Winter Haven Regional Airport
Master Plan Report

Working Paper 1 – Background and Inventory

Winter Haven, Florida

March 2026

EST. 1942

Winter Haven
REGIONAL AIRPORT
GILBERT FIELD

Prepared by

HANSON™

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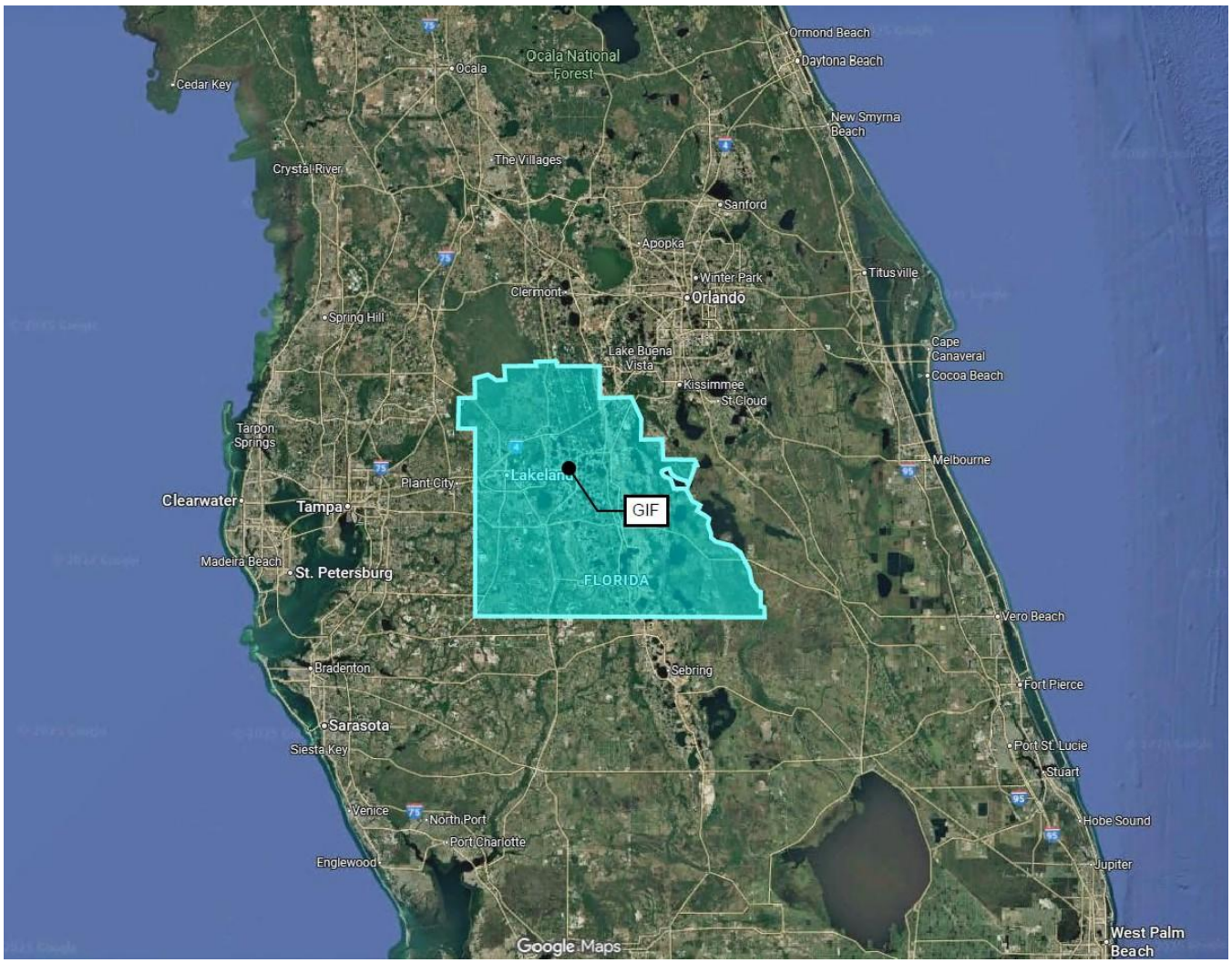
1. Background and Inventory

1.1. Introduction

Winter Haven Regional Airport, also known as Gilbert Field (GIF), is a public-use, general aviation airport owned by the city of Winter Haven (sponsor). It is in Winter Haven in Polk County in central Florida. It is approximately 3 miles northwest of downtown Winter Haven, as depicted in **Figure 1.1.** It is south of U.S. 92, with access to the terminal from U.S. 92. Winter Haven is approximately 40 miles southwest of Orlando and 44 miles east of Tampa. Legoland, a 150-acre interactive theme park, is approximately 5 miles from GIF. Healthcare institutions, local government, logistics distribution centers, Legoland and educational institutions are among the region's largest employers. The airport property comprises approximately 520 acres.[1]

FIGURE 1.1: LOCATION MAP



[1] city of Winter Haven, Florida, https://www.mywinterhaven.com/, accessed October 2025.

The Airport Advisory Committee, composed of five voting members appointed by the City Commission, provides guidance for GIF. The airport staff is led by the airport director, who also serves as an ex-officio member of the Airport Advisory Committee. A city commissioner and representative of the Central Florida Aerospace Academy are also ex-officio members.

GIF has more than 80,000 annual flight operations, with a growing base of aircraft and operations, that accommodates multiple tenants, providing employment opportunities for the community. The airport is surrounded by freshwater lakes and the adjacent, privately owned Jack Brown's Seaplane Base (F57), which has some of the highest levels of seaplane training in the county.

GIF is an important transportation and economic development asset for the community. To provide long-term, strategic direction for GIF, an airport master plan, including an airport layout plan (ALP) and narrative report, are being prepared. An Exhibit "A" property map is being updated and will be included in the ALP drawing set. These documents provide direction and focus for the airport. They also assist in identifying and addressing long-term facility needs over the 20-year planning period.

The ALP is a set of drawings that provides a graphic representation of the airport sponsor's long-term development plan for an airport. The ALP shows the details on the major components of the airport, including runways, taxiways, aprons, and hangar areas, as well as safety areas and other Federal Aviation Administration (FAA) design standards. In addition to identifying the long-term development for GIF, the ALP update also meets the FAA grant assurances by keeping the ALP document up to date and by showing existing and proposed conditions at the airport. The city of Winter Haven, as the airport sponsor, must meet the grant assurances to continue to be eligible for federal grant funding for airport development.

The master plan report provides:

- background on the airport and an inventory of the airport's existing conditions
- aviation activity forecasts for operations, based aircraft and other key factors on which the planning will be based
- a review of the facility requirements to assess the existing facilities against forecasted needs and FAA design standards
- the development and evaluation of alternatives to meet any facility needs identified based on the forecast or design standards
- an environmental overview of the airport for consideration in the alternatives evaluation
- an implementation plan, including project prioritization and planning-level probable development costs for the preferred alternatives

To plan for the future, all aspects of the airport must be considered, including airside and landside facilities, instrument approach procedures, users and tenants, local state and federal regulations, regional socioeconomics, the role in state and national aviation systems and more. This report contains aviation terms and acronyms identified in the body of the document and summarized in a glossary in **Appendix A**. This glossary includes terms and acronyms common to general aviation airport management or operations to provide additional utility.

The goal of this planning process is to provide a framework for the development of GIF to serve the community's aviation needs and support economic development. The master plan resulting from this process provides a tool for the city of Winter Haven to plan and implement short-, intermediate- and long-term development at GIF.

FAA Design Standards

The FAA establishes standards for the planning, design and construction of airports. There are design standards for practically every facet of an airport in a series of documents called advisory circulars (AC). Several ACs will be referenced during this study, but the primary one will be *FAA AC 150/5300-13B, Change 1: Airport Design*, which contains the FAA standards for the geometric layout of the runways, taxiways, aprons and other airport facilities. The FAA Airports Division has also developed a series of standard operating procedures (SOPs) to uniformly apply the standards in the ACs across the multiple Airports Division regions. *FAA SOP 2.00: Standard Procedure for FAA Review and Approval of Airport Layout Plans* will be used to guide the preparation of the ALP in this study process. FAA SOP 3.00: Standard Operating Procedure for FAA Review of Exhibit 'A' Airport Property Inventory Maps will also be used. Guidance documents from the Florida Department of Transportation (FDOT) will also be consulted during the planning process.

1.2. History of Airports and Development of GIF

The history of the modern airport traces back to 1909, when Wilbur Wright helped create the College Park Airport in Maryland. Since then, the functions of airports in the United States have evolved significantly. Many of today's airports began as private landing strips or military airfields. Beginning in 1918, many of these private landing areas were used by the Post Office Department for the delivery of mail by air. This continued until 1927, when the air mail service transferred from government to commercial operators. By this time, a transcontinental airmail route was established. Today's modern aviation system grew from these humble beginnings, and now airports of all sizes provide a wide range of services across the country.

Development of GIF

In 1925 and 1941, various local property owners donated land to the city with the intent of building an airport. Dr. Robert E. Gilbert, who was a pilot, a flight surgeon during World War I and a local doctor, contributed property to the airport[2]. The airport was named after him, as Gilbert Field, in 1942. Originally, the airport had one turf runway.. In 1943, two asphalt runways, a terminal building, a T-hangar building and a corporate hangar were constructed. During World War II, the airport served as an air base for the U.S. Army Corps of Engineers but was decommissioned after the war. The airport was reactivated by the U.S. Air Force in 1950 but decommissioned again in 1960 and returned to the city of Winter Haven. Over the past 20 years, the airport has continued to expand to serve the community. Taxiways, hangars, an apron and a new terminal building have been constructed.

1.3. Federal Aviation Administration

The FAA is part of the U.S. Department of Transportation. The mission of the FAA is to provide the safest, most efficient aerospace system in the world. The FAA is made up of multiple internal lines of business. The most common line of business that airports interact with is the Airports Division. The role of the FAA Airports Division is to provide leadership in planning and developing a safe and efficient national airport system to satisfy the needs of aviation interests in the United States. Pilots may also commonly interact with the Flight Standards District Office for licensing and aircraft standards. Florida is in the FAA's Southern Region and assigned to the Airports District Office (ADO) in Orlando. The ADO provides federal planning, environmental, engineering and funding guidance to eligible airports in the state.

[2] city of Winter Haven, https://www.mywinterhaven.com/, accessed October 2025.

1.4. National Plan of Integrated Airport Systems

The FAA established and maintains the National Plan of Integrated Airport Systems (NPIAS), a system plan for the nation's airports. The NPIAS identifies nearly 3,300 existing and proposed airports that are significant to and included in the national air transportation system. The NPIAS also identifies the role the airports serve. Airports in the NPIAS are eligible to receive federal grants under the Airport Improvement Program (AIP). The FAA updates the NPIAS every two years and issues a report to Congress regarding the airports in the system and their development needs. GIF is defined as a nonprimary airport in the NPIAS. Primary airports have at least 10,000 annual passenger enplanements. Because GIF does not have regularly scheduled commercial service, it is also classified as a general aviation (GA) airport.

In 2012, the FAA conducted a study on the GA airports in the NPIAS. "General Aviation Airports: A National Asset" is an in-depth analysis that highlights for the traveling public the important role GA airports play in our society, economy and aviation system. GA airports support all civil aviation operations other than scheduled air services with more than 2,500 annual passenger boardings. These airports provide the principal means for linking the local and regional community with the national airport system. GA airports support business travel, flight training, medical flights, aerial agricultural application, law enforcement and disaster relief as well as provide access to remote areas. The ability to move people and goods quickly means GA airports increase a community's competitive advantage by helping retain and attract businesses.

This study also reviewed reliever airports, which are "designated by the Secretary of Transportation to relieve congestion at a commercial service airport and to provide more general aviation access to the overall community."[3] The study found that many reliever airports serve their own economic and operations role and do not primarily relieve congestion at another airport. Of the GA airports, there are relievers in each category . In the NPIAS, the FAA uses the reliever as a service level along with primary or general aviation. There is no longer designated FAA grant funding for reliever airports. The FAA funding aligns with the GA category.

The NPIAS aligns the airports serving mostly GA activity into four categories: national, regional, local and basic, based on their activity levels. These categories capture the diverse functions and economic contributions GA airports make to their communities and the nation. GIF is classified as a regional nonprimary airport in the 2025–29 NPIAS report. Regional nonprimary airports are in metropolitan areas, supporting regional economies. They have high levels of activity, averaging 90 based aircraft. They account for 9% of airport development identified in the 2025–29 NPIAS. **Table 1.1** describes each type of nonprimary airport.

[3] FAA, Airport Categories, https://www.faa.gov/airports/planning_capacity/categories, accessed June 25, 2025.

TABLE 1.1: GENERAL AVIATION AIRPORT CATEGORY DESCRIPTIONS

National	National airports are located in metropolitan areas near major business centers and support flying throughout the Nation and the world. These airports provide pilots with attractive alternatives to primary airports. National airports have very high levels of activity, with many jets and multiengine propeller aircraft. They average 235 total based aircraft, including 38 jets. National airports account for 5 percent ($3.1 billion) in eligible development through 2029. These airports have identified projects that focus on reconstructing airfield pavement, bringing airports up to design standards, and improving safety (e.g., improving runway safety areas).
Regional	Regional airports are also in metropolitan areas and serve relatively large populations. These airports support regional economies with interstate and some long-distance flying and have high levels of activity, including some jets and multiengine propeller aircraft. About 46 of these airports have limited air carrier service. Regional airports average about 90 total based aircraft, including 3 jets. Regional airports account for 9 percent ($6.2 billion) of the development identified in this NPIAS. These airports have identified projects that focus on reconstructing airfield pavement, bringing airports up to design standards, and improving terminals.
Local	Local airports are a critical component of our general aviation system, providing communities with access to local and regional markets. Typically, local airports are located near larger population centers but not necessarily in metropolitan areas. These airports account for 36 percent of all NPIAS airports and have moderate levels of activity with some multiengine propeller aircraft. About 62 of these airports have limited air carrier service. Local airports average about 31 based propeller-driven aircraft and no jets. Local airports account for 9 percent ($6.3 billion) of the development identified in this NPIAS. These airports have identified projects that focus on reconstructing airfield pavement and bringing airports up to design standards.
Basic	Basic airports fulfill the principal role of a community airport, providing a means for private general aviation flying, linking the community with the national airport system, and making other unique contributions. In some instances, the airport is the only way to access the community and provides emergency response access, such as emergency medical or firefighting and mail delivery. These airports have moderate levels of activity, with an average of nine propeller-driven aircraft and no jets. Many of these airports are in rural areas. Basic airports account for 5 percent ($3.1 billion) of the development identified in this NPIAS. These airports have identified projects that focus on reconstructing airfield pavement and bringing airports up to design standards.

Unclassified	Unclassified airports tend to have limited activity and include 158 public-owned and 34 privately owned airports. One hundred twenty-eight airports (eighty-two percent have between 0 and 4 based aircraft (53 airports have 0 based aircraft). Since the 2023 NPIAS, the activity or circumstances improved for 18 airports, which changed from unclassified to basic (14), local (2), or regional (2). Conversely, activity declined at 10, and they went from basic to unclassified. Of the 32 privately owned unclassified airports, 19 are privately owned general aviation airports that do not meet the reliever criteria and have never received a development grant. These 19 privately owned General Aviation (GA) airports are ineligible for all Federal funding. There are 18 privately-owned airports that had been designated as a reliever more than 30 years ago. The majority of these 18 have not met the reliever criteria in at least 26 years, and there is no indication that they will ever be able to meet the requirements. But because they have retained the reliever designation, they remain in the NPIAS and are eligible for Federal funding. Consistent with their role in the national airport system, the 191 unclassified airports have no development needs identified through 2029.
New Airports	Five new nonprimary airports anticipated to open by 2029 are included in this NPIAS. Most of these facilities are replacing existing NPIAS GA airports. The new airports anticipated to open by 2029 are shown separately in **Appendix A,** which does not identify new airports expected to open beyond 2029 (e.g., replacement airports in Alaska). The inclusion of a new location in the NPIAS does not represent actual approval of the proposed airport from a planning, environmental, or financial perspective. New airports account for 0.5 percent ($318 million) of the NPIAS development needs.

Source: FAA, National Plan of Integrated Airport Systems (NPIAS) 2025-2029.

1.5. Florida Aviation System Plan

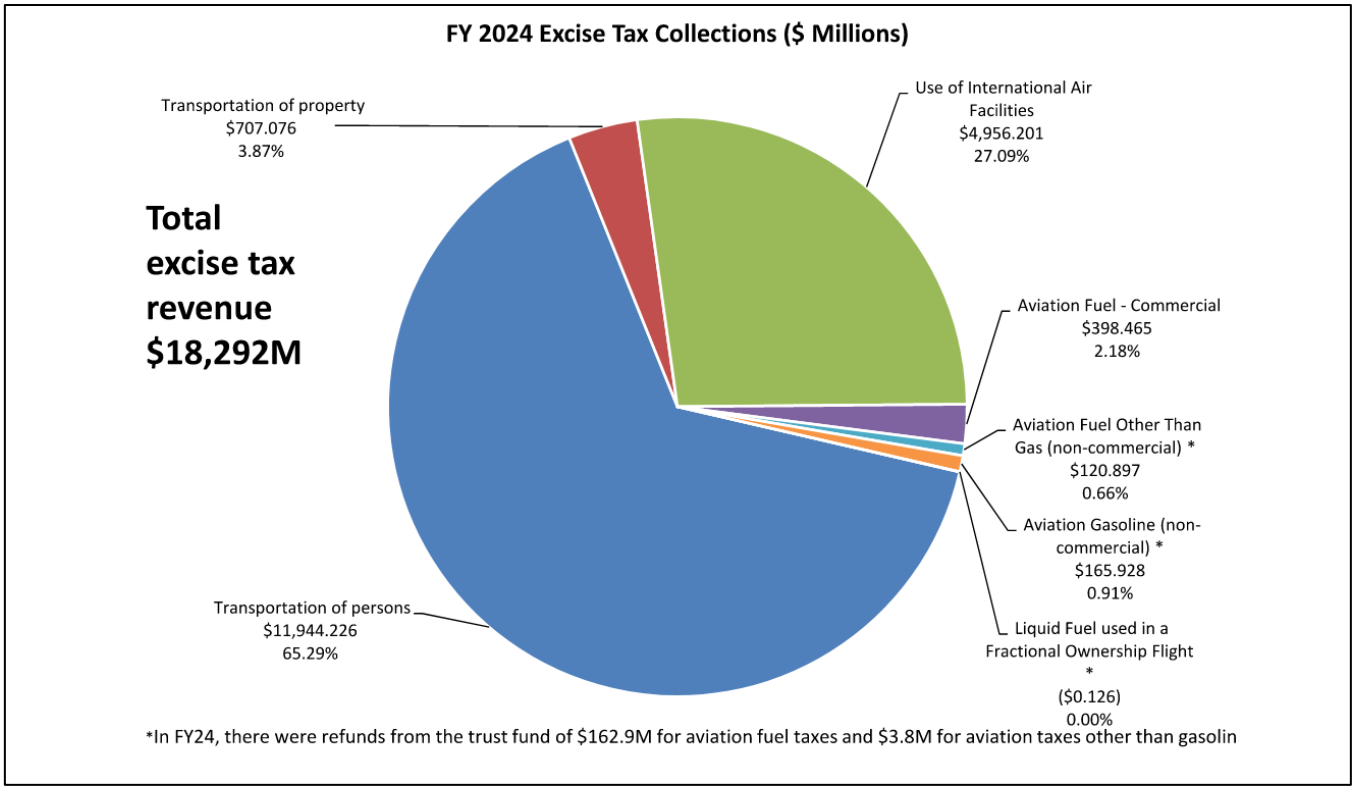
The state of Florida uses a continuing aviation system planning process to keep the Florida Aviation System Plan (FASP) current with changes in aviation by periodically updating the FASP. In 2012, the Florida Department of Transportation (FDOT) published the current version: FASP 2035. GIF is in FDOT District 1, the Central Region of the Continuing Florida Aviation System Planning Process and the Tampa Bay Economic Development Council. For GIF, the FASP indicates that "the airport primarily supports flight training, helicopter training, and seaplane training."[4] The airport has continued to expand development on the airfield and in businesses.

1.6. Funding Airports

Airport Improvement Program

The AIP was established by the Airport and Airway Improvement Act of 1982 to provide funding to airports on a priority-needed basis. The AIP is funded by user fees from the Airport and Airway Trust Fund (AATF). The AATF is funded by a number of excise taxes paid by airport users and can be categorized into three groups: passenger ticket sales, cargo shipping fees and aviation fuel. Passenger ticket taxes account for the bulk of AATF. A breakdown of the tax revenue collected in 2024 is shown in **Figure 1.2**. The AATF is the funding source for AIP, the FAA Facilities and Equipment account, which funds technological improvements to the air traffic control system, and the FAA Research, Engineering, and Development account.

FIGURE 1.2: 2024 AIRPORT AND AIRWAY TRUST FUND EXCISE TAX REVENUES



Source: https://www.faa.gov/about/budget/aatf/airport-and-airway-administration-trust-fund-aatf-fact-sheet, accessed Jan. 30, 2025.

[4] FASP 2035, Winter Haven Regional Airport.

Projects eligible for AIP grant funding are improvements that address airport safety, security, asset preservation, capacity and environmental concerns. The FAA uses a priority system based on project and airport type to allocate AIP funds to the highest-priority projects at airports in the NPIAS.

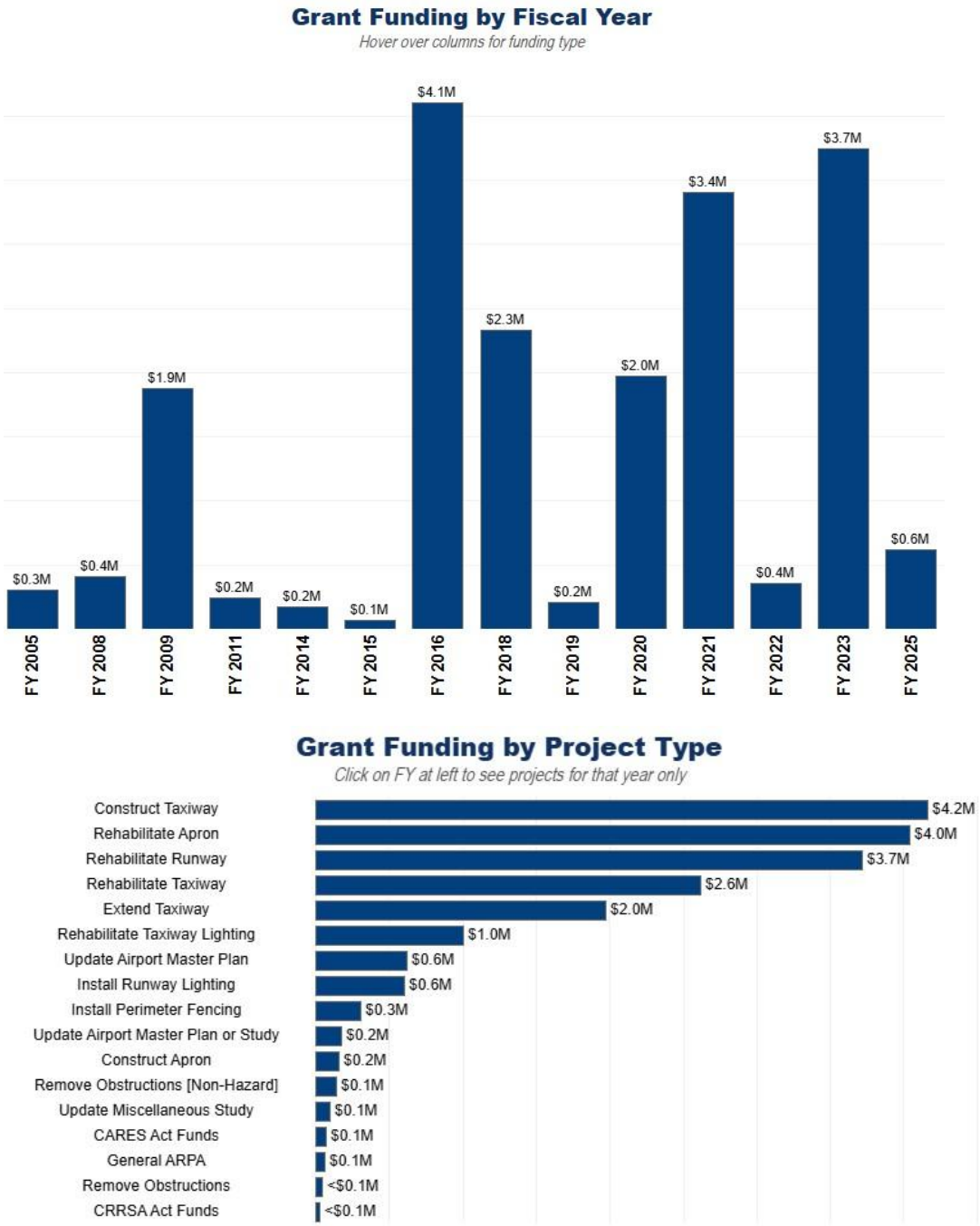
AIP funding for GA airports is divided into three categories: nonprimary entitlement, discretionary and state apportionment. A nonprimary entitlement of up to $150,000 per year is granted to nonprimary airports for eligible projects under the current FAA program authorization bill, when minimum AIP appropriation levels are met. The annual nonprimary entitlement can be saved for up to four years for larger projects. State apportionment funds are formula-based and allocated by the FAA to eligible Florida airports on a competitive basis. Projects advancing safety-related initiatives and pavement rehabilitation usually compete at the highest level. For high-priority projects, nonprimary airports can also compete nationally for discretionary funds. The federal share for an AIP grant is typically 90%. However, the 2024 FAA reauthorization bill amended the federal share to 95% in fiscal years (FY) 2025 and 2026 for nonhub and nonprimary airports like GIF.

