

1. Background and Inventory

1.1. Need for Master Plan

Evolving from a naval air station, Vero Beach Regional Airport (VRB or KVRB) is a vibrant, busy airport. It is approximately 1,700 acres and accommodates more than 10 aeronautical tenants and more than 50 nonaeronautical tenants. The majority of the more than 130,000 annual operations in 2022 at VRB were by general aviation (GA) aircraft, including significant pilot training activity. VRB is also home to more than 200 based aircraft, including 18 business jets and 40 multiengine aircraft. As a warm weather vacation destination, VRB frequently accommodates corporate jet aircraft from the Midwest and East Coast. VRB can also accommodate commercial passenger service. In 2022, VRB was named the Florida Department of Transportation's (FDOT) general aviation airport of the year.

The mission of VRB is to provide safe and efficient aviation facilities and associated services to commercial and noncommercial users while operating in harmony with the community's quality of life goals. This planning process and the resulting airport master plan is a tool to assist VRB in meeting its mission.

The most recent planning process for VRB was an airport layout plan (ALP) update completed in 2016. That study was conducted shortly after the initiation of commercial service with jet aircraft and focused on the development of commercial service facilities. This airport master plan will provide strategic planning direction and focus for VRB, covering a range of aeronautical and nonaeronautical uses, and assist in identifying long-term facility needs over a 20-year planning period. Along with the airport master plan narrative report, an ALP drawing set will be prepared to depict the preferred development. The ALP will use new airport geographic information system (GIS) mapping prepared to Federal Aviation Administration (FAA) standards. This airport master plan will be produced simultaneously with the stormwater master plan. Although developed as separate documents, information from the two studies will be integrated to provide an overall vision for VRB.

This report contains numerous aviation terms and acronyms that, in addition to being identified in the body of the document, are summarized in **Appendix A**. This glossary includes terms and acronyms common to general aviation airport management or airport operations.

Study Goals

The goal of this planning process is to provide a foundation for development at VRB to serve the community's aviation needs that, in turn, support economic development. Managing an airport is a complex process. It includes providing a safe facility while meeting a range of regulations, including aviation and environmental; managing multiple leases; providing value to the community in alignment with community goals; supporting economic growth; and competing for limited grant funds while managing within the airport budget. The airport master plan will consider each of these goals to develop a flexible plan for achievable airport development in compliance with FAA and FDOT design standards, policies, and grant assurances. This airport master plan will be a "from scratch" process, as defined by FDOT in its airport master planning guidance.

While the airport master plan will focus on VRB, the recommendations from the airport master plan should also be incorporated into community planning. Information prepared as part of the airport master plan will be used by the City of Vero Beach to update its comprehensive plan related to VRB. **Figure 1.1** shows the anticipated flow of the airport master plan study process.

1.2. Airport Setting and Description

Airport Location

As shown on **Figure 1.2**, VRB is in Indian River County, on the east coast of Florida, within the area referred to as the Treasure Coast. VRB is approximately 4 miles inland from the Atlantic Ocean and approximately 6 miles east of Interstate 95. It is located between 43rd Avenue and U.S. 1, and north of State Road 60.

VRB is a public-use airport owned by the City of Vero Beach and is approximately 2 miles driving distance northeast of the central business district of Vero Beach.

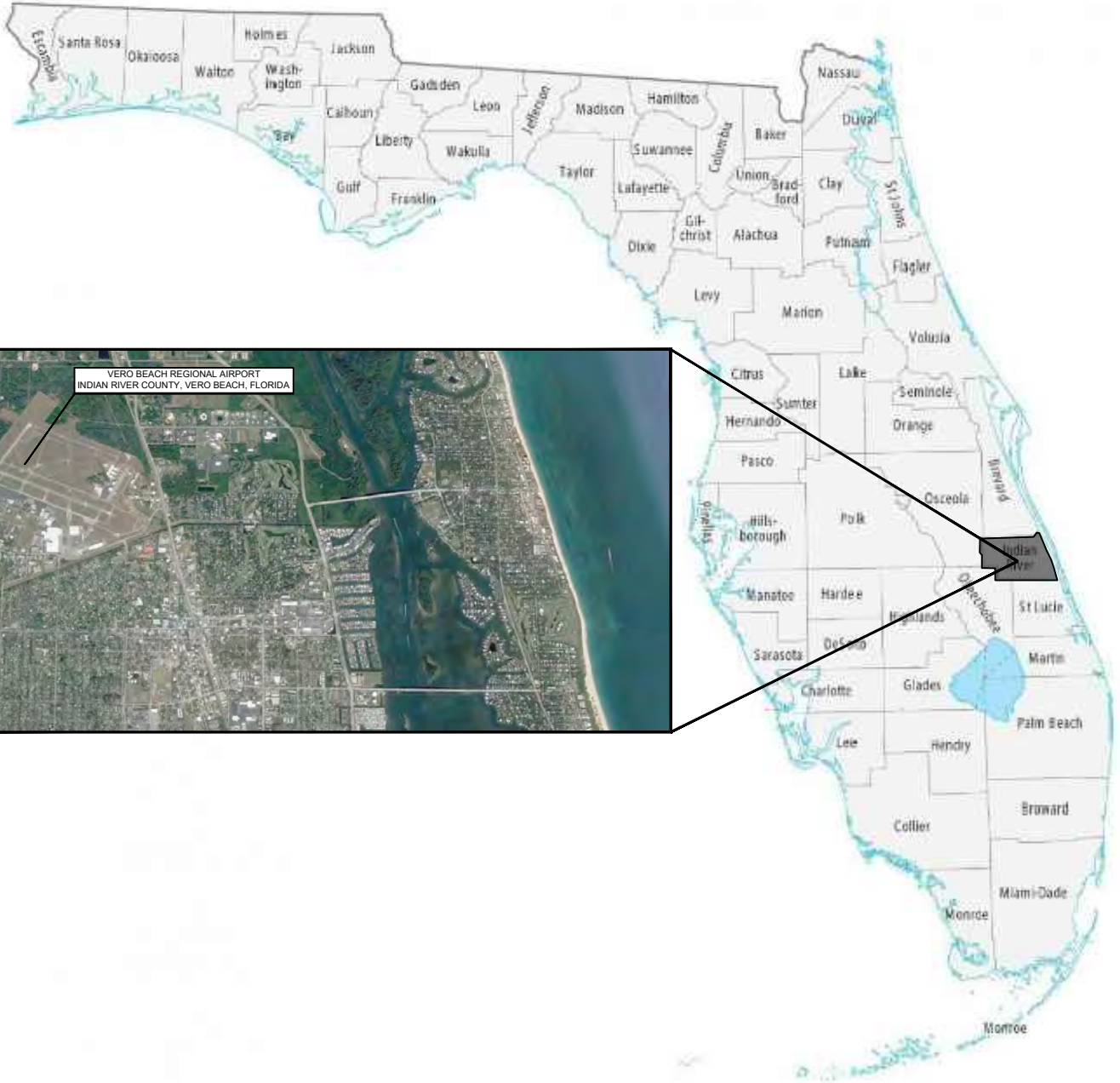
The airport property consists of approximately 1,707 acres of land west of U.S. 1 and north of the Main Relief Canal. VRB is a tower-controlled airport supporting the movement of local and itinerant aircraft, business travel, flight training, recreational aviation, and other activities.

In addition to general aviation facilities, VRB is a certified Title 14 Code of Federal Regulations Part 139 airport and has provided support for commercial service flights. Elite Airways provided commercial service at VRB from 2017 to 2022. Since then, Breeze Airways began commercial service flights from VRB to Bradley International Airport (BDL) and Westchester County Airport (HPN) in February 2023. The past and future commercial service activity is detailed in Chapter 2: Aviation Activity Forecasts.

FIGURE 1.1: VRB AIRPORT MASTER PLAN PROCESS



Project Website - Public Outreach



AUG 12, 2024 10:17 AM ALEX002176
 I:\202065\204065901\ADMIN\14-REPORTS\001_BACKGROUND AND INVENTORY\CAD\FIGURE 1.2_STATE OF FLORIDA_INDIAN RIVER COUNTY.DWG



Source: Google Earth, State of Florida, accessed November 2022.

 	VERO BEACH REGIONAL AIRPORT MASTER PLAN	INDIAN RIVER COUNTY AND VRB LOCATION	DRAWN BY: JA	FIGURE 1.2
			CHECKED BY: SZ	

Community Setting

Vero Beach is the county seat and a community of approximately 15,000 people. It is 190 miles south of Jacksonville and 135 miles north of Miami.¹ As described in the City of Vero Beach Annual Comprehensive Financial Report, Fiscal Year ended September 30, 2021, “The City of Vero Beach and Indian River County rely on three primary economic activities: tourism, retirement and agriculture (which has declined in recent years). In addition to these economic drivers, the area has seen an increase in the healthcare and retail industries. Vero Beach is a family oriented community. Sunny beaches, beautiful weather and low-density housing attract tourists and future residents. In addition to its natural beauty, the City of Vero Beach has a vibrant arts and cultural scene which appeals to both visitors and residents. Retirees are attracted by the climate and general lifestyle in Vero Beach. The median age in Indian River County was 47 in 1980, 47 in 2000 and 54.5 in 2019, as compared to the median age of 42.4 for the State of Florida as a whole in 2019.”² Vero Beach is a desirable community and has continued to grow, as detailed in the socioeconomic section of Chapter 2.

Environmental Setting

Per the KVRB Habitat Conservation Plan, “KVRB is surrounded by vacant undeveloped land, both residential and commercial developments, municipal services, as well as recreational facilities. Included in these uses are drainage facilities, roadway, uplands and wetlands.”³ The site elevation on the airport ranges from 15 feet to 24 feet mean sea level (MSL). Per the U.S. Department of Agriculture Soil Survey of Indian River County, the natural soils on VRB are varied, ranging from isolated wetland to upland flatwoods and sand ridge soils. There are also fill areas on VRB.⁴ The KVRB Habitat Conservation Plan addressed the implementation of the airport’s wildlife management plan and potential future expansion. Species addressed in this study included scrub jays, eastern indigo snake, wood stork, and gopher tortoise. As part of this airport master plan, an environmental overview addressing each of the FAA’s 18 environmental impact categories will be prepared. The information on the known environmental conditions will be considered in the alternatives analysis to minimize or avoid potential impacts.

1.3. History of Airports

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 variety of services across the country.

¹<https://www.covb.org/391/About-Vero-Beach>, accessed January 6, 2023.

² City of Vero Beach Annual Comprehensive Financial Report, Fiscal Year ended September 30, 2021, [9000.08 - Miscellaneous Pages \(2021 Audit - City of Vero Beach 549772 \[9/30/2021\] \(In Process\)\) \(covb.org\)](#), accessed January 6, 2023.

³ KVRB Habitat Conservation Plan by Florida Environmental Consulting Inc., September 14, 2016.

⁴ KVRB Habitat Conservation Plan by Florida Environmental Consulting Inc., September 14, 2016.

1.4. History of VRB

VRB opened in 1929 with the help of the Chamber of Commerce, which raised money to construct the approximately 100 acres of pasture into a proper landing field with three grass runways and several hangars⁵. By the early 1930s, VRB attracted the attention of Eastern Air Lines, because the airport provided fuel for aircraft on its Post Office route between Miami and Jacksonville.⁶ This led to Vero Beach becoming the second eastern Florida coastal city and smallest U.S. city to have airmail service.⁷

The first military use of VRB was in 1935, when the U.S. Army Air Corps used the facility for war games. It had more than 200 aircraft at VRB and constructed the first paved runway.⁸

In 1942, the U.S. Navy selected the airport for a flight training base known as Naval Air Station (NAS) Vero Beach. The Navy purchased an additional 1,500 acres for the NAS.⁹ The property expanded to include self-sustaining facilities. Flight training started at NAS in 1943. At its busiest, the NAS had 1,400 servicemen and 250 based aircraft. The flight training at the NAS ended August 14, 1945, and in June 1946, the Vero Beach NAS was placed in caretaker status. In October 1947, the United States deeded more than 2,000 acres containing the airport to the City of Vero Beach.¹⁰ **Figure 1.3** shows the NAS facilities at Vero Beach.

FIGURE 1.3: 1945 VERO BEACH NAS IN 1945



Source: Vero Beach Regional Airport, 2022.

Since World War II, VRB has been home to several flight training schools and aircraft manufacturing facilities. In 1957, Piper Aircraft selected VRB as a research and development center and moved its administrative and manufacturing divisions to the airport in 1961.

⁵ Local History: Vero Beach Regional Airport, [Local history: Vero Beach Regional Airport \(msn.com\)](https://www.msn.com), accessed December 7, 2021.

⁶ Local History: Vero Beach Regional Airport, [Local history: Vero Beach Regional Airport \(msn.com\)](https://www.msn.com), accessed December 7, 2021.

⁷ Images of America Vero Beach by Teresa Lee Rushworth, 2014.

⁸ Vero Beach Historical Series, Vero Beach Regional Airport, <https://www.sunaviation.com/>, accessed December 27, 2022.

⁹ [A Brief History of Vero Beach, Sebastian & Indian River County | VeroBeach.com](#), accessed December 19, 2022.

¹⁰ Vero Beach Regional Airport Property Map, September 2016.

FlightSafety International established a training school at VRB in 1966. **Figure 1.4** shows VRB in 1967. The FlightSafety International facilities at VRB were acquired by Skyborne Airline Academy in 2021. Paris Air also provides flight training at VRB with more than 50 aircraft. Skyborne and Paris Air offer housing options for their students, thus attracting students from around the United States and abroad to VRB. The Skyborne housing is adjacent to VRB.

FIGURE 1.4: VERO BEACH MUNICIPAL AIRPORT 1967



Source: Vero Beach Regional Airport, 2022.

VRB has continued to transition from its NAS configuration to the present airfield with three runways. The longest is 7,314 feet by 100 feet, as shown on **Figures 1.5** through **1.7**. Significant changes to the airfield include the start of the north hangar development, shown in the 1974 aerial photo; use of only two runways by the 1984 aerial photo (what are now the primary and crosswind runways); development of the parallel runway and full-length parallel taxiways for all runways by the 1994 aerial photo; development of the new air traffic control tower (ATCT) by the 2004 aerial photo; and ongoing hangar and nonaeronautical development through the years. In 2015, the name of the airport was changed from Vero Beach Municipal Airport to Vero Beach Regional Airport. This renaming coincided with the start of scheduled jet service and reflects the broad reach and impact the airport has on the surrounding area.

FIGURE 1.5: VRB 1974 AND 1984

1974



1984



Source: Vero Beach Regional Airport, 2022.

FIGURE 1.6: VRB 1994 AND 2004

1994



2004



Source: Vero Beach Regional Airport, 2022.

FIGURE 1.7: VRB 2014 AND 2021

2014



2021



Source: Vero Beach Regional Airport, 2022.

1.5. 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 lines of business. The most common line of business that airports interact with is the Airports Division; for VRB, this is the Orlando Airports District Office (Orlando ADO) and Southern Region, located in College Park, Georgia. The role of the FAA Airports organization is to provide leadership in planning and developing a safe and efficient national airport system to satisfy the needs of aviation interests of the United States. Pilots may also commonly interact with a Flight Standards District Office for licensing and aircraft standards.

1.6. 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 3,287 existing airports that are significant to our national air transportation system. The NPIAS also identifies the roles that each airport serves. Airports included in the NPIAS are eligible for federal funding under the FAA's Airport Improvement Program (AIP). The FAA updates the NPIAS every two years and issues a report to Congress, which includes the capital development needs of the system's airports.

VRB is classified in the 2023–27 NPIAS as a publicly owned, nonprimary commercial service airport with at least 2,500 annual scheduled commercial service enplanements but less than 10,000. Primary airports are those with at least 10,000 annual passenger enplanements.

In 2012, the FAA conducted a study on the general aviation airports within the NPIAS. "General Aviation Airports: A National Asset" is an in-depth analysis that highlights for the traveling public the important role general aviation airports play in our society, economy, and the aviation system. General aviation airports support all civil aviation operations other than scheduled air services and nonscheduled air transport operations for hire. These airports provide the principal means for linking the local and regional community with the national airport system. General aviation airports support business travel, flight training, medical flights, aerial agricultural application, law enforcement, and disaster relief and provide access to remote areas. The ability to move people and goods quickly means general aviation airports increase a community's competitive advantage by assisting in keeping and attracting businesses. This report classified general aviation airports by their roles within the national aviation system.

VRB is a national nonprimary airport. National airports "support the national airport system by providing communities access to national and international markets in multiple States and throughout the United States. National airports have very high levels of aviation activity with many jets and multiengine propeller aircraft."¹¹ National airports account for 3.2% of NPIAS airports. The FAA reviews and updates these classifications as part of the biennial NPIAS updates.

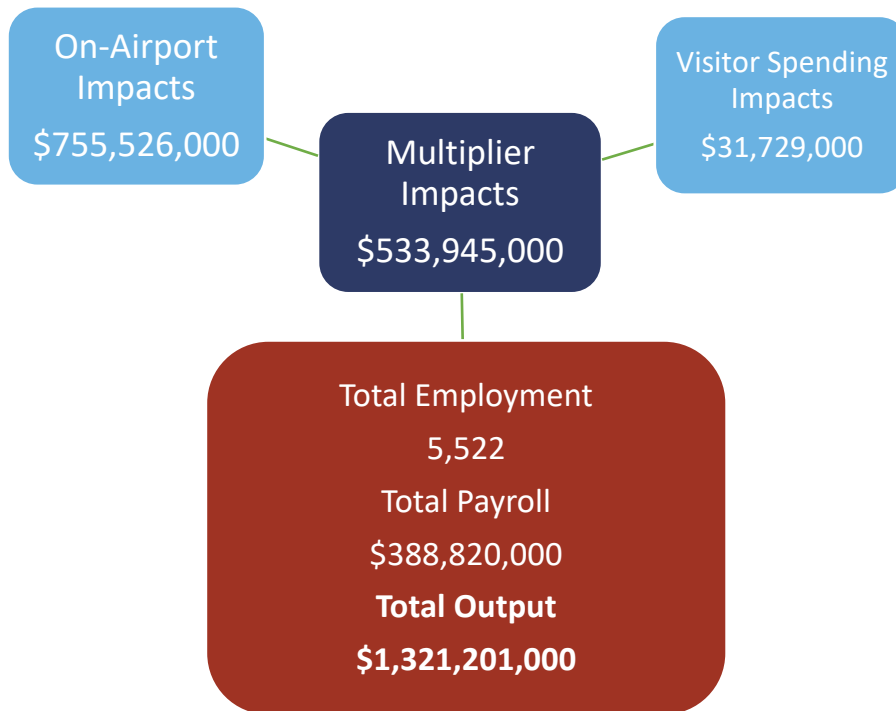
¹¹ [Airport Categories | Federal Aviation Administration \(faa.gov\)](#), accessed December 19, 2022.

1.7. Florida Aviation System Plan

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. The designated current FASP is FASP 2035. VRB is in FDOT District 4, the Treasure Coast Continuing FASP Planning Process Region and the Florida Economic Development Council Southeast Region. Since the most recent FASP update, VRB has been reclassified by the FAA from a regional to a national nonprimary airport. The FASP indicates that “The airport currently serves medium to high levels of flight training, recreational/sport, tourism, corporate, and air charter activity in addition to business/recreational services. The analysis indicates that the airport is well positioned to continue serving these GA and commercial service demands throughout the planning period.”¹²

With the wide variety of aviation and nonaviation activities at VRB, it generates a significant economic impact for the community, as shown on **Figure 1.8**. The on-airport impacts include on-airport spending. The visitor spending impacts represent the off-airport impacts attributable to VRB. Both types of impacts have a multiplier effect, because the money circulates in the community that is included in the total employment, payroll, and output figures. In 2022, an updated economic impact report was released. However, on March 14, 2023, the 2022 economic impact report was an executive summary that included statewide economic data but did not include all the individual airport breakdown data. It is anticipated that all the individual airport data should be available in the near future. Should the data become available before the completion of this airport master plan, the data will be updated.

FIGURE 1.8: VRB ECONOMIC IMPACT



Source: The Economic Impact of Vero Beach Regional Airport, FDOT, March 2019, [Florida Statewide Economic Impact Study \(fdot.gov\)](#), accessed December 20, 2022.

