# NORTHWEST FLORIDA BEACHES INTERNATIONAL AIRPORT

# MASTER PLAN UPDATE

## Working Paper #1 - Inventory

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**DRAFT**

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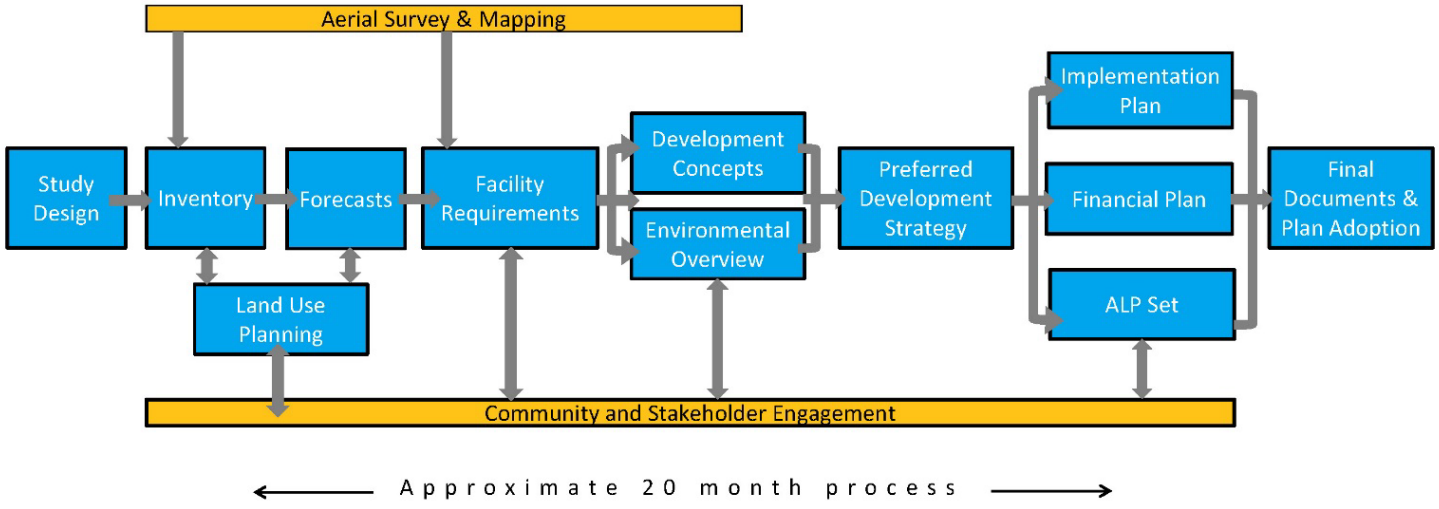
# 1 INTRODUCTION

The Panama City-Bay County Airport and Industrial District (the 'Authority') has retained CHA Consulting, Inc. ('CHA' or 'the Consultant') to prepare a Master Plan Update (Study) for the Northwest Florida Beaches International Airport ('ECP' or 'the Airport'). The purpose of the study is to evaluate the current space utilization and operational characteristics of the airfield, Terminal facility, support facilities, ground access, and land development considerations. It is the intent to consider all alternatives that can be developed for the best use of space and logical guidance provided for the continued improvements necessary to accommodate projected aviation activity in a logical and financially feasible manner throughout the 20-year planning period.

This introductory chapter provides a description of the project and a background overview of the Airport and its facilities. The Airport's website has destination and flight information, airport maps, driving directions, ground transportation, parking information, and ADA accessibility resources.

## 1.1 PROJECT DESCRIPTION

An airport master plan is a comprehensive study of an airport that is conducted via a systematic process that evaluates existing facility and market conditions, identifies anticipated stakeholders' needs, and formulates short-, medium-, and long-term development plans to meet future aviation demand. The process, methods and ultimate products are guided by Federal Aviation Administration (FAA) Advisory Circular (AC) 150/5070-6B, *Airport Master Plans*. Consistent with this guidance, as well as Florida Department of Transportation (FDOT) Airport Master Plan requirements, the process followed for preparing the ECP Master Plan Update is outlined below.