The Infrastructure Investment and Jobs Act (IIJA) was enacted as a one-time, supplemental federal infrastructure funding measure that is separate from the FAA's traditional AIP. IIJA airport funding is time-limited, with funds made available over a multiyear period from FY 2022–26 and subject to obligation deadlines. As a result, IIJA funding represents a temporary opportunity for airports to advance eligible capital improvements beyond what could be supported solely by regular AIP funding.

As part of the IIJA, airports receive additional funding for AIP-eligible and most passenger facility charge-eligible projects through the Airport Infrastructure Grant (AIG) program. The IIJA includes multiple airport funding programs, including national competitive programs for terminal development, airport-owned traffic control towers and formula-based allocations to airports based on their NPIAS classification. AIG funds are allocated during federal FY 2022–26 and must be obligated to a project within four years of becoming available. Funds that are not obligated in this time frame will be redistributed to a national competitive discretionary program. Similar to AIP, the AIG program requires the airport sponsor to provide a local match. Because AIG allocations are based on NPIAS classification, annual funding levels may vary over time as the NPIAS is updated, and allocation calculations are made for each fiscal year. As an NPIAS GA regional airport, GIF's allocations have ranged from $282,000 to $295,000. For FY 2022–2026, GIF received a combined allocation of $1,448,000. This master plan is supported, in part, with AIG funds.

GIF has received entitlement and discretionary AIP grant funding. **Figure 1.3** provides a summary of the grant funding by fiscal year since 2005 and project types. The larger projects, including installing a perimeter fence, constructing a taxiway, installing runway lighting, extending a taxiway, rehabilitating a taxiway and taxiway lighting, have received discretionary funds. The other funding has been primarily entitlement funds, including some COVID 19-related grant funding programs.

FIGURE 1.3: SUMMARY OF GRANT FUNDING BY FISCAL YEAR AND PROJECT TYPES



Source: FAA Grant Histories, GIF 2005-2025 Workbook: AIP Tableau Dashboard - Public, accessed Feb. 6, 2026.

Grant Assurances

By accepting an AIP grant, the airport sponsor also agrees to comply with a set of FAA grant assurances that establish ongoing obligations associated with the receipt of federal funds. These assurances require the airport sponsor to maintain and operate its facilities in a safe, efficient and nondiscriminatory manner and in accordance with specific federal conditions.

For the city of Winter Haven and its Airport Advisory Committee, grant assurances are a significant consideration, because they influence how the airport may be operated, developed, leased and funded over time, and they create long-term commitments that extend well beyond the initial receipt of grant funds. The duration of these obligations varies based on factors such as the type of airport sponsor, the useful life of the facilities and equipment being funded and other conditions stipulated in the grant assurances.

The FAA administers 40 grant assurances, which are listed in **Figure 1.4**. The most recent grant assurance related to the availability of 100LL fuel was added in April 2025, based on the 2024 FAA reauthorization bill. In October 2025, Grant Assurance 37: Disadvantaged Business Enterprises, was removed and is under review regarding future application and recertification requirements.

State Funding

The FDOT Aviation Office "develops the Florida Aviation System Plan, promotes the development and improvement of Florida's airports, regulates airports, and protects airport approaches. Major activities include aviation system development, aviation grant program, airport regulation, intergovernmental coordination, aviation outreach and aviation emergency operations management."[5] FDOT's Aviation Grant Program provides financial assistance to Florida's airports for the planning, design, construction and maintenance of public-use aviation facilities. The funds come from the State Transportation Trust Fund, with aviation contributing an excise tax of 4.27 cents per gallon on aviation fuels.[6] The amount of the excise tax is fixed, unless changed by legislation. For eligible general aviation airport project costs, FDOT may provide up to 80% of the nonfederal share as a

FIGURE 1.4: AIP GRANT ASSURANCES

GRANT ASSURANCES

1. General Federal Requirements
2. Responsibility and Authority of Sponsor
3. Sponsor Fund Availability
4. Good Title
5. Preserving Rights and Powers
6. Consistency with Local Plans
7. Consideration of Local Interest
8. Consultation with Users
9. Public Hearings
10. Metropolitan Planning Organization
11. Pavement Preventive Maintenance
12. Terminal Development Prerequisites
13. Accounting System, Audit and Record Keeping Requirements
14. Minimum Wage Rates
15. Veteran's Preference
16. Conformity to Plans and Specifications
17. Construction Inspection and Approval
18. Planning Projects
19. Operation and Maintenance
20. Hazard Removal and Mitigation
21. Compatible Land Use
22. Economic Nondiscrimination
23. Exclusive Rights
24. Fee and Rental Structure
25. Airport Revenues
26. Reports and Inspections
27. Use by Government Aircraft
28. Land for Federal Facilities
29. Airport Layout Plan
30. Civil Rights
31. Disposal of Land
32. Engineering and Design Services
33. Foreign Market Restrictions
34. Policies, Standards and Specifications
35. Relocation and Real Property Acquisition
36. Access by Intercity Buses
37. Disadvantaged Business Enterprises
38. Hangar Construction
39. Competitive Access
40. Access to Leaded Aviation Gasoline

[5] FDOT, Aviation Office, https://www.fdot.gov/aviation/default.shtm, accessed Dec. 22, 2022.
[6] FDOT, Grant Program, https://www.fdot.gov/aviation/fundinginfo.shtm, accessed Dec. 22, 2022.

match (8% when the federal grant is 90%). For state and locally-funded projects, FDOT may provide up to 80% of eligible general aviation airport project costs.

Per the FDOT Aviation Grant Program website, additional grant funding opportunities include:

- up to 50% of the costs for on-airport, revenue-producing projects
- up to 100% for strategic airport investment projects at commercial service and GA airports that:
    - provide important access and on-airport capacity improvements
    - provide capital improvements to strategically position the state to maximize opportunities in international trade, logistics and the aviation industry
    - achieve state goals of an integrated, intermodal transportation system
    - demonstrate the feasibility and availability of matching funds through federal, local or private partners

FDOT's Florida Aviation Project Handbook provides details on the state grant funding programs[7]. Airports can also pursue loan funding for projects through the state-funded infrastructure bank. State grants also have associated grant assurances, as detailed in the handbook. **Table 1.2** summarizes the FDOT grant that GIF has received since 2018. GIF has not used FDOT loan funding.

TABLE 1.2: GIF FDOT GRANTS

Year	Project	Grant Amount	State/Local Share
2018	Aviation Fuel Truck Purchase1	$265,000	80%/20%
2018	Design and Construct 10 unit T-hangar1	$699.080	50%/20%
2020	Airport Security Improvement	$1,614,404	80%/20%
2021	Airport Commerce Part Design Phase I	$541,274	50%/50%
2023	Digital Remote Tower	$1,380,000	100%/0%
2024	Install Emergency Generators	$365,025	80%/20%
2025	Obstruction Clearance	$1,475,200	80%/20%

Source: Florida Aviation Data Base

Local Funding

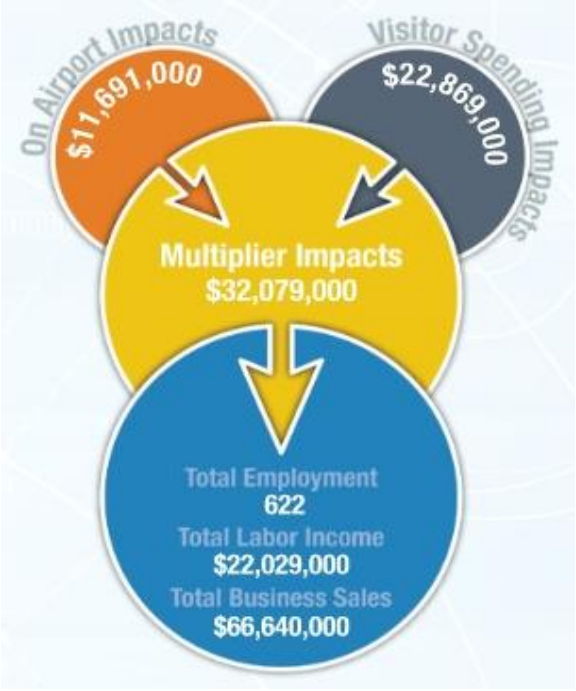
Federal and state grant programs typically require the airport sponsor to provide a local match for a portion of each eligible project. This local investment enables the sponsor to maximize grant dollars and realize a significantly greater return on investment by advancing capital improvements that would otherwise be unattainable using local funds alone. In addition to supporting the local match for capital projects, local funding is essential for covering ongoing operating expenses and routine maintenance activities that are not eligible for grant assistance. The airport sponsor may also contribute in-kind services — such as staff time, equipment or professional services — as part of its local contribution to eligible state and federally funded projects.

[7] 2025 Florida Aviation Project Handbook, 2025-florida-aviation-project-handbook.pdf, accessed Feb. 4, 2026.

1.7. Economic Impact

In 2022, FDOT completed an economic impact analysis with the update of the FASP, studying the economic impact of airports throughout Florida in five categories: on-airport activity, visitor spending, off-airport air cargo, military aviation, and industry reliance, as shown in **Figure 1.6**. The wide variety of aviation and nonaviation activities at GIF generates a significant economic impact for the community, as shown in **Figure 1.5**.

FIGURE 1.5: GIF ECONOMIC IMPACT



Source: The Economic Impact of Winter Haven Regional Airport, FASP 2035, https://www.fdot.gov/aviation/FASP2035, accessed October 2025.

On-airport activity encompasses administrative and management operations, including construction costs and airport tenants, such as flight instructors. There are 622 employees at GIF, compared to over 2 million individuals employed by airports in Florida. The impact of on-airport activity is $11.7 million[8] at GIF, as depicted in Figure 1.2, with $77.2 billion for all airports statewide.

Visitor spending measures the revenue generated by visitors from outside Florida at the airport. Visitor spending at GIF totals $22.9 million. Collectively, all Florida airports contribute $94.4 billion to visitor spending.

Air cargo reflects the movement and economic impact of freight departing from or arriving to an airport. GIF does not handle dedicated air cargo operations; therefore, air cargo activity at the airport is recorded as zero for reporting purposes. However, Florida's aviation system supports approximately $150 billion in air cargo activity annually, underscoring the broader economic importance of air cargo, even though such operations are not accommodated at GIF.

Military aviation supports U.S. national defense operations by enabling the movement of personnel, equipment and supplies for military missions domestically and abroad. GIF has been decommissioned as a military base, so this value is recorded as zero. Statewide, military aviation contributes approximately $12.9 billion annually to Florida's economy, highlighting its broader significance in the state's aviation system.

Industry reliance reflects the extent to which major corporations, including numerous Fortune 500 companies, depend on Florida's airport system to conduct business and support statewide economic activity.[9] GIF does not directly serve large-scale corporate or Fortune 500 operations; therefore, a zero industry reliance value is assigned to the airport for this metric. GIF generates an annual economic impact of $88.1 million.[10] Florida's airports collectively support approximately $336 billion in economic activity, as depicted in **Figure 1.6**.

[8] FASP 2035, Winter Haven Regional Airport.
[9] FDOT, 2022 Florida Statewide Economic Impact Study, Statewide Executive Summary, https://www.fdot.gov/aviation/economicimpact22.shtm, accessed October 2025.
[10] FDOT, 2022 Florida Statewide Economic Impact Study, District 1 Executive Summary, https://www.fdot.gov/aviation/economicimpact22.shtmhttps://www.ilaviation.com/wp-content/uploads/2022/01/C56.pdf, accessed October 2025.

FIGURE 1.6: ECONOMIC IMPACT CATEGORIES

Source: FDOT, 2022 Florida Statewide Economic Impact Study, Statewide Executive Summary, https://www.fdot.gov/aviation/economicimpact22.shtm, accessed October 2025.

1.8. Airport Tenants

GIF is an active GA airport with many aviation tenants, including three flight schools; maintenance, repair and overhaul (MRO) facilities; and an aircraft mechanic certification testing facility. In addition, there is a restaurant and a rental car company. The city of Winter Haven's Airport Division operates a full-service, fixed-base operator (FBO) at the airport. During the inventory site visit, tenant interviews were conducted to collect information and discuss future needs. The future needs will be considered later in the report as part of the facility requirements. Below is additional information on 15 of the larger tenants offering services at GIF. In addition, there are more than 140 tenants in T-hangars and executive hangars.

Aviation Maintenance 101

Aviation Maintenance 101 is a personalized mechanics training program. It specializes in one-on-one training with shop experience to ready students for FAA examination and careers. It is on the south side of the airfield.

Blue Line Aviation

Blue Line Aviation is a flight school with an office in the terminal building and six portable buildings on the north side of the terminal apron. The company offers an accelerated flight training curriculum with an average completion time of approximately five-and-a-half months, enabling students to earn private pilot (single-engine land), instrument rating, commercial pilot (single-engine and multiengine land), certified flight instructor (CFI), CFI instrument and multiengine instructor certifications or ratings.

The target student-to-instructor ratio is 2:1 to streamline the students' progress in obtaining ratings and certifications. Students are housed in the RainDance Apartments in downtown Winter Haven, but a future hotel at GIF would provide an on-site housing option. The Blue Line fleet consists of Diamond DA20s, Piper Archers and Piper Seminoles. However, they are transitioning to a fleet composed predominantly of Piper aircraft as the Diamonds phase out. Blue Line has 128 aircraft, with a majority based at its founding campus in Smithfield, North Carolina, at Johnston Regional Airport (JNX). Its long-term plan includes constructing a 40,000-square-foot building with permanent facilities, including classrooms and hangars, on a parcel west of the GIF terminal building. The proposed development includes an apron with capacity for 26 aircraft. Blue Line anticipates an additional need for tie-downs beyond what the upcoming development will provide as it transitions additional aircraft to be based at GIF. The Blue Line development is expected to break ground by April 2026 and be

constructed in approximately 12 months. The goal is to relocate its corporate team to the Winter Haven facility. Blue Line is also considering training programs for airframe and powerplant (A&P) mechanics and unmanned aerial systems (UAS).

Central Florida Aerospace Academy

Central Florida Aerospace Academy (CFAA) has portable classrooms on the south side of GIF, with access from Riddle Road NW. This location is an extension of the campus at Lakeland Linder International Airport (LAL). CFAA is a public high school that provides opportunities to earn industry-related certifications to students who have an interest in aviation, aerospace and engineering.

DME Services of North Florida

DME Services of North Florida operates an FAA-authorized testing facility specializing in certification exams for A&P mechanics. It provides oral and practical testing using multiple aircraft, including airplanes and helicopters. DME is a partner in United Airlines' apprentice program. Over half of DME's students come from outside Florida, and about a quarter of its students are international. DME is a longstanding tenant, having leased from the airport for 14 years.

Experimental Aircraft Association (EAA) Chapter 229

EAA Chapter 229 leases a building on the south side of GIF and supports the organization's broader mission of promoting aviation education, safety and enthusiasm for flight. EAA chapters are community-based groups that bring together pilots, aircraft builders, aviation enthusiasts and students to share knowledge, foster mentorship and encourage lifelong learning in aviation through educational programs, technical workshops and outreach activities.

Synergy Aero

Synergy Aero is a flight school in the terminal building. It offers private, instrument, commercial pilot and instructor ratings. Its training fleet includes a Piper PA-28 configured for visual flight rules (VFR) and IFR instruction. Synergy Aero conducts approximately 40 hours of training per week and anticipates increased training operations once its fleet increases from one to three aircraft. It has provided instruction for EAA Ray Aviation Scholarship recipients. Synergy Aero also owns and operates the Pilot Store in the terminal building.

HOVA Flight Services

HOVA Flight Services operates a paint shop on the south side of the airfield that offers complete aircraft refinishing, painting and detailing services. HOVA Flight Services also operates a full-service FBO in Richmond, Virginia, at Hanover County Municipal Airport (OFP).

Jack Brown's Seaplane Base - F57

Adjacent to GIF is Jack Brown's Seaplane Base, which is a world-renowned facility for seaplane operations founded in 1963. While a separate airport (F57), it is closely linked to GIF physically and operationally, because seaplanes use the chain of lakes adjoining the airport, and the base leases some of its land and facilities from GIF. Nearly 90% of the base's parking lot is leased from the city, and it leases two hangars inside the GIF airport fence. The base is interested in leasing another large hangar inside the fence. Also, some of the pilots training at F57 fly conventional aircraft into GIF when arriving for training.

The seaplane base has an estimated $2 million to $3 million economic impact to the Winter Haven area. Approximately 75% of annual seaplane certifications in the U.S. occur at the base, amounting to approximately 350 new seaplane pilots per year. Approximately 20% of its students travel from overseas for training. The base recently received FAA authorization to conduct air tour operations. The full seaplane fleet, consisting of a Piper Super Cub, an American Legend 3, a Cessna 172 and a de Havilland Canada DHC-2, has been equipped with automatic dependent surveillance–broadcast (ADS-B) over the past couple of years. F57 and GIF work together to coordinate traffic patterns. The proposed digital tower for GIF is of great interest to the base because it will play a significant role in controlling the traffic from GIF and F57 operations.

Florida Health Services

Florida Health Services (Tampa General Hospital) leases space at GIF for its aeromedical helicopter services. Metro Aviation Inc. is the operator providing aeromedical regional transportation for Tampa General Hospital. Its helicopter is based at GIF on the south side of the airfield. When aeromedical operations were established at GIF, minimizing the impact of its flight path on other airport users and neighbors was considered.

Seaplane Pilots Association

The Seaplane Pilots Association's (SPA) national headquarters is in a building on the south side of GIF. SPA is an organization representing the interests of seaplane owners and operators, focusing on promoting safe seaplane operations and access to the nation's waterways for its operations.

Sunrise Aviation

Sunrise Aviation is a new professional pilot training institution at the airport. It operates four additional locations at Ormond Beach Municipal Airport (OMN), Northeast Florida Regional Airport (SGJ), Jacksonville International Airport (JAX) and LAL. Sunrise is the exclusive flight training provider for Florida State College at Jacksonville. It operates under Federal Aviation Regulations (FAR) parts 141 and 61 relative to training. Sunrise Aviation has an extensive fleet across its campuses, consisting of Cessna 152s, Cessna 172s, Piper Warriors and Piper Seminoles. Its flight training operations occur primarily on Tuesdays and Thursdays. Approximately 300 students and seven flight instructors are active across the five Sunrise locations. Most of the students are international. Sunrise recently partnered with Polk State College's aerospace program as a flight training partner and is a partner with Purdue Global's aerospace program. Sunrise anticipates growth at GIF and, while its lease includes five tie-down locations, it plans to expand and lease hangars as they become available.

Waldo Wright's Flying Service

Waldo Wright's Flying Service is a well-established vintage aviation enterprise that began by offering open-cockpit biplane rides in classic aircraft like the Boeing-Stearman. Over time, the business has evolved to focus on the restoration, maintenance and preservation of historic biplanes, a segment of general aviation that has become increasingly rare. Waldo Wright's restores select aircraft for private owners nationwide, contributing to the preservation of aviation heritage and specialized maintenance expertise at the airport. The business is on the north side of Taxiway F, with access to U.S. 92.

Flightline Cafe and Catering

Flightline Cafe and Catering is in the terminal building. It offers indoor and outdoor seating, allowing patrons to enjoy their meals while watching aircraft arrivals and departures. The menu focuses on breakfast and lunch items. It is open 9 a.m. to 2 p.m. Monday to Saturday, 5 p.m. to 10 p.m. Tuesday through Saturday and 8 a.m. to 6 p.m.

Sunday. Entertainment is provided from 5 p.m. to 10 p.m. Tuesday, Thursday and Saturday and 2 p.m. to 6 p.m. Sunday.

Hertz

Hertz has an office in the terminal and a quick turnaround car preparation area adjacent to the terminal parking lot. The company uses space in the terminal lot to facilitate rental vehicle pickup and drop-off. .

Winter Haven Police Department Training Center

The Winter Haven Police Department's Stotz-Patterson Training Center is on the south side of GIF. The center consists of a permanent building with office and classroom facilities, a temporary building for storage and an obstacle course for personnel and canines, including a training tower. Access to the training facility is from Lake Idylwild Drive North.

Aero-Mech and Avionic Geeks

Aero-Mech and Avionic Geeks are maintenance shops on the south side of the airport in the executive hangars

1.9. Airfield Facilities

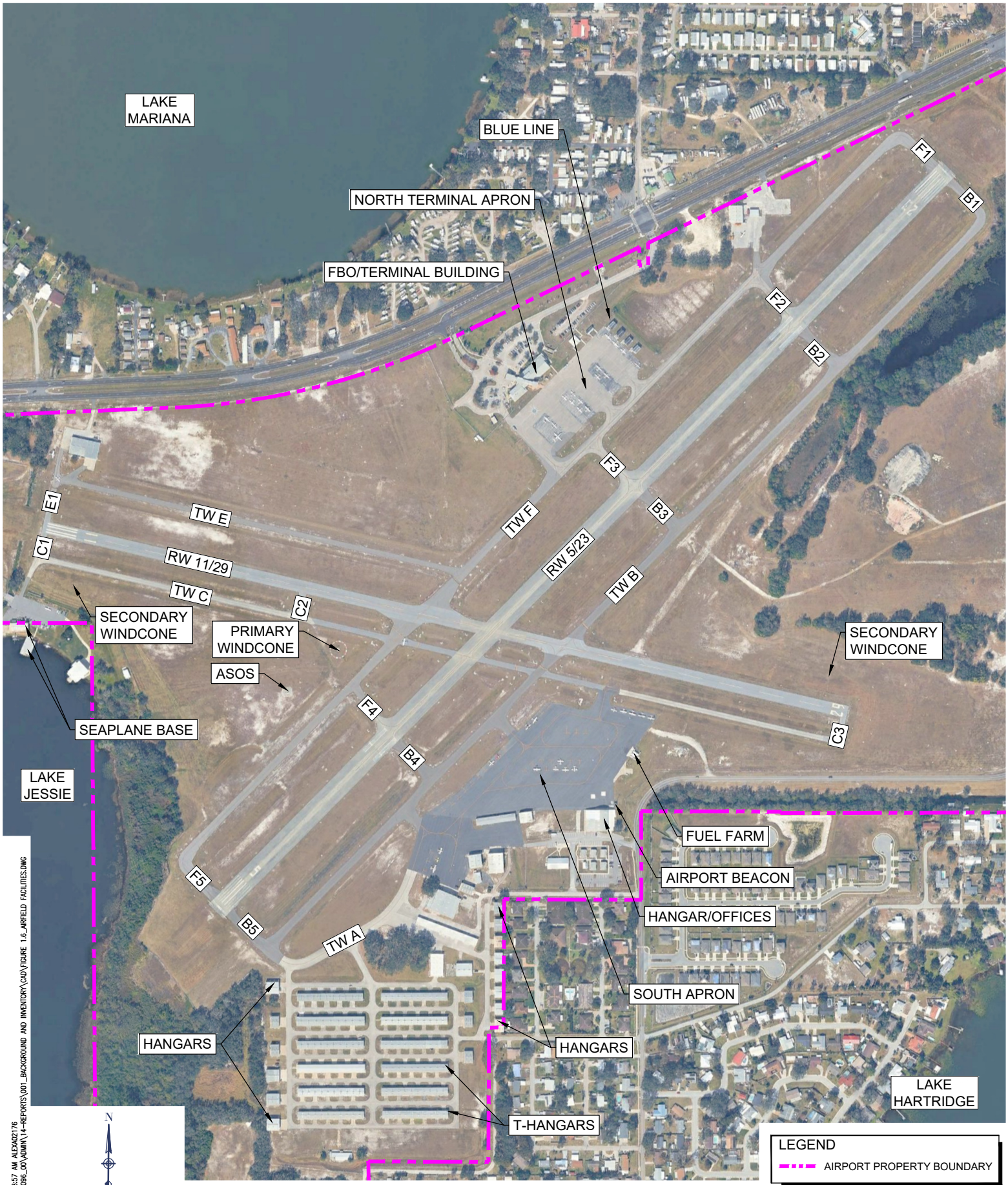
Airfield facilities are planned and developed to accommodate the demand of current and future aircraft operations. These facilities include runways, taxiways, navigational aids (navaids), apron parking and tie-down areas, terminal areas and hangar areas. **Figure 1.7** depicts major airfield facilities at GIF.