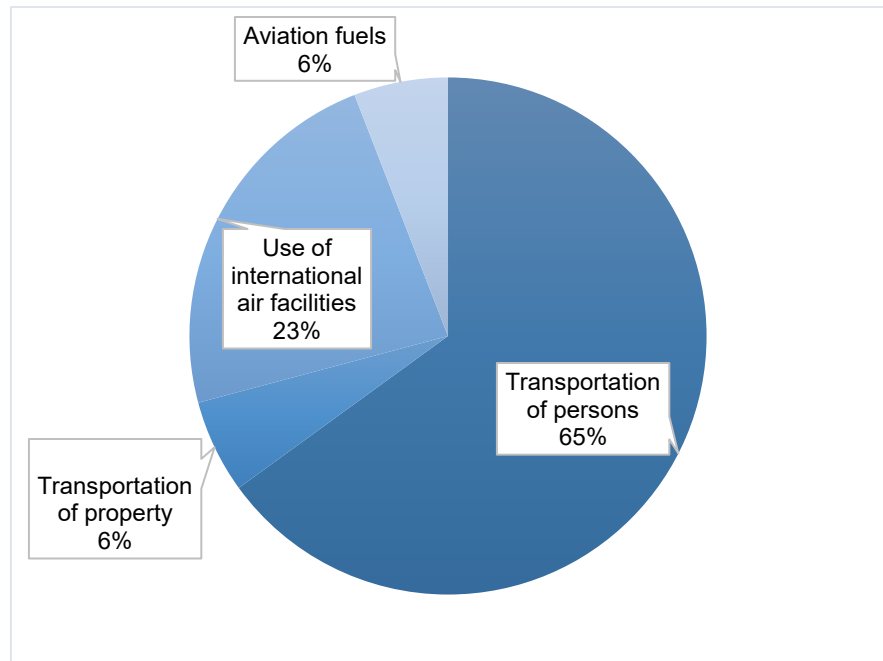
¹² FASP 2035, Vero Beach Regional Airport.

1.8. Funding Airports

Airport Improvement Program

The FAA's Airport Improvement Program (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 a user-funded program from the Airport and Airway Trust Fund (AATF). The AATF is funded by a variety of excise taxes paid by airport users and can be categorized into four groups: transportation of persons (passengers), transportation of property (cargo), use of international facilities, and aviation fuel.¹³ Passenger ticket taxes account for the bulk of AATF. A

FIGURE 1.9: 2021 AIRPORT AND AIRWAY TRUST FUND BREAKDOWN



breakdown of the tax revenue collected in 2021 is shown on **Figure 1.9**. The AATF is a dedicated funding source for the 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. In recent years, the AIP has also received supplemental funding from the U.S. Treasury. In addition, the Infrastructure Investment and Jobs Act began investing \$15 billion in airport infrastructure, \$5 billion in airport terminals, and \$5 billion in air traffic facilities starting in 2022.

Projects eligible for AIP grant funding are improvements that address airport safety, security, the preservation of assets, capacity, and environmental concerns. The FAA distributes AIP funds using a priority system based on the type of project and type of airport identified in the NPIAS. The priority system was most recently updated in *FAA Order 5090.5: Formulation of the NPIAS and ACIP* published September 3, 2019, the airport category is included in the project priority number formula for grant funding.

Primary and commercial service entitlements are based on enplaned passenger levels. The entitlement level is based on the prior calendar year's (CY) enplanements. For example, FY 2022 entitlements were based on CY 2020 enplanements. The minimum entitlement for an airport with scheduled or unscheduled air service from a larger certificate air carrier with more than 10,000 enplanements in the calendar year used to calculate the entitlement level is \$1 million; for a commercial service airport with between 2,500 and 10,000 enplanements, it is \$600,000. During the pandemic, additional years were used to establish entitlement levels to reduce the impact of the pandemic on smaller airports.

A nonprimary entitlement of up to \$150,000 per year is granted to nonprimary airports under the current legislation when the minimum AIP authorization levels are met and the airport demonstrates the need for at least an average of \$150,000 of eligible capital needs per year over a five-year capital improvement program submittal. The nonprimary entitlement can be saved for up to four years for larger projects. The funds expire after four

¹³ Airport and Airway Trust Fund (AATF) Fact Sheet, July 2022, [PowerPoint Presentation \(faa.gov\)](#), accessed December 27, 2022.

years. For most years, VRB has received the nonprimary entitlement of \$150,000. In FY 2020, based on prior year enplanements, VRB qualified for and received \$1 million in entitlement.

States also receive an apportionment to distribute to nonprimary airports based on the population of the state and number of airports. For high-priority projects, nonprimary airports can also compete for FAA AIP discretionary funds. In the last five years, VRB has received \$12 million in discretionary grants for runway, taxiway and apron rehabilitation projects from 2013 through 2021.

Federal

The nonprimary entitlement category was introduced in 2012 as a part of the Wendell H. Ford Aviation Investment and Reform Act for the 21st Century, specifically to assist NPIAS-listed nonprimary airports with needed airport improvements. Typically, the federal share is 90% for AIP grants; however, during the COVID-19 pandemic, special legislation allowed for 100% federal share in 2020 and 2021, as well as other special grant programs to support airport operational expenses.

Grant Assurances

In accepting an AIP grant, the airport sponsor also accepts a series of grant assurances or obligations. These obligations require the recipients to maintain and operate their facilities safely and efficiently and in accordance with specified conditions. The duration of these obligations depends on the type of recipient, the useful life of the facility being developed, and other conditions stipulated in the assurances. There are 39 grant assurances.

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.”¹⁴ 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.¹⁵ The amount of the

¹⁴ <https://www.fdot.gov/aviation/default.shtm>, accessed December 22, 2022.

¹⁵ <https://www.fdot.gov/aviation/fundinginfo.shtm>, accessed December 22, 2022.

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

excise tax is fixed, unless changed by legislation. For commercial service airports with 100,000 or more enplanements, FDOT can provide up to 50% of the nonfederal share as a match (5% when the federal grant is 90%). For general aviation airports and commercial service airports with less than 100,000 enplanements, FDOT may provide up to 80% of the nonfederal share as a match (8% when the federal grant is 90%).

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 general aviation 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.

The *Florida Aviation Project Handbook* provides details on the state grant funding program. 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 *Florida Aviation Project Handbook*.

Local Funding

Even with grant funding programs, a portion of the eligible project must be funded with local dollars. The investment in the local share allows an airport sponsor to achieve a greater return through the investment of grant dollars in its airport. Local funds are also used for ongoing operational costs and routine maintenance. In addition to funds, an airport sponsor may invest in-kind services in a project. The FAA regulates how airport revenue (those revenues paid to or due to the airport sponsor for use of airport property by the aeronautical and nonaeronautical users of the airport, revenue from the sale of airport property, and resources and revenue from state and local taxes on aviation fuel¹⁶) can be used. The FAA requires all revenue generated by an airport to be spent on the capital and operating expenses of the airport as outlined in *FAA Order 5190.6B: Airport Compliance Manual*, Chapter 15.

1.9. 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 are referenced during this study, but the primary one will be *FAA AC 150/5300-13B: Airport Design*, which contains the FAA design standards for the geometric layout of runways, taxiways, aprons, and other airport facilities. FAA AC 150/5300-13B was released in March 2022, replacing FAA AC 150/5300-13A, Change 1.

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* and *FAA SOP 3.00: Standard Operating Procedure for FAA Review of Exhibit "A" Airport Property Inventory Maps* will be referenced during this study.

¹⁶ FAA Order 5190.6B: *Airport Compliance Manual*, Chapter 15, https://www.faa.gov/documentlibrary/media/order/5190_6b.pdf, accessed January 10, 2023.

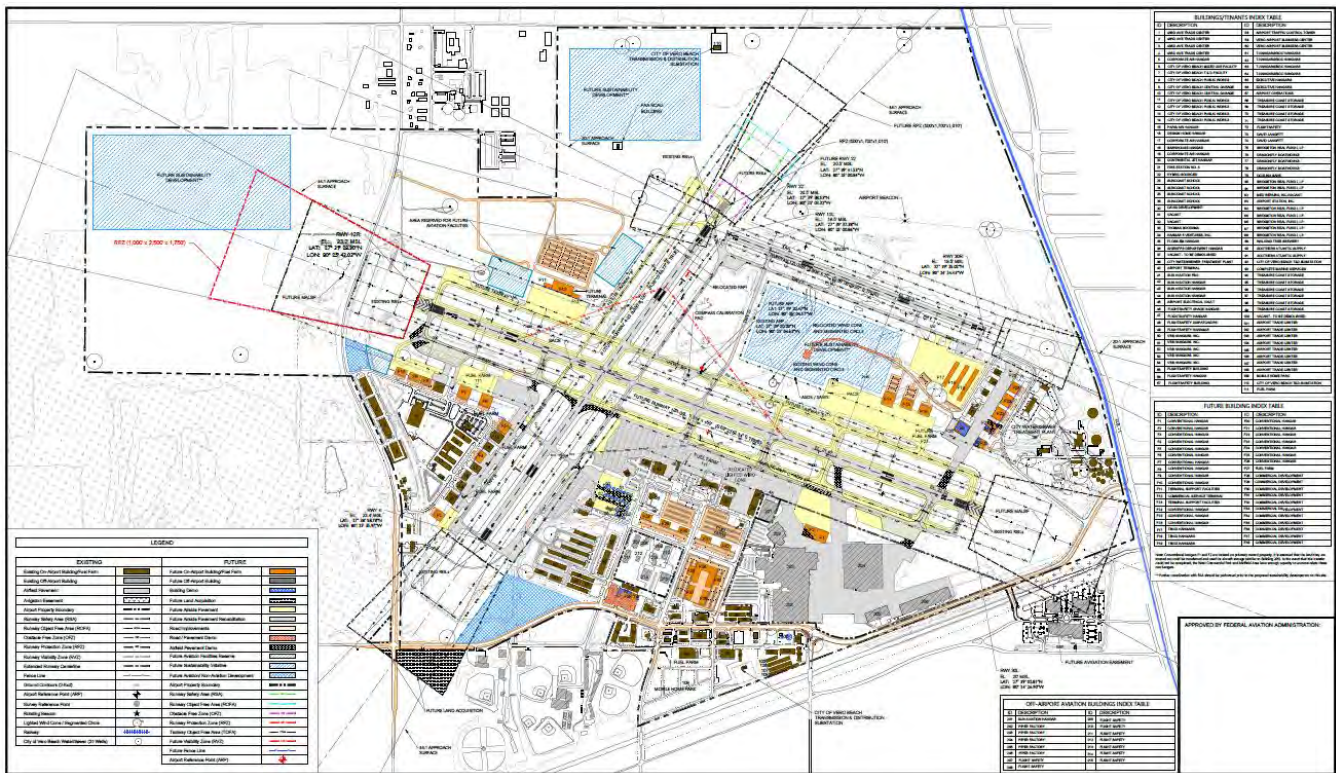
1.10. Airport Layout Plan

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 of the major components of the airport, including runways, taxiways, aprons, and hangar areas, as well as safety areas, runway approach and departure surfaces, and other FAA design standards. In addition to identifying the long-term development for VRB, the ALP update also meets the FAA grant assurance to keep the ALP document up to date, showing existing and proposed conditions at the airport. The sponsor must meet the grant assurances to continue to be eligible for federal grant funding for airport development.

1.11. Previous Airport Layout Plan

The most recent FAA-approved ALP for VRB was completed in 2016. Since the completion of this ALP, several proposed airfield improvements have been completed. In 2017, a ramp expansion was constructed for Corporate Air. In 2019, the extension of parallel Taxiway E from Taxiway D to the Runway 30L end was constructed. In 2021, the Taxiway E ramp and two connector taxiways were constructed on the north side of Taxiway E to provide access to the box hangars, and in 2022, the second phase of the Taxiway E ramp was constructed. These completed projects were depicted on the 2016 ALP update, shown on **Figure 1.10**. The Exhibit “A” property map was also updated during the 2016 update to reflect any disposal and acquisition of airport property. The ALP drawing set and Exhibit “A” property map will be updated as a part of this study to reflect the proposed airport improvements identified in the facility requirements and alternatives analysis.

FIGURE 1.10: 2016 AIRPORT LAYOUT PLAN



Source: VRB Airport Layout Plan, Ricondo and Associates, September 2016.

1.12. Airport Master Plan Report

The airport master plan report documents the planning analysis. The airport master plan contains an executive summary with an overview of the proposed projects recommended in the plan; the basic aeronautical forecasts; alternatives/proposed development, including the rationale for any unusual design features or modifications to FAA design standards; a discussion of the obstruction evaluation surfaces and runway protection zones; a development summary; a tower shadow/line-of-site study; any government coordination letters; a review of wildlife hazard management issues; a preliminary identification of environmental features; any action items from the FAA runway safety program office; and any declared distances to be used on the runways. For VRB, the narrative report is organized in the following sections:

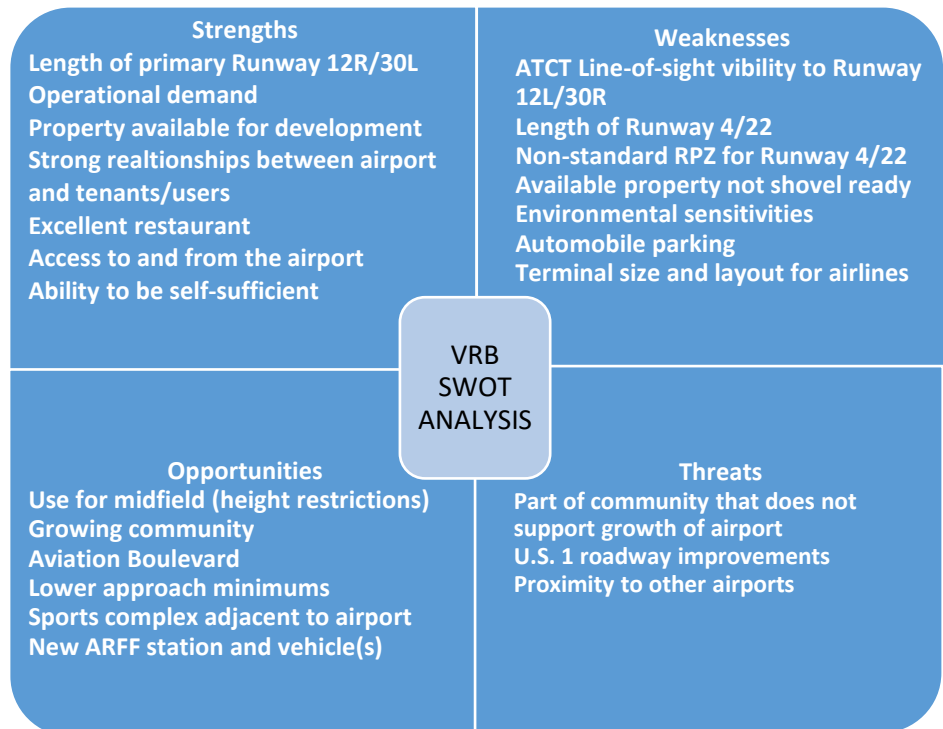
- Background and Inventory
- Aviation Activity Forecasts
- Facility Requirements
- Environmental Considerations
- Identification and Evaluation of Alternatives
- Facilities Implementation Plan
- Airport Layout Plan

A stormwater master plan is also being prepared for VRB under a separate document.

1.13. Strengths, Weaknesses, Opportunities, and Threats

A strengths, weaknesses, opportunities, and threats (SWOT) analysis was conducted with airport stakeholders as part of this planning study. SWOT analyses help define and develop long-term strategic planning. The outcomes of the VRB SWOT analysis are listed on **Figure 1.11**.

FIGURE 1.11: VRB SWOT ANALYSIS



1.14. Goals for VRB

Along with the SWOT analysis, a brainstorming session on potential improvements to be considered for VRB was conducted. Potential improvements to be evaluated during the master plan include:

- Extend/shift Runway 4/22
- Evaluate Runway 12L/30R length, potential need for or value of an extension
- New midfield aircraft rescue and firefighting (ARFF) facility
- Widen and extend taxiways B and E
- Bypass taxiway at end of Runway 12R
- Terminal building expansion
- Potential need for a parking garage and other parking and access improvements
- Obstruction removal/management
- Additional hangar/T-hangar development
- Perimeter road around entire airport
- Pedestrian safety improvements (lighted signs and crosswalks)
- Development potential on north side of the airport
- Providing shovel-ready properties for development
- Aligning airport growth with community plans for community benefit

Other potential improvements may be identified and studied during the facility requirements analysis.

1.15. Surrounding Areas

As a community asset, VRB is included in the City of Vero Beach Comprehensive Plan, adopted April 4, 2018. **Figure 1.12** depicts the land use on VRB and the surrounding area. VRB is located along the northern and western edges of the city limits. The largest land use areas on VRB are transportation and conservation. There are also significant industrial/wholesale and educational areas on the airport, with some commercial areas along Aviation Boulevard. **Figure 1.13** shows the recommended future land uses on and around VRB. The comprehensive plan includes growth in the transportation and commercial use and reduction in the educational facilities and industrial/wholesale. The recommended future land uses for the airport property will be reviewed as part of the airport master plan study process. The rationale for any recommended changes will be documented for use in a future comprehensive plan update.

There are three City of Vero Beach light industrial districts on the airport: ALI-1, ALI-A1 and ALI-A2. The City has also enacted airport zoning to provide airspace protection for and compatibility of land use with VRB to protect the federal, state, and local investment in the airport and the safe operation of the airport.

Just south of VRB is the Jackie Robinson Training Complex. The Los Angeles Dodgers leased and repurposed a part of the old Navy base to be its spring training facility starting in 1948, and in 1953, the stadium was constructed. In 1964, the Dodgers purchased 110 acres of land from the airport with federal approval. In 2008, the Dodgers relocated to spring training facilities in Arizona.¹⁷ Today, the complex includes lodging, Homan Stadium, and training facilities to accommodate baseball, softball, football, lacrosse, soccer, rugby, rowing, and swimming (with the use of off-site facilities for water sports).

The areas north and west of VRB are outside the city limits. The Indian River County Jail is north of VRB on county-owned property. There is also a managed hazardous material plume northwest of VRB.

¹⁷ <https://www.walteromalley.com/en/dodgertown/dodgertown-timeline/1929-1939/view-all>, accessed December 27, 2022.

