN FAA IDENTIFIER VQQ

File Name: K:\SLC_Aviation\VQQ\Air and Space Master Plan\CADD\VQQ ALP Files\Sheet Set\02 - 03 Data Tables.dwg - Sheet 1
Modified / By: June 9, 2025 5:19:58 PM / Cody.Orvis
Plotted / By: 12:46:32 PM / Orvis, Cody

RUNWAY DATA

ITEM		EXISTING								FUTURE							
		RUNWAY 18L/36R		RUNWAY 18R/36L		RUNWAY 09R/27L		RUNWAY 09L/27R		RUNWAY 18L/36R		RUNWAY 18R/36L		RUNWAY 09/27		RUNWAY 09L/27R	
		RUNWAY 18L	RUNWAY 36R	RUNWAY 18R	RUNWAY 36L	RUNWAY 09R	RUNWAY 27L	RUNWAY 09L	RUNWAY 27R	RUNWAY 18L	RUNWAY 36R	RUNWAY 18R	RUNWAY 36L	RUNWAY 09	RUNWAY 27	RUNWAY 09L	RUNWAY 27R
RUNWAY DESIGN CODE		D-IV-2400		D-IV-VIS		D-IV-4000		B-II-VIS		SAME		SAME		SAME		TO BE DECOMMISSIONED	
APPROACH REFERENCE CODE (APRC)		D-IV-5000	D-IV-2400	D-IV-VIS	D-IV-VIS	D-IV-4000	D-IV-5000	B-II-VIS	B-II-VIS	SAME	SAME	SAME	SAME	SAME	SAME		
DEPARTURE REFERENCE CODE (DPRC)		D-IV	D-IV	D-IV	D-IV	D-IV	D-IV	B-II	B-II	SAME	SAME	SAME	SAME	SAME	SAME		
CRITICAL AIRCRAFT	TYPE	BOEING 767-200		BOEING 767-200		BOEING 767-200		BEECHCRAFT 200 SUPER KING		SAME		SAME		SAME			
	WINGSPAN/TAIL HEIGHT	156'/53'		156'/53'		156'/53'		54'/15'		SAME		SAME		SAME			
	COCKPIT TO MAIN GEAR (CMG)	72'		72'		72'		15'		SAME		SAME		SAME			
	MAXIMUM TAKEOFF WEIGHT (MTOW)	315,000 LBS.		315,000 LBS.		315,000 LBS.		12,500 LBS.		SAME		SAME		SAME			
	APPROACH SPEED	135 KTS.		135 KTS.		135 KTS.		98 KTS.		SAME		SAME		SAME			
PAVEMENT MATERIAL/TREATMENT		ASPH-CONC / NONE		ASPH-CONC / NONE		ASPH-CONC / NONE		ASPH-CONC / NONE		SAME		SAME		SAME			
PAVEMENT DESIGN STRENGTH (LBS.)	SINGLE	105,000		105,000		105,000		12,500		SAME		SAME		SAME			
	DUAL	165,000		165,000		165,000		12,500		SAME		SAME		SAME			
	DTW	315,000		315,000		315,000		12,500		SAME		SAME		SAME			
PAVEMENT CLASSIFICATION NUMBER (PCN)		59 /R/B/W/T		21 /F/A/Y/T		21 /F/A/X/T		27 /R/B/X/T		SAME		SAME		SAME			
EFFECTIVE RUNWAY GRADIENT		0.06%		0.11%		0.19%		0.17%		SAME		SAME		SAME			
MAXIMUM GRADE WITHIN RUNWAY LENGTH		0.26%		0.43%		0.50%		0.46%		SAME		SAME		SAME			
MEETS LINE OF SIGHT REQUIREMENTS		YES		YES		YES		YES		SAME		SAME		SAME			
RUNWAY LENGTH		12,503'		8,001'		8,003'		4,439'		SAME		SAME		SAME			
RUNWAY WIDTH		200'		200'		200'		200'		SAME		150		150			
RUNWAY SHOULDER WIDTH		N/A		N/A		N/A		N/A		25		25		25			
TAXIWAY SEPARATION	(EXIST./STD.)	1,200'/400'		500'/400'		950'/400'		500'/400'		400'/400'		SAME		450'/400'			
RUNWAY END DATA	LATITUDE	30° 14' 6.08" N	30° 12' 2.30" N	30° 14' 6.00" N	30° 12' 46.80" N	30° 12' 56.33" N	30° 12' 56.94" N	30° 13' 3.26" N	30° 13' 3.59" N	SAME	SAME	SAME	SAME	SAME	SAME		
	LONGITUDE	81° 52' 26.80" W	81° 52' 25.70" W	81° 52' 34.74" W	81° 52' 34.08" W	81° 53' 30.00" W	81° 51' 58.80" W	81° 53' 30.07" W	81° 52' 39.48" W	SAME	SAME	SAME	SAME	SAME	SAME		
	ELEVATION	79.0'	71.6'	79.2'	70.1'	76.5'	63.8'	79.5'	71.3'	SAME	SAME	SAME	SAME	SAME	SAME		
RUNWAY LIGHTING TYPE		HIRL		NONE		HIRL		NONE		SAME		SAME		SAME			
RUNWAY MARKING TYPE		PRECISION	PRECISION	PRECISION	NONPRECISION	PRECISION	NONPRECISION	BASIC	BASIC	SAME	SAME	SAME	SAME	SAME	SAME		
PART 77 APPROACH SURFACE / SLOPE		NPI/34:1	PIR/50:1/40:1	VIS/20:1	VIS/20:1	NPI/34:1	NPI/34:1	VIS/20:1	VIS/20:1	SAME	SAME	SAME	SAME	SAME	SAME		
VISIBILITY MINIMUMS		1 MILE	1/2 MILE	VISUAL	VISUAL	3/4 MILE	1 MILE	VISUAL	VISUAL	SAME	SAME	SAME	SAME	SAME	SAME		
TYPE OF AERONAUTICAL SURVEY REQUIRED		VG		NVG		VG		NVG		SAME		SAME		SAME			
DEPARTURE OBSTRUCTION CLEARANCE SURFACE (OCS)		YES	YES	N/A	N/A	YES	YES	N/A	N/A	SAME	SAME	SAME	SAME	SAME	SAME		
APPROACH SURFACES SLOPE/SURFACE TYPE		20:1 / 4	34:1 / 5 / 30:1 / 6	20:1 / 3	20:1 / 3	20:1 / 4	20:1 / 4	20:1 / 3	20:1 / 3	SAME	SAME	SAME	SAME	SAME	SAME		
APPROACH SURFACES PENETRATIONS	REFER TO SHEETS 17-24									SAME	SAME	SAME	SAME	SAME	SAME		
VISUAL APPROACH NAVAIDS		PAPI, REIL	PAPI, MALSR	NONE	NONE	PAPI, MALSR	PAPI, REIL	NONE	NONE	SAME	SAME	SAME	SAME	SAME	SAME		
INSTRUMENT APPROACH NAVAIDS		RNAV	ILS, RNAV	NONE	NONE	RNAV	RNAV	NONE	NONE	SAME	SAME	SAME	SAME	SAME	SAME		
TOUCHDOWN ZONE ELEVATION		79'	72'	79'	72'	77'	72'	80'	78'	SAME	SAME	SAME	SAME	SAME	SAME		
RUNWAY SAFETY AREA (RSA)	LENGTH BEYOND RUNWAY END (EXIST./STD.)	1,000'/1,000'	1,000'/1,000'	1,000'/1,000'	1,000'/1,000'	1,000'/1,000'	1,000'/1,000'	300'/300'	300'/300'	SAME	SAME	SAME	SAME	SAME	SAME		
	WIDTH (EXIST./STD.)	500'/500'		500'/500'		500'/500'		150'/150'		SAME		SAME		SAME			
RUNWAY OBJECT FREE AREA (ROFA)	LENGTH BEYOND RUNWAY END (EXIST./STD.)	1,000'/1,000'	1,000'/1,000'	1,000'/1,000'	1,000'/1,000'	1,000'/1,000'	1,000'/1,000'	300'/300'	300'/300'	SAME	SAME	SAME	SAME	SAME	SAME		
	WIDTH (EXIST./STD.)	800'/800'		800'/800'		800'/800'		500'/500'		SAME		SAME		SAME			
RUNWAY OBSTACLE FREE ZONE (ROFZ)	LENGTH BEYOND RUNWAY END (EXIST./STD.)	200'/200'	200'/200'	200'/200'	200'/200'	200'/200'	200'/200'	200'/200'	200'/200'	SAME	SAME	SAME	SAME	SAME	SAME		
	WIDTH (EXIST./STD.)	400'/400'		400'/400'		400'/400'		250'/250'		SAME		SAME		SAME			
RUNWAY PROTECTION ZONE (RPZ)	LENGTH (APP. / DEP.)	1,700'/1,700'	2,500'/1,700'	1,700'/1,700'	2,500'/1,700'	1,700'/1,700'	1,700'/1,700'	1,000'/1,000'	1,000'/1,000'	SAME	SAME	SAME	SAME	SAME	SAME		
	INNER WIDTH (APP. / DEP.)	1,000'/500'	1,000'/500'	1,000'/500'	1,000'/500'	1,000'/500'	1,000'/500'	500'/500'	500'/500'	SAME	SAME	SAME	SAME	SAME	SAME		
	OUTER WIDTH (APP. / DEP.)	1,510'/1,010'	1,750'/1,010'	1,510'/1,010'	1,750'/1,010'	1,510'/1,010'	1,510'/1,010'	700'/700'	700'/700'	SAME	SAME	SAME	SAME	SAME	SAME		
PRECISION OBSTACLE FREE ZONE (POFZ)		NO	YES	NO	NO	NO	NO	NO	NO	SAME	SAME	SAME	SAME	SAME	SAME		
DISPLACED THRESHOLD		NONE	NONE	NONE	NONE	NONE	NONE	NONE	NONE	SAME	SAME	SAME	SAME	SAME	SAME		

HELIPORT DATA

CATEGORY	EXISTING		FUTURE	
	HELIPAD H1	HELIPAD H2	HELIPAD H1	HELIPAD H2
HELIPORT USE	MILITARY/GA	MILITARY/GA	TO BE DECOMMISSIONED	TO BE DECOMMISSIONED
HELIPORT LATITUDE	30° 13' 07.00" N	30° 13' 06.70" N		
HELIPORT LONGITUDE	81° 53' 29.25" W	81° 53' 07.83" W		
HELIPORT ELEVATION (MSL)	77.5'	73.7'		
SURFACE TYPE	CONC	CONC		
DIMENSIONS	70' x 70'	70' x 70'		
TLOF DIMENSIONS	40' x 40'	40' x 40'		
FATO DIMENSIONS	70' x 70'	70' x 70'		
HELIPORT LIGHTING	NONE	NONE		
HELIPORT SAFETY AREA DIMENSIONS	90' x 90'	90' x 90'		
HELIPORT PROTECTION ZONE (HPZ) LENGTH	280'	280'		
HPZ INSIDE WIDTH	70'	70'		
HPZ OUTSIDE WIDTH	200'	200'		
CRITICAL HELICOPTER	Sikorsky MH-60T	Sikorsky MH-60T		
CRITICAL HELICOPTER ROTOR DIAMETER	53.5'	53.5'		
CRITICAL HELICOPTER LENGTH	64.6'	64.6'		

EXISTING DECLARED DISTANCES

ITEM	18L	36R	18R	36L	09R	27L	09L	27R
TAKE OFF RUN AVAILABLE (TORA)	12,503'	12,503'	8,002'	8,002'	8,003'	8,003'	4,439'	4,439'
TAKEOFF DISTANCE AVAILABLE (TODA)	12,503'	12,503'	8,002'	8,002'	8,003'	8,003'	4,439'	4,439'
ACCELERATE STOP DISTANCE AVAILABLE (ASDA)	12,503'	12,503'	8,002'	8,002'	8,003'	8,003'	4,439'	4,439'
LANDING DISTANCE AVAILABLE (LDA)	12,503'	12,503'	8,002'	8,002'	8,003'	8,003'	4,439'	4,439'

FUTURE DECLARED DISTANCES

ITEM	18L	36R	18R	36L	9	27	09L	27R
TAKE OFF RUN AVAILABLE (TORA)	12,503'	12,503'	8,002'	8,002'	8,003'	8,003'	N/A	N/A
TAKEOFF DISTANCE AVAILABLE (TODA)	12,503'	12,503'	8,002'	8,002'	8,003'	8,003'	N/A	N/A
ACCELERATE STOP DISTANCE AVAILABLE (ASDA)	12,503'	12,503'	8,002'	8,002'	8,003'	8,003'	N/A	N/A
LANDING DISTANCE AVAILABLE (LDA)	12,503'	12,503'	8,002'	8,002'	8,003'	8,003'	N/A	N/A

MODIFICATION TO FAA STANDARDS

NO.	DESCRIPTION	FAA STANDARDS	EXISTING CONDITION	DATE APPROVED	PROPOSED ACTION
1	NONE	N/A	N/A	N/A	N/A

AIRPORT DATA TABLE

ITEM		EXISTING	FUTURE
AIRPORT REFERENCE CODE (ARC)		D-IV	SAME
CRITICAL AIRCRAFT		BOEING 767-200	SAME
NPIAS SERVICE LEVEL		REGIONAL	SAME
STATE ROLE		REGIONAL	SAME
AIRPORT OWNER		Jacksonville Aviation Authority	SAME
AIRPORT ELEVATION		79.6'	79.2'
AIRPORT REFERENCE POINT COORDINATES	LATITUDE	30° 13' 07.6" N	30° 13' 08.3" N
	LONGITUDE	81° 52' 37.8" W	81° 52' 33.6" W
AIRPORT NAVIGATION AIDS		ILS, DME, VOR, GPS	SAME
MISCELLANEOUS FACILITIES		SEGMENTED CIRCLE, WINDCONE, AWOS, ROTATING BEACON	SAME
MEAN MAXIMUM TEMPERATURE (HOTTEST MONTH)		90° F, JULY	SAME
MAGNETIC DECLINATION	VARIATION	6.63° W changing by 0.07° W per year	
DATE AND SOURCE		FEBRUARY 2023, NOAA DATA CENTER	

TAXIWAY DATA

TAXIWAY NAME		DESCRIPTION	AIRPLANE DESIGN GROUP (ADG)		TAXIWAY DESIGN GROUP (TDG)		TAXIWAY WIDTH		TAXIWAY SHOUDLER WIDTH		TAXIWAY SAFETY AREA WIDTH		TAXIWAY OBJECT FREE AREA WIDTH		TAXIWAY SEPARATION: CENTERLINE TO FIXED OR MOVABLE OBJECT (FT.)		TAXIWAY EDGE SAFETY MARGIN (TESM)		TAXIWAY LIGHTING	
EXISTING	FUTURE		EXISTING	FUTURE	EXISTING	FUTURE	EXISTING	FUTURE	EXISTING	FUTURE	EXISTING	FUTURE	EXISTING	FUTURE	EXISTING	FUTURE	EXISTING	FUTURE	EXISTING	FUTURE
A	A		IV	SAME	5	SAME	75.0'	SAME	30.0'	SAME	171.0'	SAME	243.0'	SAME	121.5'	SAME	14.0'	SAME	MITL	SAME
A1	A1		IV	SAME	5	SAME	150.0'	SAME	30.0'	SAME	171.0'	SAME	243.0'	SAME	121.5'	SAME	14.0'	SAME	MITL	SAME
A2	A2	PARTIAL FUTURE RELOCATION	IV	SAME	5	SAME	75.0'	SAME	30.0'	SAME	171.0'	SAME	243.0'	SAME	121.5'	SAME	14.0'	SAME	MITL	SAME
A3	A3	PARTIAL FUTURE RELOCATION	IV	SAME	5	SAME	75.0'	SAME	30.0'	SAME	171.0'	SAME	243.0'	SAME	121.5'	SAME	14.0'	SAME	MITL	SAME
A4	A4		IV	SAME	5	SAME	150.0'	SAME	30.0'	SAME	171.0'	SAME	243.0'	SAME	121.5'	SAME	14.0'	SAME	MITL	SAME
A5	A5		IV	SAME	5	SAME	150.0'	SAME	30.0'	SAME	171.0'	SAME	243.0'	SAME	121.5'	SAME	14.0'	SAME	MITL	SAME
B	B	PARTIAL FUTURE RELOCATION	IV	SAME	5	SAME	75.0'	SAME	30.0'	SAME	171.0'	SAME	243.0'	SAME	121.5'	SAME	14.0'	SAME	MITL	SAME
B1	B1		IV	SAME	5	SAME	150.0'	SAME	30.0'	SAME	171.0'	SAME	243.0'	SAME	121.5'	SAME	14.0'	SAME	MITL	SAME
B2	B2		IV	SAME	5	SAME	75.0'	SAME	30.0'	SAME	171.0'	SAME	243.0'	SAME	121.5'	SAME	14.0'	SAME	MITL	SAME
B3	B3		IV	SAME	5	SAME	150.0'	SAME	30.0'	SAME	171.0'	SAME	243.0'	SAME	121.5'	SAME	14.0'	SAME	MITL	SAME
C	C	TAXILANE; RELOCATED IN THE FUTURE	IV	SAME	5	SAME	75.0'	SAME	30.0'	SAME	171.0'	SAME	243.0'	SAME	112.0'	SAME	14.0'	SAME	MITL	SAME
D	D	TAXILANE	IV	SAME	5	SAME	75.0'	SAME	30.0'	SAME	171.0'	SAME	243.0'	SAME	112.0'	SAME	14.0'	SAME	MITL/REFLECTOR	SAME
N/A	D1	NEW TAXIWAY	N/A	IV	N/A	5	N/A	75.0'	N/A	30.0'	N/A	171.0'	N/A	243.0'	N/A	121.5'	N/A	14.0'	N/A	MITL
D2	D2		IV	SAME	5	SAME	75.0'	SAME	30.0'	SAME	171.0'	SAME	243.0'	SAME	112.0'	SAME	14.0'	SAME	MITL/REFLECTOR	SAME
D3	D3		IV	SAME	5	SAME	50.0'	SAME	30.0'	SAME	171.0'	SAME	243.0'	SAME	112.0'	SAME	14.0'	SAME	MITL/REFLECTOR	SAME
N/A	D4	NEW TAXIWAY	N/A	IV	N/A	5	N/A	75.0'	N/A	30.0'	N/A	171.0'	N/A	243.0'	N/A	121.5'	N/A	14.0'	N/A	MITL
E	E		IV	SAME	5	SAME	75.0'	SAME	30.0'	SAME	171.0'	SAME	243.0'	SAME	121.5'	SAME	14.0'	SAME	MITL/REFLECTOR	SAME
E1	E1		IV	SAME	5	SAME	75.0'	SAME	30.0'	SAME	171.0'	SAME	243.0'	SAME	121.5'	SAME	14.0'	SAME	MITL/REFLECTOR	SAME
N/A	F	OLD 09L/27R RUNWAY, NEW TAXIWAY	N/A	IV	N/A	5	N/A	75.0'	N/A	30.0'	N/A	171.0'	N/A	243.0'	N/A	121.5'	N/A	14.0'	N/A	MITL
N/A	G	NEW TAXIWAY	N/A	IV	N/A	5	N/A	75.0'	N/A	30.0'	N/A	171.0'	N/A	243.0'	N/A	121.5'	N/A	14.0'	N/A	MITL
N/A	G2	NEW TAXIWAY CONNECTOR	N/A	IV	N/A	5	N/A	75.0'	N/A	30.0'	N/A	171.0'	N/A	243.0'	N/A	121.5'	N/A	14.0'	N/A	MITL
N/A	G3	NEW TAXIWAY CONNECTOR	N/A	II	N/A	2B	N/A	35.0'	N/A	15.0'	N/A	79.0'	N/A	124.0'	N/A	62.0'	N/A	7.5'	N/A	MITL

NO.	DATE	REVISIONS	BY	APPR.	SPRS. APPR.
5					
4					
3					
2					
1					

Kimley»Horn

111 E Broadway Suite #600
Salt Lake City, UT 84111
(385) 212 - 3176

FAA DISCLAMER

THE CONTENTS OF THIS PLAN DO NOT NECESSARILY REFLECT THE OFFICIAL VIEWS OR POLICY OF THE FEDERAL AVIATION ADMINISTRATION (FAA). ACCEPTANCE OF THIS DOCUMENT BY THE FAA DOES NOT IN ANY WAY CONSTITUTE A COMMITMENT ON THE PART OF THE UNITED STATES TO PARTICIPATE IN ANY DEVELOPMENT DEPICTED HEREIN NOR DOES IT INDICATE THAT THE PROPOSED DEVELOPMENT IS ENVIRONMENTALLY ACCEPTABLE IN ACCORDANCE WITH APPROPRIATE PUBLIC LAW.

JAA Jacksonville Aviation Authority
Cecil Cecil Airport
Cecil Cecil Spaceport

Jacksonville Aviation Authority
Cecil Airport and Spaceport
JACKSONVILLE, FLORIDA

AIP GRANT
3-12-0032-023-2021
BY
APPR.

SHEET NAME
DATA TABLES - SHEET 1

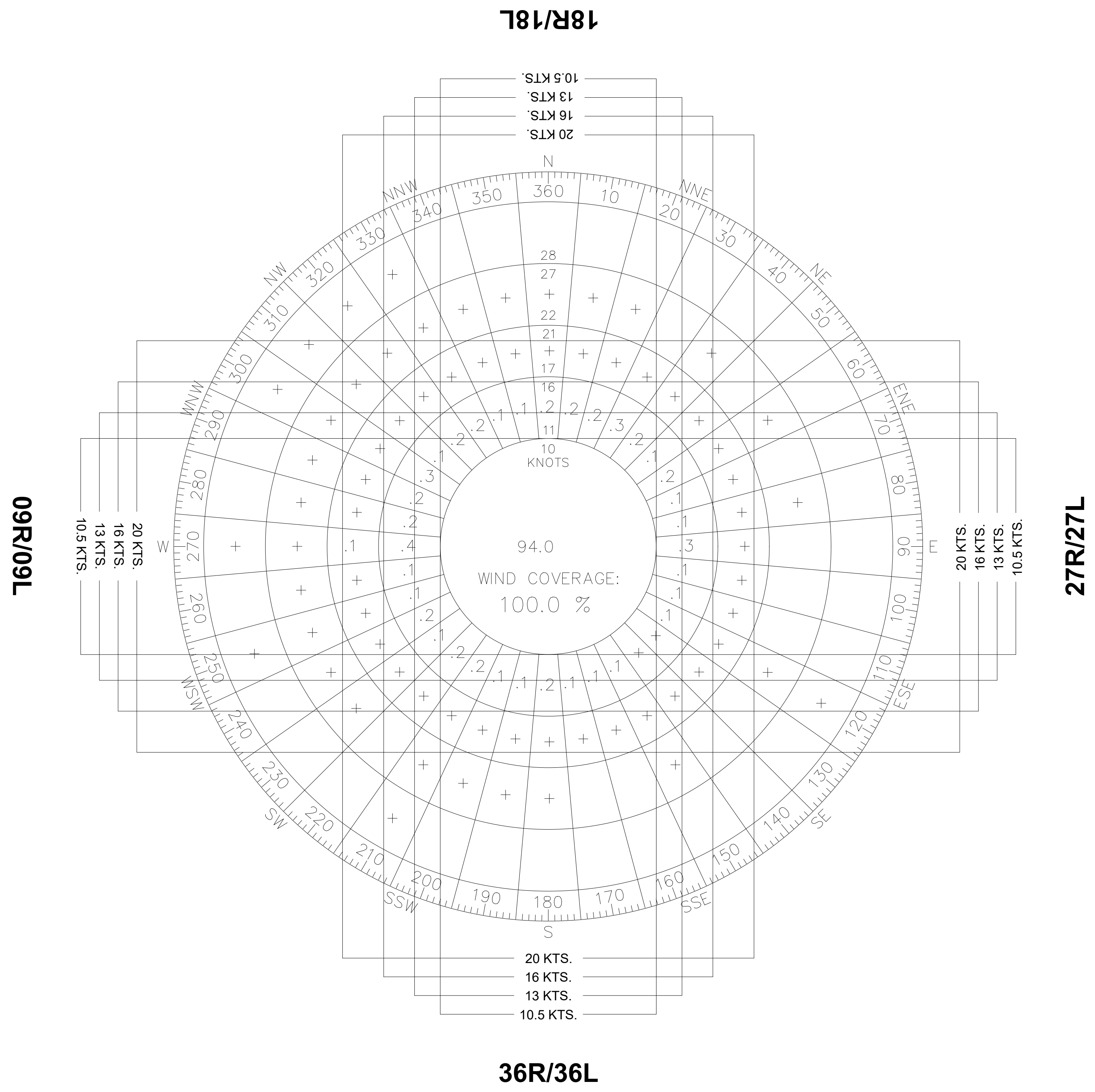
JAA PROJECT NO.
21-18-42001
DATE: June 2025

DRAWN	BC	CHECKED	BG
DESIGNED	KH	APPROVED	AS

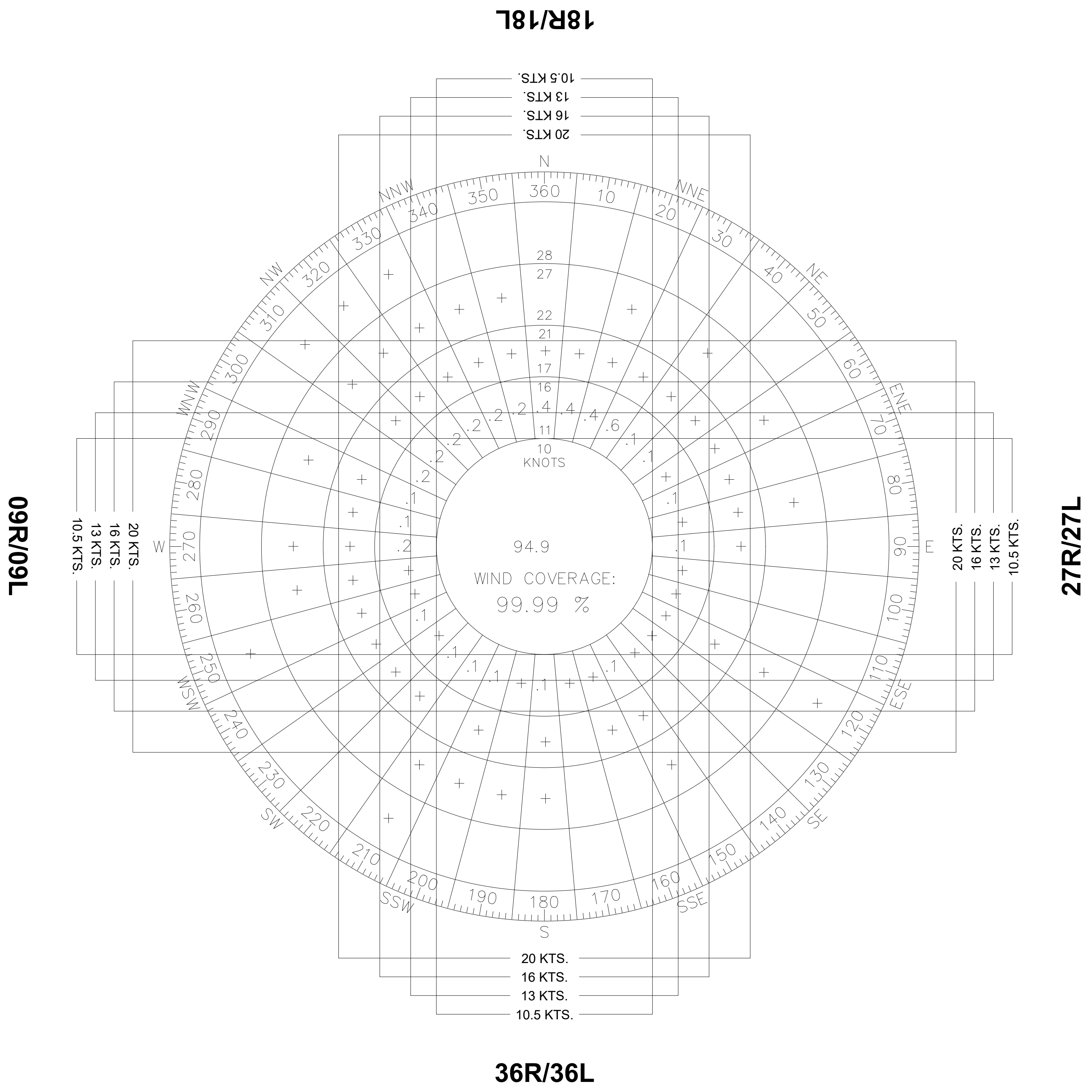
SHEET 02 OF 31

CECIL AIRPORT AND SPACEPORT - AIRPORT LAYOUT PLAN FAA IDENTIFIER VQQ

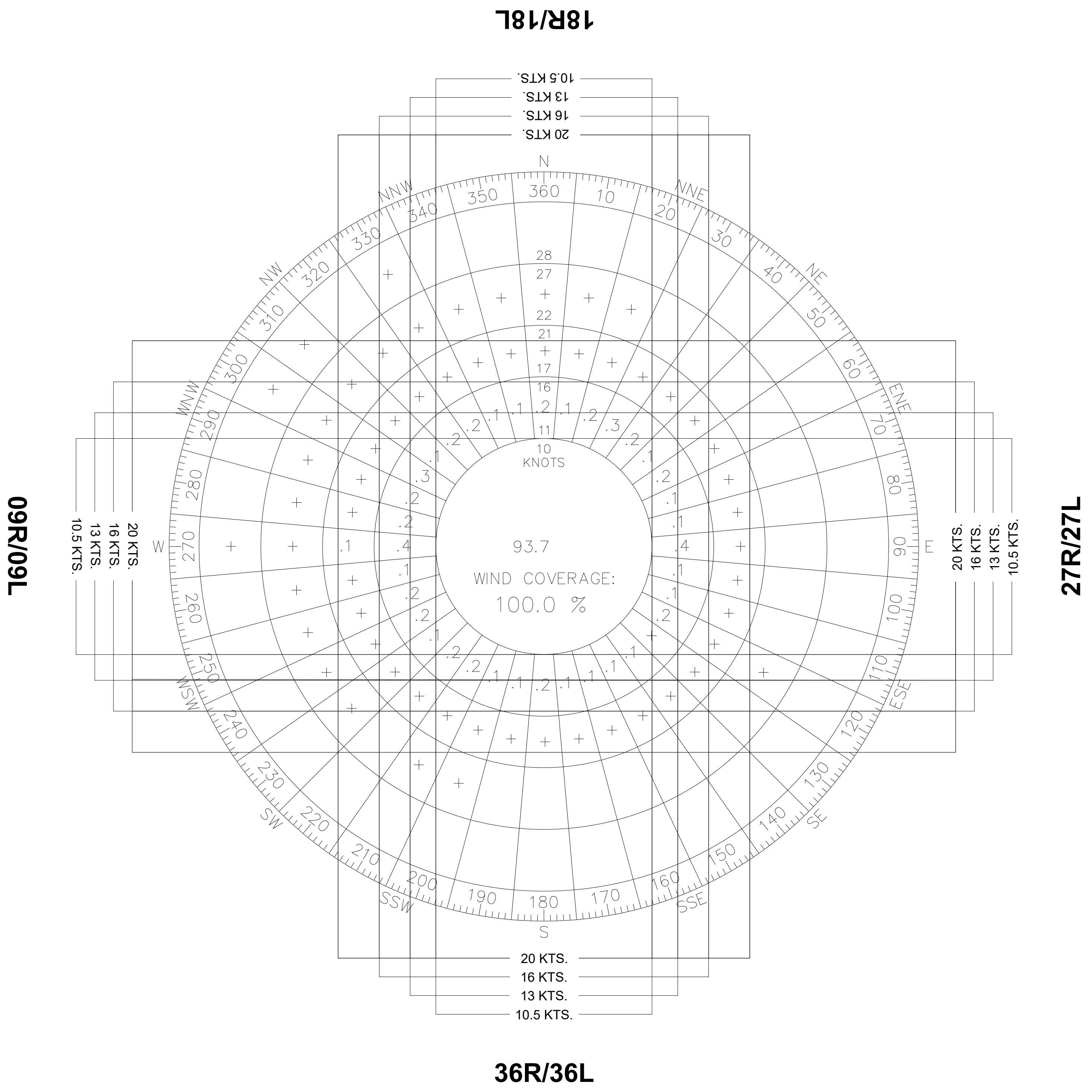
ALL WEATHER WIND ROSE



IFR WIND ROSE



VFR WIND ROSE



SOURCE:
NATIONAL CLIMATE DATA CENTER, FAA ADIP WEB PORT
"722067 CECIL FIELD AIRPORT ANNUAL PERIOD RECORD
2013-2022"

OBSERVATIONS:
134,031

NOTE:
+ DENOTES LESS THAN 0.10%
RUNWAY 18R/36L TRUE BEARING IS 179°/359°

ANNUAL WIND COVERAGE (IN PERCENT)

ALL WEATHER CONDITIONS

RUNWAY	CROSSWIND COVERAGE			
	10.5 KTS.	13 KTS.	16 KTS.	20 KTS.
RUNWAY 18	72.92%	73.50%	74.05%	74.18%
RUNWAY 36	76.19%	76.94%	77.60%	77.74%
RUNWAY 09	73.65%	74.28%	74.78%	74.86%
RUNWAY 27	75.92%	76.56%	77.07%	77.16%
RUNWAY 18/36	97.15%	98.46%	99.65%	99.93%
RUNWAY 09/27	97.52%	98.79%	99.79%	99.96%
COMBINED	99.77%	99.95%	99.99%	100.00%

VISUAL FLIGHT RULES (VFR)

RUNWAY	CROSSWIND COVERAGE			
	10.5 KTS.	13 KTS.	16 KTS.	20 KTS.
RUNWAY 18	73.34%	73.99%	74.60%	74.75%
RUNWAY 36	73.82%	74.62%	75.34%	75.49%
RUNWAY 09	72.55%	73.16%	73.63%	73.69%
RUNWAY 27	75.38%	76.04%	76.54%	76.63%
RUNWAY 18/36	96.89%	98.33%	99.65%	99.94%
RUNWAY 09/27	97.60%	98.86%	99.83%	99.98%
COMBINED	99.79%	99.96%	99.99%	100.00%

INSTRUMENT FLIGHT RULES (IFR)

RUNWAY	CROSSWIND COVERAGE			
	10.5 KTS.	13 KTS.	16 KTS.	20 KTS.
RUNWAY 18	68.51%	68.71%	68.89%	68.97%
RUNWAY 36	88.13%	88.57%	88.88%	89.01%
RUNWAY 09	77.94%	78.79%	79.62%	79.76%
RUNWAY 27	77.06%	77.69%	78.25%	78.39%
RUNWAY 18/36	98.56%	99.20%	99.68%	99.88%
RUNWAY 09/27	96.75%	98.22%	99.60%	99.87%
COMBINED	99.73%	99.89%	99.95%	99.99%

NO.	DATE	REVISIONS	BY	APPR.	SPRS. APPR.
5					
4					
3					
2					
1					

Kimley»Horn

111 E Broadway Suite #600
Salt Lake City, UT 84111
(385) 212 - 3176

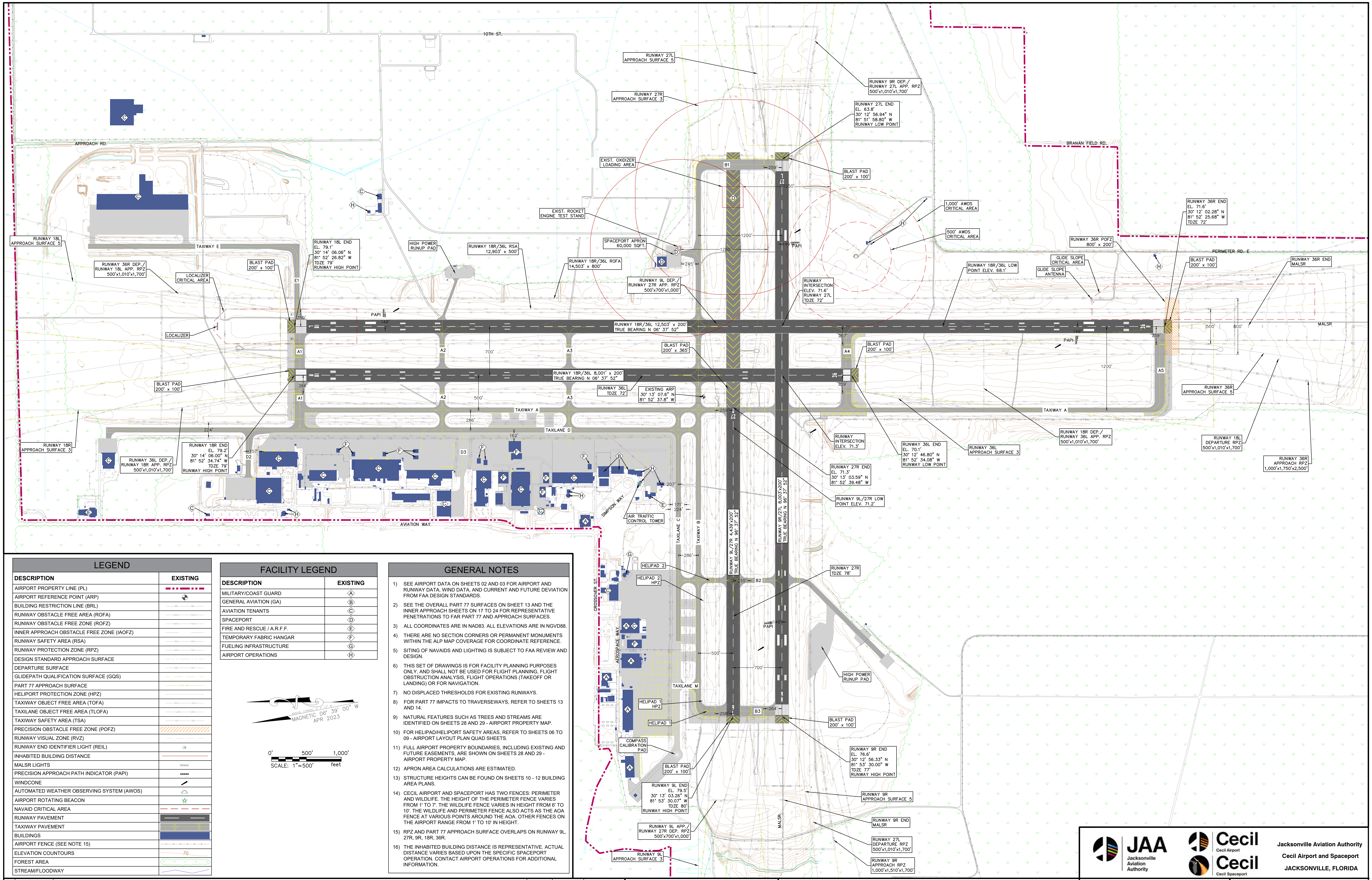
FAA DISCLAMER
THE CONTENTS OF THIS PLAN DO NOT NECESSARILY REFLECT THE OFFICIAL VIEWS OR POLICY OF THE FEDERAL AVIATION ADMINISTRATION (FAA). ACCEPTANCE OF THIS DOCUMENT BY THE FAA DOES NOT IN ANY WAY CONSTITUTE A COMMITMENT ON THE PART OF THE UNITED STATES TO PARTICIPATE IN ANY DEVELOPMENT DEPICTED HEREIN NOR DOES IT INDICATE THAT THE PROPOSED DEVELOPMENT IS ENVIRONMENTALLY ACCEPTABLE IN ACCORDANCE WITH APPROPRIATE PUBLIC LAW.

JAA
Jacksonville
Aviation
Authority
Cecil
Cecil Airport
Cecil
Cecil Spaceport

Jacksonville Aviation Authority
Cecil Airport and Spaceport
JACKSONVILLE, FLORIDA

AIP GRANT
3-12-0032-023-2021
BY
SHEET NAME
DATA TABLES - SHEET 2
APPR.
JAA PROJECT NO.
21-18-42001
DRAWN BC
CHECKED BG
DATE: June 2025
DESIGNED KH
APPROVED AS
SHEET 03 OF 31

File Name: K:\SLC_Aviation\VQQ\Air and Space Master Plan\CADD\VQQ ALP Files\Sheet Set\04 Existing ALD.dwg - Title Sheet
Modified / By: June 10, 2025 10:27:17 AM / Brandon.Gilson
Plotted / By: 12:46:52 PM / Orvis, Cody



LEGEND

DESCRIPTION	EXISTING
AIRPORT PROPERTY LINE (PL)	▬ ▪ ▪ ▬
AIRPORT REFERENCE POINT (ARP)	⊕
BUILDING RESTRICTION LINE (BRL)	BRL BRL
RUNWAY OBSTACLE FREE AREA (ROFA)	ROFA ROFA
RUNWAY OBSTACLE FREE ZONE (ROFZ)	ROFZ ROFZ
INNER APPROACH OBSTACLE FREE ZONE (IAOFZ)	— · · · —
RUNWAY SAFETY AREA (RSA)	RSA RSA
RUNWAY PROTECTION ZONE (RPZ)	RPZ RPZ
DESIGN STANDARD APPROACH SURFACE	— – – — – – —
DEPARTURE SURFACE	DEP DEP
GLIDEPATH QUALIFICATION SURFACE (GQS)	— · — — · —
PART 77 APPROACH SURFACE	P77 APP
HELIPORT PROTECTION ZONE (HPZ)	— · — · —
TAXIWAY OBJECT FREE AREA (TOFA)	TOFA TOFA
TAXILANE OBJECT FREE AREA (TLOFA)	TLOFA TLOFA
TAXIWAY SAFETY AREA (TSA)	TSA TSA
PRECISION OBSTACLE FREE ZONE (POFZ)	▨
RUNWAY VISUAL ZONE (RVZ)	— — — —
RUNWAY END IDENTIFIER LIGHT (REIL)	⊙
INHABITED BUILDING DISTANCE	——
MALSR LIGHTS	○○○○○
PRECISION APPROACH PATH INDICATOR (PAPI)	▭▭▭▭
WINDCONE	/
AUTOMATED WEATHER OBSERVING SYSTEM (AWOS)	△
AIRPORT ROTATING BEACON	☆
NAVAID CRITICAL AREA	— — — — —
RUNWAY PAVEMENT	■
TAXIWAY PAVEMENT	■
BUILDINGS	■
AIRPORT FENCE (SEE NOTE 15)	—x—x—x—
ELEVATION COUNTOURS	70
FOREST AREA	⌒⌒⌒
STREAM/FLOODWAY	∼

FACILITY LEGEND

DESCRIPTION	EXISTING
MILITARY/COAST GUARD	A
GENERAL AVIATION (GA)	B
AVIATION TENANTS	C
SPACEPORT	D
FIRE AND RESCUE / A.R.F.F.	E
TEMPORARY FABRIC HANGAR	F
FUELING INFRASTRUCTURE	G
AIRPORT OPERATIONS	H

GENERAL NOTES

1) SEE AIRPORT DATA ON SHEETS 02 AND 03 FOR AIRPORT AND RUNWAY DATA, WIND DATA, AND CURRENT AND FUTURE DEVIATION FROM FAA DESIGN STANDARDS.
2) SEE THE OVERALL PART 77 SURFACES ON SHEET 13 AND THE INNER APPROACH SHEETS ON 17 TO 24 FOR REPRESENTATIVE PENETRATIONS TO FAR PART 77 AND APPROACH SURFACES.
3) ALL COORDINATES ARE IN NAD83. ALL ELEVATIONS ARE IN NGVD88.
4) THERE ARE NO SECTION CORNERS OR PERMANENT MONUMENTS WITHIN THE ALP MAP COVERAGE FOR COORDINATE REFERENCE.
5) SITING OF NAVAIDS AND LIGHTING IS SUBJECT TO FAA REVIEW AND DESIGN.
6) THIS SET OF DRAWINGS IS FOR FACILITY PLANNING PURPOSES ONLY, AND SHALL NOT BE USED FOR FLIGHT PLANNING, FLIGHT OBSTRUCTION ANALYSIS, FLIGHT OPERATIONS (TAKEOFF OR LANDING) OR FOR NAVIGATION.
7) NO DISPLACED THRESHOLDS FOR EXISTING RUNWAYS.
8) FOR PART 77 IMPACTS TO TRAVERSEWAYS, REFER TO SHEETS 13 AND 14.
9) NATURAL FEATURES SUCH AS TREES AND STREAMS ARE IDENTIFIED ON SHEETS 28 AND 29 - AIRPORT PROPERTY MAP.
10) FOR HELIPAD/HELIPORT SAFETY AREAS, REFER TO SHEETS 06 TO 09 - AIRPORT LAYOUT PLAN QUAD SHEETS.
11) FULL AIRPORT PROPERTY BOUNDARIES, INCLUDING EXISTING AND FUTURE EASEMENTS, ARE SHOWN ON SHEETS 28 AND 29 - AIRPORT PROPERTY MAP.
12) APRON AREA CALCULATIONS ARE ESTIMATED.
13) STRUCTURE HEIGHTS CAN BE FOUND ON SHEETS 10 - 12 BUILDING AREA PLANS.
14) CECIL AIRPORT AND SPACEPORT HAS TWO FENCES: PERIMETER AND WILDLIFE. THE HEIGHT OF THE PERIMETER FENCE VARIES FROM 1' TO 7'. THE WILDLIFE FENCE VARIES IN HEIGHT FROM 6' TO 10'. THE WILDLIFE AND PERIMETER FENCE ALSO ACTS AS THE AOA FENCE AT VARIOUS POINTS AROUND THE AOA. OTHER FENCES ON THE AIRPORT RANGE FROM 1' TO 10' IN HEIGHT.
15) RPZ AND PART 77 APPROACH SURFACE OVERLAPS ON RUNWAY 9L, 27R, 9R, 18R, 36R.
16) THE INHABITED BUILDING DISTANCE IS REPRESENTATIVE. ACTUAL DISTANCE VARIES BASED UPON THE SPECIFIC SPACEPORT OPERATION. CONTACT AIRPORT OPERATIONS FOR ADDITIONAL INFORMATION.

NO.	DATE	REVISIONS	BY	APPR.	SPRS. APPR.
5					
4					
3					
2					
1					

Kimley»Horn

111 E Broadway Suite #600
Salt Lake City, UT 84111
(385) 212 - 3176

FAA DISCLAMER

THE CONTENTS OF THIS PLAN DO NOT NECESSARILY REFLECT THE OFFICIAL VIEWS OR POLICY OF THE FEDERAL AVIATION ADMINISTRATION (FAA). ACCEPTANCE OF THIS DOCUMENT BY THE FAA DOES NOT IN ANY WAY CONSTITUTE A COMMITMENT ON THE PART OF THE UNITED STATES TO PARTICIPATE IN ANY DEVELOPMENT DEPICTED HEREIN NOR DOES IT INDICATE THAT THE PROPOSED DEVELOPMENT IS ENVIRONMENTALLY ACCEPTABLE IN ACCORDANCE WITH APPROPRIATE PUBLIC LAW.

JAA Jacksonville Aviation Authority
Cecil Cecil Airport
Cecil Cecil Spaceport

Jacksonville Aviation Authority
Cecil Airport and Spaceport
JACKSONVILLE, FLORIDA

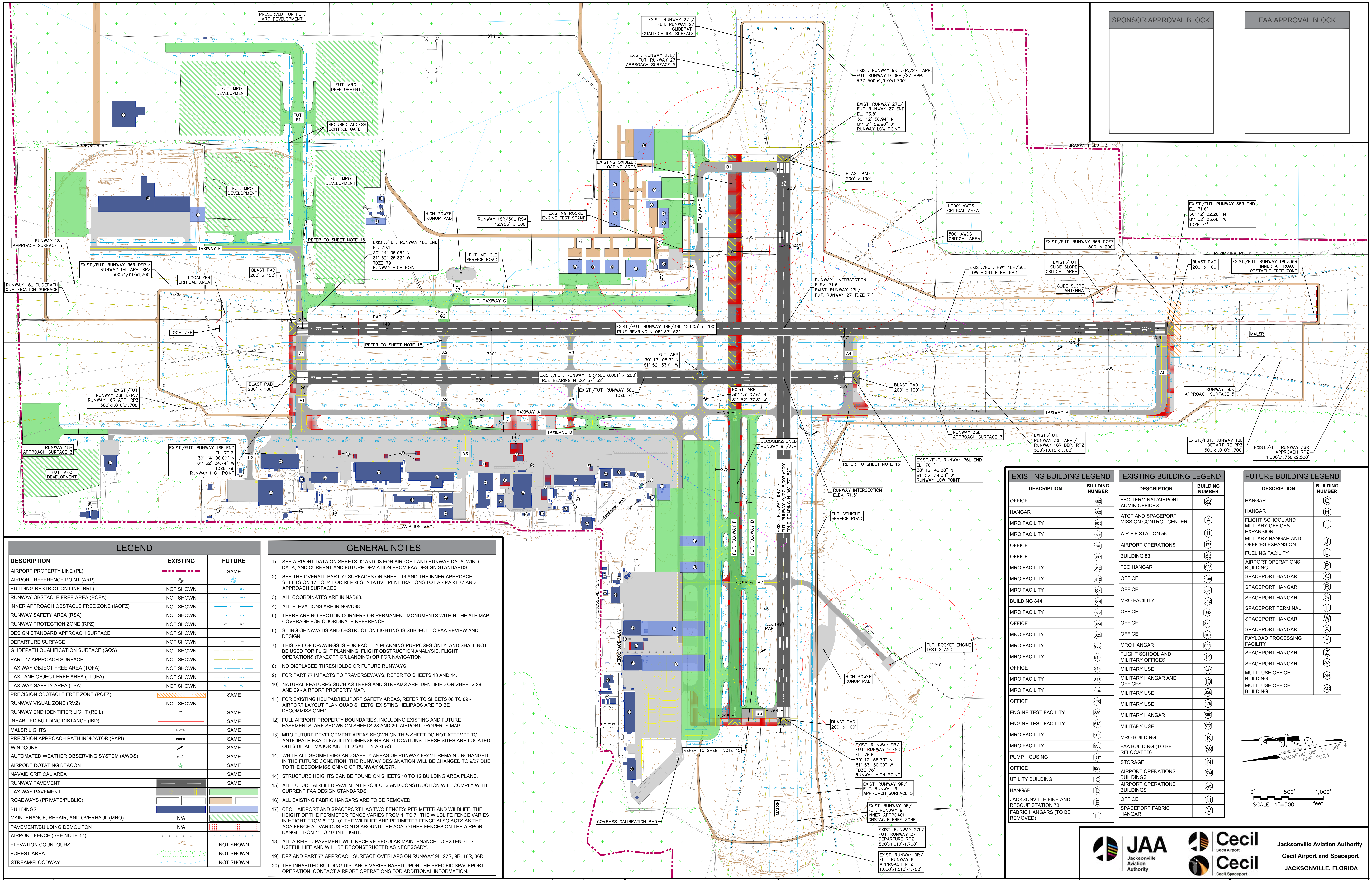
AIP GRANT
3-12-0032-023-2021
BY
SHEET NAME
EXISTING AIRPORT LAYOUT PLAN
APPR.
JAA PROJECT NO. 21-18-42001
DATE: June 2025
DRAWN BC
DESIGNED KH
CHECKED BG
APPROVED AS
SHEET 04 OF 31

CECIL AIRPORT AND SPACEPORT - AIRPORT LAYOUT PLAN FAA IDENTIFIER VQQ

File Name: K:\SLC_Aviation\VQQ\Air and Space Master Plan\CADD\VQQ ALP Files\Sheet Set\05 Future ALP.dwg - Title Sheet
Modified / By: June 10, 2025 10:31:13 AM / Brandon.Gilson
Plotted / By: 12:47:19 PM / Orvis, Cody

SPONSOR APPROVAL BLOCK

FAA APPROVAL BLOCK



LEGEND

DESCRIPTION	EXISTING	FUTURE
AIRPORT PROPERTY LINE (PL)	▬ ▪ ▪ ▬	SAME
AIRPORT REFERENCE POINT (ARP)	⊕	⊕
BUILDING RESTRICTION LINE (BRL)	NOT SHOWN	—BRL—BRL—
RUNWAY OBSTACLE FREE AREA (ROFA)	NOT SHOWN	—ROFA—ROFA—
INNER APPROACH OBSTACLE FREE ZONE (IAOFZ)	NOT SHOWN	—— · · · ——
RUNWAY SAFETY AREA (RSA)	NOT SHOWN	—RSA—RSA—
RUNWAY PROTECTION ZONE (RPZ)	NOT SHOWN	—RPZ—RPZ—
DESIGN STANDARD APPROACH SURFACE	NOT SHOWN	— – – — – –
DEPARTURE SURFACE	NOT SHOWN	—DEP—DEP—
GLIDEPATH QUALIFICATION SURFACE (GQS)	NOT SHOWN	— · — · —
PART 77 APPROACH SURFACE	NOT SHOWN	—P77 APP—
TAXIWAY OBJECT FREE AREA (TOFA)	NOT SHOWN	—TOFA—TOFA—
TAXILANE OBJECT FREE AREA (TLOFA)	NOT SHOWN	—TLOFA—TLOFA—
TAXIWAY SAFETY AREA (TSA)	NOT SHOWN	—TSA—TSA—
PRECISION OBSTACLE FREE ZONE (POFZ)	▨	SAME
RUNWAY VISUAL ZONE (RVZ)	NOT SHOWN	—— – ——
RUNWAY END IDENTIFIER LIGHT (REIL)	◌	SAME
INHABITED BUILDING DISTANCE (IBD)	——	SAME
MALSR LIGHTS	∘∘∘∘∘	SAME
PRECISION APPROACH PATH INDICATOR (PAPI)	▬▬▬▬	SAME
WINDCONE	╱	SAME
AUTOMATED WEATHER OBSERVING SYSTEM (AWOS)	⌓	SAME
AIRPORT ROTATING BEACON	☆	SAME
NAVAID CRITICAL AREA	— — — — —	SAME
RUNWAY PAVEMENT	▬	SAME
TAXIWAY PAVEMENT	▬	🟩
ROADWAYS (PRIVATE/PUBLIC)	☐ ☐	▬ ☐
BUILDINGS	■	■
MAINTENANCE, REPAIR, AND OVERHAUL (MRO)	N/A	▨
PAVEMENT/BUILDING DEMOLITON	N/A	▦
AIRPORT FENCE (SEE NOTE 17)	—x—x—x—	—x—x—x—
ELEVATION COUNTOURS	~70~	NOT SHOWN
FOREST AREA	⌒⌒⌒	NOT SHOWN
STREAM/FLOODWAY	~~	NOT SHOWN

GENERAL NOTES

1) SEE AIRPORT DATA ON SHEETS 02 AND 03 FOR AIRPORT AND RUNWAY DATA, WIND DATA, AND CURRENT AND FUTURE DEVIATION FROM FAA DESIGN STANDARDS.
2) SEE THE OVERALL PART 77 SURFACES ON SHEET 13 AND THE INNER APPROACH SHEETS ON 17 TO 24 FOR REPRESENTATIVE PENETRATIONS TO FAR PART 77 AND APPROACH SURFACES.
3) ALL COORDINATES ARE IN NAD83.
4) ALL ELEVATIONS ARE IN NGVD88.
5) THERE ARE NO SECTION CORNERS OR PERMANENT MONUMENTS WITHIN THE ALP MAP COVERAGE FOR COORDINATE REFERENCE.
6) SITING OF NAVAIDS AND OBSTRUCTION LIGHTING IS SUBJECT TO FAA REVIEW AND DESIGN.
7) THIS SET OF DRAWINGS IS FOR FACILITY PLANNING PURPOSES ONLY, AND SHALL NOT BE USED FOR FLIGHT PLANNING, FLIGHT OBSTRUCTION ANALYSIS, FLIGHT OPERATIONS (TAKEOFF OR LANDING) OR FOR NAVIGATION.
8) NO DISPLACED THRESHOLDS OR FUTURE RUNWAYS.
9) FOR PART 77 IMPACTS TO TRAVERSEWAYS, REFER TO SHEETS 13 AND 14.
10) NATURAL FEATURES SUCH AS TREES AND STREAMS ARE IDENTIFIED ON SHEETS 28 AND 29 - AIRPORT PROPERTY MAP.
11) FOR EXISTING HELIPAD/HELIPORT SAFETY AREAS, REFER TO SHEETS 06 TO 09 - AIRPORT LAYOUT PLAN QUAD SHEETS. EXISTING HELIPADS ARE TO BE DECOMMISSIONED.
12) FULL AIRPORT PROPERTY BOUNDARIES, INCLUDING EXISTING AND FUTURE EASEMENTS, ARE SHOWN ON SHEETS 28 AND 29- AIRPORT PROPERTY MAP.
13) MRO FUTURE DEVELOPMENT AREAS SHOWN ON THIS SHEET DO NOT ATTEMPT TO ANTICIPATE EXACT FACILITY DIMENSIONS AND LOCATIONS. THESE SITES ARE LOCATED OUTSIDE ALL MAJOR AIRFIELD SAFETY AREAS.
14) WHILE ALL GEOMETRIES AND SAFETY AREAS OF RUNWAY 9R/27L REMAIN UNCHANGED IN THE FUTURE CONDITION, THE RUNWAY DESIGNATION WILL BE CHANGED TO 9/27 DUE TO THE DECOMMISSIONING OF RUNWAY 9L/27R.
14) STRUCTURE HEIGHTS CAN BE FOUND ON SHEETS 10 TO 12 BUILDING AREA PLANS.
15) ALL FUTURE AIRFIELD PAVEMENT PROJECTS AND CONSTRUCTION WILL COMPLY WITH CURRENT FAA DESIGN STANDARDS.
16) ALL EXISTING FABRIC HANGARS ARE TO BE REMOVED.
17) CECIL AIRPORT AND SPACEPORT HAS TWO FENCES: PERIMETER AND WILDLIFE. THE HEIGHT OF THE PERIMETER FENCE VARIES FROM 1' TO 7'. THE WILDLIFE FENCE VARIES IN HEIGHT FROM 6' TO 10'. THE WILDLIFE AND PERIMETER FENCE ALSO ACTS AS THE AOA FENCE AT VARIOUS POINTS AROUND THE AOA. OTHER FENCES ON THE AIRPORT RANGE FROM 1' TO 10' IN HEIGHT.
18) ALL AIRFIELD PAVEMENT WILL RECEIVE REGULAR MAINTENANCE TO EXTEND ITS USEFUL LIFE AND WILL BE RECONSTRUCTED AS NECESSARY.
19) RPZ AND PART 77 APPROACH SURFACE OVERLAPS ON RUNWAY 9L, 27R, 9R, 18R, 36R.
20) THE INHABITED BUILDING DISTANCE VARIES BASED UPON THE SPECIFIC SPACEPORT OPERATION. CONTACT AIRPORT OPERATIONS FOR ADDITIONAL INFORMATION.