### 1.1.1 Purpose and Objectives

The purpose of this study is to provide long-term guidance and planning tools for continued airport improvements necessary to satisfy projected aviation demand in a logical and financially feasible manner. Consistent with this purpose, the Airport Authority has indicated that goals and objectives of the study should include, at a minimum, the following:

- Key Terminal building phasing issues such as ticketing areas, security screening functions, passenger holdrooms and concourse areas, concessions, aircraft gate and parking positions, baggage functions (inbound and outbound), rental car facilities, administrative space, and general passenger circulation and flow
- Land use/economic development opportunities and issues such as infrastructure, access, and use
- Surface access/parking considerations
- Airfield planning issues
- Environmental considerations
- Financial considerations

In addition to addressing these objectives, this Study will also fulfill the broad master planning goals set forth by the FAA in AC 150/5070-6B, *Airport Master Plans*. These goals are:

- Document issues that the proposed development will address.
- Justify the proposed development through the technical, economic and environmental investigation of concepts and alternatives.
- Provide an effective graphic presentation of the development of the Airport and anticipated land uses in the vicinity of the Airport.
- Establish a realistic schedule for the implementation of the development proposed in the study, particularly the short-term capital improvement program.
- Propose an achievable financial plan to support the implementation schedule.
- Provide sufficient project definition and detail for subsequent environmental evaluations that may be required before the project is approved.
- Present a plan that adequately addresses the issues and satisfies local, state, and Federal regulations.
- Document policies and future aeronautical demand to support municipal or local deliberations on spending, debt, land use controls, and other policies necessary to preserve the integrity of the Airport and its surroundings.
- Establish the framework for a continuing planning process. Such a process should monitor key conditions and permit changes in plan recommendations as required.

### 1.1.2 Public and Stakeholder Involvement Program

Public and stakeholder involvement is an integral part of any significant airport planning study, as it encourages information-sharing and collaboration among the community and airport stakeholders that hold a collective interest in the outcome of the Study. For the purpose of this study, stakeholders include the airport sponsor, airlines, tenants, users and travelers, local businesses, military interests, residents, resource agencies, elected and appointed officials, and the general public. A variety of forums, such as committees, public information meetings/workshops, and public awareness campaigns, are necessary to mitigate setbacks that may arise from having a large, diverse stakeholder group.

For this Study, a Planning Advisory Committee (PAC) has been established. The PAC consists of technical level representatives of the Authority, airlines, airport tenants, general aviation users, the FAA, the FDOT, the Bay County Tourist Development Council, the Emerald Coast Regional Council, local municipalities and chambers of commerce, and other key agencies and interest groups. In addition, the PAC includes representation from local municipalities, regional planning agencies, economic development organizations, land use and transportation planning groups, and business-related organizations. The PAC will be asked to provide guidance and advice on technical and local issues and will also review working papers at various milestones throughout the course of the project to ensure that all relevant issues were adequately addressed. The PAC will also be asked to provide broad input and insight on non-technical issues affecting the community. Up to five PAC meetings will be held throughout the duration of the program as part of a coordinated series of meetings at key decision points in the study process.

In addition to the PAC meetings and project meetings, other forms of stakeholder involvement to be utilized during this Study include briefings for the Airport Authority Board, for specialized interest groups, and for the public. The Airport Authority Board briefings will be scheduled, as needed, and will cover topics of special concern or interest to the Authority. The purpose of the public meetings and workshops is to provide opportunities for the Authority to engage the public in purposeful conversation about the Airport and the Master Plan Update. These meetings will be conducted in an 'open house' format with interactive information stations staffed by Airport personnel and the consultant team. Other briefings may be organized with key agencies, stakeholders, or public officials as needed for various topics. A Master Plan Update website, located on the Authority's website, will enable the public to conveniently access project specific information in a narrative and graphical format throughout the study's duration. **Table 1-1** lists each of the key involvement briefings, workshops, and meetings carried out and planned, to date.

**Table 1-1 – Stakeholder Involvement Meetings**

| Meeting | Date |
|---|---|
| Project Kickoff Meeting | Feb. 26, 2019 |
| PAC Meeting #1 (Introduction and Inventory) | April 23, 2019 |
| PAC Meeting #2 (Forecasts) | TBD |
| PAC Meeting #3 (Facility Requirements) | TBD |
| PAC Meeting #4 (Development Alternatives) | TBD |
| PAC Meeting #5 (Final) | TBD |
| Briefings for the Airport Authority Board (Up to four briefings) | TBD |
| Public Meeting #1 | TBD |
| Public Meeting #2 | TBD |
| Briefings for Special Interest Groups (Up to two briefings) | TBD |

Source: CHA, 2019.