Runways

There are two runways at GIF: 5/23 and 11/29.

Runway 5/23:

Runway 5/23 is 5,005 feet by 100 feet and is designated as the primary runway. The runway is constructed with asphalt pavement and is in satisfactory condition. The runway has a published pavement strength of 89,000 pounds for single-wheel loading and 142,000 pounds for dual-wheel loading. The runway has nonprecision instrument pavement markings in fair condition. The runway is equipped with medium-intensity runway lights (MIRLs). The airfield lighting system is pilot-activated through the common traffic advisory frequency of 123.05 MHz. Both ends of the runway are equipped with an area navigation (RNAV) global positioning system (GPS) approach and two-light precision approach path indicators (PAPIs) with a 3-degree glide path angle. PAPIs provide the pilot with visual vertical descent guidance and informs whether the pilot is above, below or on the correct glide path angle upon approach to the runway. Runway 5/23 has runway end identifier lights (REILs). REILs are flashing lights that assist the pilot in identifying the end of the runway during approach. The RNAV localizer performance with vertical guidance (LPV) approach minimums for Runway 5 are 1-mile visibility and 660-foot ceiling for aircraft approach categories (AAC) A and B, increasing to 1 3/8-mile visibility for AAC C and D. Runway 23 has a visual approach.



JAN 23, 2026 8:57 AM ALEXA02176
I:\244085\244096_00\ADMIN\14-REPORTS\001_BACKGROUND AND INVENTORY\CAD\FIGURE 1.6_AIRFIELD FACILITIES.DWG

HANSON	WINTER HAVEN REGIONAL AIRPORT MASTER PLAN	AIRFIELD FACILITIES	DRAWN BY: MG REVIEWED BY: SZ	FIGURE 1.7

Runway 11/29:

Runway 11/29 is 4,001 feet by 60 feet and operates as a crosswind runway. The runway is constructed with asphalt pavement and is in good condition. The runway has a published pavement strength of 94,000 pounds for single-wheel loading and 151,000 pounds for dual-wheel loading. Runway 11 has nonprecision instrument pavement markings in fair condition, and Runway 29 has basic pavement markings in fair condition. Both runway ends are equipped with REILs. The runway is equipped with MIRLs. The RNAV lateral navigation (LNAV) approach minimums for Runway 11 are 1-mile visibility and 760-foot ceiling for AAC A and B aircraft, increasing to 1 3/4-mile visibility for AAC C aircraft and D aircraft. Runway 29 has a visual approach.

Taxiways

Taxiways provide access to and from runways and airside facilities, such as aircraft parking and tie-down areas, terminal areas and hangar areas. Figure 1.7 depicts the taxiway configurations at GIF.

Taxiway A

Taxiway A is southeast of Runway 5/23. It provides access to the south apron, with connections to taxiways B and C. Taxiway A is approximately 50 feet wide and can accommodate taxiway design group (TDG) 2B aircraft, with a main landing gear width of up to 20 feet and a front-to-main-gear length of 40 to 65 feet. The taxiway is compatible with airplane design group (ADG)-II aircraft, with wing spans of 49 feet to 79 feet.

Taxiway B

Taxiway B is a full-length parallel taxiway on the southeast side of Runway 5/23. Taxiway B is 40 feet wide and can accommodate TDG 2B aircraft. Taxiway B has five connectors, B1–B5, starting from the Runway 23 end. Taxiway connectors B1–B5 are between Taxiway B and Runway 5/23 and have widths that vary from 35 feet to 50 feet. The centerline of Taxiway B is 300 feet from the centerline of Runway 5/23 and is compatible with an ADG-II aircraft.

Taxiway C

Taxiway C is a full-length parallel taxiway on the south side of Runway 11/29. Taxiway C is approximately 25 feet wide and can accommodate TDG 1B aircraft with a main landing gear width of up to 15 feet and a nose-to-main-gear length of up to 40 feet. Taxiway C has three connectors: C1–C3, located between Taxiway C and Runway 11/29, with 25-foot widths. The centerline of Taxiway C is 150 feet from the centerline of Runway 11/29 and is compatible with an ADG-I aircraft.

Taxiway D no longer exists as a separate designation. Prior to the extension of Taxiway C along the full length of Runway 11/29, Taxiway D was at the east end of the airfield and served Runway 29. Following the extension, the Taxiway D designation was eliminated, and the former segment was incorporated into Taxiway C.

Taxiway E

Taxiway E is a partial parallel taxiway north of Runway 11/29. It connects the Runway 11 end to Taxiway F. Taxiway E is approximately 25 feet wide and can accommodate TDG 1B aircraft. There is one connector at the Runway 11 end: Taxiway E1, which is 25 feet wide. The centerline of Taxiway E is 240 feet from the centerline of Runway 11/29 and is compatible with an ADG-II aircraft.

Taxiway F

Taxiway F is a full-length parallel taxiway west of Runway 5/23 and provides access to the north terminal apron. Taxiway F is approximately 35 feet wide and can accommodate TDG 2B aircraft. Taxiway F has five connectors: F1–F5, starting on the Runway 23 end. Taxiway connectors F1–F5 are between Taxiway F and Runway 5/23 and have widths that vary from 25 feet to 50 feet. The centerline of Taxiway F is 300 feet from the centerline of Runway 5/23 and is compatible with an ADG-II aircraft.

1.10. Airside Development

The following section provides an overview of the development at GIF. A summary of the different structure types, as well as the numbers of those structures and total square footage, is shown in **Table 1.3**. It should be noted that the square footage totals are approximate. The available hangars are nearly at capacity, except for any transitioning of tenants. If space becomes available, the airport has a hangar waiting list.

TABLE 1.3: GIF BUILDING SUMMARY

Building Type	No. of Buildings	Approximate Total Square Footage (SF)
Terminals	**1**	**20,000**
Terminal Building	1	20,000
Box Hangars	**27**	**104,625**
Building 10 (includes offices)	1	13,200
Eagles Landing	8	17.600
Large (80 x 80 or larger)	4	42,000
Small (smaller than 80 x 80)	23	47,665
T-hangar Buildings	**14**	**-**
10-unit T-hangars	12	-
9-unit T-hangars	1	
6-unit T-hangars	1	
T-hangar End Storage Units	28	-
Other	**2**	**-**
Blue Line Aviation*	6	6,200
Central Florida Aviation Academy*	6	5,700
Police Training Facility	2	4,200
Rental Car Shelter	1	600
Seaplane Pilots Association	1	5,000
Former Records Storage	1	3,500

*Portable classroom buildings

North Terminal Apron

The north terminal apron is on the northeast side of the airfield and provides access to the FBO/terminal building. The apron is approximately 19,800 square yards, including 24 tie-down parking positions for transient aircraft. **Figure 1.8** depicts the terminal building and surrounding area.

BUILDINGS / TENANTS INDEX	
BUILDING ID	DESCRIPTION
600	HANGAR
800	FBO/TERMINAL BUILDING
800-1	HANGAR
800-2	GENERAL STORAGE
802	RENTAL CAR READY SHELTER

LEGEND
- AIRPORT PROPERTY BOUNDARY
- (X) BUILDING ID NUMBER

N

0 500
GRAPHIC SCALE IN FEET

FEB 06, 2026 10:32 AM ALEXA02176
I:\24JOBS\24A0096_00\ADMIN\14-REPORTS\001_BACKGROUND AND INVENTORY\CAD\FIGURE 1.7_NORTH TERMINAL APRON.DWG

HANSON	WINTER HAVEN REGIONAL AIRPORT MASTER PLAN	NORTH TERMINAL APRON DEVELOPMENT	DRAWN BY: MG REVIEWED BY: SZ	FIGURE 1.8

FBO/Terminal Building

The FBO/terminal building (Building 801) and adjacent parking lot can be accessed from U.S. 92. The FBO/terminal building, as shown in **Figure 1.9,** is approximately 12,200 square feet and includes the FBO, a flight school, administration offices and various concessions, including the restaurant. Automobile parking is on the northwest side of the building and includes 73 standard parking spaces and four accessible parking spaces.

FIGURE 1.9: FBO/TERMINAL BUILDING

Box Hangars

Two box hangars are on the north side of the airfield. Building 600 is on the northwest side of the airfield, just north of Taxiway E1 and is approximately 11,200 square feet. It has doors on the west and south sides. It is leased to Jack Brown's Seaplane Base. **Figure 1.10** depicts Building 600.

FIGURE 1.10: BUILDING 600

Buildings 800-1 and 800-2 are on the northeast side of the airfield, just north of Taxiway F2, and are approximately 5,000 square feet and 1,300 square feet, respectively. They are leased by Waldo Wright's Flight Service. Buildings 800-1 and 800-2 are depicted in **Figure 1.11**.

FIGURE 1.11: BUILDINGS 800-1 AND 800-2

Rental Car Ready Facility

Building 802 is the rental car ready facility southwest of the terminal building, adjacent to the parking lot. It is approximately 650 square feet, as depicted in **Figure 1.12**. This facility is used by Hertz to clean and prepare rental vehicles prior to customer use.

FIGURE 1.12: RENTAL CAR READY FACILITY

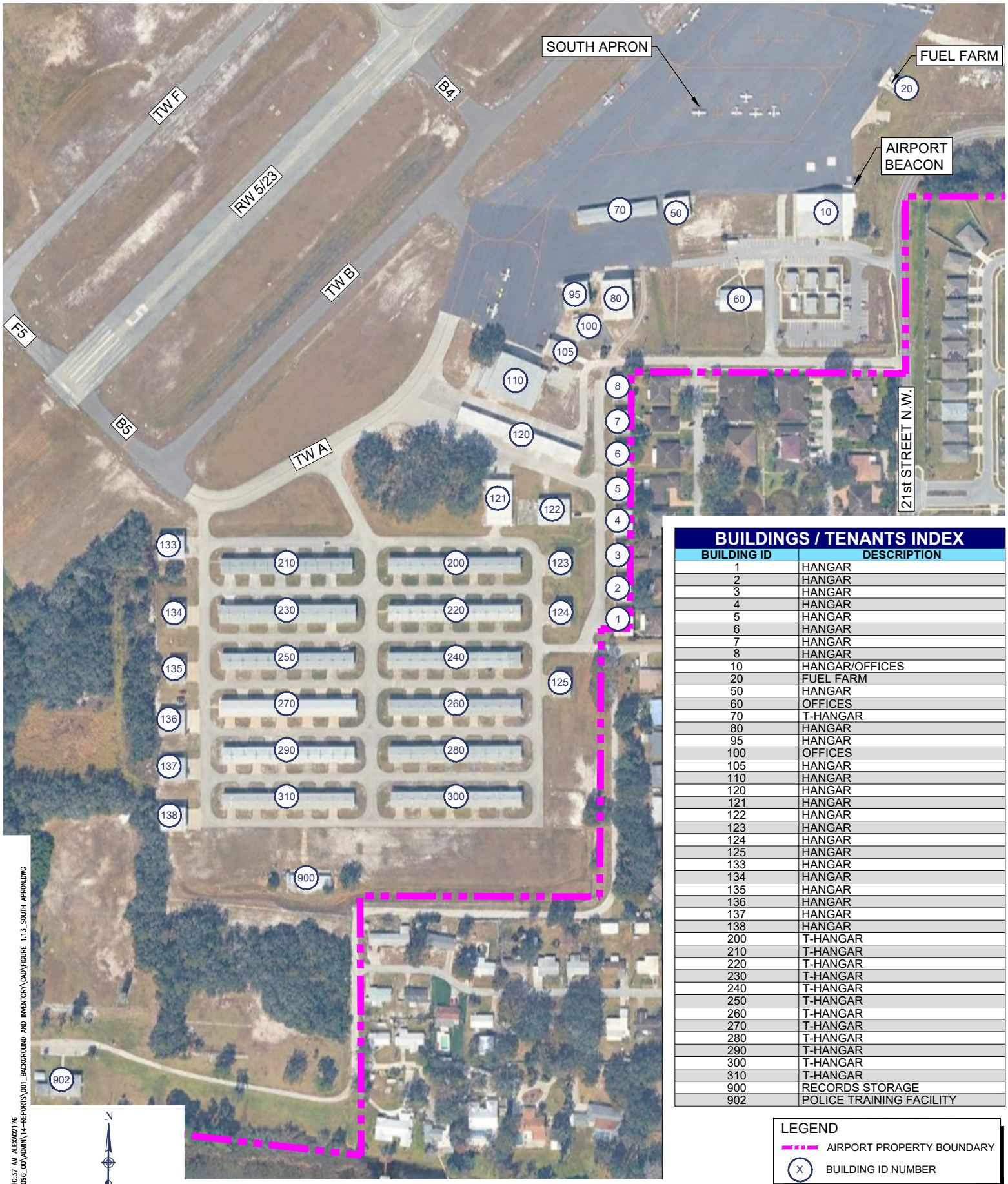
Blue Line Buildings

Along the north and east edges of the north terminal apron are Blue Line Aviation's temporary buildings, as depicted in **Figure 1.13**. The buildings house the flight school's classroom space. A temporary parking lot for Blue Line is north of the buildings and apron.

FIGURE 1.13: BLUE LINE BUILDINGS

South Apron

The south apron is on the south side of the airfield, near the intersection of runways 5/23 and 11/29. The south apron provides access to various hangars along the southern edge of the apron, including DME Services, Sunrise Aviation Inc. flight school offices, Aviation Maintenance Training 101 and Florida Health Services in Building 10 and the fuel farm. The south apron connects to Taxiway A, from which two taxilanes provide access to T-hangars and box hangars on the south side of the airfield. The south apron is approximately 39,350 square yards and includes 62 tie-down parking positions for based aircraft. **Figure 1.14** depicts the south apron and surrounding area.



BUILDINGS / TENANTS INDEX

BUILDING ID	DESCRIPTION
1	HANGAR
2	HANGAR
3	HANGAR
4	HANGAR
5	HANGAR
6	HANGAR
7	HANGAR
8	HANGAR
10	HANGAR/OFFICES
20	FUEL FARM
50	HANGAR
60	OFFICES
70	T-HANGAR
80	HANGAR
95	HANGAR
100	OFFICES
105	HANGAR
110	HANGAR
120	HANGAR
121	HANGAR
122	HANGAR
123	HANGAR
124	HANGAR
125	HANGAR
133	HANGAR
134	HANGAR
135	HANGAR
136	HANGAR
137	HANGAR
138	HANGAR
200	T-HANGAR
210	T-HANGAR
220	T-HANGAR
230	T-HANGAR
240	T-HANGAR
250	T-HANGAR
260	T-HANGAR
270	T-HANGAR
280	T-HANGAR
290	T-HANGAR
300	T-HANGAR
310	T-HANGAR
900	RECORDS STORAGE
902	POLICE TRAINING FACILITY

LEGEND

- AIRPORT PROPERTY BOUNDARY
- (X) BUILDING ID NUMBER

N

0 300

GRAPHIC SCALE IN FEET

FEB 06, 2026 10:37 AM ALEXA02176
I:\24\08S\24A0096_00\ADMIN\14-REPORTS\001_BACKGROUND AND INVENTORY\CAD\FIGURE 1.13_SOUTH APRON.DWG

HANSON

WINTER HAVEN REGIONAL AIRPORT MASTER PLAN	SOUTH APRON DEVELOPMENT	DRAWN BY: MG	FIGURE	
		REVIEWED BY: SZ	1.14	

Adjacent to the south apron is The Grove, as depicted in **Figure 1.15**. This is a parklike space within the airport fence is intended for tenant use for gatherings. Transient aircraft operators also use it during the Sun 'n Fun Aerospace Expo, an annual fly-in and airshow at Lakeland Linder International Airport. Sun 'n Fun is one of the largest aviation events in the country, with more than 200,000 attendees and approximately 3,000 to 3,500 aircraft participating during the weeklong event. Because of the scale of operations and demand for GA parking and services during the event, transient aircraft use surrounding airports, including GIF, to support overflow activity.

FIGURE 1.15: THE GROVE

Box Hangars

There are 24 box hangars on the south side of the airfield. Buildings 1–8 are east of Pistol Range Road and approximately 55 feet wide by 40 feet long, as shown in **Figure 1.16**. These hangars were developed as part of a community with homes along Aviation Drive with through-the-fence access to the airport. After their development, the airport acquired the hangars and ended the through-the-fence access. The owner of a home on Aviation Drive adjacent to a hangar has the first right to lease the hangar from the airport.

FIGURE 1.16: EXAMPLE OF BUILDINGS 1–8

Buildings 121–125 are west of Pistol Range Road and vary in size from 56 to 62 feet wide by 40 to 105 feet long. **Figure 1.17** depicts the row containing buildings 133–128 with T-hangars across the taxiway. Buildings 133–138 are south of the intersection of taxiways A and B5 and vary in size from 56 feet wide by 40 to 62 feet long.

FIGURE 1.17: BUILDINGS 133–138

Buildings 50, 80, 95, 105 and 110 are on the south side of the south apron and vary in size from 42 to 142 feet wide by 50 to 102 feet long. Building 50 is vacant. **Figure 1.18** depicts buildings 80 and 95. **Figure 1.19** depicts buildings 105 and 110 to the right, with tie-downs on the south apron. Buildings 80 and 90 are in the background, to the left.

FIGURE 1.18: BUILDINGS 80 AND 95

FIGURE 1.19: SOUTH APRON WITH BUILDINGS 105 AND 110

T-Hangars

The airport has 14 buildings containing T-hangars. There are 135 units on the south portion of the airfield. Buildings 200–310, except 230, and 120 are 10-unit T-hangars. Building 230 contains nine units, designed with larger doors for twin-engine aircraft. Building 70 contains six units. **Figure 1.20** depicts the T-hangar area.

FIGURE 1.20: T-HANGAR AREA FOR BUILDINGS 200–310

Buildings 200–310 are south of Taxiway A and north of Gilbert Road. The hangars have doors facing in a north-south orientation. The buildings are approximately 320 feet long by 38 feet wide. Building 70 is along the south apron, approximately 195 feet long by 30 feet wide. Building 120 is east of Taxiway A and west of Pistol Range Road. It is approximately 310 feet long by 36 feet wide.

Building 10

Building 10 houses the office and training space for DME Services of North Florida and Sunrise Aviation, office space for Aviation Maintenance Training 101 and hangar and office space for Florida Health Services. This building is on the south edge of the south apron. Building 10, which was formerly the FBO hangar/terminal building, is depicted in **Figure 1.21**. This building is approximately 13,000 square feet and includes 42 standard and two accessible parking spaces adjacent to the building.

FIGURE 1.21: BUILDING 10 EAST AND WEST SIDES

General Buildings

There are three general buildings on the south side of the airfield. Building 900 (**Figure 1.22**) is south of the T-hangars and was used as a records storage facility. Building 60 is the Seaplane Pilots Association's headquarters (**Figure 1.23**), across from Hangar 10. Building 100 is the EAA's facility, between buildings 95 and 105 (**Figure 1.24**). In addition, the six temporary classroom buildings for CFAA are on the south side of GIF, as depicted in **Figure 1.25**.

FIGURE 1.22: BUILDING 900 – RECORDS STORAGE

FIGURE 1.23: BUILDING 60 – SEAPLANE PILOTS ASSOCIATION

FIGURE 1.24: BUILDING 100 – EAA CHAPTER 229

FIGURE 1.25: CFAA CLASSROOMS

Police Training Facility

Building 902 is the Stotz-Patterson Training Center at the southernmost part of the airfield, off Lake Idylwild Drive North. The 6-acre property includes a classroom, office space, a storage structure, an obstacle course and a K9 training course. The classroom is approximately 4,500 square feet, the office space is approximately 1,044 square feet and the temporary storage structure is approximately 770 square feet.

Fuel Storage

The airport fuel tanks (Building 20) are on the northeast side of the south apron. There are two 12,000-gallon aboveground tanks storing Jet A and 100LL fuel, as shown in **Figure 1.26**. There is also a 500-gallon tank for 93 octane ethanol-free mogas. The self-serve fuel farm is available 24 hours a day, seven days a week. 100LL and Jet A fuel can also be accessed through two fuel trucks.

FIGURE 1.26: FUEL TANKS

Navaids and Weather Equipment

There is an automated surface observing system (ASOS) on the southwest side of the airfield, south of Taxiway C2 and northwest of Taxiway F4, as depicted in Figure 1.7. The ASOS provides essential weather observations for pilots, the National Weather Service, the FAA and the U.S. Department of Defense. Weather data from the ASOS is available via telephone at (863) 956-2097, on radio frequency 133.675 MHz or online.

There are three wind cones at GIF. The wind cones provide wind direction and speed information to pilots. As shown in Figure 1.7, the primary wind cone is adjacent to the ASOS, south of Taxiway C and northwest of Taxiway F4. The primary wind cone also has a segmented circle that assists pilots with locating the airport, as shown in **Figure 1.27**. There are two secondary wind cones: one south of Runway 11 and one north of Runway 29.

There is a rotating beacon on the southeast side of the airfield, near the former terminal building on the south apron. This location can be accessed from 21st Street NW. As shown in **Figure 1.28**, a rotating beacon is a navaid generally installed on top of a towering structure, which operates with a rotating, flashing light that indicates the location of the airport to pilots at night and in periods of low visibility. As a civilian airport, the color of the rotating beacon is white/green. GIF has a grant to replace the beacon.

FIGURE 1.27: WIND CONE

FIGURE 1.28: ROTATING BEACON

1.11. Jack's Seaplane Base (F57)

F57 is a private seaplane base on Lake Jessie. It has an administration building with classroom space, a hangar and a fuel facility. A portion of its parking lot is leased from GIF. It also leases hangar space on GIF. While independent, there is a taxiway that connects F57 with GIF. The purpose of this connection is to allow F57 to access hangar space on GIF and for pilots who arrive via traditional aircraft for seaplane training to taxi to F57. F57 has one 2,500-gallon aboveground tank storing avgas that is available to the public. **Figure 1.29** depicts the administration and classroom building, hangar, fuel facility and taxiway access to GIF.