EXISTING BUILDING LEGEND

DESCRIPTION	BUILDING NUMBER
OFFICE	880
HANGAR	880
MRO FACILITY	1820
MRO FACILITY	1826
OFFICE	1846
OFFICE	887
MRO FACILITY	312
MRO FACILITY	310
MRO FACILITY	67
BUILDING 844	844
MRO FACILITY	1823
OFFICE	824
MRO FACILITY	825
MRO FACILITY	955
MRO FACILITY	915
OFFICE	313
MRO FACILITY	815
MRO FACILITY	1845
OFFICE	328
ENGINE TEST FACILITY	339
ENGINE TEST FACILITY	818
MRO FACILITY	905
MRO FACILITY	935
PUMP HOUSING	1847
OFFICE	823
UTILITY BUILDING	C
HANGAR	D
JACKSONVILLE FIRE AND RESCUE STATION 73	E
FABRIC HANGARS (TO BE REMOVED)	F

EXISTING BUILDING LEGEND

DESCRIPTION	BUILDING NUMBER
FBO TERMINAL/AIRPORT ADMIN OFFICES	82
ATCT AND SPACEPORT MISSION CONTROL CENTER	A
A.R.F.F STATION 56	B
AIRPORT OPERATIONS	177
BUILDING 83	83
FBO HANGAR	925
OFFICE	1846
OFFICE	887
MRO FACILITY	312
OFFICE	1850
OFFICE	884
OFFICE	945-1
MRO HANGAR	945
FLIGHT SCHOOL AND MILITARY OFFICES	14
MILITARY USE	547
MILITARY HANGAR AND OFFICES	13
MILITARY USE	858
MILITARY USE	179
MILITARY HANGAR	860
MILITARY USE	872
MRO BUILDING	K
FAA BUILDING (TO BE RELOCATED)	59
STORAGE	N
AIRPORT OPERATIONS BUILDINGS	594
AIRPORT OPERATIONS BUILDINGS	595
OFFICE	U
SPACEPORT FABRIC HANGAR	V

FUTURE BUILDING LEGEND

DESCRIPTION	BUILDING NUMBER
HANGAR	G
HANGAR	H
FLIGHT SCHOOL AND MILITARY OFFICES EXPANSION	I
MILITARY HANGAR AND OFFICES EXPANSION	J
FUELING FACILITY	L
AIRPORT OPERATIONS BUILDING	P
SPACEPORT HANGAR	Q
SPACEPORT HANGAR	R
SPACEPORT HANGAR	S
SPACEPORT TERMINAL	T
SPACEPORT HANGAR	W
SPACEPORT HANGAR	X
PAYLOAD PROCESSING FACILITY	Y
SPACEPORT HANGAR	Z
SPACEPORT HANGAR	AA
MULTI-USE OFFICE BUILDING	AB
MULTI-USE OFFICE BUILDING	AC

Jacksonville Aviation Authority
Cecil Airport and Spaceport
JACKSONVILLE, FLORIDA

NO.	DATE	REVISIONS	BY	APPR.	SPRS. APPR.
5					
4					
3					
2					
1					

Kimley»Horn

111 E Broadway Suite #600
Salt Lake City, UT 84111
(385) 212 - 3176

FAA DISCLAMER

THE CONTENTS OF THIS PLAN DO NOT NECESSARILY REFLECT THE OFFICIAL VIEWS OR POLICY OF THE FEDERAL AVIATION ADMINISTRATION (FAA). ACCEPTANCE OF THIS DOCUMENT BY THE FAA DOES NOT IN ANY WAY CONSTITUTE A COMMITMENT ON THE PART OF THE UNITED STATES TO PARTICIPATE IN ANY DEVELOPMENT DEPICTED HEREIN NOR DOES IT INDICATE THAT THE PROPOSED DEVELOPMENT IS ENVIRONMENTALLY ACCEPTABLE IN ACCORDANCE WITH APPROPRIATE PUBLIC LAW.

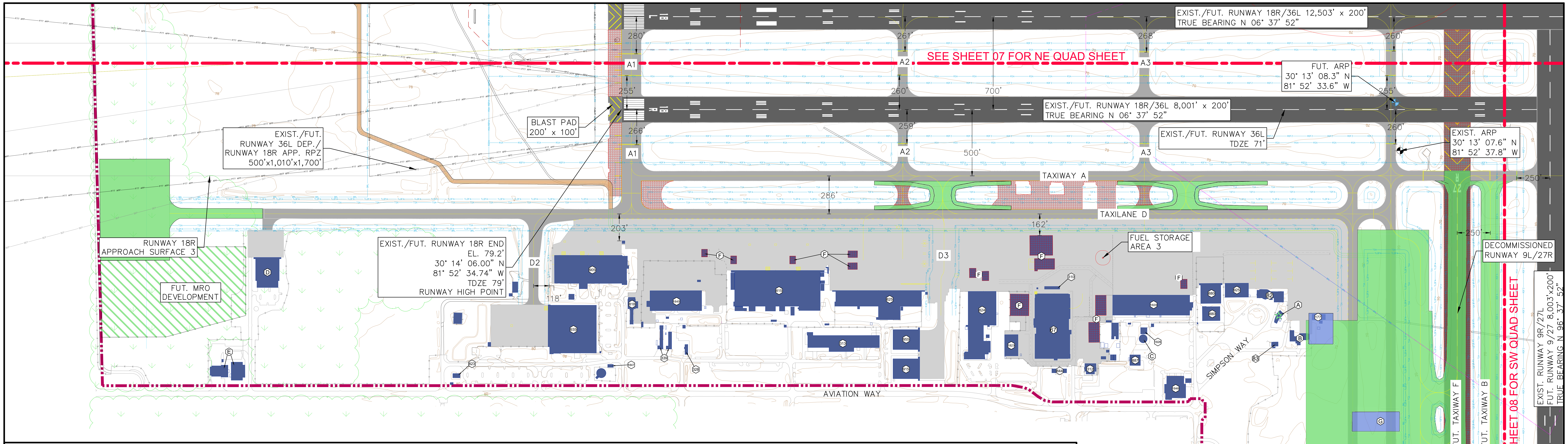
AIP GRANT
3-12-0032-023-2021
BY

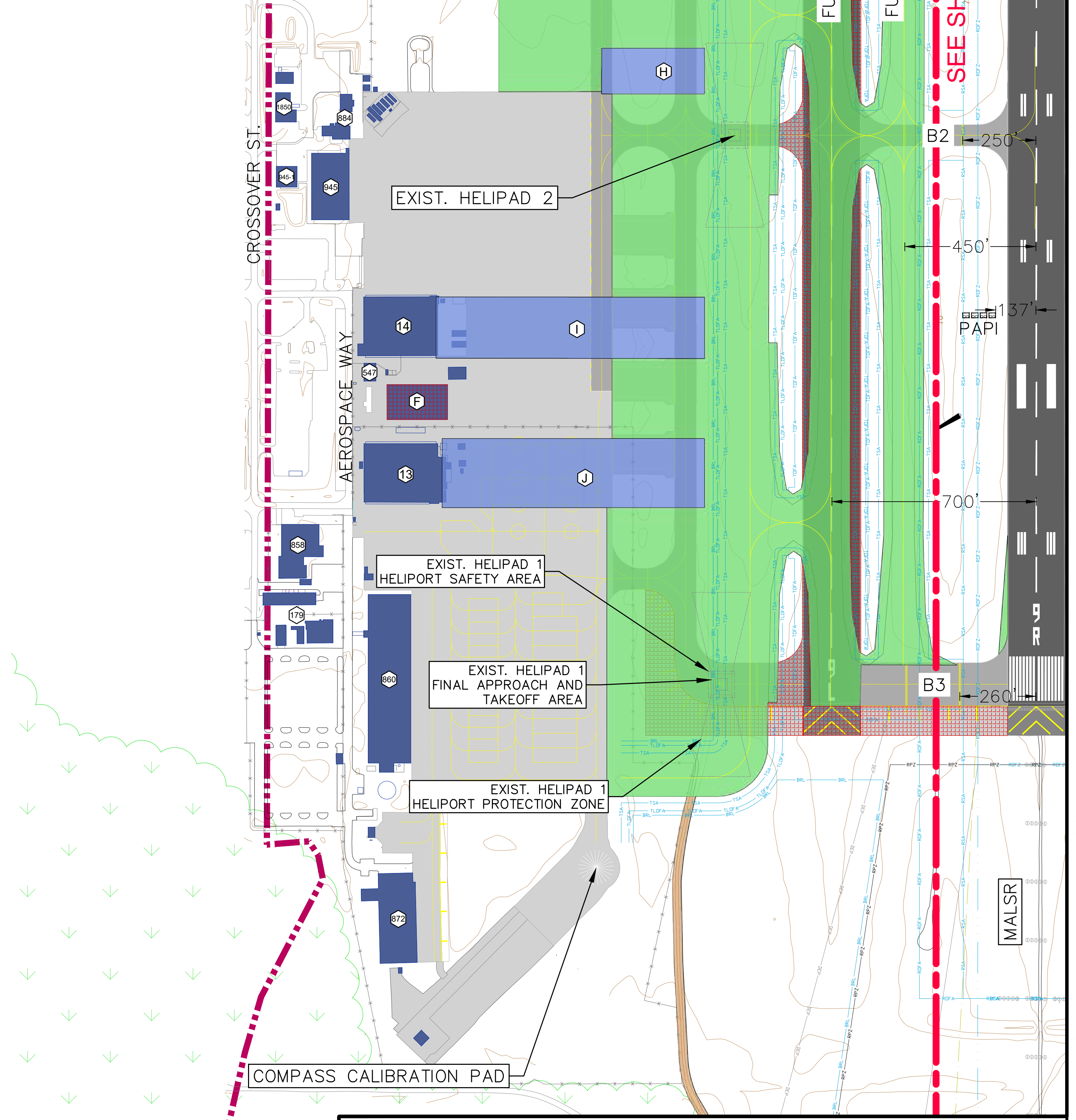
SHEET NAME
FUTURE AIRPORT LAYOUT PLAN
APPR.

JAA PROJECT NO. 21-18-42001
DATE: June 2025
DRAWN BC
DESIGNED KH
CHECKED BG
APPROVED AS
SHEET 05 OF 31

CECIL AIRPORT AND SPACEPORT - AIRPORT LAYOUT PLAN FAA IDENTIFIER VQQ

File Name: K:\SLC_Aviation\VQQ\Air and Space Master Plan\CADD\VQQ ALP Files\Sheet Set\06-09 Future Quad Sheets.dwg - NW QUAD
Modified / By: June 10, 2025 10:48:01 AM / Brandon.Gilson
Plotted / By: 12:47:45 PM / Orvis, Cody





GENERAL NOTES

1) SEE AIRPORT DATA ON SHEETS 02 AND 03 FOR AIRPORT AND RUNWAY DATA, WIND DATA, AND CURRENT AND FUTURE DEVIATION FROM FAA DESIGN STANDARDS.
2) SEE THE OVERALL PART 77 SURFACES ON SHEET 13 AND THE INNER APPROACH SHEETS ON 17 TO 24 FOR REPRESENTATIVE PENETRATIONS TO FAR PART 77 AND APPROACH SURFACES.
3) ALL COORDINATES ARE IN NAD83.
4) ALL ELEVATIONS ARE IN NGVD88.
5) THERE ARE NO SECTION CORNERS OR PERMANENT MONUMENTS WITHIN THE ALP MAP COVERAGE FOR COORDINATE REFERENCE.
6) SITING OF NAVAIDS AND OBSTRUCTION LIGHTING IS SUBJECT TO FAA REVIEW AND DESIGN.
7) THIS SET OF DRAWINGS IS FOR FACILITY PLANNING PURPOSES ONLY, AND SHALL NOT BE USED FOR FLIGHT PLANNING, FLIGHT OBSTRUCTION ANALYSIS, FLIGHT OPERATIONS (TAKEOFF OR LANDING) OR FOR NAVIGATION.
8) NO DISPLACED THRESHOLDS OR FUTURE RUNWAYS.
9) FOR PART 77 IMPACTS TO TRAVERSEWAYS, REFER TO SHEETS 13 AND 14.
10) NATURAL FEATURES SUCH AS TREES AND STREAMS ARE IDENTIFIED ON SHEETS 28 AND 29 - AIRPORT PROPERTY MAP.
11) FULL AIRPORT PROPERTY BOUNDARIES, INCLUDING EXISTING AND FUTURE EASEMENTS, ARE SHOWN ON SHEETS 28 AND 29 - AIRPORT PROPERTY MAP.
12) MAINTENANCE, REPAIR, AND OVERHAUL (MRO) FUTURE DEVELOPMENT AREAS SHOWN ON THIS SHEET DO NOT ATTEMPT TO ANTICIPATE EXACT FACILITY DIMENSIONS AND LOCATIONS. THESE SITES ARE LOCATED OUTSIDE ALL MAJOR AIRFIELD SAFETY AREAS.
13) WHILE ALL GEOMETRIES AND SAFETY AREAS OF RUNWAY 9R/27L REMAIN UNCHANGED IN THE FUTURE CONDITION, THE RUNWAY DESIGNATION WILL BE CHANGED TO 9/27 DUE TO THE DECOMMISSIONING OF RUNWAY 9L/27R.
14) STRUCTURE HEIGHTS CAN BE FOUND ON SHEETS 10 TO 12 BUILDING AREA PLANS.
15) ALL FUTURE AIRFIELD PAVEMENT PROJECTS AND CONSTRUCTION WILL COMPLY WITH CURRENT FAA DESIGN STANDARDS.
16) ALL EXISTING FABRIC HANGARS ARE TO BE REMOVED.
17) CECIL AIRPORT AND SPACEPORT HAS TWO FENCES: PERIMETER AND WILDLIFE. THE HEIGHT OF THE PERIMETER FENCE VARIES FROM 1' TO 7'. THE WILDLIFE FENCE VARIES IN HEIGHT FROM 6' TO 10'. THE WILDLIFE AND PERIMETER FENCE ALSO ACTS AS THE AOA FENCE AT VARIOUS POINTS AROUND THE AOA. OTHER FENCES ON THE AIRPORT RANGE FROM 1' TO 10' IN HEIGHT.
18) ALL AIRFIELD PAVEMENT WILL RECEIVE REGULAR MAINTENANCE TO EXTEND ITS USEFUL LIFE AND WILL BE RECONSTRUCTED AS NECESSARY.
19) RPZ AND PART 77 APPROACH SURFACE OVERLAPS ON RUNWAY 9L, 27R, 9R, 18R, 36R.
20) EXISTING HELIPADS 1 AND 2 WILL BE DECOMMISSIONED.
21) THE INHABITED BUILDING DISTANCE IS REPRESENTATIVE. ACTUAL DISTANCE VARIES BASED UPON THE SPECIFIC SPACEPORT OPERATION. CONTACT AIRPORT OPERATIONS FOR ADDITIONAL INFORMATION.

LEGEND

DESCRIPTION	EXISTING	FUTURE
AIRPORT PROPERTY LINE (PL)	▬ ▪ ▪ ▬ ▪ ▪ ▬	SAME
AIRPORT REFERENCE POINT (ARP)	⊕	⊕
BUILDING RESTRICTION LINE (BRL)	NOT SHOWN	—BRL—BRL—
RUNWAY OBSTACLE FREE AREA (ROFA)	NOT SHOWN	—ROFA—ROFA—
INNER APPROACH OBSTACLE FREE ZONE (IAOFZ)	NOT SHOWN	— · · · —
RUNWAY SAFETY AREA (RSA)	NOT SHOWN	—RSA—RSA—
RUNWAY PROTECTION ZONE (RPZ)	NOT SHOWN	—RPZ—RPZ—
DESIGN STANDARD APPROACH SURFACE	NOT SHOWN	— - - — - - —
DEPARTURE SURFACE	NOT SHOWN	—DEP—DEP—
GLIDEPATH QUALIFICATION SURFACE (GQS)	NOT SHOWN	— · — · —
PART 77 APPROACH SURFACE	NOT SHOWN	—P77 APP—
TAXIWAY OBJECT FREE AREA (TOFA)	NOT SHOWN	—TOFA—TOFA—
TAXILANE OBJECT FREE AREA (TLOFA)	NOT SHOWN	—TLOFA—TLOFA—
TAXIWAY SAFETY AREA (TSA)	NOT SHOWN	—TSA—TSA—
RUNWAY VISUAL ZONE (RVZ)	NOT SHOWN	— — —
RUNWAY END INDICATOR LIGHT (REIL)	⊘	SAME
INHABITED BUILDING DISTANCE (IBD)	—	SAME
MALSR LIGHTS	◦◦◦◦◦	SAME
PRECISION APPROACH PATH INDICATOR (PAPI)	▫▫▫▫	SAME
WINDCONE	╱	SAME
AUTOMATED WEATHER OBSERVING SYSTEM (AWOS)	⌓	SAME
AIRPORT ROTATING BEACON	★	SAME
NAVAID CRITICAL AREA	— — — — —	SAME
RUNWAY PAVEMENT	▬	SAME
TAXIWAY PAVEMENT	▬	🟩
ROADWAY	N/A	🟫
BUILDINGS	🟦	🟦
MAINTENANCE, REPAIR, AND OVERHAUL (MRO)	N/A	▨
PAVEMENT/BUILDING DEMOLITON	N/A	▦
AIRPORT FENCE	—x—x—x—x—	—x—x—x—x—
ELEVATION COUNTOURS	—70—	NOT SHOWN
FOREST AREA	⌒⌒⌒	NOT SHOWN
STREAM	∼	NOT SHOWN

EXISTING BUILDING LEGEND

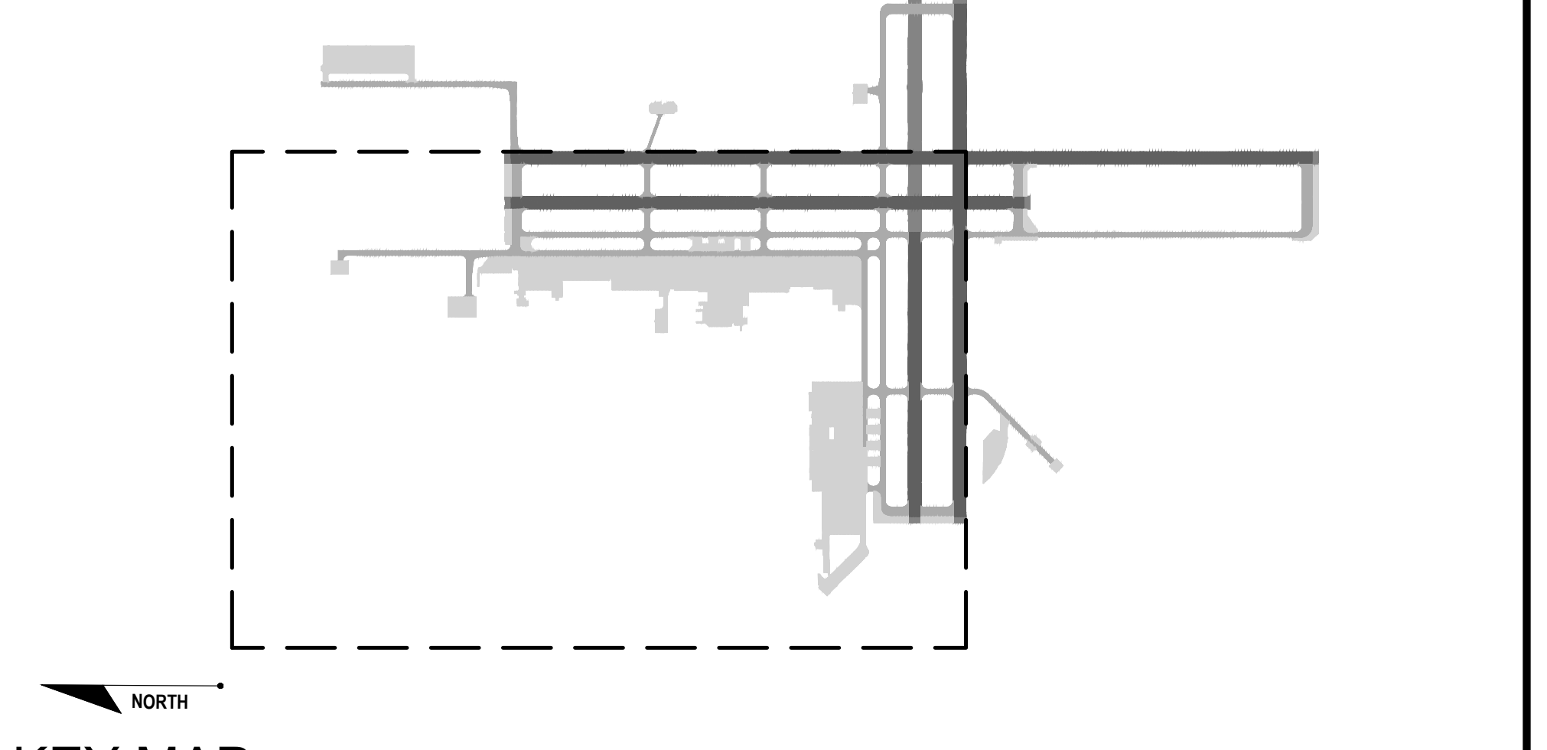
DESCRIPTION	BUILDING NUMBER
OFFICE	880
HANGAR	880
MRO FACILITY	1820
MRO FACILITY	1826
OFFICE	1846
OFFICE	887
MRO FACILITY	312
MRO FACILITY	310
MRO FACILITY	67
BUILDING 844	844
MRO FACILITY	1823
OFFICE	824
MRO FACILITY	825
MRO FACILITY	955
MRO FACILITY	915
OFFICE	313
MRO FACILITY	815
MRO FACILITY	1845
OFFICE	328
ENGINE TEST FACILITY	339
ENGINE TEST FACILITY	818
MRO FACILITY	905
MRO FACILITY	935
PUMP HOUSING	1847
OFFICE	823
UTILITY BUILDING	C
HANGAR	D
JACKSONVILLE FIRE AND RESCUE STATION 73	E
FABRIC HANGARS (TO BE REMOVED)	F

EXISTING BUILDING LEGEND

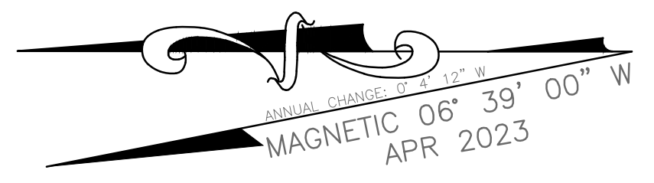
DESCRIPTION	BUILDING NUMBER
FBO TERMINAL/AIRPORT ADMIN OFFICES	82
ATCT AND SPACEPORT MISSION CONTROL CENTER	A
A.R.F.F STATION 56	B
AIRPORT OPERATIONS	177
BUILDING 83	83
FBO HANGAR	925
MRO FACILITY	1820
MRO FACILITY	1826
OFFICE	1850
OFFICE	884
OFFICE	945-1
MRO HANGAR	945
FLIGHT SCHOOL AND MILITARY OFFICES	14
MILITARY USE	547
FABRIC HANGAR (TO BE REMOVED)	F
MILITARY HANGAR AND OFFICES	13
MILITARY USE	858
MILITARY USE	179
MILITARY HANGAR	860
MILITARY USE	872
FABRIC HANGARS (TO BE REMOVED)	F

FUTURE BUILDING LEGEND

DESCRIPTION	BUILDING NUMBER
HANGAR	G
HANGAR	H
FLIGHT SCHOOL AND MILITARY OFFICES EXPANSION	I
MILITARY HANGAR AND OFFICES EXPANSION	J



KEY MAP



0' 300' 600'
SCALE: 1"=300' feet

NO.	DATE	REVISIONS	BY	APPR.	SPRS. APPR.
5					
4					
3					
2					
1					

Kimley»Horn

©2023 KIMLEY-HORN AND ASSOCIATES, INC.
111 E Broadway Suite #600
Salt Lake City, UT 84111
(385) 212 - 3176

FAA DISCLAMER

THE CONTENTS OF THIS PLAN DO NOT NECESSARILY REFLECT THE OFFICIAL VIEWS OR POLICY OF THE FEDERAL AVIATION ADMINISTRATION (FAA). ACCEPTANCE OF THIS DOCUMENT BY THE FAA DOES NOT IN ANY WAY CONSTITUTE A COMMITMENT ON THE PART OF THE UNITED STATES TO PARTICIPATE IN ANY DEVELOPMENT DEPICTED HEREIN NOR DOES IT INDICATE THAT THE PROPOSED DEVELOPMENT IS ENVIRONMENTALLY ACCEPTABLE IN ACCORDANCE WITH APPROPRIATE PUBLIC LAW.

JAA Jacksonville Aviation Authority
Cecil Cecil Airport
Cecil Cecil Spaceport

Jacksonville Aviation Authority
Cecil Airport and Spaceport
JACKSONVILLE, FLORIDA

AIP GRANT
3-12-0032-023-2021
BY

SHEET NAME
FUTURE AIRPORT LAYOUT PLAN - NW
APPR.

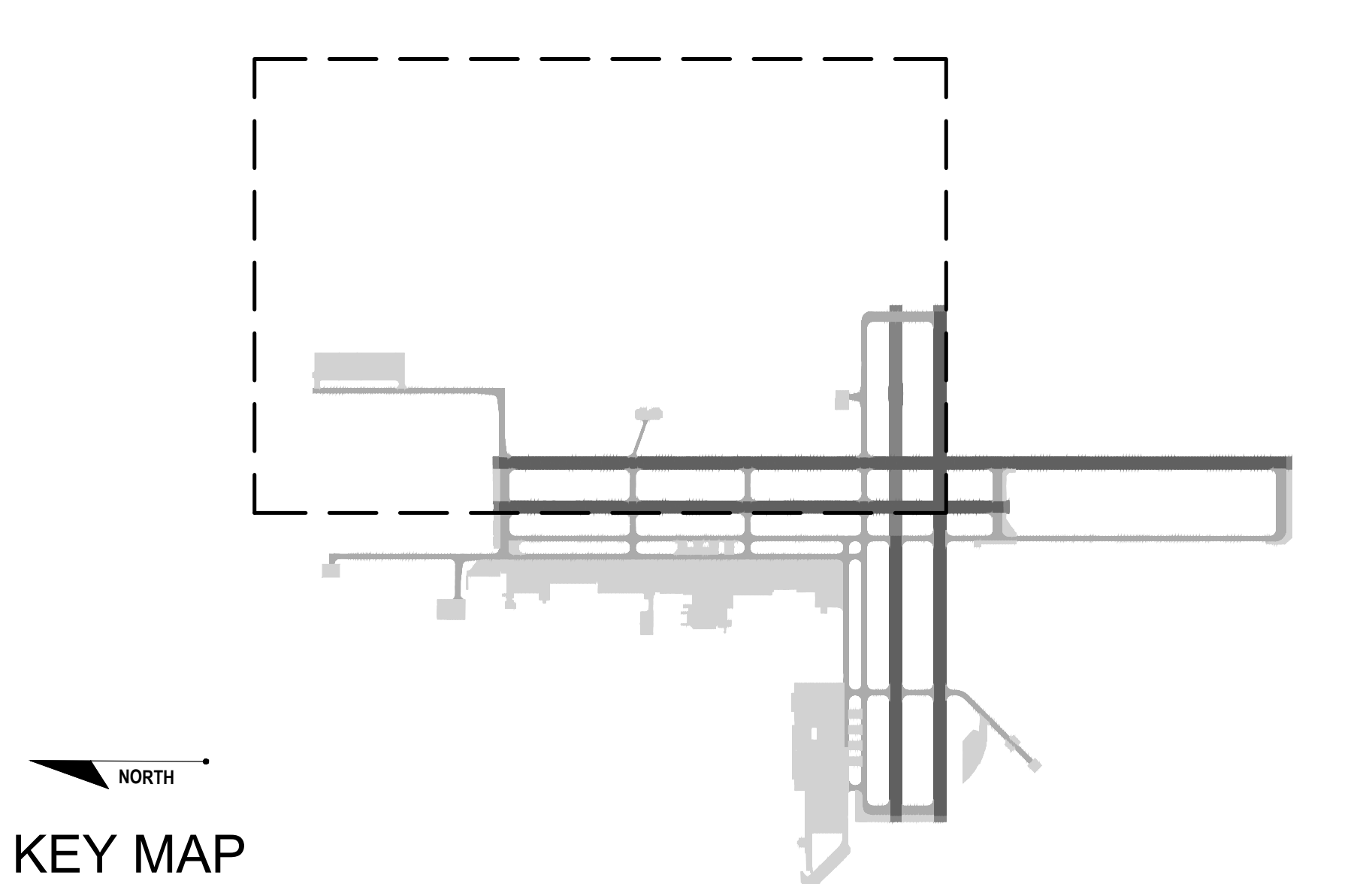
JAA PROJECT NO. 21-18-42001
DATE: June 2025
DRAWN BC
DESIGNED KH
CHECKED BG
APPROVED AS
SHEET 06 OF 31

CECIL AIRPORT AND SPACEPORT - AIRPORT LAYOUT PLAN FAA IDENTIFIER VQQ

File Name: K:\SLC_Aviation\VQQ\Air and Space Master Plan\CADD\VQQ ALP Files\Sheet Set\06-09 Future Quad Sheets.dwg - NE QUAD
Modified / By: June 10, 2025 10:48:01 AM / Brandon.Gilson
Plotted / By: 12:48:04 PM / Orvis, Cody

LEGEND

DESCRIPTION	EXISTING	FUTURE
AIRPORT PROPERTY LINE (PL)	▬ ▪ ▪ ▬ ▪ ▪ ▬	SAME
AIRPORT REFERENCE POINT (ARP)	⊕	⊕
BUILDING RESTRICTION LINE (BRL)	NOT SHOWN	—BRL—BRL—
RUNWAY OBSTACLE FREE AREA (ROFA)	NOT SHOWN	—ROFA—ROFA—
INNER APPROACH OBSTACLE FREE ZONE (IAOFZ)	NOT SHOWN	— · · · —
RUNWAY SAFETY AREA (RSA)	NOT SHOWN	—RSA—RSA—
RUNWAY PROTECTION ZONE (RPZ)	NOT SHOWN	—RPZ—RPZ—
DESIGN STANDARD APPROACH SURFACE	NOT SHOWN	— – – — – – —
DEPARTURE SURFACE	NOT SHOWN	—DEP—DEP—
GLIDEPATH QUALIFICATION SURFACE (GQS)	NOT SHOWN	— · — · —
PART 77 APPROACH SURFACE	NOT SHOWN	—P77 APP—
TAXIWAY OBJECT FREE AREA (TOFA)	NOT SHOWN	—TOFA—TOFA—
TAXILANE OBJECT FREE AREA (TLOFA)	NOT SHOWN	—TLOFA—TLOFA—
TAXIWAY SAFETY AREA (TSA)	NOT SHOWN	—TSA—TSA—
RUNWAY VISUAL ZONE (RVZ)	NOT SHOWN	— – —
RUNWAY END INDICATOR LIGHT (REIL)	◔	SAME
INHABITED BUILDING DISTANCE	—	SAME
MALSR LIGHTS	⦶⦶⦶⦶⦶	SAME
PRECISION APPROACH PATH INDICATOR (PAPI)	⊠⊠⊠⊠	SAME
WINDCONE	⟋	SAME
AUTOMATED WEATHER OBSERVING SYSTEM (AWOS)	⌓	SAME
AIRPORT ROTATING BEACON	☆	SAME
NAVAID CRITICAL AREA	— — — — —	SAME
RUNWAY PAVEMENT	▬	SAME
TAXIWAY PAVEMENT	▬	🟩
ROADWAY	N/A	🟧
BUILDINGS	🟦	🟦
MAINTENANCE, REPAIR, AND OVERHAUL (MRO)	N/A	▨
PAVEMENT/BUILDING DEMOLITON	N/A	▦
AIRPORT FENCE	—x—x—x—x—	—x—x—x—x—
ELEVATION COUNTOURS	70	NOT SHOWN
FOREST AREA	⌄ ⌄ ⌄ ⌄	NOT SHOWN
STREAM	⁄\⁄	NOT SHOWN



KEY MAP

GENERAL NOTES

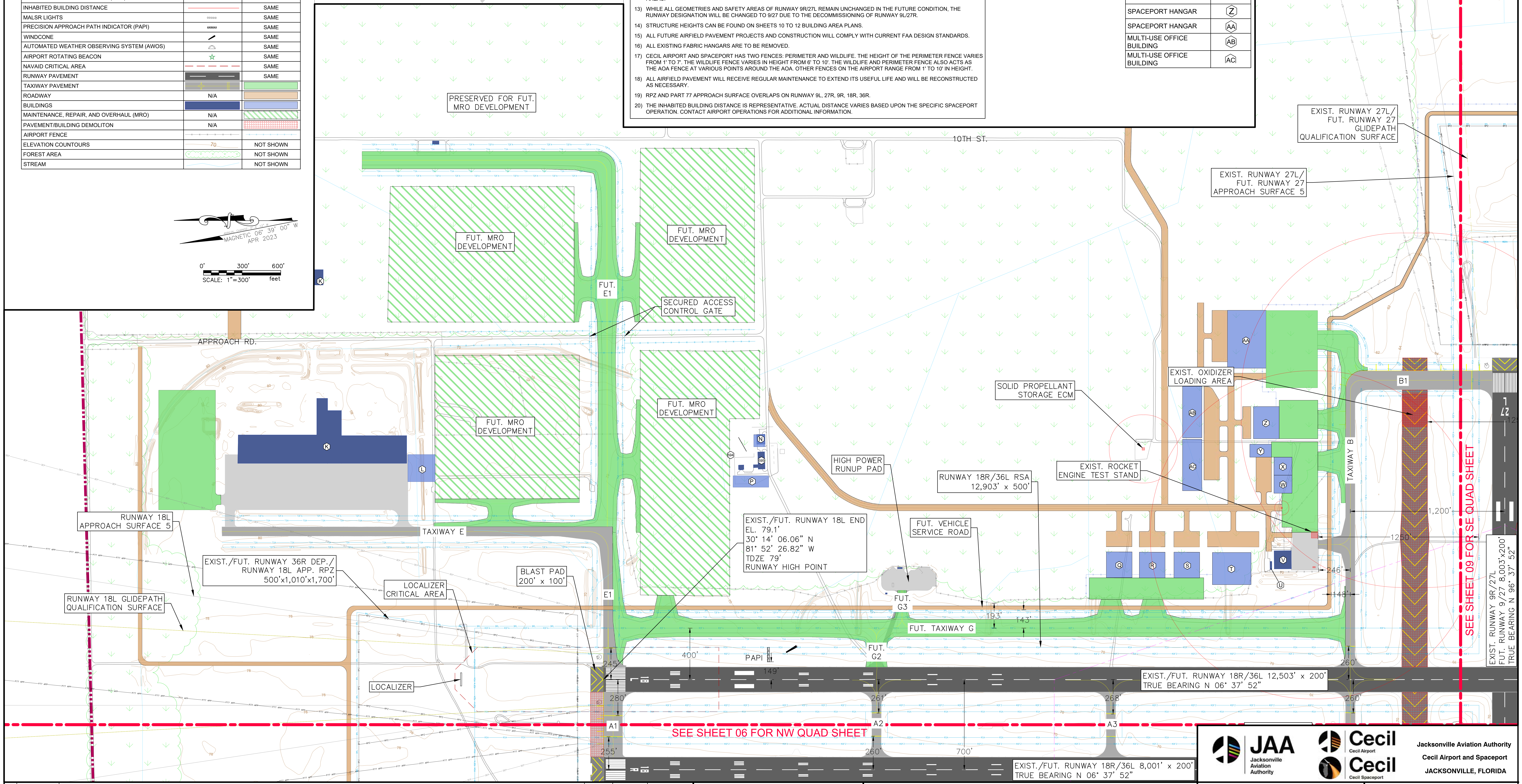
1) SEE AIRPORT DATA ON SHEETS 02 AND 03 FOR AIRPORT AND RUNWAY DATA, WIND DATA, AND CURRENT AND FUTURE DEVIATION FROM FAA DESIGN STANDARDS.
2) SEE THE OVERALL PART 77 SURFACES ON SHEET 13 AND THE INNER APPROACH SHEETS ON 17 TO 24 FOR REPRESENTATIVE PENETRATIONS TO FAR PART 77 AND APPROACH SURFACES.
3) ALL COORDINATES ARE IN NAD83.
4) ALL ELEVATIONS ARE IN NGVD88.
5) THERE ARE NO SECTION CORNERS OR PERMANENT MONUMENTS WITHIN THE ALP MAP COVERAGE FOR COORDINATE REFERENCE.
6) SITING OF NAVAIDS AND OBSTRUCTION LIGHTING IS SUBJECT TO FAA REVIEW AND DESIGN.
7) THIS SET OF DRAWINGS IS FOR FACILITY PLANNING PURPOSES ONLY, AND SHALL NOT BE USED FOR FLIGHT PLANNING, FLIGHT OBSTRUCTION ANALYSIS, FLIGHT OPERATIONS (TAKEOFF OR LANDING) OR FOR NAVIGATION.
8) NO DISPLACED THRESHOLDS OR FUTURE RUNWAYS.
9) FOR PART 77 IMPACTS TO TRAVERSEWAYS, REFER TO SHEETS 13 AND 14.
10) NATURAL FEATURES SUCH AS TREES AND STREAMS ARE IDENTIFIED ON SHEETS 28 AND 29 - AIRPORT PROPERTY MAP.
11) FULL AIRPORT PROPERTY BOUNDARIES, INCLUDING EXISTING AND FUTURE EASEMENTS, ARE SHOWN ON SHEETS 28 AND 29 - AIRPORT PROPERTY MAP.
12) MAINTENANCE, REPAIR, AND OVERHAUL (MRO) FUTURE DEVELOPMENT AREAS SHOWN ON THIS SHEET DO NOT ATTEMPT TO ANTICIPATE EXACT FACILITY DIMENSIONS AND LOCATIONS. THESE SITES ARE LOCATED OUTSIDE ALL MAJOR AIRFIELD SAFETY AREAS.
13) WHILE ALL GEOMETRIES AND SAFETY AREAS OF RUNWAY 9R/27L REMAIN UNCHANGED IN THE FUTURE CONDITION, THE RUNWAY DESIGNATION WILL BE CHANGED TO 9/27 DUE TO THE DECOMMISSIONING OF RUNWAY 9L/27R.
14) STRUCTURE HEIGHTS CAN BE FOUND ON SHEETS 10 TO 12 BUILDING AREA PLANS.
15) ALL FUTURE AIRFIELD PAVEMENT PROJECTS AND CONSTRUCTION WILL COMPLY WITH CURRENT FAA DESIGN STANDARDS.
16) ALL EXISTING FABRIC HANGARS ARE TO BE REMOVED.
17) CECIL AIRPORT AND SPACEPORT HAS TWO FENCES: PERIMETER AND WILDLIFE. THE HEIGHT OF THE PERIMETER FENCE VARIES FROM 1' TO 7'. THE WILDLIFE FENCE VARIES IN HEIGHT FROM 6' TO 10'. THE WILDLIFE AND PERIMETER FENCE ALSO ACTS AS THE AOA FENCE AT VARIOUS POINTS AROUND THE AOA. OTHER FENCES ON THE AIRPORT RANGE FROM 1' TO 10' IN HEIGHT.
18) ALL AIRFIELD PAVEMENT WILL RECEIVE REGULAR MAINTENANCE TO EXTEND ITS USEFUL LIFE AND WILL BE RECONSTRUCTED AS NECESSARY.
19) RPZ AND PART 77 APPROACH SURFACE OVERLAPS ON RUNWAY 9L, 27R, 9R, 18R, 36R.
20) THE INHABITED BUILDING DISTANCE IS REPRESENTATIVE. ACTUAL DISTANCE VARIES BASED UPON THE SPECIFIC SPACEPORT OPERATION. CONTACT AIRPORT OPERATIONS FOR ADDITIONAL INFORMATION.

EXISTING BUILDING LEGEND

DESCRIPTION	BUILDING NUMBER
MRO BUILDING	K
FAA BUILDING (TO BE RELOCATED)	59
STORAGE	N
AIRPORT OPERATIONS BUILDINGS	594
AIRPORT OPERATIONS BUILDINGS	595
OFFICE	U
SPACEPORT FABRIC HANGAR	V

FUTURE BUILDING LEGEND

DESCRIPTION	BUILDING NUMBER
FUELING FACILITY	L
AIRPORT OPERATIONS BUILDING	P
SPACEPORT HANGAR	Q
SPACEPORT HANGAR	R
SPACEPORT HANGAR	S
SPACEPORT TERMINAL	T
SPACEPORT HANGAR	W
SPACEPORT HANGAR	X
PAYLOAD PROCESSING FACILITY	Y
SPACEPORT HANGAR	Z
SPACEPORT HANGAR	AA
MULTI-USE OFFICE BUILDING	AB
MULTI-USE OFFICE BUILDING	AC



NO.	DATE	REVISIONS	BY	APPR.	SPRS. APPR.
5					
4					
3					
2					
1					

Kimley»Horn

111 E Broadway Suite #600
Salt Lake City, UT 84111
(385) 212 - 3176

FAA DISCLAMER

THE CONTENTS OF THIS PLAN DO NOT NECESSARILY REFLECT THE OFFICIAL VIEWS OR POLICY OF THE FEDERAL AVIATION ADMINISTRATION (FAA). ACCEPTANCE OF THIS DOCUMENT BY THE FAA DOES NOT IN ANY WAY CONSTITUTE A COMMITMENT ON THE PART OF THE UNITED STATES TO PARTICIPATE IN ANY DEVELOPMENT DEPICTED HEREIN NOR DOES IT INDICATE THAT THE PROPOSED DEVELOPMENT IS ENVIRONMENTALLY ACCEPTABLE IN ACCORDANCE WITH APPROPRIATE PUBLIC LAW.

JAA Jacksonville Aviation Authority
Cecil Cecil Airport
Cecil Cecil Spaceport

Jacksonville Aviation Authority
Cecil Airport and Spaceport
JACKSONVILLE, FLORIDA

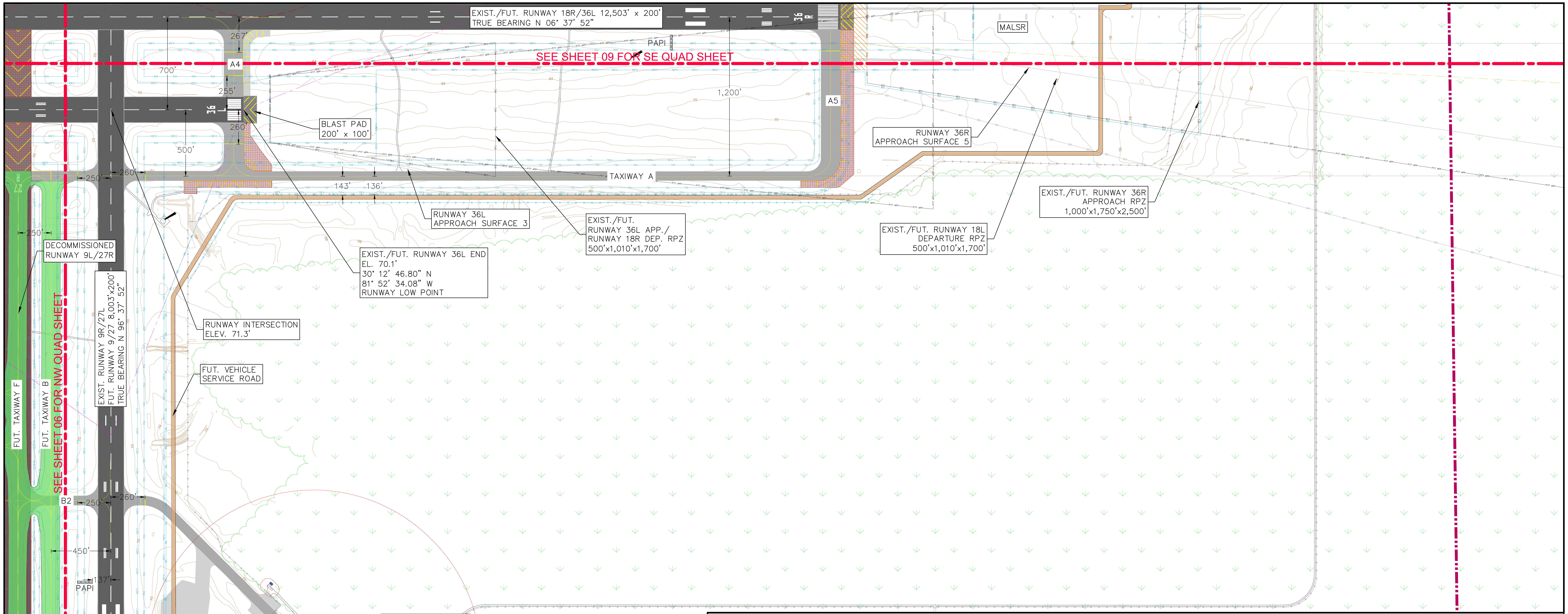
AIP GRANT
3-12-0032-023-2021
BY

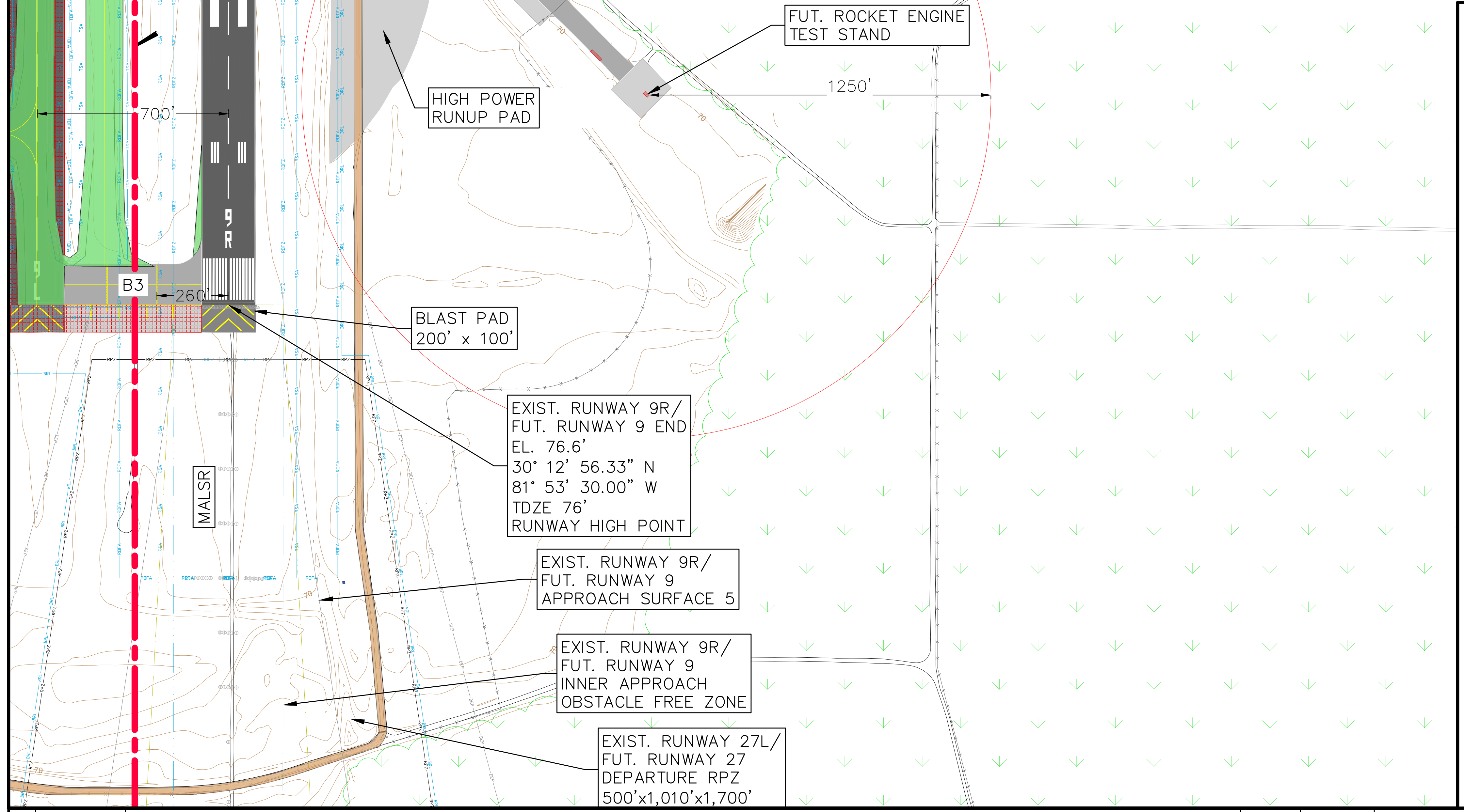
SHEET NAME
FUTURE AIRPORT LAYOUT PLAN - NE
APPR.

JAA PROJECT NO. 21-18-42001	DRAWN	BC	CHECKED	BG	
DATE: June 2025	DESIGNED	KH	APPROVED	AS	SHEET 07 OF 31

CECIL AIRPORT AND SPACEPORT - AIRPORT LAYOUT PLAN FAA IDENTIFIER VQQ

File Name: K:\SLC_Aviation\VQQ\Air and Space Master Plan\CADD\VQQ ALP Files\Sheet Set\06-09 Future Quad Sheets.dwg - SW QUAD
Modified / By: June 10, 2025 10:48:01 AM / Brandon.Gilson
Plotted / By: 12:48:21 PM / Orvis, Cody



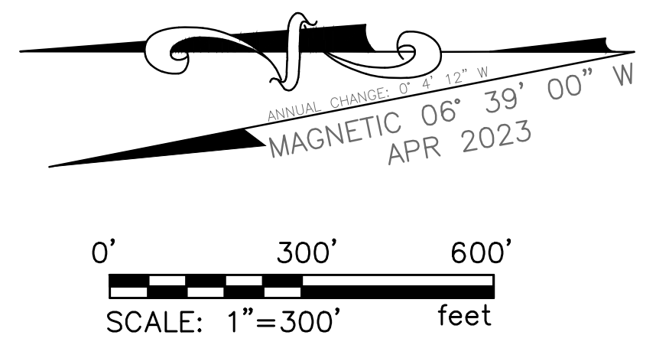


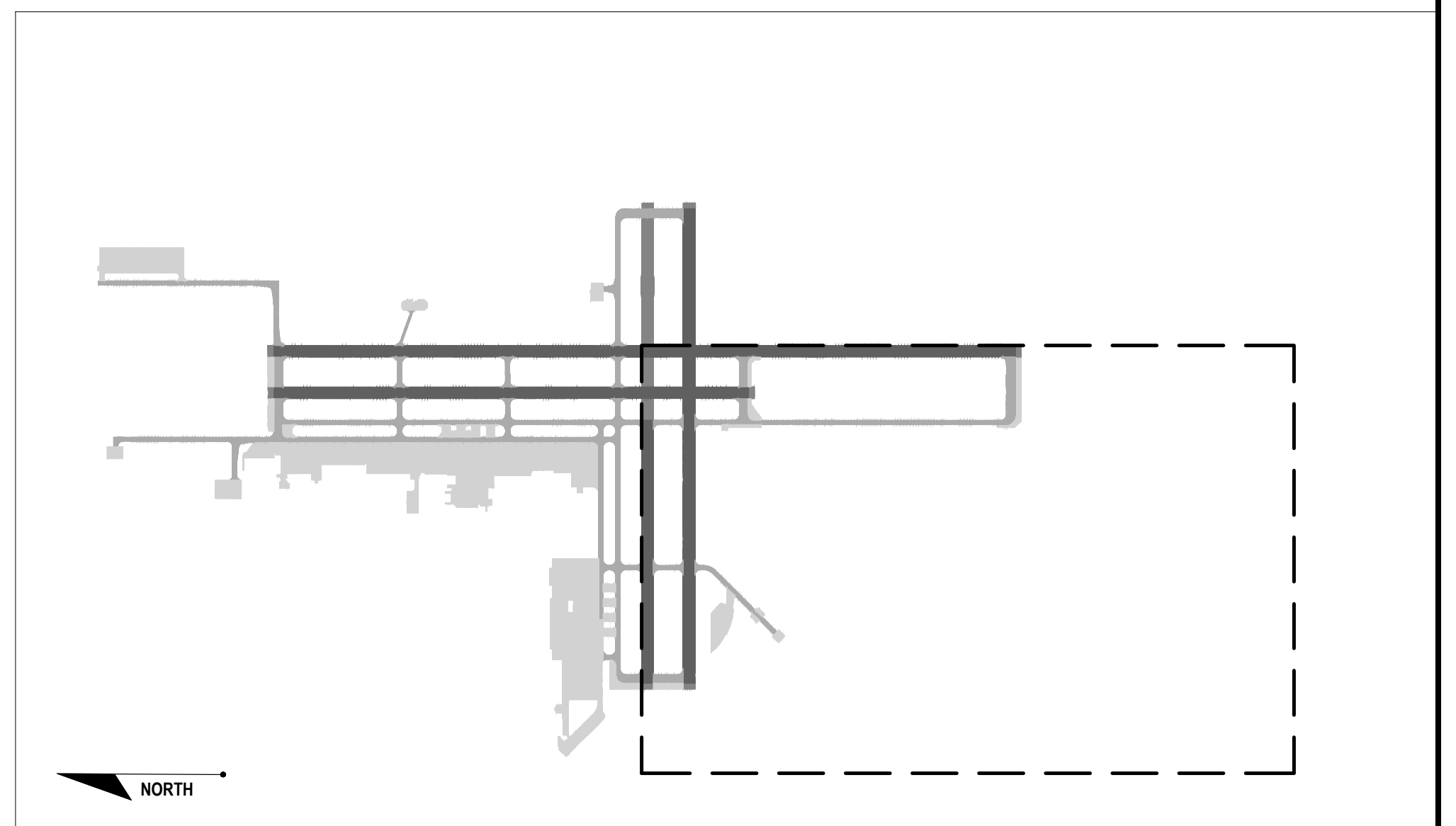
GENERAL NOTES

1) SEE AIRPORT DATA ON SHEETS 02 AND 03 FOR AIRPORT AND RUNWAY DATA, WIND DATA, AND CURRENT AND FUTURE DEVIATION FROM FAA DESIGN STANDARDS.
2) SEE THE OVERALL PART 77 SURFACES ON SHEET 13 AND THE INNER APPROACH SHEETS ON 17 TO 24 FOR REPRESENTATIVE PENETRATIONS TO FAR PART 77 AND APPROACH SURFACES.
3) ALL COORDINATES ARE IN NAD83.
4) ALL ELEVATIONS ARE IN NGVD88.
5) THERE ARE NO SECTION CORNERS OR PERMANENT MONUMENTS WITHIN THE ALP MAP COVERAGE FOR COORDINATE REFERENCE.
6) SITING OF NAVAIDS AND OBSTRUCTION LIGHTING IS SUBJECT TO FAA REVIEW AND DESIGN.
7) THIS SET OF DRAWINGS IS FOR FACILITY PLANNING PURPOSES ONLY, AND SHALL NOT BE USED FOR FLIGHT PLANNING, FLIGHT OBSTRUCTION ANALYSIS, FLIGHT OPERATIONS (TAKEOFF OR LANDING) OR FOR NAVIGATION.
8) NO DISPLACED THRESHOLDS OR FUTURE RUNWAYS.
9) FOR PART 77 IMPACTS TO TRAVERSEWAYS, REFER TO SHEETS 13 AND 14.
10) NATURAL FEATURES SUCH AS TREES AND STREAMS ARE IDENTIFIED ON SHEETS 28 AND 29 - AIRPORT PROPERTY MAP.
11) FULL AIRPORT PROPERTY BOUNDARIES, INCLUDING EXISTING AND FUTURE EASEMENTS, ARE SHOWN ON SHEETS 28 AND 29 - AIRPORT PROPERTY MAP.
12) WHILE ALL GEOMETRIES AND SAFETY AREAS OF RUNWAY 9R/27L REMAIN UNCHANGED IN THE FUTURE CONDITION, THE RUNWAY DESIGNATION WILL BE CHANGED TO 9/27 DUE TO THE DECOMMISSIONING OF RUNWAY 9L/27R.
13) STRUCTURE HEIGHTS CAN BE FOUND ON SHEETS 10 TO 12 BUILDING AREA PLANS.
14) ALL FUTURE AIRFIELD PAVEMENT PROJECTS AND CONSTRUCTION WILL COMPLY WITH CURRENT FAA DESIGN STANDARDS.
15) ALL EXISTING FABRIC HANGARS ARE TO BE REMOVED.
16) CECIL AIRPORT AND SPACEPORT HAS TWO FENCES: PERIMETER AND WILDLIFE. THE HEIGHT OF THE PERIMETER FENCE VARIES FROM 1' TO 7'. THE WILDLIFE FENCE VARIES IN HEIGHT FROM 6' TO 10'. THE WILDLIFE AND PERIMETER FENCE ALSO ACTS AS THE AOA FENCE AT VARIOUS POINTS AROUND THE AOA. OTHER FENCES ON THE AIRPORT RANGE FROM 1' TO 10' IN HEIGHT.
17) ALL AIRFIELD PAVEMENT WILL RECEIVE REGULAR MAINTENANCE TO EXTEND ITS USEFUL LIFE AND WILL BE RECONSTRUCTED AS NECESSARY.
18) RPZ AND PART 77 APPROACH SURFACE OVERLAPS ON RUNWAY 9L, 27R, 9R, 18R, 36R.
19) THE INHABITED BUILDING DISTANCE IS REPRESENTATIVE. ACTUAL DISTANCE VARIES BASED UPON THE SPECIFIC SPACEPORT OPERATION. CONTACT AIRPORT OPERATIONS FOR ADDITIONAL INFORMATION.