FIGURE 1.12: VERO BEACH COMPREHENSIVE PLAN EXISTING LAND USE

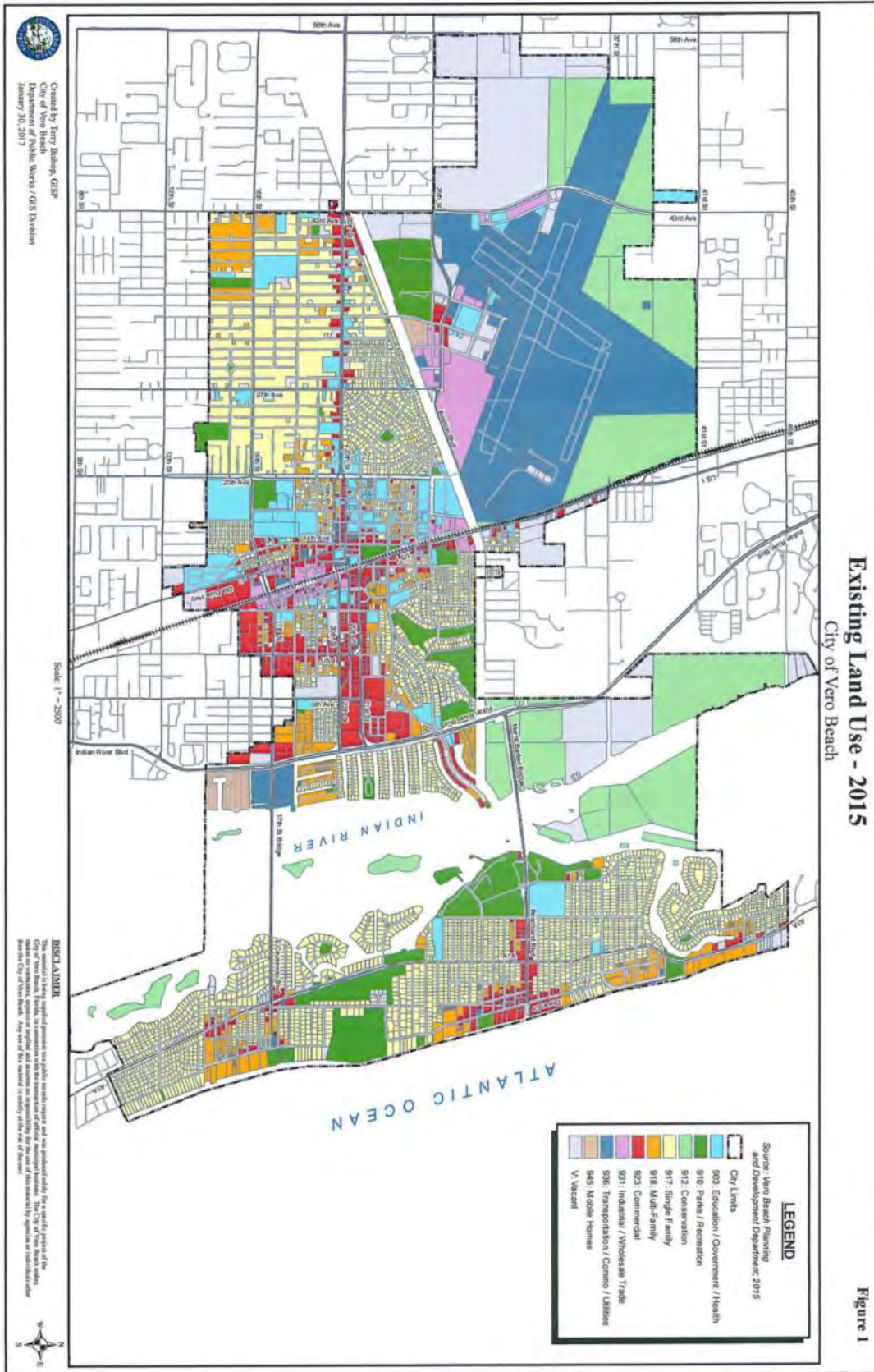
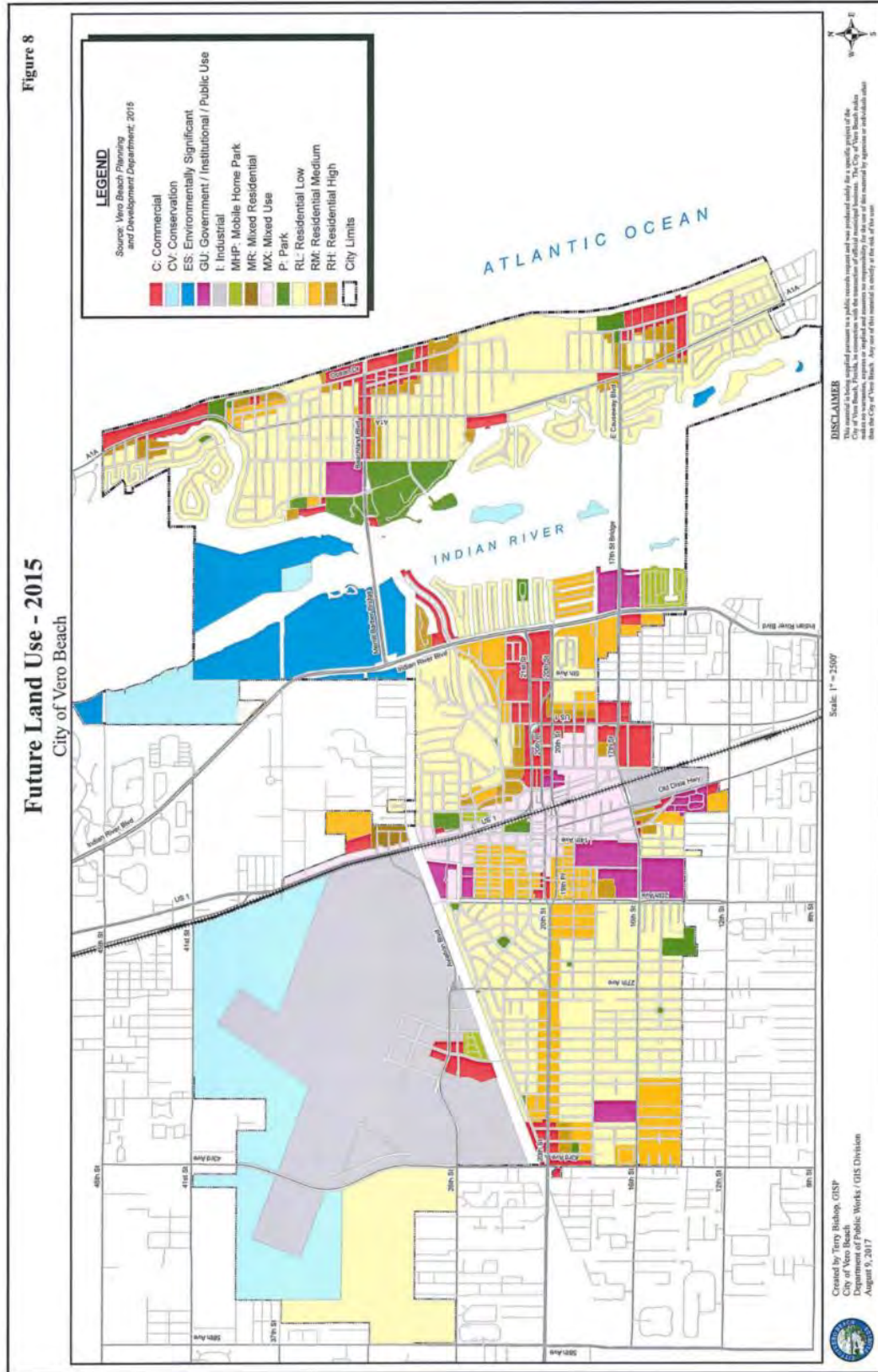


FIGURE 1.13: VERO BEACH COMPREHENSIVE PLAN FUTURE LAND USE



1.16. Airfield and Surrounding Airspace

Airfield facilities are planned and developed to accommodate the demand for current and future aircraft operations. These facilities include runways, taxiways, navigational aids (navaids), apron parking and tie-down areas, terminal areas, and T-hangar areas. **Figure 1.14** depicts major airfield facilities at the airport.

Airfield

Runways

There are three runways at VRB: Runway 12R/30L, Runway 4/22, and Runway 12L/30R. Runway 12R/30L is 7,314 feet long by 100 feet wide and is designated as the primary and Part 139 runway. Declared distances are in use on the runway, reducing the accelerate stop distance and landing distance on Runway 30L to 7,276 feet due to objects off the end of Runway 12R. All other operations on Runway 12R/30L can use the full length of the runway. Runway 12R/30L was rehabilitated in 2022 with an asphalt overlay and is in excellent condition. The runway has a published pavement strength of 85,000 pounds for single wheel, 115,000 pounds for dual wheel, and 220,000 pounds for dual tandem. The Runway 12R end has precision instrument pavement markings, and the Runway 30L end has nonprecision instrument pavement markings. Both ends of the runway are equipped with runway end identifier lights (REILs). REILs are flashing strobe lights that assist the pilot upon approach in identifying the end of the runway. The runway is also equipped with four-box precision approach path indicators (PAPIs) that have a standard 3-degree glide path on both ends of the runway. 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. The edges of Runway 12R/30L are equipped with medium intensity runway lights (MIRLs).

Runway 4/22 is 4,974 feet long by 100 feet wide and operates as the crosswind runway. Declared distances are in use on the runway, reducing the accelerate stop distance and landing distance on Runway 22 to 4,945 feet due to objects off the end of Runway 4. All other operations on Runway 4/22 can use the full length of the runway. The runway is constructed with asphalt pavement and is in good condition. The runway has a published pavement strength of 30,000 pounds for single wheel, 115,000 pounds for dual wheel, and 220,000 pounds for dual tandem. The runway has nonprecision instrument pavement markings, and both runway ends are equipped with REILs. Both ends of the runway are equipped with four-box PAPIs that have a standard 3-degree glide path. The edges of Runway 4/22 are equipped with MIRLs. Runway 4/22 is not a Part 139 runway. Should this be desired in the future, runway safety area (RSA) grading improvements would be needed to meet FAR Part 139 standards. Also, the ARFF access road is located off the end of Runway 4.

Runway 12L/30R, designated as a utility runway, is 3,504 feet long by 75 feet wide and supports general aviation traffic and flight school operations. The runway is constructed with asphalt pavement and is in fair condition. The runway has a published pavement strength of 12,500 pounds for a single wheel. The runway has basic markings, and both ends of the runway are equipped with two-box PAPIs. The Runway 12L end has a standard 3-degree glide path, and the Runway 30R end has a 3.5-degree glide path. The edges of Runway 12L/30R are equipped with MIRLs.

An area navigation (RNAV) global positioning system (GPS) approach is available on both ends of Runway 4/22 and Runway 12R/30L. The RNAV approaches on these runways have a localizer performance with vertical guidance (LPV), which provides horizontal and vertical guidance to the pilot. LPVs are the most precise GPS instrument approach procedures available without specialized aircrew training. The Runway 12R LPV approach has descent minimums of 256 feet above ground level (AGL) and 3/4-mile visibility, and the Runway 30L LPV approach has descent minimums of 200 feet AGL and 3/4-mile visibility. The Runway 4 LPV approach has descent minimums of 297 feet 273 feet AGL and a 7/8-mile visibility, and the Runway 22 LPV approach has descent minimums of 317 feet AGL and a 1-mile visibility. Utility Runway 12L/30R has visual approaches on both runway ends. There are also very high frequency omnidirectional range (VOR) approaches with higher minimums to runways 12R and 30L.

Taxiways

Taxiway A is a full-length parallel taxiway on the east side of Runway 4/22. It is 50 feet wide south of Runway 12R/30L and 35 feet wide north of Runway 12R/30L. Including the runway end connectors, there are three connector taxiways and two parallel taxiways that provide access between Taxiway A and Runway 4/22. Starting from the Runway 4 end, they are designated as taxiways A (taxiway end connector), A1, and C, and two connectors on the Runway 22 end are designated taxiways E and A2. There is a run-up pad along Taxiway A at the south end and a shared pad with Taxiway F at the north end. Run-up pads are used by aircraft to conduct preflight engine and equipment checks and/or to hold for an instrument clearance.

Taxiway B is a partial parallel taxiway on the west side of the southern half of Runway 4. It is 35 feet wide. Starting on the Runway 4 end, the connectors are taxiways B (taxiway end connector), B1, and C.

Taxiway C serves as a full-length parallel taxiway for Runway 12R/30L, although there is a jog in the taxiway where it crosses Runway 4/22. Taxiway C is 50 feet wide. Starting from the Runway 30L end, the taxiway connectors are designated as taxiways C1, C2, C3, C4, D, and A, and the two connectors on the Runway 12R end are taxiways C5 and C6. Taxiway C1 can serve as a bypass taxiway for the end connector, and it provides a connection to the north ramp. There is a run-up pad near each end of Taxiway C.

South of Runway 12R/30L Taxiway D is 75 feet wide narrowing to 35 feet wide north of Runway 12R-30L. It provides crossfield access from the Skyborne apron south of Runway 12R/30L to runways 12L, 30R, and 22 on the north side of the airfield.

Taxiway E is a partial parallel taxiway to Runway 12R/30L. Taxiway E is 50 feet wide and provides access from Runway 4/22 to the Runway 30L end.

Taxiway F is a full-length parallel taxiway to Runway 12L/30R. Starting from the Runway 30R end, the taxiway connectors are taxiways F (taxiway end connector), F1, F2, D, and F (taxiway end connector on Runway 12L end). Taxiway F is 35 feet wide and has run-up pads on each end of the taxiway that provide space for aircraft run-up and staging.

All taxiway edges are equipped with medium intensity taxiway lights (MITL). To help avoid runway excursions and assist pilots in situational awareness, the latest FAA design standards recommend avoiding direct apron-to-runway access and requiring at least one 90-degree turn before reaching the runway. There are multiple taxiway connectors at VRB that provide a direct connection from an apron to a runway. Therefore, as part of the alternatives analysis, the direct apron-to-runway taxiway connectors will be assessed for potential improvements. The use and location of run-up pads will also be reviewed as part of the overall taxiway system.

Airfield Pavement Condition

The most recent airfield pavement condition index (PCI) analysis for VRB was completed in June 2022. PCI uses a visual inspection of pavement distress to evaluate the condition of the pavement and pavement management strategies to preserve the assets. The result of these evaluations provides a score ranging from 0 to 100 that provides a general gauge of the current operational condition. A score of 100 indicates like-new pavement, while a 0 indicates extremely high degradation.

FDOT created guidelines for the development of a major rehabilitation program that is based on the critical PCI concept: It is more cost-effective for the airport to maintain airfield pavement above, rather than below, its critical PCI. Per the 2022 VRB Airport Pavement Evaluation Report, FDOT identifies the critical PCI as 70 for a rehabilitation project. This critical PCI is based on the historic trends in airport pavement performance and statewide planning efforts. **Table 1.1** summarizes the FDOT PCI requirements for airfield pavement projects.

TABLE 1.1: FDOT RECOMMENDED MINIMUM PCI SERVICE LEVEL

FDOT PCI Requirements for Types of Airfield Pavement Projects	
Airfield Pavement Project Type	PCI Requirements
Reconstruction	PCI < 55 (Poor)
Rehabilitation	PCI < 70 (Fair)
Maintenance	N/A

Source: Airport Pavement Evaluation Report, Florida Department of Transportation: Aviation and Spaceports Office, June 2022.

In summary, airfield pavements at VRB are in satisfactory condition, with an area-weighted PCI of 81. In the 2022 pavement evaluation report, the major rehabilitation needs at VRB over the next 10 years are estimated at \$75,497,000. Major rehabilitation needs are identified by analyzing the airport’s pavement condition in relationship to the critical PCI values.¹⁸ **Figure 1.15** depicts the pavement condition ratings at VRB in 2022. A detailed summary of the PCI section level is in **Appendix B**.

¹⁸ Airport Pavement Evaluation Report, Florida Department of Transportation: Aviation and Spaceports Office, June 2022.



Source: Statewide Airfield Pavement Management Program: VRB Airport Pavement Evaluation Report, Florida Department of Transportation (FDOT), dated June 2022.



Nav aids and Weather Equipment

There is an automated surface observing system (ASOS) in the midfield north of Runway 12R/30L, as depicted in **Figure 1.16**. The ASOS station provides essential weather observations for pilots, the National Weather Service, the FAA, and the Department of Defense. Weather data from the ASOS is available via telephone at (772) 978-9535, on radio frequency 120.575 MHz, or online. Co-located with the ASOS is the FAA stand-alone weather sensors (SAWS) system. The SAWS is a back-up system for the ASOS. Also in this area is the primary wind cone and segmented circle, as shown in **Figure 1.17**. The airfield electrical vault is also in this area, as shown in **Figure 18**.

FIGURE 1.16: ASOS



FIGURE 1.17: PRIMARY WIND CONE



FIGURE 1.18: ELECTRICAL VAULT



FIGURE 1.19: ROTATING BEACON



There is a rotating beacon on the northeast side of the airfield, north of Runway 12L/30R. As shown on **Figure 1.19**, 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 periods of low visibility. As a civilian airport, the color of the VRB rotating beacon is white/green.

A remote communications outlet (RCO) and antenna is on the terminal building. When the ATCT is closed, the RCO provides a frequency (122.2 MHz) for pilots to use to contact the St. Petersburg Flight Service Station (FSS).

Airport Traffic Control Tower

VRB has an FAA-staffed ATCT southwest of the terminal. It is open from 7 a.m. to 9 p.m. daily. The tower frequency is 126.3 MHz, ground control is 127.45 MHz, and clearance delivery is 134.975 MHz. Approach and departure control is provided by air traffic control at Palm Beach International Airport. When the ATCT is open, the VRB ground control controller coordinates with Palm Beach for instrument departure clearances. When the tower is closed, pilots contact Palm Beach via phone at (561) 275-1430 or the FSS via the RCO. The first ATCT at VRB was constructed in 1973, and the current ATCT, shown on **Figure 1.20**, was opened in 2003. It was constructed with federal grant assistance. The tower needs a clear line of sight to all aircraft movement areas on the airfield (runways and taxiways). This limits the height of buildings between the parallel runways.

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. When the ATCT is open, VRB is surrounded by Class D airspace, from the ground up to 2,500 feet AGL within a 4-nautical-mile radius of the airport, as indicated by the blue dashed circle, and Class E airspace up to 18,000 feet AGL (floor of Class A) above Class D. When the ATCT is closed, VRB is surrounded by Class E airspace. The airspace around VRB is shown in the center of the map on **Figure 1.21**.

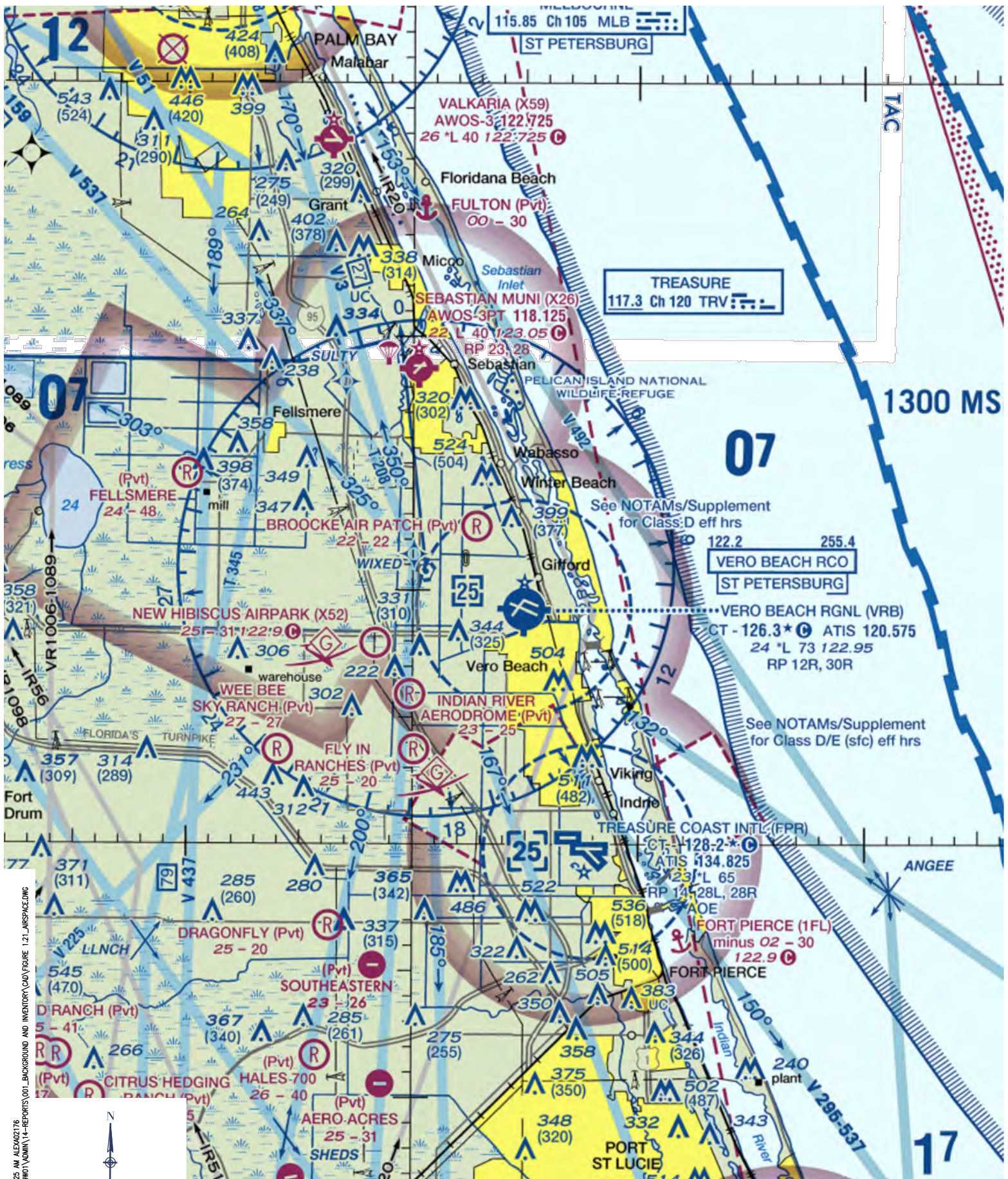
Additional special use airspace close to VRB includes the Air Defense Identification Zone of North America (ADIZ) and Warning Area 497-B. The ADIZ begins approximately 5 miles offshore from the coast, and its purpose is to identify, locate, and control aircraft entering the U.S., except DOD and law enforcement, for national security purposes. Warning Area W-497B is east of VRB and begins approximately 2 miles offshore from the coast. This airspace is an active national defense operating area and contains activity that may be hazardous to nonparticipating aircraft.