FIGURE 1.29: JACK'S SEAPLANE BASE FACILITIES

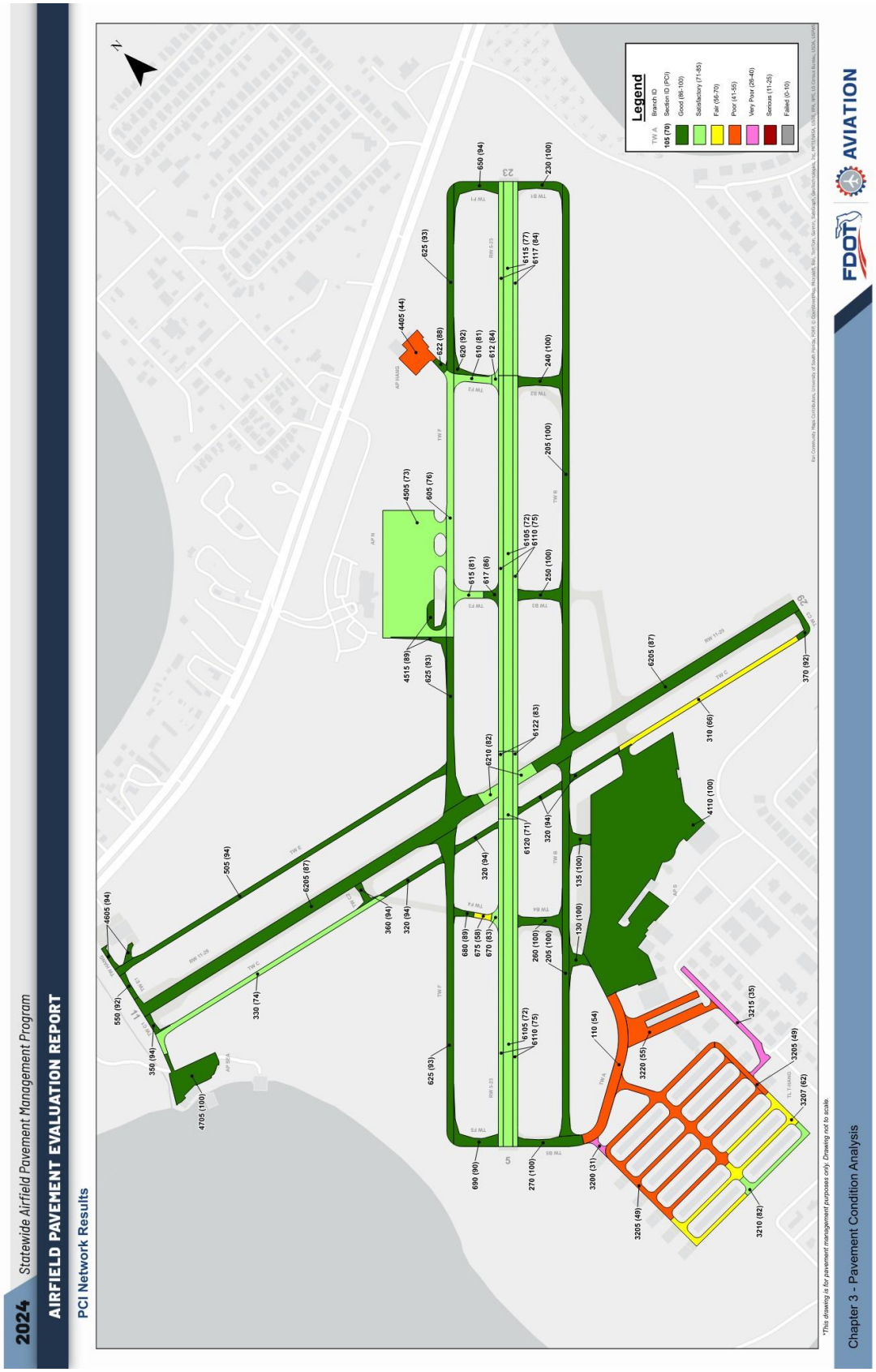
1.12. Pavement Condition

The most recent pavement condition index (PCI) analysis for GIF was completed in 2024[11]. PCI uses a visual inspection of pavement distress to evaluate the condition of the pavement and pavement management strategies to preserve the assets. The results of these tests provide a score ranging from 0 to 100 that offers a general gauge of the operational condition. A score of 100 indicates like-new pavement, while a 0 indicates extremely high degradation. Typical maintenance programs dictate that pavement with a score of 40 or less requires reconstruction and 40 to 60 requires rehabilitation. Refer to **Appendix B** for a list of the pavement conditions evaluated at GIF. A diagram of these ratings is shown in **Figure 1.30.**

In summary, based on a visual pavement inspection by the FDOT in 2024, GIF has an overall PCI rating of 83.

[11] FDOT, 2024 Airport Pavement Evaluation Report, GIF – Winter Haven Regional Airport, District 1.

FIGURE 1.30: 2024 PCI MAP



Source: Airport Pavement Evaluation Report, PCI Network Results, 2024.

1.13. Airport Access by Ground Transportation

Primary vehicle access from the north to the airport is via U.S. 92. From the east, the airport is accessed by 21st Street NW. The surrounding roads just outside the airport are Lake Alfred Road to the east and Havendale Boulevard to the south. The nearby surrounding roads are shown in **Figure 1.31**.

1.14. Fence and Gates

A 6-foot chain-link fence with three-strand barbed wire surrounds the airport. The fence extends east along U.S. 92 on the north side of the airfield. The fence continues south, then west along 21st Street NW. The fence runs along Pistol Range Road and Gilbert Road on the south side of the airfield. The fence continues along the tree line, then follows Lake Jessie, extending northwest and connecting to the fence at the northwest side of the airfield along U.S. 92. There are approximately 22 gates along the fence at GIF, including seven electric gates, providing access to the airfield. The fence and gates are shown in **Figure 1.32**.

JAN 23, 2026 10:05 AM ALEXA02176
I:\24\08S\244096_00\ADMIN\14-REPORTS\001_BACKGROUND AND INVENTORY\CAD\FIGURE 1.30_SURROUNDING ROADS.DWG

HANSON	WINTER HAVEN REGIONAL AIRPORT MASTER PLAN	SURROUNDING ROADS	DRAWN BY: MG REVIEWED BY: SZ	FIGURE 1.31

JAN 23, 2026 1:35 PM ALEXA02176
I:\24JOBS\24A0096_00\ADMIN\14-REPORTS\001_BACKGROUND AND INVENTORY\CAD\FIGURE 1.31_FENCE & GATES.DWG

HANSON	WINTER HAVEN REGIONAL AIRPORT MASTER PLAN	FENCE AND GATES	DRAWN BY: MG REVIEWED BY: SZ	FIGURE 1.32

1.15. Surrounding Airports

There are 10 public-use airports within an approximate 30-nautical-mile radius of GIF, as depicted in **Figure 1.33**. These airports are summarized in **Table 1.4.** Bartow Executive Airport, 7.3 nautical miles away, is the closest. There are also private-use airports in proximity to GIF that are shown in the airspace exhibit later in this chapter.

TABLE 1.4: SURROUNDING AIRPORTS

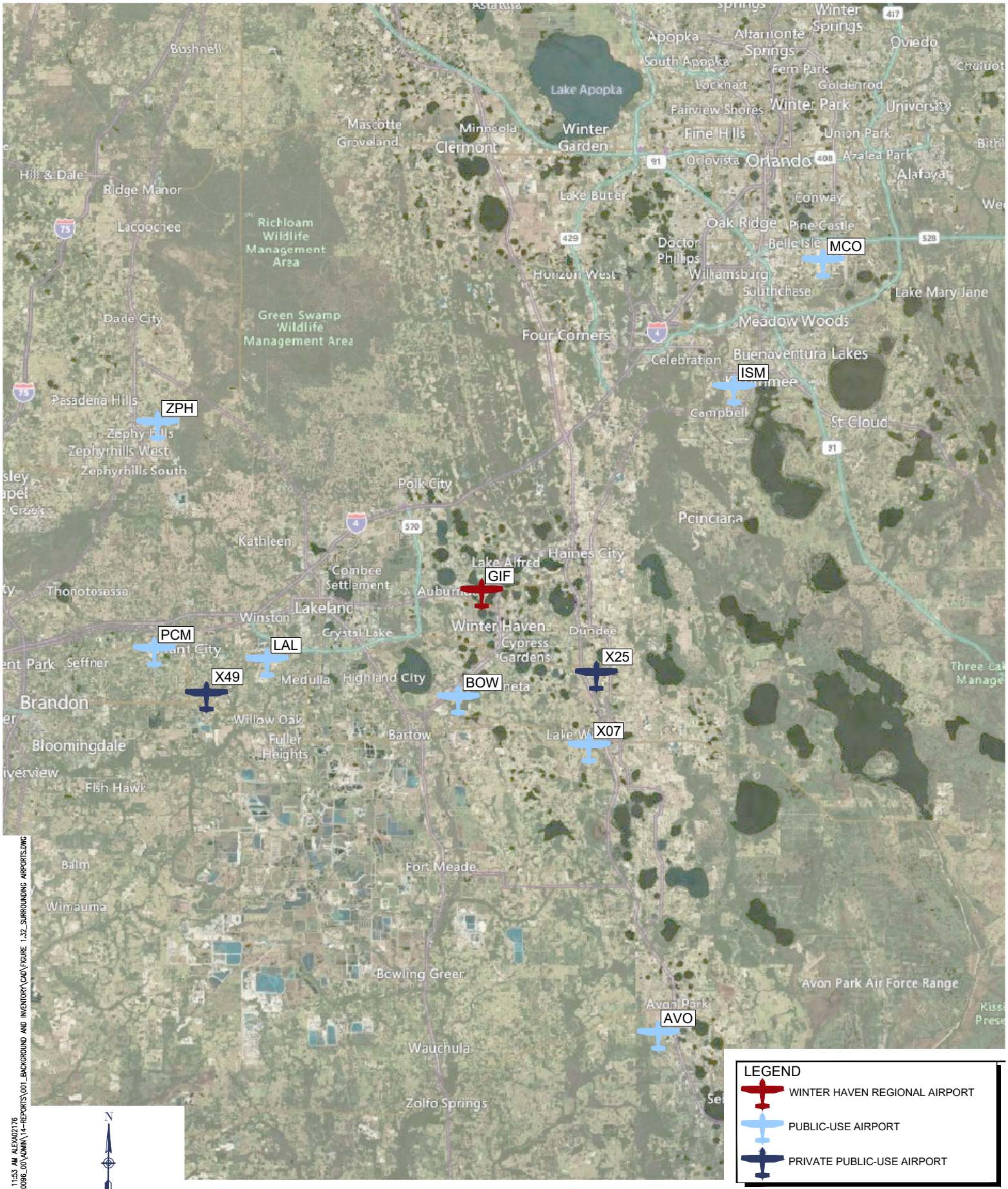
ID	NPIAS Role[1]	Airport	Runways		Nautical Air Miles[3]	Ground Travel Time[4]
			#	Longest (ft.)[2]		
BOW	Regional	Bartow Executive Airport	3	5,400	7.3	26 min.
X25	None	Chalet Suzanne Air Strip	1	2,313	9.7	30 min.
X07	Local	Lake Wales Municipal Airport	2	5,400	12.4	39 min.
LAL	National	Lakeland Linder International Airport	2	8,900	14.5	33 min.
X49	None	South Lakeland Airport	1	2,412	17.3	39 min.
ISM	National	Kissimmee Gateway Airport	2	6,400	21.7	50 min.
PCM	Local	Plant City Airport	1	4,050	22.1	48 min.
ZPH	Regional	Zephyrhills Municipal Airport	2	6,201	23.6	56 min.
AVO	Local	Avon Park Executive Airport	2	5,374	30.8	61 min.
MCO	Primary – Large Hub	Orlando International Airport	4	13,100	31.8	48 min.

[1]FAA. National Plan of Integrated Airport Systems (NPIAS) – Current. https://www.faa.gov/airports/planning_capacity/npias/current, accessed October 2025.

[2]FAA. OE/AAA Web Portal. https://oeaaa.faa.gov/, accessed March 2025.

[3]AirNav. https://www.airnav.com/airports/, accessed March 2025.

[4]Google Earth. https://earth.google.com/web/, accessed March 2025.



FEB 12, 2026 11:53 AM ALEXA02176
I:\24\08S\24A0096_00\ADMIN\14-REPORTS\001_BACKGROUND AND INVENTORY\CAD\FIGURE 1.32_SURROUNDING AIRPORTS.DWG

HANSON	WINTER HAVEN REGIONAL AIRPORT MASTER PLAN	SURROUNDING AIRPORTS	DRAWN BY: MG REVIEWED BY: SZ	FIGURE 1.33

1.16. Airspace

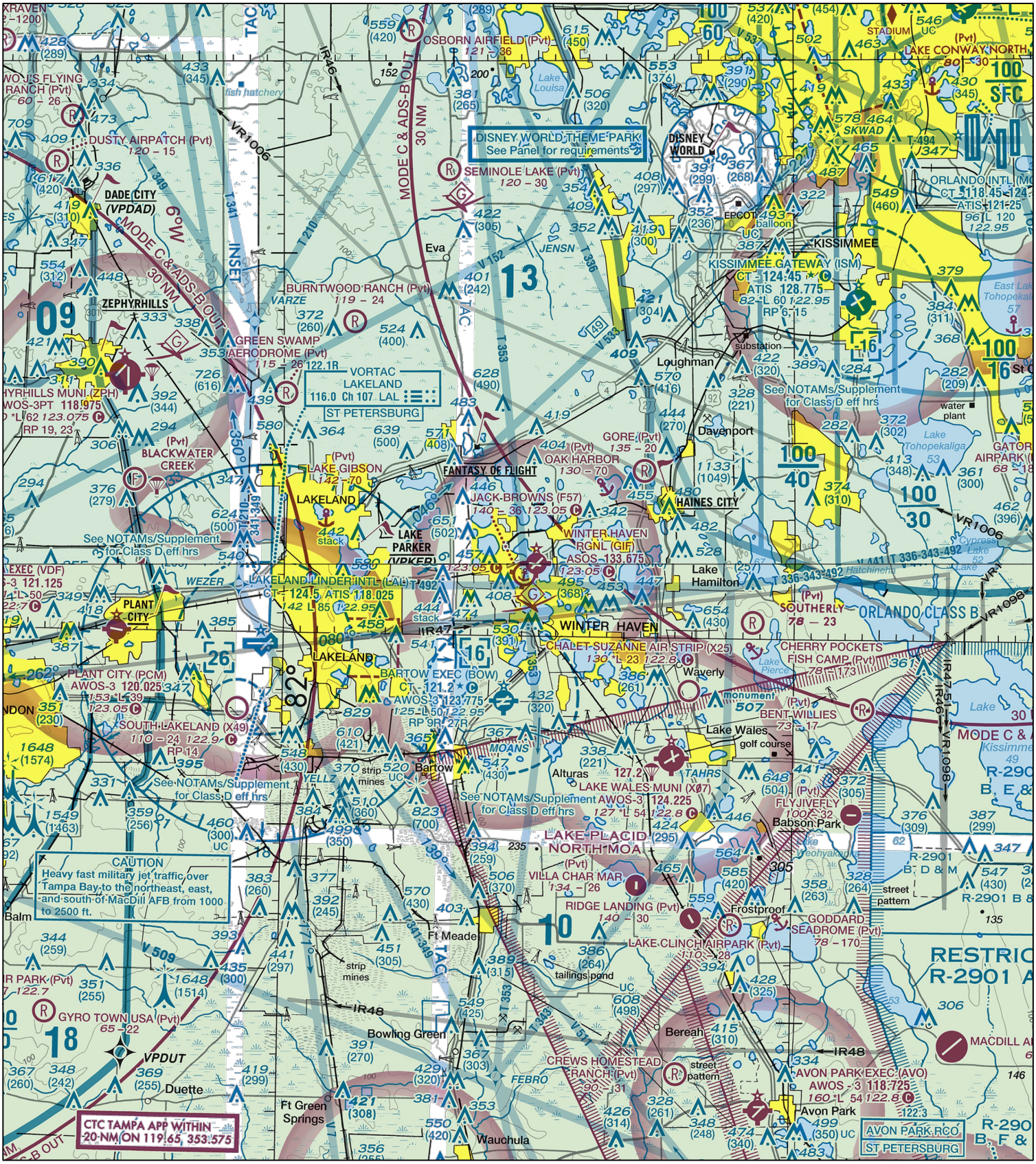
There are four types of airspace: controlled, uncontrolled, special use and other. Controlled airspace is a generic term that covers the different classifications of airspace and defined dimensions within which air traffic control (ATC) service is provided. Controlled airspace consists of classes A, B, C, D and E. Uncontrolled airspace, or Class G airspace, is the portion of airspace that has not been otherwise designated. GIF does not have an ATC tower. There are instrument approach procedures published for runways 5 and 11, so GIF is designated as Class E airspace starting 700 feet above the ground. Other controlled airspace near GIF is the Class D airspace for BOW and LAL. GIF is between the Mode C veils for MCO and Tampa International Airport (TPA) that requires the use of a transponder. The airspace for GIF, as well as several surrounding airports, are shown in **Figure 1.34**.

While GIF does not have an airport traffic control tower (ATCT), there is an interest to provide air traffic control services. A digital tower at BOW is in the process for certification. A digital remote tower program uses cameras and large monitors to display the traffic, allowing it to be controlled from a location other than a physical control tower. Once the system is certified by the FAA, GIF has a grant to establish a digital tower at the airport.. Without the need to construct a physical tower, air traffic control services are more financially feasible.

1.17. Aircraft Accidents

The National Transportation Safety Board (NTSB), an independent federal agency that investigates every civil aviation accident in the United States, maintains the Aviation Accident Database & Synopses. This database[12], accessed Oct. 7, 2025, contains 40 accidents associated with GIF. Of the 40 accidents, eight were fatal, three resulted in serious injuries, four resulted in minor injuries and the remaining resulted in no injuries. Refer to **Appendix C** for a summary of each accident report. The accident reports are reviewed to identify if there are any common airfield factors that may be able to be improved. No common airfield issues were identified. The majority of the accidents were attributed to pilot error.

[12] NTSB, Aviation Accident Database & Synopses. https://www.ntsb.gov/Pages/ResultsV2.aspx?queryId=a6b5b92e-3638-45f6-8225-24c7932a4bc1, accessed October 2025.



HANSON	WINTER HAVEN REGIONAL AIRPORT MASTER PLAN	AIRSPACE	DRAWN BY: MG REVIEWED BY: SZ	FIGURE 1.34

JAN 23, 2026 1:37 PM ALEXA02176
I:\24\08S\24A0086_00\ADMIN\14-REPORTS\001_BACKGROUND AND INVENTORY\CAD\FIGURE 1.33_AIRSPACE.DWG

1.18. Meteorological Data

GIF has a subtropical climate with hot, humid summers and mild winters. Winter is the drier season. June, July and August are the warmest months. Per the National Weather Service for 1991–2024 at GIF, July has a mean maximum temperature of 92.9 F[13]. These are also the wettest months. Afternoon thunderstorms are common in the summer but frequently are short. July receives an average of 7.44 inches of rain. The annual average rainfall is 46.12 inches. GIF's inland location is a benefit when Florida experiences hurricanes.

1.19. Wind Analysis

Ideally, runways are aligned so that airplanes take off and land into the wind and minimize any crosswind component. Small, light aircraft are more affected by crosswinds than larger, heavier aircraft. The FAA design standards recommend 95% wind coverage for the primary runway. This means that 95% of the time, the crosswind does not exceed the demonstrated crosswind component (the wind is 90 degrees to the runway) for the aircraft. **Table 1.5** lists the crosswind components used by the FAA for planning purposes. Aircraft are grouped by their size and operational capabilities to identify their facility needs. A letter identifies the AAC based on aircraft approach speeds, and a Roman numeral indicates the ADG based on wingspan and tail height.

TABLE 1.5: CROSSWIND COMPONENTS

Aircraft Approach Category and Aircraft Design Group	Crosswind Component
A-I and B-I	10.5 knots
A-II and B-II	13 knots
A-III, B-III, C-I through C-III, D-I through D-III	16 knots

The FAA standard is to use the most recent 10 consecutive years of wind data. Wind data was accessed from the FAA's Airport Data and Information Portal (ADIP). ADIP is an FAA repository for airport and aeronautical data to meet the demands of the Next Generation Air Transportation System. The data includes wind direction and speed readings (every hour or more frequently when there is a significant change) over the most recent, complete 10-year span — in this case, from 2015 through 2024. The all-weather condition was analyzed, which the FAA uses for wind coverage. All analyses used the FAA-defined wind speed categories (0 to 3 knots, 4 to 6 knots, 7 to 10 knots, etc.).

Using the critical aircraft identified on the 2016 ALP, the existing and future Runway 5/23 is AAC/ADG B-II and B-III, respectively. Based on FAA guidance, as shown in Table 1.3, runways designated as B-III have a crosswind component up to and including 16 knots. The critical aircraft will be reviewed as part of the aviation activity forecasts, but up to 16 knots is anticipated to encompass the likely critical aircraft at GIF. **Table 1.6** summarizes the wind data collected for GIF.

[13] Winter Haven monthly/annual records through December 2024. https://www.weather.gov/tbw/tampabayoriginalclimatepage, accessed Dec. 24, 2025.

TABLE 1.6: WIND DATA

Wind Data From GIF									
Runway	All Weather			IFR			VFR		
	10.5 Knots	13 Knots	16 Knots	10.5 Knots	13 Knots	16 Knots	10.5 Knots	13 Knots	16 Knots
Runway 5/23	94.33%	97.23%	99.38%	92.42%	95.51%	98.22%	94.62%	97.49%	99.57%
Runway 11/29	94.8%	97.28%	99.4%	91.48%	94.94%	98.33%	95.25%	97.6%	99.56%
Combined	98.64%	99.6%	99.89%	97.3%	98.87%	99.55%	98.84%	99.71%	99.94%

Source: FAA ADIP, GIF wind data from 2015–24, https://adip.faa.gov/agis/windrose/#/download/KGIF/747931/12876/KGIF/FL, accessed October 2025.

Figure 1.35 shows the all-weather wind rose based on the 109,927 observations. The wind coverage for the Runway 5/23 is less than 95% for 10.5 knots. Runway 11/29 is also less than 95% for 10.5 knots. Combined, the runways provide 98.64% for 10.5 knots. Thus, a crosswind runway is necessary at GIF to meet the FAA's recommended 95% wind coverage for 10.5 knots in all-weather conditions.

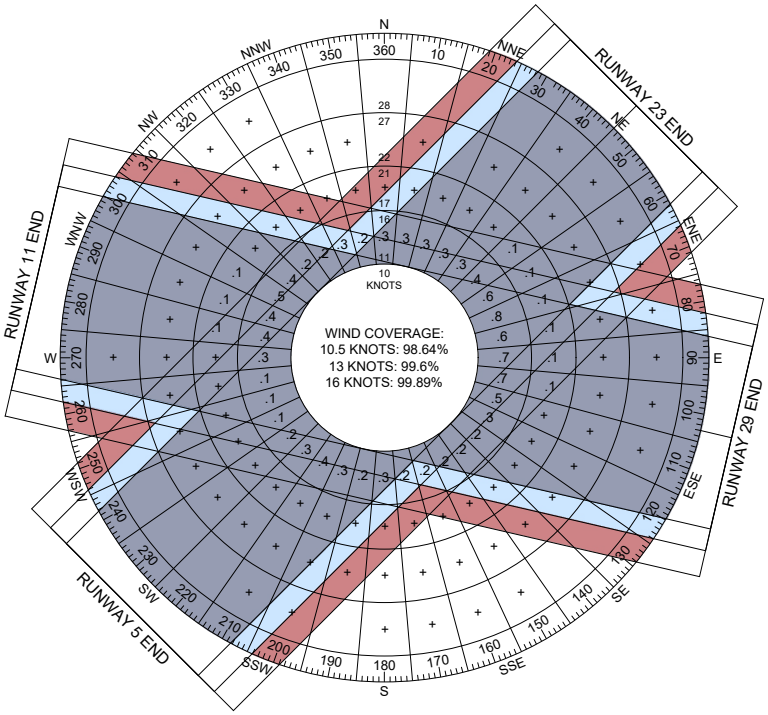
Figure 1.21 also depicts VFR condition wind data. VFR conditions in Class E airspace at GIF (less than 10,000 feet mean sea level) are conditions with visibility at least 3 miles and at least 500 feet below clouds, 1,000 feet above clouds and 2,000 feet horizontal from clouds. The VFR wind data is based on 95,250 observations from 2015 through 2024. The pair of GIF runways provides more than 95% coverage for all crosswind components during VFR conditions.

IFR conditions are also shown in Figure 1.21, which include lower visibility and/or ceilings than required for VFR flight. To fly on an IFR flight plan, pilots must hold an instrument rating and fly an aircraft equipped with the required instrumentation. The wind data contained 15,065 instrument meteorological condition observations. The wind coverage for the combined runways was 97.3% for a 10.5-knot, 98.87% for a 13-knot and 99.55% for 16-knot crosswind components.