LEGEND

DESCRIPTION	EXISTING	FUTURE
AIRPORT PROPERTY LINE (PL)	▬ ▪ ▪ ▬ ▪ ▪ ▬	SAME
AIRPORT REFERENCE POINT (ARP)	⊕	⊕
BUILDING RESTRICTION LINE (BRL)	NOT SHOWN	BRL — BRL
RUNWAY OBSTACLE FREE AREA (ROFA)	NOT SHOWN	ROFA — ROFA
INNER APPROACH OBSTACLE FREE ZONE (IAOFZ)	NOT SHOWN	— · · · —
RUNWAY SAFETY AREA (RSA)	NOT SHOWN	RSA — RSA
RUNWAY PROTECTION ZONE (RPZ)	NOT SHOWN	RPZ — RPZ
DESIGN STANDARD APPROACH SURFACE	NOT SHOWN	— – – — – – —
DEPARTURE SURFACE	NOT SHOWN	DEP — DEP
GLIDEPATH QUALIFICATION SURFACE (GQS)	NOT SHOWN	— · — · —
PART 77 APPROACH SURFACE	NOT SHOWN	P77 APP
TAXIWAY OBJECT FREE AREA (TOFA)	NOT SHOWN	TOFA — TOFA
TAXILANE OBJECT FREE AREA (TLOFA)	NOT SHOWN	TLOFA — TLOFA
TAXIWAY SAFETY AREA (TSA)	NOT SHOWN	TSA — TSA
PRECISION OBSTACLE FREE ZONE (POFZ)	▨	SAME
RUNWAY VISUAL ZONE (RVZ)	NOT SHOWN	— – —
RUNWAY END INDICATOR LIGHT (REIL)	◌	SAME
INHABITED BUILDING DISTANCE	—	SAME
MALSR LIGHTS	⦶⦶⦶⦶⦶	SAME
PRECISION APPROACH PATH INDICATOR (PAPI)	⊠⊠⊠⊠	SAME
WINDCONE	╱	SAME
AUTOMATED WEATHER OBSERVING SYSTEM (AWOS)	⌓	SAME
AIRPORT ROTATING BEACON	☆	SAME
NAVAID CRITICAL AREA	— — — — —	SAME
RUNWAY PAVEMENT	▬	SAME
TAXIWAY PAVEMENT	▬	🟩
ROADWAY	N/A	🟫
BUILDINGS	🟦	🟦
MAINTENANCE, REPAIR, AND OVERHAUL (MRO)	N/A	▨
PAVEMENT/BUILDING DEMOLITON	N/A	▦
AIRPORT FENCE	—x—x—x—x—	—x—x—x—x—
ELEVATION COUNTOURS	70	NOT SHOWN
FOREST AREA	↓ ↓ ↓ ↓	NOT SHOWN





KEY MAP

NO.	DATE	REVISIONS	BY	APPR.	SPRS. APPR.
5					
4					
3					
2					
1					

Kimley»Horn

©2023 KIMLEY-HORN AND ASSOCIATES, INC.
111 E Broadway Suite #600
Salt Lake City, UT 84111
(385) 212 - 3176

FAA DISCLAMER

THE CONTENTS OF THIS PLAN DO NOT NECESSARILY REFLECT THE OFFICIAL VIEWS OR POLICY OF THE FEDERAL AVIATION ADMINISTRATION (FAA). ACCEPTANCE OF THIS DOCUMENT BY THE FAA DOES NOT IN ANY WAY CONSTITUTE A COMMITMENT ON THE PART OF THE UNITED STATES TO PARTICIPATE IN ANY DEVELOPMENT DEPICTED HEREIN NOR DOES IT INDICATE THAT THE PROPOSED DEVELOPMENT IS ENVIRONMENTALLY ACCEPTABLE IN ACCORDANCE WITH APPROPRIATE PUBLIC LAW.

JAA Jacksonville Aviation Authority
Cecil Cecil Airport
Cecil Cecil Spaceport

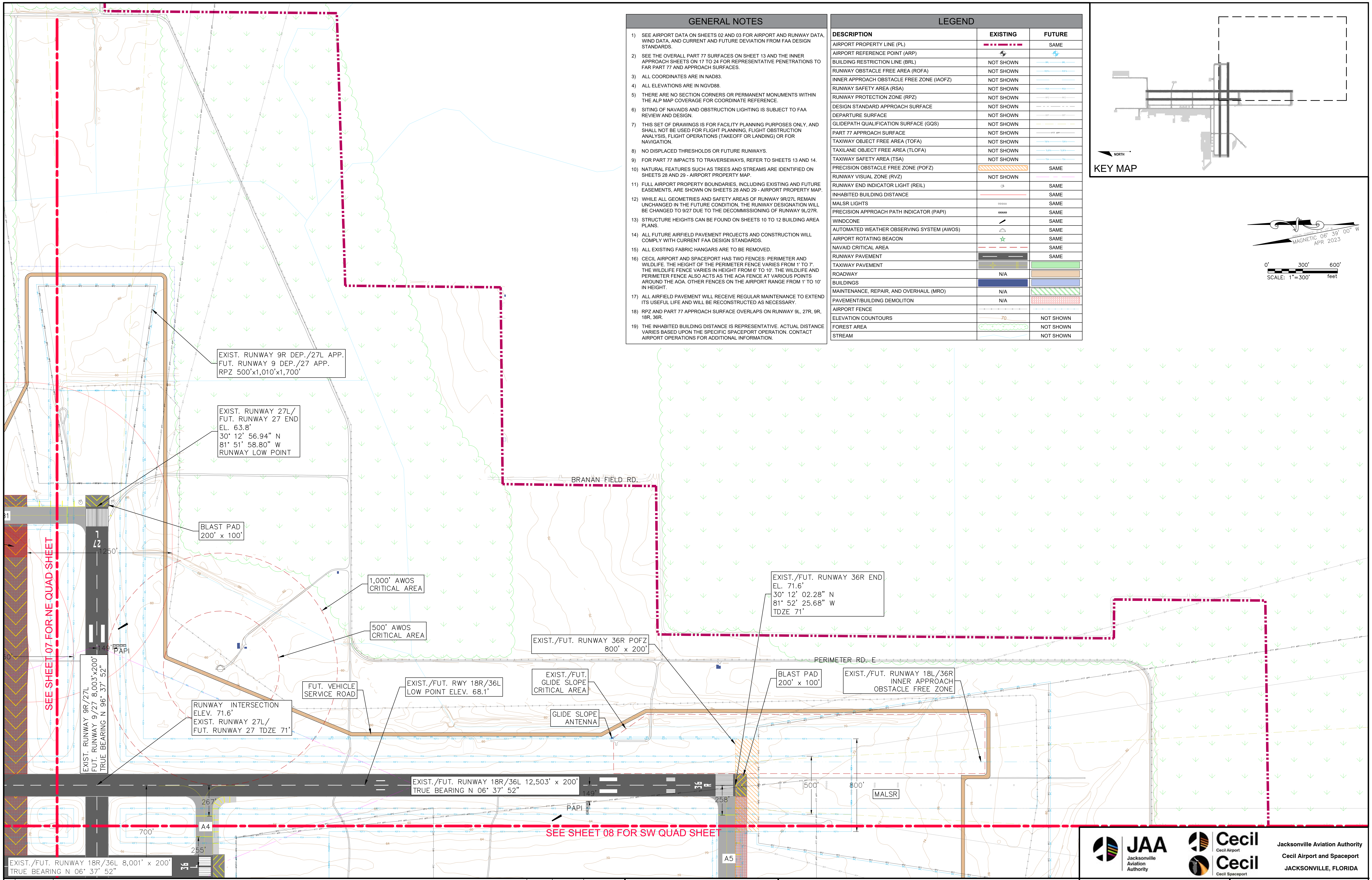
Jacksonville Aviation Authority
Cecil Airport and Spaceport
JACKSONVILLE, FLORIDA

AIP GRANT
3-12-0032-023-2021
BY
APPR.

SHEET NAME
FUTURE AIRPORT LAYOUT PLAN - SW

JAA PROJECT NO.
21-18-42001
DATE: June 2025
DRAWN BC
DESIGNED KH
CHECKED BG
APPROVED AS
SHEET 08 OF 31

CECIL AIRPORT AND SPACEPORT - AIRPORT LAYOUT PLAN FAA IDENTIFIER VQQ



GENERAL NOTES

1) SEE AIRPORT DATA ON SHEETS 02 AND 03 FOR AIRPORT AND RUNWAY DATA, WIND DATA, AND CURRENT AND FUTURE DEVIATION FROM FAA DESIGN STANDARDS.
2) SEE THE OVERALL PART 77 SURFACES ON SHEET 13 AND THE INNER APPROACH SHEETS ON 17 TO 24 FOR REPRESENTATIVE PENETRATIONS TO FAR PART 77 AND APPROACH SURFACES.
3) ALL COORDINATES ARE IN NAD83.
4) ALL ELEVATIONS ARE IN NGVD88.
5) THERE ARE NO SECTION CORNERS OR PERMANENT MONUMENTS WITHIN THE ALP MAP COVERAGE FOR COORDINATE REFERENCE.
6) SITING OF NAVAIDS AND OBSTRUCTION LIGHTING IS SUBJECT TO FAA REVIEW AND DESIGN.
7) THIS SET OF DRAWINGS IS FOR FACILITY PLANNING PURPOSES ONLY, AND SHALL NOT BE USED FOR FLIGHT PLANNING, FLIGHT OBSTRUCTION ANALYSIS, FLIGHT OPERATIONS (TAKEOFF OR LANDING) OR FOR NAVIGATION.
8) NO DISPLACED THRESHOLDS OR FUTURE RUNWAYS.
9) FOR PART 77 IMPACTS TO TRAVERSEWAYS, REFER TO SHEETS 13 AND 14.
10) NATURAL FEATURES SUCH AS TREES AND STREAMS ARE IDENTIFIED ON SHEETS 28 AND 29 - AIRPORT PROPERTY MAP.
11) FULL AIRPORT PROPERTY BOUNDARIES, INCLUDING EXISTING AND FUTURE EASEMENTS, ARE SHOWN ON SHEETS 28 AND 29 - AIRPORT PROPERTY MAP.
12) WHILE ALL GEOMETRIES AND SAFETY AREAS OF RUNWAY 9R/27L REMAIN UNCHANGED IN THE FUTURE CONDITION, THE RUNWAY DESIGNATION WILL BE CHANGED TO 9/27 DUE TO THE DECOMMISSIONING OF RUNWAY 9L/27R.
13) STRUCTURE HEIGHTS CAN BE FOUND ON SHEETS 10 TO 12 BUILDING AREA PLANS.
14) ALL FUTURE AIRFIELD PAVEMENT PROJECTS AND CONSTRUCTION WILL COMPLY WITH CURRENT FAA DESIGN STANDARDS.
15) ALL EXISTING FABRIC HANGARS ARE TO BE REMOVED.
16) CECIL AIRPORT AND SPACEPORT HAS TWO FENCES: PERIMETER AND WILDLIFE. THE HEIGHT OF THE PERIMETER FENCE VARIES FROM 1' TO 7'. THE WILDLIFE FENCE VARIES IN HEIGHT FROM 6' TO 10'. THE WILDLIFE AND PERIMETER FENCE ALSO ACTS AS THE AOA FENCE AT VARIOUS POINTS AROUND THE AOA. OTHER FENCES ON THE AIRPORT RANGE FROM 1' TO 10' IN HEIGHT.
17) ALL AIRFIELD PAVEMENT WILL RECEIVE REGULAR MAINTENANCE TO EXTEND ITS USEFUL LIFE AND WILL BE RECONSTRUCTED AS NECESSARY.
18) RPZ AND PART 77 APPROACH SURFACE OVERLAPS ON RUNWAY 9L, 27R, 9R, 18R, 36R.
19) THE INHABITED BUILDING DISTANCE IS REPRESENTATIVE. ACTUAL DISTANCE VARIES BASED UPON THE SPECIFIC SPACEPORT OPERATION. CONTACT AIRPORT OPERATIONS FOR ADDITIONAL INFORMATION.

LEGEND

DESCRIPTION	EXISTING	FUTURE
AIRPORT PROPERTY LINE (PL)	▬ ▪ ▪ ▬ ▪ ▪ ▬	SAME
AIRPORT REFERENCE POINT (ARP)	⊕	⊕
BUILDING RESTRICTION LINE (BRL)	NOT SHOWN	— BRL — BRL —
RUNWAY OBSTACLE FREE AREA (ROFA)	NOT SHOWN	— ROFA — ROFA —
INNER APPROACH OBSTACLE FREE ZONE (IAOFZ)	NOT SHOWN	— · · · —
RUNWAY SAFETY AREA (RSA)	NOT SHOWN	— RSA — RSA —
RUNWAY PROTECTION ZONE (RPZ)	NOT SHOWN	— RPZ — RPZ —
DESIGN STANDARD APPROACH SURFACE	NOT SHOWN	— - - — - - —
DEPARTURE SURFACE	NOT SHOWN	— DEP — DEP —
GLIDEPATH QUALIFICATION SURFACE (GQS)	NOT SHOWN	— · — · — · —
PART 77 APPROACH SURFACE	NOT SHOWN	— P77 APP —
TAXIWAY OBJECT FREE AREA (TOFA)	NOT SHOWN	— TOFA — TOFA —
TAXILANE OBJECT FREE AREA (TLOFA)	NOT SHOWN	— TLOFA — TLOFA —
TAXIWAY SAFETY AREA (TSA)	NOT SHOWN	— TSA — TSA —
PRECISION OBSTACLE FREE ZONE (POFZ)	▨	SAME
RUNWAY VISUAL ZONE (RVZ)	NOT SHOWN	— — —
RUNWAY END INDICATOR LIGHT (REIL)	◔	SAME
INHABITED BUILDING DISTANCE	—	SAME
MALSR LIGHTS	⦶⦶⦶⦶⦶	SAME
PRECISION APPROACH PATH INDICATOR (PAPI)	▭▭▭▭	SAME
WINDCONE	╱	SAME
AUTOMATED WEATHER OBSERVING SYSTEM (AWOS)	⌓	SAME
AIRPORT ROTATING BEACON	☆	SAME
NAVAID CRITICAL AREA	— — — — —	SAME
RUNWAY PAVEMENT	▬	SAME
TAXIWAY PAVEMENT	▬	🟩
ROADWAY	N/A	▬
BUILDINGS	🟦	🟦
MAINTENANCE, REPAIR, AND OVERHAUL (MRO)	N/A	▨
PAVEMENT/BUILDING DEMOLITON	N/A	▦
AIRPORT FENCE	—x—x—x—	—x—x—x—
ELEVATION COUNTOURS	— 70 —	NOT SHOWN
FOREST AREA	⌇	NOT SHOWN
STREAM	—	NOT SHOWN

NO.	DATE	REVISIONS	BY	APPR.	SPRS. APPR.
5					
4					
3					
2					
1					

Kimley»Horn

111 E Broadway Suite #600
Salt Lake City, UT 84111
(385) 212 - 3176

FAA DISCLAMER

THE CONTENTS OF THIS PLAN DO NOT NECESSARILY REFLECT THE OFFICIAL VIEWS OR POLICY OF THE FEDERAL AVIATION ADMINISTRATION (FAA). ACCEPTANCE OF THIS DOCUMENT BY THE FAA DOES NOT IN ANY WAY CONSTITUTE A COMMITMENT ON THE PART OF THE UNITED STATES TO PARTICIPATE IN ANY DEVELOPMENT DEPICTED HEREIN NOR DOES IT INDICATE THAT THE PROPOSED DEVELOPMENT IS ENVIRONMENTALLY ACCEPTABLE IN ACCORDANCE WITH APPROPRIATE PUBLIC LAW.

JAA
Jacksonville
Aviation
Authority

Cecil
Cecil Airport

Cecil
Cecil Spaceport

Jacksonville Aviation Authority
Cecil Airport and Spaceport
JACKSONVILLE, FLORIDA

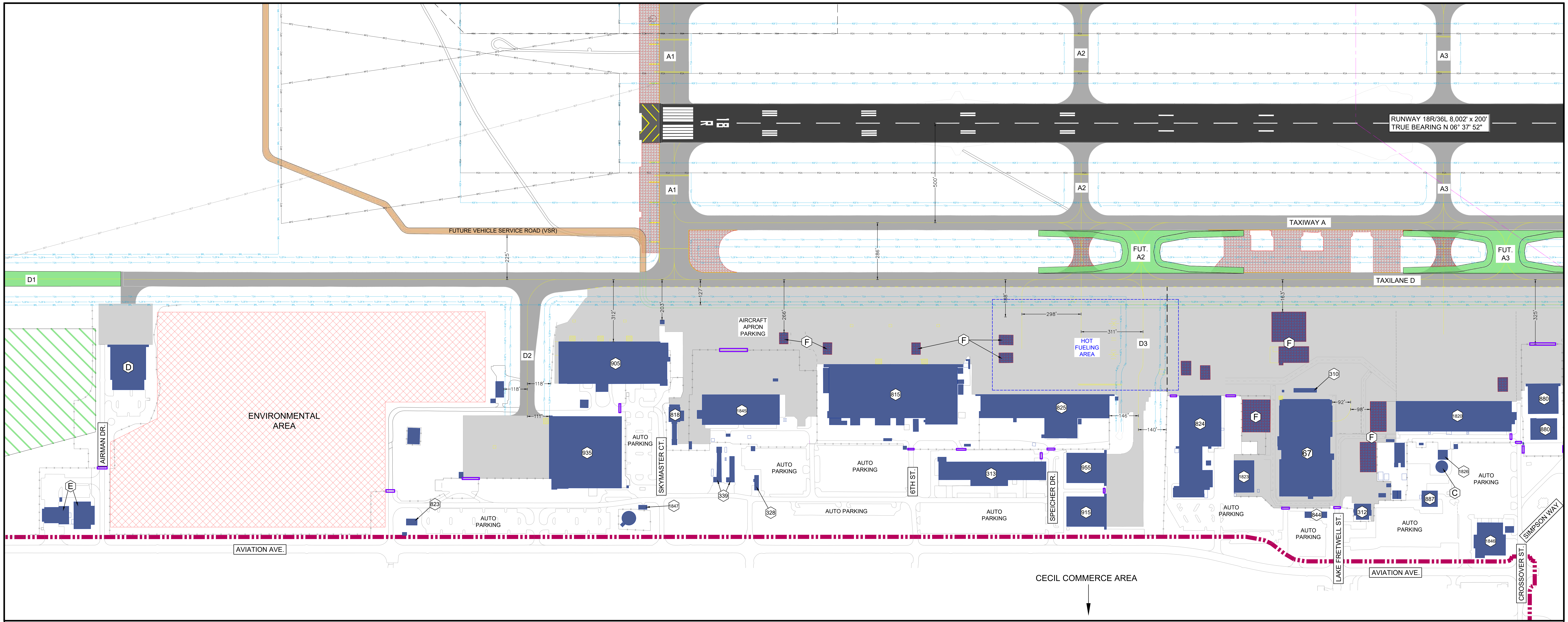
AIP GRANT
3-12-0032-023-2021
BY
APPR.

SHEET NAME
FUTURE AIRPORT LAYOUT
PLAN - SE

JAA PROJECT NO.
21-18-42001
DATE: June 2025

DRAWN BC
DESIGNED KH
CHECKED BG
APPROVED AS

File Name: K:\SLC_Aviation\VQQ\Air and Space Master Plan\CADD\VQQ ALP Files\Sheet Set\10-12 Building Area Plan.dwg - TAP North
Modified / By: June 10, 2025 10:51:16 AM / Brandon.Gilson
Plotted / By: 12:48:54 PM / Orvis, Cody

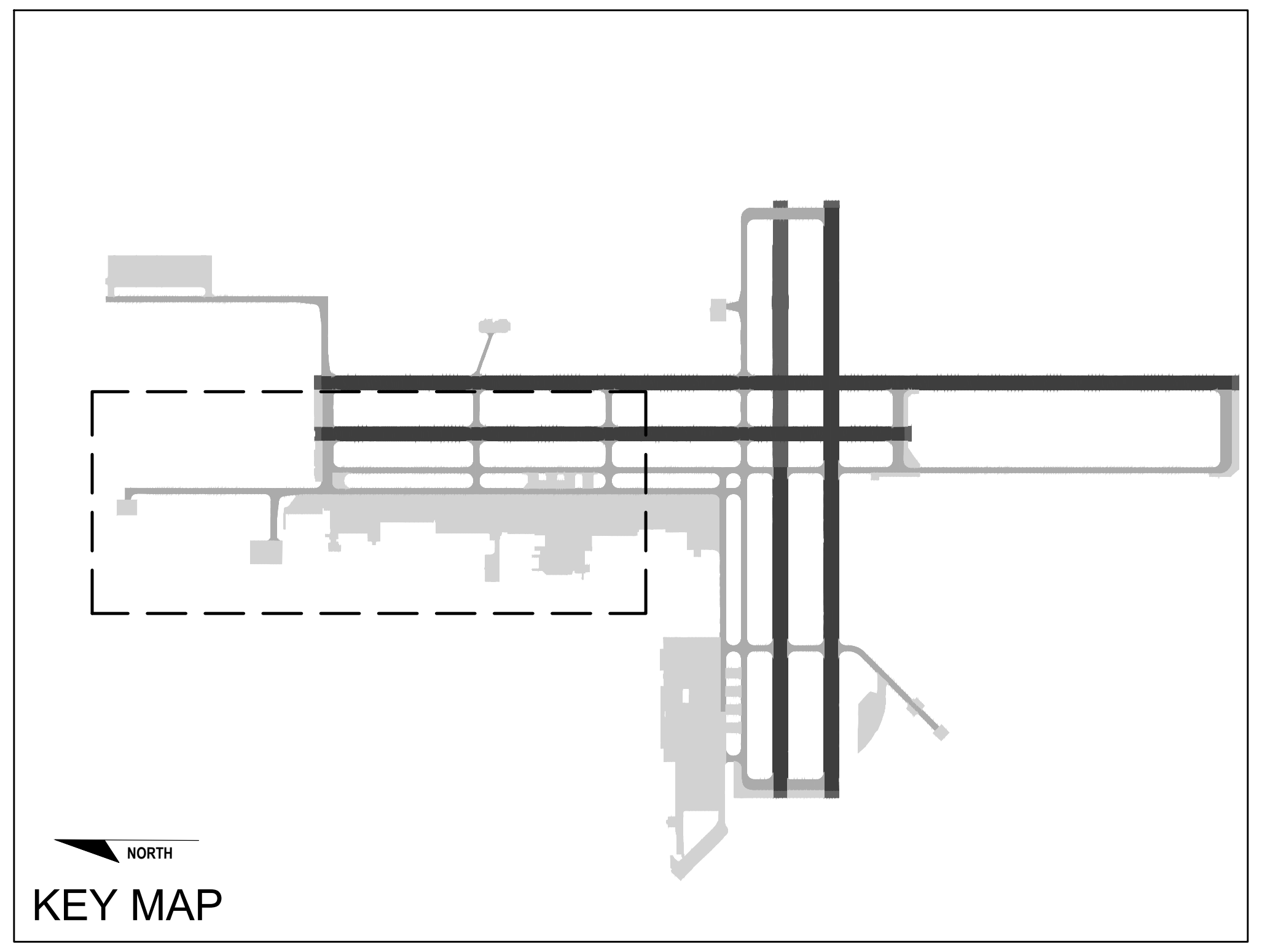


LEGEND

DESCRIPTION	EXISTING	FUTURE
AIRPORT PROPERTY LINE (PL)	▬ ▪ ▪ ▬ ▪ ▪ ▬	SAME
BUILDING RESTRICTION LINE (BRL)	NOT SHOWN	— BRL — BRL —
RUNWAY OBSTACLE FREE AREA (ROFA)	NOT SHOWN	— ROFA — ROFA —
INNER APPROACH OBSTACLE FREE ZONE (IAOFZ)	NOT SHOWN	— · · · —
RUNWAY PROTECTION ZONE (RPZ)	NOT SHOWN	— RPZ — RPZ —
TAXIWAY OBJECT FREE AREA (TOFA)	NOT SHOWN	— TOFA — TOFA —
TAXILANE OBJECT FREE AREA (TLOFA)	NOT SHOWN	— TLOFA — TLOFA —
RUNWAY VISUAL ZONE (RVZ)	NOT SHOWN	— — —
RUNWAY END INDICATOR LIGHT (REIL)	⊘	SAME
MALSR LIGHTS	○○○○○	SAME
PRECISION APPROACH PATH INDICATOR (PAPI)	▭▭▭▭	SAME
WINDCONE	⟋	SAME
NAVAID CRITICAL AREA	— — — — —	SAME
RUNWAY PAVEMENT	▬	SAME
TAXIWAY PAVEMENT	▬	🟩
BUILDINGS	🟦	🟦
MAINTENANCE, REPAIR, AND OVERHAUL (MRO)	N/A	▨
PAVEMENT/BUILDING DEMOLITON	N/A	▦
AIRPORT FENCE	—x—x—x—x—	—x—x—x—x—
GATE	▭	▭ ▭ ▭ ▭
ENVIRONMENTAL AREA	N/A	▩

GENERAL NOTES

1) ALL ELEVATIONS ARE IN NGVD88.



BUILDING LEGEND

DESCRIPTION	BUILDING NUMBER	TOP ELEV. (AMSL)	SQUARE FEET	YEAR CONSTRUCTED	OBSTRUCTION LIGHTING/MARKING
EXISTING BUILDINGS					
OFFICE	880	113.5'	13,970	1973	TBD
HANGAR	880	89.8'	22,247	2010	TBD
MRO FACILITY	1820	117.3'	N/A	1983	TBD
MRO FACILITY	1826	88.3'	2,500	1983	TBD
OFFICE	1846	133.6'	37,188	1985	TBD
OFFICE	887	95.3'	6,480	1987	TBD
MRO FACILITY	312	87.1'	6,052	1957	TBD
MRO FACILITY	310	84.9'	N/A	N/A	TBD
MRO FACILITY	67	117.3'	158,405	1955	TBD
BUILDING 844	844	86.4'	2,400	1974	TBD
MRO FACILITY	1823	92.2'	16,00	1984	TBD
OFFICE	824	108.2'	101,343	1957	TBD
MRO FACILITY	825	109.5'	116,478	1966	TBD
MRO FACILITY	955	117.9'	N/A	N/A	TBD
MRO FACILITY	915	116.2'	N/A	N/A	TBD
OFFICE	313	106.4'	51,966	1960	TBD
MRO FACILITY	815	88.5'	106,540	1970	TBD
MRO FACILITY	1845	115.4'	76,048	1985	TBD

BUILDING LEGEND

DESCRIPTION	BUILDING NUMBER	TOP ELEV. (AMSL)	SQUARE FEET	YEAR CONSTRUCTED	OBSTRUCTION LIGHTING/MARKING
OFFICE	328	90.5'	1,950	1979	TBD
ENGINE TEST FACILITY	339	118.3'	2,277	1959	TBD
ENGINE TEST FACILITY	818	106.0'	4,966	1989	TBD
MRO FACILITY	905	91.2'	107,439	2011	TBD
MRO FACILITY	935	105.8'	N/A	N/A	TBD
PUMP HOUSING	1847	91.8'	840	1985	TBD
OFFICE	823	94.1'	1,760	1989	TBD
UTILITY BUILDING	C	90.6'	N/A	N/A	TBD
HANGAR	D	119.2'	N/A	N/A	TBD
JACKSONVILLE FIRE AND RESCUE STATION 73	E	97.0'	N/A	N/A	TBD
FABRIC HANGARS (TO BE REMOVED)	F	80.1' - 92.1'	N/A	N/A	TBD

Jacksonville Aviation Authority
Cecil Airport and Spaceport
JACKSONVILLE, FLORIDA

NO.	DATE	REVISIONS	BY	APPR.	SPRS. APPR.
5					
4					
3					
2					
1					

©2023 KIMLEY-HORN AND ASSOCIATES, INC.
111 E Broadway Suite #600
Salt Lake City, UT 84111
(385) 212 - 3176

FAA DISCLAMER

THE CONTENTS OF THIS PLAN DO NOT NECESSARILY REFLECT THE OFFICIAL VIEWS OR POLICY OF THE FEDERAL AVIATION ADMINISTRATION (FAA). ACCEPTANCE OF THIS DOCUMENT BY THE FAA DOES NOT IN ANY WAY CONSTITUTE A COMMITMENT ON THE PART OF THE UNITED STATES TO PARTICIPATE IN ANY DEVELOPMENT DEPICTED HEREIN NOR DOES IT INDICATE THAT THE PROPOSED DEVELOPMENT IS ENVIRONMENTALLY ACCEPTABLE IN ACCORDANCE WITH APPROPRIATE PUBLIC LAW.

AIP GRANT
3-12-0032-023-2021
BY

SHEET NAME
BUILDING AREA PLAN - NORTH
APPR.

JAA PROJECT NO.
21-18-42001
DATE: June 2025

DRAWN BC
DESIGNED KH
CHECKED BG
APPROVED AS

SHEET 10 OF 31

CECIL AIRPORT AND SPACEPORT - AIRPORT LAYOUT PLAN FAA IDENTIFIER VQQ

File Name: K:\SLC_Aviation\VQQ\Air and Space Master Plan\CADD\VQQ ALP Files\Sheet Set\10-12 Building Area Plan.dwg - TAP West
Modified / By: June 10, 2025 10:51:16 AM / Brandon.Gilson
Plotted / By: 12:48:59 PM / Orvis, Cody

BUILDING LEGEND

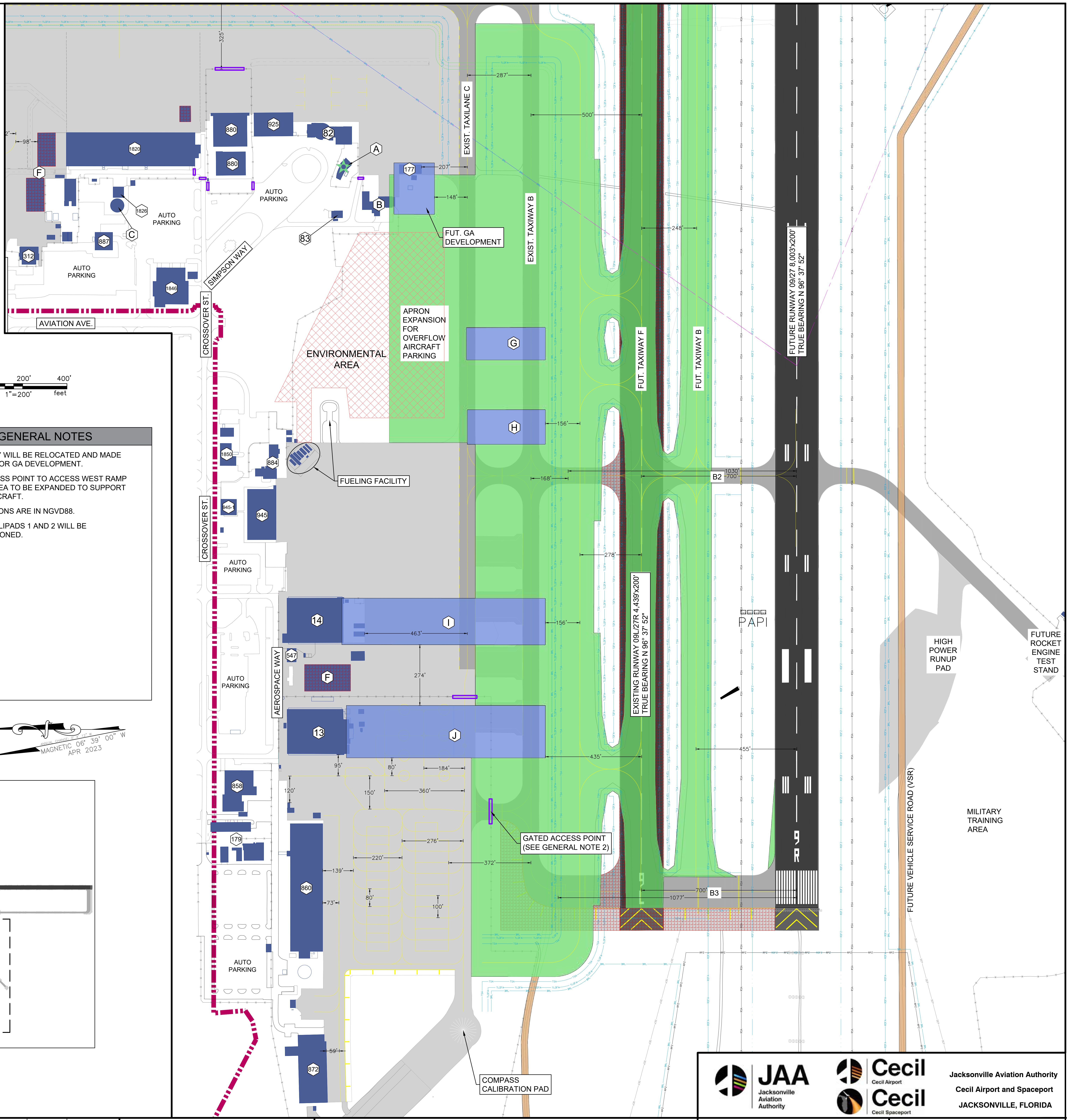
DESCRIPTION	BUILDING NUMBER	TOP ELEV. (AMSL)	SQUARE FEET	YEAR CONSTRUCTED	OBSTRUCTION LIGHTING/MARKING
EXISTING BUILDINGS					
FBO TERMINAL/AIRPORT ADMIN OFFICES	82	87.8'	15,787	1954	TBD
ATCT AND SPACEPORT MISSION CONTROL CENTER	A	173.0'	N/A	N/A	TBD
A.R.F.F STATION 56	B	85.4'	N/A	N/A	TBD
AIRPORT OPERATIONS	177	83.6'	N/A	N/A	TBD
BUILDING 83	83	85.6'	N/A	N/A	TBD
FBO HANGAR	925	107.1'	N/A	N/A	TBD
OFFICE	880	113.5'	13,970	1973	TBD
HANGAR	880	89.8'	22,247	2010	TBD
MRO FACILITY	1820	117.3'	N/A	N/A	TBD
MRO FACILITY	1826	88.3'	N/A	N/A	TBD
OFFICE	1846	133.6'	N/A	N/A	TBD
OFFICE	887	95.3'	6,480	1987	TBD
MRO FACILITY	312	87.1'	6,052	1957	TBD
OFFICE	1850	92.6'	N/A	N/A	TBD
OFFICE	884	88.6'	2.400	1977	TBD
OFFICE	945-1	91.9'	N/A	N/A	TBD
MRO HANGAR	945	108.8'	N/A	N/A	TBD
FLIGHT SCHOOL AND MILITARY OFFICES	14	104.7'	61,204	1941	TBD
MILITARY USE	547	86.9'	N/A	N/A	TBD
FABRIC HANGAR (TO BE REMOVED)	F	83.3'	N/A	N/A	TBD
MILITARY HANGAR AND OFFICES	13	104.4'	63,320	1941	TBD
MILITARY USE	858	93.4'	21,604	1975	TBD
MILITARY USE	179	89.8'	7,200	1962	TBD
MILITARY HANGAR	860	117.8'	112,931	1976	TBD
MILITARY USE	872	111.0'	N/A	N/A	TBD
FABRIC HANGARS (TO BE REMOVED)	F	80.1' - 92.1'	N/A	N/A	TBD
FUTURE BUILDINGS					
HANGAR	G	N/A	N/A	N/A	TBD
HANGAR	H	N/A	N/A	N/A	TBD
FLIGHT SCHOOL AND MILITARY OFFICES EXPANSION	I	N/A	N/A	N/A	TBD
MILITARY HANGAR AND OFFICES EXPANSION	J	N/A	N/A	N/A	TBD

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

GENERAL NOTES

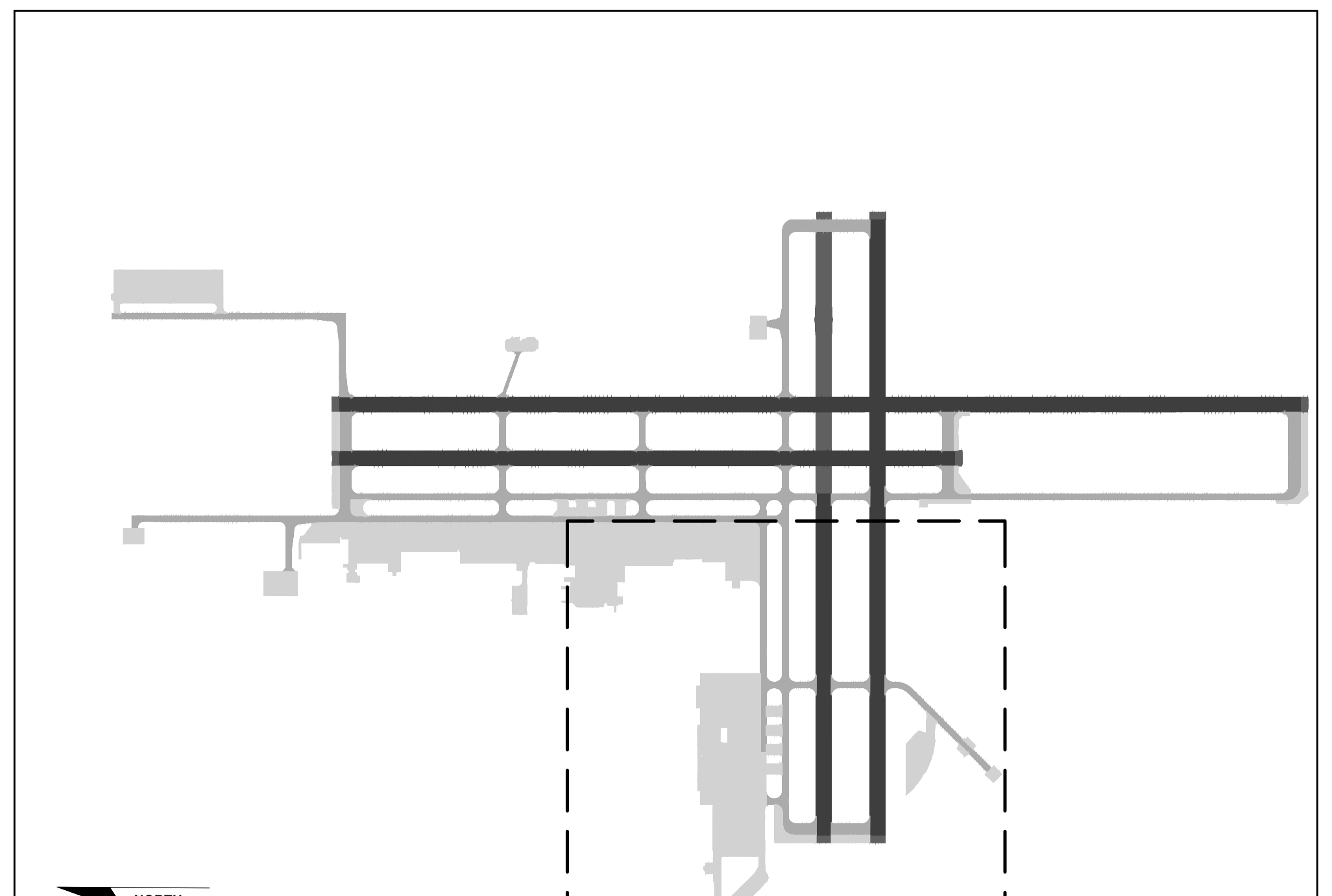
1) BUILDING 177 WILL BE RELOCATED AND MADE AVAILABLE FOR GA DEVELOPMENT.
2) GATED ACCESS POINT TO ACCESS WEST RAMP MILITARY AREA TO BE EXPANDED TO SUPPORT LARGER AIRCRAFT.
3) ALL ELEVATIONS ARE IN NGVD88.
4) EXISTING HELIPADS 1 AND 2 WILL BE DECOMMISSIONED.

MAGNETIC 06° 39' 00" W
APR 2023



LEGEND

DESCRIPTION	EXISTING	FUTURE
AIRPORT PROPERTY LINE (PL)	▬ ▪ ▪ ▬ ▪ ▪ ▬	SAME
BUILDING RESTRICTION LINE (BRL)	NOT SHOWN	—BRL—BRL—
RUNWAY OBSTACLE FREE AREA (ROFA)	NOT SHOWN	—ROFA—ROFA—
INNER APPROACH OBSTACLE FREE ZONE (IAOFZ)	NOT SHOWN	— · · · —
RUNWAY PROTECTION ZONE (RPZ)	NOT SHOWN	—RPZ—RPZ—
TAXIWAY OBJECT FREE AREA (TOFA)	NOT SHOWN	—TOFA—TOFA—
TAXILANE OBJECT FREE AREA (TLOFA)	NOT SHOWN	—TLOFA—TLOFA—
RUNWAY VISUAL ZONE (RVZ)	NOT SHOWN	— — —
RUNWAY END INDICATOR LIGHT (REIL)	◔	SAME
MALSR LIGHTS	○○○○○	SAME
PRECISION APPROACH PATH INDICATOR (PAPI)	▣▣▣▣	SAME
WINDCONE	╱	SAME
AIRPORT ROTATING BEACON	☆	SAME
RUNWAY PAVEMENT	▬	SAME
TAXIWAY PAVEMENT	▬	🟩
BUILDINGS	🟦	🟦
MAINTENANCE, REPAIR, AND OVERHAUL (MRO)	N/A	▨
PAVEMENT/BUILDING DEMOLITON	N/A	▦
AIRPORT FENCE	—x—x—x—	—x—x—x—
GATE	▭	▭ ▭ ▭
ENVIRONMENTAL AREA	N/A	▩



KEY MAP

NO.	DATE	REVISIONS	BY	APPR.	SPRS. APPR.
5					
4					
3					
2					
1					

Kimley»Horn
©2023 KIMLEY-HORN AND ASSOCIATES, INC.
111 E Broadway Suite #600
Salt Lake City, UT 84111
(385) 212 - 3176

FAA DISCLAMER

THE CONTENTS OF THIS PLAN DO NOT NECESSARILY REFLECT THE OFFICIAL VIEWS OR POLICY OF THE FEDERAL AVIATION ADMINISTRATION (FAA). ACCEPTANCE OF THIS DOCUMENT BY THE FAA DOES NOT IN ANY WAY CONSTITUTE A COMMITMENT ON THE PART OF THE UNITED STATES TO PARTICIPATE IN ANY DEVELOPMENT DEPICTED HEREIN NOR DOES IT INDICATE THAT THE PROPOSED DEVELOPMENT IS ENVIRONMENTALLY ACCEPTABLE IN ACCORDANCE WITH APPROPRIATE PUBLIC LAW.

JAA Jacksonville Aviation Authority
Cecil Cecil Airport
Cecil Cecil Spaceport

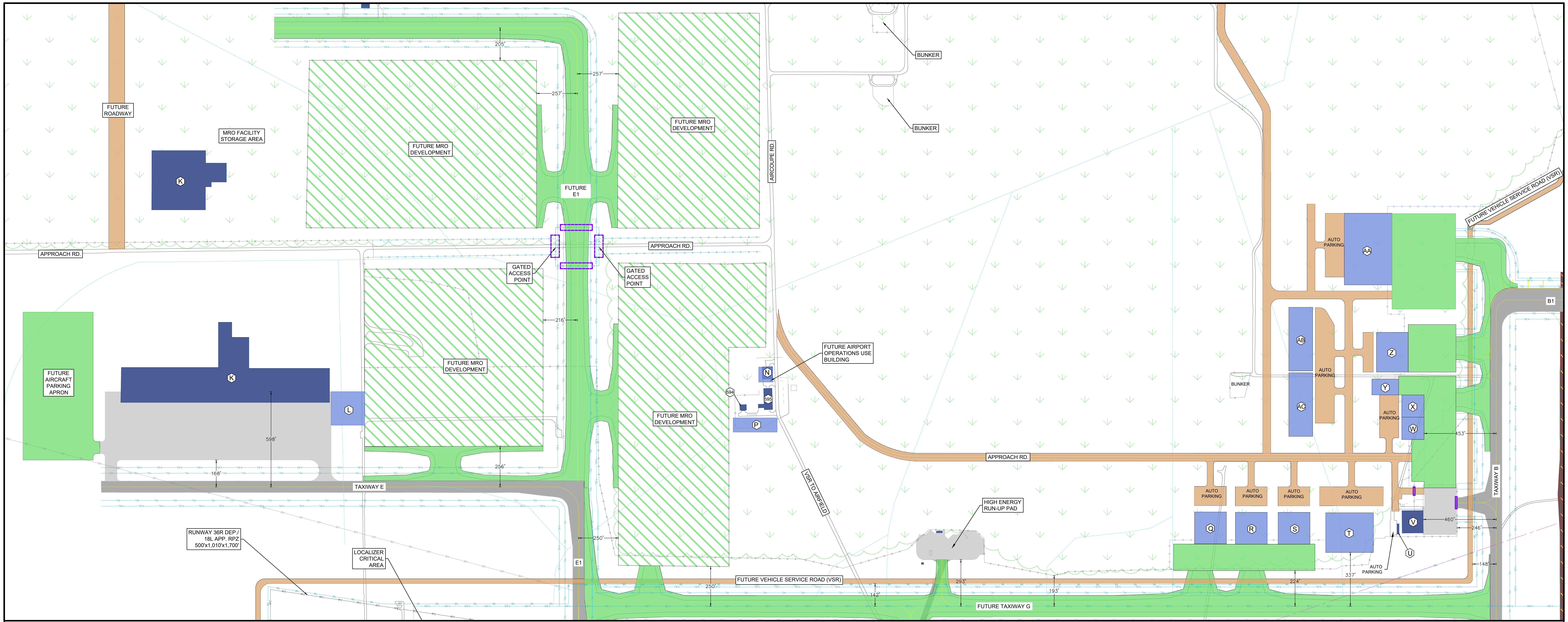
Jacksonville Aviation Authority
Cecil Airport and Spaceport
JACKSONVILLE, FLORIDA

AIP GRANT
3-12-0032-023-2021
BY
APPR.

SHEET NAME
BUILDING AREA PLAN - WEST

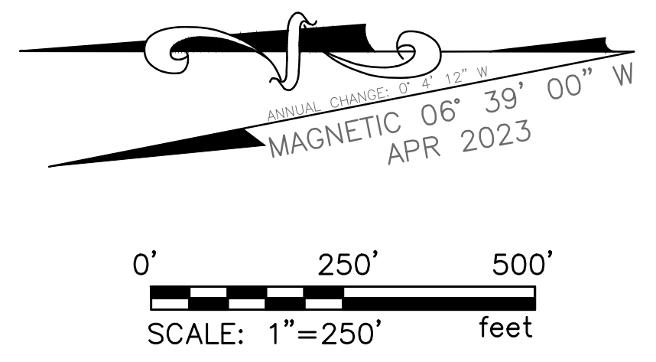
JAA PROJECT NO. 21-18-42001
DATE: June 2025
DRAWN BC
DESIGNED KH
CHECKED BG
APPROVED AS
SHEET 11 OF 31

CECIL AIRPORT AND SPACEPORT - AIRPORT LAYOUT PLAN FAA IDENTIFIER VQQ



LEGEND

DESCRIPTION	EXISTING	FUTURE
AIRPORT PROPERTY LINE (PL)	▬ ▪ ▪ ▬ ▪ ▪ ▬	SAME
BUILDING RESTRICTION LINE (BRL)	NOT SHOWN	—BRL—BRL—
RUNWAY OBSTACLE FREE AREA (ROFA)	NOT SHOWN	—ROFA—ROFA—
INNER APPROACH OBSTACLE FREE ZONE (IAOFZ)	NOT SHOWN	— · · · —
RUNWAY PROTECTION ZONE (RPZ)	NOT SHOWN	—RPZ—RPZ—
TAXIWAY OBJECT FREE AREA (TOFA)	NOT SHOWN	—TOFA—TOFA—
TAXILANE OBJECT FREE AREA (TLOFA)	NOT SHOWN	—TLOFA—TLOFA—
RUNWAY VISUAL ZONE (RVZ)	NOT SHOWN	— — —
RUNWAY PAVEMENT	▬	SAME
TAXIWAY PAVEMENT	▬	🟩
BUILDINGS	▬	▬
MAINTENANCE, REPAIR, AND OVERHAUL (MRO)	N/A	▨
AIRPORT FENCE	—x—x—x—	—x—x—x—
GATE	▭	▭ ▭ ▭
FOREST AREA	☁	NOT SHOWN
STREAM	∼	NOT SHOWN

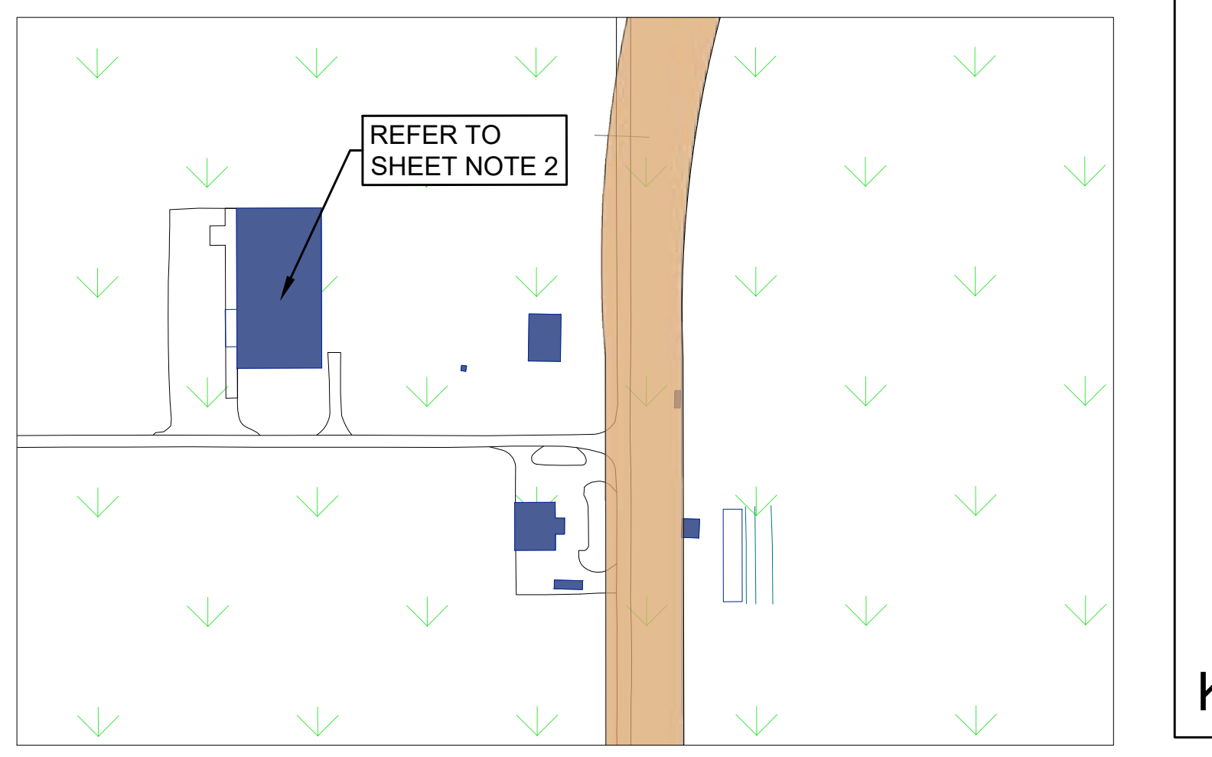


BUILDING LEGEND

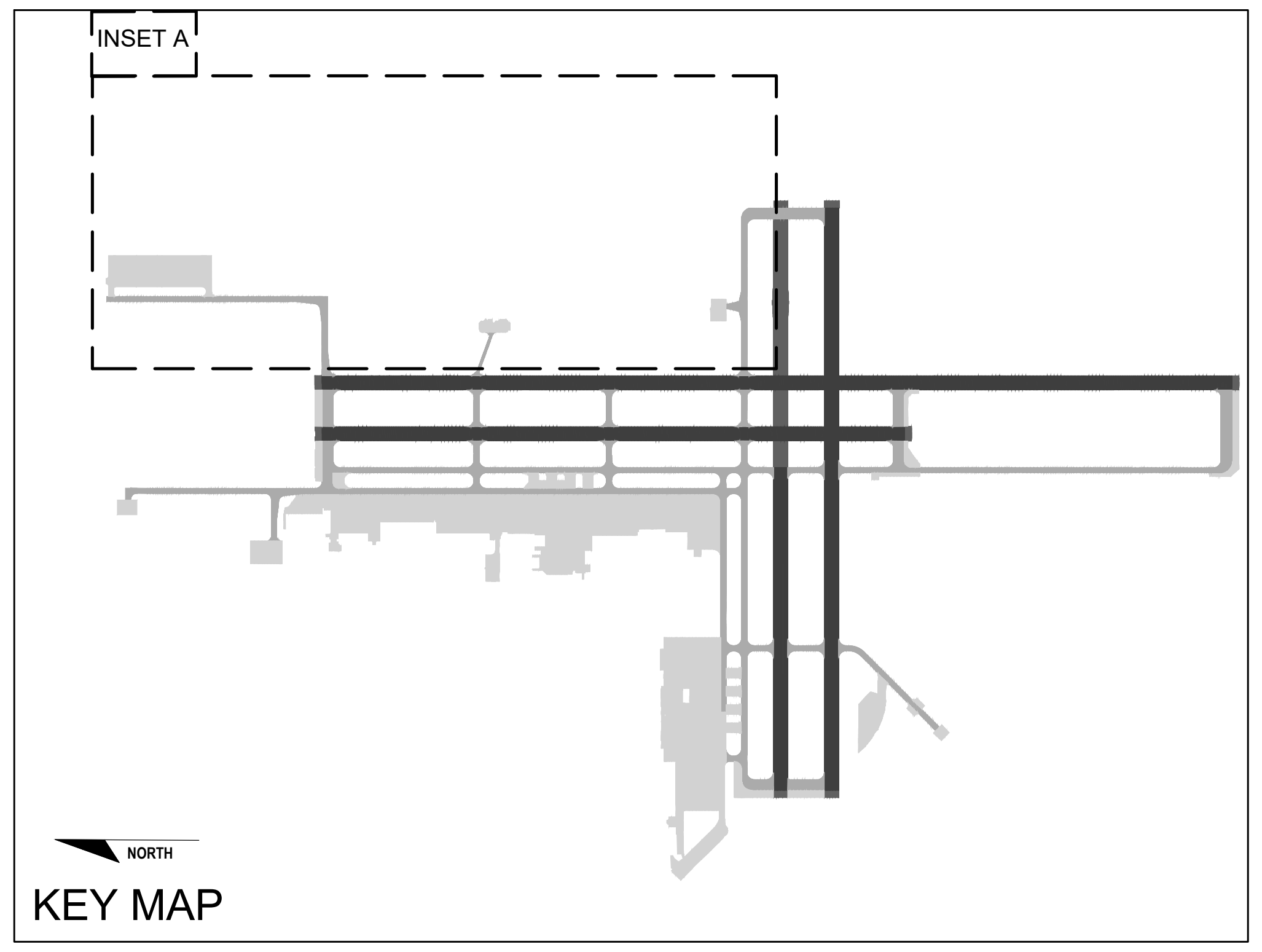
DESCRIPTION	BUILDING NUMBER	TOP ELEV. (AMSL)	SQUARE FEET	YEAR CONSTRUCTED	OBSTRUCTION LIGHTING/MARKING
EXISTING BUILDINGS					
MRO BUILDING	K	144.8'	N/A	N/A	TBD
FAA BUILDING (TO BE RELOCATED)	59	87.3'	N/A	N/A	TBD
STORAGE	N	85.9'	N/A	N/A	TBD
AIRPORT OPERATIONS BUILDINGS	594	81.8'	5,500	N/A	TBD
AIRPORT OPERATIONS BUILDINGS	595	82.3'	7,546	N/A	TBD
OFFICE	U	83.2'	N/A	N/A	TBD
SPACEPORT FABRIC HANGAR	V	70.5'	N/A	N/A	TBD
FUTURE BUILDINGS					
FUELING FACILITY	L	N/A	N/A	N/A	TBD
AIRPORT OPERATIONS BUILDING	P	N/A	N/A	N/A	TBD
SPACEPORT HANGAR	Q	N/A	N/A	N/A	TBD
SPACEPORT HANGAR	R	N/A	N/A	N/A	TBD
SPACEPORT HANGAR	S	N/A	N/A	N/A	TBD
SPACEPORT TERMINAL	T	N/A	N/A	N/A	TBD
SPACEPORT HANGAR	W	N/A	N/A	N/A	TBD
SPACEPORT HANGAR	X	N/A	N/A	N/A	TBD
PAYLOAD PROCESSING FACILITY	Y	N/A	N/A	N/A	TBD
SPACEPORT HANGAR	Z	N/A	N/A	N/A	TBD
SPACEPORT HANGAR	AA	N/A	N/A	N/A	TBD
MULTI-USE OFFICE BUILDING	AB	N/A	N/A	N/A	TBD
MULTI-USE OFFICE BUILDING	AC	N/A	N/A	N/A	TBD

GENERAL NOTES

1) ALL ELEVATIONS ARE IN NGVD88.
2) NON-AERONAUTICAL LOW LYING STRUCTURES.



