



Chapter 6 Environmental Overview

RSW has outlined several proposed projects for development as part of this Master Plan Update. This overview of the environmental conditions at RSW helps provide insight into the potential impacts of proposed development projects. The primary focus of this section is to provide an overview of environmental considerations for airport planning purposes.

6.1 Background

Guidance issued by the Federal Aviation Administration (FAA) encourages the review of environmental factors in airport master planning to “help the sponsor thoroughly evaluate airport development alternatives and to provide information that will help expedite subsequent environmental processing.” The Florida Department of Transportation (FDOT) 2016 Guidebook for Airport Master Planning, provides similar guidance. As a federally obligated airport, RSW is required to comply with the federal review process, regardless of the funding entity, if a federal action (funding, ALP approval, land release or acquisition, PFC approval, etc.) is required. Certain projects without a federal trigger that are 100 percent funded by FDOT (typically surface transportation projects) may receive approval through the FDOT Project Development and Environment (PD&E) process (state delegated DOT NEPA). However, both agencies clearly note that it is not the intent of a Master Plan to complete the federal and state environmental review processes. Instead, the information should identify and set the stage for understanding what future environmental review or actions may be needed and assist with the screening of potential alternatives.

6.2 Federal Environmental Review

This chapter provides a desktop review of publicly available and known environmental resources considered during the identification and evaluation of development alternatives in this Master Plan Update. The environmental resources discussed in this chapter include many of the categories delineated in FAA Order 5050.4B, National Environmental Policy Act (NEPA) Implementing Instructions for Airport Actions; FAA Order 1050.1F, Environmental Impacts: Policies and Procedures; and the President’s Council on Environmental Quality (CEQ) Regulations Title 40 Code of Federal Regulations (CFR) § 1500-1508, CEQ Regulations for Implementing the Procedural Provisions of NEPA. However, this overview is not intended to meet the NEPA requirements for any planned development projects. This environmental overview does not constitute NEPA or regulatory level resource review; instead, it provides a compilation of readily available data to provide an environmental basis to identify where additional investigation or studies may be required. The FAA is responsible for ensuring compliance with NEPA with respect to actions at federally-obligated airports.

The processing of Airport Improvement Program (AIP) grant applications and Airport Layout Plan (ALP) approvals are two types of “federal actions” commonly undertaken by the FAA in support of airport development projects which require environmental review under NEPA. While NEPA requires varying levels of interagency coordination, development of environmental documents under NEPA does not exempt airport development projects from compliance with other federal environmental laws (e.g., Endangered Species Act) or state and local environmental regulations.

For those projects that involve a federal action and therefore trigger environmental review under NEPA, the three types of documentation that may be prepared are summarized in Table 6-1. Categorical Exclusions (CatEx) and Environmental Assessments (EA) are usually prepared by the Airport Sponsor and, if the documentation meets FAA requirements, they are accepted by the FAA and become federal documents. Environmental Impact Statements (EIS) are prepared by the FAA.

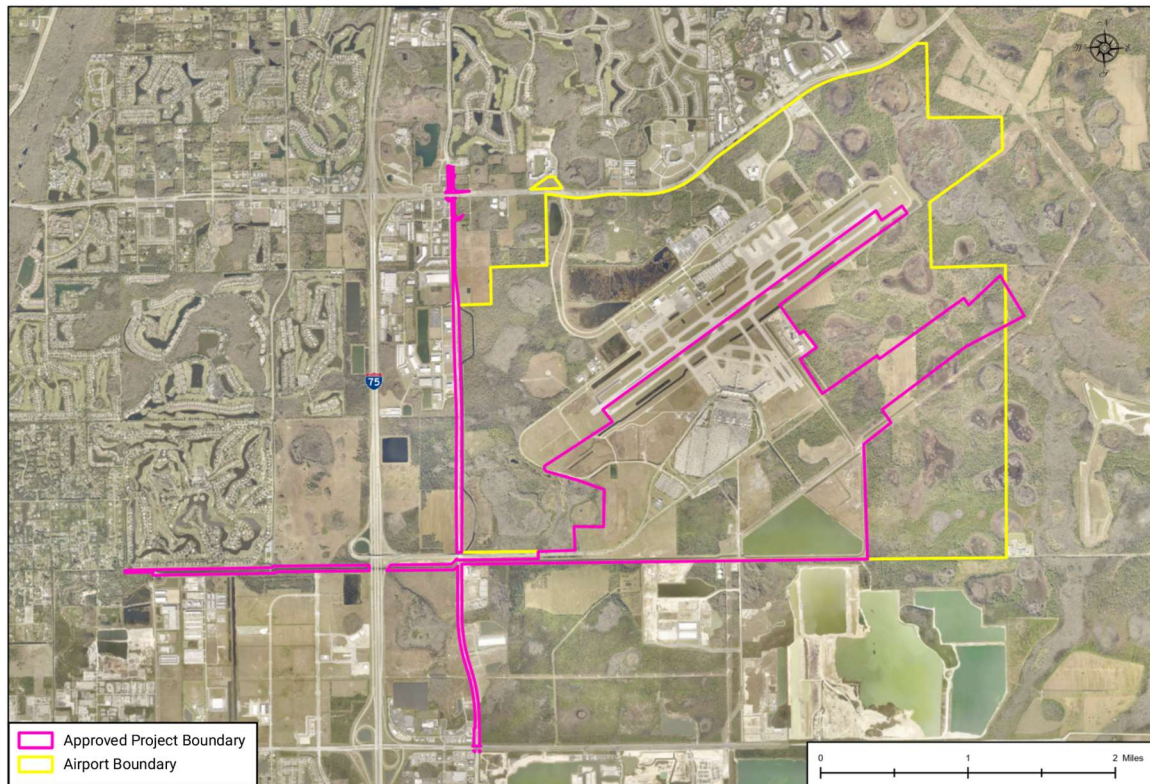
Table 6-1 Types of FAA NEPA Review Documentation	
CATEX Categorical Exclusion	The FAA has identified certain actions that may be categorically excluded from a more detailed environmental review. However, extraordinary circumstances, such as wetland impacts, may preclude Categorical Exclusion (CATEX). A CATEX requires a review of impacts and completion of forms provided by the FAA. In some cases, documentation and agency coordination may be necessary to address extraordinary circumstances (see FAA ARP SOP No. 5.00). See FAA Orders 1050.1F and 5050.4B for a more detailed description of categorically excluded actions that may apply to development projects at RSW.
EA Environmental Assessment	An Environmental Assessment (EA) is prepared for proposed actions with expected minor or uncertain environmental impact potential. An EA requires analysis and documentation similar to that of an EIS, but with somewhat less detail and coordination. The FAA will review the EA and decide to either issue a Finding of No Significant Impact (FONSI) or prepare an Environmental Impact Statement (EIS).
EIS Environmental Impact Statement	An EIS is prepared for major federal actions, which are expected or known to significantly affect the quality of the human environment. At this time, no future airport development projects at RSW are expected to require the preparation of an EIS.

Source: ESA Compilation

Prior NEPA Determinations

Parallel Runway and Midfield Development

On March 10, 1994, the Federal Aviation Administration (FAA) issued a Finding of No Significant Impact (FONSI) in compliance with the National Environmental Policy Act (NEPA) for Southwest Florida International Airport (RSW) for a Parallel Runway and Midfield Development. Development (Figure 6-1) included the construction of a 9,100-foot runway with associated midfield development area, navigational aids, terminal access roadways, taxiways, marking, lighting, drainage and flood control systems, additional airport support service facilities (ATCT, ARFF, etc.), and land acquisition necessary for the runway, Midfield Terminal Complex, and related mitigation areas.

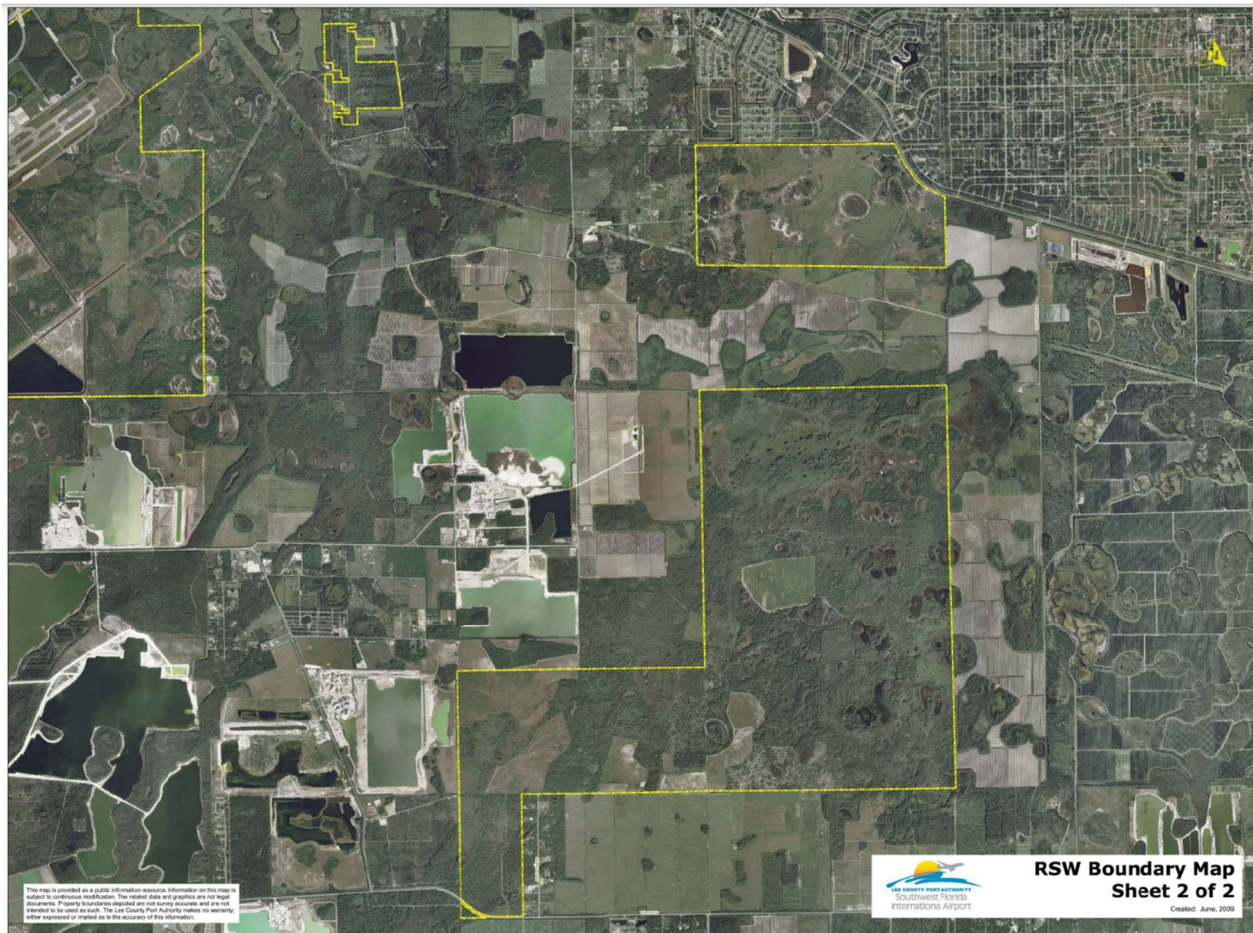


Source: LCPA

Figure 6-1 Approved Runway and Midfield Development Area

RSW property includes two areas dedicated for conservation known as the Southwest (SW) Conservation Area and the Northeast (NE) Conservation Area, both indicated on the ALP. LCPA also purchased 7,000 acres of mitigation lands as outlined in the Environmental Assessment (see Figure 6-2). These mitigation lands are located to the east of RSW and are known as Airport Mitigation Park. Airport Mitigation Park provides, and will continue to provide, an expansive wildlife corridor/habitat as well as wetland mitigation for impacts within the development area depicted in Figure 6-1.