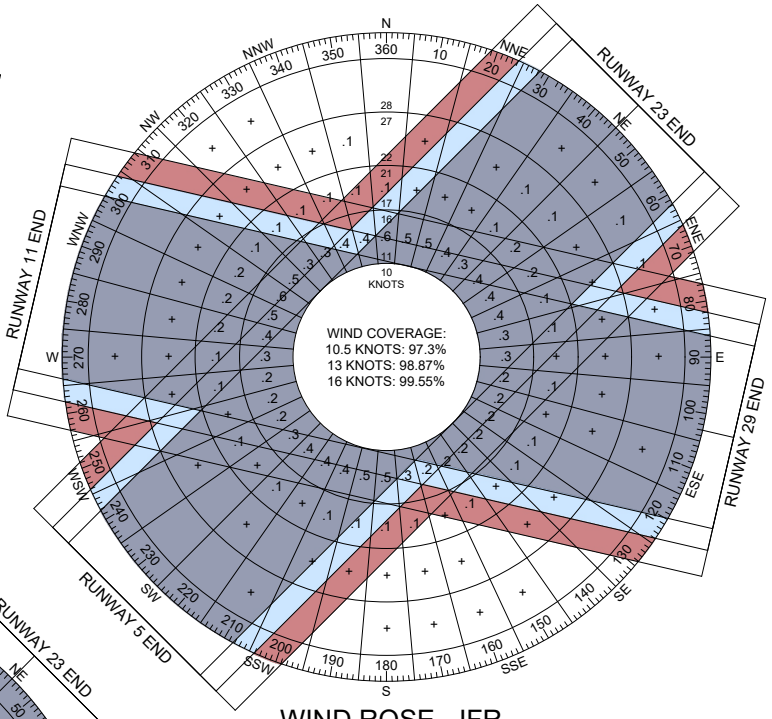
1.20. Utilities

GIF has full utility service. Tampa Electric is the electricity provider. There are multiple meters serving facilities owned and operated by the city, as well as tenant facilities. Water and sewer service is provided by the city of Winter Haven. The fiber-optic service is also available through the city. There are several septic tanks serving box hangars on the south side of the airport. The T-hangar buildings have water and electrical service. The newest T-hangar has a restroom in an end unit with associated sewer service.

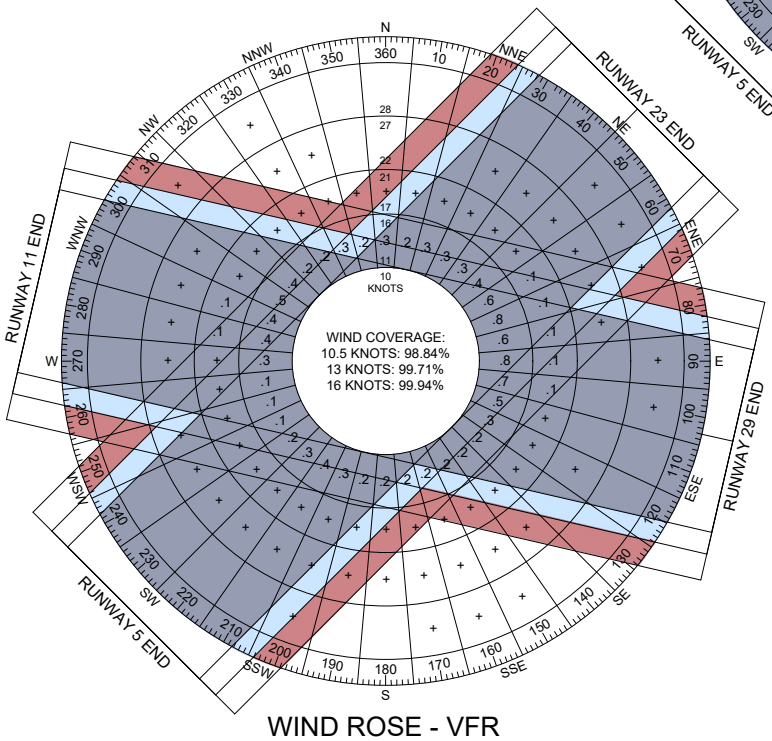
The water, sewer and fiber-optic utilities have been extended into the north and east development areas. The conceptual layouts for these areas from the previous master plan and approved ALP were used to establish corridors for future service roads and supporting utilities. The 2016 ALP is depicted in **Figure 1.36**. The utilities were extended from the airport perimeter to strategic termination points to prepare the sites for development while minimizing the potential for utility modifications to the extent feasible. **Figures 1.37** and **1.38** depict the utilities on the north side. **Figure 1.39** depicts the utilities on the east side.



WIND ROSE - ALL WEATHER



WIND ROSE - IFR



WIND ROSE - VFR

WIND DATA

RUNWAY	ALL WEATHER			IFR			VFR		
	10.5 KNOTS	13 KNOTS	16 KNOTS	10.5 KNOTS	13 KNOTS	16 KNOTS	10.5 KNOTS	13 KNOTS	16 KNOTS
RUNWAY 5/23	94.33%	97.23%	99.38%	92.42%	95.51%	98.22%	94.62%	97.49%	99.57%
RUNWAY 11/29	94.80%	97.28%	99.40%	91.48%	94.94%	98.33%	95.25%	97.60%	99.56%
COMBINED	98.64%	99.60%	99.89%	97.30%	98.87%	99.55%	98.84%	99.71%	99.94%

LEGEND
- 10.5 KNOTS CROSSWIND COMPONENT
- 13 KNOTS CROSSWIND COMPONENT
- 16 KNOTS CROSSWIND COMPONENT

SOURCE: FAA ADIP WIND DATA, GIF WIND DATA FROM 2015-2024, ACCESSED OCTOBER 2025.

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WINTER HAVEN REGIONAL AIRPORT MASTER PLAN	WIND ROSE DATA	DRAWN BY: MG REVIEWED BY: SZ	FIGURE 1.35

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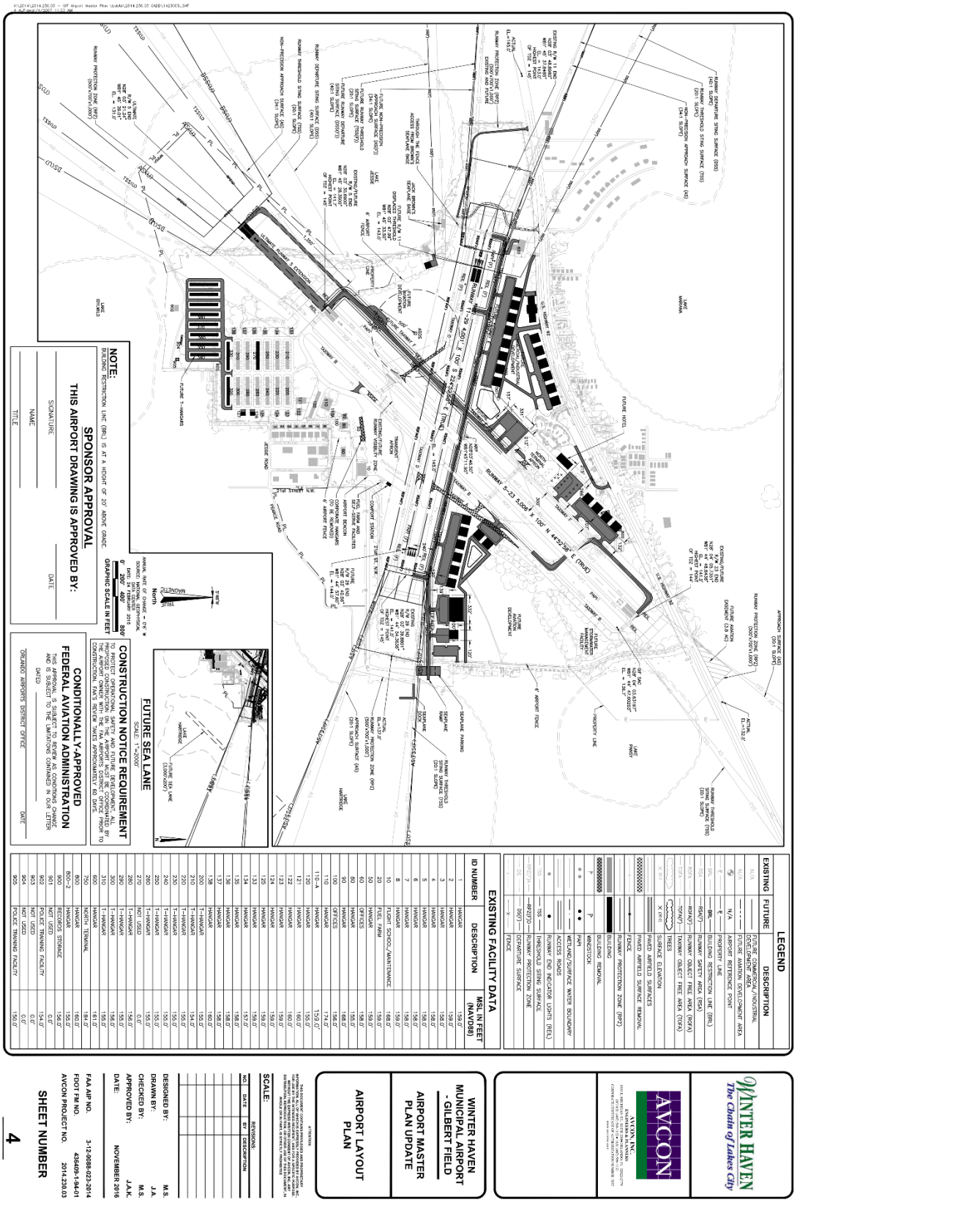
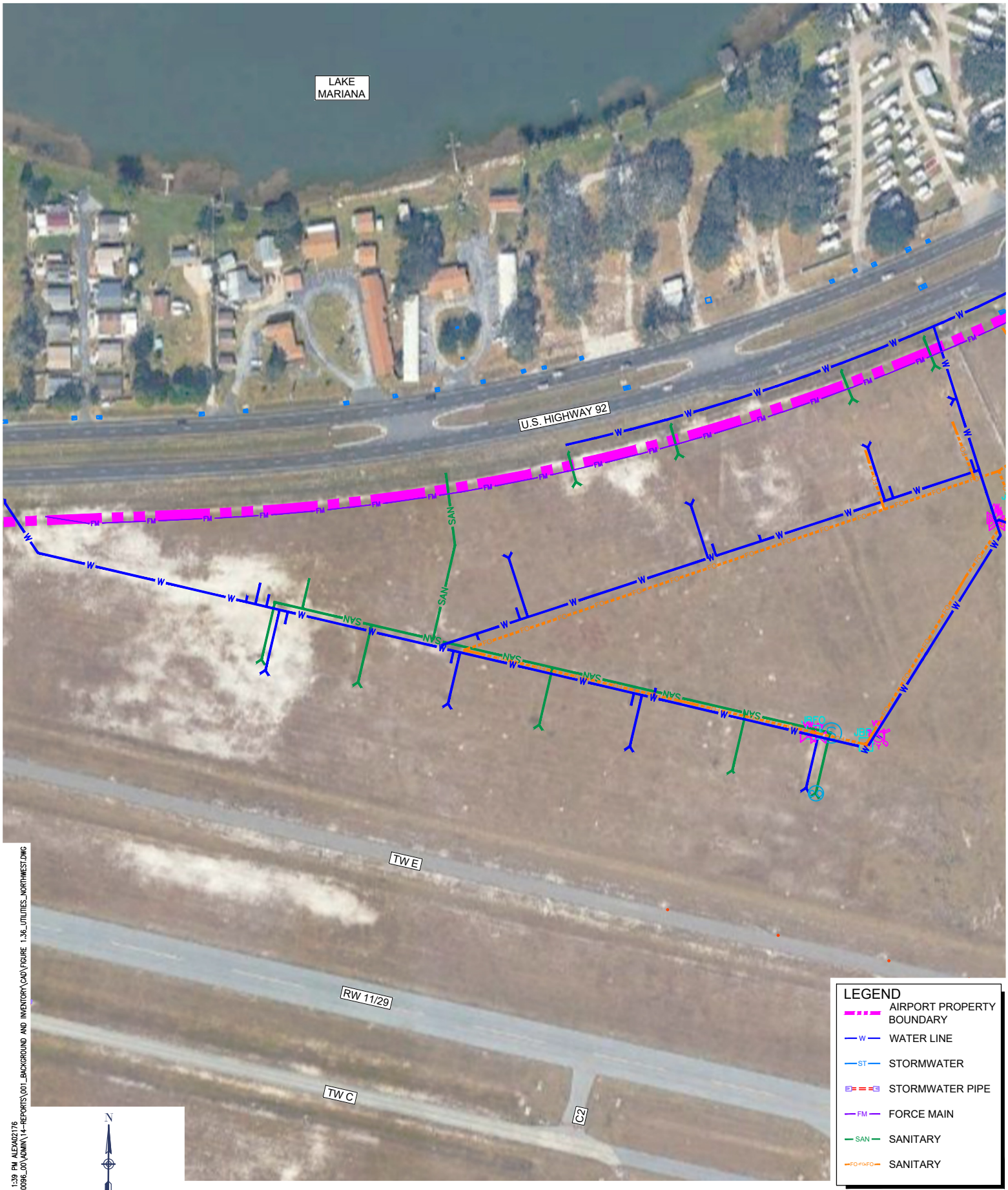
I:\24JOBS\24A0096_00\ADMIN\14-REPORTS\001_BACKGROUND AND INVENTORY\CAD\FIGURE 1.34_WIND DATA.DWG

FIGURE 1.36: 2016 AIRPORT LAYOUT PLAN DRAWING

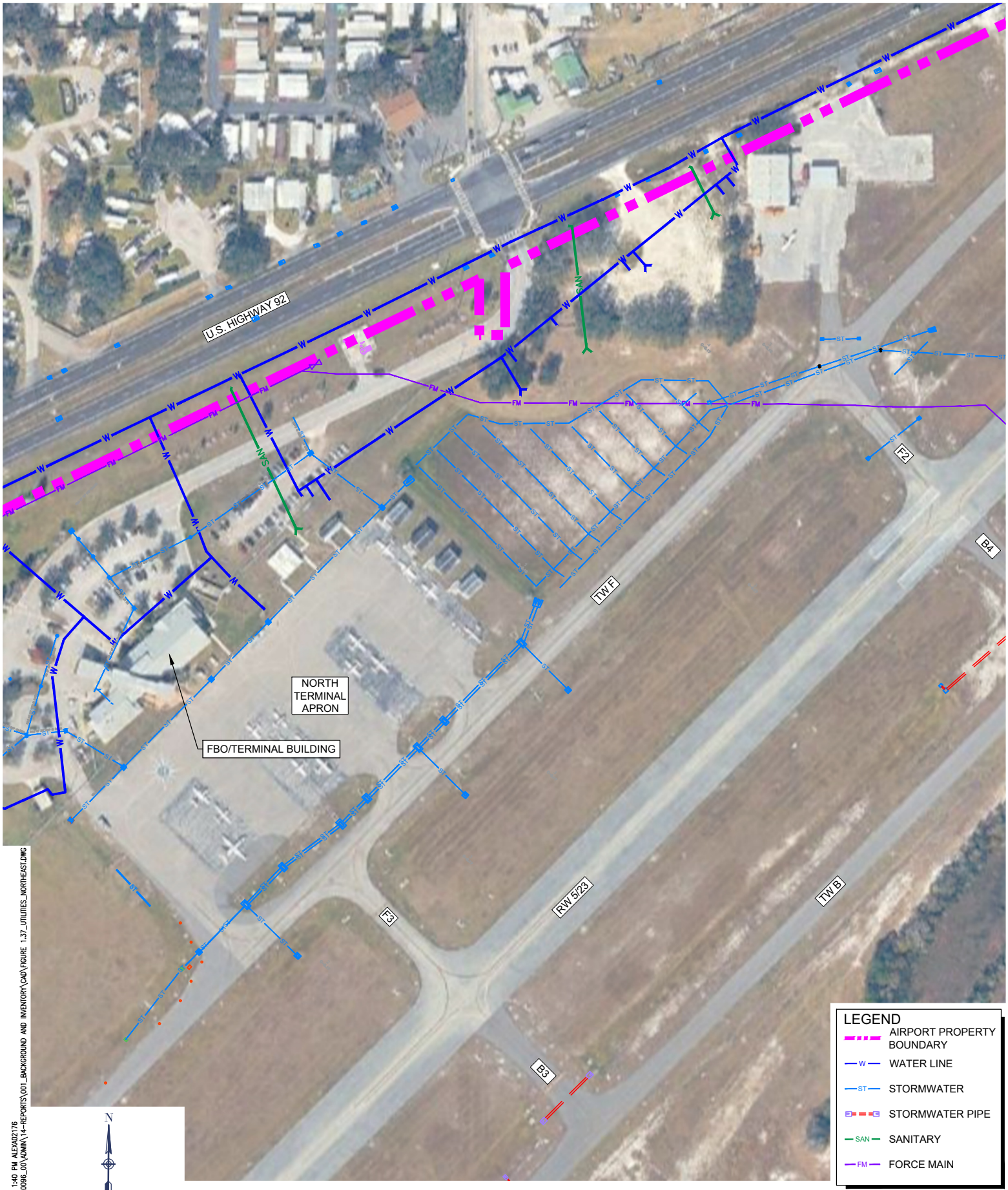


GIF



JAN 23, 2026 1:39 PM ALEXA02176
I:\24\08S\24A0096_00\ADMIN\14-REPORTS\001_BACKGROUND AND INVENTORY\CAD\FIGURE 1.36_UTILITIES_NORTHWEST.DWG

HANSON	WINTER HAVEN REGIONAL AIRPORT MASTER PLAN	NORTHWEST UTILITIES	DRAWN BY: JA REVIEWED BY: SZ	FIGURE 1.37



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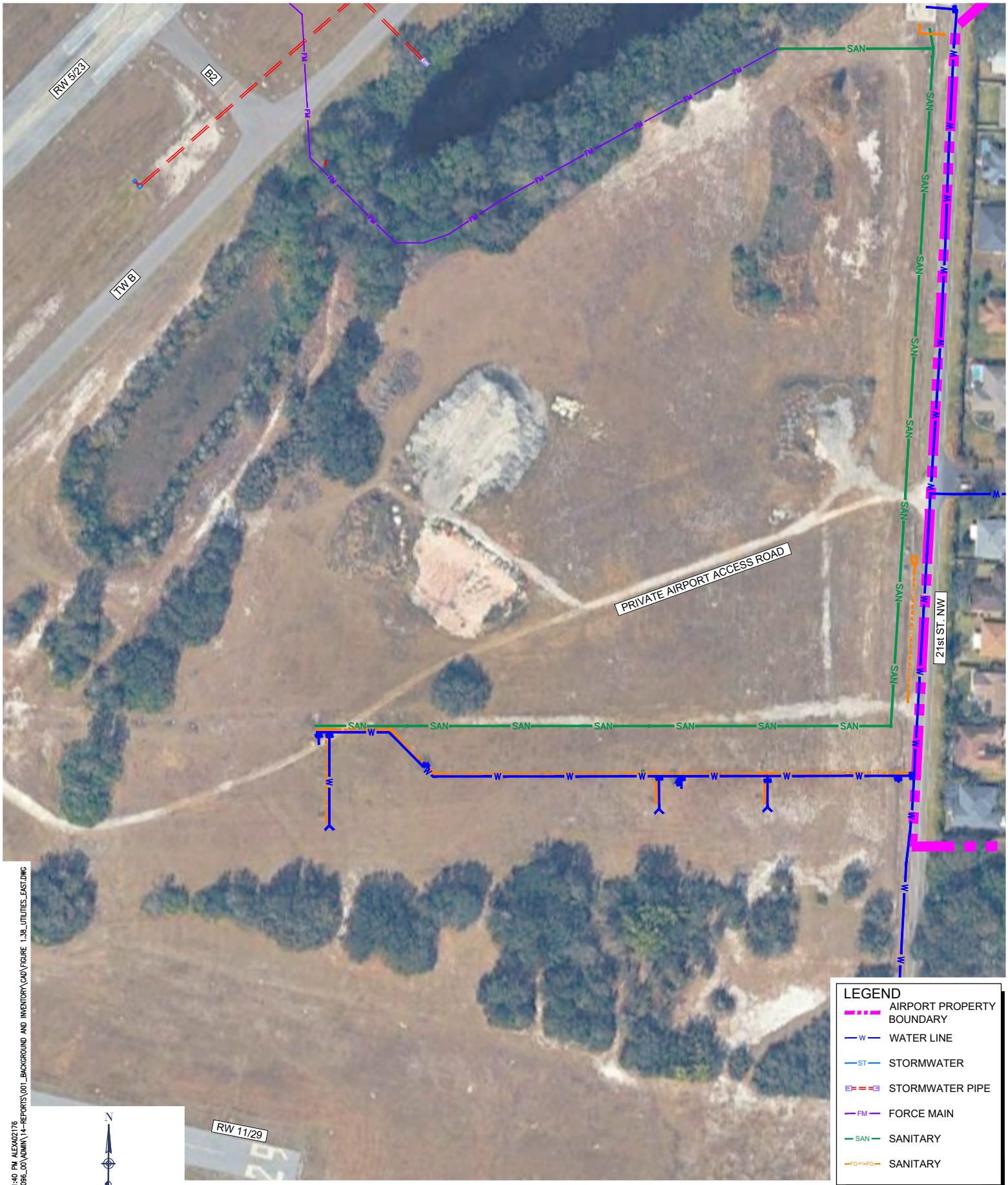
I:\24\08S\24A0096_00\ADMIN\14-REPORTS\001_BACKGROUND AND INVENTORY\CAD\FIGURE 1.37_UTILITIES_NORTHEAST.DWG

HANSON	WINTER HAVEN REGIONAL AIRPORT MASTER PLAN	NORTHEAST UTILITIES	DRAWN BY: JA REVIEWED BY: SZ	FIGURE 1.38



JAN 23, 2026 1:40 PM ALEXA02176
I:\24JOBS\24A0096_00\ADMIN\14-REPORTS\001_BACKGROUND AND INVENTORY\CAD\FIGURE 1.38_UTILITIES_EAST.DWG

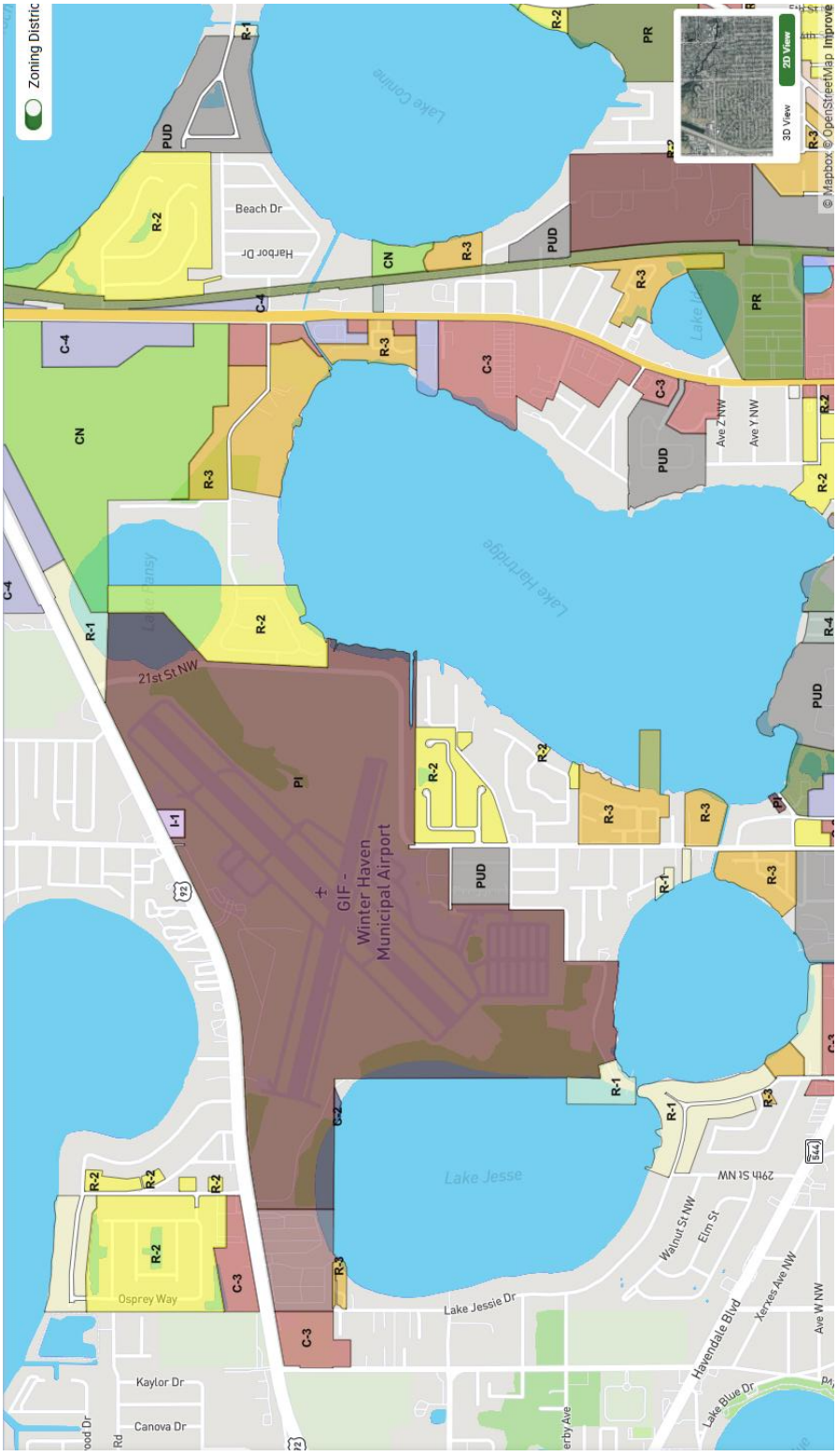
HANSON	WINTER HAVEN REGIONAL AIRPORT MASTER PLAN	EAST UTILITIES	DRAWN BY: JA REVIEWED BY: SZ	FIGURE 1.39

1.21. Land Use

The city of Winter Haven has zoning authority for GIF and some of the areas surrounding the airport. Some areas around the airport are not included in the zoning. GIF is zoned public institutional (PI), as depicted in **Figure 1.40**. Around GIF, there is RM (manufactured home), R-1, R-2 and R-3 (residential) and PUD (planned unit development) zones.