INSET A



NO.	DATE	REVISIONS	BY	APPR.	SPRS. APPR.
5					
4					
3					
2					
1					

Kimley»Horn

111 E Broadway Suite #600
Salt Lake City, UT 84111
(385) 212 - 3176

FAA DISCLAMER

THE CONTENTS OF THIS PLAN DO NOT NECESSARILY REFLECT THE OFFICIAL VIEWS OR POLICY OF THE FEDERAL AVIATION ADMINISTRATION (FAA). ACCEPTANCE OF THIS DOCUMENT BY THE FAA DOES NOT IN ANY WAY CONSTITUTE A COMMITMENT ON THE PART OF THE UNITED STATES TO PARTICIPATE IN ANY DEVELOPMENT DEPICTED HEREIN NOR DOES IT INDICATE THAT THE PROPOSED DEVELOPMENT IS ENVIRONMENTALLY ACCEPTABLE IN ACCORDANCE WITH APPROPRIATE PUBLIC LAW.

JAA Jacksonville Aviation Authority
Cecil Cecil Airport
Cecil Cecil Spaceport

Jacksonville Aviation Authority
Cecil Airport and Spaceport
JACKSONVILLE, FLORIDA

AIP GRANT
3-12-0032-023-2021
BY

SHEET NAME
BUILDING AREA PLAN - EAST
APPR.

JAA PROJECT NO. 21-18-42001
DATE: June 2025
DRAWN BC
DESIGNED KH
CHECKED BG
APPROVED AS
SHEET 12 OF 31

CECIL AIRPORT AND SPACEPORT - AIRPORT LAYOUT PLAN FAA IDENTIFIER VQQ

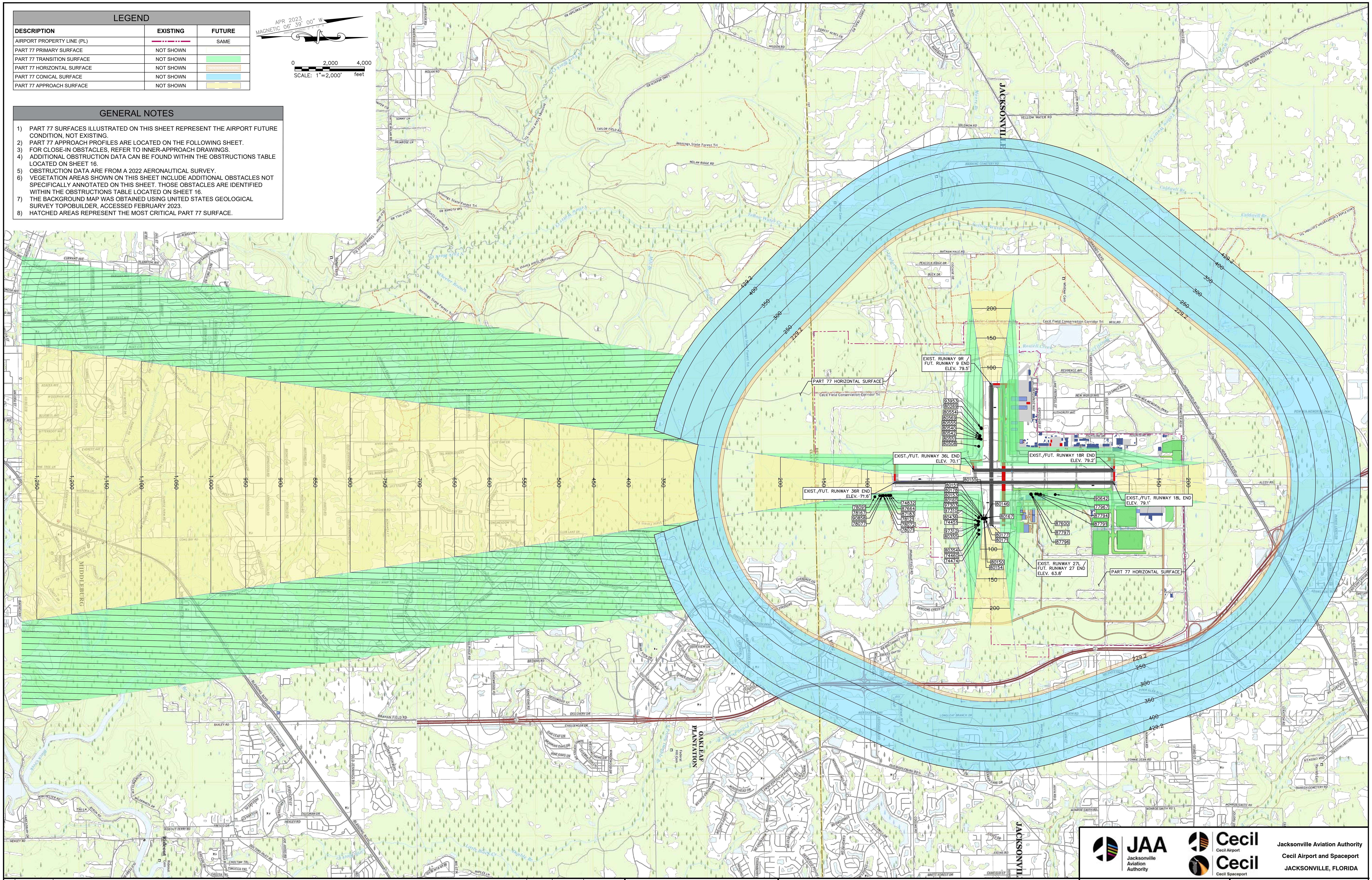
File Name: K:\SLC_Aviation\VQQ\Air and Space Master Plan\CADD\VQQ ALP Files\Sheet Set\13-14 Overall P77.dwg - Overall
Modified / By: June 10, 2025 10:53:26 AM / Brandon.Gilson
Plotted / By: 12:51:25 PM / Orvis, Cody

LEGEND

DESCRIPTION	EXISTING	FUTURE
AIRPORT PROPERTY LINE (PL)	—··—··—	SAME
PART 77 PRIMARY SURFACE	NOT SHOWN	☐
PART 77 TRANSITION SURFACE	NOT SHOWN	🟩
PART 77 HORIZONTAL SURFACE	NOT SHOWN	▨
PART 77 CONICAL SURFACE	NOT SHOWN	🟦
PART 77 APPROACH SURFACE	NOT SHOWN	🟨

GENERAL NOTES

1) PART 77 SURFACES ILLUSTRATED ON THIS SHEET REPRESENT THE AIRPORT FUTURE CONDITION, NOT EXISTING.
2) PART 77 APPROACH PROFILES ARE LOCATED ON THE FOLLOWING SHEET.
3) FOR CLOSE-IN OBSTACLES, REFER TO INNER-APPROACH DRAWINGS.
4) ADDITIONAL OBSTRUCTION DATA CAN BE FOUND WITHIN THE OBSTRUCTIONS TABLE LOCATED ON SHEET 16.
5) OBSTRUCTION DATA ARE FROM A 2022 AERONAUTICAL SURVEY.
6) VEGETATION AREAS SHOWN ON THIS SHEET INCLUDE ADDITIONAL OBSTACLES NOT SPECIFICALLY ANNOTATED ON THIS SHEET. THOSE OBSTACLES ARE IDENTIFIED WITHIN THE OBSTRUCTIONS TABLE LOCATED ON SHEET 16.
7) THE BACKGROUND MAP WAS OBTAINED USING UNITED STATES GEOLOGICAL SURVEY TOPOBUILDER, ACCESSED FEBRUARY 2023.
8) HATCHED AREAS REPRESENT THE MOST CRITICAL PART 77 SURFACE.



Jacksonville Aviation Authority
Cecil Airport and Spaceport
JACKSONVILLE, FLORIDA

NO.	DATE	REVISIONS	BY	APPR.	SPRS. APPR.
5					
4					
3					
2					
1					

Kimley»Horn

111 E Broadway Suite #600
Salt Lake City, UT 84111
(385) 212 - 3176

FAA DISCLAMER

THE CONTENTS OF THIS PLAN DO NOT NECESSARILY REFLECT THE OFFICIAL VIEWS OR POLICY OF THE FEDERAL AVIATION ADMINISTRATION (FAA). ACCEPTANCE OF THIS DOCUMENT BY THE FAA DOES NOT IN ANY WAY CONSTITUTE A COMMITMENT ON THE PART OF THE UNITED STATES TO PARTICIPATE IN ANY DEVELOPMENT DEPICTED HEREIN NOR DOES IT INDICATE THAT THE PROPOSED DEVELOPMENT IS ENVIRONMENTALLY ACCEPTABLE IN ACCORDANCE WITH APPROPRIATE PUBLIC LAW.

AIP GRANT
3-12-0032-023-2021
BY

SHEET NAME
PART 77 SURFACES -OVERALL
APPR.

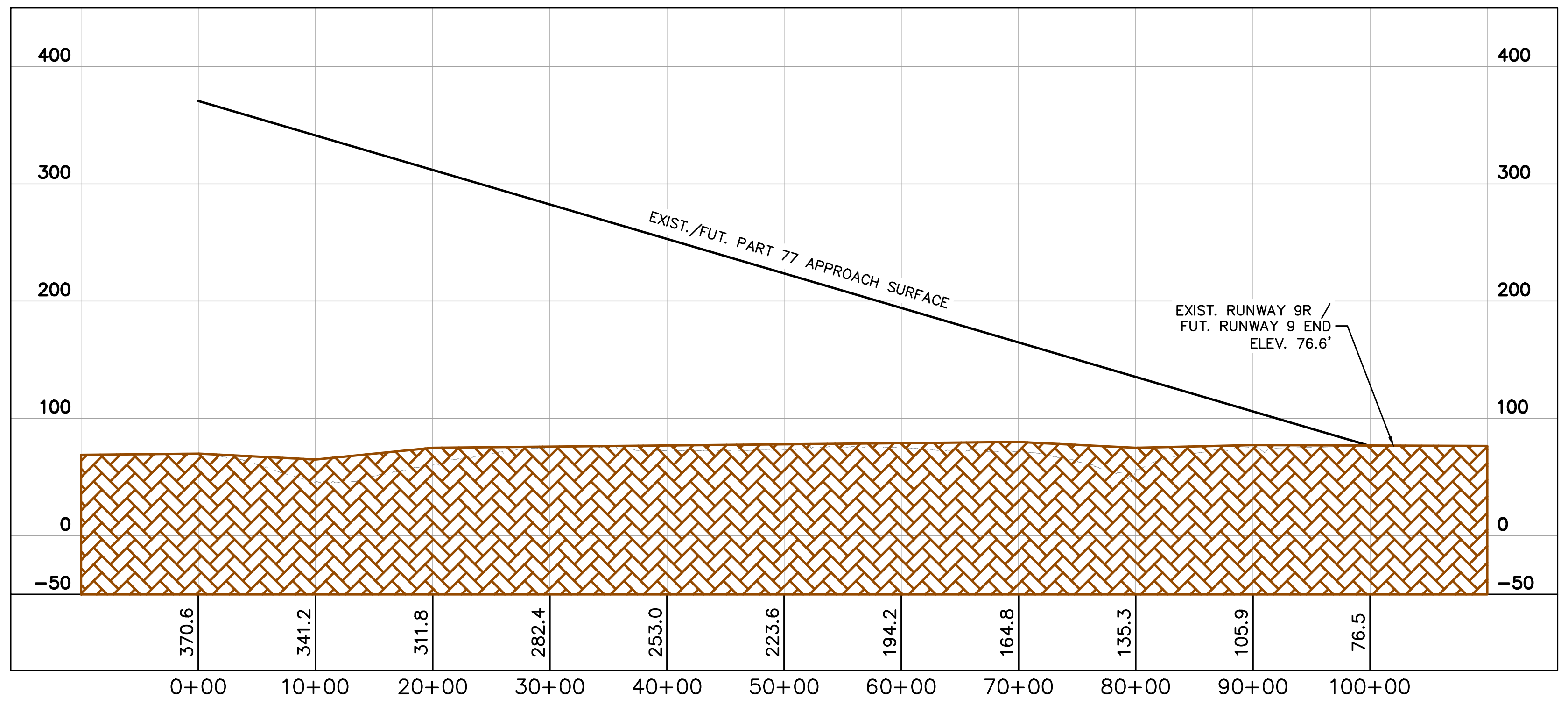
JAA PROJECT NO.
21-18-42001
DATE: June 2025

DRAWN BC
DESIGNED KH
CHECKED BG
APPROVED AS

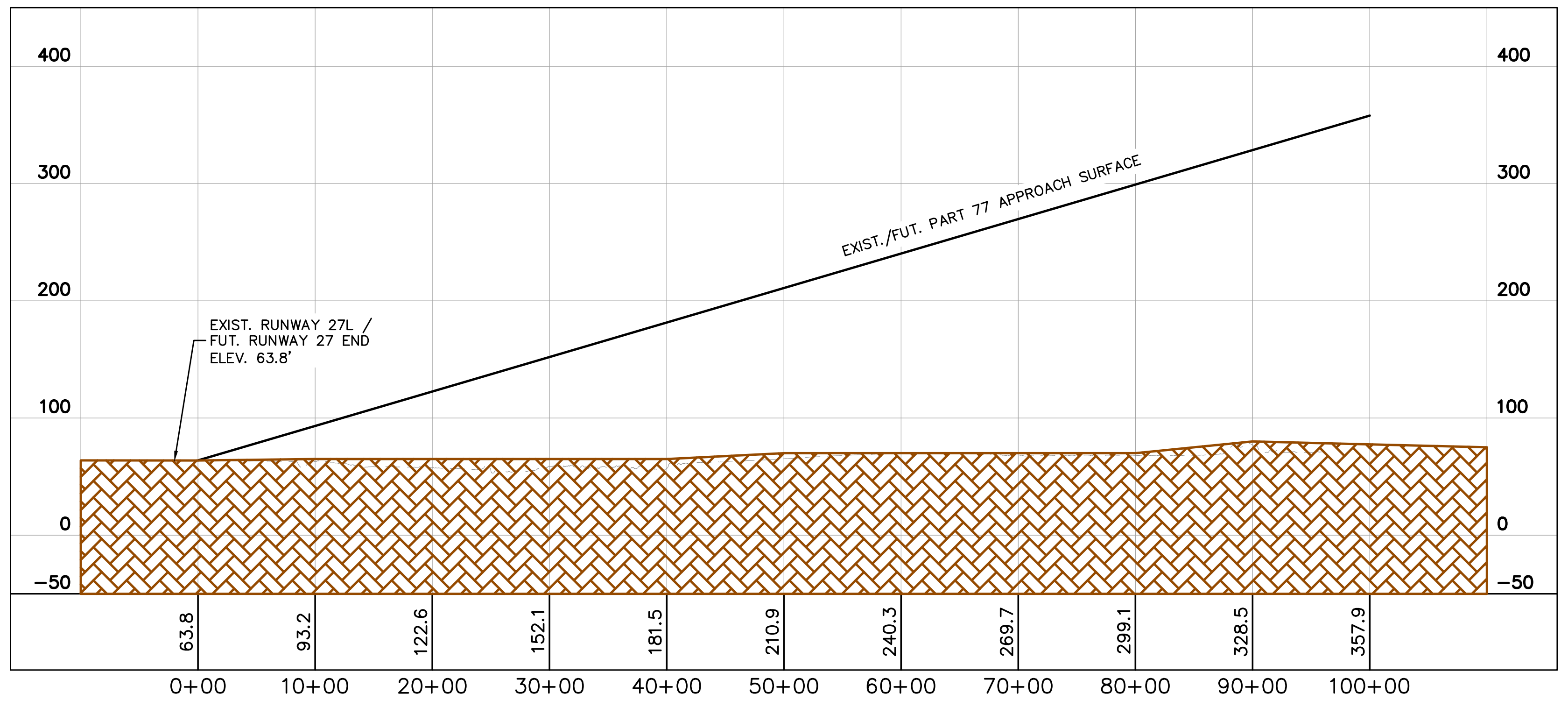
SHEET 13 OF 31

CECIL AIRPORT AND SPACEPORT - AIRPORT LAYOUT PLAN FAA IDENTIFIER VQQ

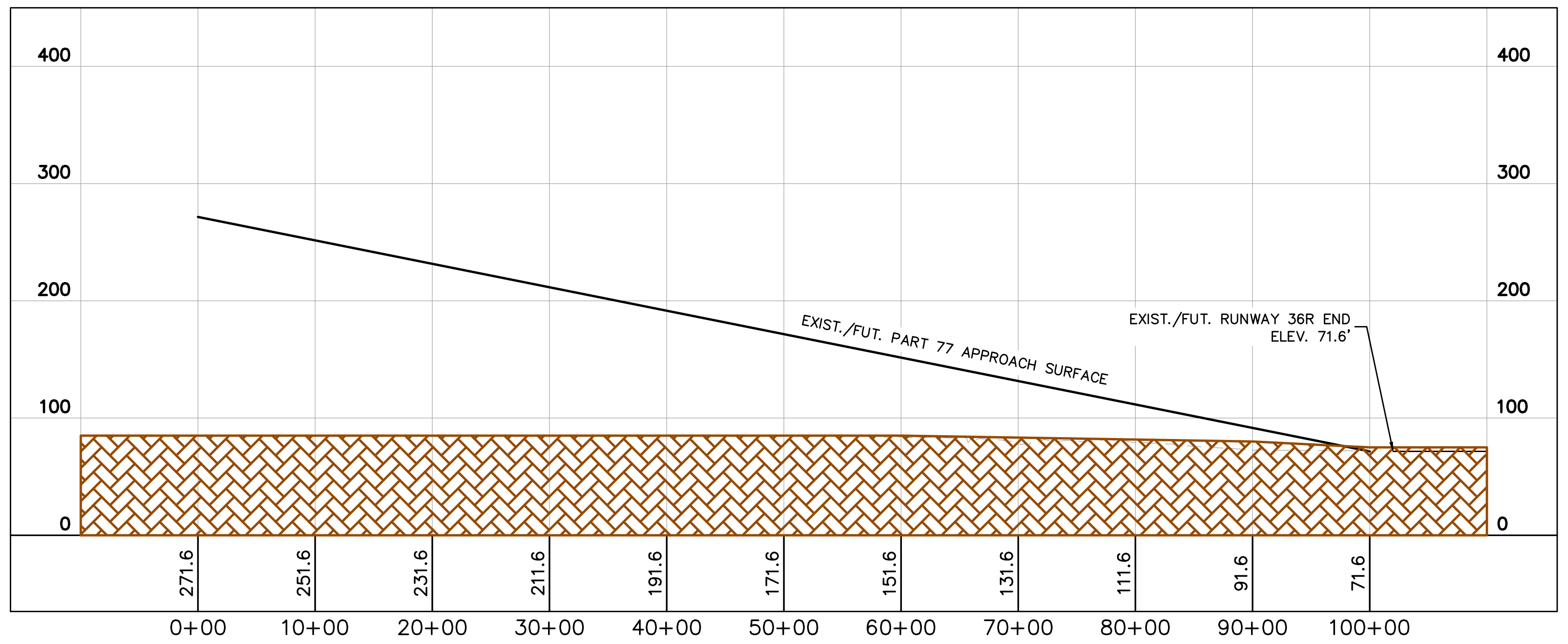
File Name: K:\SLC_Aviation\VQQ\Air and Space Master Plan\CADD\VQQ ALP Files\Sheet Set\13-14 Overall P77.dwg - Approach Profiles
Modified / By: June 10, 2025 10:53:26 AM / Brandon.Gilson
Plotted / By: 12:51:35 PM / Orvis, Cody



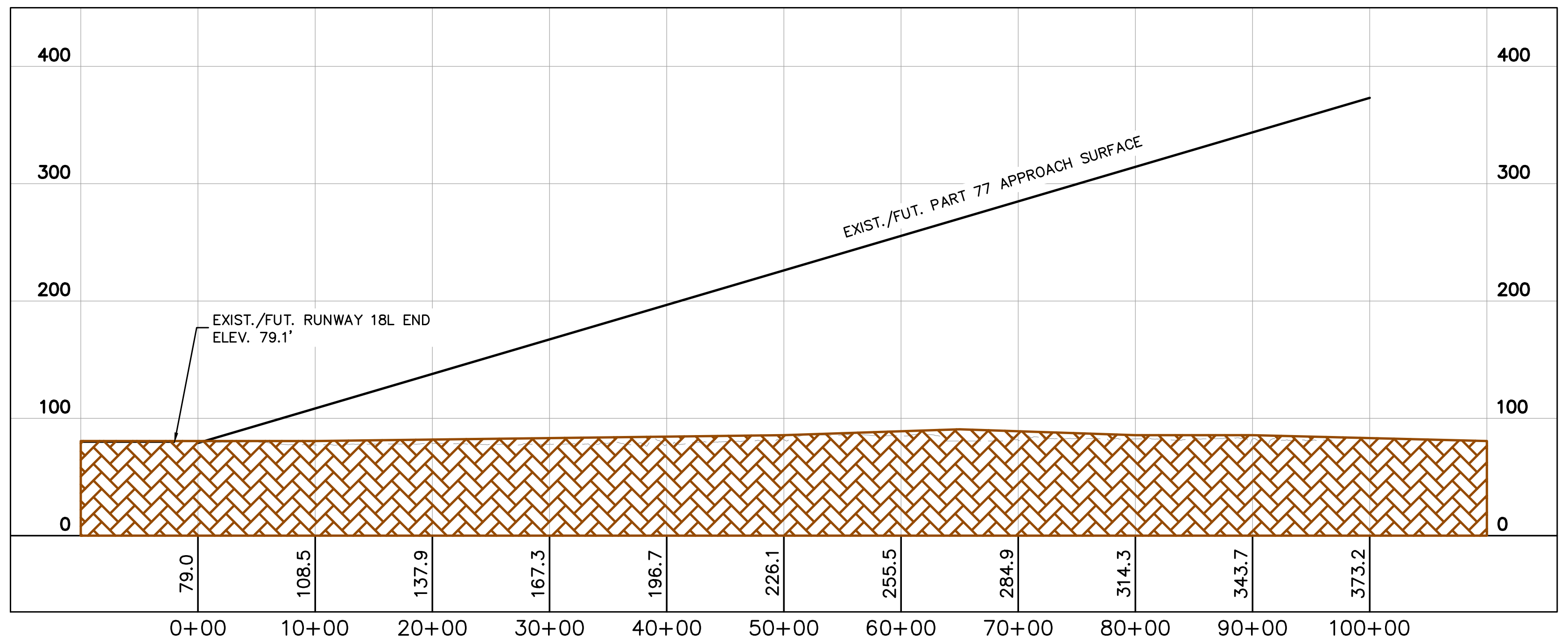
EXIST. RUNWAY 9R / FUT. RUNWAY 9 PART 77 APPROACH PROFILE



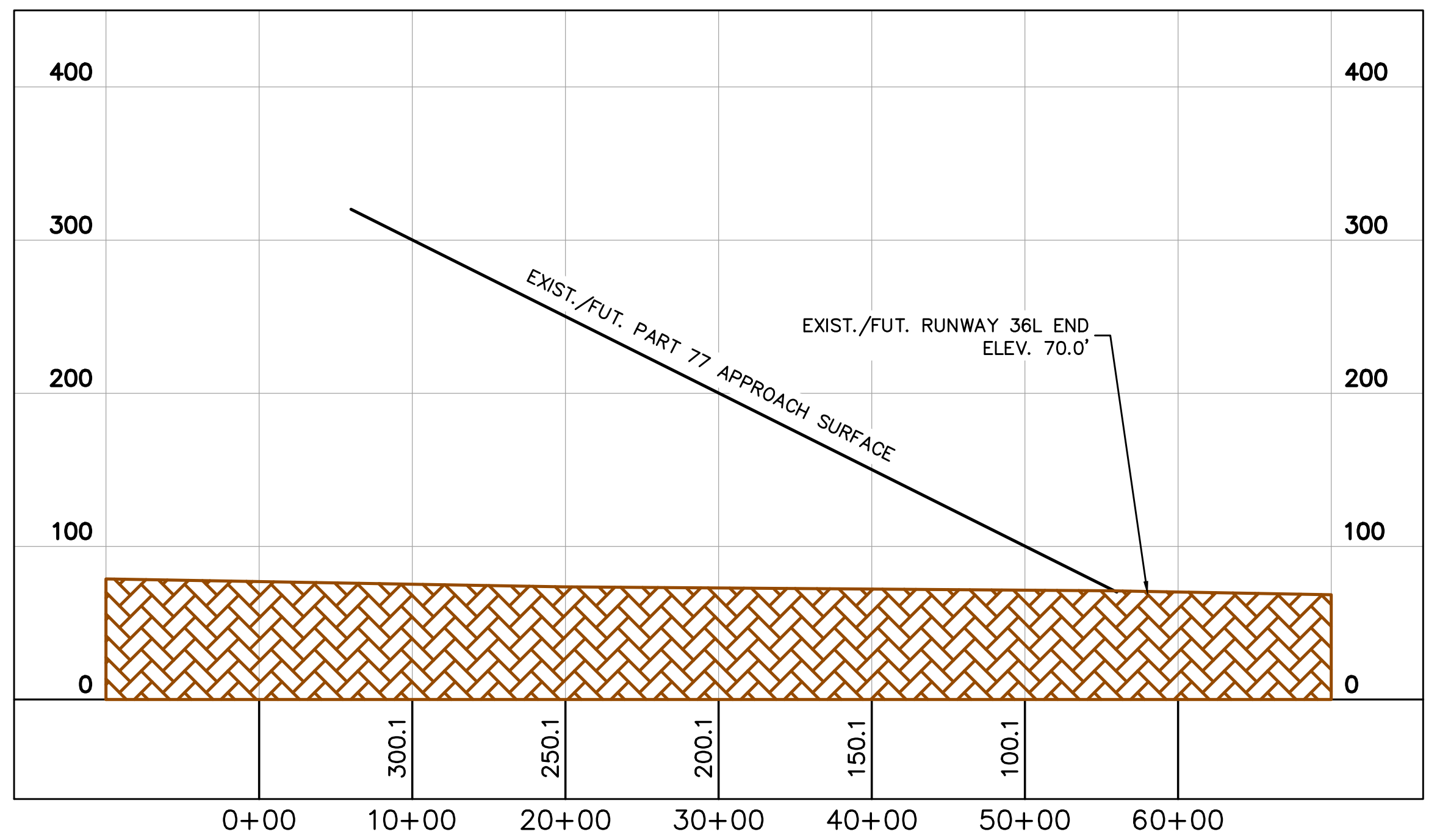
EXIST. RUNWAY 27L / FUT. RUNWAY 27 PART 77 APPROACH PROFILE



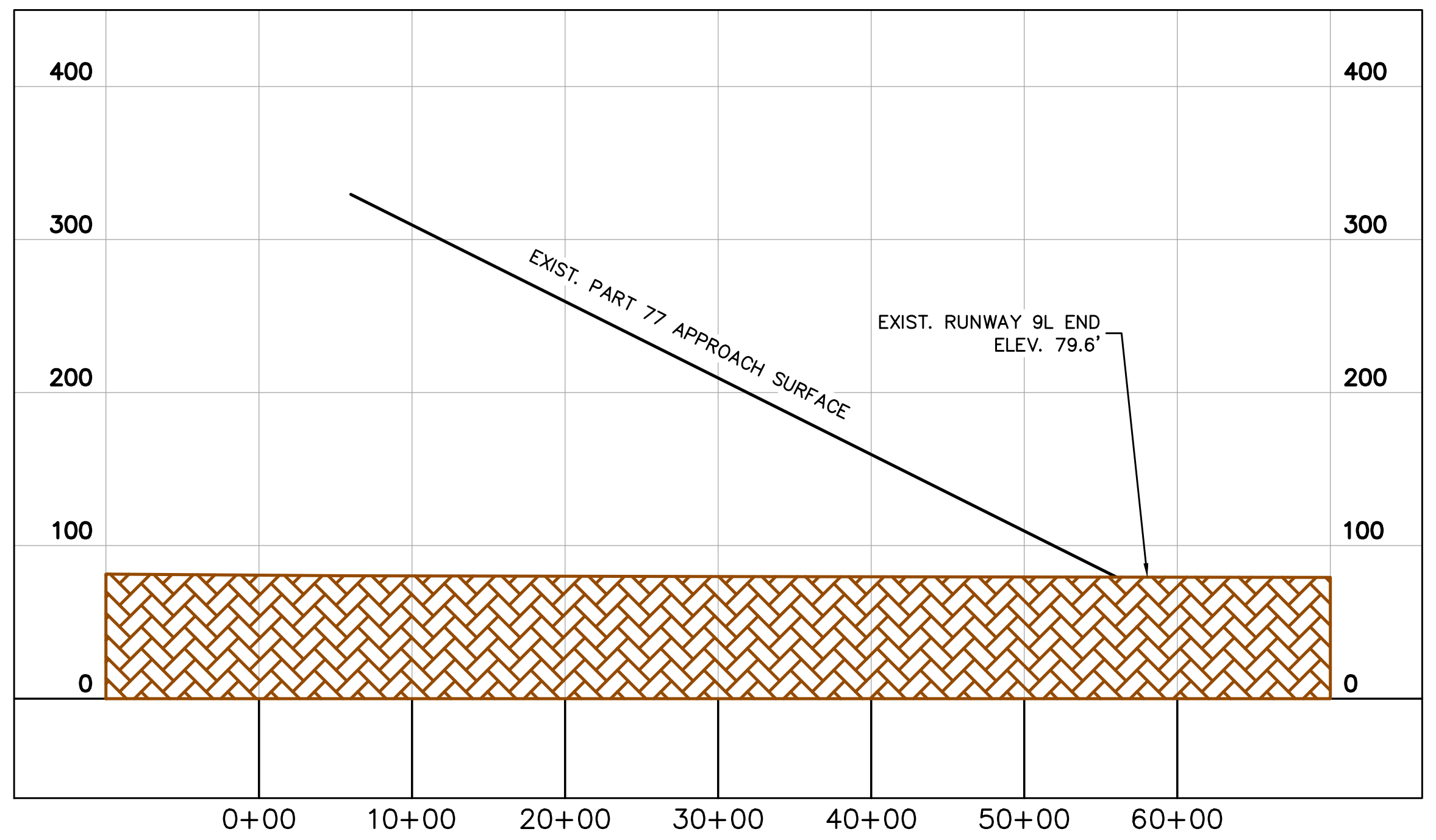
EXIST./FUT. RUNWAY 36R PART 77 APPROACH PROFILE



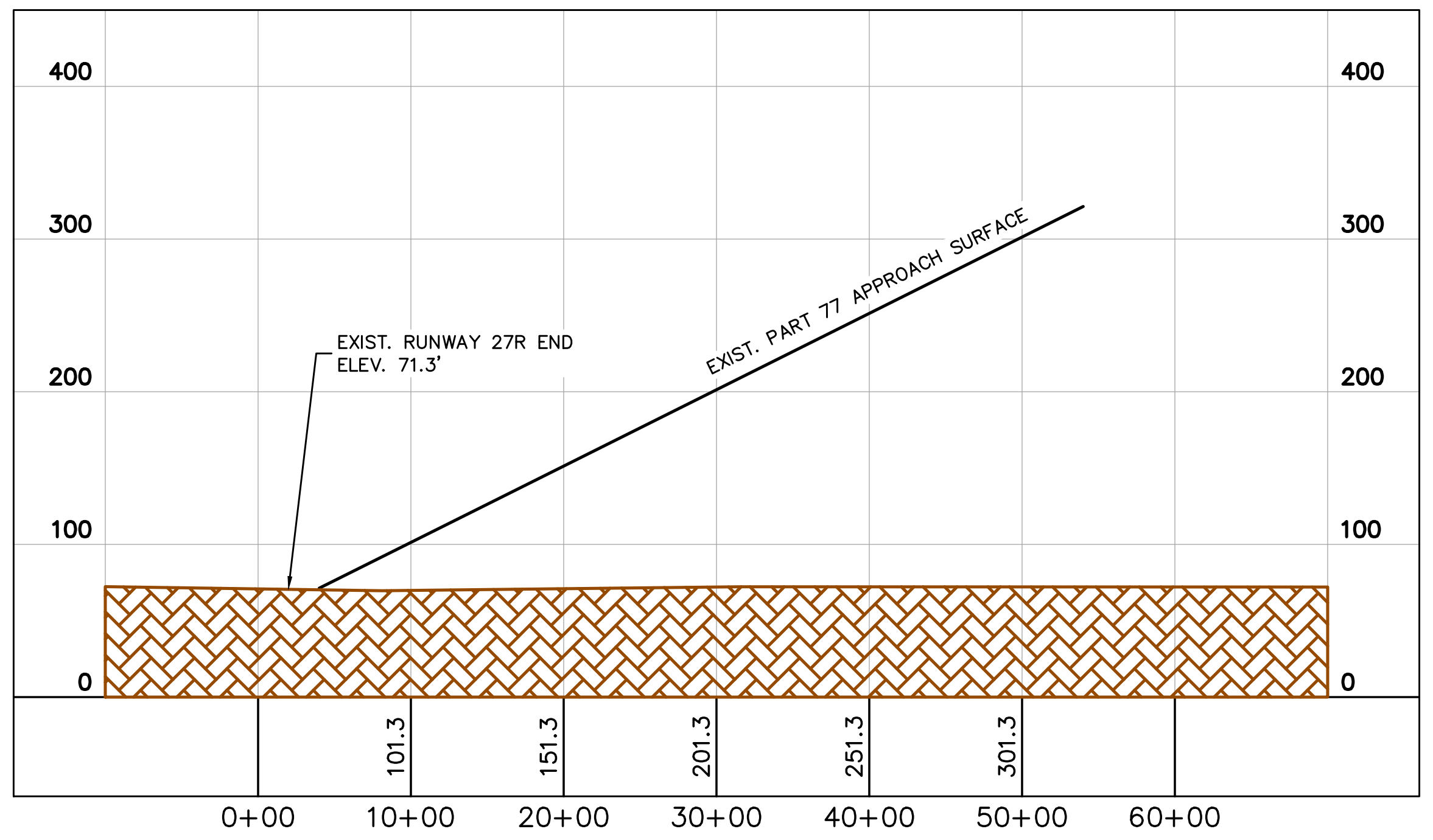
EXIST./FUT. RUNWAY 18L PART 77 APPROACH PROFILE



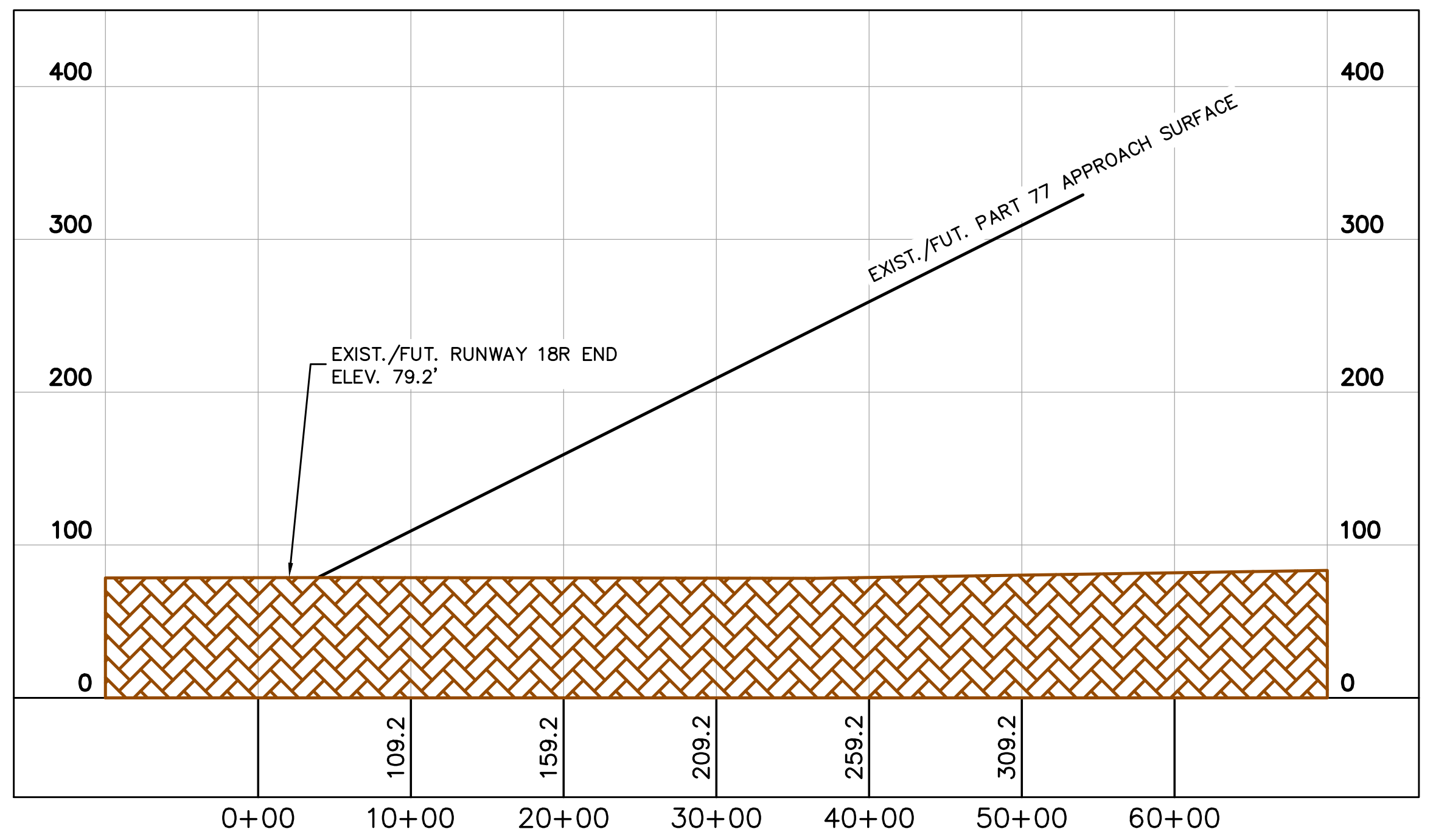
EXIST./FUT. RUNWAY 36L PART 77 APPROACH PROFILE



EXIST. RUNWAY 9L PART 77 APPROACH PROFILE



EXIST. RUNWAY 27R PART 77 APPROACH PROFILE



EXIST./FUT. RUNWAY 18R PART 77 APPROACH PROFILE

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

0' 1,000' 2,000'
HORIZONTAL SCALE: 1"=1,000'

GENERAL NOTES

1) RUNWAY CENTERLINE ELEVATIONS WERE TAKEN FROM 2022 AERONAUTICAL SURVEY DATA.
2) RUNWAY LINE OF SIGHT WAS DRAWN AS A DIRECT LINE CONNECTING TWO POINTS FIVE FEET ABOVE EACH RUNWAY END POINT.
3) FOR RSA DIMENSIONS, REFER TO THE RUNWAY DATA TABLE FOUND ON SHEET 02.
4) ALL ELEVATIONS ARE IN NGVD88.

LEGEND

DESCRIPTION	ITEM
USGS CONTOURS	
COMPOSITE GROUND	▨

NO.	DATE	REVISIONS	BY	APPR.	SPRS. APPR.
5					
4					
3					
2					
1					

Kimley»Horn

111 E Broadway Suite #600
Salt Lake City, UT 84111
(385) 212 - 3176

FAA DISCLAMER
THE CONTENTS OF THIS PLAN DO NOT NECESSARILY REFLECT THE OFFICIAL VIEWS OR POLICY OF THE FEDERAL AVIATION ADMINISTRATION (FAA). ACCEPTANCE OF THIS DOCUMENT BY THE FAA DOES NOT IN ANY WAY CONSTITUTE A COMMITMENT ON THE PART OF THE UNITED STATES TO PARTICIPATE IN ANY DEVELOPMENT DEPICTED HEREIN NOR DOES IT INDICATE THAT THE PROPOSED DEVELOPMENT IS ENVIRONMENTALLY ACCEPTABLE IN ACCORDANCE WITH APPROPRIATE PUBLIC LAW.

JAA Jacksonville Aviation Authority
Cecil Cecil Airport
Cecil Cecil Spaceport

Jacksonville Aviation Authority
Cecil Airport and Spaceport
JACKSONVILLE, FLORIDA

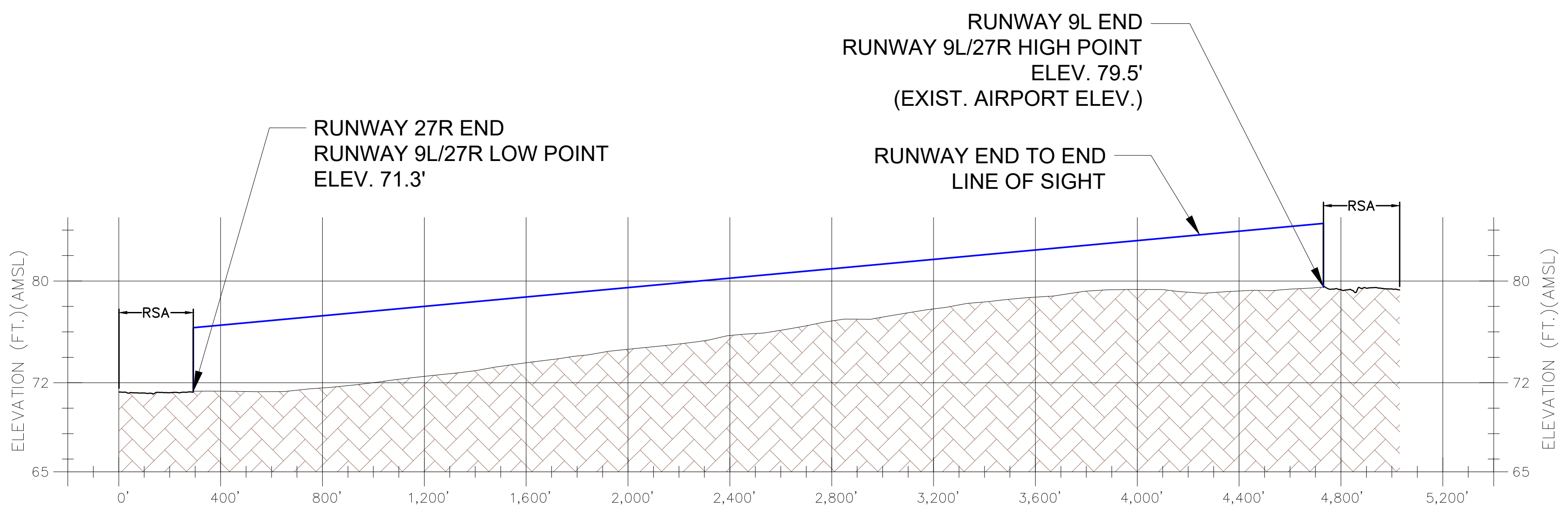
AIP GRANT
3-12-0032-023-2021
BY
APPR.

SHEET NAME
PART 77 SURFACES - APPROACH PROFILES

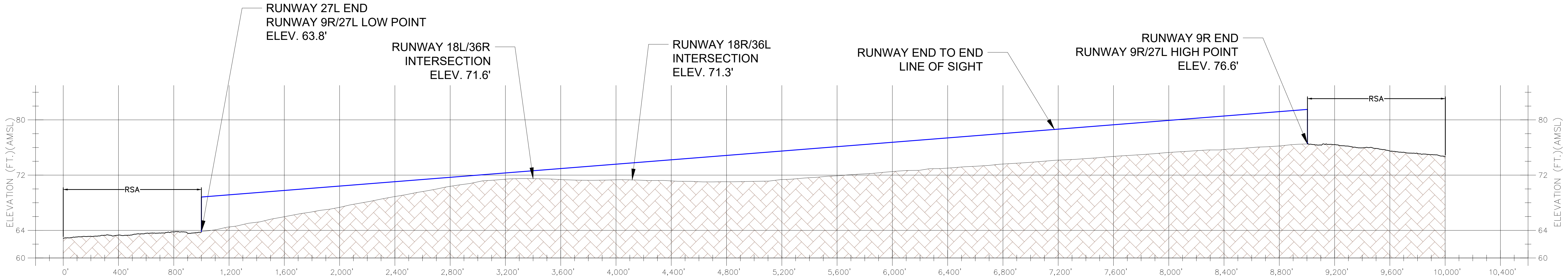
JAA PROJECT NO.
21-18-42001
DATE: June 2025
DRAWN BC
DESIGNED KH
CHECKED BG
APPROVED AS
SHEET 14 OF 31

CECIL AIRPORT AND SPACEPORT - AIRPORT LAYOUT PLAN FAA IDENTIFIER VQQ

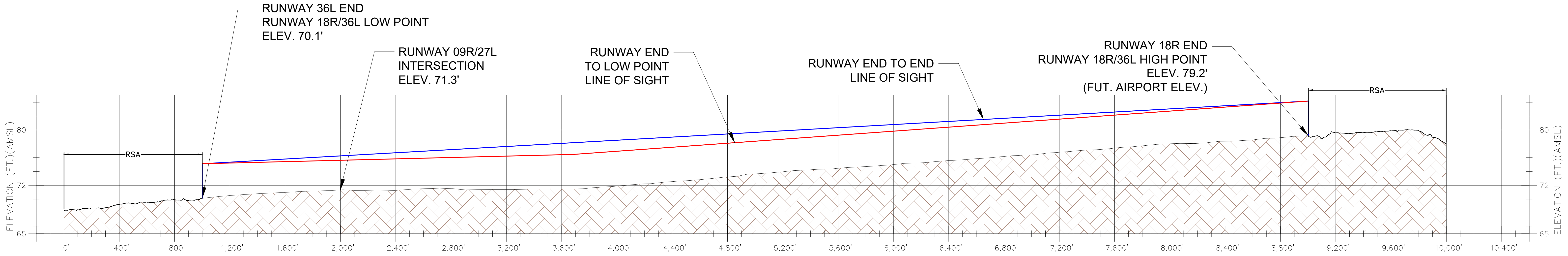
File Name: K:\SLC_Aviation\VQQ\Air and Space Master Plan\CADD\VQQ ALP Files\Sheet Set\15 Runway Cline Profiles.dwg - Title Sheet
Modified / By: June 10, 2025 10:53:53 AM / Brandon.Gilson
Plotted / By: 12:51:42 PM / Orvis, Cody



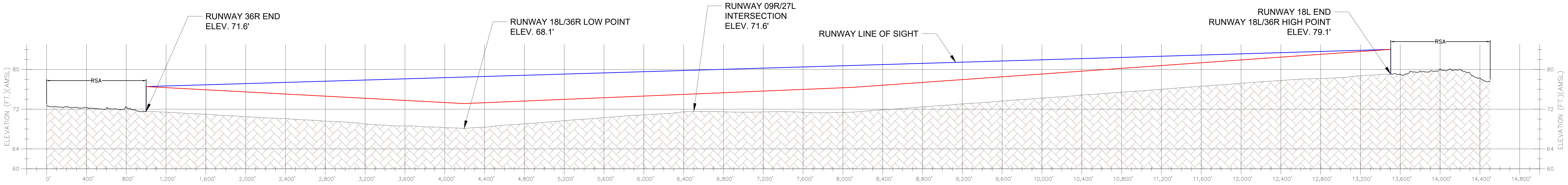
EXISTING RUNWAY 9L/27R PROFILE (TO BE DECOMMISSIONED)



EXISTING RUNWAY 9R/27L / FUTURE RUNWAY 9/27 PROFILE



EXISTING/FUTURE RUNWAY 18R/36L PROFILE



EXISTING/FUTURE RUNWAY 18L/36R PROFILE

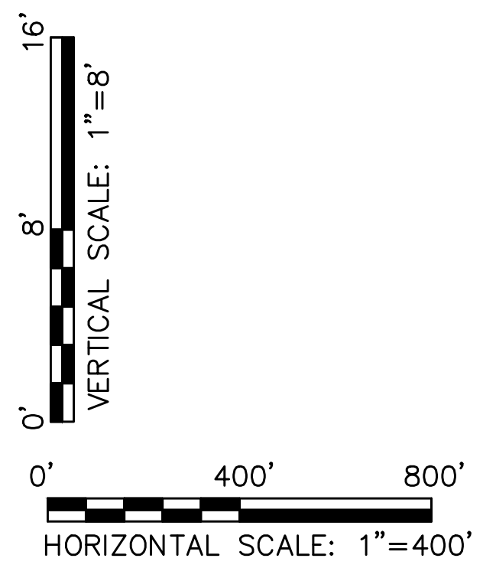
GENERAL NOTES

1) RUNWAY CENTERLINE ELEVATIONS WERE TAKEN FROM 2022 AERONAUTICAL SURVEY DATA.

2) RUNWAY LINE OF SIGHT WAS DRAWN AS A DIRECT LINE CONNECTING TWO POINTS FIVE FEET ABOVE EACH RUNWAY END POINT.

3) FOR RSA DIMENSIONS, REFER TO THE RUNWAY DATA TABLE FOUND ON SHEET 02.

4) ALL ELEVATIONS ARE IN NGVD88.



NO.	DATE	REVISIONS	BY	APPR.	SPRS. APPR.
5					
4					
3					
2					
1					

Kimley»Horn

©2023 KIMLEY-HORN AND ASSOCIATES, INC.
111 E Broadway Suite #600
Salt Lake City, UT 84111
(385) 212 - 3176

FAA DISCLAMER

THE CONTENTS OF THIS PLAN DO NOT NECESSARILY REFLECT THE OFFICIAL VIEWS OR POLICY OF THE FEDERAL AVIATION ADMINISTRATION (FAA). ACCEPTANCE OF THIS DOCUMENT BY THE FAA DOES NOT IN ANY WAY CONSTITUTE A COMMITMENT ON THE PART OF THE UNITED STATES TO PARTICIPATE IN ANY DEVELOPMENT DEPICTED HEREIN NOR DOES IT INDICATE THAT THE PROPOSED DEVELOPMENT IS ENVIRONMENTALLY ACCEPTABLE IN ACCORDANCE WITH APPROPRIATE PUBLIC LAW.

Jacksonville Aviation Authority
Cecil Airport and Spaceport
JACKSONVILLE, FLORIDA

AIP GRANT
3-12-0032-023-2021
BY

SHEET NAME
RUNWAY CENTERLINE PROFILES
APPR.