In 2007, a detailed Project analysis was conducted to determine if the 1994 FONSI for the Parallel Runway and Midfield Development Area EA could be revalidated. The analysis concluded that the project effects remained below the threshold of significance for all categories and as a result, a FONSI revalidation request was submitted to the FAA on October 4, 2007. The FONSI revalidation was approved by the FAA on December 20, 2007.



Source: LCPA

Figure 6-2 RSW Boundary Map: Mitigation Park

During the site preparation design phase for the proposed Parallel Runway, several development modifications were evaluated. The recommended modification resulted in an 80-foot shift of the runway to the south after extensive coordination with the FAA. In a letter dated March 6, 2009, the FAA stated that "The FAA concurs that the proposed action to shift and construct Runway 6R/24L 80 feet to the south substantially conforms to plans and project information contained in the 1994 EA subject to the results of the airspace study for the runway at the proposed location. Furthermore, no additional environmental analysis of the proposed project is needed because the data and analysis contained in the 1994 EA remain substantially valid, and all pertinent conditions and requirements of the prior approval have been or will be met in the current action."

Since 1994, the LCPA has been implementing the Project identified in the 1994 EA / 2007 FONSI Revalidation / 2009 Confirmation. The LCPA began implementing the Project in 1994 by acquiring land to accommodate the Midfield Terminal Complex and Parallel Runway facilities and has continued to implement the originally envisioned development by acquiring mitigation lands needed to offset impacts associated with the Midfield Terminal Complex and Parallel Runway, the planning, design and construction of the midfield terminal, drainage and flood control systems, taxiways, navigational aids, terminal access roadways, marking and lighting. The new midfield Aircraft Rescue and Fire Fighting Facility (ARFF) was commissioned in 2013 and the new Air Traffic Control Tower is expected to be commissioned in 2023. The FAA has provided concurrence with Project implementation through FONSI concurrence letters in 2007 and 2009, and through issuance of grant applications for ongoing Project components.

Other Recent NEPA Determinations

While the 1994 EA addressed the development associated with the Parallel Runway and Midfield Development, NEPA compliance has been completed for a number of other projects at the Airport. Table 6-2 identifies the NEPA determinations that have been secured since 2016.

Table 6-2 NEPA FAA Approvals since 2016

Project Name	Type of NEPA Review	Date Submitted to FAA	FAA Approval Date
Sky Walk	EA	5/26/2016	6/3/2016
Skyplex Boulevard	EA	8/23/2016	9/29/2016
Gartner Office Complex	EA	8/10/2017	8/23/2017
Terminal Expansion	CatEx	6/11/2019	10/24/2019
Gartner Phase 1A Parking Lot Expansion	CatEx	7/2/2019	7/3/2019
Gartner Office Complex Phase 2	EA	1/24/2020	2/5/2020
Alta Realty "Contact Center" Office Building Development	EA	6/24/2020	7/14/2020
Air Freight Building	CatEx	7/25/2022	11/10/2022
Treeline Assemblage Access to Treeline Avenue	CatEx	12/22/2022	Not in file*

*Awaiting comments/approval from FAA at the time of writing

Source: LCPA, March 2023

6.3 State Environmental Reviews

In addition to compliance with NEPA, all recommended airport development must be consistent with other federal regulatory guidance, Florida Statutes (FS), growth management and concurrency requirements as well as regional and state transportation plans. For projects that require NEPA compliance, state environmental reviews typically initiate with the Florida State Clearinghouse which is administered by the Florida Department of Environmental Protection (FDEP). A primary function of the Florida State Clearinghouse is to serve as the state's single point of contact for the receipt of federal activities that require interagency review, which includes activities subject to consistency review under the Florida Coastal Management Program. Upon completion of their review, the Clearinghouse will typically issue a letter summarizing any potential concerns or inconsistencies regarding the proposed activity. The clearance letter will also include information on obtaining necessary state permits and will inform the applicant if there is a need to submit additional information to a specific state agency for review. In cases where NEPA compliance is not required, direct coordination with the relevant state and federal regulatory agencies may still be required. It is important to note that the State of Florida assumed Section 404 regulatory authority in 2020 and future Section 404 permits will be processed by the FDEP. Information related to the specific agencies and coordination and / or permits required, is discussed in the individual resources categories in this chapter.

6.4 Environmental Overview

A preliminary analysis of environmental conditions throughout the Airport was reviewed relative to the impact categories identified in FAA Order 1050.1F. These impact categories include:

- Air quality

- Biological resources (including fish, wildlife, and plants)
- Climate
- Coastal resources
- Department of Transportation Act, Section 4(f)
- Farmlands
- Hazardous materials, solid waste, and pollution prevention
- Historical, architectural, archeological, and cultural resources
- Land use
- Natural resources and energy supply
- Noise and compatible land use
- Socioeconomics, environmental justice, and children’s environmental health and safety risks
- Visual effects (including light emissions)
- Water resources (including wetlands, floodplains, surface waters, groundwater, and wild and scenic rivers)

Air Quality

The federal Clean Air Act, as amended, required the USEPA to set National Ambient Air Quality Standards (NAAQS) for principal pollutants considered harmful to public health and the environment. Those areas where the NAAQS are not met are designated as “nonattainment.” A state with a nonattainment area must prepare a State Implementation Plan (SIP) that details the programs and requirements the state will use to meet the NAAQS. Proposed development must then demonstrate that it meets or “conforms” with the SIP.

RSW is located in Lee County, Florida. The United States EPA has designated Lee County as an attainment area for the NAAQS for the following criteria air pollutants: carbon monoxide (CO), nitrogen dioxide (NO₂), ozone (O₃), sulfur dioxide (SO₂), particulate matter (PM) and lead (Pb).

An existing air emissions inventory was conducted for aircraft operations for the year 2021 as well as the planned year of opening of the new south parallel runway (Table 6-3). It is currently planned that the year of opening of the parallel runway will occur in 2043, just after the end of the planning period, and coincide with the airport reaching ASV (approximately 146,000 annual operations).

Table 6-3 Criteria Air Pollutant Emissions						
Criteria Air Pollutant Emissions (tons)						
Emissions Source	CO	VOC	NO _x	SO _x	PM ₁₀	PM _{2.5}
2021 Existing Year Emissions	432	64	341	38	4	4
2043/100% ASV of Single Runway System	618	92	563	58	7	7

NOTES: CO = carbon monoxide; NO_x = oxides of nitrogen; PM_{2.5} = particulate matter less than or equal to 2.5 microns in diameter; PM₁₀ = particulate matter less than or equal to 10 microns in diameter; SO_x = oxides of sulfur; VOC = volatile organic compound

SOURCE: AEDT 3d; Environmental Science Associates, 2022.

Projects constructed throughout the course of the planning period have the potential to generate temporary air emissions. Emissions from construction activities and fugitive dust could be reduced or offset by employing some or all the following voluntary measures:

- Curtailing construction activities during periods of high wind conditions
- Reducing exposed erodible surface area through appropriate materials and equipment staging procedures; stabilizing stockpiles of raw materials and other temporarily disturbed areas with water or ground cover
- Stabilizing soils and establishing persistent ground cover as soon as possible after grading and construction activities
- Reducing equipment idling times and onsite vehicle speeds
- Utilizing vapor-recovery systems for fuel-storage facilities
- Using low- or zero-emissions equipment
- Using covered haul trucks during materials transportation

Because the County is currently in attainment for all NAAQS, a general conformity determination is not currently required for future development. Certain projects and tenant activities, such as operating paint booths, will need to comply with applicable regulations and permit requirements.

Biological Resources

The following statutes, regulations, and Executive Orders require consideration in evaluating potential impacts on biological resources: Bald and Golden Eagle Protection Act, Endangered Species Act, Fish and Wildlife Coordination Act, Migratory Bird Treaty Act, Executive Order 13112 - Invasive Species, Executive Order 13186- Responsibilities of Federal Agencies to Protect Migratory Birds, Executive Order 13751 - Safeguarding the Nation from the Impacts of Invasive Species, and CEQ Guidance on Incorporating Biodiversity Considerations Into Environmental Impact Analysis Under the National Environmental Policy Act (January 1993). The Magnuson Stevens Fishery Conservation and Management Act and Marine Mammal Protection Act are not applicable since the Airport does not contain any marine resources nor are there any in immediate proximity.

The study area for biological resources considers both areas directly impacted (such as through vegetation and habitat removal within the construction footprint) and those areas indirectly impacted through facility lighting, noise, air emissions, and changes to water quality or quantity caused by construction equipment or facility operations.

The presence and extent of wildlife on RSW property has been extensively studied by professional environmental consultants visiting the airport site and conducting field assessments. A Wildlife Hazard Assessment (WHA) was completed for all of RSW under the guidelines of Federal Aviation Regulations (FAR) Part 139.337(c) and FAA AC 150/5200-36 "Qualifications for Wildlife Biologist Conducting Wildlife Hazard Assessments and Training Curriculums for Airport Personnel Involved in Controlling Wildlife Hazards on Airports." Florida Land Use Forms and Cover Classification System (FLUCCFCS), Level III mapping was conducted for the entire Airport with Level IV mapping where appropriate as part of the last master plan preparation in 2001. This included extensive ground verification and delineation of exotic/nuisance plant species. Surveys for threatened and endangered species have been conducted through 2002 and numerous site surveys have been conducted for the Midfield Terminal Complex as part of re-evaluation studies. Table 6-4 identifies listed species previously observed on site, and Table 6-5 lists potential species based on the habitat.