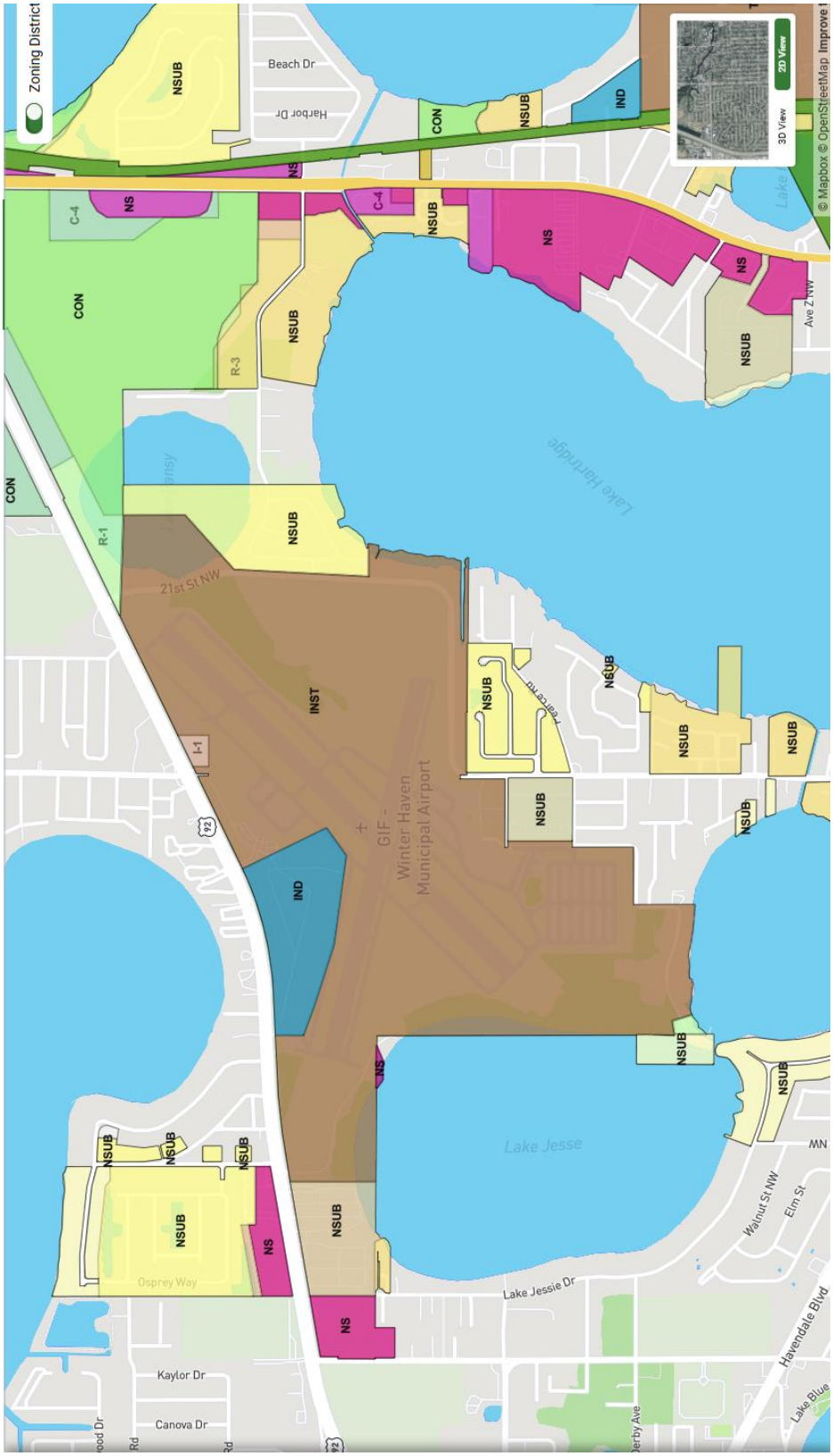
The future land use is similar in the immediate vicinity of GIF. GIF is identified as institutional (INST) and is surrounded by neighborhood suburban (NSUB) and neighborhood support (NS) The planned industrial (IND) area on GIF is included. as depicted in **Figure 1.41**.

FIGURE 1.40: WINTER HAVEN ZONING AROUND GIF



Source: https://map.gridics.com/us/fl/winter-haven, accessed Dec. 29, 2025.

FIGURE 1.41: WINTER HAVEN FUTURE LAND USE AROUND GIF



Source: https://map.gridics.com/us/fl/winter-haven, accessed Dec. 29, 2025.

Polk County regulates land use and development around public-use airports, including GIF, through the Airport Impact District (AID) overlay established in Section 641 of the Polk County Land Development Code. The purpose of the AID is to promote long-term, airport-land use compatibility by limiting or conditioning aviation-incompatible development and activities in areas affected by airport operations, consistent with Polk County Airport Zoning Regulations and Florida Statutes, Chapter 333.

Within the AID, all existing and proposed development is subject to additional review to ensure compliance with airport zoning criteria. These standards address a range of aviation safety and compatibility considerations, including height restrictions based on federal obstruction standards (14 CFR Part 77), limitations on noise-sensitive land uses in designated airport noise zones, restrictions on overflight-sensitive uses and controls on land uses that may create wildlife hazards or visual or electronic interference with aircraft operations. Certain uses, such as educational facilities, are subject to additional location restrictions. Development in the AID must also comply with county development review procedures, and provisions are included for variances, special exceptions and appeals through established county processes.

The AID overlay is further supported by policies in the Polk County Comprehensive Plan, particularly Section 3.204: Transportation and Land Use Compatibility, which establishes formal coordination between Polk County and airport operators. These policies require county review of airport master plan updates and proposed airport expansions to ensure consistency with the comprehensive plan, evaluate compatibility with surrounding land uses and natural resources and identify and implement mitigation measures, where necessary. Collectively, these regulations and policies are intended to protect public safety, preserve airport operational viability and support feasible airport development while minimizing adverse impacts on surrounding communities.

For additional detail, refer to Section 641 of the Polk County Land Development Code and the Polk County Comprehensive Plan on the county's website at https://www.polk-county.net. The Polk County Long Range Transportation Plan Adoption Report from Dec. 9, 2025, was reviewed. There is no information specific to GIF in this report, because it focuses on ground transportation modes.

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APPENDIX A: ACRONYMS AND GLOSSARY

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ACRONYMS, INITIALISMS AND ABBREVIATIONS

AAC	aircraft approach category
AC	advisory circular
AD	airworthiness directive
ADG	airplane design group
ADO	Airports District Office
ADS-B	automatic dependent surveillance–broadcast
AGL	above ground level
AIM	Aeronautical Information Manual
AIP	Airport Improvement Program
ALP	airport layout plan
ALS	approach lighting system
AMP	airport master plan
AP	airport
APCH	approach
APRC	approach reference code
APRT	airport
APT	airport(s)
APV	approach procedure with vertical guidance (for GPS approaches)
ARC	airport reference code
ARP	airport reference point
ASDA	accelerate-stop distance available
ASOS	automated surface observing system
ATC	air traffic control
ATCT	airport traffic control tower
ATO	Air Traffic Organization
AVGAS	aviation gasoline
AWOS	automated weather observing system
BCN	beacon
BRL	building restriction line
CatEx	categorical exclusion
CFR	Code of Federal Regulations
CMG	cockpit to main gear
CSPP	construction safety and phasing plan
CTAF	common traffic advisory frequency
DA	decision altitude
dB	decibel
DEP	depart, departure
DME	distance measuring equipment
DNL	day-night average sound level
DW	dual wheels
EA	environmental assessment
EDDA	environmental due diligence audit
EIS	environmental impact statement
FAA	Federal Aviation Administration
FARs	Federal Aviation Regulations
FBO	fixed-base operator
FLT/PLN	flight plan
FOD	foreign object damage (debris)
FONSI	finding of no significant impact
FSDO	Flight Standards District Office
FSS	flight service station
GA	general aviation
GIS	geographic information system
GND	ground level
GP	glide path
GPS	global positioning system
GQS	glideslope qualification surface
GS	glide slope indicator
HIRL	high intensity runway lights
IAP	instrument approach procedure
ICAO	International Civil Aviation Organization
IFR	instrument flight rules
ILS	instrument landing system
INOP	inoperative
LDA	landing distance available
LED	light-emitting diode
LNAV	lateral navigation (for GPS approaches)
LOC	localizer (part of an ILS system)
LPV	localizer performance with vertical guidance (for GPS approaches)
MALS	medium intensity approach lighting system
MALSF	medium intensity approach lighting system with sequenced flashers
MALSR	medium intensity approach lighting system with runway alignment indicator lights
MDA	minimum descent altitude
METAR	meteorological aviation routine weather report/actual report
MGW	main gear width
MHz	megahertz

MIL military
MIN minimum
MIRL medium intensity runway light
MOS modification to standards
MSL mean sea level
MTOW maximum takeoff weight
MVAR/MAGVAR magnetic variation
NAAQS National Ambient Air Quality Standards
NAS National Airspace System
NAVAID navigational aid
NDB nondirectional beacon
NEPA National Environmental Policy Act
NM nautical mile = 1.1508 statute miles
NOTAM notice to airmen
NPE nonprimary entitlement
NPIAS National Plan of Integrated Airport Systems
NTSB National Transportation Safety Board (U.S.)
NWS National Weather Service
OBST obstacle, obstruction
OCS obstacle clearance surface
OE/AAA Obstruction Evaluation/Airport Airspace Analysis
OFA object free area
OFZ obstacle free zone
OPS operations
OTS out of service
PA precision approach
PAPI precision approach path indicator
PAX passengers
PBN performance-based navigation
PCI pavement condition index
PCL pilot-controlled lighting
PMP pavement management program
RAIL runway alignment indicator lights
RDC runway design code
REILs runway end identifier lights
RMK remark(s)
RNAV area navigation (generic acronym for any device capable of aircraft guidance between pilot-defined waypoints)
RNP required navigation performance
ROD record of decision
RPZ runway protection zone
RSA runway safety area
RVR runway visual range
RW runway
RWY runway
SIGWX significant weather
SMS safety management system
SOP standard operating procedures
SRE snow removal equipment
STOL short takeoff and landing
SUA special use airspace
sUAS small unmanned aircraft system
SVFR special VFR
SWPPP stormwater pollution prevention plan
T/O takeoff
TALPA takeoff and landing performance assessment
TCH threshold crossing height
TDG taxiway design group
TDZ touchdown zone
TEMP temperature
TERPS terminal instrument procedures
TFMSC traffic flow management system counts
TFR temporary flight restriction
TLOF touchdown and liftoff area
TO takeoff
TODA takeoff distance available
TORA takeoff run available
TSA taxiway safety area
TSA Transportation Security Administration
TW taxiway
TWY taxiway
UAS unmanned aircraft system
UAV unmanned aerial vehicle
UTC Coordinated Universal Time or Universal Time Coordinates
VASI visual approach slope indicator
VFR visual flight rules
VHF very high frequency
VIS visibility
VLJs very light jets
VNAV vertical navigation (for GPS approaches)

VOR VHF omnidirectional range
VOR-DME VHF omnidirectional range/distance measurement equipment
VORTAC, VOR/TAC or VOR-TACAN combined VOR and TACAN
VSB visibility
WAAS wide-area augmentation system
WHA wildlife hazard assessment
WHMP wildlife hazard management plan
WX weather
X-Wind crosswind

GLOSSARY

above ground level (AGL): Altitude expressed as feet above terrain or airport elevation (see mean sea level).

accelerate-stop distance available (ASDA): The runway plus stopway length declared available and suitable for the acceleration and deceleration of an aircraft aborting a takeoff.

acceptable minimum level of service: The minimum acceptable pavement condition index rating for a category of pavement, such as a general aviation runway.

advisory circular (AC): A series of external, informational Federal Aviation Administration publications consisting of nonregulatory material about a policy and providing guidance for compliance.

aeronautical activity: Any activity that involves, makes possible or is required for the operation of aircraft or that contributes to or is required for the safety of such operations.

Aeronautical Information Manual (AIM): A primary Federal Aviation Administration publication with the purpose of instructing airmen about operating in the National Airspace System of the United States. It provides basic flight information, air traffic control procedures, and general instructional information concerning health, medical facts, factors affecting flight safety, accident and hazard reporting, and types of aeronautical charts and their use.

aircraft approach category (AAC): A lettering system used by the Federal Aviation Administration to group aircraft based on approach speed.

airfield capacity: The maximum number of aircraft operations (landings or takeoffs) that can take place on an airfield in one hour under specific conditions.

airplane design group (ADG): A classification of aircraft by the Federal Aviation Administration based on wingspan and tail height.

airport: An area of land or water that is used or intended to be used for the landing and taking off of aircraft, including its buildings and facilities, if any.

airport director or airport manager: The person responsible for the day-to-day operation of an airport, including the business, administration, operational and communication aspects, and the implementation of policy guidance and longer-term plans for the airport.

airport economic impact: The contribution of an airport to the regional economy, quantified in terms of employment, payroll, and output.

airport elevation: The highest point of an airport's usable runways, measured in feet above mean sea level.

airport hazard: Any structure or natural object on or in the vicinity of a public airport, or any use of land near such an airport, that obstructs the airspace required for the flight of aircraft landing, taking off, or taxiing at the airport.

Airport Improvement Program (AIP): A program that provides financial grants to primarily public agencies for the planning and development of public-use airports that are included in the National Plan of Integrated Airport Systems.

airport layout plan (ALP): A set of drawings that provide a graphic representation of the sponsor's long-term development plan for an airport, including property boundaries, existing and proposed airport facilities and structures, and the location of existing and proposed nonaeronautical areas.

airport master plan (AMP): An assembly of appropriate documents and drawings covering the development of a specific airport from a physical, economic, social, and political jurisdictional perspective by assessing current and projected demands. The master plan typically has a time frame of 20 years, with short-term, intermediate-, and long-term goals within that time frame. The airport layout plan is a part of this plan.

airport operator: The public or private operator or sponsor of a public-use airport.

airport property: Any property, when described as part of an airport in an agreement with the United States or defined by an airport layout plan or listed in

an Exhibit "A" property map, that is considered to be obligated property for airport purposes.

airport reference point (ARP): The approximate geometric center of all usable runways at the airport.

airport sponsor: Typically, a public agency or tax-supported organization that is authorized to own and operate an airport, obtain funds and property interests, and be legally, financially, and otherwise able to meet all applicable requirements of laws and regulations. Occasionally, it is a private entity.

airport traffic control tower (ATCT): A raised facility on the airfield from which controllers visually, and by radar where available, monitor air traffic and use two-way radios on a designated frequency to direct traffic.

Airports Geographic Information System (Airports GIS): The Federal Aviation Administration's system of collecting and compiling airport and aeronautical data.

approach lights: A lighting system located off the end of the runway to aid the pilot in identifying the runway environment.

approach procedure with vertical guidance (APV): An instrument approach procedure providing vertical and lateral electronic guidance.

approach reference code (APRC): A code signifying the current operational capabilities of a runway and associated parallel taxiway with regard to landing operations.

approach surface: A surface longitudinally centered on the extended runway centerline and extending outward and upward from each end of the primary surface. An approach surface is applied to each end of each runway based on the type of approach available or planned for that runway end.

apron/ramp: A defined area on an airport or heliport intended to accommodate aircraft for the purposes of loading passengers or cargo, refueling, parking, or maintenance.

area navigation (RNAV): A method of navigation that allows an aircraft to choose any course within a network of navigation beacons, rather than navigating directly to and from the beacons. It includes lateral navigation providing horizontal alignment guidance to the pilot and can include lateral navigation or vertical navigation providing horizontal and vertical guidance to a pilot.

automated weather observing system (AWOS)/automated surface observing system (ASOS): A system of weather sensors that collects and disseminates weather data to pilots and flight dispatchers so they may prepare for and monitor weather forecasts. The ASOS program is entirely federally funded, whereas AWOS systems are generally operationally funded by the operator or airport sponsor.

automatic dependent surveillance – broadcast (ADS-B): A technological application for pilots and air traffic controllers that uses global positioning system satellites to determine aircraft location, ground speed, and other data, and provides traffic and weather information directly to the cockpits of properly equipped aircraft. ADS-B out equipment allows the aircraft to transmit its position. ADS-B in and out allows the aircraft to transmit its position and receive weather data and flight information services.

avgas: Aviation gasoline used by piston-powered aircraft.

avigation easement: A type of acquisition of an interest in land or property that involves a less-than-fee simple purchase. One form of avigation easement grants an airport the right to perform aircraft operations over the designated property, including operations that might cause noise, vibration, and other effects. A stronger form of easement is a deed restriction that may include the right to perform aircraft operations on the property or the public acquisition of a landowner's rights, restricting future development of the property for any use more intensive than that existing at the time of the transaction. This easement may also include prohibitions on the uses for which the property may be developed. The maximum heights of structures and other objects may also be specified.

B

based aircraft: Aircraft stationed at an airport on a long-term or permanent basis, usually by some

form of agreement between the aircraft owner and airport management.

benefit-cost analysis: A systematic approach to estimating the strengths and weaknesses of alternatives by determining options that provide the best approach to achieve benefits while preserving savings.

blast pad: A surface adjacent to the ends of runways provided to reduce the erosive effect of jet blast and propeller wash.

building restriction line (BRL): A line established with respect to the runway centerline to assure that structures will not project above the imaginary surfaces required by Federal Aviation Regulations, Part 77, and obstruction clearance criteria.

C

categorical exclusion (CatEx): A category of actions that do not individually or cumulatively have a significant effect on the human environment and for which neither an environmental assessment nor an environmental impact statement is required. (Documentation in the form of a CatEx checklist still must be prepared by the airport or its sponsor.)

circling approach: A maneuver initiated by the pilot to align the aircraft with a runway for landing when a straight-in landing from an instrument approach is not possible or not desirable.

Class A airspace: Airspace between 18,000 and 60,000 feet mean sea level over the conterminous United States. Instrument flight rule clearances are required for all aircraft operating in Class A airspace. Formerly called the “positive control area.”

Class B airspace: Airspace area around the busiest U.S. hub airports, typically to a radius of 20 nautical miles and up to 10,000 feet above ground level. Operations within Class B airspace require an air traffic control clearance and at least a private pilot certificate (local waivers available), radio communication and an altitude-reporting (Mode C) transponder. Formerly called “terminal control area.”

Class C airspace: Airspace area around busy U.S. airports (other than Class B). Radio contact with approach control is mandatory for all traffic. This includes an area from the surface to 1,200 feet above ground level out to 5 miles and from 1,200 to 4,000 feet AGL to 10 miles from the airport. Formerly called “airport radar service area.”

Class D airspace: Airspace around an airport with an operating control tower, typically to a radius of 5 miles from the surface to 2,500 feet above ground level. Radio contact with the control tower required prior to entry. Formerly called “airport traffic area.”

Class E airspace: General controlled airspace comprising control areas, transition areas, Victor airways, the continental control area, etc.

Class F airspace: International airspace designation not used in the United States.

Class G airspace: Uncontrolled airspace; generally, the airspace from the surface up to 700 or 1,200 feet above ground level in most of the United States, but up to as high as 14,500 feet in some remote western and sparsely populated areas.

cockpit to main gear distance (CMG): The distance in feet, from the cockpit to the main gear; used to determine the taxiway design group.

common traffic advisory frequency (CTAF): The radio frequency, sometimes called the UNICOM (universal communications) frequency, used by all traffic at an airport without an operating control tower to coordinate approaches, landings, takeoffs, and departures. Pilots announce their positions, intentions, and actions in the traffic pattern for the benefit of other traffic.

concurrent use: The use of aeronautical land for a compatible, nonaeronautical revenue-producing purpose.

conical surface: A surface extending outward and upward from the periphery of the horizontal surface at a slope of 20 to 1 for a horizontal distance of 4,000 feet.

construction safety and phasing plan (CSPP): A document that outlines procedures to maintain operational safety on an airport during construction projects. This plan identifies how to minimize construction impacts on operations.

critical aircraft: The most demanding aircraft type or grouping of aircraft with similar characteristics that make regular use of the airport. "Regular use" is 500 annual operations, excluding touch-and-go operations. An operation is a takeoff or landing.

D

day-night average sound level (DNL): The 24-hour average sound level, in decibels, for the period from midnight to midnight, obtained after the addition of 10 decibels to sound levels for the periods between 10 p.m. and 7 a.m.

decision altitude (DA): A specified lowest height or altitude in the approach of an aircraft to a runway; if the required visual reference to continue the approach (such as the runway markings or runway environment) is not visible to the pilot, then the pilot must initiate a missed approach.

declared distances: The distances the airport owner declares available for aircrafts' takeoff run, takeoff distance, accelerate-stop distance, and landing distance requirements.

deed restrictions: A legal mechanism to restrict the use of a property to define certain conditions in perpetuity.

departure obstacle clearance surface: A 40:1 surface originating at the location and elevation of the departure end of the runway, which is used to evaluate required climb performance from a particular departure runway end to the nearest (shortest distance) obstacle in the segment.

design aircraft: An aircraft with characteristics that determine the application of airport design standards for a specific runway, taxiway, taxilane, apron or other facility. This aircraft can be a specific aircraft model or a composite of several aircraft that are using, expected to use, or intended to use the airport or part of the airport. (Also called "critical aircraft" or "critical design aircraft.")

discretionary funds: AIP grant funds remaining within the obligation limitation, after entitlement calculation, subject to restrictions in legislation and available for distribution at the Federal Aviation Administration discretion, per the FAA's priority system.

displaced threshold: A runway landing threshold located at a point other than the designated beginning of the runway (where departures would begin).

distance measuring equipment (DME): Aircraft equipment that provides pilots with a readout of the distance between the DME facility (airport) and the aircraft.

E

entitlement funds: A set minimum level of Airport Improvement Program funding for an airport, based on the Federal Aviation Administration's criteria. The minimum differs for primary and nonprimary airports, based on enplanement levels for primary air carrier airports and standard allocation for each nonprimary airport.

environmental assessment (EA): An assessment of the environmental effects of a proposed action for which federal financial assistance is being requested or for which federal authorization is required. The EA serves as the basis for the Federal Aviation Administration's environmental impact statement or finding of no significant impact.

environmental due diligence audit (EDDA): An audit performed to identify and minimize potential environmental liabilities prior to the purchase of a property.

environmental impact statement (EIS): A document prepared under the requirements of the National Environmental Policy Act of 1969, Section 102(2)(c) representing a federal agency's evaluation of the effect of a proposed action on the environment. (The Federal Aviation Administration will serve as the sponsor.)

Exhibit "A" property map: A drawing of the dedicated airport property, including detailed information about how the property was acquired, the funding source for the land and if the land was conveyed as federal surplus land or government property.

F

FAR Part 77: Objects Affecting Navigable Airspace: Part 77 establishes standards for

determining obstructions in navigable airspace, outlines the requirements for notifying the Federal Aviation Administration of certain proposed constructions or alterations, and provides for aeronautical studies of obstructions to air navigation to determine their effect on the safe and efficient use of airspace. Section 77.25 establishes imaginary surfaces around airport runways, approach zones, and navigable airspace in the vicinity of the airport.

FAR Part 91: General Operating and Flight Rules: Part 91 prescribes the rules governing the operation of aircraft within the United States, including the waters within 3 nautical miles of the United States coast. It also establishes operators' requirements to support the continued airworthiness of each aircraft.

FAR Part 107: Small Unmanned Aircraft Systems: Part 107 establishes the registration of airmen and the certification and operation of small (weighing less than 55 pounds) unmanned aircraft systems within the United States.