## 1.2 AIRPORT BACKGROUND

Understanding the background of an airport and the region it serves is essential in making informed decisions pertaining to airport-related improvements. This section discusses ECP in the context of its history, location, service area, and role in the National Airspace System (NAS).

### 1.2.1 History

Northwest Florida Beaches International Airport (ECP) replaced Panama City-Bay County International Airport (PFN), opening on May 23, 2010. Conception of the new Airport came about in 1996, after the completion of the PFN Airport Master Plan Update. The Master Plan Update narrative identified the need to extend both runways and associated Runway Safety Areas to accommodate fleet changes in the industry, including the addition of larger capacity aircraft. An Environmental Assessment (EA) was initiated to evaluate the impacts of these projects. Based on the analyses conducted, extension of the runways at PFN would result in significant environmental impacts; therefore, the Airport sponsor terminated the EA process in 1998 and initiated the Airport Feasibility Study. This Study considered other alternatives to address future demand, such as collocation with the nearby Tyndall Air Force Base and relocating the airport to a new site. Additional issues identified with the old Airport site included the lack of land for expansion, incompatible surrounding land uses, and conflicts with Tyndall Air Force Base due to airspace constraints.

**ECP TIMELINE OF EVENTS**

**1932** – Opened public use Panama City-Bay County Airport (PFN)

**1943** – Authority formed

**1996** – Environmental Assessment precluded expansion; proposed replacement airport

**1999** – Airport Feasibility Study

**2000** – Airport Site Selection Study

**2001** – Airport Layout Alternatives and Basis of Design Studies

**2006** – Environment Assessment (for new airport)

**2007** – Ground is broken for a new airport (ECP)

**2010** – ECP opened, PFN closed

**2012** – PFN property sold; first ECP Master Plan Study initiated

The recommendation of the Airport Feasibility Study was to relocate the Airport. As a result, an Airport Site Selection Study was undertaken and completed in 2000.

After the consideration of several potential relocation sites, the Airport Authority selected a 4,000-acre plot of land in northwestern Bay County that was donated by the St. Joe Company. Following the preparation and review of the Environmental Impact Statement (EIS), the FAA issued an official Record of Decision (ROD), approving the relocation of the Airport in September of 2006.

Construction of the new Airport, ECP, broke ground in November 2007. The Airport's FAA identifier code "ECP" was chosen in reference to the Panama City Beach's sobriquet, the Emerald Coast Paradise. The new Airport, which became operational on May 23, 2010, was the first international airport to be built after September 11, 2001, as well as the first airport to be designed and constructed according to Leadership in Energy and Environmental Design (LEED) standards, which identify a building as environmentally sustainable. When ECP opened, all air carrier services immediately moved to the new Airport; however, PFN remained open to general aviation aircraft operators until officially closing on October 1, 2010.

### 1.2.2 Location and Service Area

ECP is located in northwestern Bay County, Florida, approximately 10 nautical miles (nm) north of Panama City Beach, 16 nm northwest of Panama City, 95 nm east of Pensacola, and 90 nm west of Tallahassee. The Airport is accessible via local roads from most northwest Florida destinations, including the 26-mile stretch of beaches in Walton County (Miramar Beach, Seascape, Sandestin, Dune Allen, Santa Rosa Beach, Blue Mountain Beach, Grayton Beach, WaterColor, Seaside, Seagrove, WaterSound, Seacrest, Alys Beach, Rosemary Beach, and Inlet Beach).

The general location and vicinity of Northwest Florida Beaches International Airport are shown in **Figure 1-2** and **1-3**. ECP's distance in nautical miles (nm), drive-time[1], and location in respect to other major airports is as follows:

- Destin-Fort Walton Beach Airport (VPS) – 40 nm; 80-minute drive; west of ECP
- Pensacola International Airport (PNS) – 70 nm; 120-minute drive; west of ECP
- Tallahassee International Airport (TLH) – 75 nm; 120-minute drive; east of ECP

The Airport is located within the Panama City, FL Metropolitan Statistical Area (MSA). The MSA, with a population of approximately 199,723 people in 2017 (United States Census Bureau, 2018), consists of Bay County (Florida).

[1] Drive times may be impacted during certain times of the day due to traffic congestion and/or construction activity.