Table 6-4 Summary of Listed Animal and Plant Species Previously Observed

Birds	Scientific Name	Federal/State Listed
Bald eagle	<i>Haliaeetus leucocephalus</i>	F
Burrowing owl	<i>Speotyto cunicularia</i>	S
Florida sandhill crane	<i>Grus canadensis</i>	S
Least tern	<i>Sterna antillarum</i>	S
Limpkin	<i>Aramus guarauna</i>	S
Little blue heron	<i>Egretta caerulea</i>	S
Red-cockaded woodpecker ¹	<i>Picoides borealis</i>	F
Reddish egret	<i>Egretta rufescens</i>	S
Roseate spoonbill	<i>Ajaia ajaja</i>	S
Snowy egret	<i>Egretta thula</i>	S
Southern kestrel	<i>Falco sparverius</i> Paulus	S
Tricolored heron	<i>Egretta tricolor</i>	S
White ibis	<i>Eudocimus albus</i>	S
Wood stork	<i>Mycteria americana</i>	S
Mammals	Scientific Name	Federal/State Listed
Big Cypress fox squirrel	<i>Sciurus niger avicennia</i>	S
Florida black bear	<i>Ursus americanus floridanus</i>	S
Reptiles	Scientific Name	Federal/State Listed
American alligator	<i>Alligator mississippiensis</i>	F
Plants	Scientific Name	Federal/State Listed
Common wild pine	<i>Tillandsia fasciculata</i>	S
Leafless black orchid	<i>Stenoffynochos lanceolata</i>	S
Leather fern	<i>Acrostichum</i> spp.	S
Northern needle leaf	<i>Tillandsia balbisiana</i>	S
Pine lily	<i>Lilium catesbaei</i>	S
Pine pink	<i>Bletia purpurea</i>	S
Wild coco	<i>Eulophia alta</i>	S

¹Abandoned red-cockaded woodpecker cavities observed on-site

SOURCE: 2004 Master Plan Update

Table 6-5 Other Species with Potential to Occur On-site based on Vegetation Communities (FLUCFCS)

Birds	Plants
Arctic peregrine falcon	Beautiful paw-paw
Crested caracara	Curtis Milkweed
Snail kite	Fakahatchee burmannia
	Florida coontie
	Hand adder's tongue fern
	Satin leaf
	Simpson's stopper
	Twisted air plant
Mammals	Reptiles
Florida panther	Eastern indigo snake
Everglades mink	Florida pine snake
Sherman's fox squirrel	Gopher Frog
	Gopher Tortoise

SOURCE: 2004 Master Plan Update

No state or federal listed plants were observed during field verifications of the Midfield Terminal Complex or surveys for the Parallel Runway. Field verified vegetation mapping was also prepared as part of the SFWMD and COE permitting efforts for the Midfield Terminal Complex and Parallel Runway. Associated construction/impact permits were based on this site-specific mapping. The majority of remaining land areas on Airport property include forested uplands consisting mostly of pine habitats and old farm fields. Remaining wetlands to be impacted can be generally described as freshwater marsh, wet prairie, hydric pine, pine-cypress, cabbage palm, cypress, shrub wetlands, wetland-cut ditches, and disturbed hydric land with varying degrees of infestation by nuisance and exotic vegetation. The other surface waters consist of upland-cut ditches. Future impacts beyond those already permitted/mitigated will be to primarily low quality, degraded systems that are infested with exotic vegetation and are not contiguous with larger regional wetland systems.

Although it is anticipated that wildlife use within the natural habitats between the existing Runway 6-24 and the future Parallel Runway will continue, secondary impacts to wetlands were assessed due to the scale of the project, the potential for aircraft-wildlife strikes and potential impacts from the increase in noise and lighting. An additional assessment of secondary impacts was made due to estimated potential future tree removal required within the line of sight of two operational areas per FAA clearing criteria. This assessment includes secondary impacts to herbaceous wetlands adjacent to proposed tree removal areas in forested wetlands. In order to provide reasonable assurances that the tree removal areas reflect the post-condition designated in the functional analysis, a qualitative monitoring and planting plan will be implemented.

The WHA that was prepared for RSW included a list of recommendations that were ultimately incorporated into the RSW Wildlife Hazard Management Plan (WHMP). The initial RSW WHMP was approved by the FAA in October 2011. Since that time, LCPA has completed annual reviews and revisions which have been approved by the FAA as part of the airport's annual inspection and Airport Certificate Manual (ACM) approval. The most current, FAA approved WHMP was approved in May 2022. As part of the ongoing data collection and evaluation of the RSW wildlife hazard management program, LCPA conducts continual monitoring following the guidance in FAA Advisory Circular (AC) 150/5200-38 "Protocol for the

Conduct and Review of Wildlife Hazard Site Visits, Wildlife Hazard Assessments, and Wildlife Hazard Management Plans" (8/20/18).

LCPA has a long-standing wildlife hazard management program in place to help decrease wildlife use and attractants on the airfield. Potential impacts on biological resources from the operations described above were considered. The extent of potential impact is greatest in the Aircraft Operations Area (AOA), with impacts lessening the further away from the AOA the species is. However, even considering potential impacts in the AOA (including take of species), these activities do not result in:

- The long-term or permanent loss of unlisted plant or wildlife species, (i.e., extirpation of the species from a large project area);
- Significant adverse impacts to special status species (e.g., state species of concern, species proposed for listing, migratory birds, bald and golden eagles) or their habitats;
- Substantial loss, reduction, degradation, disturbance, or fragmentation of native species' habitats or their populations; or
- Significant adverse impacts on a species' reproductive success rates, natural mortality rates, non-natural mortality (e.g., road kills and hunting), or ability to sustain the minimum population levels required for population maintenance.

Potential impacts on biological resources from construction activities including the destruction or alteration of habitat and the disturbance or elimination of individuals or local populations of fish, wildlife, plants, or the introduction of invasive species were also considered. RSW implements wildlife management best management practices (BMPs) on airfield projects to minimize this disturbance.

While biological surveys have been conducted throughout the Airport property, planned development projects will involve the validation of conditions as part of future NEPA and permitting actions.

Climate

The airport operational environment was reviewed in accordance with the Clean Air Act, Executive Order 13514 Federal Leadership in Environmental Energy and Economic Performance; Executive Order 13653, Preparing the United States for the Impacts of Climate Change; and Executive Order 13693, Planning for Federal Sustainability were reviewed but are not applicable because LCPA is not a federal agency.

Increasing concentrations of greenhouse gases (GHGs) in the atmosphere are affecting global climate, and research has shown there is a direct correlation between fuel combustion and GHG emissions. GHGs include carbon dioxide (CO₂), methane (CH₄), nitrous oxide (N₂O), hydrofluorocarbons, perfluorocarbons, and sulfur hexafluoride. Scientific measurements indicate Earth's climate is changing, with associated impacts including warmer air temperatures, increased sea level rise, intensified storm activity, and alteration of seasonal precipitation events.

The study area for climate was defined by the extent of the potential project changes (i.e., immediate vicinity of the airport) and full extent of aircraft movements as part of the future potential projects.

Existing and future anticipated aircraft operational greenhouse gas (GHG) emissions were modeled using the FAA's Airport Environmental Design Tool (AEDT) as depicted in Table 6-6. The analysis of climate includes both the potential emission of additional GHGs incrementally contributing to climate change, but also includes an assessment of a given project's resiliency to the potential effects of climate change. Resiliency is defined as "the ability of a system and its

component parts to anticipate, absorb, accommodate, or recover from the effects of a hazardous event in a timely and efficient manner, including through ensuring the preservation, restoration, or improvement of its essential basic structures and functions." When compared to many other airports in Florida, RSW is well prepared with respect to the impacts of climate change. The property is over 4 miles east of the coast and the runway is approximately 27 feet Above Mean Sea Level. Sea level rise is not expected to be an issue throughout the planning horizon due to distance from, and height above, the sea. There are current measures in place to adapt to the impacts of climate change (i.e., stronger or more frequent storms) through the RSW airport-wide hurricane plan. Storm preparedness briefing meetings are held when RSW is in a potential storm projection path, construction and operation hurricane BMPs are adhered to, and pre/post storm activities for drainage and debris removal/cleanup are implemented to recover for storms as soon as possible.

Table 6-6 Greenhouse Gas Emissions from Aircraft

Source	Carbon Dioxide (metric tons)
2021 Existing Conditions	90,893
2043/100% ASV of Single Runway System	138,571

SOURCE: AEDT 3d; Environmental Science Associates, 2022.

While aircraft related GHG emissions are projected to increase with the increase in aircraft activity at the Airport, development of the Parallel Runway will reduce aircraft operational delays at RSW as the Airport reaches its Annual Service Volume capacity. Delay reduction will reduce aircraft fuel burn and accordingly, the resulting GHG emissions. Additionally, GHG emission reduction is expected to continue from measures such as changes to more fuel-efficient equipment, use of renewable fuels, and operational changes (e.g., performance-based navigation procedures). GHG emissions associated with the construction of future projects are expected to be limited and temporary and BMP's can be employed to minimize emissions (vehicle idling, etc.).

Coastal Resources

The entire State of Florida, including RSW, is located in a coastal zone. Based on the definitions in the Coastal Barrier Resources Act, RSW is not on or adjacent to a coastal barrier. Based on the definitions in Executive Order 13089 Coral Reef Protection, RSW is not within or adjacent to a U.S. coral reef ecosystem. Future projects will require coordination with the State Clearinghouse to secure a consistency determination with the Florida Coastal Management Program (FCMP) and the Coastal Zone Management Act.

The Airport is almost four miles east of the closest coastal resource, which is the landward-most portion of the tidally influenced segment of Mullock Creek immediately downstream from the weir. Mullock Creek then flows west-southwest for approximately 2.6 miles to Estero Bay, which is a Florida designated aquatic preserve. Estero Bay is connected to the Gulf of Mexico.

Although the Airport is not within or adjacent to a coastal resource, it discharges surface water (stormwater) into a series of canals that eventually reach Mullock Creek. The onsite surface water management system is permitted and designed to meet State of Florida attenuation and water quality standards. Regular maintenance of the system and onsite water quality monitoring ensures that the water leaving the site meets water quality standards.

Previous coordination with the Florida State Clearinghouse has indicated that RSW's development is consistent with the Florida Coastal Management Program.

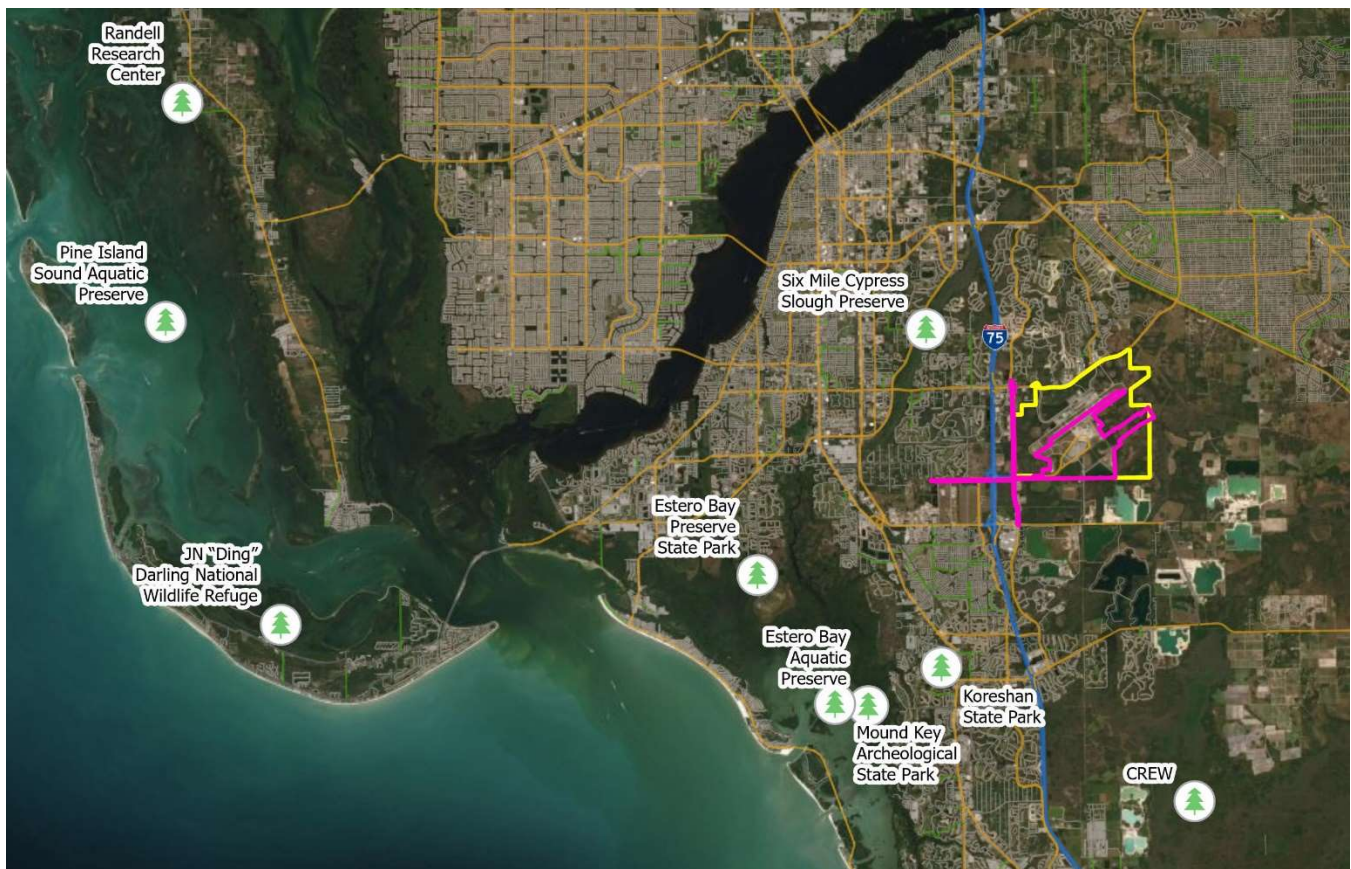
Department of Transportation Act, Section 4(f)