1.17. Airside Facilities

The airside facilities include on-airport businesses with airside access, aircraft storage facilities, and all airport-owned support facilities with airside access. As shown on **Figures 1.22** through **1.24**, there are 14 aeronautical businesses at VRB. The airport includes two fixed-base operators (FBOs), aircraft manufacturing, flight training schools, and aircraft storage. The following sections discuss each type of facility in more detail.

FIGURE 1.20: VRB ATCT



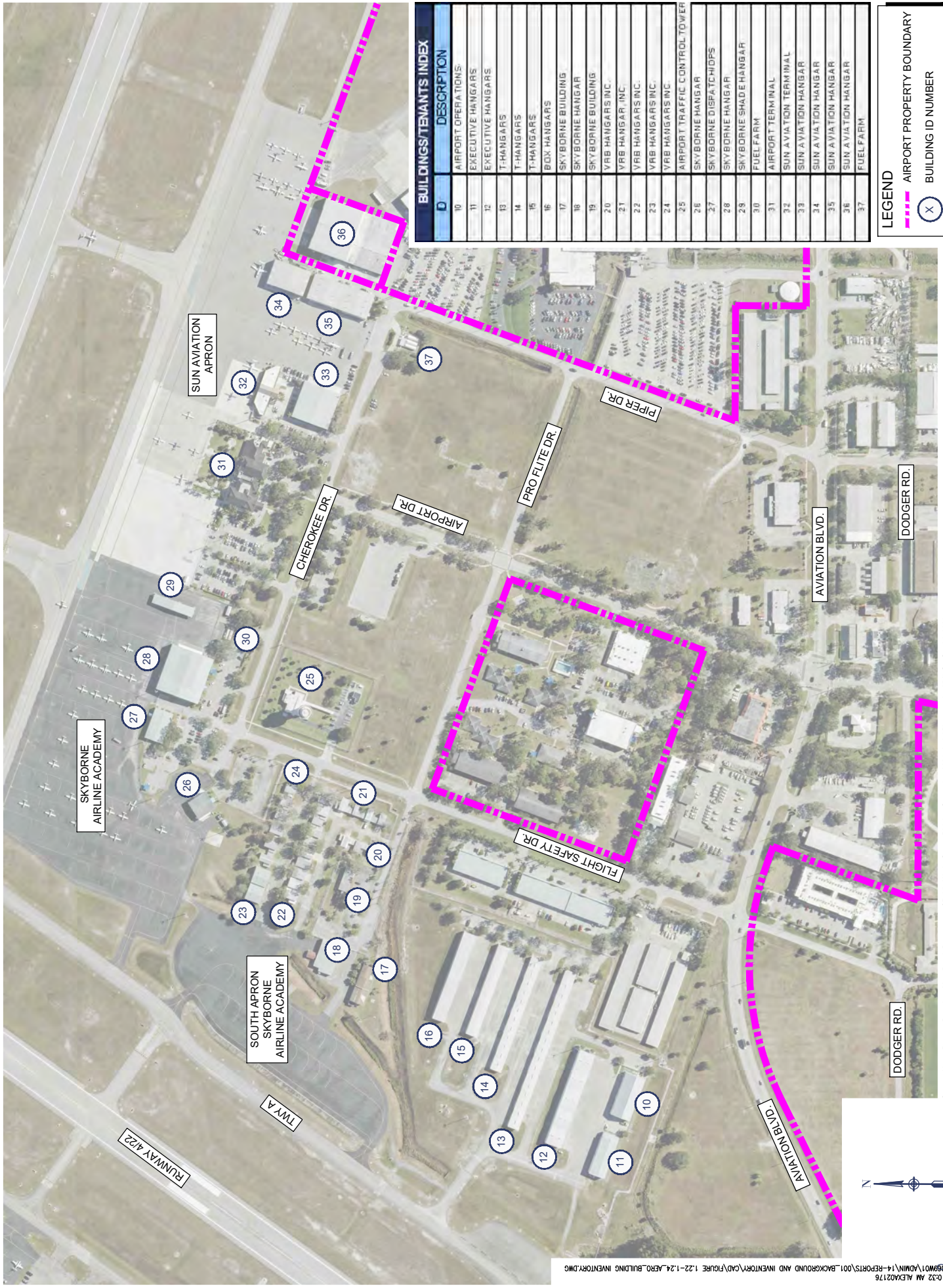


Source: Federal Aviation Administration, Sectional Charts, Miami, dated September 8, 2022.

AUG 12, 2024 10:25 AM ALEX02176
 H:\20065\2006590\ADMIN\14-REPORTS\001-BACKGROUND AND INVENTORY\CAD\FIGURE 1.21- AIRSPACE.DWG



	VERO BEACH REGIONAL AIRPORT MASTER PLAN	AIRSPACE	DRAWN BY: JA	FIGURE 1.21
			CHECKED BY: SZ	



ID	DESCRIPTION
10	AIRPORT OPERATIONS
11	EXECUTIVE HANGARS
12	EXECUTIVE HANGARS
13	T-HANGARS
14	T-HANGARS
15	T-HANGARS
16	BOX HANGARS
17	SKYBORNE BUILDING
18	SKYBORNE HANGAR
19	SKYBORNE BUILDING
20	VRB HANGARS INC.
21	VRB HANGARS INC.
22	VRB HANGARS INC.
23	VRB HANGARS INC.
24	VRB HANGARS INC.
25	AIRPORT TRAFFIC CONTROL TOWER
26	SKYBORNE HANGAR
27	SKYBORNE DISPATCH OPS
28	SKYBORNE HANGAR
29	SKYBORNE SHADE HANGAR
30	FUEL FARM
31	AIRPORT TERMINAL
32	SUN AVIATION TERMINAL
33	SUN AVIATION HANGAR
34	SUN AVIATION HANGAR
35	SUN AVIATION HANGAR
36	SUN AVIATION HANGAR
37	FUEL FARM

LEGEND

--- AIRPORT PROPERTY BOUNDARY

(X) BUILDING ID NUMBER

DRAWN BY: JA
 CHECKED BY: SZ

AIRSIDE - SOUTH

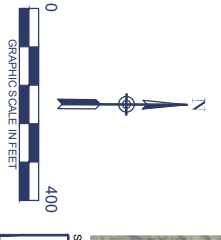
VERO BEACH REGIONAL AIRPORT
 MASTER PLAN



FIGURE 1.22
 1.22



Source: Airport Property Boundary, Vero Beach Department of Public Works Survey Division, September 2021; Aerial Photography, NVS GeoSpatial, 2023.



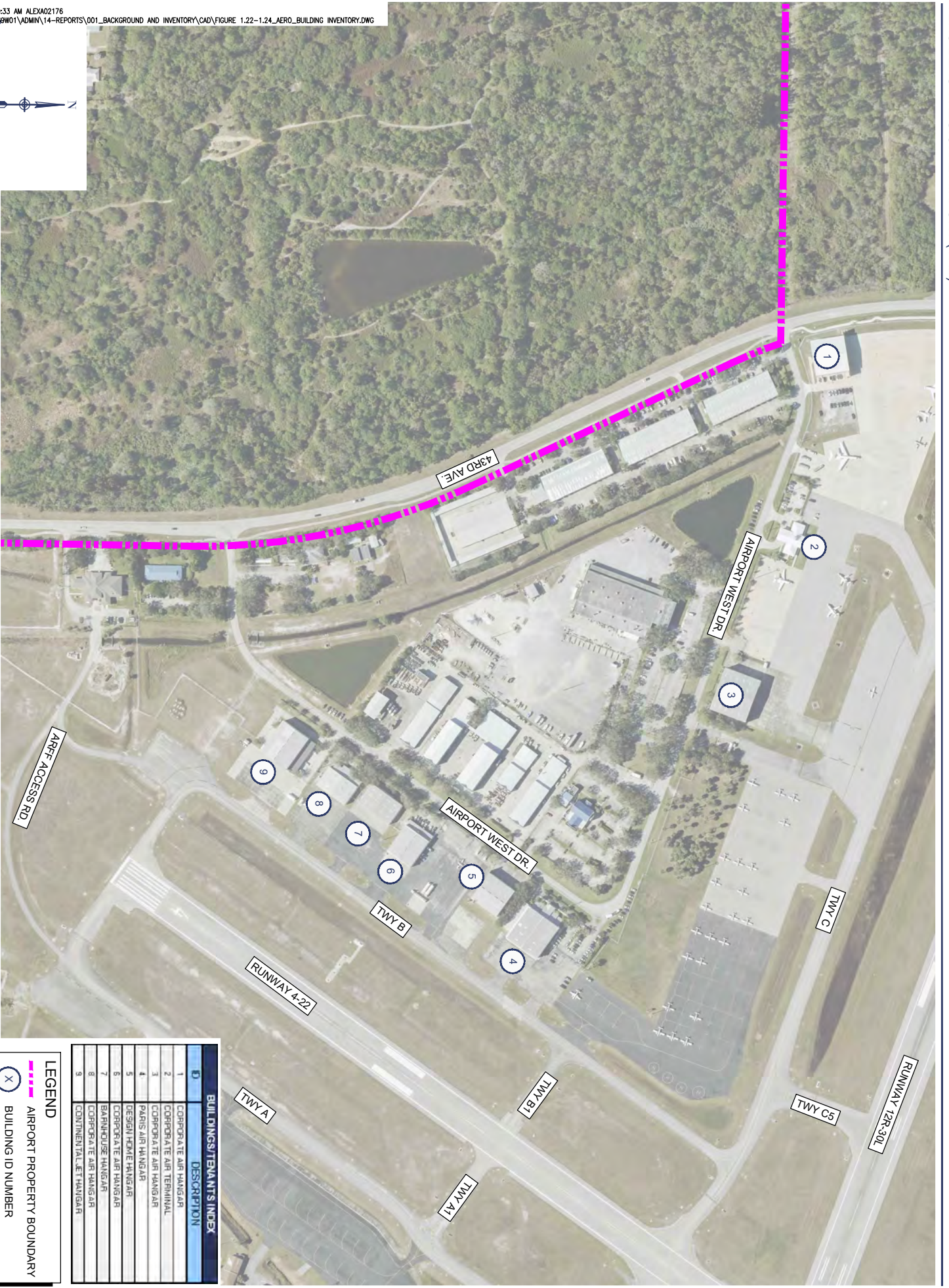
Source: Airport Property Boundary, Vero Beach Department of Public Works Survey Division, September 2021; Aerial Photography, NWS Geospatial, 2023.



VERO BEACH REGIONAL AIRPORT
 MASTER PLAN

AIRSIDE - WEST

DRAWN BY: JA
 CHECKED BY: SZ
 FIGURE 1.23

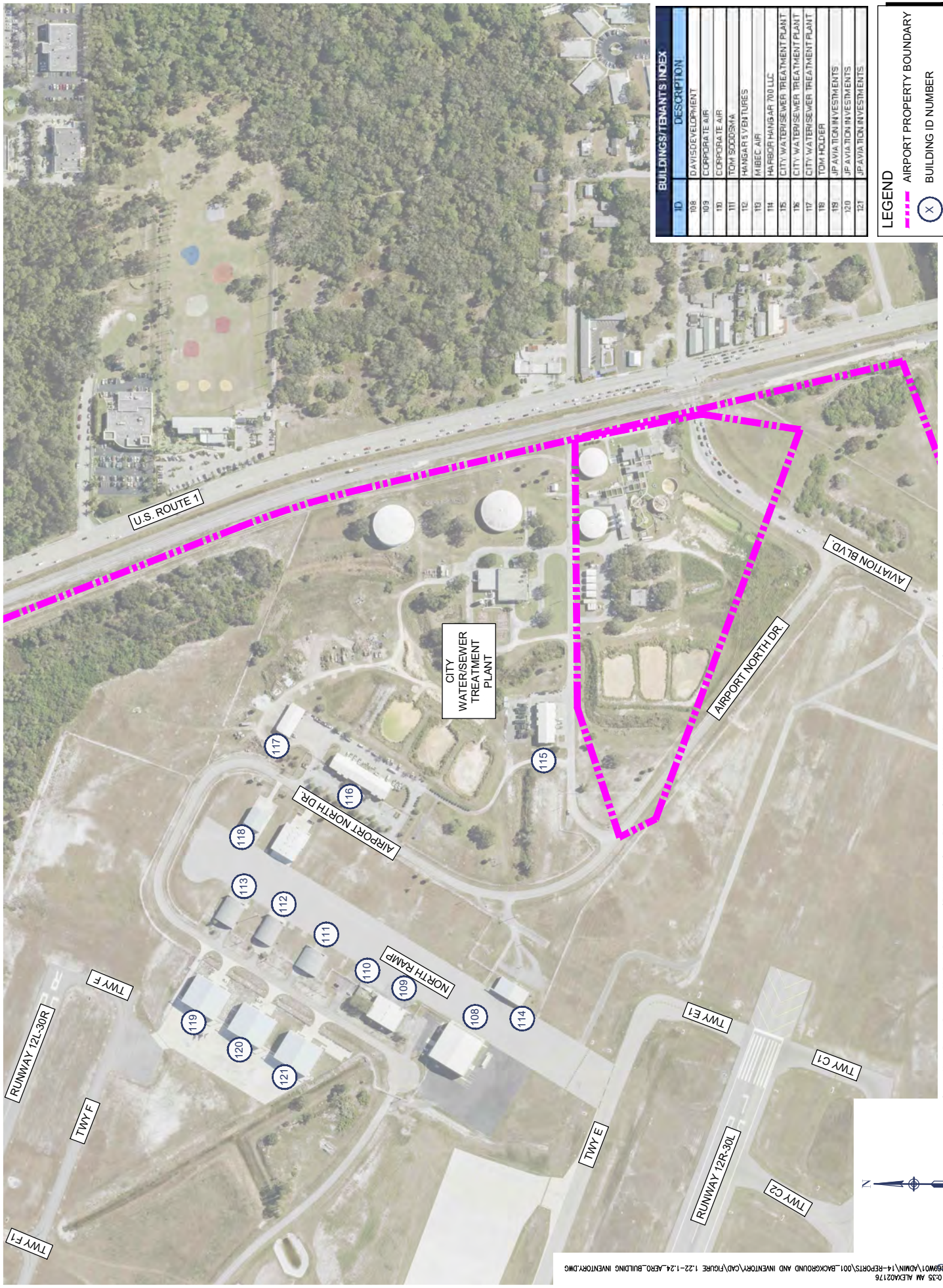


ID	DESCRIPTION
1	CORPORATE AIR HANGAR
2	CORPORATE AIR TERMINAL
3	CORPORATE AIR HANGAR
4	PARIS AIR HANGAR
5	DESIGN HOME HANGAR
6	CORPORATE AIR HANGAR
7	BARNHOUSE HANGAR
8	CORPORATE AIR HANGAR
9	CONTINENTAL HANGAR

LEGEND

AIRPORT PROPERTY BOUNDARY

BUILDING ID NUMBER



ID	DESCRIPTION
108	DAVIS DEVELOPMENT
109	CORPORATE AIR
110	CORPORATE AIR
111	TOM SODDISMA
112	HANGAR 5 VENTURES
113	MIBEC AIR
114	HARBOR HANGAR 100 LLC
115	CITY WATER/SEWER TREATMENT PLANT
116	CITY WATER/SEWER TREATMENT PLANT
117	CITY WATER/SEWER TREATMENT PLANT
118	TOM HOLDER
119	JP AVIA TOM INVESTMENTS
120	JP AVIA TOM INVESTMENTS
121	JP AVIA TOM INVESTMENTS

LEGEND

- AIRPORT PROPERTY BOUNDARY
- BUILDING ID NUMBER

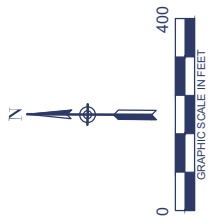
DRAWN BY: JA
 CHECKED BY: SZ
 FIGURE 1.24

AIRSIDE - NORTH

VERO BEACH REGIONAL AIRPORT
 MASTER PLAN



Source: Airport Property Boundary, Vero Beach Department of Public Works Survey Division, September 2021; Aerial Photography, NVS GeoSpatial, 2023.



Fixed-Base Operators (FBO)

VRB is home to two FBOs that serve transient and based customers: Corporate Air Inc. and Sun Aviation Inc. Although other businesses may offer certain types of FBO services, these two businesses offer the full range of FBO services. Below is additional information about both FBOs.

Corporate Air Inc.

Corporate Air Inc. is a family-owned and -operated FBO established in 1987. Corporate Air is on the west side of the airfield and includes five hangars and an FBO terminal building. As depicted on **Figure 1.25**, the FBO terminal building is approximately 5,000 square feet, with a main lobby and accommodations, including a cafeteria, conference room, pilot lounge, and flight planning room. The FBO offers fueling, including JetA and Avgas; aircraft maintenance; and a charter service. Corporate Air offers more than 67,000 square feet of hangar space that is available for rental to local and itinerant operations. The facility also provides approximately 258,000 square feet of apron space adjacent to the FBO terminal building. Six additional 20,000-square-foot hangars along the newly constructed Taxiway E ramp are anticipated in the near future.

FIGURE 1.25: CORPORATE AIR – FBO TERMINAL BUILDING



West of the FBO terminal building is the future location of a U.S. Customs and Border Protection (CBP) facility. This area is privately funded by Corporate Air and will include apron space and a CBP building. It will provide preclearance for travel from VRB to the Bahamas without stopping at an airport of entry.

Sun Aviation Inc.

Sun Aviation Inc. is a family-owned and -operated FBO established in 1929 and is just east of the airport terminal building. The descendants of Bud Holman, one of the members of the group that built VRB, operate the business¹⁹. Sun Aviation includes four hangars and an FBO terminal building. As shown on **Figure 1.26**, the FBO terminal building is approximately 6,000 square feet and includes a conference room, pilot and passenger lounges, a coffee lounge, and a snooze room. The FBO offers 24/7 fuel service, which includes JetA and Avgas. Sun Aviation is a FAA-certified Part 145 maintenance and avionics repair facility and is an authorized service center for Piper, Pilatus, and Jetprop aircraft. A Hertz rental car facility is in the Sun Aviation terminal. The facility also provides approximately 220,000 square feet of apron space adjacent to the FBO terminal building.

FIGURE 1.26: SUN AVIATION – FBO TERMINAL BUILDING



¹⁹ <https://www.sunaviation.com/history.html>, accessed December 27, 2022.

Aircraft Manufacturing

Piper Aircraft Inc. is in the southeast quadrant; however, it is not included as part of the airport property. The 90 acres of land was sold to Piper in 1964 and 1965, with the proceeds used to develop and operate VRB. Piper accesses the airfield through a negotiated agreement with the airport. Piper's facility, shown on **Figure 1.27**, includes five hangars and approximately 200,000 square feet of apron space. Piper has five vehicle parking areas with landside access to the facilities via Piper Drive and Aviation Boulevard.

FIGURE 1.27: PIPER AIRCRAFT INC.



Flight Training

Two flight training companies are tenants on VRB: Paris Air and Skyborne.

Paris Air Inc.

Paris Air is a hands-on flight training facility that is equipped with FAA-approved courses and a Part 145 FAA-approved repair station. As shown on **Figure 1.28**, the facility is approximately 17,000 square feet and offers on-site FAA Airman Knowledge Testing, designated pilot examiners for check rides, and a professional pilot shop. Paris Air has a fleet that consists of helicopters and more than 50 single-engine and multiengine aircraft. Paris Air is on the west side of the airport, adjacent to Runway 4.