FAR Part 137: Agricultural Aircraft Operations: Part 137 prescribes the rules governing agricultural aircraft operations within the United States and the issuance of commercial and private agricultural aircraft operator certificates for those operations.

Federal Aviation Administration (FAA): The United States Department of Transportation's agency for aviation. In addition to regulating airports, aircraft manufacturing and parts certification, aircraft operation and pilot certification ("licensing"), the FAA operates air traffic control, purchases and maintains navigation equipment, certifies airports, and aids airport development, among other activities.

Federal Aviation Regulations (FAR): Regulations established by the Federal Aviation Administration located in Title 14 of U.S. Code of Federal Regulations. These regulations are the rules that govern the operation of aircraft, airways, airports, and airmen.

federal grant assurance: A provision of a federal grant agreement to which the recipient of federal airport development assistance has agreed to comply.

federally obligated airport: An airport that has accepted federal grant funds and the associated requirements known as grant assurances.

fee simple ownership: This is considered to be the full property ownership in land wherein the owner has the exclusive right to use it, exclusively possess it, commit waste upon it, dispose of it by deed or will, and take its fruits.

finding of no significant impact (FONSI): An administrative determination by the Federal Aviation Administration that a proposed action by the airport sponsor will have no significant impact on the environment.

fixed-base operator (FBO): A commercial business granted the right by the airport sponsor to operate at an airport and provide aeronautical services, such as fueling, hangaring, tie-down and parking, aircraft rental, aircraft maintenance, flight instrument, etc.

flight plan: Filed by radio, telephone, computer, or in person with flight service stations, a record of aircraft number, type, and equipment; estimated time of departure and time en route; route and altitude to be flown; amount of fuel and number of persons aboard; home base and contact phone number; and other information.

- *visual flight rules flight plan:* A voluntary filing for cross-country flights under visual flight rules. This is for search and rescue use only, with no role for air traffic control.
- *Instrument flight rules flight plan:* A mandatory filing (at least one-half hour) before a flight under instrument flight rules. Based on flight plan information, air traffic control can issue (immediately before departure) an instrument flight rules clearance to enter clouds or low-visibility conditions for instrument rather than visual flight.

foreign object damage and foreign object debris (FOD): Foreign object debris is a substance, debris or article alien to an aircraft or aircraft system that could potentially damage the aircraft. Foreign object damage is any damage attributed to a foreign object that can be expressed in physical or economic terms and may or may not degrade the

aircraft's required safety or performance characteristics.

frangible: An object that retains its structural integrity and stiffness up to a designated maximum load but on impact from a greater load, it breaks, distorts, or yields in such a manner as to cause minimum damage to an aircraft.

fuel farm: A consolidated location for bulk fuel storage and equipment, on or off an airport.

fuel flowage fee: A fixed fee added to each gallon of fuel pumped or a percentage added to the fuel purchased at the airport to support airport operations, which is generally collected from a private entity that provides the fueling services and is remitted to the airport owner.

G

general aviation (GA): All civil aviation (excluding military), except those classified as air carrier or air taxi. The types of aircraft typically used in general aviation activities vary from multiengine jet aircraft to single-engine piston aircraft for purposes such as personal, business, and instructional flying.

general aviation airport: An airport not classified as commercial service or military.

general aviation operations: Operations that are performed by all civil aircraft not classified as air carrier, military, or air taxi aircraft.

geographic information system (GIS): A system designed to capture, store, manipulate, analyze, manage, and present spatial or geographic data.

glide path qualification surface (GQS): An imaginary 30:1 trapezoidal surface applicable to approaches with vertical guidance, extending from the runway threshold along the runway centerline to 10,000 feet from the runway end. Also referred to as vertical qualification surface.

glideslope: An angle approach to a runway using the glideslope antenna of an instrument landing system.

global positioning system (GPS): A satellite-based navigation system operated by the Department of Defense, providing accurate latitude and longitude positions, times, and speeds to civilian and military users.

grant assurances: Obligations, undertaken by the airport sponsor, when they accept funds from the Federal Aviation Administration-administered airport financial assistance program.

H

hangar: A large building at an airport in which planes can be stored and maintained.

hazardous wildlife: Any species of wildlife, both feral animals and domesticated animals not under control, that are associated with aircraft strike problems, are capable of causing structural damage to airport facilities, or act as attractants to other wildlife that pose a strike hazard.

hazard to air navigation: An existing or proposed object that will have a substantial adverse effect on the safe and efficient use of navigable airspace by aircraft.

horizontal surface: A horizontal plane 150 feet above the established airport elevation, the perimeter of which is constructed by swinging arcs of a specified radii from the center of each end of the primary surface of each runway of each airport and connecting the adjacent arcs by lines tangent to those arcs. The radii of the arcs are 5,000 or 10,000 feet, depending on the runway category or approach type.

I

instrument approach procedure (IAP): A series of predetermined maneuvers for the orderly transfer of an aircraft under instrument flight conditions from the beginning of the approach to a landing or to a point from which a landing may be completed with visual references. (See instrument flight rules).

instrument flight rules (IFR): A set of regulations and procedures permitting qualified and current IFR pilots to penetrate clouds and low-visibility conditions. Aircraft must be equipped with radio and navigation instruments and operate under air traffic control flight plans and clearances. Flights are monitored, and traffic is separated by air traffic control. (See also visual flight rules).

instrument landing system (ILS): A precision instrument approach system using radio transmitters at the runway ends that provides precise descent and course guidance to the runway, permitting aircraft to land during periods of low ceilings or poor visibility.

- *Category I (CAT I)*: An instrument approach or approach and landing with a height above threshold (HATh) or minimum descent altitude not lower than 200 feet and with either a visibility not less than ½ statute mile or a runway visual range not less than 1,800 feet.

Itinerant operation: An arrival or departure performed by an aircraft from or to a point beyond the local airport area. Also defined as all aircraft arrivals and departures other than local operations.

J

Jet A: A type of aviation fuel used in aircraft powered by gas-turbine engines.

K

knot (nautical mile per hour): The most common measure of aircraft speed; 100 knots equals 115 statute miles per hour. (For mph, multiply knots by 1.15.)

L

landing distance available (LDA): The runway length declared available and suitable for landing an aircraft.

landing fee: A charge paid by an aircraft owner to an airport for landing at a particular airport.

land lease: A long-term land lease, generally for the purpose of erecting a building or buildings or for constructing improvements to the land to be used by the lessee. The land lease should reference the airport's rules, regulations, and minimum standards. The land lease price per square foot could vary by location, possibly by the length of the term, and may be connected to a business permit or a fixed-base operator lease.

land release: The release of airport property not needed for present or future aeronautical purposes but subject to federal obligations from the terms of the agreement with the United States government. It is defined as the formal, written authorization discharging and relinquishing the Federal Aviation Administration's right to enforce an airport's contractual obligations.

large aircraft: An aircraft with a maximum certificated takeoff weight of more than 12,500 pounds.

localizer (LOC): Part of an instrument landing system that provides lateral deviations from a preset course.

local operation or traffic: Aircraft operating in the traffic pattern or within sight of the tower, aircraft known to be departing or arriving from flight in local practice areas, or aircraft executing practice instrument approaches at the airport. Touch-and-go operations are local operations.

M

magnetic variation (MVAR, MAGVAR): The difference between true north and magnetic north, varying with position. The magnetic variation drifts with time.

main gear width (MGW): The distance from the outer edge to the outer edge of the widest set of main gear tires.

mean sea level (MSL): Altitude expressed as feet above sea level, rather than above local terrain (i.e., AGL). To ignore varying terrain elevations, all navigational altitudes and barometric altimeters are based on height above MSL. Only radar altimeters, which measure the distance between the aircraft and the ground at low altitudes, indicate actual height above the ground.

minimums: Weather condition requirements established for a particular operation or type of operation — e.g., instrument flight rules takeoff or landing, alternate airport for instrument flight rules flight plans, etc.

minimum standards: Sponsor-established minimum service levels and development space requirements for commercial aeronautical activities at the airport.

missed approach: A maneuver conducted by a pilot when an instrument approach cannot be

completed for a landing. The route of flight and altitude are shown on instrument approach procedure charts. A pilot executing a missed approach prior to the missed approach point (MAP) must continue along the final approach to the MAP. The pilot may immediately climb to the altitude specified in the missed approach procedure.

modification to standards (MOS): Any approved nonconformance to Federal Aviation Administration standards to airport design, construction, or equipment procurement. These modifications are issued by the FAA on a case-by-case basis while maintaining an acceptable level of safety.

movement area: The runways, taxiways, and other areas of an airport that are used for taxiing or hover taxiing, air taxiing, takeoff, and landing of aircraft, including helicopters and tilt-rotors.

N

National Airspace System (NAS): The airspace, navigation facilities, and airports of the United States, along with their associated information, services, rules, regulations, policies, procedures, personnel, and equipment.

National Environmental Policy Act (NEPA): A United States environmental law that established a U.S. national policy promoting the enhancement of the environment. NEPA requires each federal agency to disclose to the public a clear, accurate description of the potential environmental impacts that the proposed federal action and reasonable alternative to those actions would cause.

National Plan of Integrated Airport Systems (NPIAS): Public-use airports that are considered necessary to provide a safe, efficient, and integrated system of airports to meet the needs of United States civil aviation, national defense, and the U.S. Postal Service.

National Transportation Safety Board (NTSB): The independent federal agency charged with investigating and finding “probable cause” of transportation accidents.

nautical mile: The most common distance measurement in aviation, equivalent to 1.15 statute (standard U.S.) miles.

navigational aid (NAVAID): Any form of aid to navigation designed to assist the pilot with position and height information and wind conditions. Examples: instrument landing systems, VASIs, PAPIs, wind cones, and very high frequency omnidirectional ranges.

Next Generation Air Transportation System: A federal program to transform the National Airspace System from a ground-based system to a satellite-based system.

N-numbers: Federal government aircraft registration numbers. U.S.-registered aircraft numbers begin with N, Canadian numbers with C or CF, German numbers with D, United Kingdom numbers with G, French numbers with F, Japanese numbers with JA, etc.

noise contours: The lines on a map that connect the points of equal noise exposure values. They are usually drawn in 5 dB intervals, such as DNL 75 dB values, DNL 70 dB values, DNL 65 dB values, and so forth.

nondirectional beacon (NDB): An older radio navigation system in which an automatic direction finder points to the beacon, thus providing a relative bearing.

nonprecision approach procedure: A standard instrument approach procedure with minimums not lower than ¾ mile and/or a 250-foot ceiling, for which at least horizontal guidance is provided with a ground-based navigational aid or global positioning system (GPS). A nonprecision approach using GPS may also provide vertical guidance, depending on the approach and equipment of the aircraft.

nonprimary airport: A National Plan of Integrated Airport Systems airport with 10,000 or fewer annual passenger boardings (enplanements).

nontowered airport: An airport without a control tower. The majority of America’s 13,000 airports are nontowered (only 680 airports have control towers). Nontowered airports are far from being “uncontrolled.” Pilots follow traffic pattern procedures and self-announce positions and intentions using the common traffic advisory frequency, usually called the UNICOM frequency.

notice to airmen (NOTAM): A notice containing information concerning the establishment of, condition of, change to any component (facility, service, or procedure) of, or hazard in the National Airspace System, the timely knowledge of which is essential to personnel concerned with flight operations.

O

object free area (OFA): The area of the airport centered on the runway, taxiway, or taxilane centerline that is provided to enhance the safety of aircraft operations by having the area free of objects, except for those that are necessary for air navigation or aircraft ground maneuvering, which are required to be mounted on frangible couplings.

obstacle: An existing object, object of natural growth, or terrain at a fixed geographical location or that may be expected at a fixed location within a prescribed area, with reference to which vertical clearance is or must be provided during flight operation.

obstacle clearance surface (OCS): A surface that defines the minimum required obstruction clearance for approach or departure procedures.

obstacle free zone (OFZ): A volume of space above and adjacent to a runway and its approach lighting system, if one exists, free of all fixed objects, except Federal Aviation Administration-approved frangible aeronautical equipment, and clear of vehicles and aircraft in the proximity of an airplane conducting an approach, missed approach, landing, takeoff, or departure.

obstruction: An object that exceeds a limiting height or penetrates an imaginary surface described by current Federal Aviation Regulations (Part 77).

Obstruction Evaluation/Airport Airspace Analysis (OE/AAA): A public website provided by the Federal Aviation Administration to enable individuals and organizations engaged in sponsoring the construction or alteration of potential obstructions on and off airport property to easily notify the FAA of their intents and activities. This allows the FAA to evaluate the impacts of these activities on the airspace system.

operation: A takeoff or a landing.

P

parallel taxiway: A taxiway parallel to a runway.

pavement condition index (PCI): A numerical rating of the pavement condition based on a visual observation of distresses.

pavement management program (PMP): Also referred to as pavement maintenance management program or pavement management system. Procedures for collecting, analyzing, maintaining, and reporting pavement data to assist an airport in finding optimum strategies for maintaining pavements in a safe, serviceable condition over a given period for the least cost.

performance-based navigation (PBN): The broad range of technologies that rely on the performance and capabilities of equipment on board the aircraft.

precision approach path indicator (PAPI): A visual aid that provides guidance information to help a pilot acquire and maintain the correct approach, relative to aircraft altitude, to a runway.

precision instrument procedure: A standard instrument procedure for an aircraft to approach an airport in which a vertical and horizontal guidance is provided to the pilot using an instrument landing system, military precision approach radar, or global positioning system, with visibility of ¾ mile or less and/or a ceiling less than 250 feet.

primary surface: A surface longitudinally centered on a runway. When the runway has a specially prepared hard surface, the primary surface extends 200 feet beyond each end of that runway; but when the runway has no specially prepared hard surface, the primary surface ends at each end of that runway. The elevation of any point on the primary surface is the same as the elevation of the nearest point on the runway centerline. The surface width varies from 250 feet to 1,000 feet, based on the runway category and approach type.

R

record of decision (ROD): A written decision of the Federal Aviation Administration's approval or disapproval of an action proposed in an environmental impact statement. The ROD explains what the airport sponsor proposes to do and why,

identifies actions the FAA and other federal agencies must take, explains the alternatives analyzed and which one is environmentally preferred, and identifies the required mitigation measures.

required navigation performance (RNP): A type of performance-based navigation that allows an aircraft to fly a specific path between two 3D defined points in space.

rotating beacon: A rotating light providing visual guidance for the airport between sunset and sunrise and when the reported ceiling or visibility is below basic visual flight rule minimums.

runway (RWY): A defined rectangular area on a land-based airport that is prepared for the landing and takeoff run of aircraft along its length. Runways are normally numbered in relation to their magnetic direction, rounded off to the nearest 10 degrees, e.g., Runway 1, Runway 25.

runway design code (RDC): A code signifying the design standards for building a runway.

runway edge lights: Lights that are used to define the lateral limits of a runway.

runway end identifier lights (REILs): Two synchronized flashing lights, one on each side of the runway threshold, that provide a pilot with a rapid and positive visual identification of the approach end of a particular runway.

runway heading: The magnetic direction indicated by the runway number. When cleared to "fly/maintain runway heading," pilots are expected to comply with the air traffic control clearance by flying the heading indicated by the runway number without applying any drift correction, e.g., Runway 4, 040 magnetic heading; Runway 20, 200 magnetic heading.

runway holding position (hold line): The purpose of holding-position markings is to prevent aircraft and vehicles from entering critical areas associated with a runway or navigational aids or to control traffic at the intersection of taxiways.

runway incursion: A top Federal Aviation Administration safety concern, runway incursions are defined by the FAA as "any occurrence at an aerodrome involving the incorrect presence of an aircraft, vehicle or person on the protected area of a surface designated for the landing and takeoff of aircraft." Runway incursions can be caused by pilot deviations, air traffic controller operational incidents and ground vehicle deviations.

runway protection zone (RPZ): A trapezoidal area at ground level off the runway end to enhance the protection of people and property on the ground, which is achieved through airport owner control. Such control includes clearing RPZ areas (and keeping them clear) of incompatible objects and activities. Control is preferably exercised through the acquisition of sufficient property interest in the RPZ.

runway safety area (RSA): A cleared, drained, graded, and preferably turfed area symmetrically located about the runway which, under normal conditions, is capable of supporting snow removal, firefighting, and rescue equipment and accommodating the occasional passage of aircraft without causing major damage to the aircraft.

runway threshold: The beginning of that portion of a runway usable for landing or takeoff.

runway visual range (RVR): Visibility along a runway. At major airports, it is measured automatically by transmissometer.

S

safety management system (SMS): A top-down, organization-wide approach to managing safety risk and assuring the effectiveness of safety-risk controls. It includes systematic procedures, practices, and policies for managing safety risk.

self-fueling: The fueling or servicing of an aircraft by the owner of the aircraft.

self-inspection program: A program to find potential hazards and address them to keep the airport in good operating condition. The program includes four types of inspections generally used by airports as part of a self-inspection program: routine or scheduled, continuous surveillance, periodic condition, and special inspections.

shoulder: An area adjacent to the defined edge of paved runways, taxiways, or aprons, providing a

transition between the pavement and the adjacent surface.

small aircraft: An aircraft with a maximum certificated takeoff weight of 12,500 pounds or less.

small unmanned aircraft system (sUAS): An unmanned aircraft and its associated elements, including communication links and the components that control the small unmanned aircraft, that are required for the safe and efficient operation of the small unmanned aircraft in the National Airspace System.

state apportionment: State apportionment is available for all airports within a state except primary airports, with the available funds apportioned for airports within that state based on the state's proportional population to the total population of the eligible states and the state's proportional area to the total area of the eligible states. Only in block grant states are the state apportionment funds apportioned to the state. In non-block grant states, the Federal Aviation Administration's Airports organization programs and disburses the funds, but the state may provide input into programming, along with using the FAA priority system.

State Block Grant Program: A Federal Aviation Administration program in which 10 states participate that provides Airport Improvement Program funds to the state to allow the states to program, prioritize, select, and fund AIP projects at small airports.

state system plan: A planning tool to identify the development needed to establish a viable system of airports within the state.

stopway: An area beyond the takeoff runway, no less wide than the runway and centered on the extended centerline of the runway, able to support the aircraft during an aborted takeoff, without causing structural damage to the aircraft, and designated by the airport authorities for use in decelerating the aircraft during an aborted takeoff.

stormwater pollution prevention plan (SWPPP): A stormwater management plan addressing stormwater discharge from the airport that incorporates best management practices.

straight-in instrument approach: An instrument approach wherein the final approach is begun without first having executed a procedure turn, and not necessarily completed with a straight-in landing or made to use a straight-in landing weather minimum.

T

takeoff distance available (TODA): The takeoff run available (TORA) plus the length of any remaining runway or clearway beyond the far end of the TORA; the full length of the TODA may need to be reduced because of obstacles in the departure area.

takeoff run available (TORA): The runway length declared available and suitable for the ground run of an aircraft taking off.

taxi: The movement of an airplane under its own power on the surface of an airport; also, the surface movement of helicopters equipped with wheels.

taxilane: The portion of the aircraft parking area used for access between taxiways, aircraft parking positions, hangars, storage facilities, etc.

taxiway (TWY): A defined path, from one part of an airport to another, selected or prepared for the taxiing of aircraft.

taxiway design group (TDG): A classification of airplanes based on the width of the outer to outer main gear and the distance of the cockpit to the main gear.

taxiway/taxilane safety area (TSA): A defined surface alongside the taxiway prepared or suitable for reducing the risk of damage to an aircraft deviating from the taxiway.

tenant: Any person, other than an aircraft operator or foreign air carrier, who has an agreement with the airport operator to conduct business on airport property.

T-hangar: A hangar building, typically containing multiple units. This type of hangar derives its name from the shape of the interior of the units (in the form of a T), which increases the efficiency of the design to accommodate the wingspan and the tail section of an aircraft.

threshold: The beginning of that portion of the runway usable for landing.

through-the-fence: Access to the airfield granted by the sponsor or a public airport to a person or business that owns property adjacent to the airport for the person's or business' aircraft or an authorized aircraft to taxi onto and use the airport.

touch-and-go operation: A practice maneuver consisting of a landing and a takeoff performed in one continuous movement: the aircraft lands and begins a takeoff roll without stopping. A touch-and-go is considered two operations.

traffic pattern: A standard rectangular flight pattern around the landing runway at an airport. It includes 45-degree or crosswind entry to the rectangle, with downwind, base, and final legs as sides of the rectangle. Also standard are 90-degree left turns around the rectangle (a nonstandard right-hand traffic pattern is noted in airport facility directories) with downwind flown at a specified altitude, usually 1,000 or 1,500 feet above the airport elevation. At airports with a control tower, the pattern may be modified or cut short, according to air traffic control instructions.

transient aircraft: Aircraft not based at the airport.

transitional surface: Surfaces that extend outward and upward at right angles to the runway centerline, and the runway centerline is extended at a slope of 7 to 1 from the sides of the primary surface and from the sides of the approach surfaces. Transitional surfaces for those portions of the precision approach surface, which project through and beyond the limits of the conical surface, extend 5,000 feet, measured horizontally from the edge of the approach surface and at right angles to the runway centerline.

turbojet aircraft: An aircraft having a jet engine in which the energy of the jet operates a turbine that, in turn, operates the air compressor.

turboprop aircraft: An aircraft having a jet engine in which the energy of the jet operates a turbine that drives the propeller.

U

ultralight vehicle: An aeronautical vehicle operated for sport or recreational purposes that does not require Federal Aviation Administration registration, an airworthiness certificate, or pilot certification. Primarily a single-occupant vehicle, although some two-place vehicles are authorized for training purposes. Its operation in certain airspace requires authorization from air traffic control.

UNICOM: A common, multipurpose radio frequency used at most nontowered airports as the common traffic advisory frequency. The Aircraft Owners and Pilots Association coined the term from "universal communications" in the 1950s. UNICOM is also used by a fixed-base operator for general administrative uses, including fuel orders, parking instructions, etc. Originally 122.8 MHz universally, it now includes 122.7, 123.0, and other frequencies.

unmanned aerial vehicle (UAV): Also known as a drone or unmanned aircraft system; an aircraft without a human pilot aboard. The flight of UAVs may operate either under remote control by a human operator or fully or intermittently autonomously by onboard computers.

terminal instrument procedures (TERPS): Procedures for the instrument approach and departure of aircraft to and from civil and military airports.

utility airport: An airport designed, constructed, and maintained to serve airplanes having approach speeds fewer than 121 knots.

V

very light jets (VLJs): Jet aircraft with a maximum takeoff weight of 10,000 pounds, certified for single-pilot operations, equipped with advanced avionic systems, and priced below other business jets.

very high frequency (VHF) omnidirectional range (VOR): A type of radio beacon on which a tried-and-tested radio navigation system is largely based. It broadcasts 360 radial signals like spokes in a wheel; the equipment on the aircraft determines which radial the aircraft is on to provide direction to and from an airport or given location.

visibility: The ability, as determined by atmospheric conditions and expressed in units of distance, to see and identify prominent unlighted objects by day and prominent lighted objects by night. Visibility is reported as statute miles, hundreds of feet, or meters.

visual approach: An approach to an airport wherein an aircraft on an instrument flight rules flight plan, operating in visual flight rules conditions under the control of a radar facility and having an air traffic control authorization, may deviate from the prescribed instrument approach procedure and proceed to the airport of destination, served by an operational control tower, by visual reference to the surface.

visual approach slope indicator (VASI): A system of lights arranged to provide visual descent guidance information during the approach to a runway (see also precision approach path indicator).

visual area surface: The 20:1 visual area surface is defined in Section 3.3.2.c of *Federal Aviation Administration Order 8260.3B: United States Standard for Terminal Instrument Procedures*. The surface has a vertical slope of 20:1, extending from the runway's threshold elevation to the decision altitude of the specific approach. It begins 200 feet prior to the runway threshold and is intended to protect aircraft during the last stages of an approach, which follows the transition from instruments to visual guidance.

visual flight rules (VFR): A defined set of Federal Aviation Administration regulations covering the operation of aircraft, primarily by visual reference to the horizon (for aircraft control) and see-and-avoid procedures (for traffic separation). VFR weather minimums for controlled airspace require at least a 1,000-foot ceiling and 3 miles of visibility, except for "special VFR" clearances to operate "clear of clouds."

- *marginal VFR*: Weather of less than the 3,000-foot ceiling and 5 miles of visibility, but above the required "1,000 and three" (see instrument flight rules).

visual runway: A runway intended solely for the operation of aircraft using visual approach procedures, with no straight-in instrument approach procedure and no instrument designation indicated on a Federal Aviation Administration-approved airport layout plan.