Potential airport development was reviewed based on the Land and Water Conservation Fund Act of 1965; U.S. Department of Transportation (DOT) Act – Section 4(f); Safe, Accountable, Flexible, Efficient Transportation Equity Act: A Legacy for Users (SAFETEA-LU) – Section 6009; and U.S. Department of Defense Reauthorization. Section 4(f) of the DOT Act pertains to certain resources affected by transportation projects that are funded or approved by the DOT and its administrations and agencies. Per the 1050.1F Desk Reference, Section 4(f) properties include:

- parks and recreational areas of national, state, or local significance that are both publicly owned and open to the public;
- publicly owned wildlife and waterfowl refuges of national, state, or local significance that are open to the public; and
- historic sites of national, state, or local significance in public or private ownership regardless of whether they are open to the public..

The study area for Section 4(f) resources considers both areas directly impacted within the construction footprint of a planned development project, as well as those areas indirectly impacted through noise or visual impacts, air emissions or facility operations.

No Section 4(f) lands will be required for use nor would any such lands be adversely impacted through implementation of any planned development projects (Figure 6-3). There are no 4(f) resources located on or in near proximity to the Airport. While activity is projected to increase at the Airport, neither the DNL 65 or 60 contours include any 4(f) resources. Visual effects to 4(f) resources are expected to be consistent with the visual effects today. Finally, the establishment of the Airport Mitigation Park enhances the Corkscrew Regional Ecosystem Watershed (CREW), a significant regional environmental resource.



Source: LCPA

Figure 6-3 Section 4(f) lands in the vicinity of RSW

Farmlands

The regulatory framework for farmlands includes several statutes and guidance documents, including the Farmland Protection Policy Act (FPPA), CEQ Memorandum on the Analysis of Impacts on Prime or Unique Agricultural Lands in Implementing the National Environmental Policy Act, and state & local regulations. Federal regulation defines prime, unique, and statewide and locally important farmlands (7 CFR § 657.5). Prime farmland is defined as land that has the best combination of physical and chemical characteristics for producing food, feed, fiber, forage, oilseed, and other agricultural crops with minimum inputs of fuel, fertilizer, pesticides, and labor and without intolerable soil erosion. Unique farmland is land used for producing high-value food and fiber crops and has the special combination of soil quality, location, growing season, and moisture necessary to produce high quality crops or high yields of crops. State-wide and locally important farmland is land that has been designated as "important" by either a state government (state Secretary of Agriculture or higher office), county commissioners, or an equivalent elected body.

The study area for farmlands is the Airport property boundary. However, indirect impacts were also considered so the entire RSW property and adjacent lands were reviewed by searching the Natural Resource Conservation Service (NRCS) inventory of prime farmland and unique farmlands. It was noted that while some on-airport soils are consistent with a prime or unique farmland classification, potential development would not convert agriculture land to non-agricultural use and no future lands are currently planned for acquisition.

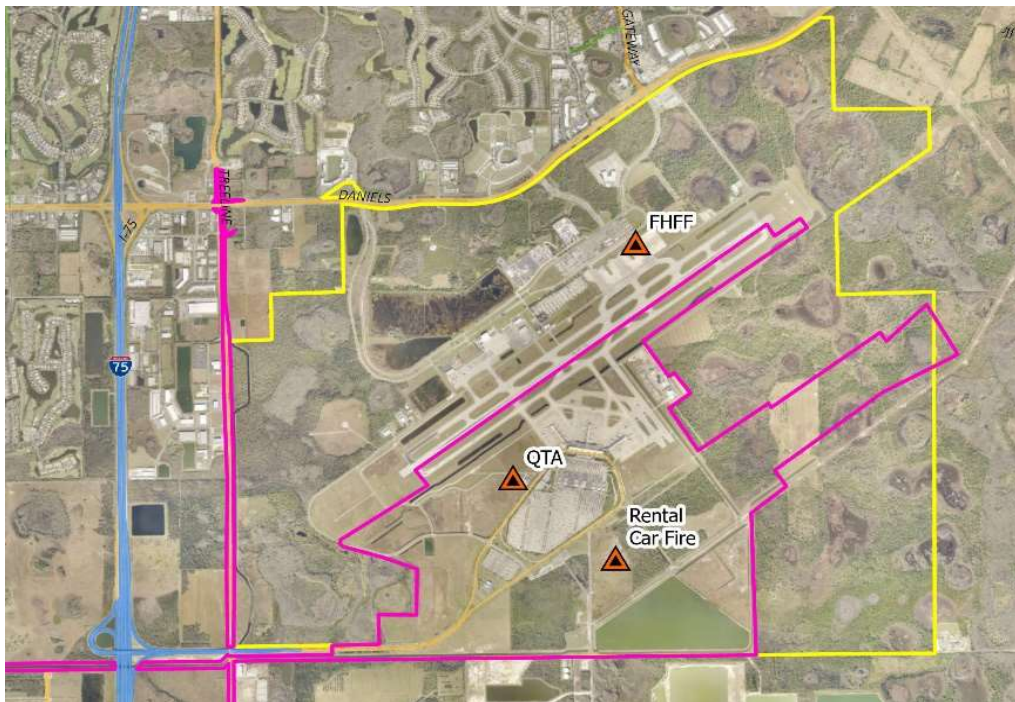
Hazardous Materials, Solid Waste, and Pollution Prevention

Materials are typically defined as being hazardous if they have specific characteristics defined as such or if they appear on a list of hazardous materials prepared by a federal, state, or local regulatory agency. The USEPA classifies a waste as hazardous if it is listed on the USEPA's list of hazardous waste and exhibits one or more of the following properties: ignitability (including oxidizers, compressed gases, and extremely flammable liquids and solids); corrosivity (including strong acids and bases); reactivity (including materials that are explosive or generate toxic fumes when exposed to air or water); or toxicity (including materials listed by the USEPA as capable of inducing systemic damage in humans or animals). Federal, state, and local laws regulate the use, storage, transport, and disposal of hazardous materials. Applicable federal laws include:

- Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA or Superfund) (42 U.S.C. § 9601 et seq)
- Resource Conservation and Recovery Act (RCRA) (42 U.S.C. § 6901 et seq)
- Superfund Amendments and Reauthorization Act of 1986 (SARA)(Public Law 99-499)
- Emergency Planning and Community Right-to-Know Act (42 U.S.C. § 11001 et seq)
- Toxic Substances Control Act (15 U.S.C. § 2601 et seq.)

The study area for hazardous materials, solid waste, and pollution prevention includes the Airport property boundary and its near proximity in relation to existing contaminated sites. The following information was also considered for known contaminated sites currently undergoing remediation on airport property (Figure 6-4).

- Former Hydrant Fueling Facility
- Rental Car Fire
- Quick Turn Around (QTA) Sump Spill



Source: LCPA

Figure 6-4 RSW known contaminated sites

LCPA maintains Operating Instructions (OI-1000) for hazardous materials management on-site. Persons working at RSW who handle hazardous materials must comply with all applicable local, state and federal regulations, FAA Advisory Circulars, and adopted NFPA codes, and shall maintain the provisions of any agreement with the LCPA for the protection of life and property in developing facilities and operating at RSW. All persons must perform their duties in a manner consistent with applicable safety standards and practices to prevent the release or discharge of a hazardous material into the environment. No person is allowed to cause or permit the discharge of a hazardous material to the soil, ground water, or surface waters at RSW unless the discharge is in compliance with federal, state, and local regulations. No person is allowed to cause or permit the unauthorized discharge of a hazardous material to a septic tank or other type of on-site sewage disposal system. No person is allowed to transport a vehicle knowing or having evidence of a discharge and shall report such knowledge or information to the LCPA immediately, following the procedures set forth in the OI. Inspections of all facilities are conducted by the owner/operator and any agency tasked with code compliance or inspection pursuant to any applicable regulations. In addition, the LCPA conducts regular inspections through the ARFF, Facilities, and Operations Departments.

Spill Prevention Control Countermeasures (SPCC) plans that address the containers, equipment, facilities, and associated infrastructure regulated or required under 40 CFR Part 112 have been implemented and are maintained on applicable RSW facilities/operations. The plans are periodically reviewed and updated as required. All underground and aboveground storage tanks are managed and maintained in accordance with local, state, and federal regulations.

A solid waste system is currently in operation to support the airport and ongoing on-site and surrounding development. Lee County has an integrated solid waste management system consisting of a mix of recycling, waste-to-energy and landfill resources.

Waste and recycling are a large part of LCPA's existing sustainability initiatives. Solid waste is hauled by Lee County Solid Waste and recycling is hauled by Waste Pro. Solid waste data is collected at 19 facilities at RSW.

A Storm Water Pollution Prevention Plan (SWP3) for RSW has been prepared and implemented to maintain LCPA and associated tenants' compliance with the requirements of the FDEP National Pollutant Discharge Elimination System (NPDES) Multi-Sector Generic Permit for Storm Water Discharge Associated with Industrial Activities (MSGP).

LCPA has implemented an MSGP compliance strategy that is focused on achieving consistent implementation of storm water pollution prevention measures airport-wide. In general, LCPA has assumed the role of principal permittee and tenants that perform MSGP-regulated industrial activities in common spaces are enjoined into this compliance program as co-permittees, subordinate to LCPA, unless the LCPA determines that certain common space tenants need to obtain separate coverage and maintain their own SWP3 based on their specific activities/practices.

No wastes are expected to impact environmental resources or the impacts on waste handling and disposal facilities that would likely receive the wastes. Pollution prevention procedures are in place to address potential hazardous materials that could be used during construction and operation of the project. All planned projects will be evaluated for potential to encounter hazardous materials at contaminated sites during construction and operation, and potential to interfere with any ongoing remediation of existing contaminated sites is unlikely.