Landside access to the facility is via Airport West Drive. An automobile parking area is north of the hangar that includes 31 standard parking spaces. Overflow vehicle parking is along the north edge of the ramp outside of the taxilane object free area (TLOFA).

FIGURE 1.28: PARIS AIR INC.



Skyborne Airline Academy Vero Beach

Skyborne provides a complete flight school training experience. The academy includes ground training facilities, aircraft maintenance, and residential accommodations. One of its facilities is shown on **Figure 1.29**. There are 30 briefing rooms, 50 aircraft, two aviation training devices, and three maintenance hangars. Skyborne is on the north corner of Flight Safety Drive and Cherokee Drive on the south side of the airport. The residential accommodations are on land purchased by the flight school from the airport in 1966.

Landside access is via the intersection of Flight Safety Drive and Cherokee Drive. An automobile parking area is south of the hangar and includes 82 standard parking spaces.

FIGURE 1.29: SKYBORNE AIRLINE ACADEMY**Aircraft Storage**

Including the FBOs, there are multiple providers of aircraft storage facilities at VRB, including the city. **Table 1.2** summarizes all the areas. The non-FBO areas are described in the following sections.

Aircraft Storage – City of Vero Beach Hangar Facilities

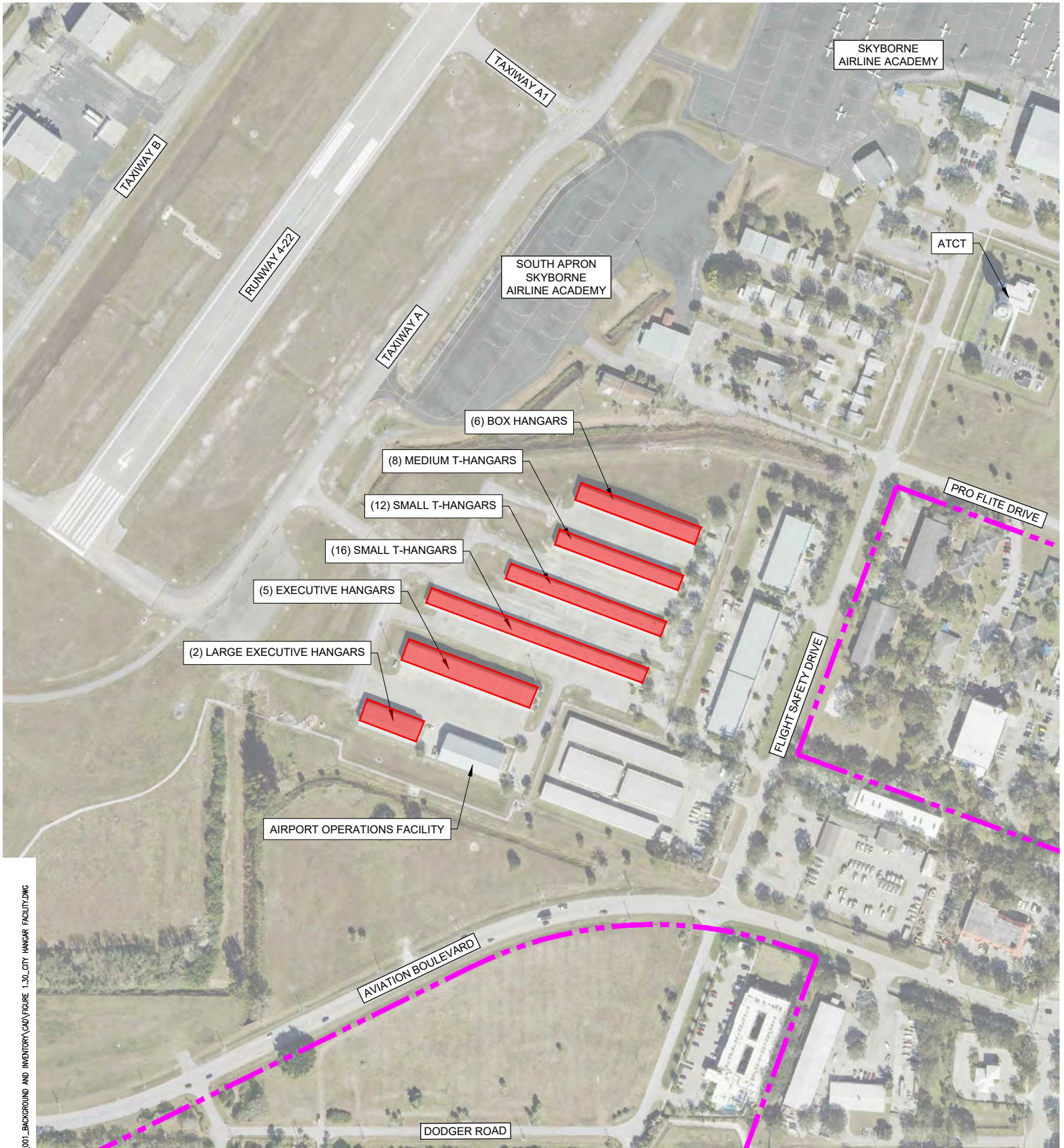
To the east of the Runway 4 end and Taxiway A is the City of Vero Beach Hangar Facility. These hangars are accessed by taxilanes via Taxiway A. **Figure 1.30** shows the location of the hangar area on the airfield, as well as the type of hangar.

TABLE 1.2: VRB AIRCRAFT STORAGE HANGAR SUMMARY

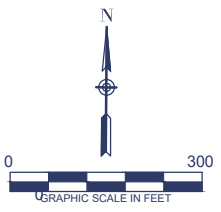
VRB Hangar Data Summary			
Hangar Tenant/User	Hangar Type	Hangar Area (in Square Feet)	Total Square Feet
West Airfield			
Corporate Air	4 – Corporate Hangars	12,000	51,000
		16,000	
		12,000	
		11,000	
Paris Air	1 – Corporate Hangar	15,000	15,000
Design Home	1 – Corporate Hangar	10,000	10,000
Continental Jet	1 – Corporate Hangar	12,000	12,000
Barnhouse	1 – Corporate Hangar	9,000	9,000
South Airfield			
City of Vero Beach	1 – Large Executive Hangar	3,500	3,500
	4 – Executive Hangars	3,000 each	12,000
	2 – Executive Hangars	2,948 each	5,896
	6 – Box Hangars	1,824 each	10,944
	8 – Medium T-hangars	1,296 each	10,368
	28 – Small T-hangars	1,034 each	28,952
VRB Hangars Inc.	18 – Port-a-Port Hangars	1,500 each	27,000
	2 – Box Hangars	2,500 each	5,000
Sun Aviation	4 – Corporate Hangars	15,000	81,000
		10,000	
		16,000	
		40,000	
Skyborne	3 – Corporate Hangars	8,000	33,000
		5,000	
		20,000	
	1 – Shade Hangar	4,000	4,000
North Airfield			
Davis Development	1 – Corporate Hangar	15,000	15,000
Corporate Air	1 – Corporate Hangar	8,000	8,000
	1 – Box Hangar	2,000	2,000
Tom Soodsma	1 – Box Hangar	6,000	6,000
Hangar 5 Ventures	1 – Box Hangar	5,000	5,000
Mibec Air	1 – Box Hangar	5,000	5,000
Harbor Hangar 700 LLC	1 – Corporate Hangar	6,000	6,000
Tom Holder	1 – Corporate Hangar	4,000	4,000
JP Aviation Investments	3 – Corporate Hangar	12,000 each	36,000

Notes: 1. One shade hangar included in Port-A-Port total square footage.
 2. Total hangar square footage is rounded up to the nearest 1,000 square foot.

Source: City of Vero Beach Hangar Sizes, [T-Hangar Layout Map | Vero Beach Airport](#), accessed January 2023; Hangar Sizes, Google Earth, accessed January 2023.



AUG 12, 2024 11:16 AM ALEX002176 I:\202065\20406990\ADMIN\14-REPORTS\001_BACKGROUND AND INVENTORY\CAD\FIGURE 1.30_CITY_HANGAR FACILITY.DWG



Source: Airport Property Boundary, Vero Beach Department of Public Works Survey Division, September 2021; Aerial Photography, NV5 GeoSpatial, 2023.

LEGEND	
	AIRPORT PROPERTY BOUNDARY
	CITY OF VERO BEACH HANGAR FACILITY

	VERO BEACH REGIONAL AIRPORT MASTER PLAN	CITY OF VERO BEACH HANGAR FACILITY	DRAWN BY: JA	FIGURE 1.30
			CHECKED BY: SZ	

Executive Hangars

There are two types of executive hangars at VRB: executive and large executive. There are five executive hangars and two large executive hangars. Each executive hangar is 60 feet wide by 60 feet long, for a total of 3,600 square feet each. The hangars have a door height of 18 feet that opens to the southwest. The large executive hangars are 70 feet wide by 50 feet long, for a total of 3,500 square feet each. Both large executive hangars have 18-foot doors that open to the northeast. **Figure 1.31** shows two executive hangars.

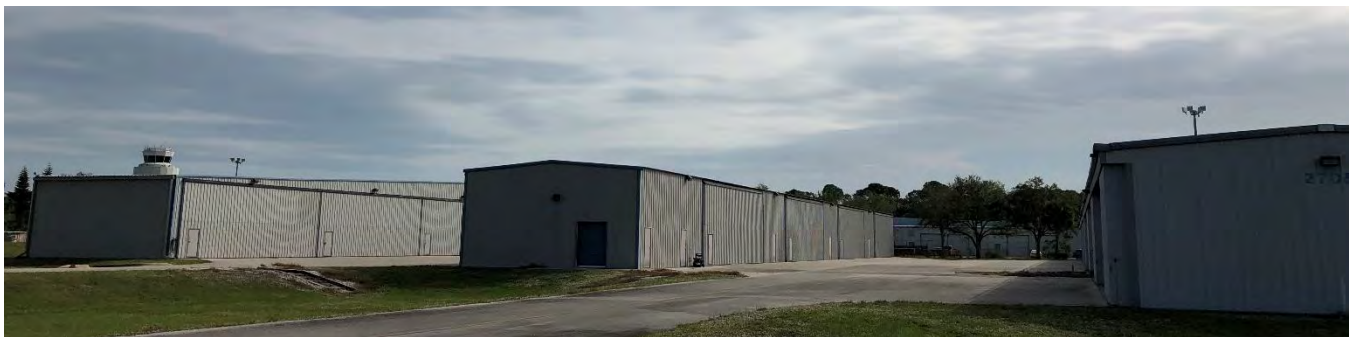
FIGURE 1.31: CITY-OWNED EXECUTIVE HANGARS 6 AND 7



Box Hangars

There are six box hangars measuring 48 feet wide by 39 feet long, for a total of 1,872 square feet. Each box hangar has a 14-foot-tall access door that opens to the southwest. **Figure 1.32** shows the box hangars on the left and two sets of T-hangars on the right.

FIGURE 1.32: CITY-OWNED BOX AND T-HANGARS



T-Hangars

There are two differently sized T-hangars within the hangar facility area: medium T-hangars and small T-hangars. There are eight medium T-hangars that are 48 feet wide by 34 feet long. Each medium T-hangar has an access door that has a height of 14 feet and faces northeast or southwest. There are two storage areas on each end of the T-hangars that are approximately 18 feet wide by 12 feet long with 8-foot-tall access doors. There are two rows of small T-hangars, for a total of 28 T-hangars. Each small T-hangar is 49 feet wide by 32 feet long and has a 12-foot-tall access door that faces in a northeast-southwest orientation. There are three storage areas that are

17 feet wide by 11 feet long with 7-foot-tall access doors. There is also a meeting room available on the east side of the T-hangars.

Aircraft Storage – VRB Hangars Inc.

The city leases land to VRB Hangars Inc. for an area of Port-A-Port hangars, shown on **Figure 1.33**. Port-A-Port hangars were designed to be mobile. An aircraft owner could lease ground on an airport, purchase and place a Port-A-Port hangar on the property and then move the hangar in the future, if desired. More commonly, the Port-A-Port hangar owner would sell the hangar to another aircraft owner rather than move it. The Port-A-Port hangar area is north of the standard T-hangars and has 18 Port-A-Port units and two box hangars.

FIGURE 1.33: VRB PORT-A-PORT HANGAR AREA



Aircraft Storage – West Ramp

The west apron area is on the west side of Runway 4/22. There are six large hangars along the west apron. These hangars serve Barnhouse, Continental Jet, Corporate Air, Design Home, and Paris Air. Several of the hangars also have fuel service. Corporate Air has two hangars along its apron. There is approximately 100,000 square feet of hangar on the west side of VRB. **Figure 1.34** is a view of the West Ramp looking north.

FIGURE 1.34: WEST RAMP LOOKING NORTH



Aircraft Storage – North Ramp

North of Runway 12R/30L is an area of 11 large hangars totaling almost 90,000 square feet. The ramp for this area was developed on the alignment of one of the old NAS runways. Airport North Drive off Aviation Boulevard provides access to this area. The apron along Taxiway E provides the opportunity to construct additional hangars in the north airfield. Some of the hangar sites are height-limited by the ATCT line of sight to Runway 12L/30R. There are also stormwater detention facilities in the north ramp area, constructed to support the development of the Taxiway E apron and hangars. **Figure 1.35** shows the north airfield hangar area.

FIGURE 1.35: NORTH RAMP AREA



1.18. Commercial Service Facilities

Terminal Building

The terminal building is two stories and approximately 24,000 square feet and was constructed in 2009. As shown on **Figure 1.36**, the west side of the building houses the commercial airline services and airport administrative offices. The commercial airline service functions and an Avis rental car counter are on the first floor, and the airport administrative offices, a conference room, restrooms, and aircraft sales company Flightline are on the second floor.

FIGURE 1.36: TERMINAL BUILDING



The terminal building accommodates commercial service flights. To support commercial service, as shown on **Figure 1.37**, the terminal building includes a Transportation Security Administration screening area for passengers and luggage on the first floor. After screening, there is a lobby on the north side of the building. Passengers exit the west side of the terminal building to proceed to the commercial service hardstand apron to board the aircraft. The concrete apron was completed in 2021 and is north of the short-term automobile parking area. The apron was constructed with concrete and is approximately 83,000 square feet, as depicted on **Figure 1.38**.

The first floor of the east side of the building houses C.J. Cannon's restaurant and lounge. The restaurant overlooks the airfield. **Figure 1.39** shows the landside entrance to C.J. Cannon's.

FIGURE 1.37: SCREENING AREA

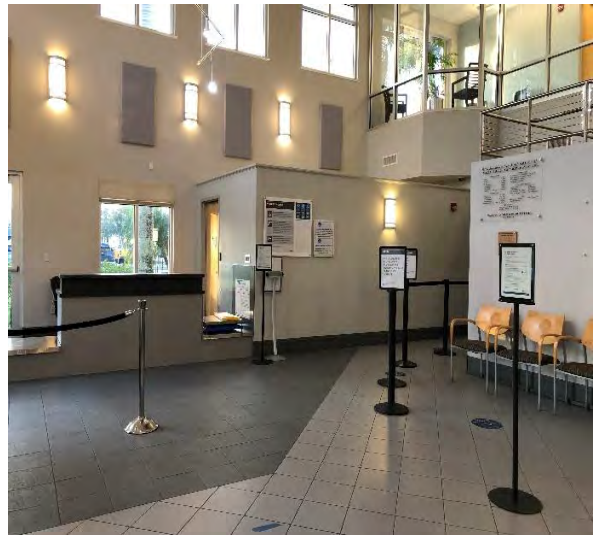


FIGURE 1.38: COMMERCIAL SERVICE HARDSTAND APRON



FIGURE 1.39: ENTRANCE TO C.J. CANNON'S



1.19. Ground Access, Parking, and Utilities

Ground Access

U.S. Route 1 and 43rd Avenue border VRB on the east and west side of the airfield. These roads are owned and controlled by others, including the state, city and county. Aviation Boulevard runs along the southern portion of the airport. Some portions of Aviation Boulevard are on airport property, and other portions are on city property. U.S. 1 is an urban principal arterial, while Airport Boulevard and 43rd Avenue are urban minor arterials. FDOT has an ongoing planning and development project to consider improvements to U.S. 1 at its intersection with Aviation Boulevard. There are also plans to extend Aviation Boulevard to the east to tie into the hospital. VRB is coordinating with the proponents of these proposed projects so there are no adverse impacts to the airport or its FAA grant assurances.

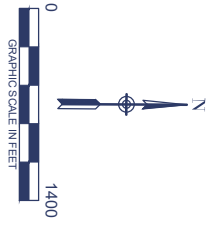
Access to the terminal is provided by Airport Drive, Flight Safety Drive, or Piper Drive from Aviation Boulevard. Airport West Drive provides access to the west airfield area. Airport North Drive provides access to the north ramp. 41st Avenue is north of VRB and is not used for public access to the airport. The Main Relief Canal is south of VRB. **Figure 1.40** depicts the surrounding roadways.

Terminal Parking Areas

Short- and long-term automobile parking serves the terminal at VRB, as depicted on **Figure 1.41**. The short-term parking area is north of Cherokee Drive, adjacent to the terminal building, and includes 84 standard parking spaces, 13 compact parking spaces, and four accessible parking spaces.

Additional short-term parking adjacent to C.J. Cannon's offers vehicle parking and that includes six standard parking spaces and four accessible parking spaces.

The long-term parking areas are south of Cherokee Drive, across from the terminal building. There are two long-term parking areas labeled Long-Term Parking Lot A and Long-Term Parking Lot B. Lot A is at the southwest corner of Cherokee Drive and Airport Drive and includes 51 standard parking spaces. Lot B is directly south of Lot A and includes 82 standard parking spaces. The airport is studying the potential need to expand the parking to support the Breeze service. Other businesses at VRB and Piper Aircraft have their own designated parking areas.



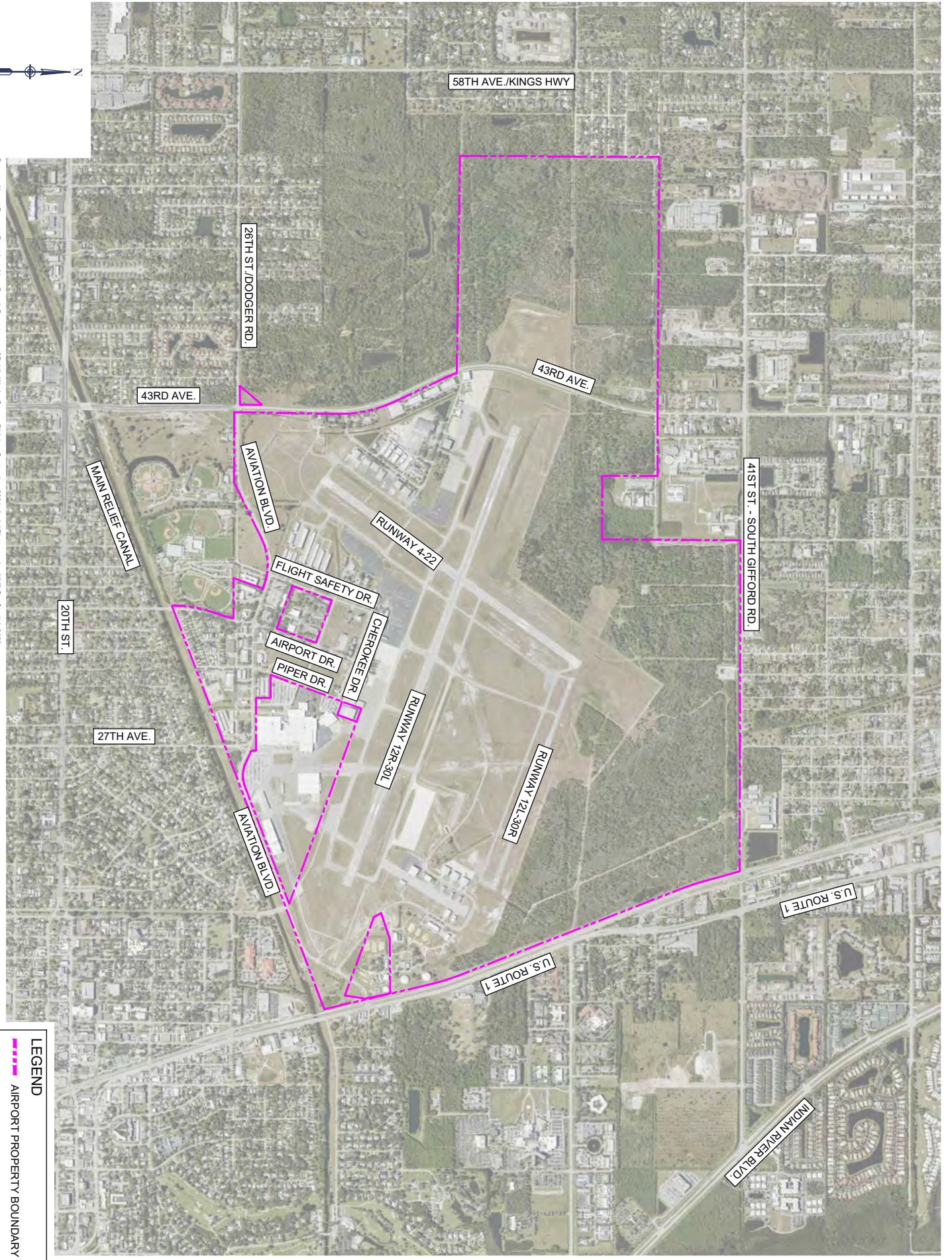
Source: Airport Property Boundary, Vero Beach Department of Public Works Survey Division, September 2021; Aerial Photography, NACS Geospatial, 2023.