JAA PROJECT NO. 21-18-42001	DRAWN	BC	CHECKED	BG	
DATE: June 2025	DESIGNED	KH	APPROVED	AS	SHEET 15 OF 31

CECIL AIRPORT AND SPACEPORT - AIRPORT LAYOUT PLAN FAA IDENTIFIER VQQ

File Name: K:\SLC_Aviation\VQQ\Air and Space Master Plan\CADD\VQQ ALP Files\Sheet Set\Obstacle Table.dwg - Table
Modified / By: June 10, 2025 10:54:39 AM / Brandon.Gilson
Plotted / By: 12:51:50 PM / Orvis, Cody

OBSTACLE GROUPINGS	OBSTRUCTION ID	OBSTACLE CATEGORY	OBSTACLE HEIGHT	SURFACE PENETRATED	PENETRATION VALUES	METHOD OF MITIGATION	DATE OF MITIGATION
0	80554	TREETOP	136.36	TRANSITIONAL	41.675	TRIM/LOWER OBSTACLE	2029
0	80540	TREETOP	140.259	TRANSITIONAL	40.418	TRIM/LOWER OBSTACLE	2029
0	80555	TREETOP	136.873	TRANSITIONAL	37.807	TRIM/LOWER OBSTACLE	2029
0	80542	TREETOP	138.849	TRANSITIONAL	37.772	TRIM/LOWER OBSTACLE	2029
0	80569	TREETOP	134.185	TRANSITIONAL	37.354	TRIM/LOWER OBSTACLE	2029
0	93953	TREETOP	90.355	TRANSITIONAL	4.524	TRIM/LOWER OBSTACLE	2029
0	80269	TREETOP	115.954	TRANSITIONAL	31.275	TRIM/LOWER OBSTACLE	2029
0	80551	TREETOP	120.869	TRANSITIONAL	34.905	TRIM/LOWER OBSTACLE	2029
0	80508	TREETOP	109.63	TRANSITIONAL	5.102	TRIM/LOWER OBSTACLE	2029
1	80155	TREETOP	71.825	PRIMARY	6.928	TRIM/LOWER OBSTACLE	2027
1	80150	TREETOP	71.739	PRIMARY	6.777	TRIM/LOWER OBSTACLE	2027
1	80153	TREETOP	71.653	PRIMARY	6.623	TRIM/LOWER OBSTACLE	2027
1	80146	TREETOP	71.567	PRIMARY	6.585	TRIM/LOWER OBSTACLE	2027
1	80151	TREETOP	71.308	PRIMARY	6.376	TRIM/LOWER OBSTACLE	2027
1	80154	TREETOP	70.878	PRIMARY	6.043	TRIM/LOWER OBSTACLE	2027
1	80167	TREETOP	65.884	PRIMARY	0.827	TRIM/LOWER OBSTACLE	2027
1	80171	TREETOP	67.619	PRIMARY	2.754	TRIM/LOWER OBSTACLE	2027
1	80160	TREETOP	71.308	TRANSITIONAL	1.262	TRIM/LOWER OBSTACLE	2029
1	80178	TREETOP	67.287	PRIMARY	2.29	TRIM/LOWER OBSTACLE	2027
1	80177	TREETOP	65.626	PRIMARY	0.585	TRIM/LOWER OBSTACLE	2027
2	80354	TREETOP	134.375	TRANSITIONAL	31.056	TRIM/LOWER OBSTACLE	2029
2	80355	TREETOP	131.907	TRANSITIONAL	29.672	TRIM/LOWER OBSTACLE	2029
2	97310	TREETOP	125.371	TRANSITIONAL	29.486	TRIM/LOWER OBSTACLE	2029
2	74451	TREETOP	128.041	TRANSITIONAL	28.543	TRIM/LOWER OBSTACLE	2029
2	97312	TREETOP	129.131	TRANSITIONAL	28.533	TRIM/LOWER OBSTACLE	2029
2	80436	TREETOP	130.719	TRANSITIONAL	26.683	TRIM/LOWER OBSTACLE	2029
2	97303	TREETOP	112.974	TRANSITIONAL	14.394	TRIM/LOWER OBSTACLE	2029
2	74460	TREETOP	118.221	TRANSITIONAL	21.093	TRIM/LOWER OBSTACLE	2029
2	74474	TREETOP	108.922	TRANSITIONAL	8.865	TRIM/LOWER OBSTACLE	2029
3	87796	TREETOP	109.626	TRANSITIONAL	13.604	TRIM/LOWER OBSTACLE	2029
3	87600	TREETOP	103.776	TRANSITIONAL	7.908	TRIM/LOWER OBSTACLE	2029
3	87791	TREETOP	101.319	TRANSITIONAL	5.562	TRIM/LOWER OBSTACLE	2029
3	77967	TREETOP	103.044	TRANSITIONAL	4.802	TRIM/LOWER OBSTACLE	2029
3	90642	TREETOP	106.844	TRANSITIONAL	4.605	TRIM/LOWER OBSTACLE	2029
3	87797	TREETOP	101.878	TRANSITIONAL	1.062	TRIM/LOWER OBSTACLE	2029
3	87794	TREETOP	98.967	TRANSITIONAL	2.484	TRIM/LOWER OBSTACLE	2029
4	78071	TREETOP	148.163	TRANSITIONAL	39.757	TRIM/LOWER OBSTACLE	2029
4	90858	TREETOP	145.34	TRANSITIONAL	36.951	TRIM/LOWER OBSTACLE	2029
4	87664	TREETOP	142.657	TRANSITIONAL	35.764	TRIM/LOWER OBSTACLE	2029
4	78167	TREETOP	143.682	TRANSITIONAL	35.747	TRIM/LOWER OBSTACLE	2029
4	78072	TREETOP	141.994	TRANSITIONAL	35.525	TRIM/LOWER OBSTACLE	2029
4	74832	TREETOP	119.16	TRANSITIONAL	12.997	TRIM/LOWER OBSTACLE	2029
4	87183	TREETOP	106.455	TRANSITIONAL	0.15	TRIM/LOWER OBSTACLE	2029
4	78121	TREETOP	117.914	TRANSITIONAL	11.128	TRIM/LOWER OBSTACLE	2029
4	78077	TREETOP	122.757	TRANSITIONAL	15.603	TRIM/LOWER OBSTACLE	2029
4	78091	TREETOP	125.573	TRANSITIONAL	9.144	TRIM/LOWER OBSTACLE	2029
5	92279, 155451	TREETOP, TREETOP	177.222	TRANSITIONAL, 27L_13B-DEP	17.55, 30.264	TRIM/LOWER OBSTACLE	2026
5	95330, 155946	TREETOP, TREETOP	176.315	TRANSITIONAL, 27L_13B-DEP	17.413, 29.398	TRIM/LOWER OBSTACLE	2026
5	92658, 155807	TREETOP, TREETOP	169.997	TRANSITIONAL, 27L_13B-DEP	12.94, 22.55	TRIM/LOWER OBSTACLE	2026
5	97464, 156254	TREETOP, TREETOP	165.006	TRANSITIONAL, 27L_13B-DEP	0.978, 20.819	TRIM/LOWER OBSTACLE	2026
5	79815, 161832	TREETOP, TREETOP	166.864	TRANSITIONAL, 27L_13B-DEP	7.533, 20.694	TRIM/LOWER OBSTACLE	2026
5	164384	TREETOP	140.943	27L_13B-DEP	4.413	TRIM/LOWER OBSTACLE	2026
5	164381	TREETOP	138.516	27L_13B-DEP	2.242	TRIM/LOWER OBSTACLE	2026
5	164593	TREETOP	139.806	27L_13B-DEP	2.19	TRIM/LOWER OBSTACLE	2026
5	75968, 157870	TREETOP, TREETOP	159.16	TRANSITIONAL, 27L_13B-DEP	7.676, 16.058	TRIM/LOWER OBSTACLE	2026
5	85523, 165790	TREETOP, TREETOP	161.585	TRANSITIONAL, 27L_13B-DEP	4.814, 15.135	TRIM/LOWER OBSTACLE	2026
6	80287	TREETOP	127.971	TRANSITIONAL	29.949	TRIM/LOWER OBSTACLE	2029
6	94048	TREETOP	126.641	TRANSITIONAL	25.033	TRIM/LOWER OBSTACLE	2029
6	90986	TREETOP	132.241	TRANSITIONAL	24.651	TRIM/LOWER OBSTACLE	2029
6	74541	TREETOP	127.399	TRANSITIONAL	22.997	TRIM/LOWER OBSTACLE	2029
6	74596	TREETOP	119.452	TRANSITIONAL	20.932	TRIM/LOWER OBSTACLE	2029
6	90592	TREETOP	117.905	TRANSITIONAL	13.823	TRIM/LOWER OBSTACLE	2029
6	80313	TREETOP	100.435	TRANSITIONAL	1.82	TRIM/LOWER OBSTACLE	2029
6	74600	TREETOP	111.329	TRANSITIONAL	13.525	TRIM/LOWER OBSTACLE	2029
6	79639	TREETOP	125.406	TRANSITIONAL	16.401	TRIM/LOWER OBSTACLE	2029
6	74501	TREETOP	124.654	TRANSITIONAL	16.186	TRIM/LOWER OBSTACLE	2029
7	77815, 152376	TREETOP, TREETOP	172.727	TRANSITIONAL, 36R_13B-DEP	42.089, 17.228	TRIM/LOWER OBSTACLE	2026
7	77819, 152380	TREETOP, TREETOP	166.388	TRANSITIONAL, 36R_13B-DEP	35.742, 16.071	TRIM/LOWER OBSTACLE	2026
7	77823, 152384	TREETOP, TREETOP	161.439	TRANSITIONAL, 36R_13B-DEP	29.723, 10.068	TRIM/LOWER OBSTACLE	2026
7	75261, 149776	TREETOP, TREETOP	169.078	TRANSITIONAL, 36R_13B-DEP	37.835, 10.032	TRIM/LOWER OBSTACLE	2026
7	85823, 159503	TREETOP, TREETOP	162.62	TRANSITIONAL, 36R_13B-DEP	33.784, 8.589	TRIM/LOWER OBSTACLE	2026
7	74994	TREETOP	131.587	TRANSITIONAL	25.769	TRIM/LOWER OBSTACLE	2029
7	85523	TREETOP	152.858	TRANSITIONAL	25.827	TRIM/LOWER OBSTACLE	2029
7	90513	TREETOP	113.423	TRANSITIONAL	7.967	TRIM/LOWER OBSTACLE	2029
7	74921	TREETOP	148.545	TRANSITIONAL	39.465	TRIM/LOWER OBSTACLE	2029
7	78233	TREETOP	129.81	TRANSITIONAL	23.959	TRIM/LOWER OBSTACLE	2029
8	146975	TREETOP	172.089	9R_13B-DEP	9.851	TRIM/LOWER OBSTACLE	2026
8	98035, 147263	TREETOP, TREETOP	165.677	TRANSITIONAL, 9R_13B-DEP	1.313, 9.575	TRIM/LOWER OBSTACLE	2026
8	147013	TREETOP	169.219	9R_13B-DEP	8.499	TRIM/LOWER OBSTACLE	2026
8	147014	TREETOP	168.891	9R_13B-DEP	8.252	TRIM/LOWER OBSTACLE	2026
8	147015	TREETOP	168.481	9R_13B-DEP	8.187	TRIM/LOWER OBSTACLE	2026
8	79481	TREETOP	140.735	TRANSITIONAL	21.072	TRIM/LOWER OBSTACLE	2029
8	90239	TREETOP	124.215	TRANSITIONAL	0.001	TRIM/LOWER OBSTACLE	2029
8	97285	TREETOP	139.764	TRANSITIONAL	17.754	TRIM/LOWER OBSTACLE	2029
8	80680	TREETOP	138.541	TRANSITIONAL	14.624	TRIM/LOWER OBSTACLE	2029
8	93493	TREETOP	135.927	TRANSITIONAL	6.407	TRIM/LOWER OBSTACLE	2029
9	77750, 152311	TREETOP, TREETOP	166.126	36R_APPROACH, 36R_13B-DEP	53.069, 3.572	TRIM/LOWER OBSTACLE	2026
9	77749, 152310	TREETOP, TREETOP	165.092	36R_APPROACH, 36R_13B-DEP	51.559, 0.172	TRIM/LOWER OBSTACLE	2026
9	85643	TREETOP	159.648	36R_APPROACH	47.603	TRIM/LOWER OBSTACLE	2028
9	87763	TREETOP	158.882	36R_APPROACH	46.073	TRIM/LOWER OBSTACLE	2028
9	85646	TREETOP	157.856	36R_APPROACH	45.446	TRIM/LOWER OBSTACLE	2028
9	85622	TREETOP	152.534	36R_APPROACH	41.087	TRIM/LOWER OBSTACLE	2028
9	85733	TREETOP	145.572	36R_APPROACH	32.627	TRIM/LOWER OBSTACLE	2028
9	85511, 159194	TREETOP, TREETOP	153.571	36R_APPROACH, 36R_13B-DEP	25.09, 5.857	TRIM/LOWER OBSTACLE	2026
9	77793	TREETOP	143.439	36R_APPROACH	16.727	TRIM/LOWER OBSTACLE	2028
9	77847	TREETOP	140.476	36R_APPROACH	4.328	TRIM/LOWER OBSTACLE	2028
10	77870, 152431	TREETOP, TREETOP	169.736	36R_APPROACH, 36R_13B-DEP	28.124, 5.609	TRIM/LOWER OBSTACLE	2026
10	77878, 152439	TREETOP, TREETOP	170.084	36R_APPROACH, 36R_13B-DEP	28.107, 5.501	TRIM/LOWER OBSTACLE	2026
10	77877, 152438	TREETOP, TREETOP	169.527	36R_APPROACH, 36R_13B-DEP	27.795, 5.25	TRIM/LOWER OBSTACLE	2026
10	77862, 152423	TREETOP, TREETOP	168.551	36R_APPROACH, 36R_13B-DEP	27.68, 5.351	TRIM/LOWER OBSTACLE	2026
10	77874, 152435	TREETOP, TREETOP	169.736	36R_APPROACH, 36R_13B-DEP	27.608, 4.964	TRIM/LOWER OBSTACLE	2026
10	77854	TREETOP	141.148	36R_APPROACH	2.041	TRIM/LOWER OBSTACLE	2028
10	78460	TREETOP	142.666	36R_APPROACH	2.95	TRIM/LOWER OBSTACLE	2028
10	85003	TREETOP	159.338	36R_APPROACH	19.52	TRIM/LOWER OBSTACLE	2028
10	74551	TREETOP	140.915	36R_APPROACH	0.783	TRIM/LOWER OBSTACLE	2028
10	77036	TREETOP	161.456	36R_APPROACH	21.63	TRIM/LOWER OBSTACLE	2028
11	73817	TREETOP	160.445	36R_APPROACH	20.857	TRIM/LOWER OBSTACLE	2028
11	73825	TREETOP	149.744	36R_APPROACH	9.883	TRIM/LOWER OBSTACLE	2028
11	77858	TREETOP	148.211	36R_APPROACH	8.441	TRIM/LOWER OBSTACLE	2028
11	80240	TREETOP	147.751	36R_APPROACH	8.12	TRIM/LOWER OBSTACLE	2028
11	73818	TREETOP	148.084	36R_APPROACH	8.037	TRIM/LOWER OBSTACLE	2028
11	73816	TREETOP	140.058	36R_APPROACH	0.291	TRIM/LOWER OBSTACLE	2028
11	73831	TREETOP	144.535	36R_APPROACH	4.792	TRIM/LOWER OBSTACLE	2028
11	73846	TREETOP	140.529	36R_APPROACH	0.464	TRIM/LOWER OBSTACLE	2028
11	73839	TREETOP	146.958	36R_APPROACH	7.306	TRIM/LOWER OBSTACLE	2028
11	73838	TREETOP	145.431	36R_APPROACH	5.635	TRIM/LOWER OBSTACLE	2028
12	76274	TREETOP	187.487	36R_APPROACH	23.542	TRIM/LOWER OBSTACLE	2028
12	75585	TREETOP	181.808	36R_APPROACH	22.801	TRIM/LOWER OBSTACLE	2028
12	75659	TREETOP	183.1	36R_APPROACH	22.181	TRIM/LOWER OBSTACLE	2028
12	75483	TREETOP	181.665	36R_APPROACH	22.065	TRIM/LOWER OBSTACLE	2028
12	76273	TREETOP	184.526	36R_APPROACH	20.809	TRIM/LOWER OBSTACLE	2028
12	78514	TREETOP	173.805	TRANSITIONAL	10.075	TRIM/LOWER OBSTACLE	2029
12	75470	TREETOP	169.611	36R_APPROACH	10.388	TRIM/LOWER OBSTACLE	2028
12	75462	TREETOP	175.925	36R_APPROACH	16.745	TRIM/LOWER OBSTACLE	2028
12	75490	TREETOP	167.745	36R_APPROACH	8.813	TRIM/LOWER OBSTACLE	2028
12	75529	TREETOP	164.158	36R_APPROACH	5.146	TRIM/LOWER OBSTACLE	2028
13	86491	TREETOP	182.601	36R_APPROACH	15.125	TRIM/LOWER OBSTACLE	2028
13	78964	TREETOP	180.241	36R_APPROACH	7.113	TRIM/LOWER OBSTACLE	2028
13	76129	TREETOP	174.014	36R_APPROACH	7.073	TRIM/LOWER OBSTACLE	2028
13	78950	TREETOP	178.87	36R_APPROACH	7.014	TRIM/LOWER OBSTACLE	2028
13	78951	TREETOP	178.512	36R_APPROACH	6.523	TRIM/LOWER OBSTACLE	2028
13	76132	TREETOP	165.535	36R_APPROACH	0.151	TRIM/LOWER OBSTACLE	2028
13	86496	TREETOP	167.597	36R_APPROACH	0.374	TRIM/LOWER OBSTACLE	2028
13	78953	TREETOP	175.939	36R_APPROACH	2.908	TRIM/LOWER OBSTACLE	2028
13	78612	TREETOP	172.837	36R_APPROACH	2.309	TRIM/LOWER OBSTACLE	2028
13	86490	TREETOP	169.533	36R_APPROACH	1.991	TRIM/LOWER OBSTACLE	2028
14	73225, 150652	TREETOP, TREETOP	162.579	9R_APPROACH, 9R_13B-DEP	11.78, 17.923	TRIM/LOWER OBSTACLE	2026
14	79499	TREETOP	138.149	9R_APPROACH	11.193	TRIM/LOWER OBSTACLE	2028
14	72971, 150473	TREETOP, TREETOP	165.51	9R_APPROACH, 9R_13B-DEP	10.362, 17.157	TRIM/LOWER OBSTACLE	2026
14	72972, 150474	TREETOP, TREETOP	165.451	9R_APPROACH, 9R_13B-DEP	10.061, 16.892	TRIM/LOWER OBSTACLE	2026
14	79573, 151783	TREETOP, TREETOP	164.633	9R_APPROACH, 9R_13B-DEP	9.804, 16.551	TRIM/LOWER OBSTACLE	2026
14	97250	TREETOP	133.488	9R_APPROACH	6.827	TRIM/LOWER OBSTACLE	2028
14	93242, 144358	TREETOP, TREETOP	154.036	9R_APPROACH, 9R_13B-DEP	0.003, 6.631	TRIM/LOWER OBSTACLE	2026
14	71924, 149520	TREETOP, TREETOP	161.271	9R_APPROACH, 9R_13B-DEP	6.419, 13.17	TRIM/LOWER OBSTACLE	2026
14	79487, 151697	TREETOP, TREETOP	126.143	9R_APPROACH, 9R_13B-DEP	0.23, 2.64	TRIM/LOWER OBSTACLE	2026
14	71919, 149515	TREETOP, TREETOP	157.657	9R_APPROACH, 9R_13B-DEP	2.933, 9.664	TRIM/LOWER OBSTACLE	2026
15	79473, 151683	TREETOP, TREETOP	148.82	9R_APPROACH, 9R_13B-DEP	29.083, 12.716	TRIM/LOWER OBSTACLE	2026
15	97246, 146690	TREETOP, TREETOP	148.689	9R_APPROACH, 9R_13B-DEP	28.405, 16.041	TRIM/LOWER OBSTACLE	2026
15	79484, 151694	TREETOP, TREETOP	151.559	9R_APPROACH, 9R_13B-DEP	28.343, 29.027	TRIM/LOWER OBSTACLE	2026
15	79472, 151682	TREETOP, TREETOP	146.983	9R_APPROACH, 9R_13B-DEP	27.88, 8.007	TRIM/LOWER OBSTACLE	2026
15	80289, 151906	TREETOP, TREETOP	146.46	9R_APPROACH, 9R_13B-DEP	27.128, 15.423	TRIM/LOWER OBSTACLE	2026
15	99449, 148651	TREETOP, TREETOP	121.073	9R_APPROACH, 9R_13B-DEP	0.983, 2.519	TRIM/LOWER OBSTACLE	2026
15	90238	TREETOP	128.836	9R_APPROACH	9.834	TRIM/LOWER OBSTACLE	2028
15	99451, 148653	TREETOP, TREETOP	137.752	9R_APPROACH, 9R_13B-DEP	18.552, 19.954	TRIM/LOWER OBSTACLE	2026
15	79479	TREETOP	124.745	9R_APPROACH	5.748	TRIM/LOWER OBSTACLE	2028
15	90232, 143289	TREETOP, TREETOP	145.009	9R_APPROACH, 9R_13B-DEP	25.611, 15.998	TRIM/LOWER OBSTACLE	2026
16	76191, 158091	TREETOP, TREETOP	153.229	27L_APPROACH, 27L_13B-DEP	13.906	TRIM/LOWER OBSTACLE	2026
16	80282, 162148	TREETOP, TREETOP	150.641	27L_APPROACH, 27L_13B-DEP	11.467	TRIM/LOWER OBSTACLE	2026
16	76326, 158226	TREETOP, TREETOP	146.767	27L_APPROACH, 27L_13B-DEP	9.427	TRIM/LOWER OBSTACLE	2026
16	76323, 158223	TREETOP, TREETOP	147.063	27L_APPROACH, 27L_13B-DEP	9.23	TRIM/LOWER OBSTACLE	2026
16	76661, 158562	TREETOP, TREETOP	154.668	27L_APPROACH, 27L_13B-DEP	14.669	TRIM/LOWER OBSTACLE	2026
16	76339, 158240	TREETOP, TREETOP	142.684	27L_APPROACH, 27L_13B-DEP	7.246	TRIM/LOWER OBSTACLE	2026
16	76340, 158241	TREETOP, TREETOP	142.462	27L_APPROACH, 27L_13B-DEP	7.105	TRIM/LOWER OBSTACLE	2026
16	158518	TREETOP	139.777	27L_13B-DEP	3.048	TRIM/LOWER OBSTACLE	2026
16	158084	TREETOP	137.559	27L_13B-DEP	2.244	TRIM/LOWER OBSTACLE	2026
16	158079	TREETOP	140.322	27L_13B-DEP	3.336	TRIM/LOWER OBSTACLE	2026
17	157450	TREETOP	144.063	27L_13B-DEP	5.968	TRIM/LOWER OBSTACLE	2026
17	157451	TREETOP	142.518	27L_13B-DEP	4.294	TRIM/LOWER OBSTACLE	2026
17	161773	TREETOP	145.492	27L_13B-DEP	4.259	TRIM/LOWER OBSTACLE	2026
17	154158	TREETOP	143.321	27L_13B-DEP	4.137	TRIM/LOWER OBSTACLE	2026
17	157447	TREETOP	142.194	27L_13B-DEP	3.865	TRIM/LOWER OBSTACLE	2026
17	157444	TREETOP	138.159	27L_13B-DEP	0.8	TRIM/LOWER OBSTACLE	2026
17	155927	TREETOP	138.56	27L_13B-DEP	1.153	TRIM/LOWER OBSTACLE	2026
17	157443	TREETOP	139.242	27L_13B-DEP	1.575	TRIM/LOWER OBSTACLE	2026
17	163340	TREETOP	138.36	27L_13B-DEP	0.086	TRIM/LOWER OBSTACLE	2026
17	154159	TREETOP	141.944	27L_13B-DEP	2.988	TRIM/LOWER OBSTACLE	2026
18	95332	TREETOP	134.88	27L_APPROACH	28.287	TRIM/LOWER OBSTACLE	2028
18	79632	TREETOP	134.889	27L_APPROACH	28.158	TRIM/LOWER OBSTACLE	2028
18	74639, 156552	TREETOP, TREETOP	138.02	27L_APPROACH, 27L_13B-DEP	26.029, 3.26	TRIM/LOWER OBSTACLE	2026
18	94111	TREETOP	133.508	27L_APPROACH	25.984	TRIM/LOWER OBSTACLE	2028
18	90718	TREETOP	136.237	27L_APPROACH	24.508	TRIM/LOWER OBSTACLE	2028
18	156867	TREETOP	131.415	27L_13B-DEP	3.217	TRIM/LOWER OBSTACLE	2026
18	163415	TREETOP	128.334	27L_13B-DEP	0.032	TRIM/LOWER OBSTACLE	2026
18	161754	TREETOP	134.602	27L_13B-DEP	1.801	TRIM/LOWER OBSTACLE	2026
18	161707	TREETOP	129.894	27L_13B-DEP	0.128	TRIM/LOWER OBSTACLE	2026
18	162993	TREETOP	128.479	27L_13B-DEP	0.193	TRIM/LOWER OBSTACLE	2026

GENERAL NOTES

1) DUE TO THE AMOUNT OF OBSTRUCTIONS CAPTURED WITHIN THE AERONAUTICAL SURVEY FLOWN BY MARTINEZ GEOSPATIAL, INC. ON SEPTEMBER 21 AND 24 OF 2022 AS PART OF A PART 77 OBSTRUCTION COLLECTION SURVEY, OBSTACLES WERE GROUPED WITHIN THE PLAN VIEWS SHOWN ON THE PREVIOUS SHEETS TO ENHANCE VISUAL CLARITY.
2) TRAVERSEWAY VERTICAL BUFFER WAS TAKEN INTO ACCOUNT FOR ALL PRIMARY AND SECONDARY ROADWAY ELEVATIONS.
3) PLANNED MITIGATION DATES ARE BASED UPON ANTICIPATED MITIGATION SCHEDULE AND IS BASED ON SURFACE PENETRATED AND GENERAL RUNWAY END.

JAA
Jacksonville
Aviation
Authority

Cecil
Cecil Airport

Cecil
Cecil Spaceport

Jacksonville Aviation Authority
Cecil Airport and Spaceport
JACKSONVILLE, FLORIDA

NO.	DATE	REVISIONS	BY	APPR.	SPRS. APPR.
5					
4					
3					
2					
1					

Kimley»Horn

111 E Broadway Suite #600
Salt Lake City, UT 84111
(385) 212 - 3176

FAA DISCLAMER

THE CONTENTS OF THIS PLAN DO NOT NECESSARILY REFLECT THE OFFICIAL VIEWS OR POLICY OF THE FEDERAL AVIATION ADMINISTRATION (FAA). ACCEPTANCE OF THIS DOCUMENT BY THE FAA DOES NOT IN ANY WAY CONSTITUTE A COMMITMENT ON THE PART OF THE UNITED STATES TO PARTICIPATE IN ANY DEVELOPMENT DEPICTED HEREIN NOR DOES IT INDICATE THAT THE PROPOSED DEVELOPMENT IS ENVIRONMENTALLY ACCEPTABLE IN ACCORDANCE WITH APPROPRIATE PUBLIC LAW.

AIP GRANT
3-12-0032-023-2021
BY

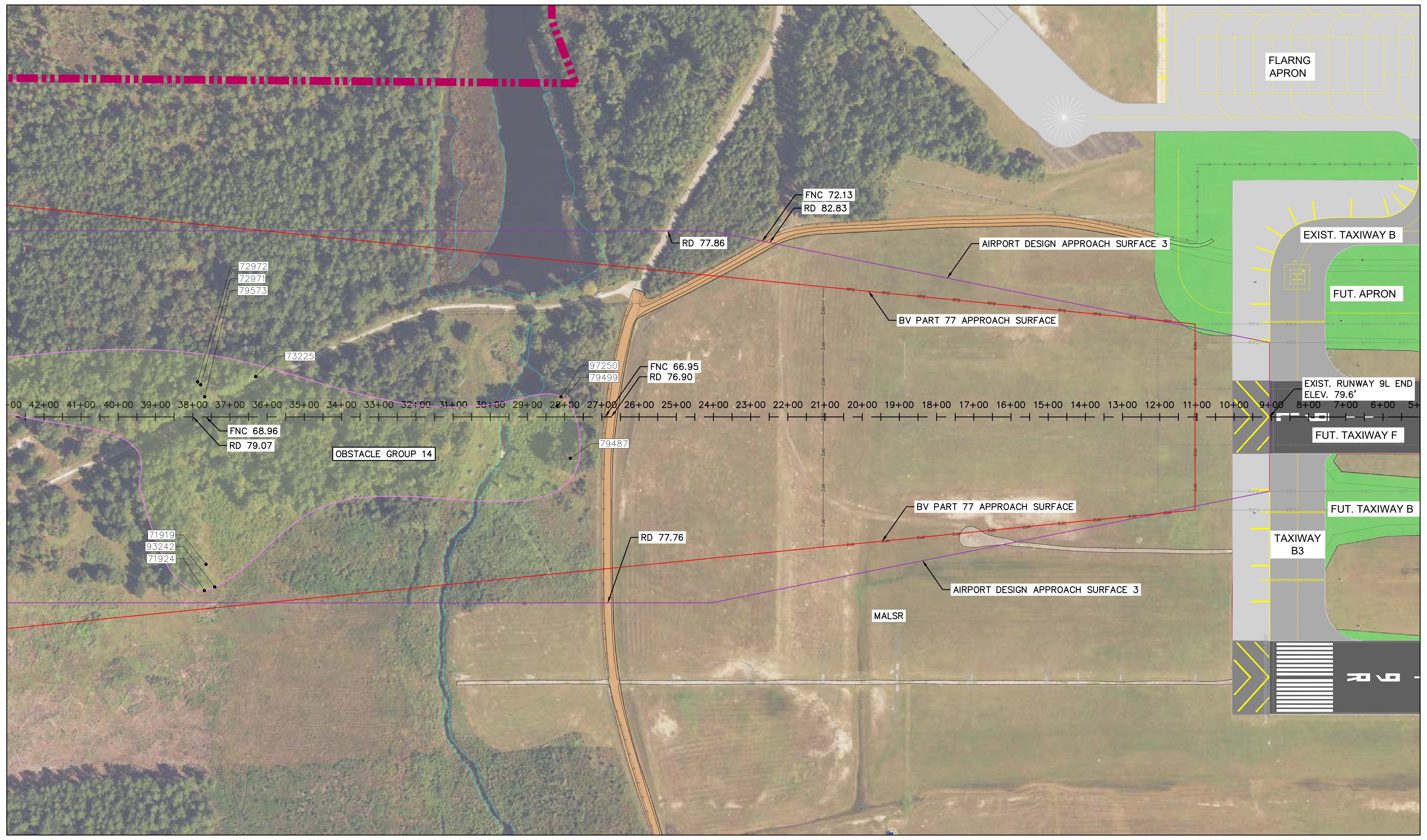
SHEET NAME
APPR.
OBSTRUCTIONS TABLE

JAA PROJECT NO.
21-18-42001
DATE: June 2025

DRAWN BC
DESIGNED KH
CHECKED BG
APPROVED AS

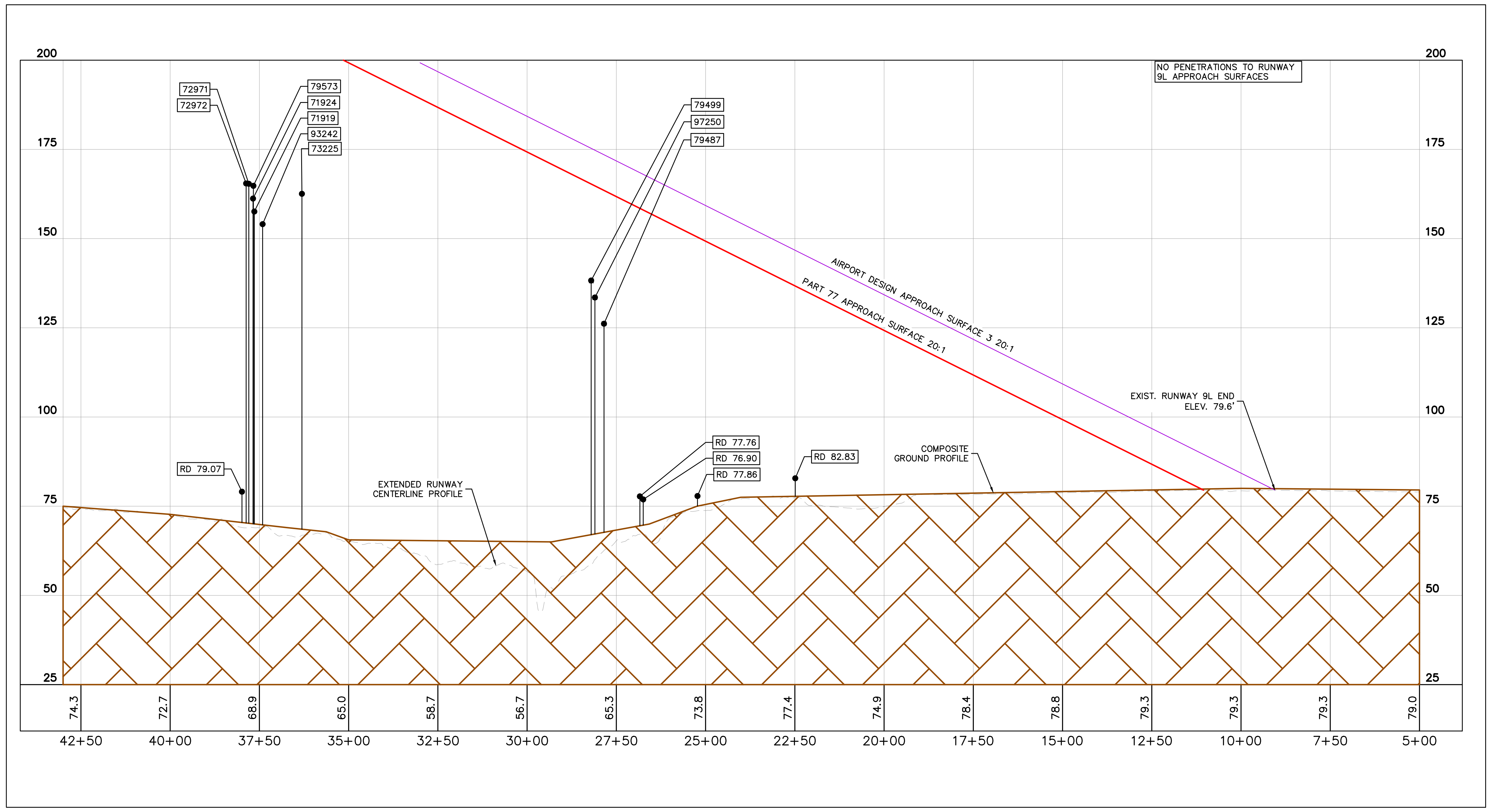
SHEET 16 OF 31

CECIL AIRPORT AND SPACEPORT - AIRPORT LAYOUT PLAN FAA IDENTIFIER VQQ



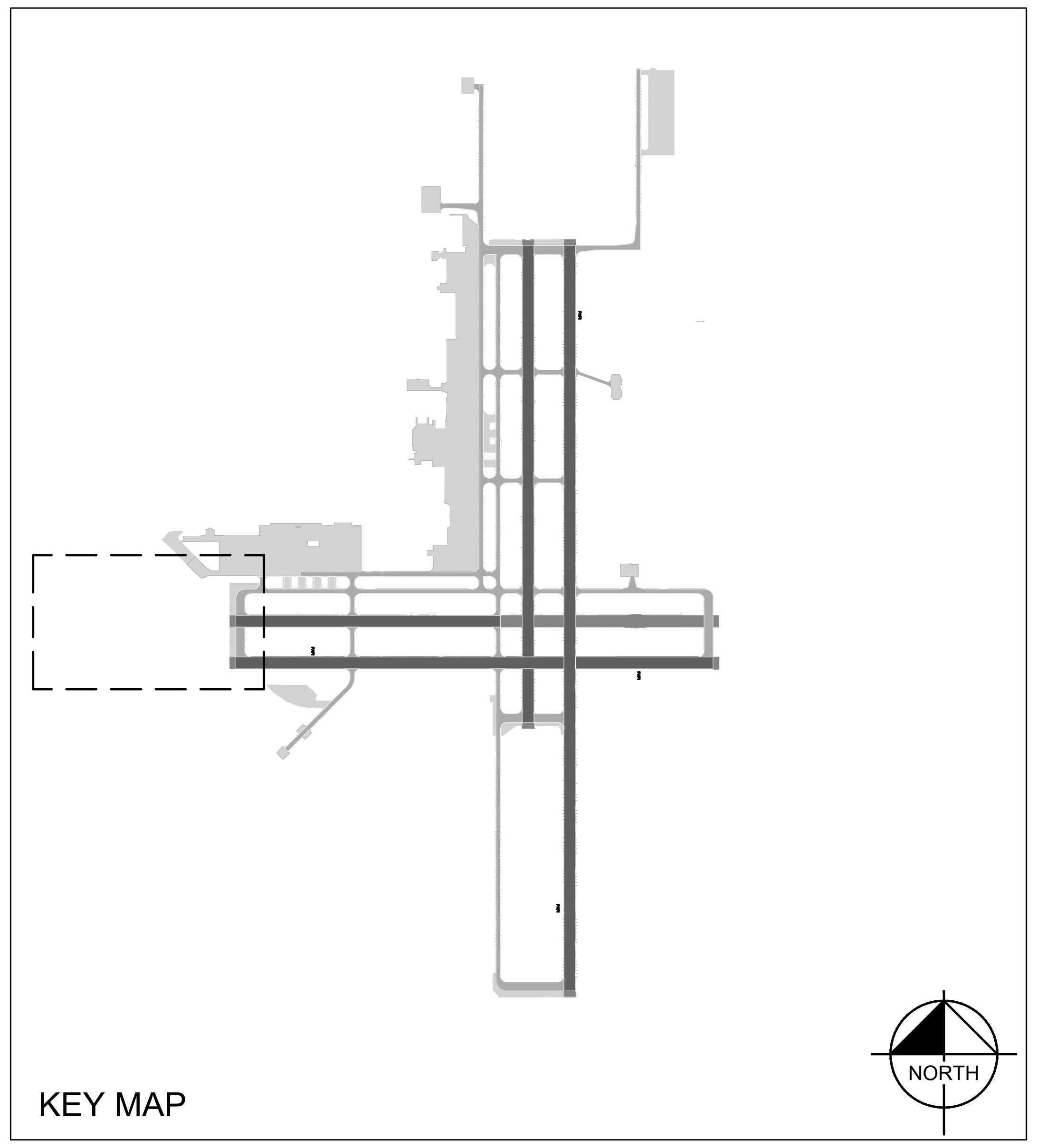
PLAN VIEW

PROFILE VIEW

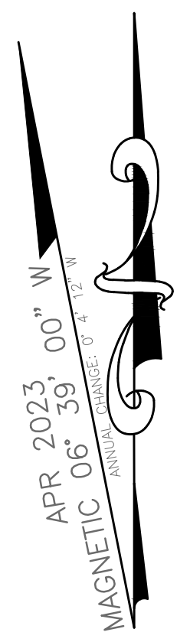


LEGEND

DESCRIPTION	EXISTING	FUTURE
AIRPORT PROPERTY LINE (PL)	▬ ▪ ▪ ▬ ▪ ▪ ▬	SAME
BUILDING RESTRICTION LINE (BRL)	—BRL—BRL—	NOT SHOWN
RUNWAY OBSTACLE FREE AREA (ROFA)	—ROFA—ROFA—	NOT SHOWN
INNER APPROACH OBSTACLE FREE ZONE (IAOFZ)	— · · · —	NOT SHOWN
RUNWAY SAFETY AREA (RSA)	—RSA—RSA—	NOT SHOWN
RUNWAY PROTECTION ZONE (RPZ)	—RPZ—RPZ—	NOT SHOWN
DESIGN STANDARD APPROACH SURFACE	— - - — - - —	NOT SHOWN
DEPARTURE SURFACE	—DEP—DEP—	NOT SHOWN
GLIDEPATH QUALIFICATION SURFACE (GQS)	— · — · —	NOT SHOWN
PART 77 APPROACH SURFACE	—P77 APP—	NOT SHOWN
TAXIWAY OBJECT FREE AREA (TOFA)	—TOFA—TOFA—	NOT SHOWN
TAXILANE OBJECT FREE AREA (TLOFA)	—TLOFA—TLOFA—	NOT SHOWN
TAXIWAY SAFETY AREA (TSA)	—TSA—TSA—	NOT SHOWN
RUNWAY END IDENTIFIER LIGHT (REIL)	◎	SAME
PRECISION APPROACH PATH INDICATOR (PAPI)	▫▫▫▫	SAME
WINDCONE	╱	SAME
NAVAID CRITICAL AREA	— — — — —	SAME
RUNWAY PAVEMENT	▬	SAME
TAXIWAY PAVEMENT	▬	🟩
ROADWAYS	N/A	🟧
BUILDINGS	🟦	🟦
MAINTENANCE, REPAIR, AND OVERHAUL (MRO)	N/A	▨
PAVEMENT/BUILDING DEMOLITON	N/A	▦
AIRPORT FENCE	—x—x—x—	—x—x—x—
STREAM/FLOODWAY	~	NOT SHOWN
COMPOSITE GROUND	▨	SAME

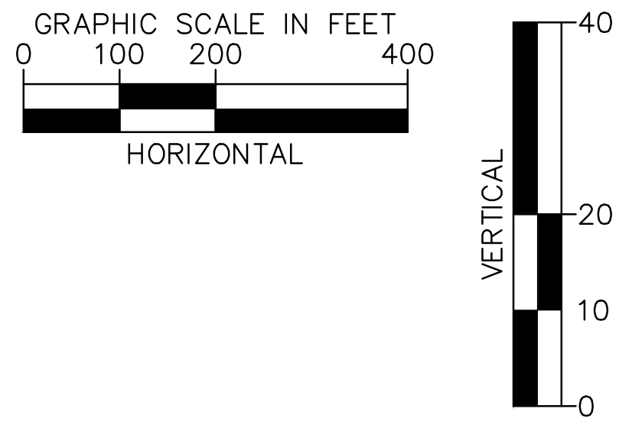


KEY MAP



GENERAL NOTES

1) ALL ROADS ARE SHOWN AT ADJUSTED ELEVATION (PRIVATE ROADS +10', PUBLIC ROADS +15').
2) ONLY RUNWAY SURFACES FOR THIS SHEET ARE SHOWN.
3) TAXIWAY OBSTRUCTIONS WERE IDENTIFIED AS GROUND ELEVATION +56' FOR TAIL HEIGHT OF CRITICAL AIRCRAFT.
4) FOR CONTOUR LABELS, REFER TO DEPARTURE SHEETS.
5) FOR ADDITIONAL OBSTRUCTION INFORMATION, REFER TO OBSTRUCTIONS TABLE SHOWN ON SHEET 16.
6) RUNWAY 9L/27R WILL BE DECOMMISSIONED.



Jacksonville Aviation Authority
Cecil Airport and Spaceport
JACKSONVILLE, FLORIDA

NO.	DATE	REVISIONS	BY	APPR.	SPRS. APPR.
5					
4					
3					
2					
1					

Kimley»Horn
©2023 KIMLEY-HORN AND ASSOCIATES, INC.
111 E Broadway Suite #600
Salt Lake City, UT 84111
(385) 212 - 3176

FAA DISCLAMER

THE CONTENTS OF THIS PLAN DO NOT NECESSARILY REFLECT THE OFFICIAL VIEWS OR POLICY OF THE FEDERAL AVIATION ADMINISTRATION (FAA). ACCEPTANCE OF THIS DOCUMENT BY THE FAA DOES NOT IN ANY WAY CONSTITUTE A COMMITMENT ON THE PART OF THE UNITED STATES TO PARTICIPATE IN ANY DEVELOPMENT DEPICTED HEREIN NOR DOES IT INDICATE THAT THE PROPOSED DEVELOPMENT IS ENVIRONMENTALLY ACCEPTABLE IN ACCORDANCE WITH APPROPRIATE PUBLIC LAW.

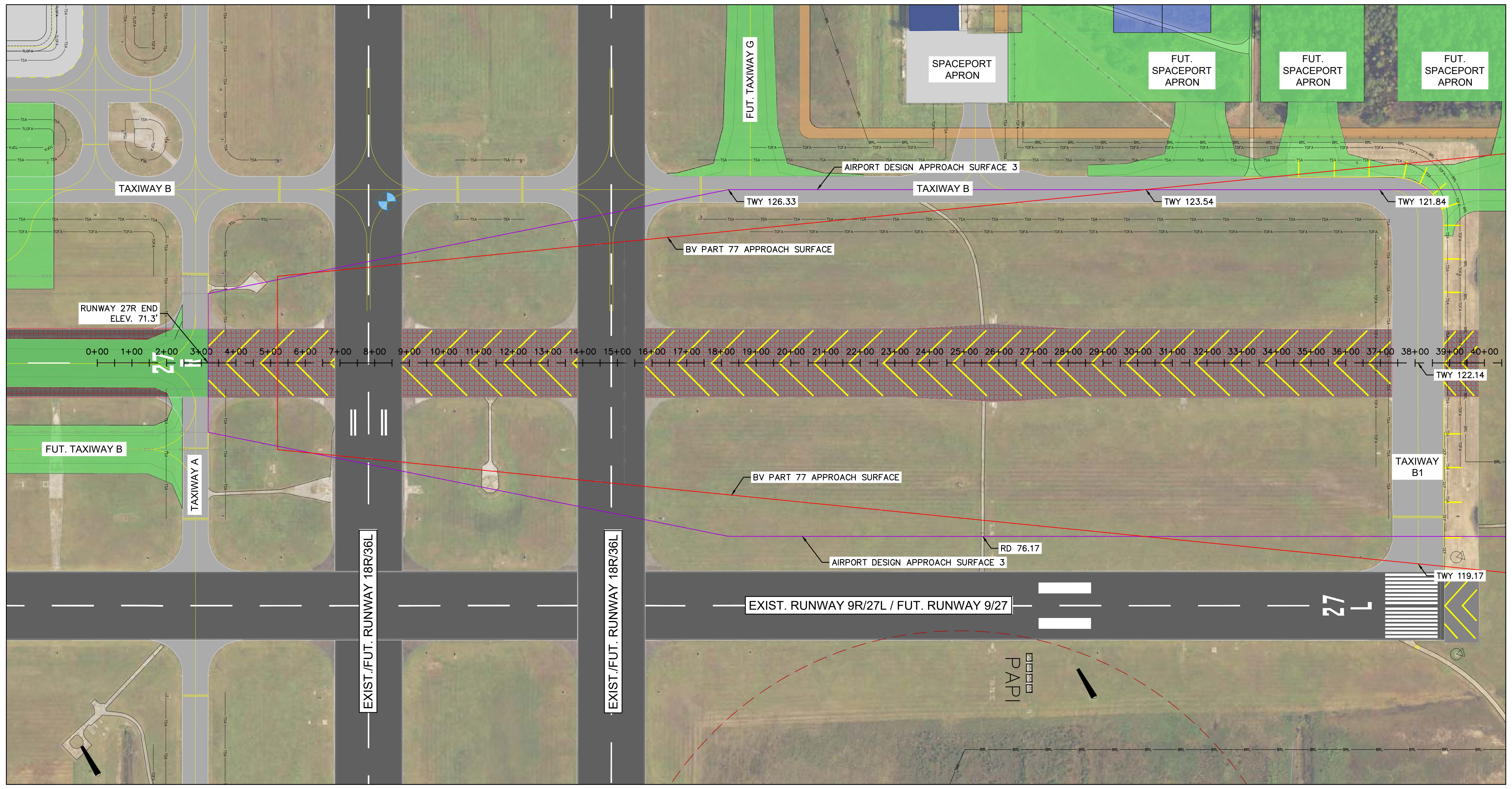
AIP GRANT
3-12-0032-023-2021
BY

SHEET NAME
RUNWAY 9L INNER APPROACH
APPR.

JAA PROJECT NO. 21-18-42001
DATE: June 2025
DRAWN BC
DESIGNED KH
CHECKED BG
APPROVED AS
SHEET 17 **OF** 31

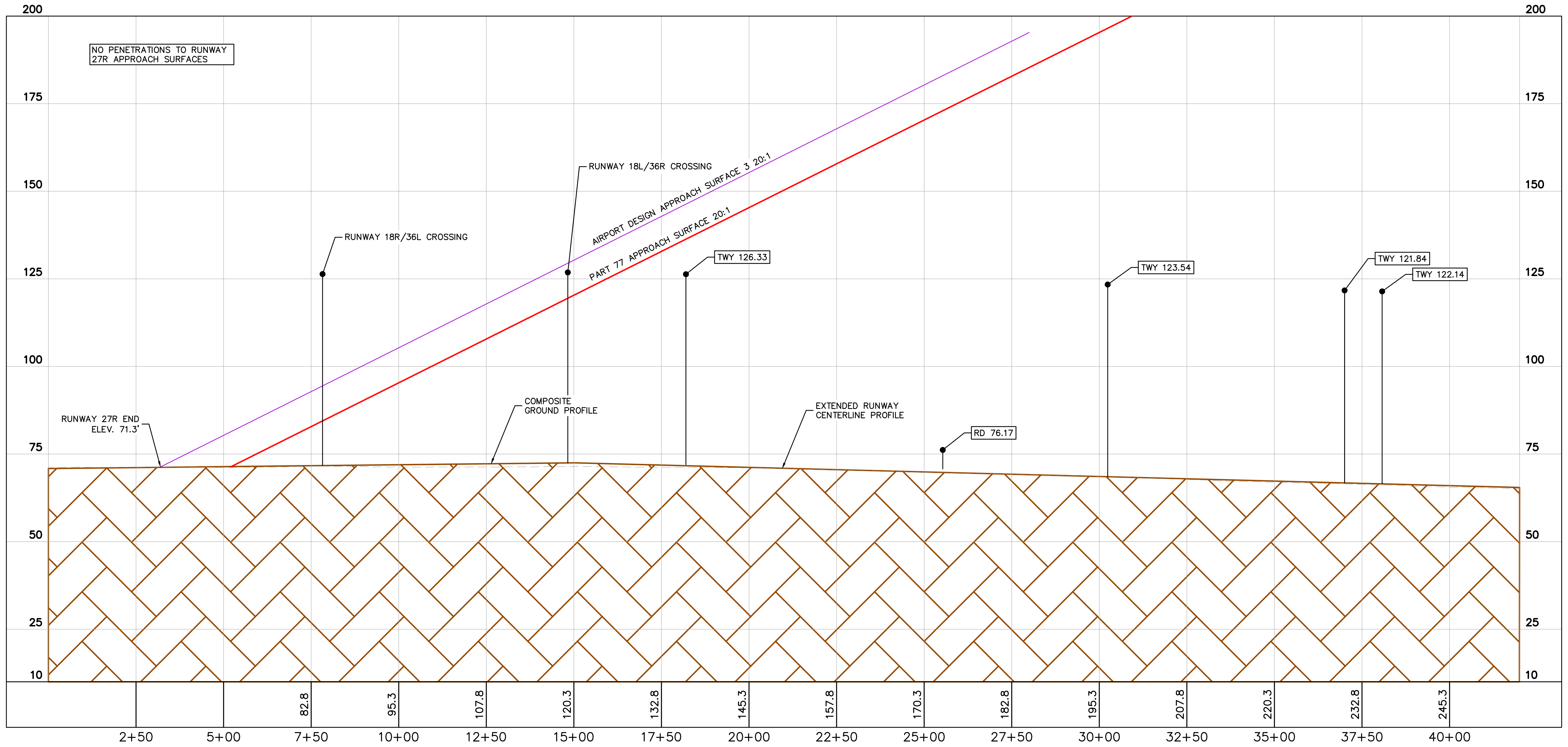
CECIL AIRPORT AND SPACEPORT - AIRPORT LAYOUT PLAN FAA IDENTIFIER VQQ

File Name: K:\SLC_Aviation\VQQ\Air and Space Master Plan\CADD\VQQ ALP Files\Sheet Set\Approach_27R.dwg - Approach Profiles
Modified / By: June 10, 2025 12:33:53 PM / Cody.Orvis
Plotted / By: 12:53:24 PM / Orvis, Cody



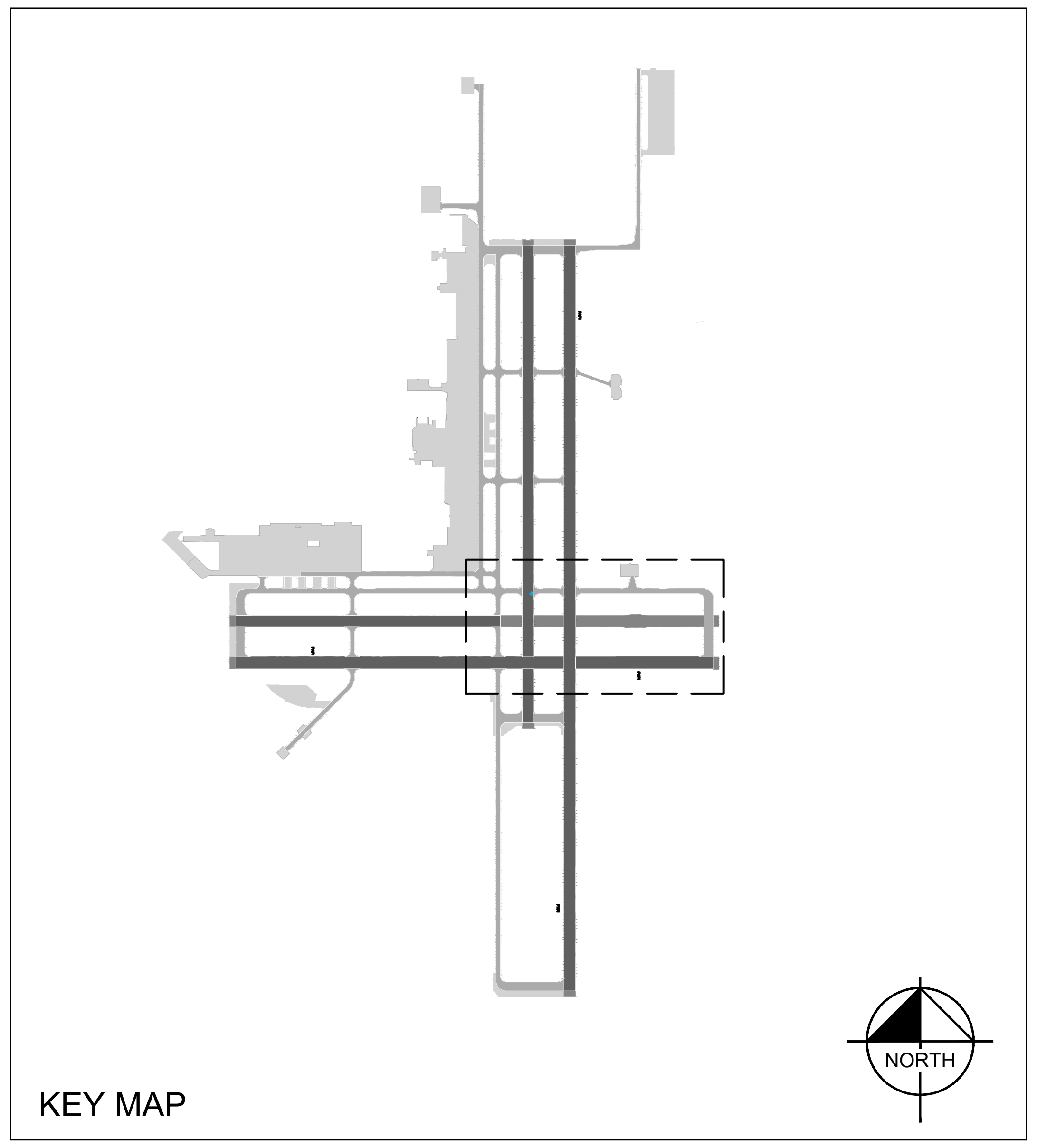
PLAN VIEW

PROFILE VIEW



LEGEND

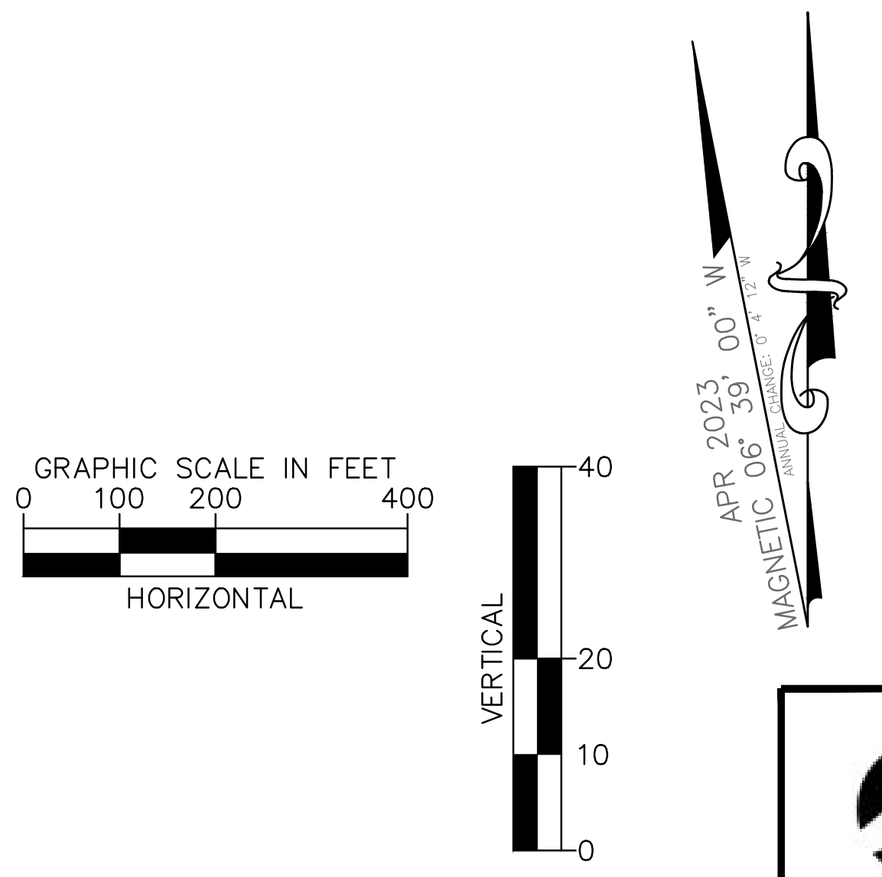
DESCRIPTION	EXISTING	FUTURE
AIRPORT PROPERTY LINE (PL)	▬ ■ ■ ▬ ■ ■ ▬	SAME
BUILDING RESTRICTION LINE (BRL)	—BRL—BRL—	NOT SHOWN
RUNWAY OBSTACLE FREE AREA (ROFA)	—ROFA—ROFA—	NOT SHOWN
INNER APPROACH OBSTACLE FREE ZONE (IAOFZ)	— · · · —	NOT SHOWN
RUNWAY SAFETY AREA (RSA)	—RSA—RSA—	NOT SHOWN
RUNWAY PROTECTION ZONE (RPZ)	—RPZ—RPZ—	NOT SHOWN
DESIGN STANDARD APPROACH SURFACE	— – – — – – —	NOT SHOWN
DEPARTURE SURFACE	—DEP—DEP—	NOT SHOWN
GLIDEPATH QUALIFICATION SURFACE (GQS)	— · — · — · —	NOT SHOWN
PART 77 APPROACH SURFACE	—P77 APP—	NOT SHOWN
TAXIWAY OBJECT FREE AREA (TOFA)	—TOFA—TOFA—	NOT SHOWN
TAXILANE OBJECT FREE AREA (TLOFA)	—TLOFA—TLOFA—	NOT SHOWN
TAXIWAY SAFETY AREA (TSA)	—TSA—TSA—	NOT SHOWN
RUNWAY END IDENTIFIER LIGHT (REIL)		SAME
PRECISION APPROACH PATH INDICATOR (PAPI)		SAME
WINDCONE		SAME
NAVAID CRITICAL AREA	— — — — —	SAME
RUNWAY PAVEMENT	⬛	SAME
TAXIWAY PAVEMENT	⬜	🟩
ROADWAYS	N/A	🟧
BUILDINGS	🟦	🟦
PAVEMENT/BUILDING DEMOLITION	N/A	▦
AIRPORT FENCE	—x—x—x—	—x—x—x—
STREAM/FLOODWAY	～	NOT SHOWN
COMPOSITE GROUND	▨	SAME



KEY MAP

GENERAL NOTES

1) ALL ROADS ARE SHOWN AT ADJUSTED ELEVATION (PRIVATE ROADS +10', PUBLIC ROADS +15').
2) ONLY RUNWAY SURFACES FOR THIS SHEET ARE SHOWN.
3) TAXIWAY OBSTRUCTIONS WERE IDENTIFIED AS GROUND ELEVATION +56' FOR TAIL HEIGHT OF CRITICAL AIRCRAFT.
4) RUNWAY 9L/27R WILL BE DECOMMISSIONED.
5) FOR CONTOUR LABELS, REFER TO DEPARTURE SHEETS.