### 1.2.3 Airport Role

***ECP is categorized as a small hub airport, meaning the Airport receives at least 0.05 percent, but less than 0.25 percent of annual US enplanements.***

In addition to connecting the northwest Florida region to the global air transportation network, the Airport plays a significant role in the nation's air travel system. The National Plan of Integrated Airport Systems (NPIAS) identifies existing and proposed airports that are important to national air transportation and provides a forward-looking estimate of the type and cost of Airport Improvement Program (AIP)-eligible development needed to meet the needs of civil aviation. Airports included in the NPIAS are considered significant to national air transportation and are eligible to receive grants under the FAA's Airport Improvement Program (AIP).

The NPIAS further categorizes the nation's airports based on types of service provided and quantity of passengers enplaned. In the 2019-2023 NPIAS, ECP is classified as a small-hub primary commercial service airport. Small hubs are defined as airports that enplane 0.05 percent to 0.25 percent of total U.S. passenger enplanements. The 72 small hub airports account for almost eight percent of all U.S. enplanements. **Table 1-2** outlines the specifics of each NPIAS category and provides examples of each type in the region.

**Table 1-1 – NPIAS Airport Classifications**

| Airport Classifications | | Hub Type: % of Annual Passenger Boardings | Example Airport[2] |
|---|---|---|---|
| **Commercial Service**: *Publicly owned airports that have at least 2,500 passenger boardings each calendar year and receive scheduled passenger service* | **Primary**: *Have more than 10,000 passenger boardings each year* | **Large Hub**: *1% or more* | FLL, MIA, MCO, TPA |
| | | **Medium Hub**: *At least .25%, but less than 1%* | RSW, JAX, PBI |
| | | **Small Hub**: *At least .05%, but less than .25%* | SFB, **ECP**, PNS, PGD, SRQ, PIE, VPS |
| | | **Non-hub Primary**: *More than 10,000, but less than .05%* | DAB, GNV, EYW, MLB, SGJ, TLH |
| | **Non-primary** | **Non-primary Commercial Service**: *At least 2,500, and no more than 10,000* | VRB |
| **Non-primary** (*Except Commercial Service*) | | **Reliever** | TMB |
| | | **General Aviation** | BOW, BKV |

[2] Fort Lauderdale/Hollywood International (FLL), Miami International (MIA), Orlando International (MCO), Tampa International (TPA), Southwest Florida International (RSW), Jacksonville International (JAX), Palm Beach International (PBI), Orlando Sanford International (SFB), Punta Gorda (PGD), Sarasota/Bradenton International (SRQ), St. Pete-Clearwater International (PIE), Daytona Beach International (DAB), Gainesville Regional (GNV), Key West International (EYW), Melbourne International (MLB), Northeast Florida Regional (SGJ), Vero Beach International (VRB), Miami Executive (TMB), Bartow Municipal (BOW), Brooksville-Tampa Bay Regional (BKV)