Historical, Architectural, Archeological, and Cultural Resources

Several laws and regulations require that possible effects on historic, archaeological, and cultural resources be considered during the planning and execution of federal undertakings, including the *National Historic Preservation Act* (NHPA), the *Archaeological Resources Protection Act*, and the *Native Graves Protection and Repatriation Act*.

In accordance with Section 106 of the National Historic Preservation Act, consultation with the State Historic Preservation Officer (SHPO) is required to determine if any archeological and historical resources exist within a planned project area. Additionally, SFWMD-issued Environmental Resource Permits require consultation with the Florida Department of Historical Resources if archeological or historical resources are discovered during construction.

The Airport property includes previously disturbed areas and non-disturbed areas. Future projects outside the footprint of the previously evaluated and/or disturbed areas may require consultation with the SHPO.

Portions of RSW are within Archeological Sensitivity 2 zones, however no historic properties (including archeological sites), traditional cultural properties, Native American sacred sites or other properties afforded consideration have been identified. Land Use

The Airport and Airway Improvement Act of 1982 and the Airport Improvement Program (AIP) is followed for project using AIP grants. Under Section 1502.16(c) of the CEQ Regulations, discussion of environmental impacts associated with proposed development must include consideration of "possible conflicts between the proposed action and the objectives of federal, regional, state, and local (and in the case of a reservation, Indian tribe) land use plans, policies and controls for the area concerned."

All of Lee County is considered for the affected environment related to land use, with a focus on the Airport Lands and Tradeport future land use categories identified in the Lee County Comprehensive Plan (Lee Plan). The Lee Plan is designed to depict Lee County as it will appear in the year 2045. Goal 1 of the Lee Plan is to maintain and enforce the Lee County Future Land Use Map (Figure 6-5) showing the proposed distribution, location, and extent of future land uses by type, density, and intensity.

The RSW property is designated as Airport Lands in the Lee County Comprehensive Plan and is zoned Airport Operations Planned Development (AOPD). All proposed projects in the county must be in compliance with the Lee Plan before any potential rezoning action could take place. Additionally, all projects must meet the requirements of the Lee County Land Development Code (LDC), including the Airport Compatibility District standards adopted in the Lee County LDC to address height obstructions, airport hazards, wildlife attractants, noise, runway protection zones, light emissions, reflectivity and power interference, aircraft overflights, and the public investment in air transportation facilities in accordance with provisions of F.S. chs. 330 and 333 (as amended), as well as Federal regulations (as amended) including 14 CFR Parts 77, 150 and 151 and FAA Advisory Circulars 150/5300-13A as amended, renumbered or replaced, and 150/5200-33B as amended, renumbered or replaced.

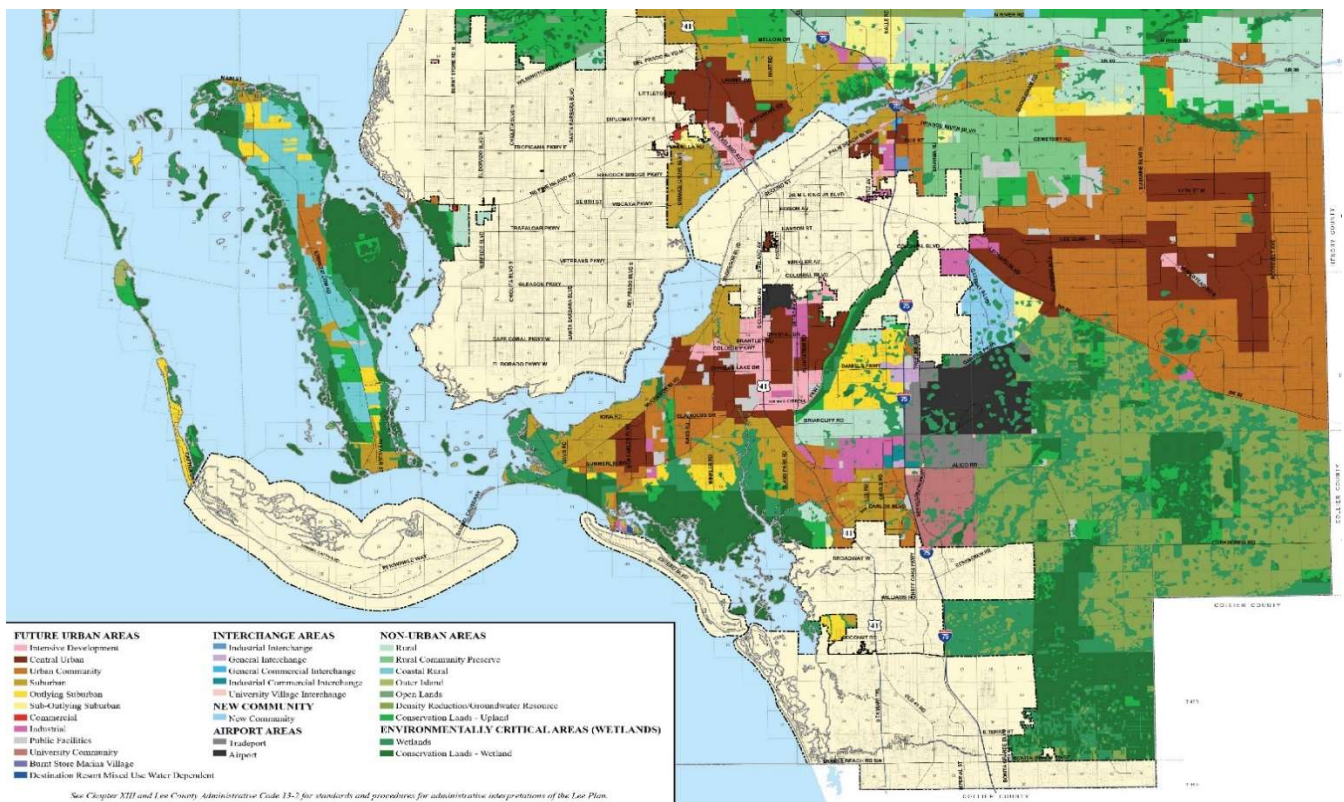


Figure 6-5 Future Land Use Map, Lee Plan

Policy 1.1.12 of the Lee Plan is related to the Airport Lands future land use category that accommodates LCPA airports and its projected growth needed, as economic engines, to meet the region's demands for air travel and for the non-aviation related uses necessary to continue viable airport operations. Allowable land uses and intensities within the Airport Lands future land use category are according to the Airport Master Plan. Development includes aviation related facilities such as hangars, terminals, and runways and non-residential, non-aviation related uses as approved through the AOPD zoning process. In cooperation with local, state, and federal regulatory agencies, the LCPA works to minimize and address any wildlife hazards arising from existing wetlands or water bodies located on properties designated Airport Lands in accordance with FAA directives. Site improvements on properties designated Airport Lands will be designed to minimize attractiveness to wildlife of natural areas and man-made features such as detention/retention ponds, landscaping, and wetlands, which can provide wildlife with ideal locations for feeding, loafing, reproduction, and escape.

Planned development projects identified as part of this Master Plan Update are consistent with the allowable land uses and applicable policies of the local comprehensive plan (Lee Plan).

Natural Resources and Energy Supply

Natural resources refer to the raw materials that would be committed to a proposed project, such as water, asphalt, aggregate, and wood, etc. Energy supply refers to the coal, natural gas, and fuel available to support the construction, operation, and maintenance of an action. The statutes and executive orders governing natural resources and energy supply that were considered include the Energy Independence and Security Act, the Energy Policy Act and Executive Order 13834, Efficient Federal Operations. No federal permits or certifications are required under this impact category. Consultation with state and local entities has verified that no state or local permits are required. Coordination with Lee

County Utilities, Lee County Solid Waste and Florida Power and Light (FPL) occurs as needed based on project requirements and demands.

The amount of water, asphalt, aggregate and wood that is used in relation to a project is based on construction and design criteria, as well as availability. These resources are supplied by local and contracted vendors as needed.

Where possible, sustainability practices are employed to conserve energy and reduce demand for these resources. A sustainability program with goals, objectives and performance metrics is utilized to implement the program. Sustainability practices currently employed include, but are not limited to, a recycling program, low flow toilets, LED lighting upgrades, natural lighting in building design, etc. Additionally, pollution prevention plans are in place to reduce the potential for unintentional impacts to adjacent resources.

Construction and operation of the Airport and the incremental growth from future projects would use consumable natural resources including electricity, gas, water, and sewage treatment. Presently, there exists an adequate supply to service the Airport including its planned growth. Future projects are not anticipated to exceed current supply for any energy or natural resource category and sustainability practices will help mitigate impacts of future growth. However, further review of energy and resource needs of a given project versus availability will be completed as a part of the Lee County development and building permit process.

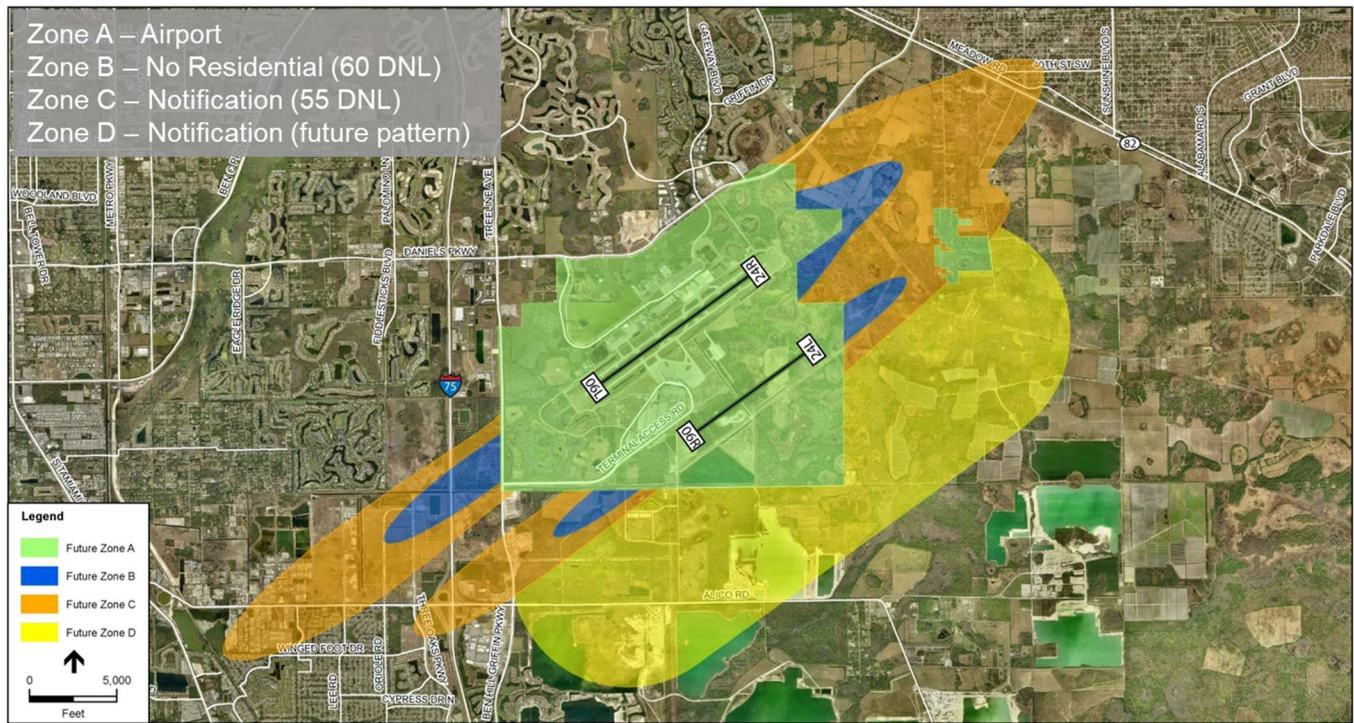
Noise and Noise-Compatible Land Use

The FAA requires preparation of a noise exposure analysis for any project that may result in a change in cumulative noise exposure to noise sensitive areas around an airport. FAA Order 1050.1F defines noise sensitive areas as areas where noise interferes with normal activities associated with its use. Noise sensitive areas may include residential, educational, health, religious structures and sites, parks and recreational areas, areas with wilderness characteristics, wildlife refuges, and cultural and historical sites. Common development actions that may change the cumulative noise environment include changes to runway configuration, aircraft operations and/or movements, aircraft types using the airport, or aircraft tracks and profiles. The FAA established land use compatibility guidelines relative to certain noise levels in Title 14 Code of Federal Regulations (CFR) Part 150, Noise and Land Use Compatibility, Appendix E. Most land uses are compatible with noise levels less than DNL 65 dBA.