VERO BEACH REGIONAL AIRPORT
 MASTER PLAN

ROADWAYS SURROUNDING VRB

LEGEND	
	AIRPORT PROPERTY BOUNDARY
DRAWN BY: JA	FIGURE 1.40
CHECKED BY: SZ	





Source: Aerial Photography, NV5 GeoSpatial, 2023.



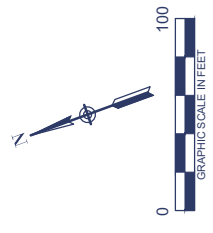
VERO BEACH REGIONAL AIRPORT MASTER PLAN

TERMINAL PARKING AREAS

DRAWN BY: JA

CHECKED BY: SZ

FIGURE 1.41



Utilities

When VRB was operated as a NAS in the 1940s, many of the utilities were constructed to support the needed infrastructure. Many of the current utility systems date to the Navy days, while others have been replaced. Utility data is being collected as part of this master plan, so any needed upgrades or expansions can be considered. Coordination calls with the Vero Beach Public Works Department were conducted to collect the location and age of the utilities. **Figure 1.42** depicts the known utilities on and around VRB.

Electric

On December 17, 2018, Florida Power and Light (FPL) began serving Vero Beach, taking over the electric service from the city. FPL is the largest power utility in Florida. There are above-ground power lines along the north and west airport property line in a 50-foot easement. There are also two electric substations on VRB. One is along 41st Street on the north side of VRB. The other is south of Aviation Boulevard.

Water and Sewer

Water and sewer service is provided by the City of Vero Beach. Most of the City's water wells are on VRB, as shown on **Figure 1.43**. The water treatment plant is also on VRB. A new sanitary treatment plant will be built on VRB. No development is allowed within 100 feet of the water wells. Other types of development are limited within 500 feet of the water wells to avoid potential contamination. The northeastern part of VRB is part of the recharge area for Vero Beach, as shown on **Figure 1.44**.

Stormwater

The availability of stormwater data is limited, because much of the system dates to the 1940s. As development has occurred on the airport, stormwater detention has been added. A stormwater master plan is being prepared concurrently with the airport master plan. As data is available from the stormwater master plan, it will be incorporated into the airport master plan for consideration during the alternatives analysis evaluation.

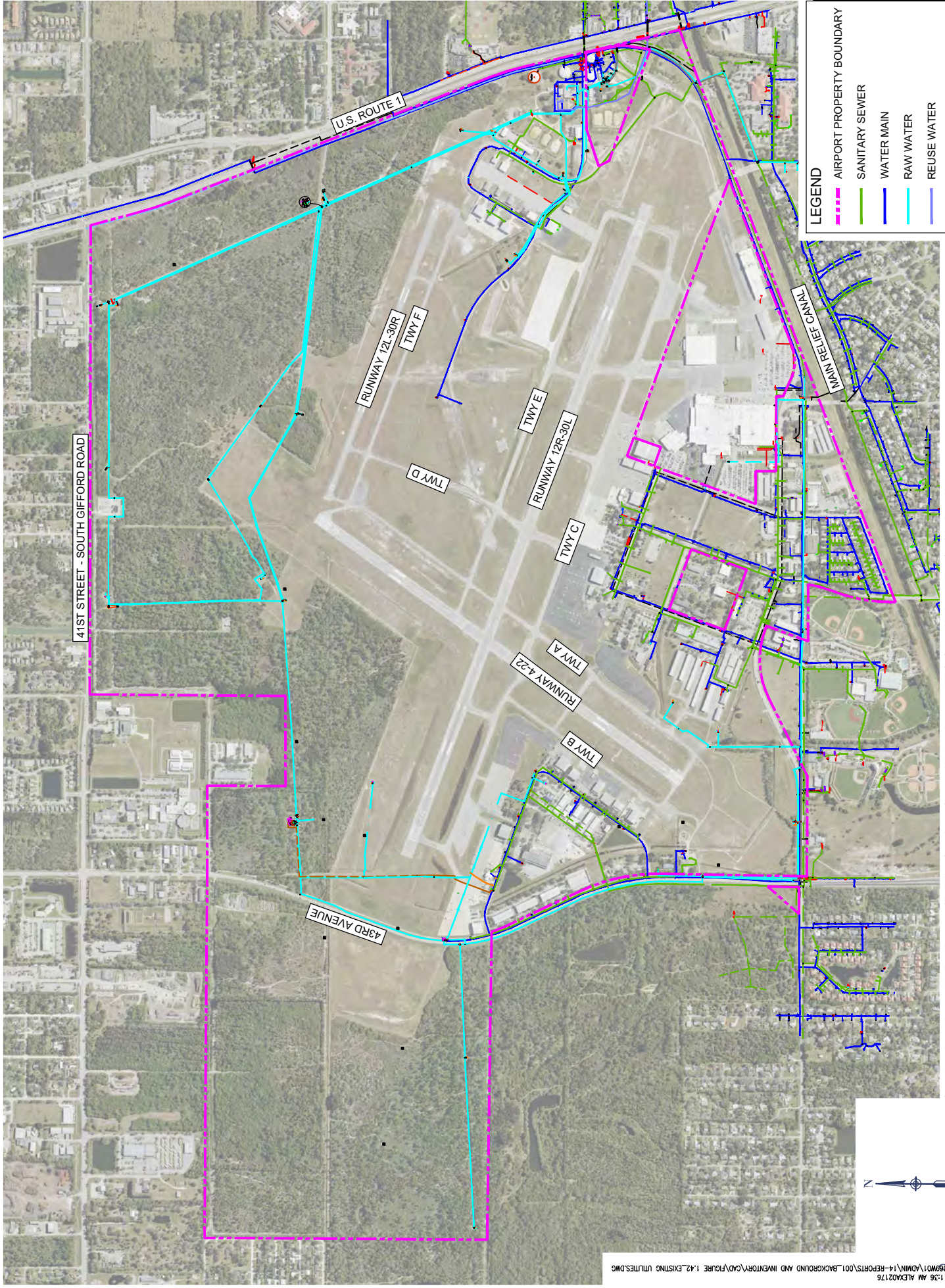
Natural Gas

Based on as-built construction documents dated February 2021, a new 6-inch gas main was installed along the northern edge of Aviation Boulevard. This new main tied into a 4-inch gas main at the northeast intersection of Aviation Boulevard and 43rd Avenue. Moving to the east, the new main tied into another 6-inch gas main on the west side of Piper Drive. The new main was located with consideration to the ultimate widening of Aviation Boulevard.

As-builts from March 2021 depict four additional sites that include the installation of 2-inch gas mains on the east sides of Flight Safety Drive and Airport Drive at the intersection of Aviation Boulevard.

Fiber

Most of the fiber infrastructure around the airport is owned by AT&T. There is fiber to the two electrical substations on the airport.



LEGEND

- AIRPORT PROPERTY BOUNDARY
- SANITARY SEWER
- WATER MAIN
- RAW WATER
- REUSE WATER

DRAWN BY:	JA	FIGURE	1.42
CHECKED BY:	SZ		

EXISTING UTILITIES

VERO BEACH REGIONAL AIRPORT
MASTER PLAN



Source: Airport Property Boundary, Vero Beach Department of Public Works Survey Division, September 2021; Aerial Photography, NVS GeoSpatial, 2023; Existing Utilities, City of Vero Beach, 2023.



FIGURE 1.43: WATER WELL PROTECTION AREAS ON VRB

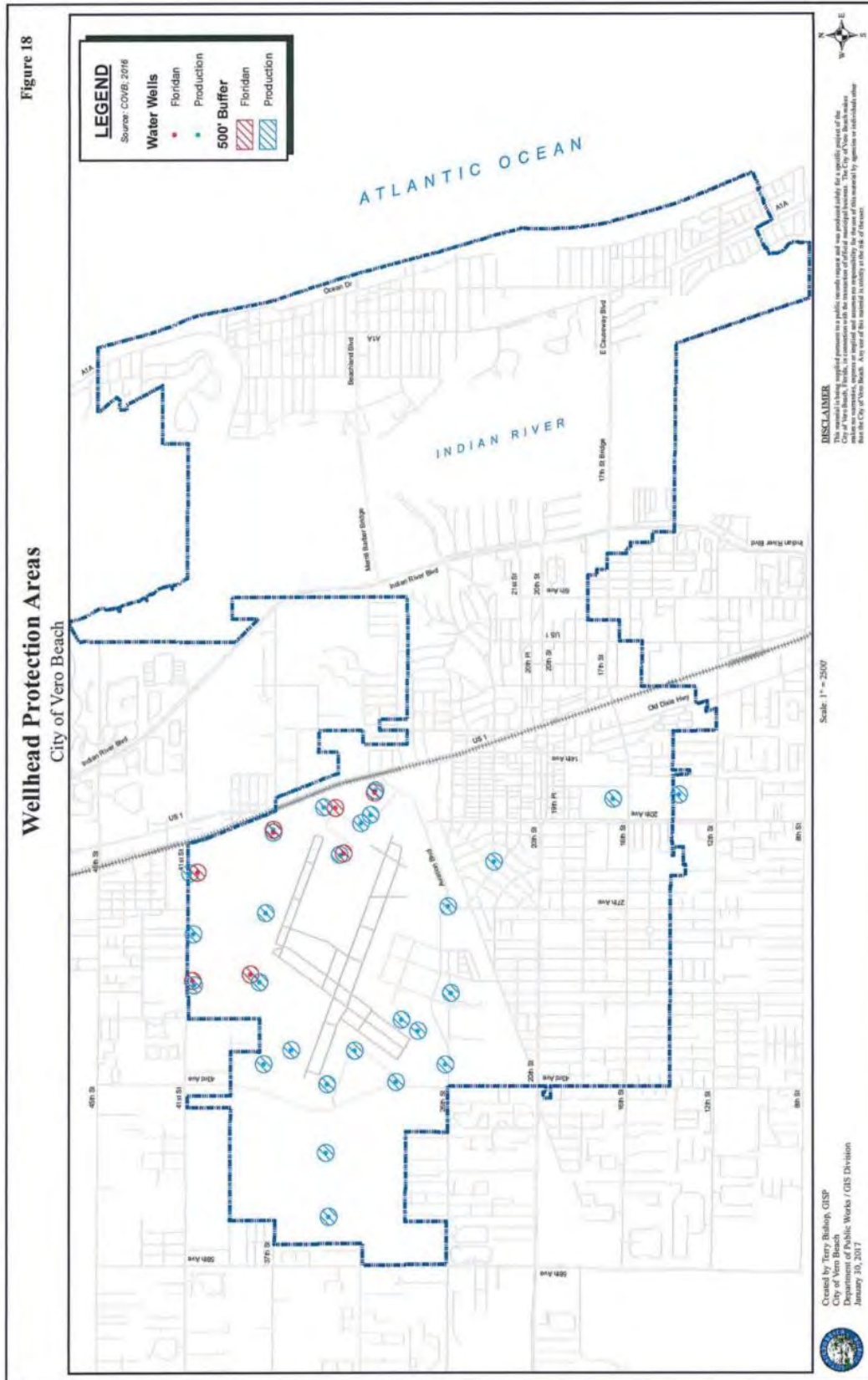
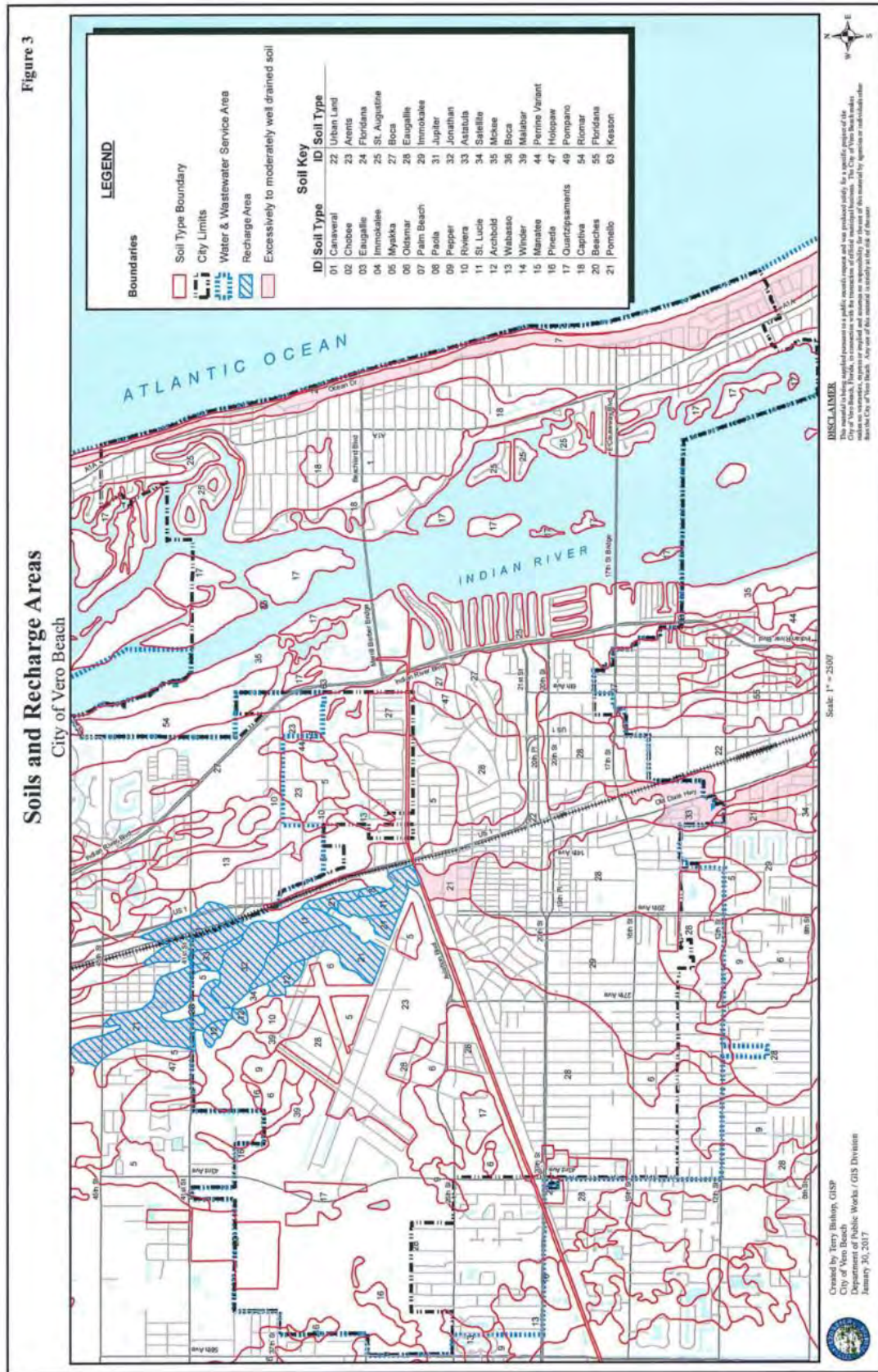


FIGURE 1.44: SOILS AND RECHARGE AREAS



1.20. South Nonaeronautical Facilities

Because the City of Vero Beach was deeded a large parcel of land by the U.S. government after the closure of the NAS, there was sufficient land to provide an airport as well as additional land to develop a revenue stream to support the airport. Thus, there are areas of nonaeronautical development on the airport. These areas are primarily on the south and west sides of the airport. **Figure 1.47** depicts the south nonaeronautical development.

South Airport

The south nonaeronautical development comprises two primary areas. The first area is north of Aviation Boulevard. **Figure 1.45** is an example of nonaeronautical development in this area. The Skyborne Airline Academy residential accommodations for students are in this area but off airport property. The other businesses in this area include:

- Aero Treasure Coast Storage
- AT&T
- Florida Pilot Center
- Fox Marine
- Indian River Distillery
- La Bella Casa Salon
- Olivia's (café)
- Rosner Motorsports
- Storage Me Aero
- Summit Construction Management
- Technology Partners

FIGURE 1.45: SOUTH AIRPORT NONAERONAUTICAL DEVELOPMENT

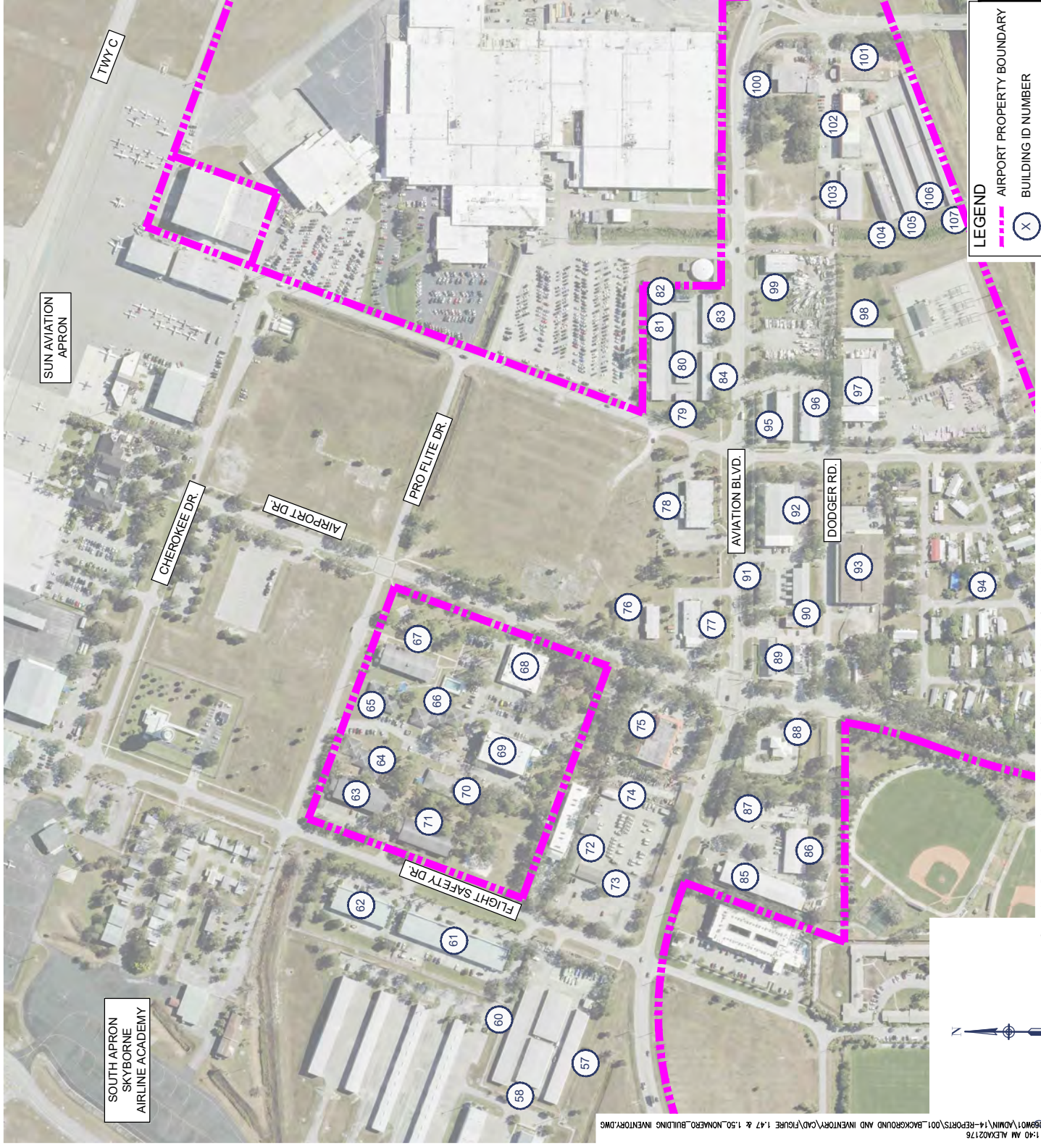


South of Aviation Boulevard are additional businesses, including (some of these are within the Vero Airport Trade Center):