Jacksonville Aviation Authority
Cecil Airport and Spaceport
JACKSONVILLE, FLORIDA

NO.	DATE	REVISIONS	BY	APPR.	SPRS. APPR.
5					
4					
3					
2					
1					

Kimley»Horn

©2023 KIMLEY-HORN AND ASSOCIATES, INC.
111 E Broadway Suite #600
Salt Lake City, UT 84111
(385) 212 - 3176

FAA DISCLAMER

THE CONTENTS OF THIS PLAN DO NOT NECESSARILY REFLECT THE OFFICIAL VIEWS OR POLICY OF THE FEDERAL AVIATION ADMINISTRATION (FAA). ACCEPTANCE OF THIS DOCUMENT BY THE FAA DOES NOT IN ANY WAY CONSTITUTE A COMMITMENT ON THE PART OF THE UNITED STATES TO PARTICIPATE IN ANY DEVELOPMENT DEPICTED HEREIN NOR DOES IT INDICATE THAT THE PROPOSED DEVELOPMENT IS ENVIRONMENTALLY ACCEPTABLE IN ACCORDANCE WITH APPROPRIATE PUBLIC LAW.

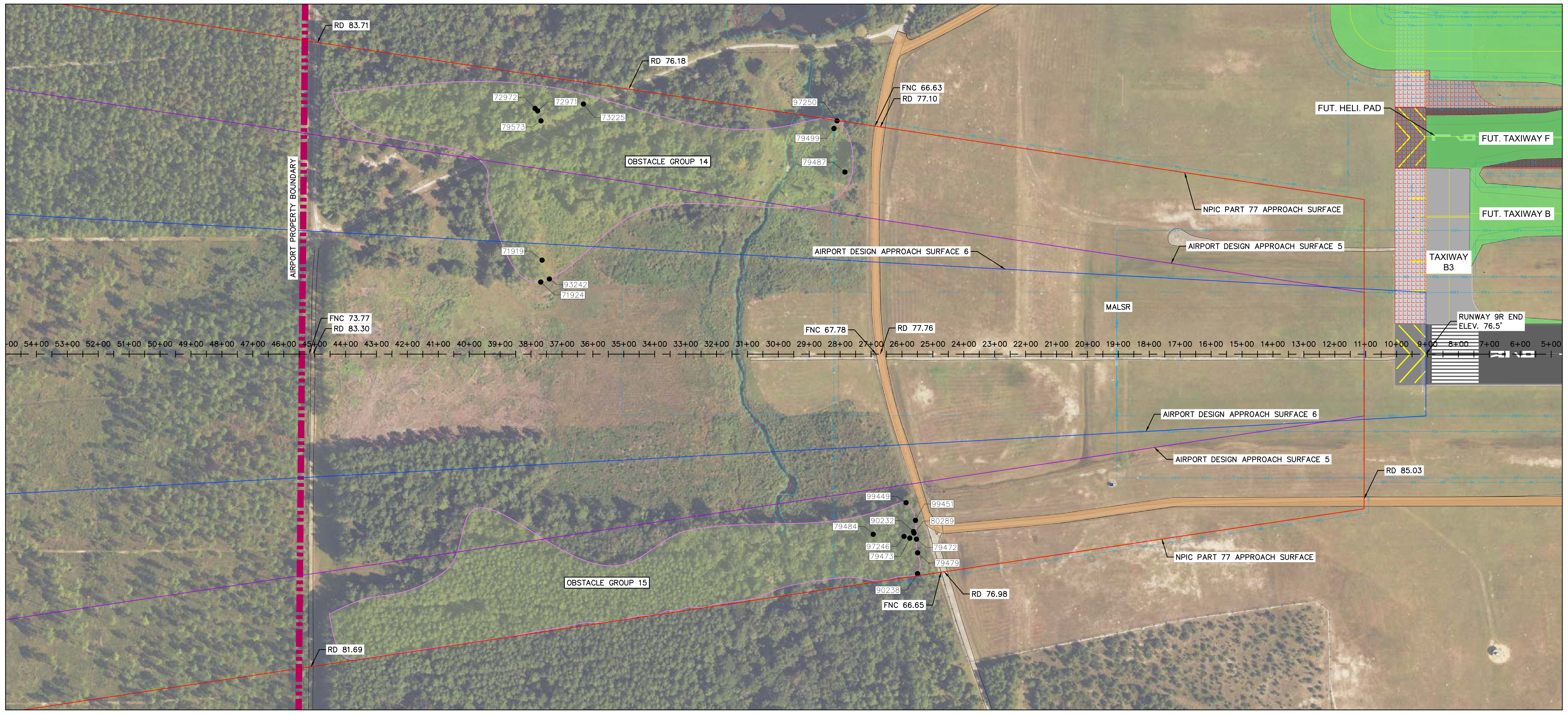
AIP GRANT
3-12-0032-023-2021
BY

SHEET NAME
APPR.
RUNWAY 27R INNER APPROACH

JAA PROJECT NO. 21-18-42001	DRAWN	BC	CHECKED	BG
DATE: June 2025	DESIGNED	KH	APPROVED	AS

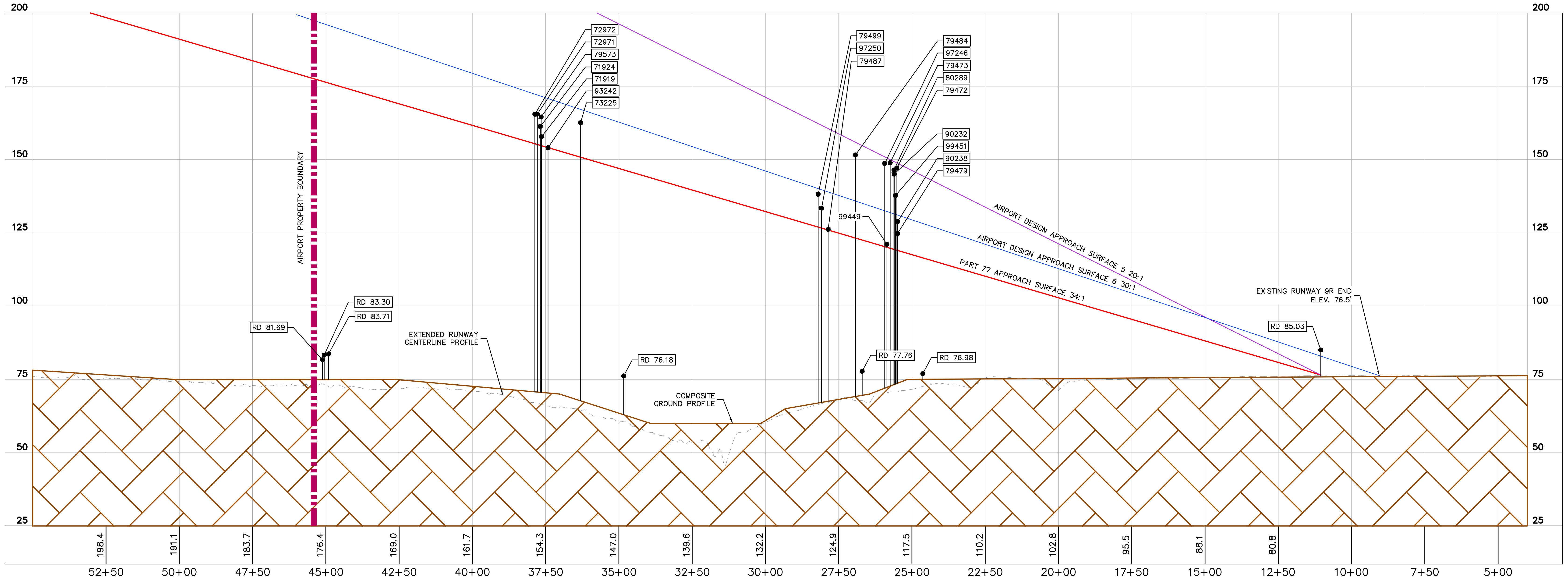
SHEET 18 OF 31

CECIL AIRPORT AND SPACEPORT - AIRPORT LAYOUT PLAN FAA IDENTIFIER VQQ



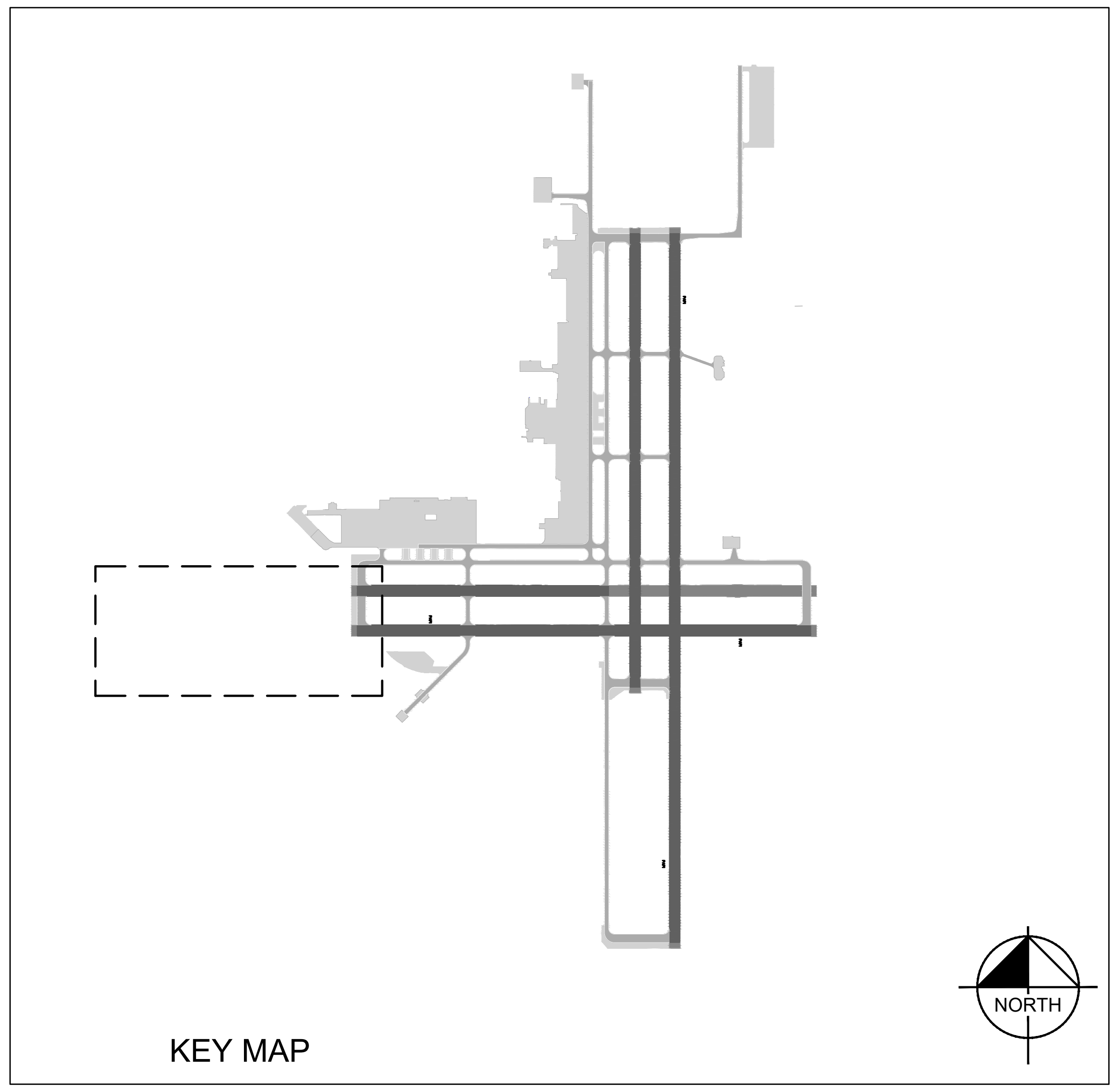
PLAN VIEW

PROFILE VIEW

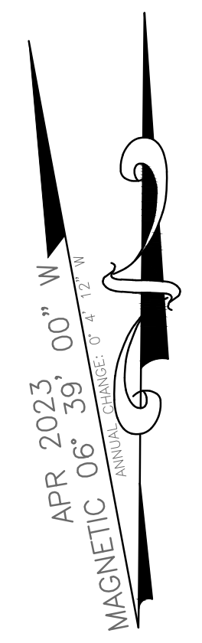


LEGEND

DESCRIPTION	EXISTING	FUTURE
AIRPORT PROPERTY LINE (PL)	▬ ▪ ▪ ▬ ▪ ▪ ▬	SAME
BUILDING RESTRICTION LINE (BRL)	NOT SHOWN	BRL BRL
RUNWAY OBSTACLE FREE AREA (ROFA)	NOT SHOWN	ROFA ROFA
INNER APPROACH OBSTACLE FREE ZONE (IAOFZ)	NOT SHOWN	— · · · —
RUNWAY SAFETY AREA (RSA)	NOT SHOWN	RSA RSA
RUNWAY PROTECTION ZONE (RPZ)	NOT SHOWN	RPZ RPZ
DESIGN STANDARD APPROACH SURFACE	NOT SHOWN	— – – — – – —
DEPARTURE SURFACE	NOT SHOWN	DEP DEP
GLIDEPATH QUALIFICATION SURFACE (GQS)	NOT SHOWN	— · — · —
PART 77 APPROACH SURFACE	NOT SHOWN	P77 APP
TAXIWAY OBJECT FREE AREA (TOFA)	NOT SHOWN	TOFA TOFA
TAXILANE OBJECT FREE AREA (TLOFA)	NOT SHOWN	TLOFA TLOFA
TAXIWAY SAFETY AREA (TSA)	NOT SHOWN	TSA TSA
RUNWAY END IDENTIFIER LIGHT (REIL)		SAME
MALSR LIGHTS		SAME
PRECISION APPROACH PATH INDICATOR (PAPI)		SAME
WINDCONE	／	SAME
RUNWAY PAVEMENT	▬	SAME
TAXIWAY PAVEMENT	▬	🟩
ROADWAYS	N/A	🟧
BUILDINGS	🟦	🟦
PAVEMENT/BUILDING DEMOLITON	N/A	▦
AIRPORT FENCE (SEE NOTE 17)	—x—x—x—	—x—x—x—
COMPOSITE GROUND	▨	SAME

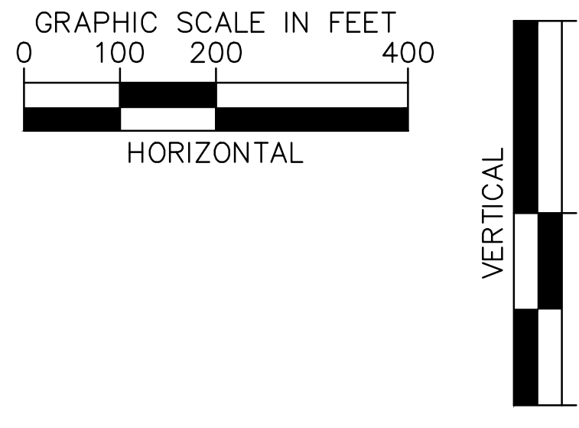


KEY MAP



GENERAL NOTES

1) ALL ROADS ARE SHOWN AT ADJUSTED ELEVATION (PRIVATE ROADS +10', PUBLIC ROADS +15').
2) ONLY RUNWAY SURFACES FOR THIS SHEET ARE SHOWN.
3) TAXIWAY OBSTRUCTIONS WERE IDENTIFIED AS GROUND ELEVATION +56' FOR TAIL HEIGHT OF CRITICAL AIRCRAFT.
4) FOR CONTOUR LABELS, REFER TO DEPARTURE SHEETS.
5) FOR ADDITIONAL OBSTRUCTION INFORMATION, REFER TO OBSTRUCTIONS TABLE SHOWN ON SHEET 16.
6) RUNWAY 9L/27R WILL BE DECOMMISSIONED.



JAA Jacksonville Aviation Authority
Cecil Cecil Airport
Cecil Cecil Spaceport

Jacksonville Aviation Authority
Cecil Airport and Spaceport
JACKSONVILLE, FLORIDA

NO.	DATE	REVISIONS	BY	APPR.	SPRS. APPR.
5					
4					
3					
2					
1					

Kimley»Horn

111 E Broadway Suite #600
Salt Lake City, UT 84111
(385) 212 - 3176

FAA DISCLAMER

THE CONTENTS OF THIS PLAN DO NOT NECESSARILY REFLECT THE OFFICIAL VIEWS OR POLICY OF THE FEDERAL AVIATION ADMINISTRATION (FAA). ACCEPTANCE OF THIS DOCUMENT BY THE FAA DOES NOT IN ANY WAY CONSTITUTE A COMMITMENT ON THE PART OF THE UNITED STATES TO PARTICIPATE IN ANY DEVELOPMENT DEPICTED HEREIN NOR DOES IT INDICATE THAT THE PROPOSED DEVELOPMENT IS ENVIRONMENTALLY ACCEPTABLE IN ACCORDANCE WITH APPROPRIATE PUBLIC LAW.

AIP GRANT
3-12-0032-023-2021
BY

SHEET NAME
APPR.
RUNWAY 9R INNER APPROACH

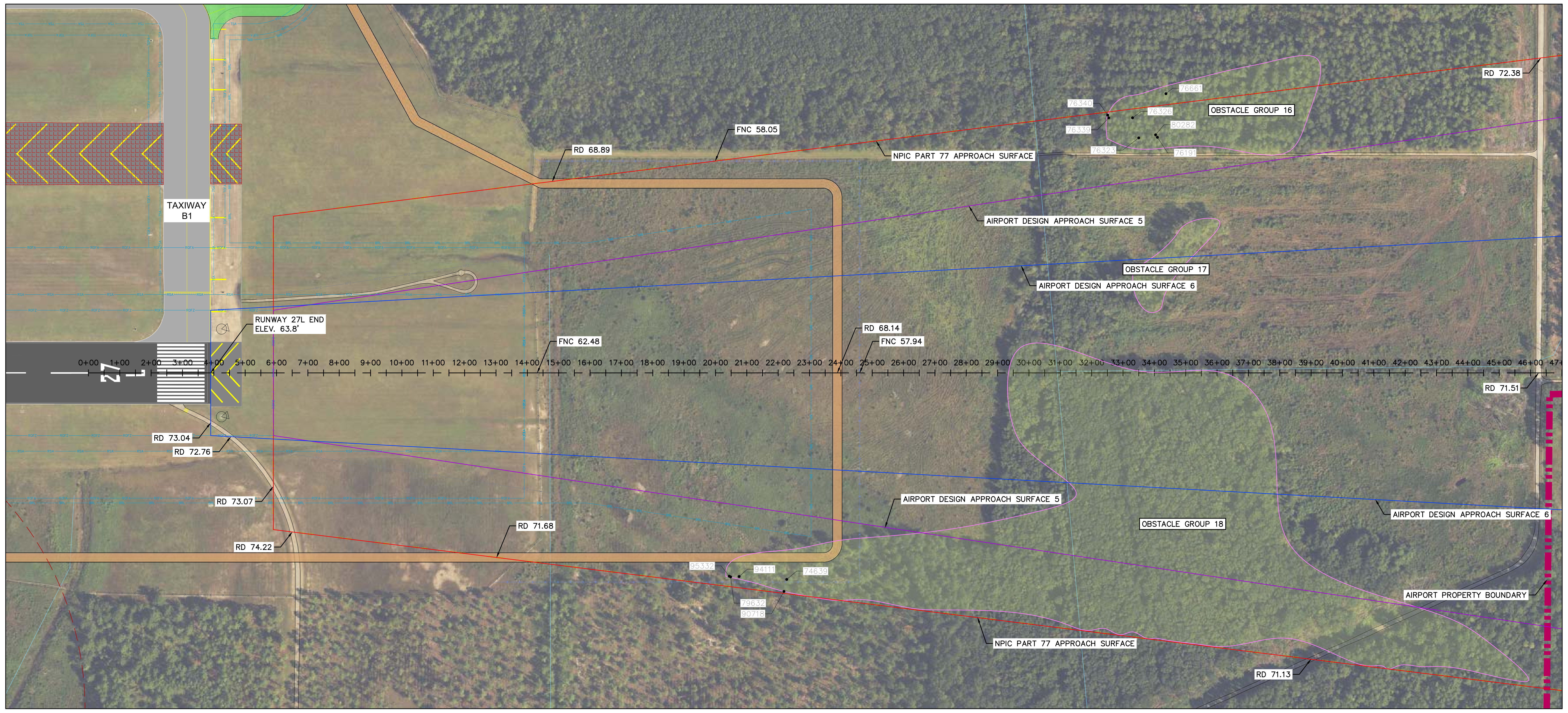
JAA PROJECT NO.
21-18-42001

DATE: June 2025

DRAWN BC
DESIGNED KH
CHECKED BG
APPROVED AS

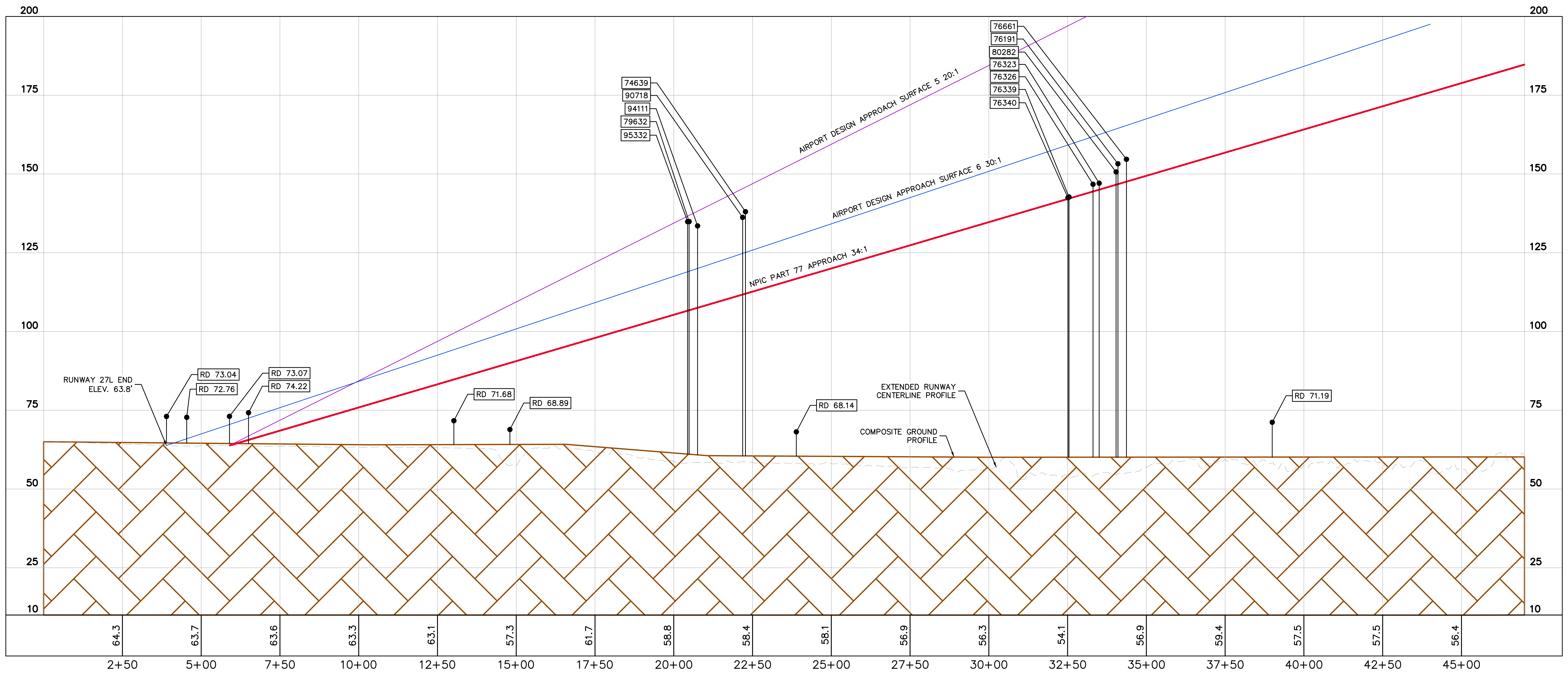
SHEET 19 OF 31

CECIL AIRPORT AND SPACEPORT - AIRPORT LAYOUT PLAN FAA IDENTIFIER VQQ



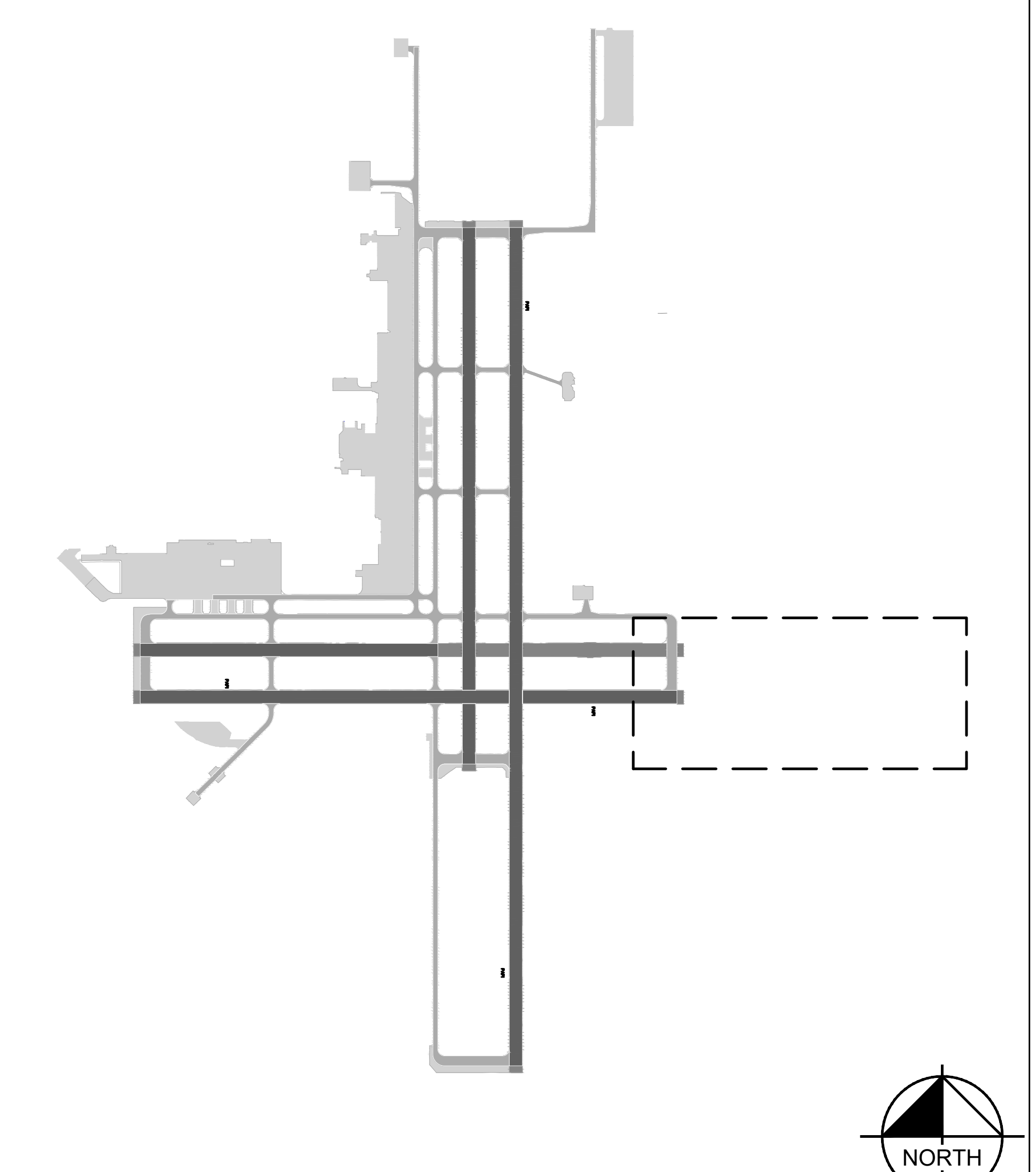
PLAN VIEW

PROFILE VIEW



LEGEND

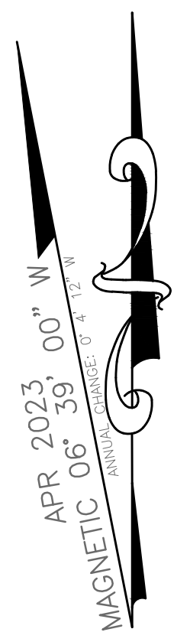
DESCRIPTION	EXISTING	FUTURE
AIRPORT PROPERTY LINE (PL)	▬ ▪ ▪ ▬ ▪ ▪ ▬	SAME
BUILDING RESTRICTION LINE (BRL)	NOT SHOWN	—BRL—BRL—
RUNWAY OBSTACLE FREE AREA (ROFA)	NOT SHOWN	—ROFA—ROFA—
INNER APPROACH OBSTACLE FREE ZONE (IAOFZ)	NOT SHOWN	— · · · —
RUNWAY SAFETY AREA (RSA)	NOT SHOWN	—RSA—RSA—
RUNWAY PROTECTION ZONE (RPZ)	NOT SHOWN	—RPZ—RPZ—
DESIGN STANDARD APPROACH SURFACE	NOT SHOWN	— – – — – – —
DEPARTURE SURFACE	NOT SHOWN	—DEP—DEP—
GLIDEPATH QUALIFICATION SURFACE (GQS)	NOT SHOWN	— · — · —
PART 77 APPROACH SURFACE	NOT SHOWN	—P77 APP—
TAXIWAY OBJECT FREE AREA (TOFA)	NOT SHOWN	—TOFA—TOFA—
TAXILANE OBJECT FREE AREA (TLOFA)	NOT SHOWN	—TLOFA—TLOFA—
TAXIWAY SAFETY AREA (TSA)	NOT SHOWN	—TSA—TSA—
RUNWAY END IDENTIFIER LIGHT (REIL)	◎	SAME
PRECISION APPROACH PATH INDICATOR (PAPI)	▫▫▫▫	SAME
WINDCONE	╱	SAME
NAVAID CRITICAL AREA	— — — — —	SAME
RUNWAY PAVEMENT	▬	SAME
TAXIWAY PAVEMENT	▬	🟩
ROADWAYS	N/A	▬
BUILDINGS	🟦	▬
AIRPORT FENCE	—x—x—x—	—x—x—x—
STREAM/FLOODWAY	∼	NOT SHOWN
COMPOSITE GROUND	▨	SAME

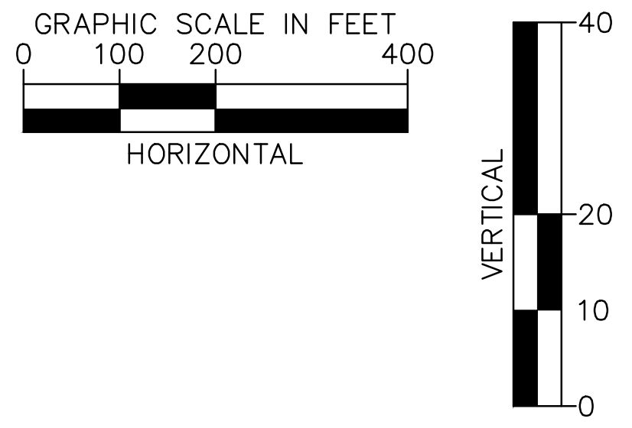


KEY MAP

GENERAL NOTES

1) ALL ROADS ARE SHOWN AT ADJUSTED ELEVATION (PRIVATE ROADS +10', PUBLIC ROADS +15').
2) ONLY RUNWAY SURFACES FOR THIS SHEET ARE SHOWN.
3) TAXIWAY OBSTRUCTIONS WERE IDENTIFIED AS GROUND ELEVATION +56' FOR TAIL HEIGHT OF CRITICAL AIRCRAFT.
4) FOR CONTOUR LABELS, REFER TO DEPARTURE SHEETS.
5) FOR ADDITIONAL OBSTRUCTION INFORMATION, REFER TO OBSTRUCTIONS TABLE SHOWN ON SHEET 16.
6) RUNWAY 9L/27R WILL BE DECOMMISSIONED.





NO.	DATE	REVISIONS	BY	APPR.	SPRS. APPR.
5					
4					
3					
2					
1					

Kimley»Horn

111 E Broadway Suite #600
Salt Lake City, UT 84111
(385) 212 - 3176

FAA DISCLAMER

THE CONTENTS OF THIS PLAN DO NOT NECESSARILY REFLECT THE OFFICIAL VIEWS OR POLICY OF THE FEDERAL AVIATION ADMINISTRATION (FAA). ACCEPTANCE OF THIS DOCUMENT BY THE FAA DOES NOT IN ANY WAY CONSTITUTE A COMMITMENT ON THE PART OF THE UNITED STATES TO PARTICIPATE IN ANY DEVELOPMENT DEPICTED HEREIN NOR DOES IT INDICATE THAT THE PROPOSED DEVELOPMENT IS ENVIRONMENTALLY ACCEPTABLE IN ACCORDANCE WITH APPROPRIATE PUBLIC LAW.

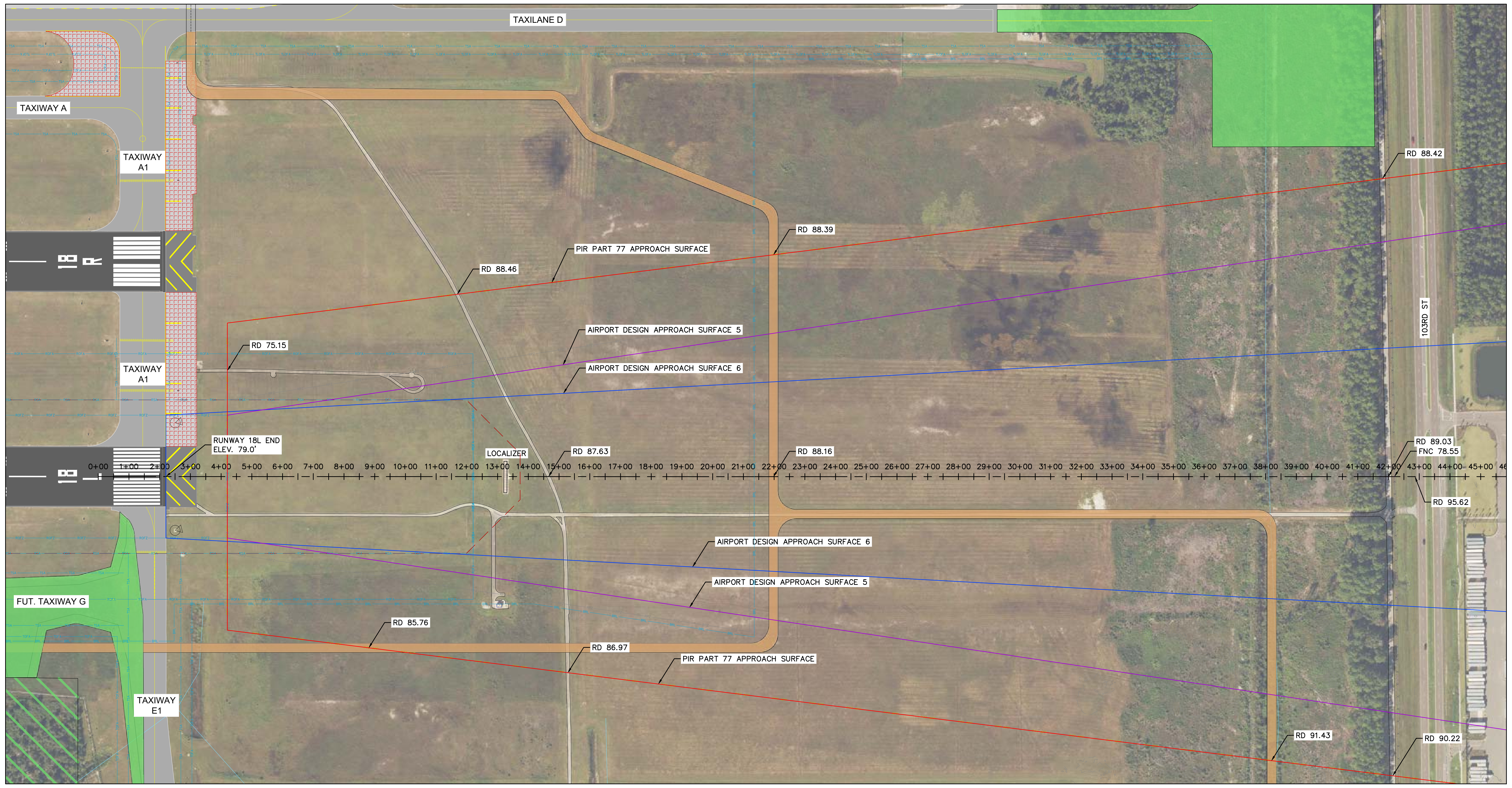
JAA Jacksonville Aviation Authority
Cecil Cecil Airport
Cecil Cecil Spaceport

Jacksonville Aviation Authority
Cecil Airport and Spaceport
JACKSONVILLE, FLORIDA

AIP GRANT
3-12-0032-023-2021
BY

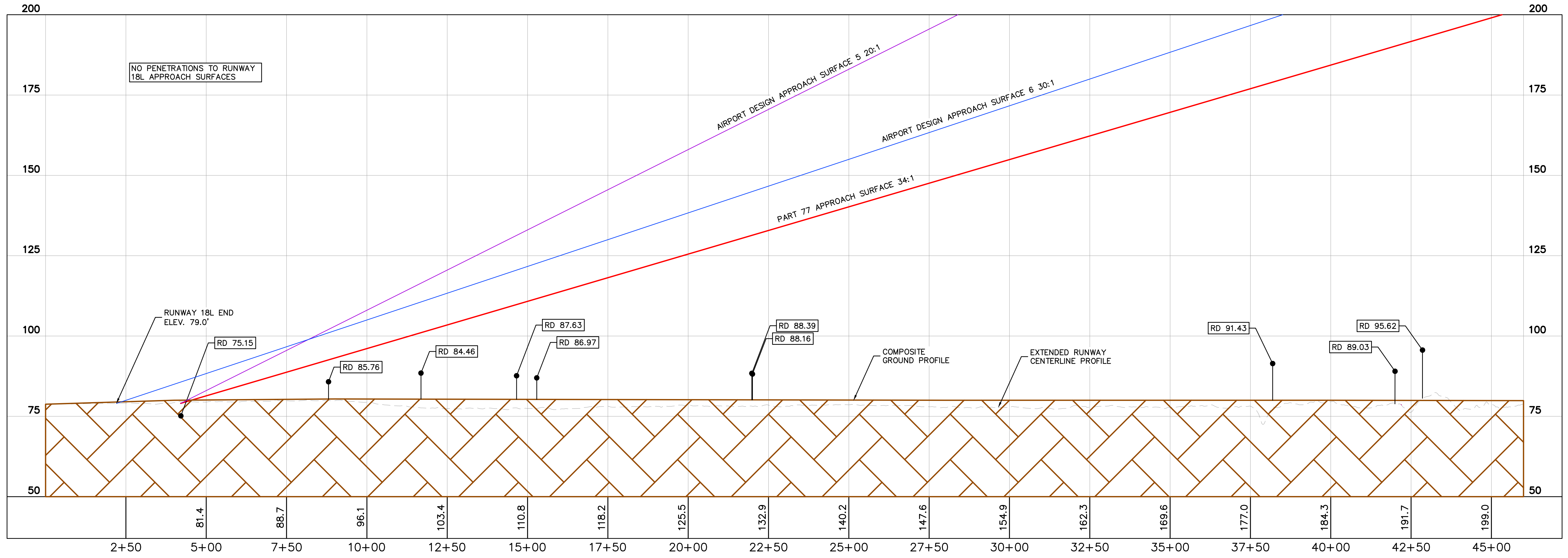
SHEET NAME
RUNWAY 27L INNER APPROACH
APPR.

JAA PROJECT NO. 21-18-42001	**DRAWN**	**BC**	**CHECKED**	**BG**	
DATE: June 2025	**DESIGNED**	**KH**	**APPROVED**	**AS**	**SHEET** 20 **OF** 31

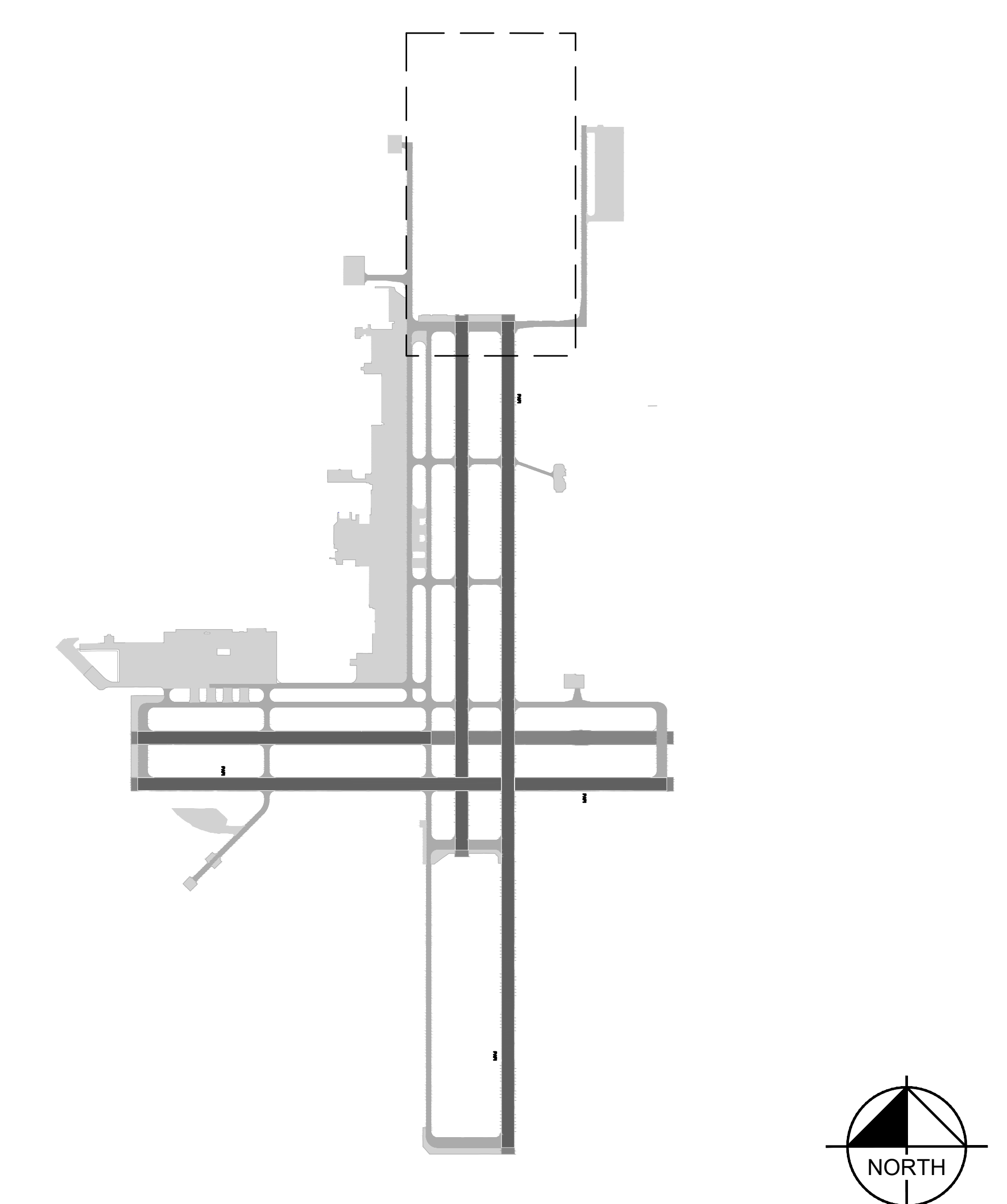


PLAN VIEW

PROFILE VIEW



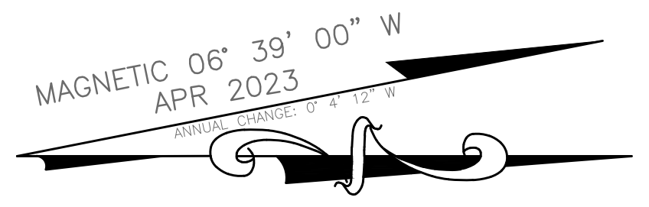
LEGEND		
DESCRIPTION	**EXISTING**	**FUTURE**
AIRPORT PROPERTY LINE (PL)	▬ ▪ ▪ ▬ ▪ ▪ ▬	SAME
BUILDING RESTRICTION LINE (BRL)	NOT SHOWN	—BRL—BRL—
RUNWAY OBSTACLE FREE AREA (ROFA)	NOT SHOWN	—ROFA—ROFA—
INNER APPROACH OBSTACLE FREE ZONE (IAOFZ)	NOT SHOWN	— · · · —
RUNWAY SAFETY AREA (RSA)	NOT SHOWN	—RSA—RSA—
RUNWAY PROTECTION ZONE (RPZ)	NOT SHOWN	—RPZ—RPZ—
DESIGN STANDARD APPROACH SURFACE	NOT SHOWN	— – – — – – —
DEPARTURE SURFACE	NOT SHOWN	—DEP—DEP—
GLIDEPATH QUALIFICATION SURFACE (GQS)	NOT SHOWN	— · — · —
PART 77 APPROACH SURFACE	NOT SHOWN	—P77 APP—
TAXIWAY OBJECT FREE AREA (TOFA)	NOT SHOWN	—TOFA—TOFA—
TAXILANE OBJECT FREE AREA (TLOFA)	NOT SHOWN	—TLOFA—TLOFA—
TAXIWAY SAFETY AREA (TSA)	NOT SHOWN	—TSA—TSA—
RUNWAY END IDENTIFIER LIGHT (REIL)		SAME
PRECISION APPROACH PATH INDICATOR (PAPI)		SAME
WINDCONE		SAME
NAVAID CRITICAL AREA	— — — — —	SAME
RUNWAY PAVEMENT	■	SAME
TAXIWAY PAVEMENT	■	🟩
ROADWAYS	N/A	🟧
BUILDINGS	🟦	🟦
MAINTENANCE, REPAIR, AND OVERHAUL (MRO)	N/A	▨
AIRPORT FENCE	—x—x—x—	—x—x—x—
STREAM/FLOODWAY		NOT SHOWN
COMPOSITE GROUND	▨	SAME

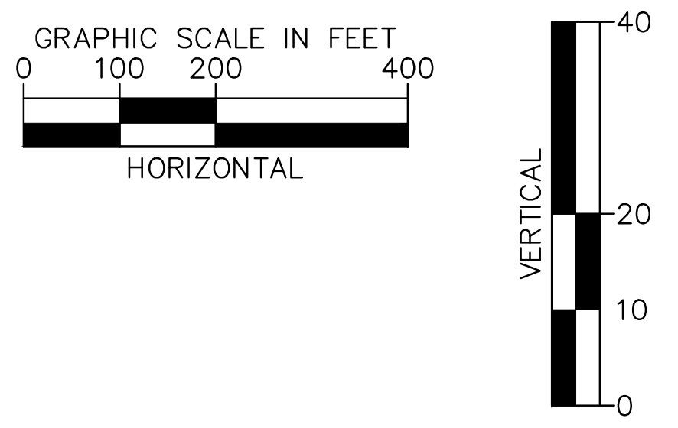


KEY MAP

GENERAL NOTES

1) ALL ROADS ARE SHOWN AT ADJUSTED ELEVATION (PRIVATE ROADS +10', PUBLIC ROADS +15').
2) ONLY RUNWAY SURFACES FOR THIS SHEET ARE SHOWN.
3) TAXIWAY OBSTRUCTIONS WERE IDENTIFIED AS GROUND ELEVATION +56' FOR TAIL HEIGHT OF CRITICAL AIRCRAFT.
4) FOR CONTOUR LABELS, REFER TO DEPARTURE SHEETS
5) FOR ADDITIONAL OBSTRUCTION INFORMATION, REFER TO OBSTRUCTIONS TABLE SHOWN ON SHEET 16.
6) RUNWAY 9L/27R WILL BE DECOMMISSIONED.





Jacksonville Aviation Authority
Cecil Airport and Spaceport
JACKSONVILLE, FLORIDA

NO.	DATE	REVISIONS	BY	APPR.	SPRS. APPR.
5					
4					
3					
2					
1					

Kimley»Horn

111 E Broadway Suite #600
Salt Lake City, UT 84111
(385) 212 - 3176

FAA DISCLAMER

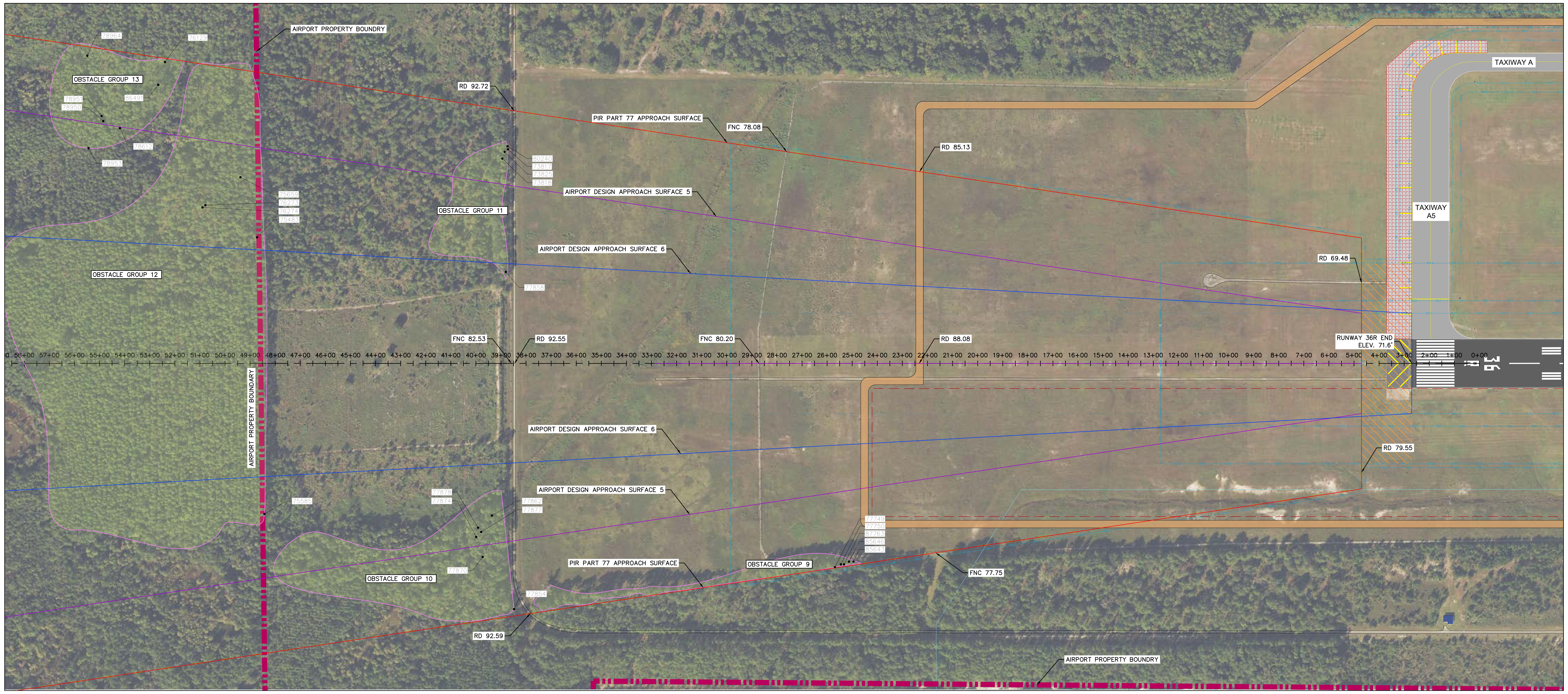
THE CONTENTS OF THIS PLAN DO NOT NECESSARILY REFLECT THE OFFICIAL VIEWS OR POLICY OF THE FEDERAL AVIATION ADMINISTRATION (FAA). ACCEPTANCE OF THIS DOCUMENT BY THE FAA DOES NOT IN ANY WAY CONSTITUTE A COMMITMENT ON THE PART OF THE UNITED STATES TO PARTICIPATE IN ANY DEVELOPMENT DEPICTED HEREIN NOR DOES IT INDICATE THAT THE PROPOSED DEVELOPMENT IS ENVIRONMENTALLY ACCEPTABLE IN ACCORDANCE WITH APPROPRIATE PUBLIC LAW.