FAA Order 1050.1F, FAA Order 5050.4B, and Title 14 CFR Part 150 specify the methods required for evaluation of the airport noise environment. The FAA defines DNL 65 dBA as the threshold of exterior noise compatibility for residential and other noise-sensitive land uses.

Following the 1994 EA approval for the Parallel Runway and Midfield Terminal Complex, a Part 150 noise study update was conducted in 1995 that expanded the resulting Noise Overlay Zones to incorporate areas that would be affected by aircraft activity on the future Parallel Runway. The 1995 Noise Compatibility Program also included additional noise abatement operational measures/procedures. A 2006 14 CFR Part 150 Study Update included further refinements to the noise overlay zone including limiting noise sensitive land uses within the 60 DNL contour and establishing a public notification area within the 55 DNL contour.

In 2011, the LCPA began another update to the Part 150 study for RSW. The study was completed in 2013 (2013 Study) and was used as the basis for further updating the noise overlay zones in proximity to the airport. The updated zones were based on projected aircraft activity for 2030 with the future two runway system as depicted in Figure 6-6. The DNL 65 is wholly contained on airport property.

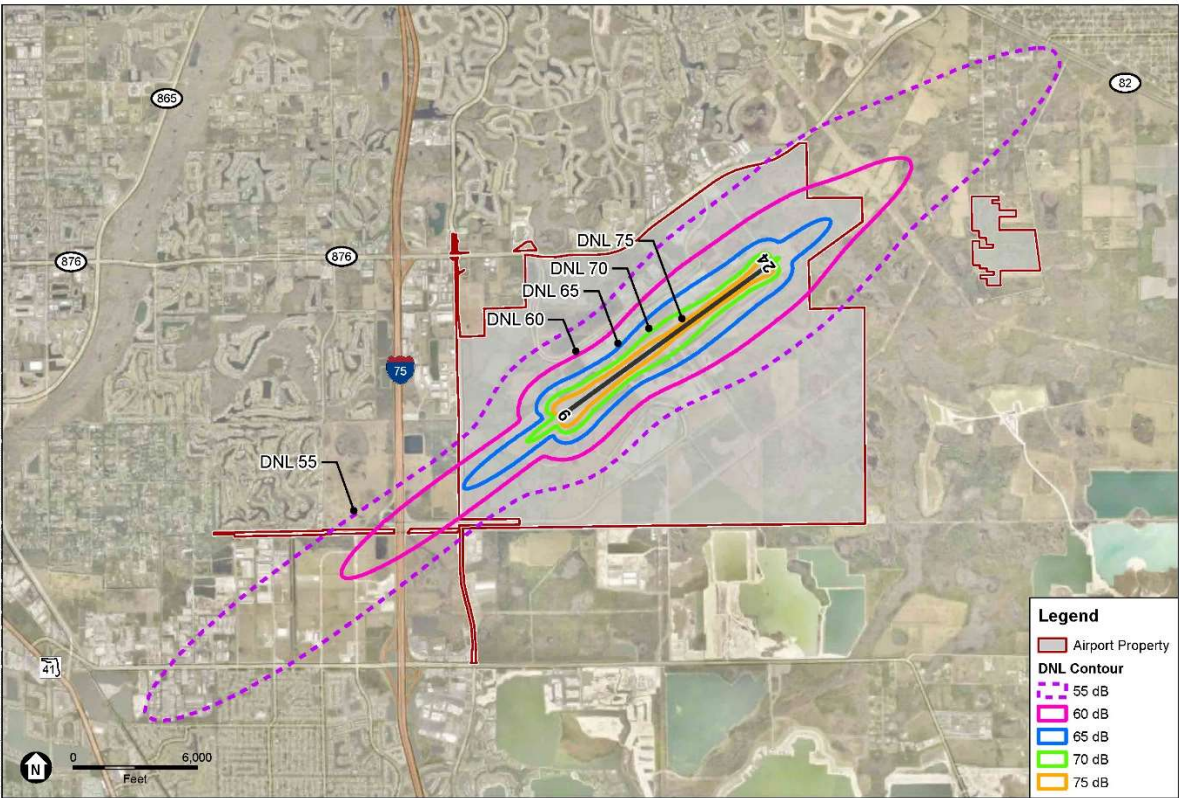


Source: LCPA

Figure 6-6 Existing Airport Overlay Zones

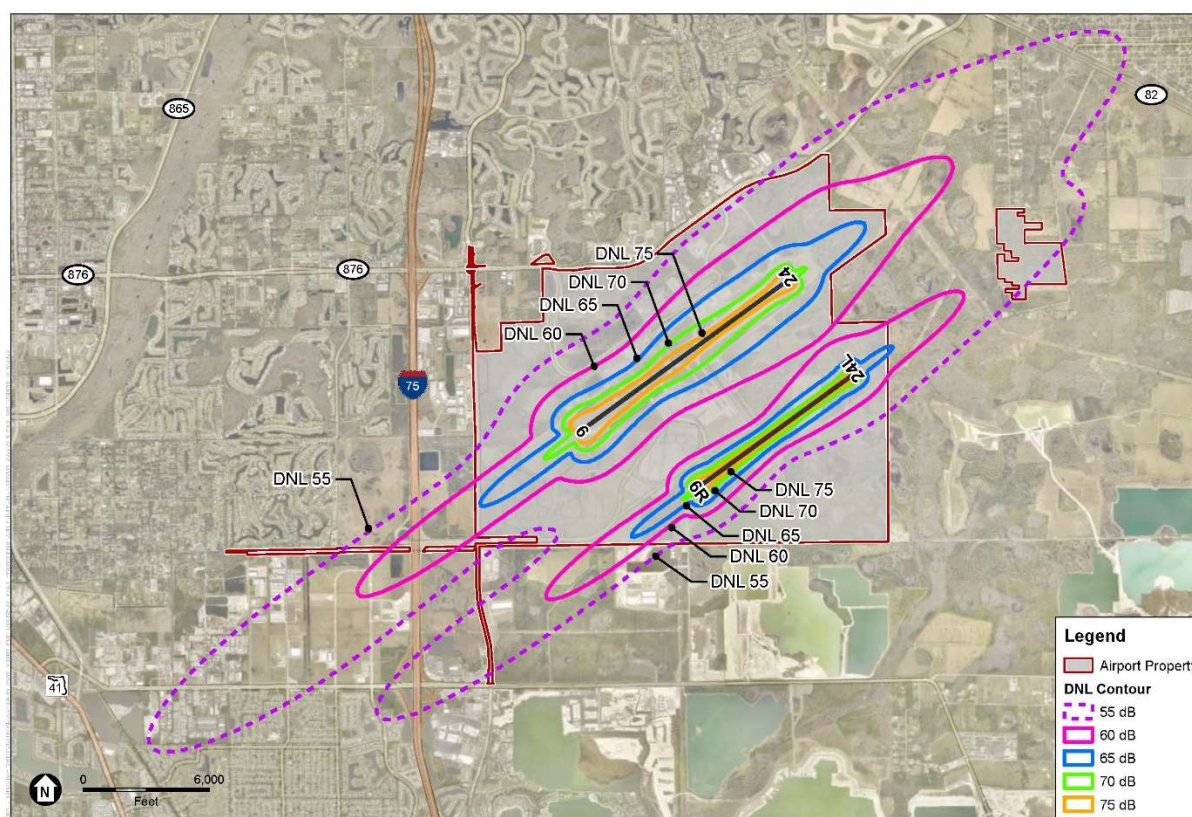
An additional noise modeling analysis was prepared as a part of the RSW Master Plan Update to determine the existing noise exposure conditions and the anticipated conditions when the Parallel Runway comes online. For this analysis, AEDT Version 3d (AEDT 3d) was used to model aircraft noise exposure at RSW for the 2021 Baseline Condition and Year of Opening/100% ASV (theoretical capacity) condition. A detailed existing fleet profile including time of day and stage lengths was also developed from landing fee reports and 2021 historical fleet data obtained from FlightAware™. Projected fleet evolution and estimated future fleet profile (airframe and engine types) was developed for the purposes of this analysis based on the FAA approved forecast and industry trends.

Noise exposure contours depicting the 55, 60, 65, 70, and 75 DNL levels were overlaid on an aerial for the Airport and the immediate vicinity. One set of contours was generated to reflect Baseline 2021 noise exposure (existing runway configuration) (Figure 6-7). A second set of contours was generated that reflects the anticipated Year of Opening/100% ASV Future noise exposure associated with future airfield (Parallel Runway) conditions (Figure 6-8). Projected fleet evolution and estimated future fleet profile (airframe and engine types) were developed for the purposes of this analysis based on the FAA approved forecast and industry trends.



Source: ESA

Figure 6-7 Existing DNL contours (2021)



Source: ESA

Figure 6-8 Future DNL contours (2043)

While beyond the federal thresholds of significance, the DNL 55 and 60 contours are shown because Lee County has adopted the 2030 projected noise exposure contours for these contours for long term land use planning. This requires notification/disclosure within the DNL 55 Contour (Zone C) and restricts future noise sensitive development within the DNL 60 contour (Zone B). The 2043 Future Condition DNL contours depicted on Figure 6-8 incorporate the ultimate planned southern Parallel Runway and reflect use distribution between the two runways.

The FAA approved noise contours have continued to generally decrease with each noise contour analysis, due to the required federal phase-out of Stage 2 aircraft in the early 2000s and the continued transition to quieter Noise Stage 4 and 5 aircraft. There are no people living within the current 65 DNL noise contour since it is located entirely on RSW property, nor are there any forecasted to be in the 65 DNL contour through the year 2043. Additionally, there are no noise sensitive land uses or Section 4(f) properties or historic resources within or in near proximity the 65 DNL contour.

Socioeconomics, Environmental Justice, and Children's Environmental Health and Safety Risks

Socioeconomic impacts are generally associated with the loss or creation of jobs or significant tax base, depression or stimulation of economic activity, and induction of additional population to relocate to the area. Environmental justice describes whether these or other environmental impacts are born primarily by a low-income or minority group.