- Backbeat Music Parlor
- Beacon Building Products
- Binafif Aluminum
- Catelli Cigar Lounge
- Complete Marine Services
- Dragonfly Boatworks
- Edificium Construction
- Exxon/Mobil
- Ferrellgas
- iTHINK Financial
- J&B Aluminum Construction
- Loyalty Barber Spot
- Martell Physical Therapy Corp.
- Nettie's Roadside Restaurant
- Unicorn Epoxy
- Vero Airport Trade Center (30-plus businesses; see **Figure 1.46**)
- Walking Tree Brewery

FIGURE 1.46: VERO AIRPORT TRADE CENTER





D	DESCRIPTION
57	STORAGE ME AERO
58	STORAGE ME AERO
59	STORAGE ME AERO
60	ROSNER MOTORSPORTS
61	SUMMIT CONSTRUCTION
62	SKYBORNE AIRLINE ACADEMY
63	SKYBORNE AIRLINE ACADEMY
64	SKYBORNE AIRLINE ACADEMY
65	SKYBORNE AIRLINE ACADEMY
66	SKYBORNE AIRLINE ACADEMY
67	SKYBORNE AIRLINE ACADEMY
68	SKYBORNE AIRLINE ACADEMY
69	SKYBORNE AIRLINE ACADEMY
70	SKYBORNE AIRLINE ACADEMY
71	SKYBORNE AIRLINE ACADEMY
72	AT&T
73	AT&T
74	AT&T
75	QUVIA'S JESUS EL REY DE GLORIA LA BELLA CASA SALON TECHNOLOGY PARTNERS
76	PROPERTY LIFE
77	INDIAN RIVER DISTILLERY THREE BITE TAPCOS
78	VACANT
79	AERO TREASURE COAST STORAGE
80	AERO TREASURE COAST STORAGE
81	AERO TREASURE COAST STORAGE
82	AERO TREASURE COAST STORAGE
83	AERO TREASURE COAST STORAGE
84	AERO TREASURE COAST STORAGE
85	DRAGONFLY BOATWORKS
86	DRAGONFLY BOATWORKS
87	DRAGONFLY BOATWORKS
88	ITHINK FINANCIAL
89	EXXON MOBIL
90	ZION OPTO INC
91	ZION OPTO INC
92	ZION OPTO INC
93	WALKING TREE BREWERY
94	MOBILE HOME PARK
95	CA TELLO CIGAR LOUNGE BACKBEAT MUSIC PARLOR
96	RIDGELINE ROOFING
97	BEACON BUILDING PRODUCTS
98	DRAINAGE EASEMENT FOR FPAL
99	COMPLETE MARINE SERVICES
100	VERO AIRPORT TRADE CENTER
101	VERO AIRPORT TRADE CENTER
102	VERO AIRPORT TRADE CENTER
103	VERO AIRPORT TRADE CENTER
104	VERO AIRPORT TRADE CENTER
105	VERO AIRPORT TRADE CENTER
106	VERO AIRPORT TRADE CENTER
107	VERO AIRPORT TRADE CENTER

* BUILDINGS ONLY AND RELEASE WITH AIRPORT
 ** NOT AIRPORT TENANT

Source: Airport Property Boundary, Vero Beach Department of Public Works Survey Division, September 2021; Aerial Photography, NVS GeoSpatial, 2023.



The local entertainment businesses including Walking Tree Brewery, Backbeat Music Parlor, and Catelli Cigar Lounge, are referred to as an entertainment district. Below are highlights of several diverse businesses in the south nonaeronautical area, including the entertainment district.

Backbeat Music Parlor

Backbeat Music Parlor is adjacent to Catelli Cigar Lounge on the southeast corner of Aviation Boulevard and Piper Drive. Known as Vero Beach's premier music spot, the Backbeat Music Parlor has parking on the north and east sides of the building. The parlor attracts many local musicians from the Treasure Coast area and brings music and entertainment to Vero Beach.

Catelli Cigar Lounge

Catelli Cigar Lounge is adjacent to the Backbeat Music Parlor and is on the southeast corner of Aviation Boulevard and Piper Drive. Parking for the lounge is on the north and east sides of the building. Catelli Cigar Lounge offers premium cigars and a variety of wines and craft beers.

Rosner Motorsports Inc.

Rosner Motorsports Inc. is a preowned luxury, exotic, and vintage car dealer. The facility is approximately 18,000 square feet and includes a climate-controlled showroom and state-of-the-art service center, where any model automobile can be serviced. Rosner Motorsports buys, sells, and trades vehicles and offers auto loans or lease options.

Summit Construction Management Inc.

Summit Construction Management Inc. is in the northern strip building and started in 1999. It primarily works in Indian River and St. Lucie counties, which supports the surrounding community. It provides design, construction management, and general contracting services on a variety of projects, including residential, commercial, municipal, and educational. The Summit Construction Management Inc. team offers in-house project managers, general superintendents, business managers, and architects.

Walking Tree Brewery

Walking Tree Brewery began in 2016 and is south of Dodger Road between Airport Drive and Piper Drive. As shown on **Figure 1.48**, the brewery operates in a building that is approximately 24,000 square feet and was built in 1945. The building has been renovated since its early days as a naval warehouse. Parking is on the east side of the building and includes 19 standard, four compact and two accessible spaces. The brewery provides several award-winning craft beer options and hosts events, including concerts, weddings, receptions, corporate functions, and charity events.

FIGURE 1.48: WALKING TREE BREWERY



Citrus Park Village, a mobile home community that has been in place for more than 50 years, is south of Aviation Boulevard. It is within the airport property line, as depicted on the ALP. Under an agreement with the FAA, the airport property line should be modified to move Citrus Park Village outside the airport property line. The airport has maintained Citrus Park Village and will continue to do so.

West Industrial Area

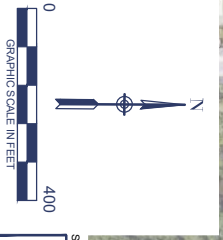
The west industrial area is along 43rd Avenue and Airport West Drive, as shown on **Figure 1.50**. An example of the development is shown on **Figure 1.49**. A large portion of this area is occupied by City of Vero Beach Public Works and Engineering Facility. Other business in this area include:

- 43rd Avenue Mini-Storage
- Ace Marine Diesel
- Comfort Zone A/C and Heating
- DLC Flooring
- Double AA Performance
- E-Smartbuyer
- Florida Country Tile
- Florida Heart CPR
- Girard Equipment
- Hybrid Sources
- Image360 Vero Beach
- My Florida Roofing Contractor
- Paris Air
- Reilly Construction and Development
- Sherwin-Williams
- SunCoast School
- Teamsters Local 769
- To Every Nation Thrift Store
- Treasure Coast Coffee Traders

FIGURE 1.49: WEST AIRPORT NONAERONAUTICAL DEVELOPMENT



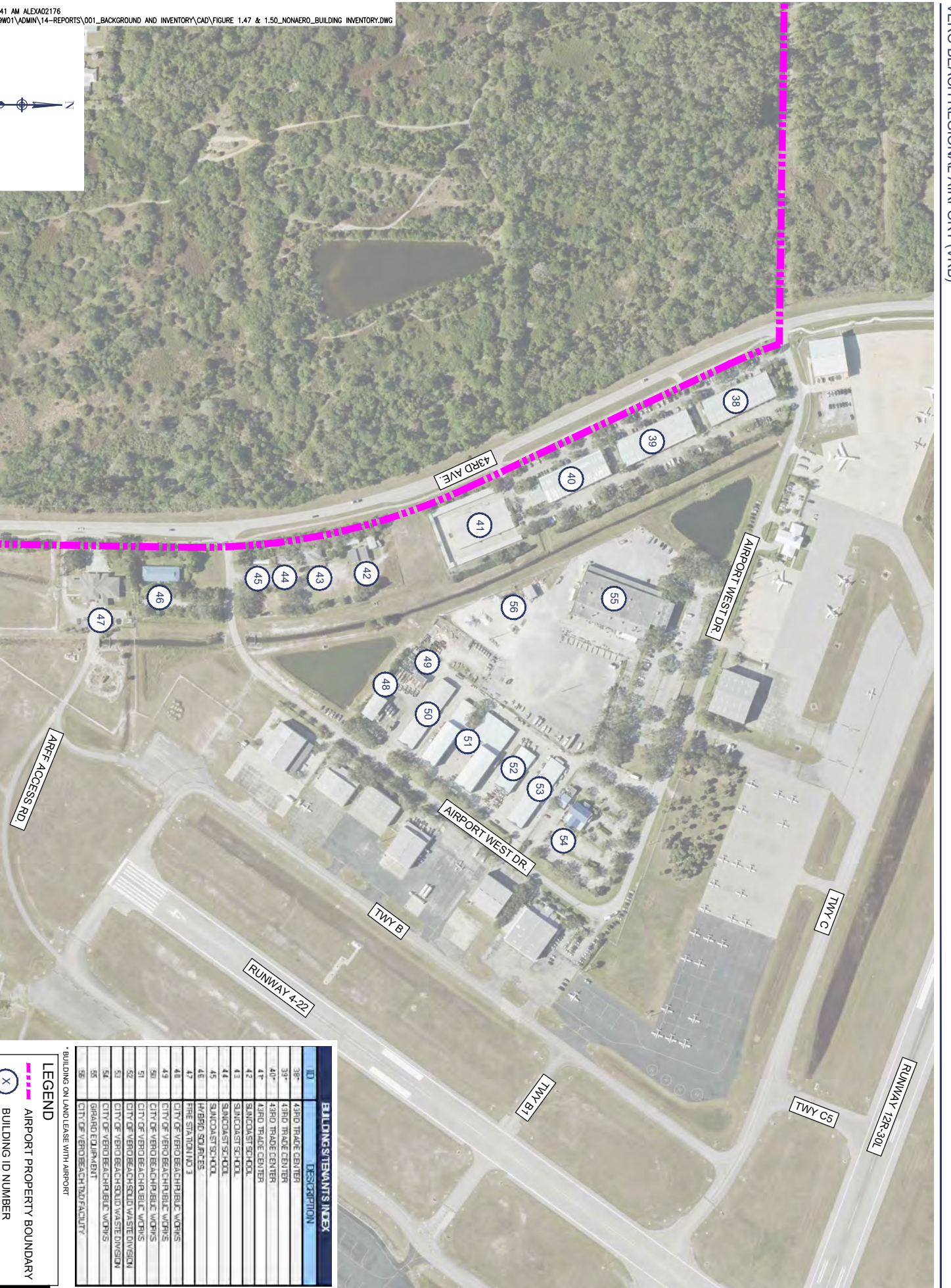
Fire Station 3 is also along 43rd Avenue. This station provides fire and rescue services for VRB, as discussed in Section 1.22.



Source: Airport Property Boundary, Vero Beach Department of Public Works Survey Division, September 2021; Aerial Photography, NWS Geospatial, 2023.

VERO BEACH REGIONAL AIRPORT
 MASTER PLAN

WEST AIRPORT
 NONAERONAUTICAL FACILITIES



ID	DESCRIPTION
38*	43RD TRADE CENTER
39**	43RD TRADE CENTER
40*	43RD TRADE CENTER
41*	LYRO TRADE CENTER
42	SUNCOAST SCHOOL
43	SUNCOAST SCHOOL
44	SUNCOAST SCHOOL
45	SUNCOAST SCHOOL
46	HYBRID SOLAR PLS
47	FIRE STATION NO. 3
48	CITY OF VERO BEACH PUBLIC WORKS
49	CITY OF VERO BEACH PUBLIC WORKS
50	CITY OF VERO BEACH PUBLIC WORKS
51	CITY OF VERO BEACH PUBLIC WORKS
52	CITY OF VERO BEACH SOLID WASTE DIVISION
53	CITY OF VERO BEACH SOLID WASTE DIVISION
54	CITY OF VERO BEACH PUBLIC WORKS
55	GRIPARO EQUIPMENT
56	CITY OF VERO BEACH TRAFFIC FACILITY

* BUILDING ON LAND LEASE WITH AIRPORT

LEGEND

AIRPORT PROPERTY BOUNDARY

BUILDING ID NUMBER

DRAWN BY: JA FIGURE 1.50
 CHECKED BY: SZ

1.21. City of Vero Beach Facilities

Figure 1.50 includes facilities operated under the City of Vero Beach. Below is a description of each facility.

City of Vero Beach Public Works and Engineering Facility

The City of Vero Beach Public Works and Engineering Facility is on the west side of the airport. As depicted in **Figure 1.51**, the building is approximately 5,000 square feet and is located off Airport West Drive. Parking is available around the facility that includes 143 standard spaces and three accessible spaces. The facility provides civil engineering, surveying, and geographic information system services to other public works departments and the City of Vero Beach. The facility also issues permits and provides construction inspections in the city’s right-of-way, among other services and responsibilities.

FIGURE 1.51: CITY OF VERO BEACH PUBLIC WORKS AND ENGINEERING FACILITY



City of Vero Beach Solid Waste Division

The City of Vero Beach Solid Waste Division is located off Airport West Drive on the west side of VRB. The facility is approximately 3,500 square feet. Behind the building, there is approximately 20,000 square feet of workspace available for work trucks and garbage/recycling storage equipment. The facility provides storage and maintenance services for the vehicles. No disposal of solid waste occurs at the facility.

1.22. Other Airport Facilities and Equipment

Aircraft Rescue and Firefighting

Per FAA regulations, operators of Part 139 airports must provide ARFF services during air carrier operations. Fire Station 3 operates as the ARFF facility at VRB. As shown on **Figure 1.52**, the ARFF station is in the southeast quadrant of the airfield, off the Runway 4 end. Landside access is from Airport W Drive via 43rd Avenue. The station is approximately 12,000 square feet with two bays and is equipped with a 1993 Oshkosh T-1500 with 1,500 gallons of water/aqueous film forming foam (AFFF) and a 2010 Rosenbauer Airwolf with 750 gallons of water/AFFF. Both ARFF vehicles are equipped with 500 pounds of dry chemical capacity. VRB also has a supplemental ARFF vehicle, a 2007 Crash Rescue CAV 5300 with 300 gallons of water/AFFF and 500 pounds of dry chemical. The ARFF vehicles also carry other firefighting equipment. An access road is provided from the station to the airfield to meet the FAA’s requirement of three minutes from the station to the midpoint of the farthest runway (Runway 12R/30L) serving air carrier aircraft.

FIGURE 1.52: ARFF STATION (FIRE STATION 3)



The FAA has five possible ARFF indexes considering the maximum length of aircraft operating at the airport and average daily departures, known as the ARFF Index. The indexes range from ARFF Index A through ARFF Index E. VRB is classified with an ARFF Index B. **Table 1.3** below summarizes the ARFF Index requirements.

TABLE 1.3: ARFF INDEX REQUIREMENTS

ARFF Index Requirements		
ARFF Index	Maximum Aircraft Length	Minimum Number of ARFF Vehicles Required
A	< 90 feet	1 Class 1 (100 gal of water/AFFF and 500 pounds of dry chemical or equivalent)
B	< 90 feet but less than 126 feet	1 Class 1/1 Class 4 1,500 gal of water/AFFF; if Class 4 has dry chemical, Class 1 not needed)
C	< 126 feet but less than 159 feet	1 Class 1 and 2 Class 4
D	< 159 feet but less than 200 feet	1 Class 1, 1 Class 4 and 1 Class 5 (3,000-4,500 gallon water/AFFF)
E	At least 200 feet	1 Class 1 and 2 Class 5

Class 2 (300 gallon water/AFFF and dry chemical) or Class 3 (500 gallon water/AFFF and dry chemical) can be substituted for a Class 1.

Source: Electronic Code of Federal Regulations (eCFR) Title 14, Chapter I, Subchapter G, Part 139, Subpart D, Subsection 139.315, [eCFR: 14 CFR 139.315 -- Aircraft rescue and firefighting: Index determination.](#), accessed October 2022.

FAA Advisory Circular 150/5220-10E: Guide for Specification of Aircraft Rescue and Fire Fighting (ARFF) Vehicles, June 1, 2011.

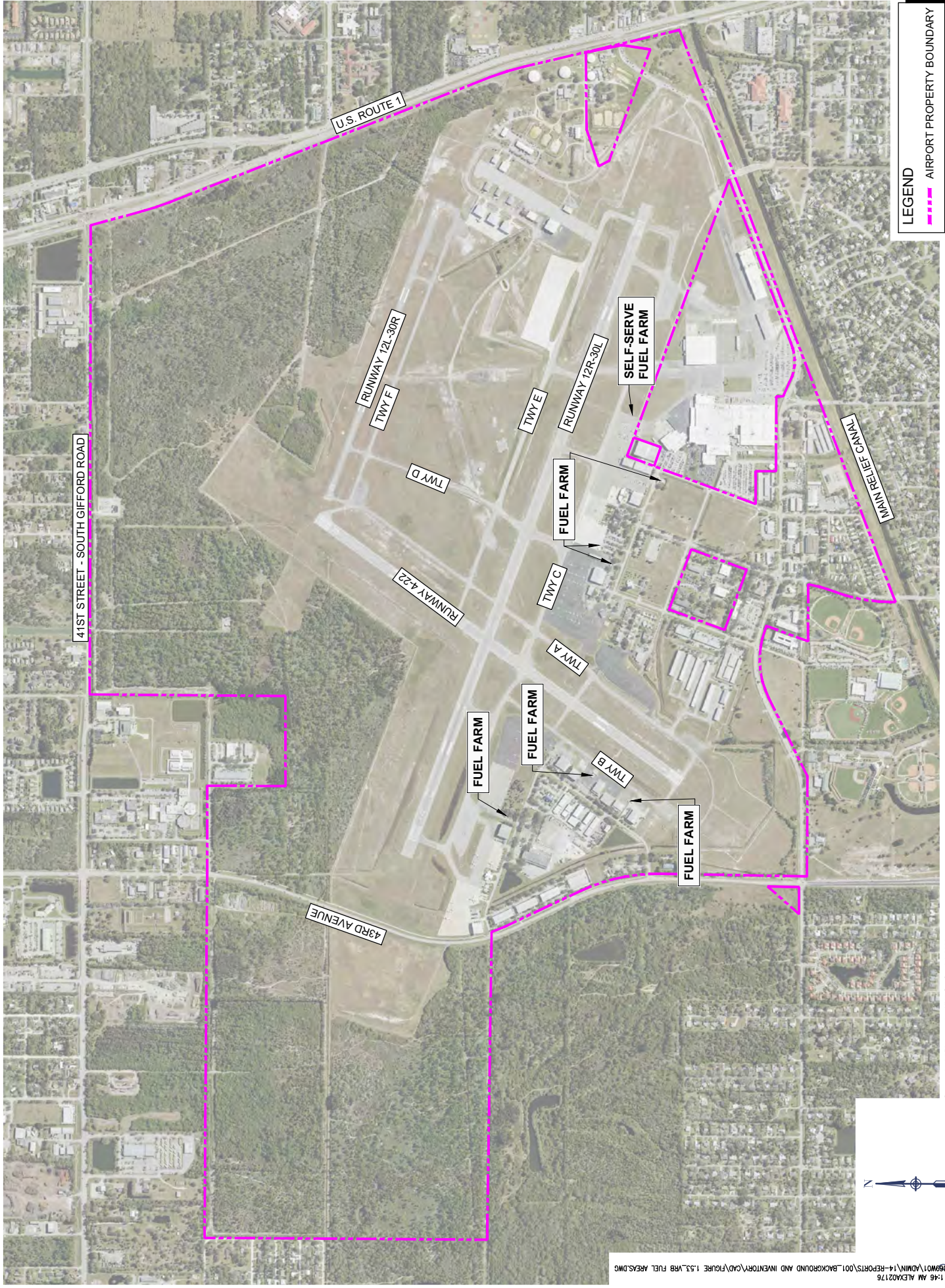
Fuel Areas

Figure 1.53 depicts the locations of the fuel farms at VRB. **Table 1.4** summarizes the type of fuel and fuel tank capacities for each location.