AIP GRANT
3-12-0032-023-2021
BY

SHEET NAME
APPR.
RUNWAY 18L INNER APPROACH

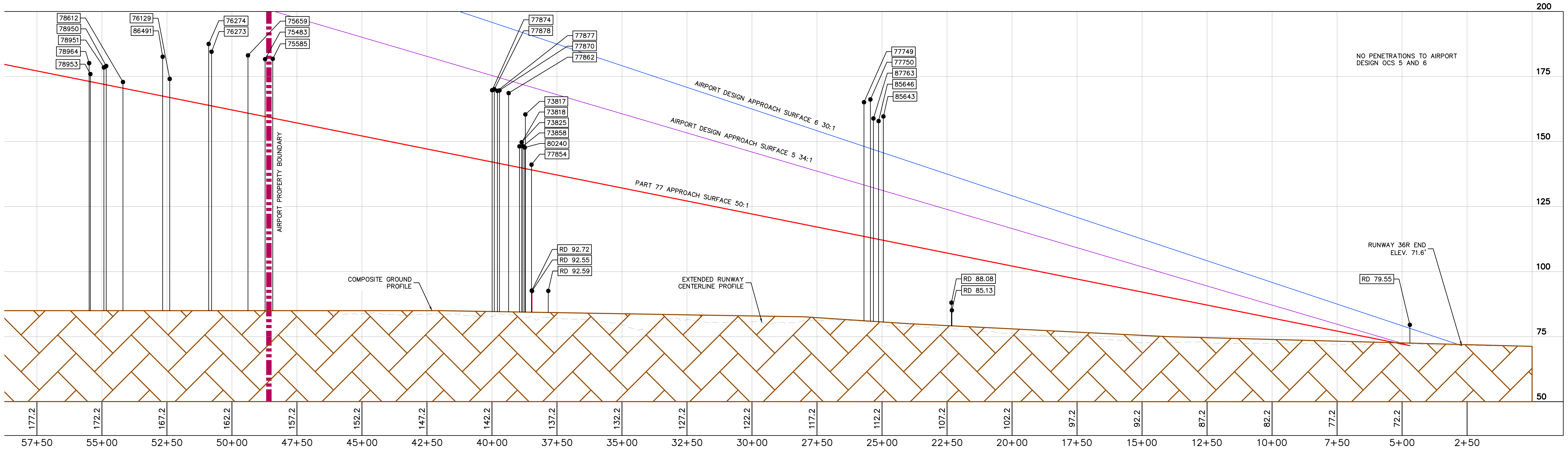
JAA PROJECT NO.
21-18-42001
DATE: June 2025
DRAWN BC
DESIGNED KH
CHECKED BG
APPROVED AS
SHEET 21 OF 31

CECIL AIRPORT AND SPACEPORT - AIRPORT LAYOUT PLAN FAA IDENTIFIER VQQ



PLAN VIEW

PROFILE VIEW

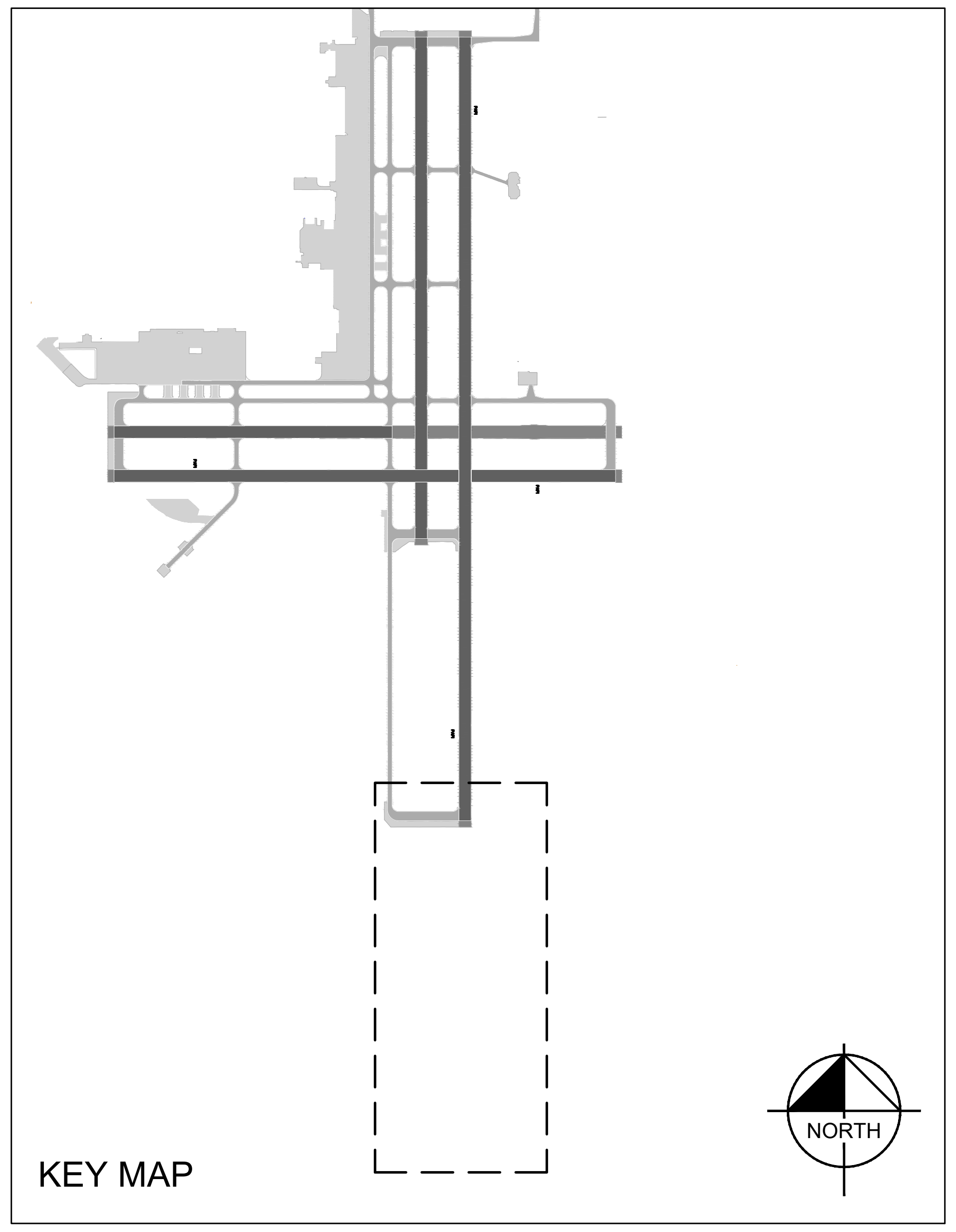


LEGEND

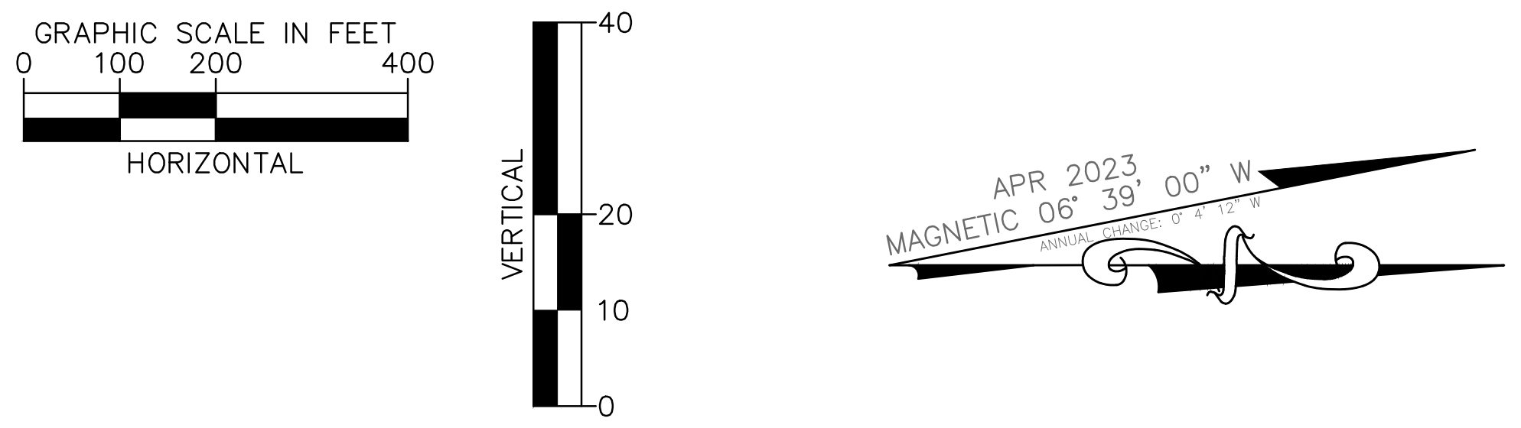
DESCRIPTION	EXISTING	FUTURE
AIRPORT PROPERTY LINE (PL)	▬ ▪ ▪ ▬ ▪ ▪ ▬	SAME
BUILDING RESTRICTION LINE (BRL)	NOT SHOWN	—BRL—BRL—
RUNWAY OBSTACLE FREE AREA (ROFA)	NOT SHOWN	—ROFA—ROFA—
INNER APPROACH OBSTACLE FREE ZONE (IAOFZ)	NOT SHOWN	— · · · —
RUNWAY SAFETY AREA (RSA)	NOT SHOWN	—RSA—RSA—
RUNWAY PROTECTION ZONE (RPZ)	NOT SHOWN	—RPZ—RPZ—
DESIGN STANDARD APPROACH SURFACE	NOT SHOWN	— - - — - - —
DEPARTURE SURFACE	NOT SHOWN	—DEP—DEP—
GLIDEPATH QUALIFICATION SURFACE (GQS)	NOT SHOWN	— · — · —
PART 77 APPROACH SURFACE	NOT SHOWN	—P77 APP—
TAXIWAY OBJECT FREE AREA (TOFA)	NOT SHOWN	—TOFA—TOFA—
TAXILANE OBJECT FREE AREA (TLOFA)	NOT SHOWN	—TLOFA—TLOFA—
TAXIWAY SAFETY AREA (TSA)	NOT SHOWN	—TSA—TSA—
PRECISION OBSTACLE FREE ZONE (POFZ)	▨	SAME
RUNWAY END IDENTIFIER LIGHT (REIL)	◁	SAME
MALSR LIGHTS	⦶⦶⦶⦶⦶	SAME
PRECISION APPROACH PATH INDICATOR (PAPI)	⊠⊠⊠⊠	SAME
NAVAID CRITICAL AREA	— — — — —	SAME
RUNWAY PAVEMENT	▬	SAME
TAXIWAY PAVEMENT	▬	🟩
ROADWAYS	N/A	🟧
BUILDINGS	🟦	🟦
AIRPORT FENCE (SEE NOTE 17)	—x—x—x—x—	—x—x—x—x—
STREAM/FLOODWAY	—	NOT SHOWN
COMPOSITE GROUND	▨	SAME

GENERAL NOTES

1) ALL ROADS ARE SHOWN AT ADJUSTED ELEVATION (PRIVATE ROADS +10', PUBLIC ROADS +15').
2) ONLY RUNWAY SURFACES FOR THIS SHEET ARE SHOWN.
3) TAXIWAY OBSTRUCTIONS WERE IDENTIFIED AS GROUND ELEVATION +56' FOR TAIL HEIGHT OF CRITICAL AIRCRAFT.
4) FOR CONTOUR LABELS, REFER TO DEPARTURE SHEETS.
5) FOR ADDITIONAL OBSTRUCTION INFORMATION, REFER TO OBSTRUCTIONS TABLE SHOWN ON SHEET 16.
6) RUNWAY 9L/27R WILL BE DECOMMISSIONED.



KEY MAP



NO.	DATE	REVISIONS	BY	APPR.	SPRS. APPR.
5					
4					
3					
2					
1					

Kimley»Horn

111 E Broadway Suite #600
Salt Lake City, UT 84111
(385) 212 - 3176

FAA DISCLAMER

THE CONTENTS OF THIS PLAN DO NOT NECESSARILY REFLECT THE OFFICIAL VIEWS OR POLICY OF THE FEDERAL AVIATION ADMINISTRATION (FAA). ACCEPTANCE OF THIS DOCUMENT BY THE FAA DOES NOT IN ANY WAY CONSTITUTE A COMMITMENT ON THE PART OF THE UNITED STATES TO PARTICIPATE IN ANY DEVELOPMENT DEPICTED HEREIN NOR DOES IT INDICATE THAT THE PROPOSED DEVELOPMENT IS ENVIRONMENTALLY ACCEPTABLE IN ACCORDANCE WITH APPROPRIATE PUBLIC LAW.

JAA
Jacksonville Aviation Authority
Cecil
Cecil Airport
Cecil
Cecil Spaceport

Jacksonville Aviation Authority
Cecil Airport and Spaceport
JACKSONVILLE, FLORIDA

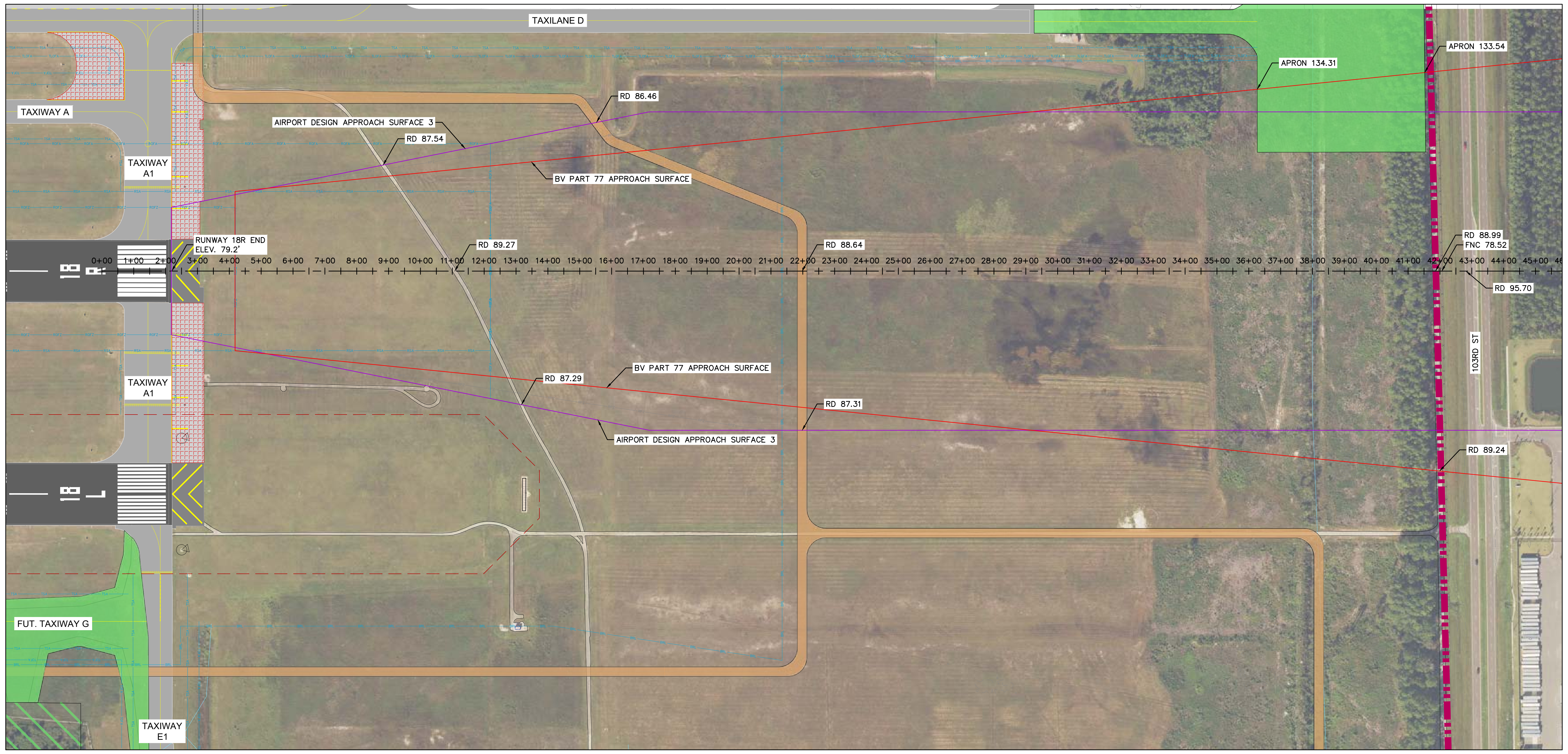
AIP GRANT
3-12-0032-023-2021

SHEET NAME
RUNWAY 36R INNER APPROACH

JAA PROJECT NO. 21-18-42001	DRAWN	BC	CHECKED	BG	
DATE: June 2025	DESIGNED	KH	APPROVED	AS	SHEET 22 OF 31

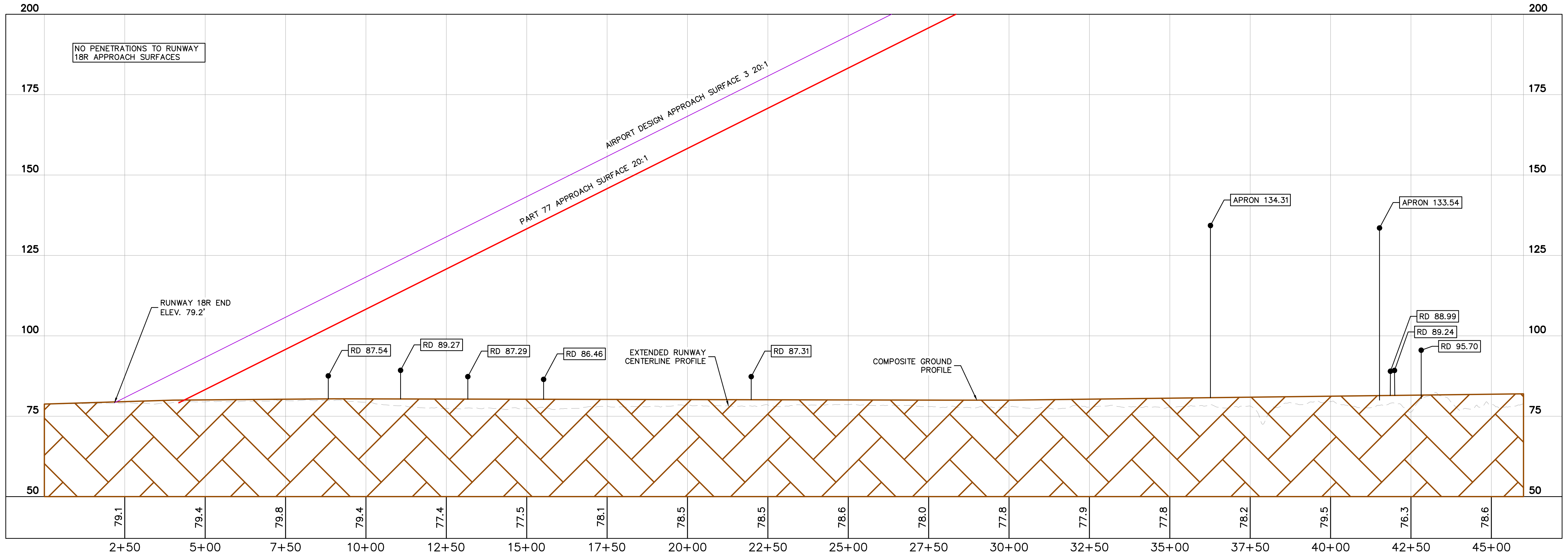
BY
APPR.

CECIL AIRPORT AND SPACEPORT - AIRPORT LAYOUT PLAN FAA IDENTIFIER VQQ



PLAN VIEW

PROFILE VIEW

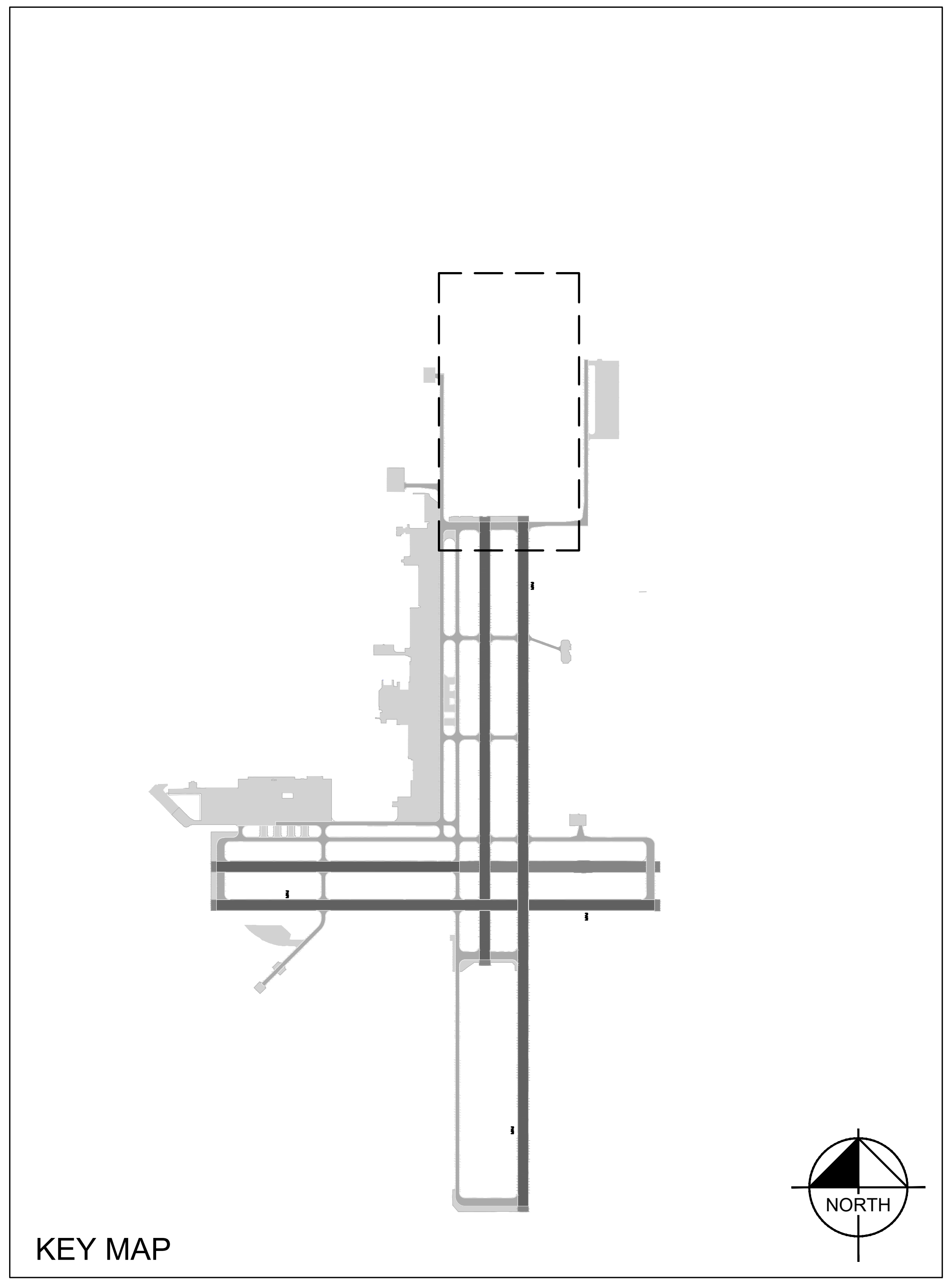


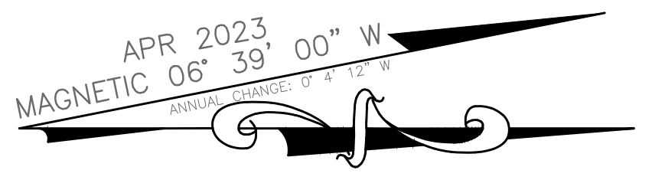
GENERAL NOTES

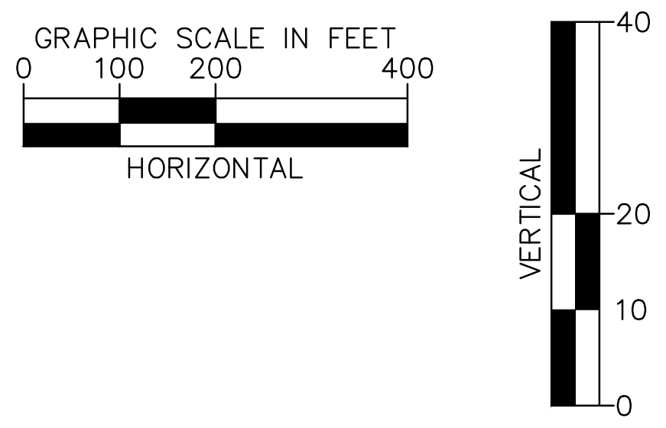
1) ALL ROADS ARE SHOWN AT ADJUSTED ELEVATION (PRIVATE ROADS +10', PUBLIC ROADS +15').
2) ONLY RUNWAY SURFACES FOR THIS SHEET ARE SHOWN.
3) TAXIWAY OBSTRUCTIONS WERE IDENTIFIED AS GROUND ELEVATION +56' FOR TAIL HEIGHT OF CRITICAL AIRCRAFT.
4) FOR CONTOUR LABELS, REFER TO DEPARTURE SHEETS.
5) FOR ADDITIONAL OBSTRUCTION INFORMATION, REFER TO OBSTRUCTIONS TABLE SHOWN ON SHEET 16.
6) RUNWAY 9L/27R WILL BE DECOMMISSIONED.

LEGEND

DESCRIPTION	EXISTING	FUTURE
AIRPORT PROPERTY LINE (PL)	▬ ▪ ▪ ▬ ▪ ▪ ▬	SAME
BUILDING RESTRICTION LINE (BRL)	NOT SHOWN	—BRL—BRL—
RUNWAY OBSTACLE FREE AREA (ROFA)	NOT SHOWN	—ROFA—ROFA—
INNER APPROACH OBSTACLE FREE ZONE (IAOFZ)	NOT SHOWN	— · · · —
RUNWAY SAFETY AREA (RSA)	NOT SHOWN	—RSA—RSA—
RUNWAY PROTECTION ZONE (RPZ)	NOT SHOWN	—RPZ—RPZ—
DESIGN STANDARD APPROACH SURFACE	NOT SHOWN	— – – — – – —
DEPARTURE SURFACE	NOT SHOWN	—DEP—DEP—
GLIDEPATH QUALIFICATION SURFACE (GQS)	NOT SHOWN	— · — · —
PART 77 APPROACH SURFACE	NOT SHOWN	—P77 APP—
TAXIWAY OBJECT FREE AREA (TOFA)	NOT SHOWN	—TOFA—TOFA—
TAXILANE OBJECT FREE AREA (TLOFA)	NOT SHOWN	—TLOFA—TLOFA—
TAXIWAY SAFETY AREA (TSA)	NOT SHOWN	—TSA—TSA—
RUNWAY END IDENTIFIER LIGHT (REIL)	◌	SAME
PRECISION APPROACH PATH INDICATOR (PAPI)	▫▫▫▫	SAME
WINDCONE	⟋	SAME
NAVAID CRITICAL AREA	— — — — —	SAME
RUNWAY PAVEMENT	▬	SAME
TAXIWAY PAVEMENT	▬	🟩
ROADWAYS	N/A	🟧
BUILDINGS	🟦	🟦
MAINTENANCE, REPAIR, AND OVERHAUL (MRO)	N/A	▨
AIRPORT FENCE	—x—x—x—x—	—x—x—x—x—
STREAM/FLOODWAY	﹏	NOT SHOWN
COMPOSITE GROUND	▨	SAME







NO.	DATE	REVISIONS	BY	APPR.	SPRS. APPR.
5					
4					
3					
2					
1					

Kimley»Horn

111 E Broadway Suite #600
Salt Lake City, UT 84111
(385) 212 - 3176

FAA DISCLAIMER

THE CONTENTS OF THIS PLAN DO NOT NECESSARILY REFLECT THE OFFICIAL VIEWS OR POLICY OF THE FEDERAL AVIATION ADMINISTRATION (FAA). ACCEPTANCE OF THIS DOCUMENT BY THE FAA DOES NOT IN ANY WAY CONSTITUTE A COMMITMENT ON THE PART OF THE UNITED STATES TO PARTICIPATE IN ANY DEVELOPMENT DEPICTED HEREIN NOR DOES IT INDICATE THAT THE PROPOSED DEVELOPMENT IS ENVIRONMENTALLY ACCEPTABLE IN ACCORDANCE WITH APPLICABLE PUBLIC LAW.

JAA Jacksonville Aviation Authority
Cecil Cecil Airport
Cecil Cecil Spaceport

Jacksonville Aviation Authority
Cecil Airport and Spaceport
JACKSONVILLE, FLORIDA

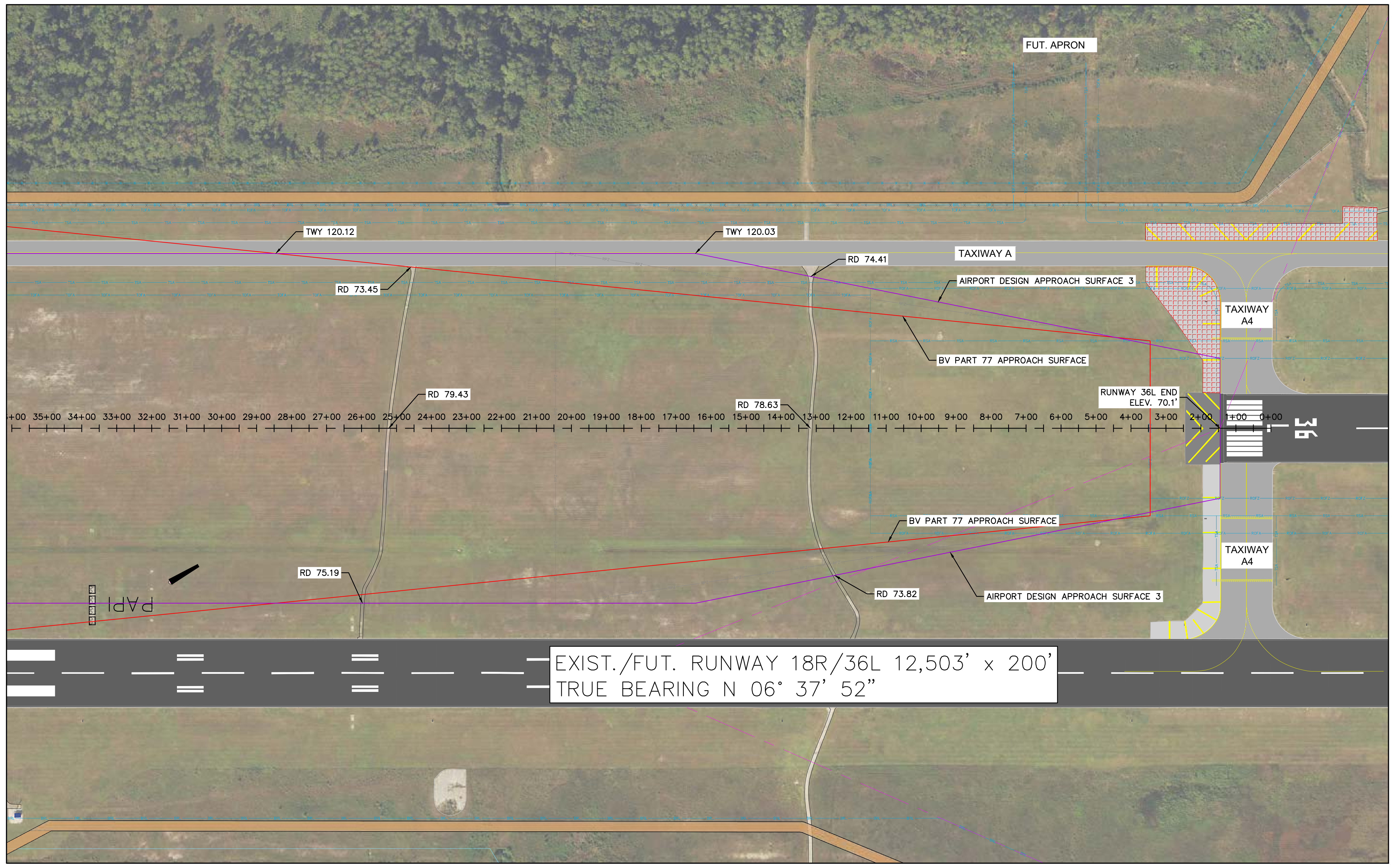
AIP GRANT
3-12-0032-023-2021
BY

SHEET NAME
APPR.
RUNWAY 18R INNER APPROACH

JAA PROJECT NO. 21-18-42001
DATE: June 2025
DRAWN BC
DESIGNED KH
CHECKED BG
APPROVED AS

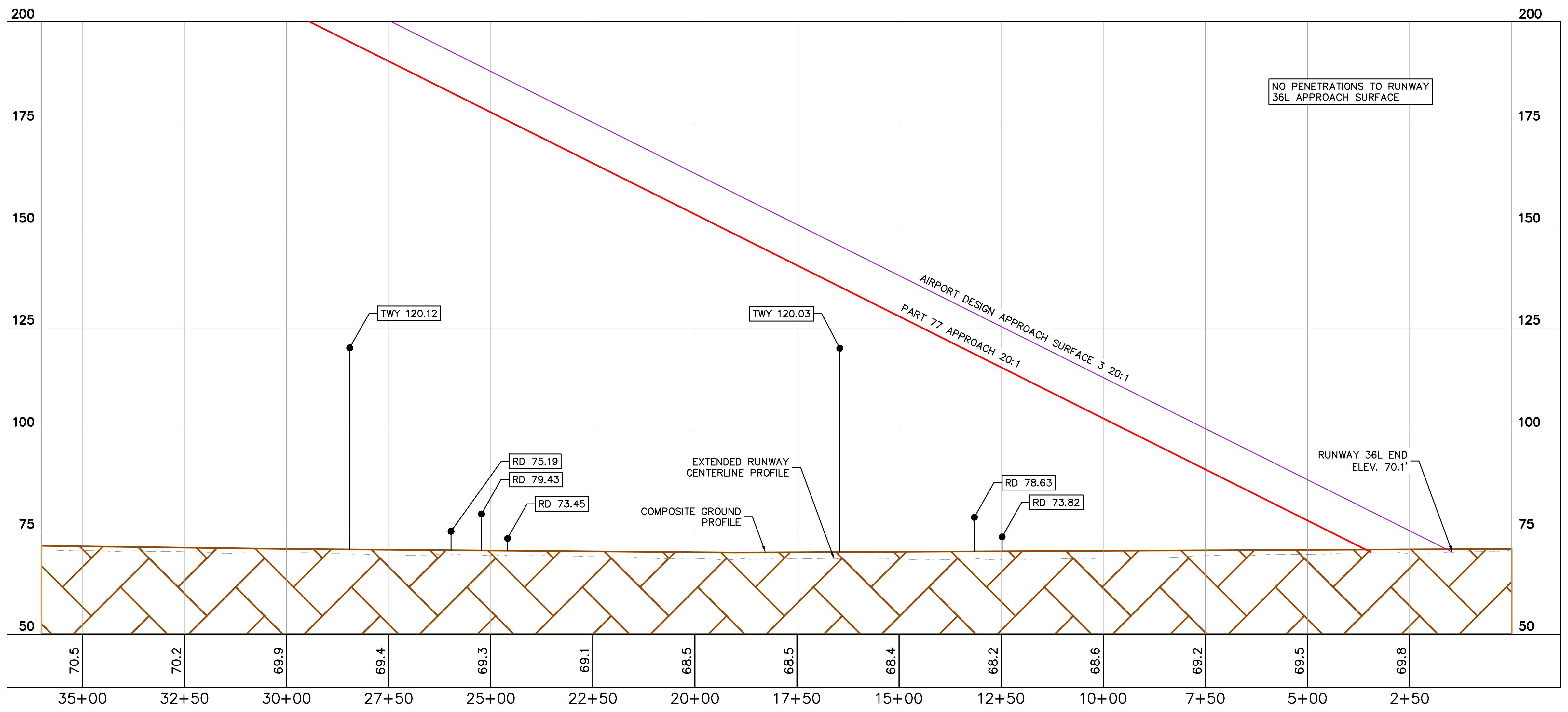
CECIL AIRPORT AND SPACEPORT - AIRPORT LAYOUT PLAN FAA IDENTIFIER VQQ

File Name: K:\SLC_Aviation\VQQ\Air and Space Master Plan\CADD\VQQ ALP Files\Sheet Set\Approach_36L.dwg - Approach Profiles
Modified / By: June 10, 2025 12:43:19 PM / Cody.Orvis
Plotted / By: 12:58:06 PM / Orvis, Cody



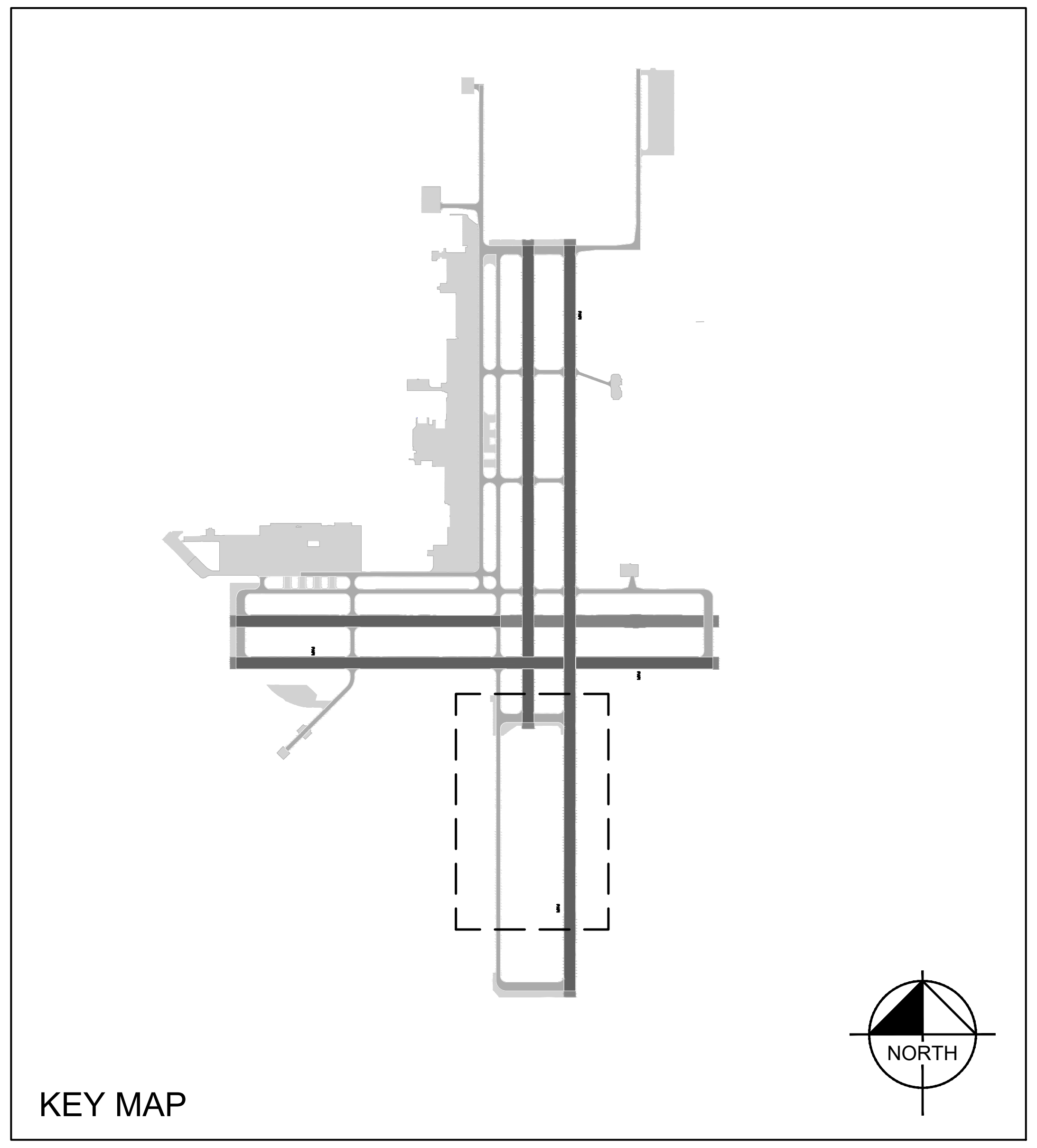
PLAN VIEW

PROFILE VIEW

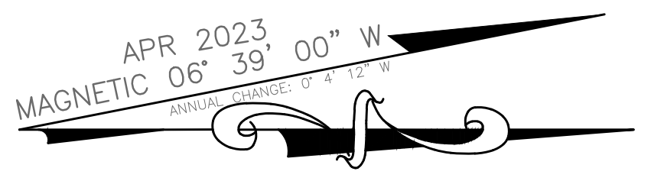


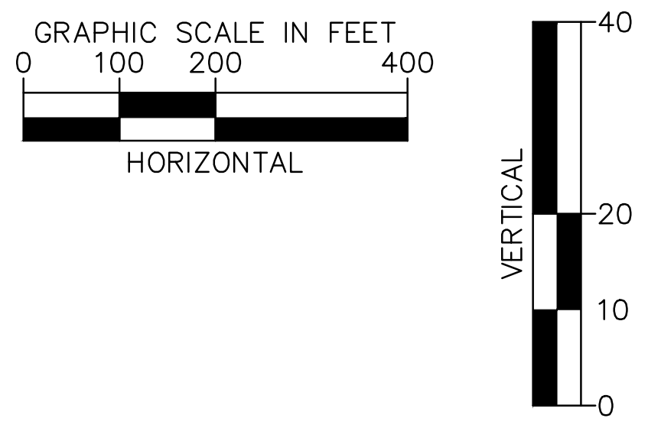
LEGEND

DESCRIPTION	EXISTING	FUTURE
AIRPORT PROPERTY LINE (PL)	▬ ▪ ▪ ▬ ▪ ▪ ▬	SAME
BUILDING RESTRICTION LINE (BRL)	NOT SHOWN	—BRL—BRL—
RUNWAY OBSTACLE FREE AREA (ROFA)	NOT SHOWN	—ROFA—ROFA—
INNER APPROACH OBSTACLE FREE ZONE (IAOFZ)	NOT SHOWN	— · · · —
RUNWAY SAFETY AREA (RSA)	NOT SHOWN	—RSA—RSA—
RUNWAY PROTECTION ZONE (RPZ)	NOT SHOWN	—RPZ—RPZ—
DESIGN STANDARD APPROACH SURFACE	NOT SHOWN	— – – — – – —
DEPARTURE SURFACE	NOT SHOWN	—DEP—DEP—
GLIDEPATH QUALIFICATION SURFACE (GQS)	NOT SHOWN	— · — · —
PART 77 APPROACH SURFACE	NOT SHOWN	—P77 APP—
TAXIWAY OBJECT FREE AREA (TOFA)	NOT SHOWN	—TOFA—TOFA—
TAXILANE OBJECT FREE AREA (TLOFA)	NOT SHOWN	—TLOFA—TLOFA—
TAXIWAY SAFETY AREA (TSA)	NOT SHOWN	—TSA—TSA—
PRECISION OBSTACLE FREE ZONE (POFZ)	▨	SAME
RUNWAY VISUAL ZONE (RVZ)	NOT SHOWN	— – —
RUNWAY END IDENTIFIER LIGHT (REIL)	◎	SAME
MALSR LIGHTS	○○○○○	SAME
PRECISION APPROACH PATH INDICATOR (PAPI)	▫▫▫▫	SAME
WINDCONE	╱	SAME
NAVAID CRITICAL AREA	— — — — —	SAME
RUNWAY PAVEMENT	■	SAME
TAXIWAY PAVEMENT	■	🟩
ROADWAYS	N/A	🟧
BUILDINGS	🟦	🟦
MAINTENANCE, REPAIR, AND OVERHAUL (MRO)	N/A	▨
PAVEMENT/BUILDING DEMOLITON	N/A	▦
AIRPORT FENCE	—x—x—x—	—x—x—x—
STREAM/FLOODWAY	∼	NOT SHOWN
COMPOSITE GROUND	▨	SAME



KEY MAP





GENERAL NOTES

1) ALL ROADS ARE SHOWN AT ADJUSTED ELEVATION (PRIVATE ROADS +10', PUBLIC ROADS +15').
2) ONLY RUNWAY SURFACES FOR THIS SHEET ARE SHOWN.
3) TAXIWAY OBSTRUCTIONS WERE IDENTIFIED AS GROUND ELEVATION +56' FOR TAIL HEIGHT OF CRITICAL AIRCRAFT.
4) FOR CONTOUR LABELS, REFER TO DEPARTURE SHEETS.
5) FOR ADDITIONAL OBSTRUCTION INFORMATION, REFER TO OBSTRUCTIONS TABLE SHOWN ON SHEET 16.
6) RUNWAY 9L/27R WILL BE DECOMMISSIONED

JAA
Jacksonville Aviation Authority
Cecil
Cecil Airport
Cecil
Cecil Spaceport

Jacksonville Aviation Authority
Cecil Airport and Spaceport
JACKSONVILLE, FLORIDA

NO.	DATE	REVISIONS	BY	APPR.	SPRS. APPR.
5					
4					
3					
2					
1					

Kimley»Horn

111 E Broadway Suite #600
Salt Lake City, UT 84111
(385) 212 - 3176

FAA DISCLAMER

THE CONTENTS OF THIS PLAN DO NOT NECESSARILY REFLECT THE OFFICIAL VIEWS OR POLICY OF THE FEDERAL AVIATION ADMINISTRATION (FAA). ACCEPTANCE OF THIS DOCUMENT BY THE FAA DOES NOT IN ANY WAY CONSTITUTE A COMMITMENT ON THE PART OF THE UNITED STATES TO PARTICIPATE IN ANY DEVELOPMENT DEPICTED HEREIN NOR DOES IT INDICATE THAT THE PROPOSED DEVELOPMENT IS ENVIRONMENTALLY ACCEPTABLE IN ACCORDANCE WITH APPROPRIATE PUBLIC LAW.

AIP GRANT
3-12-0032-023-2021
BY

SHEET NAME
APPR.
RUNWAY 36L
INNER APPROACH

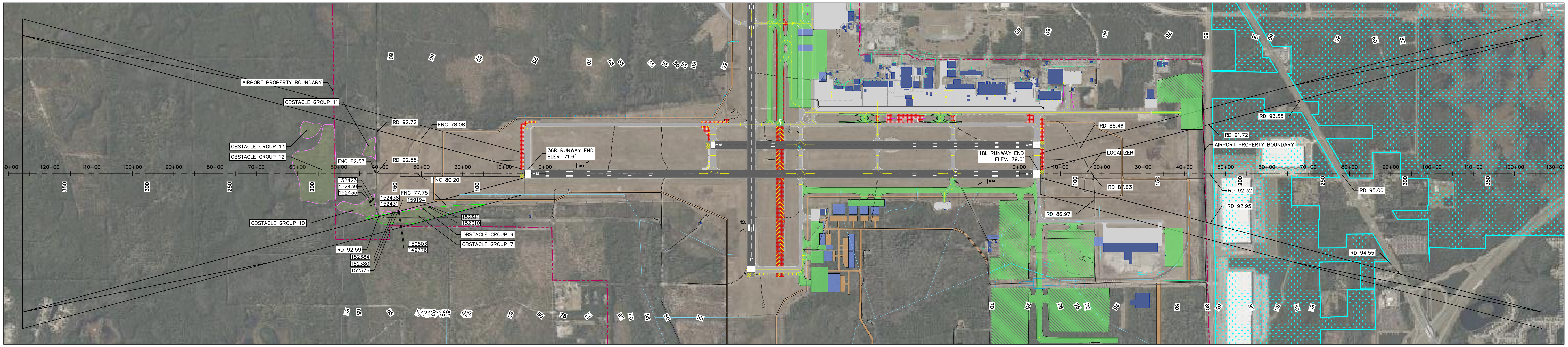
JAA PROJECT NO.
21-18-42001

DATE: June 2025

DRAWN BC
DESIGNED KH
CHECKED BG
APPROVED AS

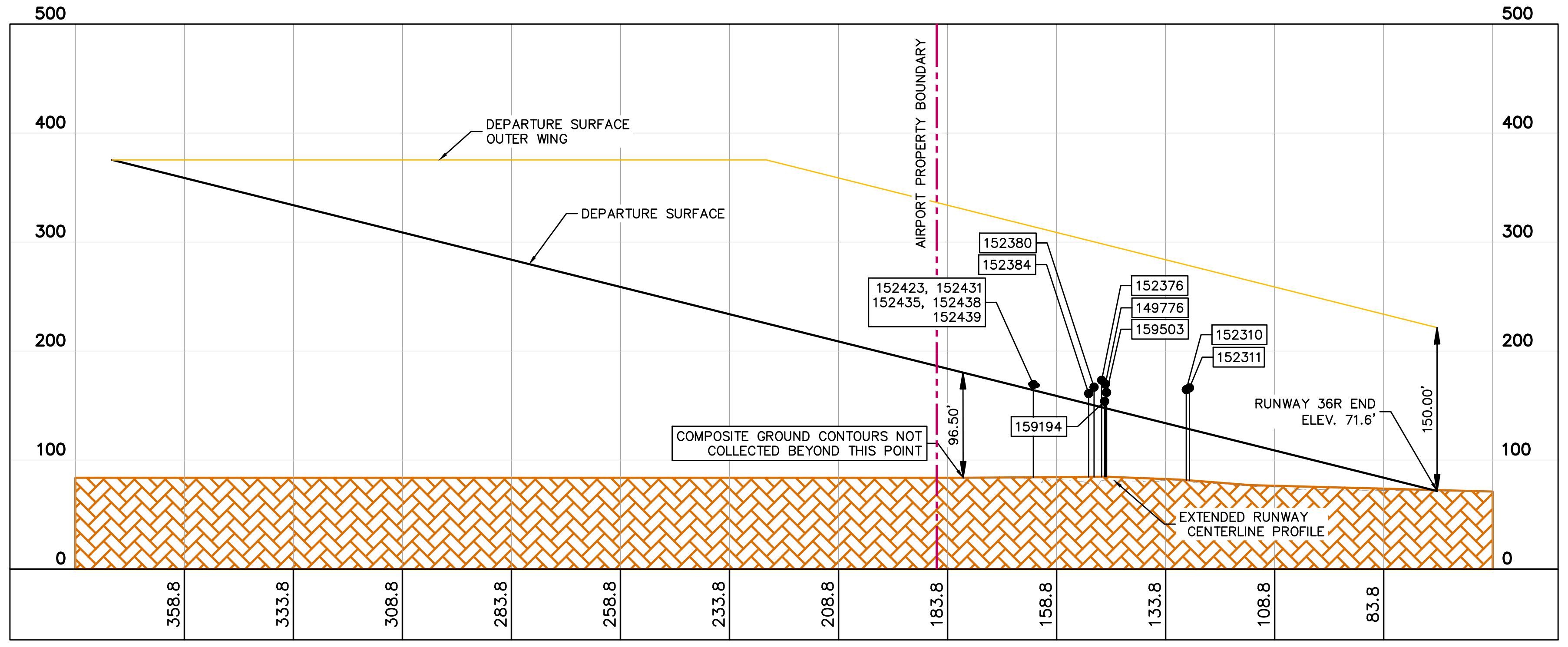
SHEET 24 OF 31

CECIL AIRPORT AND SPACEPORT - AIRPORT LAYOUT PLAN FAA IDENTIFIER VQQ

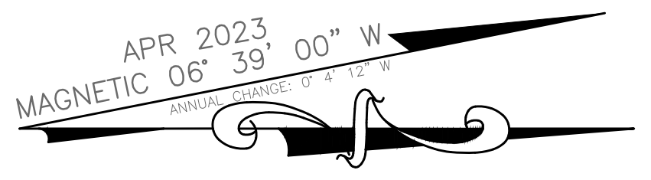


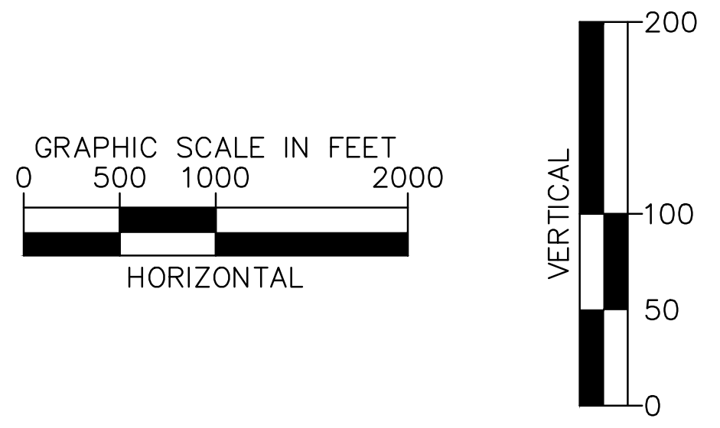
PLAN VIEW

PROFILE VIEW

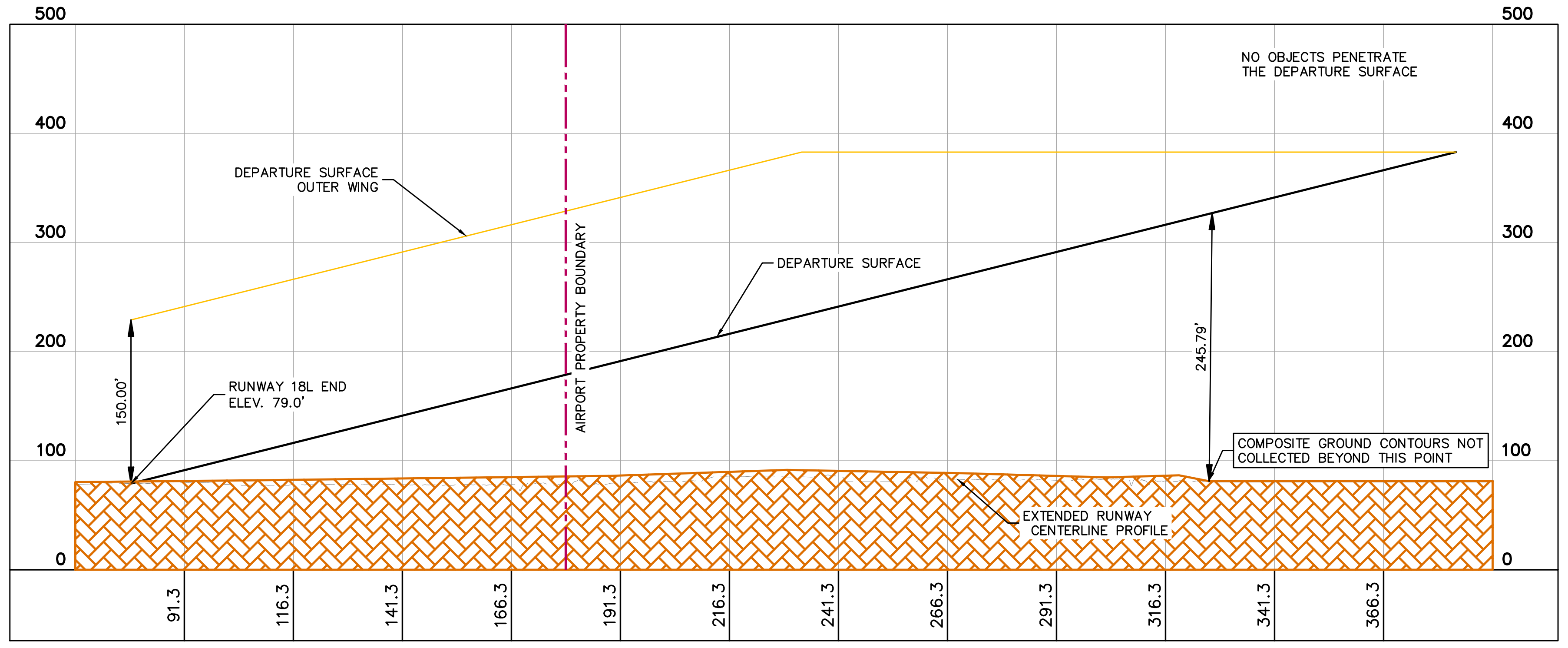


RUNWAY 18L PART 77 DEPARTURE PROFILE





PROFILE VIEW



RUNWAY 36R PART 77 DEPARTURE PROFILE

LEGEND

DESCRIPTION	ITEM
USGS CONTOURS	
COMPOSITE GROUND	▨
DEPARTURE SURFACE INNER WING	—
DEPARTURE SURFACE OUTER WING	—
AVIGATION EASEMENT	🟦

GENERAL NOTES

1) ALL ROADS ARE SHOWN AT ADJUSTED ELEVATION (PRIVATE ROADS +10', PUBLIC ROADS +15').
2) FOR ADDITIONAL OBSTRUCTION INFORMATION, REFER TO OBSTRUCTION TABLE SHEETS.
3) RAW OBSTACLE COLLECTION FLIES WERE PROVIDED TO THE AIRPORT.