Socioeconomics

FAA Order 1050.1F describes socioeconomics as "an umbrella term used to describe aspects of a project that are either social or economic in nature." A socioeconomic analysis evaluates how elements of the human environment such as population, employment, housing, and public services might be affected by proposed actions and alternatives (FAA, 2015). 49 CFR part 24 (implementing the Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970), as amended, addresses displacement of persons associated with implementing a project.

As commercial aviation grew in Southwest Florida, by the 1970's it became clear that Page Field was too small and constrained to meet regional demand. A site selection process for a new airport was undertaken and an undeveloped area east of I-75 was selected. RSW became the primary commercial airport supporting Southwest Florida upon the opening of the Airport in 1983. Significant state, local and regional planning efforts were and continue to be undertaken to ensure that the Airport and its surrounding development was consistent with the long-term needs of the region. In 2022, the Florida Department of Transportation estimated that RSW supports more than 60,000 jobs and has a total economic impact of \$8.3 billion.

Planned development at the Airport is not expected to result in disruption to communities or businesses and future land acquisition is not anticipated. Additionally, planned development aligns with the Lee Plan (Lee County Comprehensive Plan) and is expected to generate additional jobs and economic benefit. The relocation of the commercial passenger terminal from the north side of the runway to the midfield location in 2005 and the addition of the I-75 Airport direct connection in 2015 resulted in reduced impact to off-airport roads. It was determined that the existing (2022) roadway capacity is sufficient to meet traffic demands throughout the planning period (2041). More detailed analyses may be required to maintain on-airport operational requirements at intersections, and identify the need for longer turn lanes, adjusted signal timing, additional turning movements, etc. at intersections as development occurs.

Environmental Justice

Executive Order 12898, Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations (1994), directs federal agencies to identify and address the disproportionately high and adverse human health or environmental effects of their actions on minority and low-income populations. DOT Order 5610.2 (1997), Environmental Justice in Minority and Low-Income Populations, implements EO 12898.

The boundary of RSW contains no residential dwellings. The Airport is bound by major roadways and mixed-use commercial, mixed use industrial and vacant lands. Low income and minority populations are not within or directly adjacent to the Airport. However, low income and minority populations exist within Lee County and Southwest Florida. Based on EPA's EJScreen database and the 2016-2020 American Community Survey, total population in Lee County is just under 780,000. Minorities represent approximately 34 percent of the total population and approximately 18 percent of the population is below the poverty line. A review of the adjacent census tracts indicates that all have lower relative percentages of minority and low-income population. As a result, disproportionately high and adverse environmental effects on minority and low-income populations are not anticipated as a result of the ongoing operations and continued development of the Airport property through the planning horizon.

Children's Environmental Health & Safety Risks

The regulatory setting associated with this environmental impact category includes Executive Order 13045, Protection of Children from Environmental Health Risks and Safety Risks.

The affected environment for Children's environmental health and safety risks was analyzed in the context of other environmental impact categories, including air quality, noise, water resources, etc. within Lee County. The Airport is not located immediately adjacent to any schools, daycare facilities, parks, or children's health clinics. Gateway Charter Elementary School and Gateway Charter High School are located approximately one mile to the north of Airport property, while San Carlos Park Elementary and Rayma C. Page Elementary are located approximately three and five miles southwest of the Airport. All are located outside the future DNL 55 dB contour.

The airport is not located adjacent or in near proximity to any schools, daycare facilities, parks, or children's health clinics. Zoning regulations adopted in the Lee County Land Development Code establish protections so that construction of an educational facility is prohibited in the 60 DNL Noise Contour based on the most recent Part 150 Study approved by FAA for RSW. Aviation related educational facilities are exempt from this restriction. Considering the existing conditions and protective measures in place, planned development at RSW is not anticipated to have a disproportionate health or safety risk to children. No significant impacts to children's environmental health and safety risk are anticipated as a result of the planned airport development projects.

Visual Effects

Visual effects address the potential for interference with existing visual resources or the visual character of a site. This resource category also considers the extent to which a project would generate light emissions that create annoyance or interfere with existing activities. Visual resources consist of the natural and manmade physical features that give a particular landscape its aesthetic character and value. Light emissions include any light that emanates from a light source into the surrounding environment, such as lighting associated with airports, parking facilities, roadways, and other business and residential uses. People, wildlife, and land uses that could be affected by light emissions must be considered, including the extent to which they are currently affected by existing light emissions. The current level of light emissions include those typical to airport operations and parking.

The Airport is largely shielded from view by its location. With major divided highways/roadways to its west and north and limited development to the south and east, the light emissions and visual character of the Airport are largely contained on Airport property. The nearest developments include the residential area known as Gateway which is north of Daniels Parkway, Jet Blue Park, and the adjacent industrial development along the Daniels corridor. Airport light emissions are contained entirely on-site. No unique resources with the potential to be affected by light emissions or changes to the visual character of the Airport exist. No historic properties, parks, traditional cultural properties, and light-sensitive wildlife species are located in or immediately adjacent to the Airport. Planned development on Airport property will be consistent with the current visual character of the site. While activity at the Airport is projected to change over time, land use controls limit residential development in near proximity to the Airport. The light emission effects from the planned development are unlikely to create annoyance or interference with normal activities, will not affect the visual character of the area, would not contrast with other visual resources, and will not block/obstruct the views of visual resources. As a result, negative visual effects associated with the future Airport development are not anticipated.

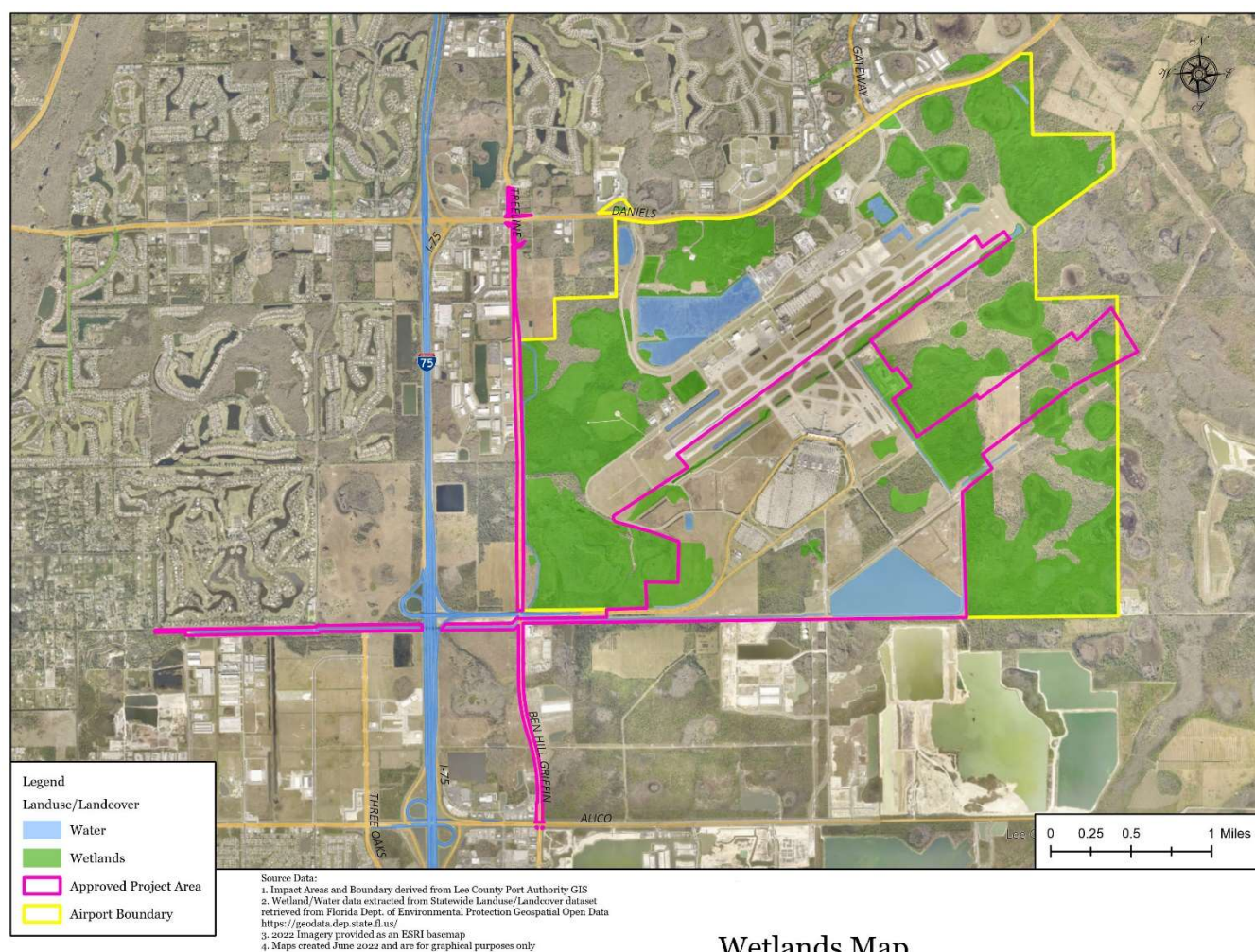
Water Resources

Wetlands

The Statutes and Executive Orders associated with wetlands that were evaluated include the Clean Water Act, Fish & Wildlife Coordination Act, Executive Order 11990, DOT Order 5660.1A and Chapter 373, F.S. These Statutes and Executive Orders require consultation and concurrence with pertinent agencies having wetlands-related interests, permits and other approvals prior to any works in, on or over wetlands.

As indicated in Figure 6-9, the Airport property boundary encompasses many areas where wetlands are present. Much of the area encompassed by the north area plan has been previously developed and contains few wetland areas. However, further environmental review of specific sites will be required as development plans become more defined and refined and future mitigation may be required to address associated impacts.

Early coordination regarding the Parallel Runway and the midfield development area was conducted with the FAA, USFWS, COE, SFWMD and other agencies. Efforts were made to avoid and minimize wetland impacts while still maintaining consistency with FAA requirements regarding wildlife hazard attractants. Additionally, Section 404 permits and Environmental Resource Permits from the SFWMD were obtained prior to any works in, on or over wetlands associated with the Project. Mitigation is in place for wetland impacts, including purchased mitigation bank credits and the 7,000-acre Airport Mitigation Park.



Wetlands Map

Source: LCPA

Figure 6-9 RSW Wetlands map

For much of the Airport property, wetland impacts have been completed. A detailed mitigation plan was developed and implemented to the satisfaction of the COE (for Section 404) and SFWMD (for State ERP) at the time of the Parallel Runway and Midfield Terminal Complex permitting.

The 7,000-acre Airport Mitigation Park is maintained in accordance with Federal and State permits, and provides wetlands compensation and mitigation for the project area depicted in Figure 6-9. Airport Mitigation Park contains a mosaic of wetlands within the landscape, including flow-ways, strands, cypress swamps and domes, marshes and hydric flatwoods. The Mitigation Park protects the largest freshwater marsh in Lee County, Imperial Marsh, and hydrologically connects with other publicly owned wetland preserves and mitigation areas. These include the Corkscrew Regional Ecosystem Watershed (CREW), Corkscrew Mitigation Bank and Imperial Marsh Preserve. Additionally, Airport Mitigation Park provides a myriad of ecosystem services valuable for wetland functional value, including:

- Flood storage and protection
- Water quality improvement
- Groundwater recharge
- Fish and wildlife habitat (including for listed species)

Significant wetland conservation and compensatory mitigation are in place, and LCPA maintains compliance with the permit requirements for perpetual maintenance of the Airport Mitigation Park.