TABLE 1.4: SUMMARY OF FUEL AREAS

Summary of Fuel Areas		
Location (FBO)	Fuel Type Available	Fuel Capacity
Continental Jet	Jet A	5,000 gal
Corporate Air	Jet A 100 LL	2–20,000 gal 12,000 gal (reducing to 8,000 gal)
Paris Air	100 LL	5,000 gal self-serve
Skyborne	100 LL Autogas (refuel ground vehicles) Diesel (refuel ground vehicles)	2–12,000 gal 500 gal 500 gal
Sun Aviation	Jet A 100 LL	40,000 gal 20,000 gal

Source: Airport tenant interviews collected November 17, 2022, and follow-up calls.



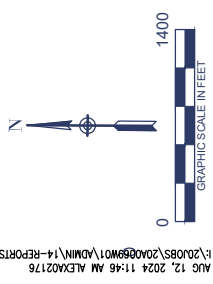
LEGEND
--- AIRPORT PROPERTY BOUNDARY

DRAWN BY:	JA	FIGURE	1.53
CHECKED BY:	SZ		

VRB FUEL AREAS

VERO BEACH REGIONAL AIRPORT
 MASTER PLAN

Source: Aerial Photography, NV5 GeoSpatial, 2023.



Airport Operations Facility

The airport operations facility, as shown on **Figure 1.54**, is in the City of Vero Beach hangar facility area. The building is approximately 8,000 square feet and is accessed via a security gate south of the west industrial area off Flight Safety Drive. Automobile parking is on the east side of the building and includes 10 standard spaces.

Security and Fencing

VRB has an access control/badging system in place, and the Vero Beach Police Department provides 24-hour patrols. The airfield is surrounded by 8.5-foot, chain-link fence with barbed wire on top. The airport has 53 gates around the perimeter with access control including card readers, plus the Piper access. Additional security fencing is on the north and west sides of the terminal building for access to the commercial service apron.

FIGURE 1.54: AIRPORT OPERATIONS FACILITY



Perimeter Road

VRB has some sections of perimeter road within the airport fence. There is a section off the end of Runway 30L that provides access between the north and south sides of the airport. There is also an airfield access road from the north airfield hangars to the electrical vault. There is an ARFF access road from the fire station around the end of Runway 4.

1.23. Airport Management Structure

The airport staff are employees of the City of Vero Beach. Airport leadership includes the airport director, assistant director and operations manager, property and business administrator, commercial leasing and property administrator, airport security specialist, and administrative assistant. The City of Vero Beach Annual Comprehensive Financial Report, Fiscal Year Ended September 30, 2021 identified 12 full-time equivalent city employees at VRB. The airport is an enterprise fund of the city. The financial report listed rental income received by the airport fund of \$2,631,440. The airport has more than \$65 million in assets, including capital assets.

1.24. Minimum Standards

Minimum standards have been established for VRB by the Vero Beach City Council. They were most recently updated April 17, 2018, and are included in **Appendix C**. Minimum standards assist an airport in meeting its FAA grant assurances relative to economic nondiscrimination and exclusive rights (avoiding) by establishing minimum levels of service, qualifications, and facilities for the various types of entities desiring to provide commercial aeronautical services at VRB.

1.25. Voluntary Noise Abatement Program

VRB has established a voluntary noise abatement program. The program includes measures regarding flight operations and traffic pattern altitudes, hours for touch-and-go operations and maintenance (not preflight) engine run-ups. Additional details on the program are available on the airport's website.

1.26. Foreign Trade Zone

Indian River County is part of the St. Lucie County Foreign Trade Zone (FTZ) 218. An FTZ allows companies to import raw materials to be used in the manufacture of a finished product without paying customs duty. If the finished good is reexported, no customs tax is due. Duty is only paid when the goods are shipped out of the FTZ into the U.S. market. The FTZ is site-specific, allowing a company to locate an FTZ anywhere within the county.

1.27. Surrounding Airports

There are 128 public-use commercial service and general aviation airports identified in the FASP. VRB is part of the Treasure Coast Continuing FASP Planning Process Region. There are seven public-use airports within this region, including VRB, as depicted on **Figure 1.55**. New Hibiscus Airpark (X52) is the closest to VRB at 6 nautical miles. Treasure Coast International Airport (FPR) and Sebastian Municipal Airport (X26), 10 nautical miles away in Fort Pierce and Sebastian, respectively, are the closet airports with instrument approaches. The closest commercial service airport is Melbourne Orlando International Airport (MLB) in the East Central Continuing FASP Planning Process Metropolitan Area. These airports are summarized in **Table 1.5**.

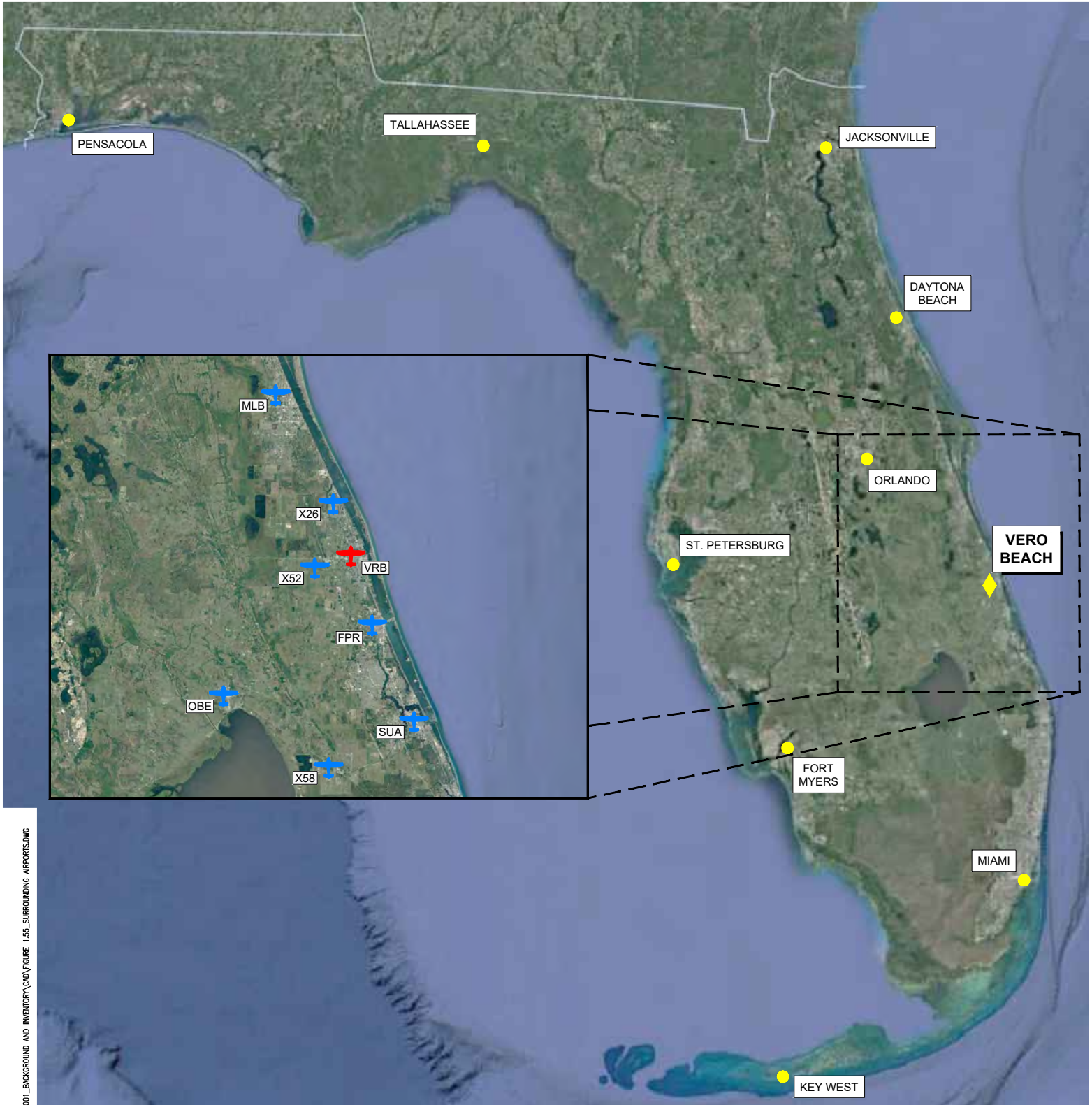
TABLE 1.5: SURROUNDING AIRPORTS

Surrounding Airports						
ID	Airport	NPIAS Role	Runways		Nautical Air Miles	Ground Travel Time
			#	Longest (ft.)		
X52	(Vero Beach) New Hibiscus Airpark	Non-NPIAS	1	3,120 (turf)	6	14 mins
FPR	Treasure Coast International Airport	Regional	3	6,492	10	27 mins
X26	Sebastian Municipal Airport	Local	2	4,023	10	27 mins
SUA	(Stuart) Witham Field Airport	National	3	5,828	30	1 hr 1 min
OBE	Okeechobee County Airport	Regional	2	5,000	33	1 hr 5 mins
X58	Indiantown Airport	Non-NPIAS	1	6,300 (turf)	37	1 hr 3 mins
MLB	Melbourne Orlando International Airport	Primary - Nonhub	3	10,181	29	49 mins

Source: Vero Beach Regional Airport, AirNav.com, accessed October 17, 2022.

1.28. Aircraft Accidents

The National Transportation Safety Board (NTSB) is an independent federal agency responsible for investigating civil aviation accidents in the United States, determining the probable cause of accidents, and issuing safety recommendations to help prevent future events. The NTSB maintains the Aviation Accident Database and Synopses. This database was reviewed in October 2022 to determine if any prior accidents or incidents at VRB contained outstanding safety recommendations for the airport, which would be considered during the facilities requirement phase of the airport master plan. The database contained 38 accidents and incidents associated with VRB from 1982 to 2007, see **Appendix D**. There were three incidents, 33 nonfatal accidents, and two fatal accidents noted. There were no outstanding airport-related safety recommendations.





AUG 12, 2024 11:47 AM ALEX002176
 I:\2020B5\20A0689M01\ADMIN\14-REPORTS\001_BACKGROUND AND INVENTORY\CAD\FIGURE 1.55_SURROUNDING AIRPORTS.DWG



Source: Aerial Photography, Google Earth, accessed October 18, 2022.

 	VERO BEACH REGIONAL AIRPORT MASTER PLAN	SURROUNDING AIRPORTS	DRAWN BY: JA	FIGURE 1.55
			CHECKED BY: SZ	

LEGEND

-  VERO BEACH REGIONAL AIRPORT (VRB)
-  AIRPORT WITHIN 30 NAUTICAL MILES

1.29. Meteorological Data

Aircraft performance is influenced by weather, especially temperature and wind. VRB’s weather is influenced by its location near the Atlantic Ocean along the east coast of Florida. The hottest months are July and August, with a mean maximum daily temperature of 90.5 and 90.6 degrees F.²⁰ The summer months are the wettest months, averaging 5.5 to more than 7 inches of rain per month. The area averaged 50 inches of rain per year from 2000 to November 2022. The weather at VRB is also influenced by tropical storms and hurricanes.

1.30. Wind Analysis

Ideally, runways are aligned so 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. This means that 95% of the time, the crosswind does not exceed the demonstrated crosswind component (design capability or wind speed 90 degrees to the runway) for the aircraft. **Table 1.6** lists the crosswind components used by the FAA for planning. The crosswind coverage requirements are based on the runway design code (RDC). The RDC is based on aircraft size and speed. The RDE is defined by a letter designation followed by a Roman numeral. The letter identifies the aircraft approach category (AAC) based on aircraft approach speeds, and the Roman numeral indicates the airplane design group (ADG) based on wingspan and, less commonly, tail height.

TABLE 1.6: FAA CROSSWIND COMPONENTS

FAA Wind Coverage Requirement	
Runway Design Code (RDC)	Crosswind Component
A-I and B-I	10.5 knots
A-II and B-II	13 knots
A-III, B-III, and C-I through D-III	16 knots

The FAA standard for ALPs is to collect 10 consecutive years of wind data. The wind data for VRB was collected from the FAA’s Airport Data and Information Portal (ADIP) website. This portal helps the FAA collect airport and aeronautical data to meet the demands of the Next Generation Air Transportation System. The data comprises wind direction and speed readings (every hour or more frequently) over the most recent complete 10-year span. **Table 1.7** shows the wind data for VRB all-weather, instrument flight rules (IFR), and visual flight rules (VFR) conditions.

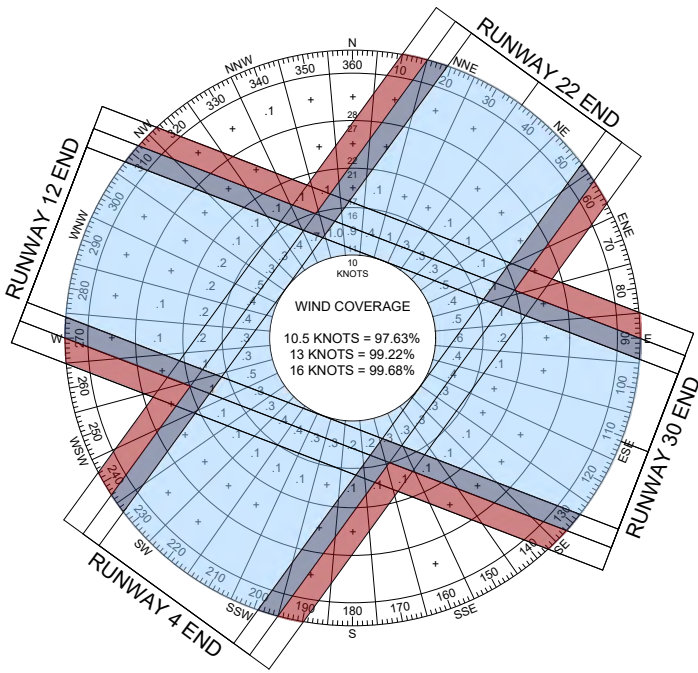
On the 2016 ALP, Runway 12R/30L is designated as ARC C-III, Runway 12L/30R was designated as ARC B-II, and Runway 4/22 was designated as ARC C-II. These classifications will be revisited as part of the aviation activity forecasting but provide a starting point for this initial review. Based on FAA guidance, as shown in Table 1.7, runways designated as ARC B-II should have 95% wind coverage for up to 13 knots. Runways for larger aircraft should have 95% wind coverage for the 16-knot crosswind component. **Figure 1.56** shows wind rose data for VRB. Based on the critical aircraft in the previous ALP, the current runway system appears to meet the FAA wind coverage requirements. The coverage will be validated based critical aircraft identified in this study as part of the facility requirements.

²⁰ National Weather Service monthly climate normals (1991-2020) for Vero Beach Area, FL, <https://www.weather.gov/wrh/Climate?wfo=mlb>, accessed December 27, 2022.

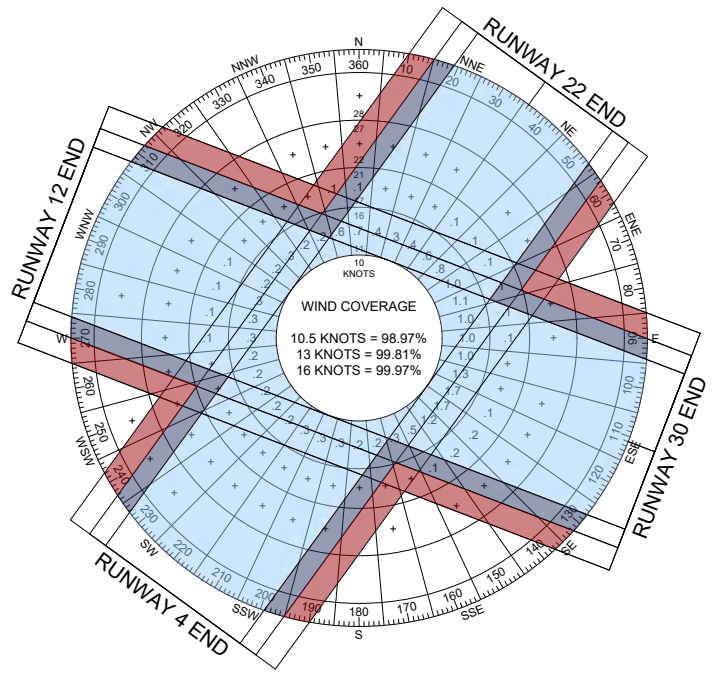
TABLE 1.7: WIND DATA

Wind Data Coverage									
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 4/22	88.52%	93.60%	98.49%	90.61%	94.39%	97.53%	88.29%	93.51%	98.59%
Runway 12/30	92.80%	96.38%	99.19%	91.67%	95.44%	98.47%	92.90%	96.47%	99.27%
Combined	98.84%	99.75%	99.95%	97.63%	99.22%	99.68%	98.97%	99.81%	99.97%

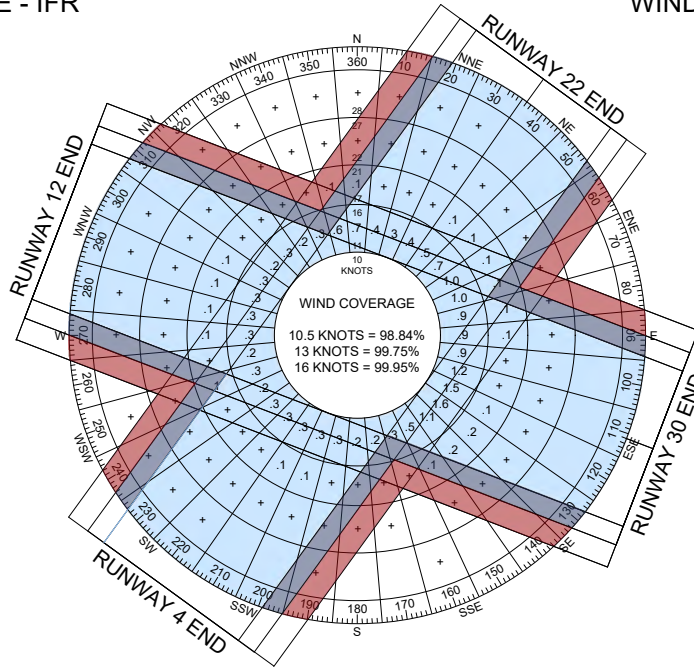
Source: FAA ADIP, VRB Wind Data from 2011–20, [Windrose \(faa.gov\)](http://windrose.faa.gov), accessed October 2022.



WIND ROSE - IFR



WIND ROSE - VFR



WIND ROSE - ALL WEATHER

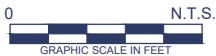
WIND DATA

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 4/22	88.52%	93.60%	98.49%	90.61%	94.39%	97.53%	88.29%	93.51%	98.59%
RUNWAY 12/30	92.80%	96.38%	99.19%	91.67%	95.44%	98.47%	92.90%	96.47%	99.27%
COMBINED	98.84%	99.75%	99.95%	97.63%	99.22%	99.68%	98.97%	99.81%	99.97%

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

AUG 12, 2024 11:49 AM ALEX002176
F:\2020B5\20A0699M01\ADMIN\14-REPORTS\001_BACKGROUND AND INVENTORY\CAD\FIGURE 1.56_WIND_DATA.DWG

Source: FAA adp Wind Data, VRB Wind Data from 2011-2020, accessed October 2022.



VERO BEACH REGIONAL AIRPORT
MASTER PLAN

WIND DATA

DRAWN BY:	JA	FIGURE	1.56
CHECKED BY:	SZ		

[This page intentionally blank]