JAA Jacksonville Aviation Authority
Cecil Cecil Airport
Cecil Cecil Spaceport

Jacksonville Aviation Authority
Cecil Airport and Spaceport
JACKSONVILLE, FLORIDA

NO.	DATE	REVISIONS	BY	APPR.	SPRS. APPR.
5					
4					
3					
2					
1					

Kimley»Horn

111 E Broadway Suite #600
Salt Lake City, UT 84111
(385) 212 - 3176

FAA DISCLAMER

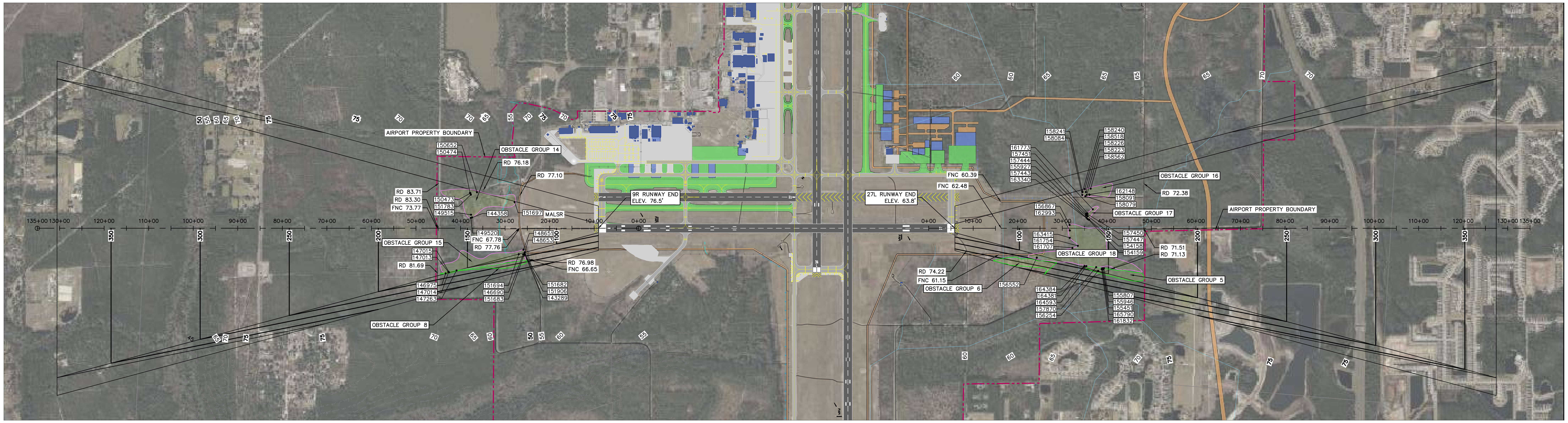
THE CONTENTS OF THIS PLAN DO NOT NECESSARILY REFLECT THE OFFICIAL VIEWS OR POLICY OF THE FEDERAL AVIATION ADMINISTRATION (FAA). ACCEPTANCE OF THIS DOCUMENT BY THE FAA DOES NOT IN ANY WAY CONSTITUTE A COMMITMENT ON THE PART OF THE UNITED STATES TO PARTICIPATE IN ANY DEVELOPMENT DEPICTED HEREIN NOR DOES IT INDICATE THAT THE PROPOSED DEVELOPMENT IS ENVIRONMENTALLY ACCEPTABLE IN ACCORDANCE WITH APPROPRIATE PUBLIC LAW.

AIP GRANT
3-12-0032-023-2021
BY

SHEET NAME
RUNWAY 18L/36R
DEPARTURES
APPR.

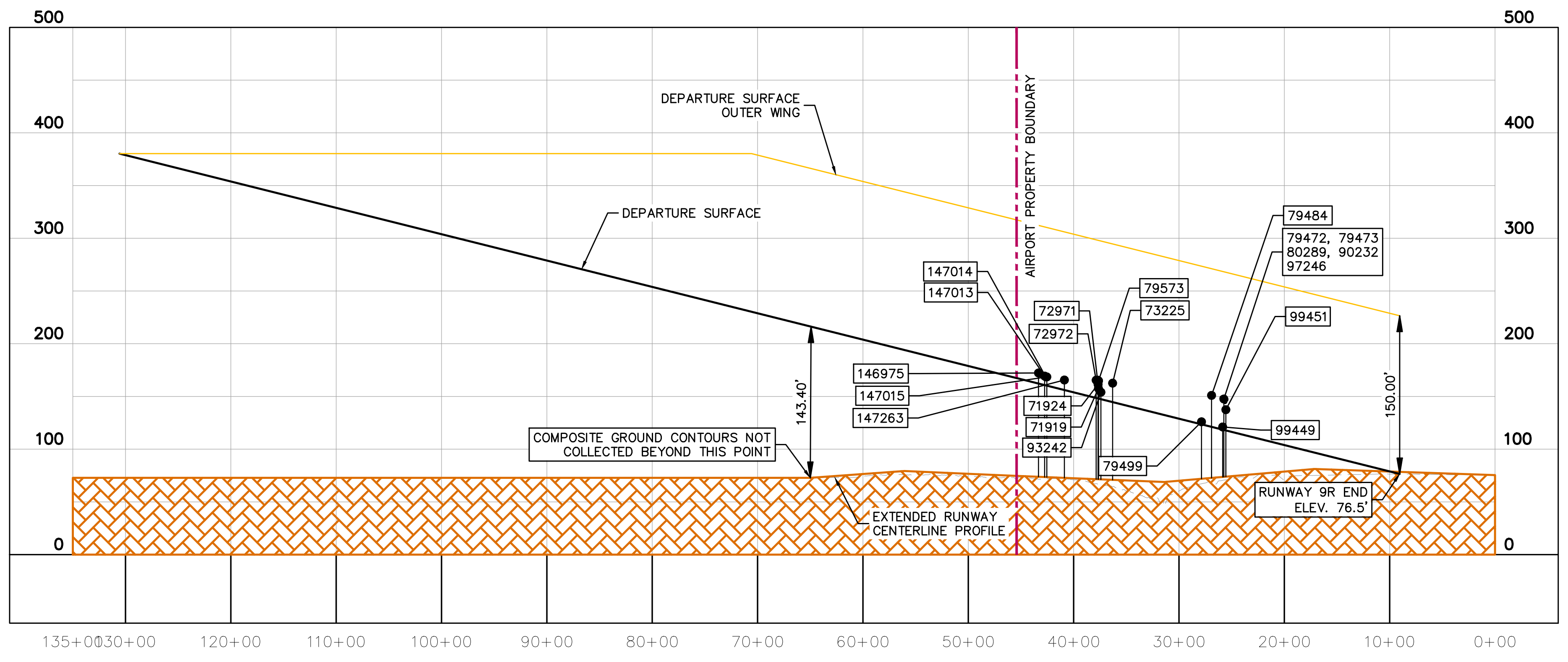
JAA PROJECT NO. **21-18-42001**	**DRAWN**	**BC**	**CHECKED**	**BG**	
DATE: June 2025	**DESIGNED**	**KH**	**APPROVED**	**AS**	**SHEET** 25 **OF** 31

CECIL AIRPORT AND SPACEPORT - AIRPORT LAYOUT PLAN FAA IDENTIFIER VQQ



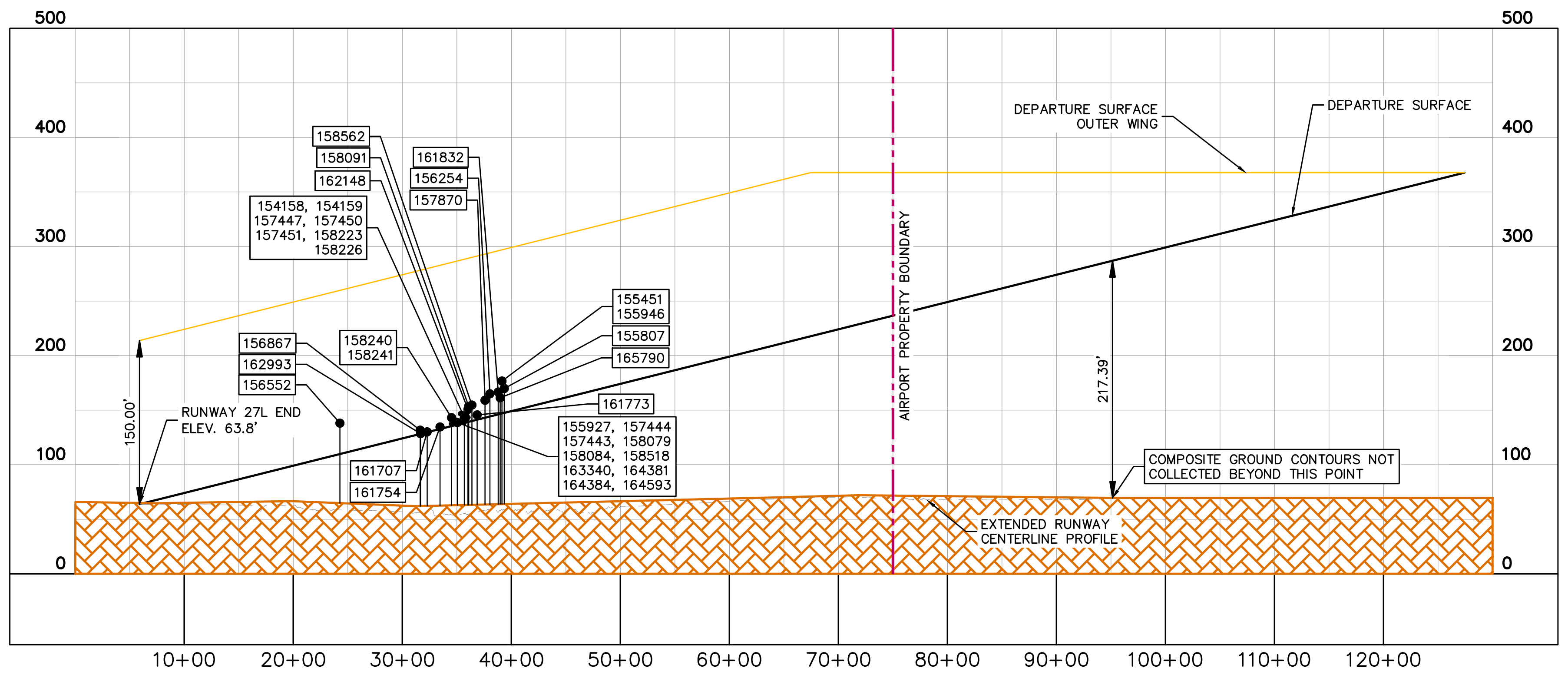
PLAN VIEW

PROFILE VIEW

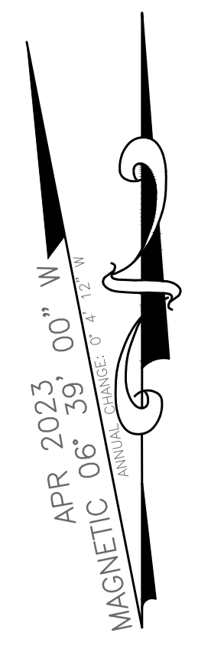


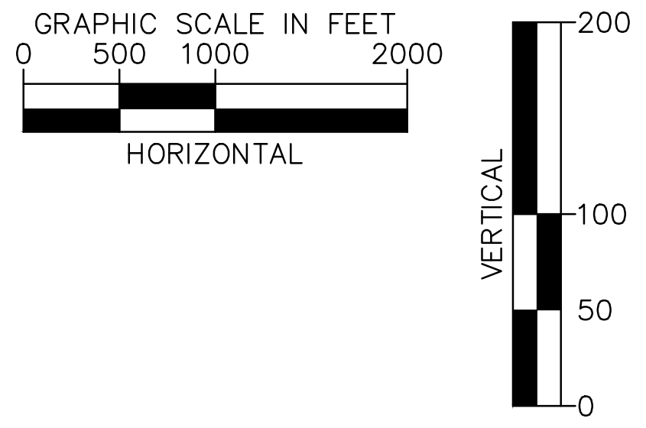
RUNWAY 9R PART 77 DEPARTURE PROFILE

PROFILE VIEW



RUNWAY 27L PART 77 DEPARTURE PROFILE





GENERAL NOTES

1) ALL ROADS ARE SHOWN AT ADJUSTED ELEVATION (PRIVATE ROADS +10', PUBLIC ROADS +15').
2) FOR ADDITIONAL OBSTRUCTION INFORMATION, REFER TO OBSTRUCTION TABLE SHEETS.
3) RAW OBSTACLE COLLECTION FLIES WERE PROVIDED TO THE AIRPORT.

LEGEND

DESCRIPTION	ITEM
USGS CONTOURS	
COMPOSITE GROUND	▨
DEPARTURE SURFACE INNER WING	━
DEPARTURE SURFACE OUTER WING	━

NO.	DATE	REVISIONS	BY	APPR.	SPRS. APPR.
5					
4					
3					
2					
1					

Kimley»Horn

111 E Broadway Suite #600
Salt Lake City, UT 84111
(385) 212 - 3176

FAA DISCLAMER

THE CONTENTS OF THIS PLAN DO NOT NECESSARILY REFLECT THE OFFICIAL VIEWS OR POLICY OF THE FEDERAL AVIATION ADMINISTRATION (FAA). ACCEPTANCE OF THIS DOCUMENT BY THE FAA DOES NOT IN ANY WAY CONSTITUTE A COMMITMENT ON THE PART OF THE UNITED STATES TO PARTICIPATE IN ANY DEVELOPMENT DEPICTED HEREIN NOR DOES IT INDICATE THAT THE PROPOSED DEVELOPMENT IS ENVIRONMENTALLY ACCEPTABLE IN ACCORDANCE WITH APPROPRIATE PUBLIC LAW.

JAA Jacksonville Aviation Authority
Cecil Cecil Airport
Cecil Cecil Spaceport

Jacksonville Aviation Authority
Cecil Airport and Spaceport
JACKSONVILLE, FLORIDA

AIP GRANT
3-12-0032-023-2021
BY

SHEET NAME
APPR.
RUNWAY 9R/27L
DEPARTURES

JAA PROJECT NO.
21-18-42001
DATE: June 2025

DRAWN BC
DESIGNED KH
CHECKED BG
APPROVED AS

SHEET 26 OF 31

CECIL AIRPORT AND SPACEPORT - AIRPORT LAYOUT PLAN FAA IDENTIFIER VQQ

LEGEND

DESCRIPTION	EXISTING	FUTURE
AIRPORT PROPERTY LINE (PL)	— - - — - - —	SAME
RUNWAY PROTECTION ZONE (RPZ)	NOT SHOWN	—RPZ—RPZ—
RUNWAY OBJECT FREE AREA (ROFA)	NOT SHOWN	—ROFA—ROFA—
PRECISION OBSTACLE FREE ZONE (POFZ)	▨	SAME
HELIPORT PROTECTION ZONE (HPZ)	NOT SHOWN	-·-·-·-
BUILDING RESTRICTION LINE (BRL)	NOT SHOWN	—BRL—BRL—
RUNWAY VISUAL ZONE (RVZ)	NOT SHOWN	—— — ——
RUNWAY END INDICATOR LIGHT (REIL)	◶	SAME
VERY HIGH FREQUENCY OMNI-DIRECTIONAL RANGE (VOR)	⊗	SAME
MALSR LIGHTS	◍◍◍◍◍	SAME
PRECISION APPROACH PATH INDICATOR (PAPI)	▭▭▭▭	SAME
WINDCONE	╱	SAME
AUTOMATED WEATHER OBSERVING SYSTEM (AWOS)	⌓	SAME
AIRPORT ROTATING BEACON	☆	SAME
NAVAID CRITICAL AREA	— — — — —	SAME
RUNWAY PAVEMENT	▬	SAME
TAXIWAY PAVEMENT	▬	⬚
BUILDINGS	■	⬚
MAINTENANCE, REPAIR, AND OVERHAUL (MRO)	N/A	▨
PAVEMENT/BUILDING DEMOLITON	N/A	▦
AVIGATION EASEMENT	+ + + + + + +	SAME

NOISE CONTOUR DATA

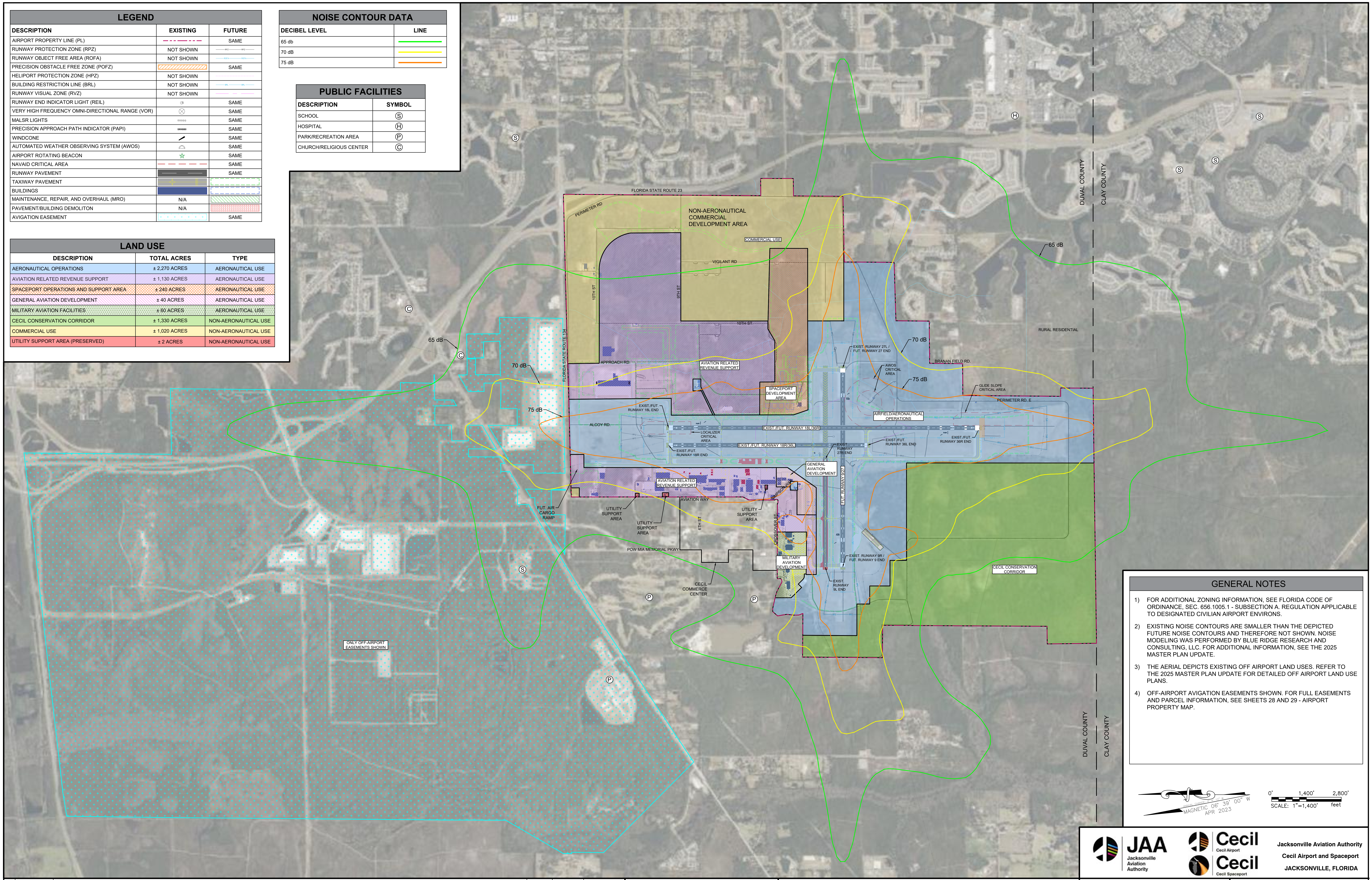
DECIBEL LEVEL	LINE
65 db	🟩
70 dB	🟨
75 dB	🟧

PUBLIC FACILITIES

DESCRIPTION	SYMBOL
SCHOOL	Ⓢ
HOSPITAL	Ⓗ
PARK/RECREATION AREA	Ⓟ
CHURCH/RELIGIOUS CENTER	Ⓒ

LAND USE

DESCRIPTION	TOTAL ACRES	TYPE
AERONAUTICAL OPERATIONS	± 2,270 ACRES	AERONAUTICAL USE
AVIATION RELATED REVENUE SUPPORT	± 1,130 ACRES	AERONAUTICAL USE
SPACEPORT OPERATIONS AND SUPPORT AREA	± 240 ACRES	AERONAUTICAL USE
GENERAL AVIATION DEVELOPMENT	± 40 ACRES	AERONAUTICAL USE
MILITARY AVIATION FACILITIES	± 60 ACRES	AERONAUTICAL USE
CECIL CONSERVATION CORRIDOR	± 1,330 ACRES	NON-AERONAUTICAL USE
COMMERCIAL USE	± 1,020 ACRES	NON-AERONAUTICAL USE
UTILITY SUPPORT AREA (PRESERVED)	± 2 ACRES	NON-AERONAUTICAL USE



GENERAL NOTES

1) FOR ADDITIONAL ZONING INFORMATION, SEE FLORIDA CODE OF ORDINANCE, SEC. 656.1005.1 - SUBSECTION A. REGULATION APPLICABLE TO DESIGNATED CIVILIAN AIRPORT ENVIRONS.

2) EXISTING NOISE CONTOURS ARE SMALLER THAN THE DEPICTED FUTURE NOISE CONTOURS AND THEREFORE NOT SHOWN. NOISE MODELING WAS PERFORMED BY BLUE RIDGE RESEARCH AND CONSULTING, LLC. FOR ADDITIONAL INFORMATION, SEE THE 2025 MASTER PLAN UPDATE.

3) THE AERIAL DEPICTS EXISTING OFF AIRPORT LAND USES. REFER TO THE 2025 MASTER PLAN UPDATE FOR DETAILED OFF AIRPORT LAND USE PLANS.

4) OFF-AIRPORT AVIGATION EASEMENTS SHOWN. FOR FULL EASEMENTS AND PARCEL INFORMATION, SEE SHEETS 28 AND 29 - AIRPORT PROPERTY MAP.

NO.	DATE	REVISIONS	BY	APPR.	SPRS. APPR.
5					
4					
3					
2					
1					

Kimley»Horn

©2023 KIMLEY-HORN AND ASSOCIATES, INC.
111 E Broadway Suite #600
Salt Lake City, UT 84111
(385) 212 - 3176

FAA DISCLAMER

THE CONTENTS OF THIS PLAN DO NOT NECESSARILY REFLECT THE OFFICIAL VIEWS OR POLICY OF THE FEDERAL AVIATION ADMINISTRATION (FAA). ACCEPTANCE OF THIS DOCUMENT BY THE FAA DOES NOT IN ANY WAY CONSTITUTE A COMMITMENT ON THE PART OF THE UNITED STATES TO PARTICIPATE IN ANY DEVELOPMENT DEPICTED HEREIN NOR DOES IT INDICATE THAT THE PROPOSED DEVELOPMENT IS ENVIRONMENTALLY ACCEPTABLE IN ACCORDANCE WITH APPROPRIATE PUBLIC LAW.

JAA Jacksonville Aviation Authority
Cecil Cecil Airport
Cecil Cecil Spaceport

Jacksonville Aviation Authority
Cecil Airport and Spaceport
JACKSONVILLE, FLORIDA

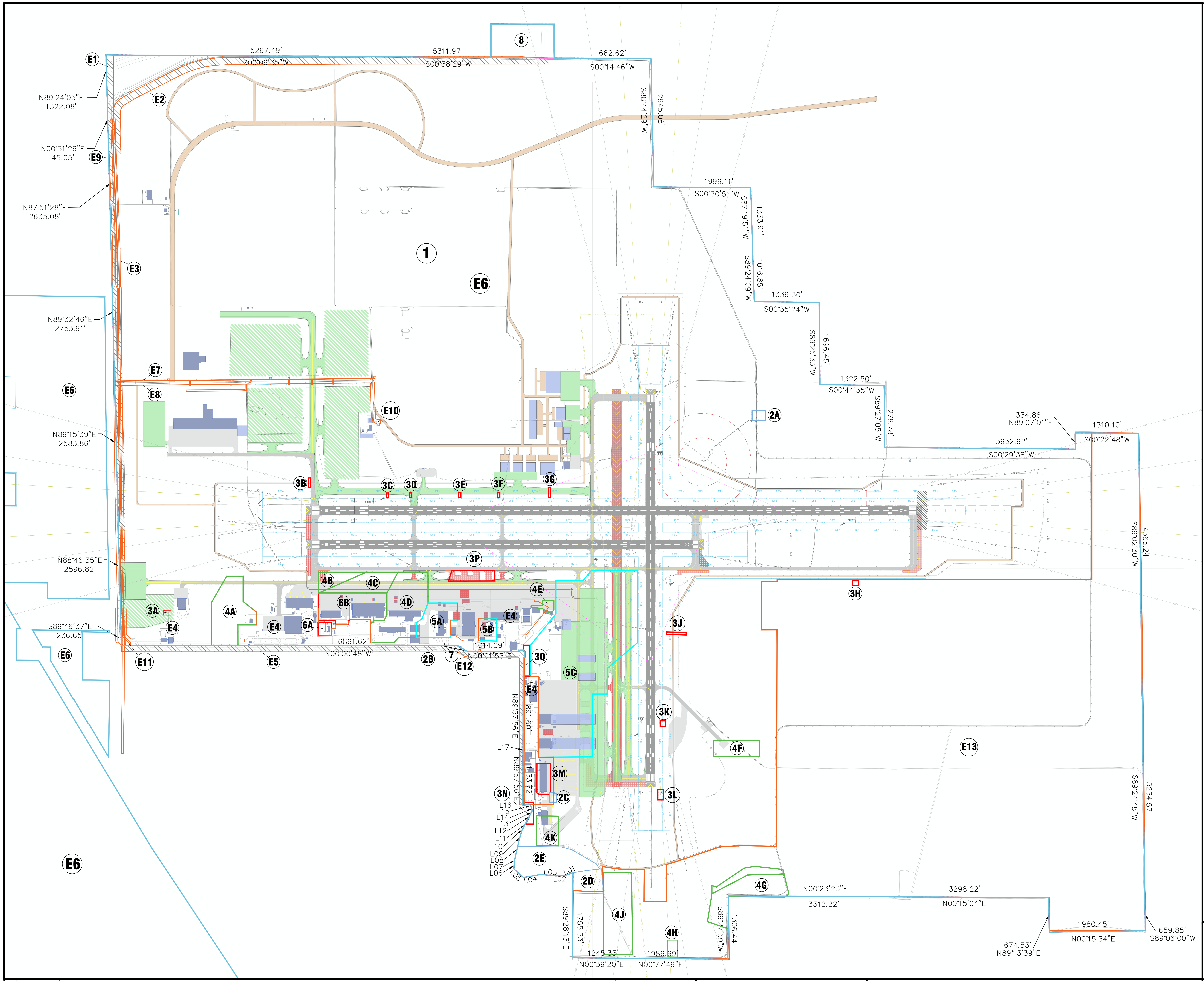
AIP GRANT
3-12-0032-023-2021
BY

SHEET NAME
LAND USE DRAWING
APPR.

JAA PROJECT NO. 21-18-42001	**DRAWN**	BC	**CHECKED**	BG	
DATE: June 2025	**DESIGNED**	KH	**APPROVED**	AS	**SHEET** 27 **OF** 31

CECIL AIRPORT AND SPACEPORT - AIRPORT LAYOUT PLAN FAA IDENTIFIER VQQ

File Name: K:\SLC_Aviation\VQQ\Air and Space Master Plan\CADD\VQQ ALP Files\Sheet Set\43-44 Airport Property Map.dwg - Sheet 1
Modified / By: June 10, 2025 10:30:46 AM / Cody.Orvis
Plotted / By: 1:35:04 PM / Orvis, Cody



LEGEND

DESCRIPTION	EXISTING	FUTURE
AIRPORT PROPERTY LINE (PL)	▬ ▪ ▪ ▬ ▪ ▪ ▬	SAME
AIRPORT REFERENCE POINT (ARP)	⊕	⊕
RUNWAY PROTECTION ZONE (RPZ)	RPZ RPZ	NOT SHOWN
DESIGN STANDARD APPROACH SURFACE	— – – — – – —	NOT SHOWN
DEPARTURE SURFACE	DEP DEP	NOT SHOWN
GLIDEPATH QUALIFICATION SURFACE (GQS)	— · — · —	NOT SHOWN
PART 77 APPROACH SURFACE	P77 APP	NOT SHOWN
PRECISION OBSTACLE FREE ZONE (POFZ)	▨	NOT SHOWN
RUNWAY VISUAL ZONE (RVZ)	— — —	NOT SHOWN
RUNWAY END INDICATOR LIGHT (REIL)	◁	SAME
MALSR LIGHTS	○○○○○	SAME
PRECISION APPROACH PATH INDICATOR (PAPI)	▫▫▫▫	SAME
WINDCONE	／	SAME
AUTOMATED WEATHER OBSERVING SYSTEM (AWOS)	△	SAME
AIRPORT ROTATING BEACON	☆	SAME
NAVAID CRITICAL AREA	— — — — —	SAME
RUNWAY PAVEMENT	▬	SAME
TAXIWAY PAVEMENT	▬	🟩
BUILDINGS	▬	▬
MAINTENANCE, REPAIR, AND OVERHAUL (MRO)	N/A	▨
PAVEMENT RECONSTRUCTION	N/A	▬
PAVEMENT DEMOLITON	N/A	▦
STREAM	∼	NOT SHOWN
PARCEL/EASEMENT BOUNDARY	—/—/—/—/—/—	NOT SHOWN

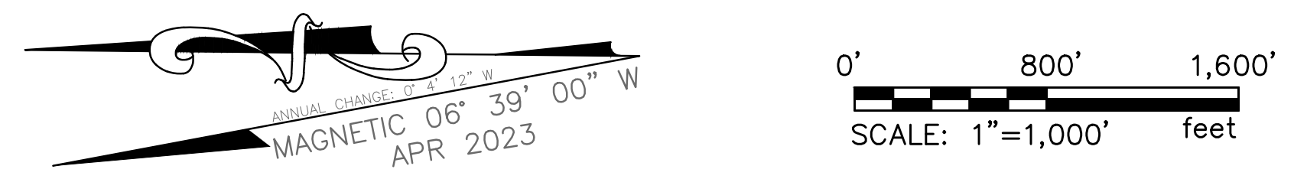
LINE	DIRECTION	DISTANCE
L01	N20°44'01"W	178.78'
L02	N01°17'21"W	196.97'
L03	N05°51'30"E	298.16'
L04	N09°57'33"W	366.77'
L05	N41°36'35"E	264.20'
L06	S86°59'47"E	159.39'
L07	S77°59'51"E	173.37'
L08	S75°42'52"E	140.02'
L09	S77°49'06"E	145.01'
L10	S73°47'58"E	198.15'
L11	S60°47'55"E	256.22'
L12	S65°44'02"E	119.56'
L13	S61°46'43"E	78.90'
L14	N78°51'06"E	84.49'
L15	N55°43'06"E	57.12'
L16	N04°26'52"W	143.45'

GENERAL NOTES

1) VARIOUS PARCELS ARE STILL LEASED FROM THE NAVY UNTIL A FINDING OF SUITABILITY FOR TRANSFER (FOST) HAS BEEN ISSUED WHEN ALL ENVIRONMENTAL ISSUES ARE RESOLVED.

2) SEE SHEET 29 FOR PARCEL AND EASEMENT INFORMATION.

3) THIS SHEET WAS CREATED WITH AVAILABLE INFORMATION PROVIDED BY THE AIRPORT.



Jacksonville Aviation Authority
Cecil Airport and Spaceport
JACKSONVILLE, FLORIDA

NO.	DATE	REVISIONS	BY	APPR.	SPRS. APPR.
5					
4					
3	05/02/2008	ALP UPDATE	XX	XX	XX
2	06/30/2011	ALP UPDATE	XX	XX	XX
1	06/10/2025	MASTER PLAN UPDATE	BC	AS	JAA

Kimley»Horn
©2023 KIMLEY-HORN AND ASSOCIATES, INC.
111 E Broadway Suite #600
Salt Lake City, UT 84111
(385) 212 - 3176

FAA DISCLAMER

THE CONTENTS OF THIS PLAN DO NOT NECESSARILY REFLECT THE OFFICIAL VIEWS OR POLICY OF THE FEDERAL AVIATION ADMINISTRATION (FAA). ACCEPTANCE OF THIS DOCUMENT BY THE FAA DOES NOT IN ANY WAY CONSTITUTE A COMMITMENT ON THE PART OF THE UNITED STATES TO PARTICIPATE IN ANY DEVELOPMENT DEPICTED HEREIN NOR DOES IT INDICATE THAT THE PROPOSED DEVELOPMENT IS ENVIRONMENTALLY ACCEPTABLE IN ACCORDANCE WITH APPROPRIATE PUBLIC LAW.

AIP GRANT
3-12-0032-023-2021
BY

SHEET NAME
AIRPORT PROPERTY MAP - SHEET 1
APPR.

JAA PROJECT NO. 21-18-42001	DRAWN BC	CHECKED BG	
DATE: June 2025	DESIGNED KH	APPROVED AS	SHEET 28 OF 31

CECIL AIRPORT AND SPACEPORT - AIRPORT LAYOUT PLAN FAA IDENTIFIER VQQ

PARCELS

PROPERTY ID	TAX ID	GRANTOR	OWNER	DATE ACQUIRED	O.R. BOOK/PAGE	TYPE OF DOC	TYPE OF INTEREST	ACREAGE	FAA PARTICIPATION	REMARKS
1	002249 0005	United States of America	JAA	9/29/1999	9433/1476-1577	Quitclaim Deed	Fee Simple	5,750.54	NONE	Areas excepted from the total 6,081.24 acres were leased to JAA and later transferred ownership to JAA as environmental conditions allowed.
2		United States of America	JAA	9/27/2000	9828/2042	Quitclaim Deed	Fee Simple	27.81	NONE	
2A	002350 1700	United States of America	JAA					1.29		
2B	002322 1750	United States of America	JAA					0.16		
2C	002322 3105	United States of America	JAA					0.67		
2D	002322 3450	United States of America	JAA					6.65		
2E	002322 3300	United States of America	JAA					19.07		
3		United States of America	JAA	3/31/2003	11071/76	Quitclaim Deed	Fee Simple	12.75	NONE	
3A	002250 2400	United States of America	JAA					0.34		
3B	002250 4400	United States of America	JAA					0.23		
3C	002323 1350	United States of America	JAA					0.11		
3D	002323 1400	United States of America	JAA					0.11		
3E	002323 1450	United States of America	JAA					0.11		
3F	002323 1500	United States of America	JAA					0.11		
3G	002323 1000	United States of America	JAA					0.23		
3H	002350 3600	United States of America	JAA					0.50		
3J	002350 2400	United States of America	JAA					0.50		
3K	002355 1300	United States of America	JAA					0.28		
3L	002355 2050	United States of America	JAA					0.58		
3M	002322 3100	United States of America	JAA					4.01		
3N	002322 3150	United States of America	JAA					0.97		
3P	002323 2600	United States of America	JAA					4.49		
4		United States of America	JAA	7/18/2005	12762/1379	Quitclaim Deed	Fee Simple	120.60	NONE	
4A	002250 2500	United States of America	JAA					20.70		
4B	002250 3750	United States of America	JAA					4.89		
4C	002250 3700	United States of America	JAA					10.16		
4D	002250 3600	United States of America	JAA					26.59		
4E	002323 3400	United States of America	JAA					1.49		
4F	002355 0050	United States of America	JAA					7.43		
4G	002355 2450	United States of America	JAA					22.93		
4H	002358 0010	United States of America	JAA					1.58		
4J	002322 3500	United States of America	JAA					22.50		
4K	002322 3155	United States of America	JAA					6.44		
5	002249 0005	United States of America	JAA	7/25/2007		Quitclaim Deed	Fee Simple	148.91	NONE	
5A	002249 0005	United States of America	JAA					11.22		
5B	002249 0005	United States of America	JAA					4.12		
5C								131.84		
6		United States of America	JAA	9/16/2010	15386/1730	Quitclaim Deed	Fee Simple	20.63	NONE	
6A	002250 3450	United States of America	JAA			Quitclaim Deed		1.76		
6B	002250 3460	United States of America	JAA			Quitclaim Deed		18.67		
7	002322 1760	City of Jacksonville	JAA	10/8/2010	15408/01113	Quitclaim Deed	Fee Simple	0.47	NONE	
8	015457 0000	Walter L. Williams, Jr.	JAA	11/29/2016	17803/1135	Special Warranty Deed	Fee Simple	20.42	NONE	
TOTAL AIRPORT ACREAGE								6,434.86		

EASEMENTS

PROPERTY ID	TAX ID	GRANTOR	OWNER	DATE ACQUIRED	O.R. BOOK/PAGE	TYPE OF DOC	TYPE OF INTEREST	ACREAGE	FAA PARTICIPATION	REMARKS
E1		JAA	FDOT	1/13/2000	9519/1668	Perpetual Easement		23.63	NONE	chaffee rd corner
E2		JAA	JEA	11/14/2003	11606/400	Grant of Easement		34.67	NONE	
E3		JAA	JEA	11/14/2003	11606/384	Grant of Easement		18.15	NONE	
E4		JAA	JEA	11/14/2003	11606/389	Easement		197.14	NONE	blanket easement
E5		United States of America	JAA	9/29/1999	9433/1446	Access Easement		6,081.24	NONE	roadways and entire airport
E6		United States of America	JAA	9/29/1999	9433/1457-1475	Avigation Easement		23,305.78	NONE	NAS Cecil Field property
E7		JAA	JEA	5/17/2018	18407/628	Exclusive Grant of Easement		0.33	NONE	Electric app rd
E8		JAA	JEA	5/17/2018	18407/619	Non-Exclusive Grant of Easement		2.22	NONE	utility app rd
E9		JAA	JEA	1/7/2021	19540/644	Non-Exclusive Grant of Easement		9.17	103rd Gap Easement	
E10		JAA	JEA	1/25/2021	19558/683	Exclusive Grant of Easement		10.93	Lift station/Apprach Rd	
E11		JAA	JEA	12/1/2000	9551/1493	Non-Exclusive Grant of Easement			Water and Sewer	
E12		JAA	JEA		18954/1083	Non-Exclusive Utility Easement			NONE	
E13		JAA	SJRWMD	12/4/2008	14722/1025	Conservation Easement		74.00	NONE	Lighting
E14		JAA	SJRWMD	3/26/2009	14831/2463	Conservation Easement		263.97	NONE	Alenia
		JAA	JEA		5855/730-d					
		JAA	JEA	11/14/2003	11606/379					
		JAA	JEA		3376/1142					
					1127/71	Easement per AVCON dwg				
					1824/574	Easement per AVCON dwg				
					3415/756	Easement per AVCON dwg				
					5855/729b	Easement per AVCON dwg				
					5855/729c	Easement per AVCON dwg				
					5855/730d	Easement per AVCON dwg				
					62467/4	Easement per AVCON dwg				
					6530/2036	Easement per AVCON dwg				
TECO		JAA		8/20/2019	do not have recorded copy	Non-Exclusive Grant of Easement		unknown		easement centerline provided only

NO.	DATE	REVISIONS	BY	APPR.	SPRS. APPR.
5					
4					
3	05/02/2008	ALP UPDATE	XX	XX	XX
2	06/30/2011	ALP UPDATE	XX	XX	XX
1	06/10/2025	MASTER PLAN UPDATE	BC	AS	JAA

Kimley»Horn

111 E Broadway Suite #600
Salt Lake City, UT 84111
(385) 212 - 3176

FAA DISCLAMER

THE CONTENTS OF THIS PLAN DO NOT NECESSARILY REFLECT THE OFFICIAL VIEWS OR POLICY OF THE FEDERAL AVIATION ADMINISTRATION (FAA). ACCEPTANCE OF THIS DOCUMENT BY THE FAA DOES NOT IN ANY WAY CONSTITUTE A COMMITMENT ON THE PART OF THE UNITED STATES TO PARTICIPATE IN ANY DEVELOPMENT DEPICTED HEREIN NOR DOES IT INDICATE THAT THE PROPOSED DEVELOPMENT IS ENVIRONMENTALLY ACCEPTABLE IN ACCORDANCE WITH APPROPRIATE PUBLIC LAW.

JAA Jacksonville Aviation Authority
Cecil Cecil Airport
Cecil Cecil Spaceport

Jacksonville Aviation Authority
Cecil Airport and Spaceport
JACKSONVILLE, FLORIDA

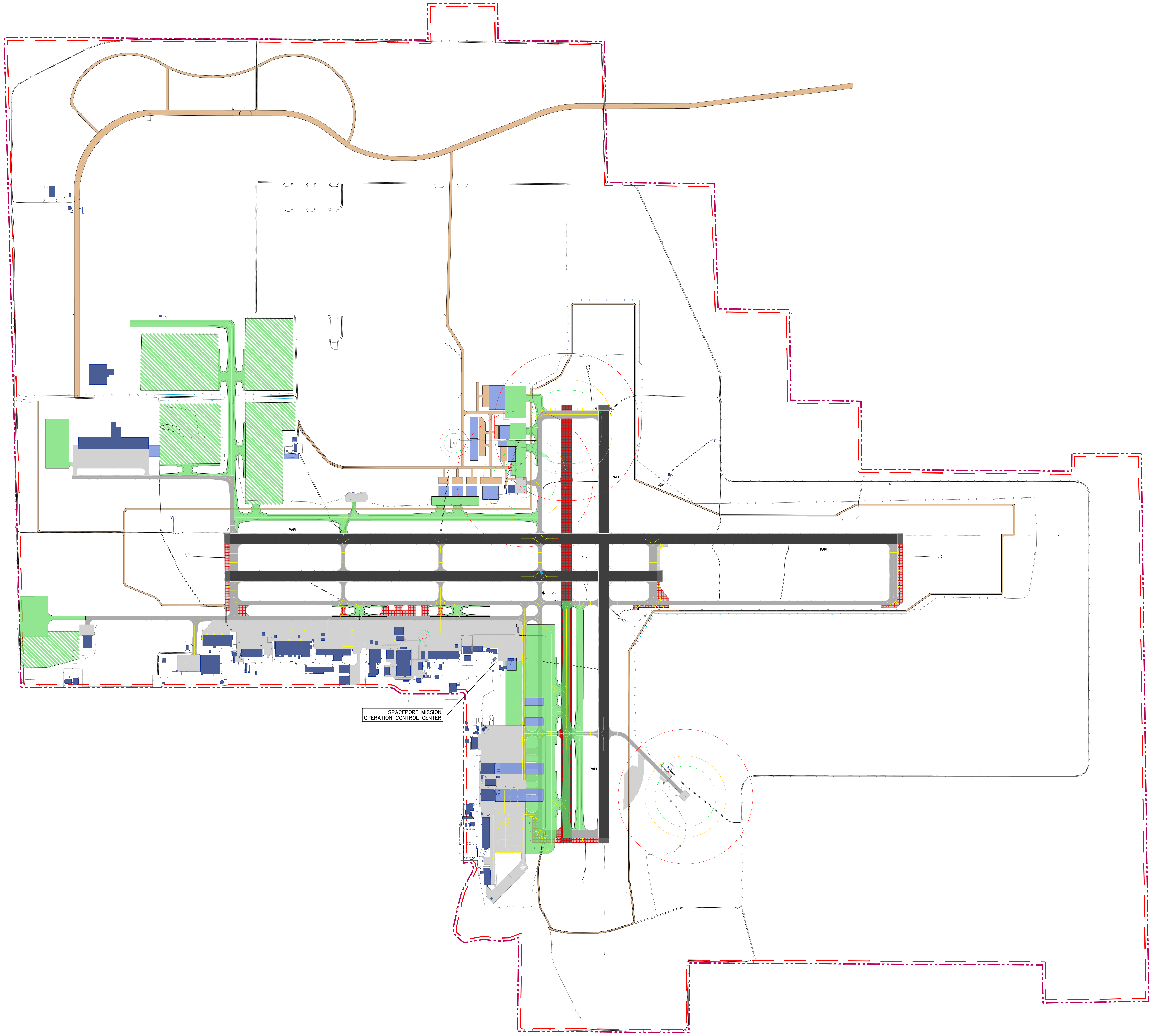
AIP GRANT
3-12-0032-023-2021
BY
APPR.

SHEET NAME
AIRPORT PROPERTY MAP - SHEET 2

JAA PROJECT NO. 21-18-42001
DATE: June 2025
DRAWN BC
DESIGNED KH
CHECKED BG
APPROVED AS
SHEET 29 OF 31

CECIL AIRPORT AND SPACEPORT - AIRPORT LAYOUT PLAN FAA IDENTIFIER VQQ

File Name: K:\SLC_Aviation\VQQ\Air and Space Master Plan\CADD\VQQ ALP Files\Sheet Set\Spaceport Sheets\Launch Site Boundary.dwg - Title Sheet
Modified / By: June 10, 2025 10:11:45 AM / Cody.Orvis
Plotted / By: 12:58:53 PM / Orvis, Cody



LEGEND

DESCRIPTION	EXISTING	FUTURE
AIRPORT PROPERTY LINE (PL)	▬ ▪ ▪ ▬ ▪ ▪ ▬	SAME
SPACEPORT LAUNCH BOUNDARY	N/A	▬ ▬ ▬
RUNWAY PAVEMENT	▬	SAME
TAXIWAY/APRON/ROADWAY PAVEMENT	▬	🟩
BUILDINGS	▬	▬
MAINTENANCE, REPAIR, AND OVERHAUL (MRO)	N/A	▨
AIRPORT FENCE	—x—x—x—x—	—x—x—x—x—
INHABITED BUILDING DISTANCE	N/A	—
PUBLIC TRAFFIC ROUTE DISTANCE	N/A	—
INTRALINE DISTANCE	N/A	— — — —
EXPLOSIVE HAZARD FACILITY	N/A	☐

GENERAL NOTES

1) SPACEPORT LAUNCH BOUNDARY IS OFFSET FROM AIRPORT FOR VISUAL REPRESENTATION.

ANNUAL CHANGE: 0° 4' 12" W
MAGNETIC 06° 39' 00" W
APR 2023

0 800 1600
SCALE: 1"=800' feet

Jacksonville Aviation Authority
Cecil Airport and Spaceport
JACKSONVILLE, FLORIDA

NO.	DATE	REVISIONS	BY	APPR.	SPRS. APPR.
5					
4					
3					
2					
1					

111 E Broadway Suite #600
Salt Lake City, UT 84111
(385) 212 - 3176

FAA DISCLAMER

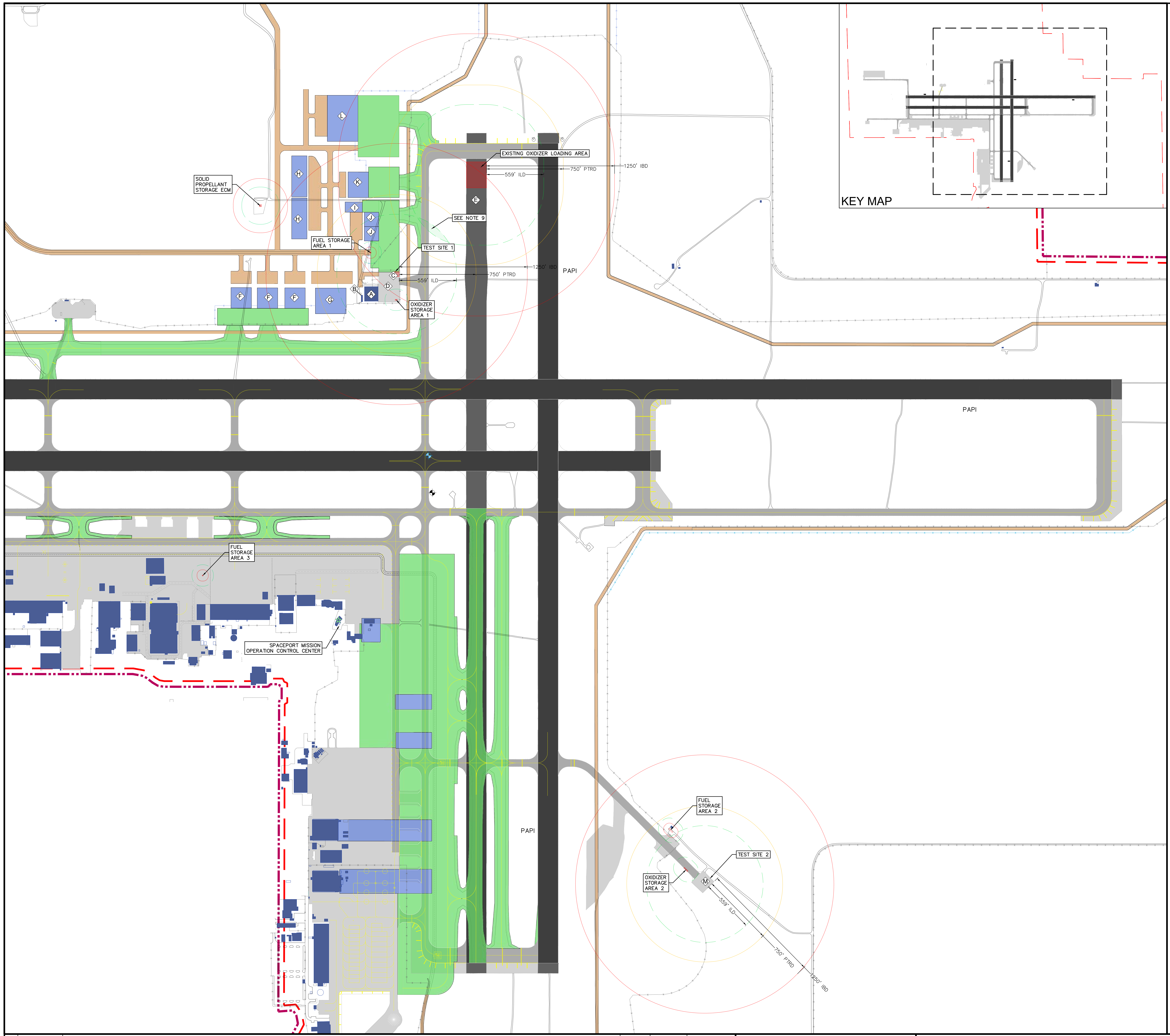
THE CONTENTS OF THIS PLAN DO NOT NECESSARILY REFLECT THE OFFICIAL VIEWS OR POLICY OF THE FEDERAL AVIATION ADMINISTRATION (FAA). ACCEPTANCE OF THIS DOCUMENT BY THE FAA DOES NOT IN ANY WAY CONSTITUTE A COMMITMENT ON THE PART OF THE UNITED STATES TO PARTICIPATE IN ANY DEVELOPMENT DEPICTED HEREIN NOR DOES IT INDICATE THAT THE PROPOSED DEVELOPMENT IS ENVIRONMENTALLY ACCEPTABLE IN ACCORDANCE WITH APPROPRIATE PUBLIC LAW.

AIP GRANT
3-12-0032-023-2021
BY

SHEET NAME
LAUNCH SITE BOUNDARY
APPR.

JAA PROJECT NO. 21-18-42001
DATE: June 2025
DRAWN BC
DESIGNED KH
CHECKED BG
APPROVED AS
SHEET 30 **OF** 31

CECIL AIRPORT AND SPACEPORT - AIRPORT LAYOUT PLAN FAA IDENTIFIER VQQ



EXISTING SPACEPORT FACILITY LEGEND

DESCRIPTION	CALLOUT
COMMON USE HANGAR	A
SPACEPORT OPERATIONS	B
ROCKET ENGINE TEST STAND	C
SPACEPORT APRON	D
OXIDIZER LOADING AREA	E

FUTURE SPACEPORT FACILITY LEGEND

DESCRIPTION	CALLOUT
SMALL COMMON USE HANGAR	F
AEROSPACE TERMINAL	G
MULTI-USE FACILITY	H
PAYLOAD PROCESSING FACILITY	I
SMALL AEROSPACE HANGAR	J
MEDIUM AEROSPACE HANGAR	K
LARGE AEROSPACE HANGAR	L
ROCKET ENGINE TEST STAND	M

LEGEND

DESCRIPTION	EXISTING	FUTURE
AIRPORT PROPERTY LINE (PL)	━ · · ━ · · ━	SAME
SPACEPORT LAUNCH BOUNDARY	N/A	━ ━ ━
RUNWAY PAVEMENT	▬	SAME
TAXIWAY/APRON/ROADWAY PAVEMENT	▨	🟩
BUILDINGS	🟦	🟦
AIRPORT FENCE	—x—x—x—	—x—x—x—
INHABITED BUILDING DISTANCE	N/A	━
PUBLIC TRAFFIC ROUTE DISTANCE	N/A	━
INTRALINE DISTANCE	N/A	— — —
EXPLOSIVE HAZARD FACILITY	N/A	🟥

GENERAL NOTES

1) FOR ADDITIONAL BUILDING DETAILS REFER TO BUILDING AREA PLAN SHOWN ON SHEETS 10 - 12.
2) INHABITED BUILDING DISTANCE, PUBLIC TRAFFIC ROUTE DISTANCE, AND INTRALINE DISTANCE ARCS ARE ASSOCIATED WITH EXPLOSIVE SITING REQUIREMENTS WITHIN THE LAUNCH SITE OPERATOR LICENSE FOR CECIL SPACEPORT.
3) SPACEPORT LAUNCH BOUNDARY IS OFFSET FROM AIRPORT FOR VISUAL REPRESENTATION.
4) EXPLOSIVE HAZARD FACILITIES THAT HAVE OVERLAPPING QD ARCS ARE NOT PERMITTED TO OPERATE CONCURRENTLY.
5) THIS PLAN IS BASED ON THE CURRENT ESP PREVIOUSLY APPROVED BY THE FAA ON DECEMBER 26, 2024.

NO.	DATE	REVISIONS	BY	APPR.	SPRS. APPR.
5					
4					
3					
2					
1					

Kimley»Horn

©2023 KIMLEY-HORN AND ASSOCIATES, INC.
111 E Broadway Suite #600
Salt Lake City, UT 84111
(385) 212 - 3176

FAA DISCLAMER

THE CONTENTS OF THIS PLAN DO NOT NECESSARILY REFLECT THE OFFICIAL VIEWS OR POLICY OF THE FEDERAL AVIATION ADMINISTRATION (FAA). ACCEPTANCE OF THIS DOCUMENT BY THE FAA DOES NOT IN ANY WAY CONSTITUTE A COMMITMENT ON THE PART OF THE UNITED STATES TO PARTICIPATE IN ANY DEVELOPMENT DEPICTED HEREIN NOR DOES IT INDICATE THAT THE PROPOSED DEVELOPMENT IS ENVIRONMENTALLY ACCEPTABLE IN ACCORDANCE WITH APPROPRIATE PUBLIC LAW.

JAA Jacksonville Aviation Authority
Cecil Cecil Airport
Cecil Cecil Spaceport

Jacksonville Aviation Authority
Cecil Airport and Spaceport
JACKSONVILLE, FLORIDA

AIP GRANT
3-12-0032-023-2021
BY

SHEET NAME
SPACEPORT DEVELOPMENT PLAN
APPR.

JAA PROJECT NO.
21-18-42001
DATE: June 2025
DRAWN BC
DESIGNED KH
CHECKED BG
APPROVED AS
SHEET 31 **OF** 31

CECIL AIRPORT AND SPACEPORT - AIRPORT LAYOUT PLAN FAA IDENTIFIER VQQ