W

wide-area augmentation system (WAAS): An enhancement to the global positioning system (GPS) that provides greater navigation accuracy and system integrity and permitting GPS to be used for precision instrument approaches to most airports.

wildlife attractants: Any human-made structure, land use practice or human-made or natural geographic feature that can attract or sustain hazardous wildlife within the landing or departure airspace, apron areas, or aircraft parking areas of an airport.

wildlife hazard assessment (WHA): An evaluation of wildlife-related attractants and potential hazards to aircraft operations, often mandated by the Federal Aviation Administration following a hazardous event or new potential threat.

wildlife hazard management plan (WHMP): A document that identifies measures to alleviate or eliminate wildlife hazards, as identified in a wildlife hazard assessment.

APPENDIX B: PAVEMENT CONDITION INDEX REPORT

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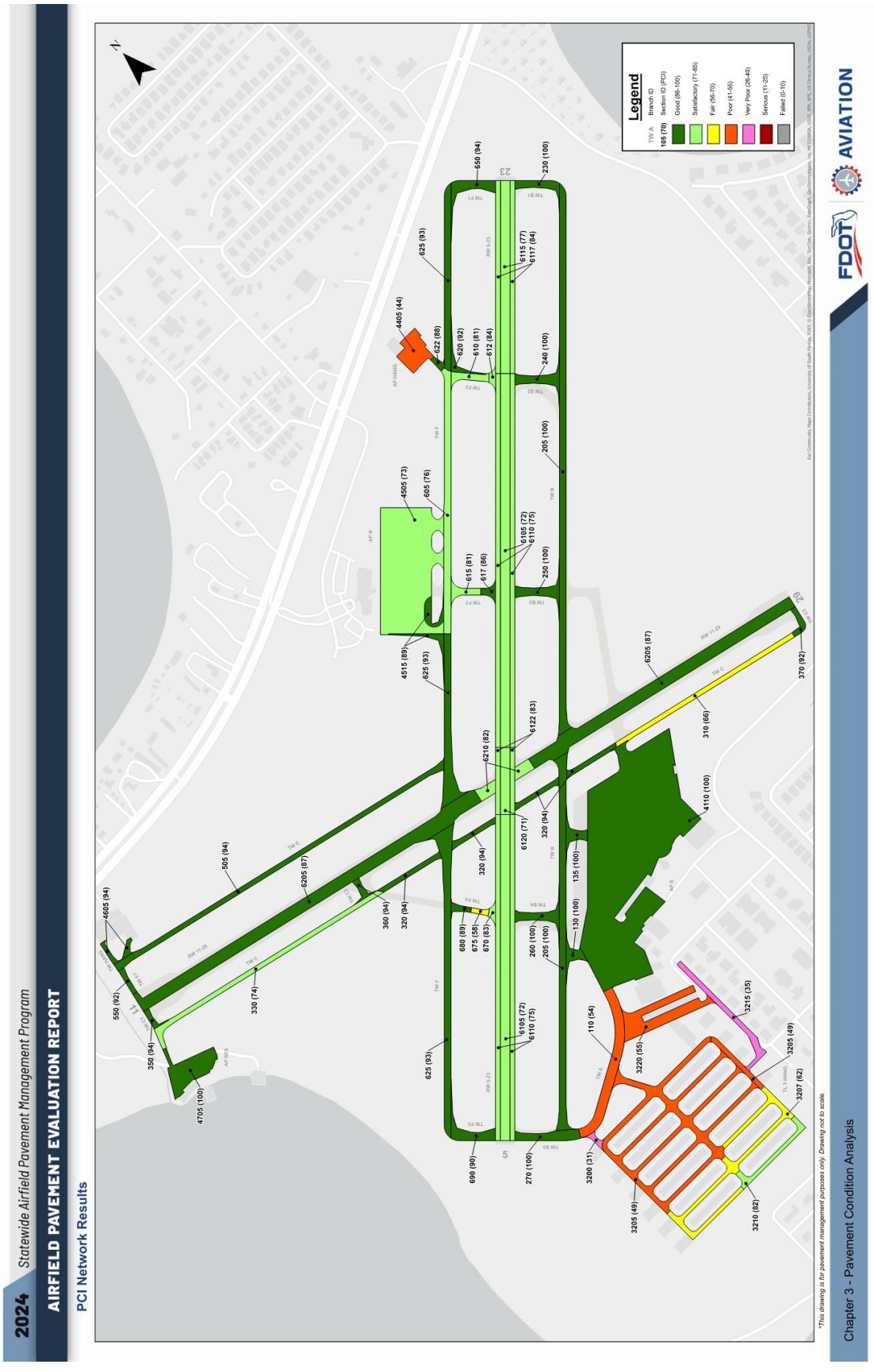
2024
Statewide Airfield Pavement Management Program
AIRFIELD PAVEMENT EVALUATION REPORT
PCI Network Results
Legend
TW A
Branch ID
105 (70)
Section ID (PCI)
Good (86-100)
Satisfactory (71-85)
Fair (56-70)
Poor (41-55)
Very Poor (26-40)
Serious (11-25)
Failed (0-10)
*This drawing is for pavement management purposes only. Drawing not to scale.
AVIATION
FDOT
Chapter 3 - Pavement Condition Analysis

Inventory and Pavement Condition Evaluation Results by Section

Inventory Data							Current (2024) PCI Data					Forecasted PCI Data				
Network ID	Branch ID	Branch Use	Section ID	Area (SF)	Surface Type	Estimate of Last Construction Date	PCI	Condition Rating	PCI % Climate	PCI % Load	PCI % Other	2025	2026	2027	2028	2029
GIF	RW 11-29	RUNWAY	6205	234,253	AAC	7/1/2019	87	Good	100	0	0	84	82	81	79	77
GIF	RW 11-29	RUNWAY	6210	12,617	AAC	1/1/2010	82	Satisfactory	100	0	0	79	77	76	74	72
GIF	RW 5-23	RUNWAY	6105	182,500	AAC	1/1/2010	72	Satisfactory	97	0	3	69	67	66	64	62
GIF	RW 5-23	RUNWAY	6110	182,500	AAC	1/1/2010	75	Satisfactory	97	0	3	72	70	69	67	65
GIF	RW 5-23	RUNWAY	6115	50,300	AAC	1/1/2010	77	Satisfactory	100	0	0	74	72	71	69	67
GIF	RW 5-23	RUNWAY	6117	50,300	AC	1/1/2010	84	Satisfactory	100	0	0	82	80	78	77	75
GIF	RW 5-23	RUNWAY	6120	17,500	AAC	1/1/2010	71	Satisfactory	90	0	10	68	66	65	63	61
GIF	RW 5-23	RUNWAY	6122	17,500	AC	1/1/2010	83	Satisfactory	91	0	9	81	79	77	76	74
GIF	TW A	TAXIWAY	110	41,320	AAC	1/1/1997	54	Poor	100	0	0	52	51	50	49	48
GIF	TW AP S	TAXIWAY	130	7,378	AC	1/1/2023	100	Good	0	0	0	95	93	91	89	87
GIF	TW AP S	TAXIWAY	135	7,961	AC	1/1/2023	100	Good	0	0	0	95	93	91	89	87
GIF	TW B	TAXIWAY	205	172,654	AC	1/1/2023	100	Good	0	0	0	95	93	91	89	87
GIF	TW B1	TAXIWAY	230	10,030	AC	1/1/2023	100	Good	0	0	0	95	93	91	89	87
GIF	TW B2	TAXIWAY	240	12,601	AC	1/1/2023	100	Good	0	0	0	95	93	91	89	87
GIF	TW B3	TAXIWAY	250	12,751	AC	1/1/2023	100	Good	0	0	0	95	93	91	89	87
GIF	TW B4	TAXIWAY	260	12,581	AC	1/1/2023	100	Good	0	0	0	95	93	91	89	87
GIF	TW B5	TAXIWAY	270	15,483	AC	1/1/2023	100	Good	0	0	0	95	93	91	89	87
GIF	TW C	TAXIWAY	310	27,130	AC	1/9/1998	66	Fair	100	0	0	64	63	62	61	60
GIF	TW C	TAXIWAY	320	31,370	AC	1/1/2022	94	Good	100	0	0	91	90	88	86	84
GIF	TW C	TAXIWAY	330	37,488	AC	1/9/1998	74	Satisfactory	100	0	0	72	71	69	68	67
GIF	TW C1	TAXIWAY	350	3,378	AC	7/1/2019	94	Good	100	0	0	91	90	88	86	84
GIF	TW C2	TAXIWAY	360	4,221	AC	7/1/2019	94	Good	100	0	0	91	90	88	86	84
GIF	TW C3	TAXIWAY	370	5,073	AC	7/1/2019	92	Good	100	0	0	89	88	86	84	83
GIF	TW E	TAXIWAY	505	52,826	AC	7/1/2018	94	Good	100	0	0	91	90	88	86	84
GIF	TW E1	TAXIWAY	550	3,839	AC	7/1/2018	92	Good	100	0	0	89	88	86	84	83
GIF	TW F	TAXIWAY	605	50,551	AC	1/1/2009	76	Satisfactory	79	0	21	74	72	71	70	69
GIF	TW F	TAXIWAY	625	136,789	AC	7/1/2018	93	Good	100	0	0	90	89	87	85	84
GIF	TW F1	TAXIWAY	650	14,410	AC	7/1/2018	94	Good	100	0	0	91	90	88	86	84
GIF	TW F2	TAXIWAY	610	8,022	AC	1/1/2009	81	Satisfactory	100	0	0	79	77	76	74	73
GIF	TW F2	TAXIWAY	612	2,679	AAC	1/1/2010	84	Satisfactory	100	0	0	81	80	78	76	75
GIF	TW F2	TAXIWAY	620	5,256	AC	7/1/2018	92	Good	100	0	0	89	88	86	84	83
GIF	TW F2	TAXIWAY	622	2,645	AC	7/1/2018	88	Good	100	0	0	86	84	82	81	79
GIF	TW F3	TAXIWAY	615	7,221	AC	1/1/2009	81	Satisfactory	90	0	10	79	77	76	74	73
GIF	TW F3	TAXIWAY	617	4,152	AAC	1/1/2010	86	Good	100	0	0	83	81	80	78	76
GIF	TW F4	TAXIWAY	670	2,704	AAC	1/1/2010	83	Satisfactory	100	0	0	80	79	77	76	74
GIF	TW F4	TAXIWAY	675	2,464	AAC	1/1/1960	58	Fair	100	0	0	56	55	54	53	52

Inventory Data							Current (2024) PCI Data					Forecasted PCI Data				
Network ID	Branch ID	Branch Use	Section ID	Area (SF)	Surface Type	Estimate of Last Construction Date	PCI	Condition Rating	PCI % Climate	PCI % Load	PCI % Other	2025	2026	2027	2028	2029
GIF	TW F4	TAXIWAY	680	3,609	AC	7/1/2018	89	Good	100	0	0	86	85	83	82	80
GIF	TW F5	TAXIWAY	690	14,412	AC	7/1/2018	90	Good	100	0	0	87	86	84	82	81
GIF	TW HANG	TAXIWAY	4605	5,703	AC	7/1/2018	94	Good	100	0	0	91	90	88	86	84
GIF	TL T-HANG	TAXILANE	3200	2,783	AC	1/1/1997	31	Very Poor	79	0	21	29	28	27	26	25
GIF	TL T-HANG	TAXILANE	3205	123,538	AC	1/1/1984	49	Poor	83	0	17	48	47	47	46	46
GIF	TL T-HANG	TAXILANE	3207	44,587	AC	1/1/1984	62	Fair	87	0	13	60	59	58	58	57
GIF	TL T-HANG	TAXILANE	3210	13,307	AC	1/1/2009	82	Satisfactory	84	0	16	80	78	77	75	74
GIF	TL T-HANG	TAXILANE	3215	19,911	AC	1/1/1984	35	Very Poor	100	0	0	34	33	32	31	30
GIF	TL T-HANG	TAXILANE	3220	43,314	AC	1/1/1984	55	Poor	100	0	0	54	53	52	52	51
GIF	AP HANG	APRON	4405	22,755	AC	1/1/1995	44	Poor	98	0	2	43	42	42	41	41
GIF	AP N	APRON	4505	182,587	AC	1/1/2011	73	Satisfactory	79	0	21	71	69	68	66	65
GIF	AP N	APRON	4515	13,600	AC	7/1/2018	89	Good	100	0	0	86	84	82	80	78
GIF	AP S	APRON	4110	462,943	AC	7/1/2024	100	Good	0	0	0	97	95	92	90	88
GIF	AP SEA	APRON	4705	33,553	AAC	1/1/2023	100	Good	0	0	0	93	90	88	86	83

<70: Rehabilitation Eligible **<55:** Reconstruction Eligible

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APPENDIX C: NTSB ACCIDENT REPORTS

Aviation Accident Database and Synopses					
Event Date	**Make/Model**	**Registration Number**	**NTSB Number**	**Event Severity**	**Probable Cause of Accident**
7/22/2023	PIPER/PA-28-180	N7528W	ERA23LA311	None	The pilot's failure to maintain directional control during the landing, which resulted in a runway excursion and collision with a taxiway sign.
3/7/2023	PIPER/J3C, PIPER/PA28	N10510, N9221D	ERA23FA142	Fatal	The failure of both flight crews to see and avoid each other while operating in the airport environment.
10/24/2022	CHAMPION/7FC	N6ND	ERA23LA167	None	The pilot's failure to properly secure the rear seat headset, resulting in an obstruction of the airplane's rudder controls.
5/30/2022	FOSTER WILLIAM D/ELITE	N136WF	ERA22LA248	None	The pilot's improper flare and inadequate application of power during landing, resulting in a hard landing and substantial damage to the airplane.
5/4/2019	Piper/PA28R	N2134T	WPR19LA136	None	A partial loss of engine power due to worn fuel valve O-rings, which allowed air into the fuel system and resulted in a forced landing to unsuitable terrain.
2/23/2019	STOL Aircraft Corp/UC-1	N65NE	ERA19FA106	Fatal	A total loss of left engine power for reasons that could not be determined, and the instructor's failure to maintain airspeed while maneuvering for a forced landing, which resulted in a loss of control. Contributing to the accident was the instructor's decision to conduct a simulated engine failure at low altitude.
9/24/2018	Cessna/172	N6950A	ERA18LA257	None	The student pilot's improper pitch attitude control during the initial climb, which resulted in a loss of airspeed, and his subsequent decision to conduct a 180° turn following the perceived anomaly, which resulted in a runway overrun.
10/22/2016	AERONCA/11AC	N9410E	GAA17CA043	None	The pilot's failure to maintain directional control during the landing roll in gusty crosswind conditions, which resulted in a runway excursion.

7/22/2016	REPUBLIC/RC 3	N87570	ERA16LA266	Fatal	Improper installation of a fuel line by unknown personnel, which resulted in a total loss of engine power during initial climb due to fuel starvation.
11/13/2015	SWEENEY TIMOTHY J/RANS S6-ES	N688KA	GAA16CA053	Minor	The pilot's improper landing flare, which resulted in a nose gear collapse and nose over.
10/14/2012	AIRBORNE WINDSPORTS PTY LTD/XT-912	N811RW	ERA13LA020	Fatal	The pilot's failure to maintain aircraft control during takeoff in crosswind conditions, which resulted in collision with terrain.
8/23/2012	STINSON/108-2	N340C	ERA12CA529	None	The pilot's failure to maintain directional control during the takeoff, which resulted in a runway excursion.
8/1/2012	AERONCA/7AC	N1060E	ERA12CA490	None	The student pilot's failure to maintain directional control during the landing roll.
2/7/2012	AEROPRO CZ/EUROFOX LSA	N701CF	ERA12CA173	None	The flight instructor's delayed remedial action to prevent the airplane from hitting the hangar door. Contributing to the accident was the student pilot's misuse of the airplane's throttle, and his incorrect use of the wheel brakes.
6/26/2011	CESSNA/150L	N18735	ERA11CA363	Minor	The certified flight instructor's failure to maintain control during the attempted go-around, which resulted in an aerodynamic stall.
11/21/2010	CESSNA/172G	N3700L	ERA11CA069	None	The pilot's inadequate preflight/inflight fuel planning resulting in fuel exhaustion and total loss of engine power.
4/4/2010	CESSNA/150G	N4655X	ERA10CA218	None	The student pilot's inadequate recovery from a bounced landing in gusting winds.
3/22/2010	CESSNA/150L	N6589G	ERA10LA184	None	A loss of engine power during the landing approach for undetermined reasons.

2/25/2010	BEECH/C23	N180ED	ERA10FA150	Fatal	The pilot's improper placement of the fuel selector valve during takeoff, and his failure to maintain adequate airspeed following a total loss of engine power resulting in an inadvertent stall. Contributing to the accident was the failure of maintenance personnel to detect the lack of proper markings on the fuel selector stop and fuel selector valve shroud at the last 100-Hour inspection.
5/7/2009	ROBINSON HELICOPTER/R22 BETA	N456SH	ERA09LA284	None	A loss of engine power for undetermined reasons.
11/23/2008	BEECH/V35, PIPER/PA-28-161	N4396W, N121DL	ERA09LA067	None	Both pilots' failure to see and avoid the other airplane. Contributing to the accident was the Beech pilot's failure to monitor or utilize the common traffic advisory frequency.
10/18/2008	LANGE FLUGZEUGBAU GMBH/E1 ANTARES	N4929R	ERA09CA024	Minor	The failure of the pilot of the other airplane to announce his intentions prior to takeoff, resulting in a runway incursion. Contributing to the accident was the limited forward visibility due to the runway slope.
8/3/2008	BEECH/C23	N9194S	MIA08CA153	None	The student pilot's improper recovery from a bounced landing.
7/1/2005	JSH Air LLC II/Comp Air 7SLX	N657TT	MIA05LA126	Fatal	The abrupt steep pitch-up during the initial climb for undetermined reasons resulting in an inadvertent stall, uncontrolled descent, and in-flight collision with terrain.
2/12/2002	Piper/PA-18	N8553C	ATL02LA047	None	The pilot's improper flare during an attempted landing on water. A factor was glassy water.

6/29/2000	Piper/PA-23-160	N3317P	MIA00LA193	Minor	the flight instructor's failure to follow procedures / directives and his misjudgment of distance / altitude following a loss of engine power for undetermined reasons, which resulted in the proper touchdown point not being attained, an off airport landing being affected, and substantial damage to the aircraft during the emergency landing.
8/29/1999	Lake/LA-4-200	N8002H	MIA99LA241	None	the pilot-in command/flight instructor allowed the student pilot to get the nose of the airplane too low in the water causing a loss of directional control and a subsequent impact of the right wing in the water.
4/29/1999	Cessna/172N, Cessna/152	N739FX, N48870	ATL99FA078	Serious	The CFI's failure to maintain visual lookout. A factor was his disregard for VFR Traffic pattern procedures.
1/21/1999	Schleicher/ASW27	N387T	MIA99LA066	Serious	an in-flight collision with wires.
10/31/1998	Cessna/150F	N6679F	MIA99LA021	None	The student pilot's improper landing flare resulting in a hard landing and ground loop.
6/2/1998	Mejia/BACON II	N24EM	MIA98LA173	None	The pilot's improper use of brakes on landing rollout.
2/9/1997	Cessna/150F	N6679FA	ATL97LA040	None	the student pilot's inadvertent movement of the mixture control to idle cut-off during the approach to land, which resulted in engine shut-down, and the student's failure to follow emergency procedures for restarting the engine.
2/9/1996	PIPER/J-3C-65	N6666H	MIA96LA077	None	Failure of the pilot to maintain control of the aircraft after initiating a go-around, which resulted in the right wing contacting the ground. The unfavorable wind condition was a related factor.
3/1/1992	D.W. OWENS/STITTS SA3B	UNREG	MIA92LA180	Serious	FUEL CONTAMINATION AND UNSUITABLE TERRAIN ENCOUNTERED WHILE THE PILOT WAS ATTEMPTING AN EMERGENCY LANDING ON THE AIRPORT PROPERTY.

4/27/1991	Brantly Helicopter/ B-2B	N2193U	MIA91LA129	None	FAILURE OF THE PILOT TO MAINTAIN DIRECTIONAL CONTROL AND IMPROPER USE OF THE COLLECTIVE AND CYCLIC FLIGHT CONTROLS AFTER THE LOSS OF TAIL ROTOR EFFECTIVENESS DURING THE APPROACH TO LAND. CONTRIBUTING TO THE ACCIDENT WAS HIS LACK OF TOTAL EXPERIENCE IN TYPE AIRCRAFT.
6/10/1987	BELL/206L-1	N3177L	MIA87FA176	None	THE PILOT STATED THAT ON SHORT FINAL APPROACH THE ENGINE BEGAN SURGING AND LOSING POWER. HE ATTEMPTED TO STRETCH THE GLIDE AND THE AIRCRAFT LANDED HARD, SHORT OF THE INTENDED POINT OF TOUCHDOWN. THE ENGINE WAS REMOVED, EXAMINED, PARTIALLY DISASSEMBLED AND TEST RUN. NO REASON FOR THE POWER LOSS COULD BE DETERMINED.
5/14/1986	CESSNA/182A	N6155B	MIA86LA158	None	THE PLT STATED THAT AS HE WAS TAXIING THE ACFT FROM LANDING, THE NOSE GEAR BECAME STUCK IN SOFT DIRT. THE PROPELLER THEN STRUCK THE GROUND AND THE ACFT NOSED OVER.

5/7/1985	SCHEMPP-HIRTH/VENTUS-B, CESSNA/305A	N40EE, N54550	MIA85LA167	None	A8 SCHEMPP-HIRTH VENTUS B, N40EE, WAS POSITIONED ON RWY 29 TO BE TOWED ON A COMPETITION GLIDER FLT. THE PLT REPORTED THAT BEFORE STARTING HIS TAKEOFF, THE TOW PLANE WAS POSITIONED TO THE LEFT OF THE GLIDER. THE WIND WAS FROM 030 DEG AT 8 KTS. AS THE TAKEOFF COMMENCED, THE GLIDER WAS PULLED TO THE LEFT. THE GLIDER'S LEFT WING STRUCK THE RWY, FOLLOWED BY THE RIGHT WING, THEN THE GLIDER SWERVED TO THE RIGHT. THE GLIDER PLT RELEASED THE TOW LINE, BUT THE GLIDER CONTINUED OFF THE RIGHT SIDE OF THE RWY. SUBSEQUENTLY, IT COLLIDED WITH A CESSNA 305A, N54550, THAT WAS RETURNING FROM ITS 4TH TOW MISSION & WAS TAXIING ABOUT 75 FT TO THE RIGHT OF THE RWY.
3/16/1985	PIPER/J3C-85	N6716H	MIA85FA122	Fatal	WHILE TAXIING BACK TO THE SEAPLANE RAMP AFTER LANDING THE ACFT STRUCK A SMALL FISHING BOAT CAUSING FATAL INJURIES TO THE BOATS SOLE OCCUPANT. THE ACFT WAS BEING TAXIED AT HIGH SPEED ON THE STEP AND S TURNS WHERE BEING MADE TO CLEAR THE AREA DUE TO THE PLT NOT HAVING ANY FORWARD VISIBILITY FROM THE REAR SEAT OF THE ACFT. THE BOAT WAS SPOTTED BY THE PLT JUST PRIOR TO IMPACT BUT EVASIVE ACTION COULD NOT AVOID THE COLLISION.

2/13/1983	Rockwell/690A	N81416	MIA83FA074	Fatal	HE ACFT CRASHED INTO A DITCH OFF THE DEPARTURE END OF THE RWY AND BURST INTO FLAMES DURING TAKEOFF. WITNESSES SAID THE ACFT DID NOT SOUND LIKE IT WAS DEVELOPING NORMAL RPM FOR TAKEOFF. ONE MECHANIC SAID THE ENGINES SOUNDED LIKE THEY WERE STILL IN GROUND IDLE POSITION. THE SURVIVING PASSENGER SAID THEY DIDN'T GET ENOUGH SPEED TO TAKEOFF BUT HE DID NOT SUSPECT ANY ENGINE PROBLEMS. ANOTHER GROUND WITNESS SAID IT SOUNDED LIKE THE PROPELLERS WERE IN VERY HIGH OR CRUISE PITCH. AFTER THE ACCIDENT BOTH PROPELLERS WERE AT OR NEAR THE FEATHER POSITION. TOXICOLOGY STUDIES ON THE PILOT SHOWED HIS BLOOD ALCOHOL LEVEL WAS 0.22%. HE ALSO HAD CIRRHOSIS OF THE LIVER.

*1987 and earlier: no probable cause listed. Included analysis in its place.