Floodplains

Floodplains are often discussed in terms of the 100-year flood, or base flood. Several Executive Orders and State and Federal Statutes govern the regulatory setting associated with floodplains. The primary requirements are provided in Executive Order 11988 and DOT Order 5650.2.

The study area includes the Airport property area and downstream discharge areas. The Airport property is currently classified as FEMA floodplain Zone X. Zone X is the area of minimal flood risk outside the 0.2% annual chance (500-year) floodplain.

As discussed in the Surface Water section below, Airport-related stormwater discharge is controlled by gated weirs with permit specific control elevations. This ensures no indirect impacts to downstream Floodplains through discharge of too much or too little water during a typical wet season.

Although the Airport does not impact a floodplain, the 7,000-acre Airport Mitigation Park preserves a portion of a natural flow-way system known as Imperial Marsh and Flint Pen Strand that provides many of the natural and beneficial values of floodplains as identified in DOT Order 5650.2. These benefits include:

- Sustaining aquatic and terrestrial species by providing needed food, cover and water requirements.
- Recharging groundwater and reduce flooding by providing slow water flow and retaining water.
- Maintaining water quality by providing a natural flow of water over rough surfaces, through vegetation so the natural biological and chemical processes can reduce pollutant loads.
- Providing open space with natural beauty inhabited by fish, wildlife and plants.

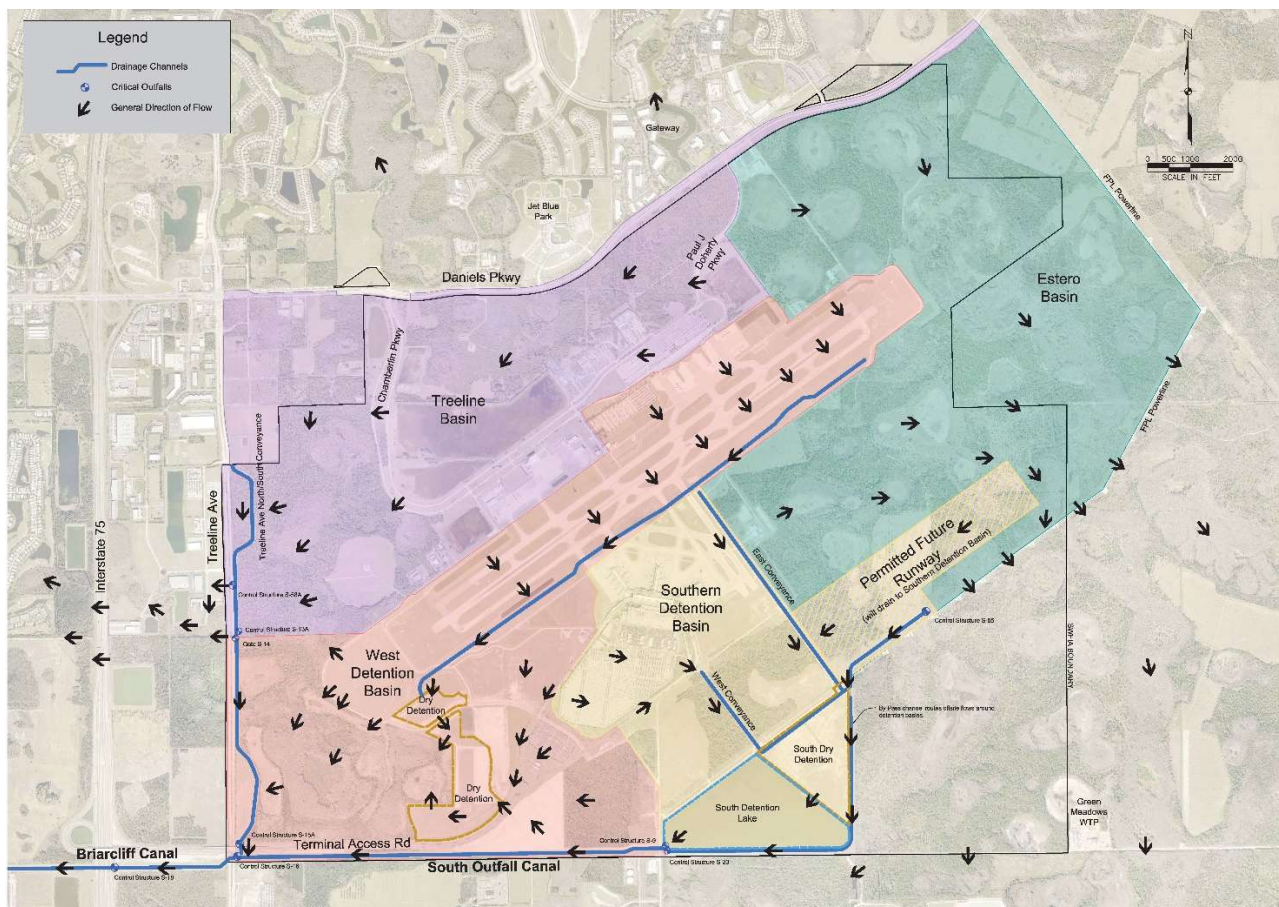
According to FAA Order 1050.1F, floodplain impacts would be significant for any action that would cause notable adverse impacts on natural and beneficial floodplain values. No impacts to floodplains, either directly or indirectly, are expected as a result of the planned development on Airport property.

Surface Waters

The study area includes the Airport property area and associated discharge points (Figure 6-10). Existing Runway 6-24 and midfield development area utilizes a permitted master stormwater management system for all surface water. This system includes a series of swales, culverts, detention and retention areas, stormwater ponds, and canals with gated weirs to collect, treat and discharge water offsite as needed. A current SWP3 exists for all of RSW as required by the NPDES MSGP.

Commonly accepted measures to minimize erosion and sedimentation and maintain water quality throughout land clearing and construction activities are available and would be required during construction for future projects as appropriate. Measures outlined in FAA Advisory Circular 150/5370.10H, Standards for Specifying the Construction of Airports, will be implemented to minimize the potential for water quality impacts. Prior to any construction, the contractor will be required to obtain a state NPDES permit for discharges from construction activities and comply with the conditions of the approval.

Regular water quality sampling is conducted to verify the surface water quality prior to discharge from Airport property. Surface water impacts are minimized, avoided, and mitigated through compliance with the SWP3, State, Federal, and local permits.



Source: Johnson Engineering, 2018

Figure 6-10 RSW Onsite Drainage map

Based on the significance threshold for surface waters outlined in FAA Order 1050.1F, the impacts of planned development through the planning horizon is below the threshold of significance for impacts to surface waters. Specifically, as a result of required permitting compliance, the anticipated development will not:

- Exceed water quality standards established by federal, state, local, and tribal regulatory agencies
- Contaminate public drinking water supply such that public health may be adversely affected

Additionally, based on the FAA's list of other factors to consider with regard to impacts to surface waters, the anticipated development will not:

- Adversely affect surface waters such that the beneficial uses and values of such waters are appreciably diminished or can no longer be maintained and such impairment cannot be avoided or satisfactorily mitigated; or
- Present difficulties based on water quality impacts when obtaining a permit or authorization

Groundwater

The Airport requires withdrawal of mid-Hawthorn aquifer groundwater for landscape irrigation. Additionally, occasional temporary dewatering may occur during the course of construction projects for the purpose of installing sub-surface project-related components and appurtenances. All activity associated with groundwater withdrawals and dewatering is conducted in accordance with the conditions of SFWMD-issued permits.

A Density Reduction Groundwater Recharge area (DRGR) has been incorporated into the southeastern portion of Lee County for the purpose of protecting groundwater recharge within the most critical area of the region. The Airport is located immediately west of the DRGR, however the 7,000-acre Mitigation Park is entirely within the DRGR, providing further protection of the groundwater recharge area.

Regarding safe drinking water, Lee County Utilities has established wellfield protection zones for the purpose of protecting drinking water wells within the County. A small portion of the Green Meadows Wellfield Protection Zone exists within the southeastern portion of RSW. The Green Meadows and Corkscrew Wellfield Protection Zones include portions of Airport Mitigation Park. The preservation status of the Mitigation Park ensures protection of groundwater within the wellfield protection zones.

Any activities affecting groundwater are conducted under strict requirements outlined in the consumptive-use and master dewatering permits issued by the state. Groundwater withdrawals remain limited to permitted irrigation and construction activities, and state rules apply regarding drawdown and wetlands. No significant impacts to groundwater are anticipated as a result of planned development through the planning horizon.

Injection or importation of water or substances into groundwater (i.e. deep well injection, aquifer storage & recovery, etc.) is not anticipated on Airport property. Groundwater quality associated with potential spills is addressed through the incorporation of a Spill Prevention, Control and Countermeasure (SPCC) Plan, as required per 40 CFR Part 112.

Based on the FAA's significance threshold for groundwater in Order 1050.1F, the planned development through the master plan horizon is not anticipated to:

- Exceed groundwater quality standards established by federal, state, local, and tribal regulatory agencies; or
- Contaminate an aquifer used for public water supply such that public health may be adversely affected.

In analyzing other factors to consider, the planned development through the master plan horizon does not:

- Adversely affect natural and beneficial groundwater values to a degree that substantially diminishes or destroys such values.
- Adversely affect groundwater quantities such that the beneficial uses and values of such groundwater are appreciably diminished or can no longer be maintained, and such impairment cannot be avoided or satisfactorily mitigated; or
- Present difficulties based on water quality impacts when obtaining a permit or authorization.

Wild and Scenic Rivers

The Airport is not on, adjacent to, or within the corridor of a Wild and Scenic River or any NRI listed river as defined by the Wild and Scenic Rivers Act. Florida has two rivers designated as Wild and Scenic River System rivers: the Loxahatchee River in southeast Florida and the Wekiva River in central Florida, north of Orlando. No designated Wild and Scenic Rivers exist within Lee County. However, three NRI listed rivers exist in Lee County, including Orange River, Hendry Creek and Estero River. The Project is at least five miles from each of these designated river corridors and does not utilize or discharge into these systems, either directly or indirectly. Further, these rivers are well outside the 60 dB DNL contour and are not affected by noise, light or other activities associated with any other airport development projects.

Summary

Based on continual analysis of planned RSW development project impacts:

- The midfield development area as defined in the FONSI has been and continues to be implemented, with the majority already constructed.
- All wetland impacts completed and permitted to date have been fully offset.
- Regulatory permits (COE, SFWMD, etc.) and mitigation have been secured which allow for construction of the Parallel Runway and various other projects within the Airport boundary.
- 7,000 acres of off-site mitigation (Airport Mitigation Park) has been purchased and continues to be preserved and restored in compliance with permit conditions.
- Wetland mitigation credits and panther habitat units have been purchased to mitigate for the future Parallel Runway.

As development projects evolve through planning, various levels of environmental documentation and studies may be required before construction can begin. The impact categories with the highest potential for future impacts are likely to be wetlands and biological resources. While wetland and biological resource impacts should be avoided and minimized to the extent possible, future mitigation may be required to address associated impacts.