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**Figure 1-1**
Location Map

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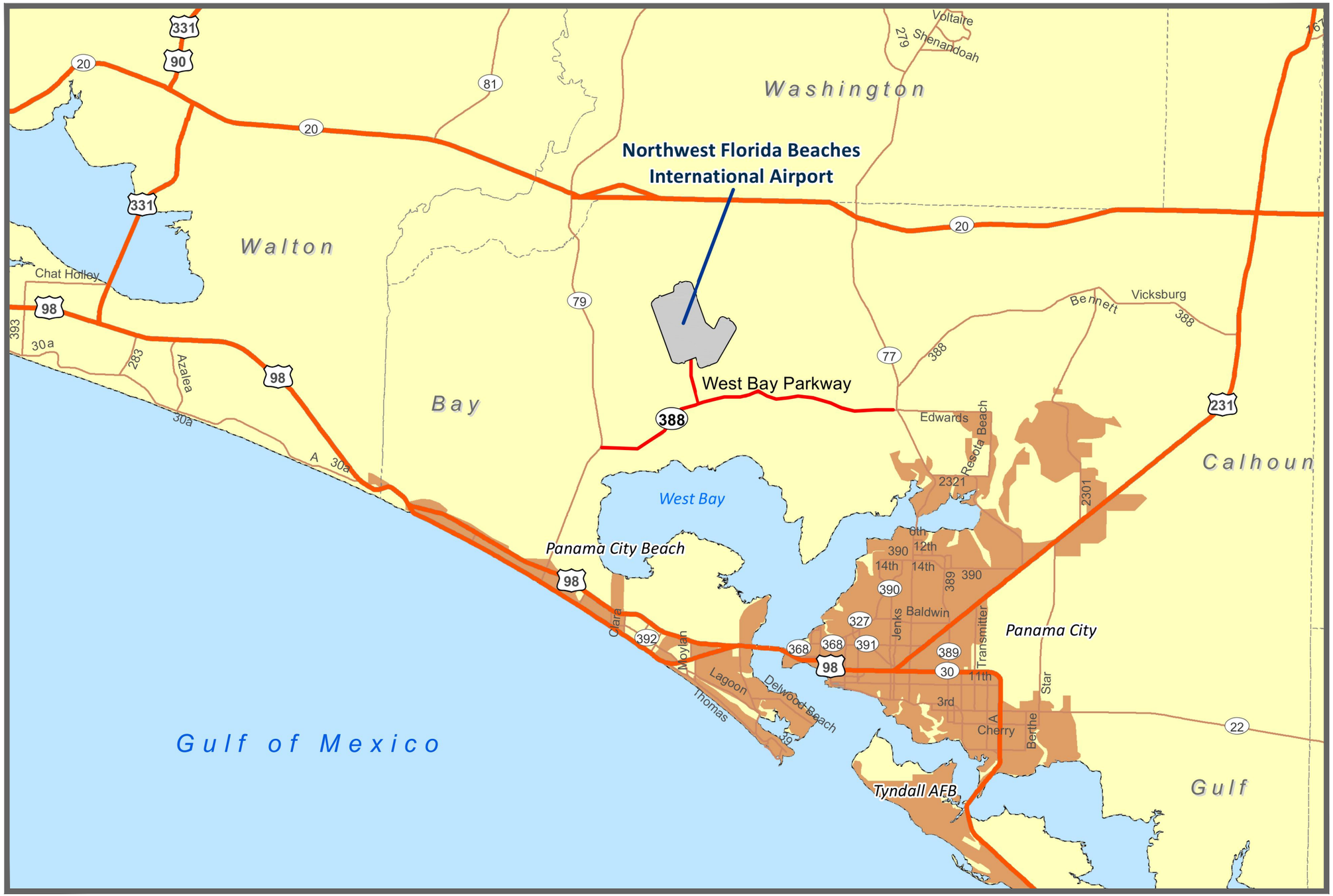


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**Figure 1-2**
Vicinity Map

## 1.3 AIRPORT GOVERNANCE

The Northwest Florida Beaches International Airport is owned and operated by the Panama City-Bay County Airport and Industrial District. The Authority's Board of Directors is comprised of seven members: two appointed by the City Council of Panama City Beach, two appointed by the City Commission of Panama City, two appointed by the Bay County Commission, and one appointed by the Walton County Commission. While the Authority Board is responsible for the governance and strategic direction of the Airport, the day-to-day operations are conducted by a team of airport employees, managed by the Airport's Executive Director and a senior staff consisting of a Deputy Executive Director and a Director of Finance and Administration. This personnel reports to the Board monthly, and are responsible for managing the Airport's day-to-day operations, annual operating budget, strategic planning and development, and the Airport's Capital Improvement Program (CIP).

## 1.4 MAJOR AIRPORT TENANTS

The major tenants at the Airport include the airlines, fixed base operator/general aviation (FBO/GA), rental car companies, and concessionaires.

### 1.4.1 Passenger Airlines

Four airlines currently provide scheduled passenger service at the Airport. Between these airlines, ECP will offer daily, nonstop service to 14 destinations in the United States in 2019, (see **Table 1-3** and **Figure 1-4**), with connecting flights to domestic and international destinations.

As of April 2019, the commercial passenger service airlines at ECP are:

*American Airlines*

*Delta Air Lines*

*Southwest Airlines*

*United Airlines*

**Table 1-2 – Non-Stop Air Service Destinations[3]**

| Airlines | Destinations |
|---|---|
| **American** | Charlotte Douglas International Airport (CLT), Dallas Fort Worth International Airport (DFW), Chicago O'Hare International Airport (ORD)* |
| **Delta** | Hartsfield-Jackson Atlanta International Airport (ATL) |
| **Southwest** | Austin-Bergstrom International Airport (AUS), Nashville International Airport (BNA), Baltimore Washington International Airport (BWI), Dallas Love Field (DAL), Denver International Airport (DEN), William P. Hobby Airport (HOU), Kansas City International Airport (MCI)*, Midway International Airport (MDW), St. Louis Lambert International Airport (STL) |
| **United** | George Bush International Airport (IAH), Chicago O'Hare International Airport (ORD)* |

[3] The asterisk (*) pertains to seasonal destinations beginning service in summer of 2019.

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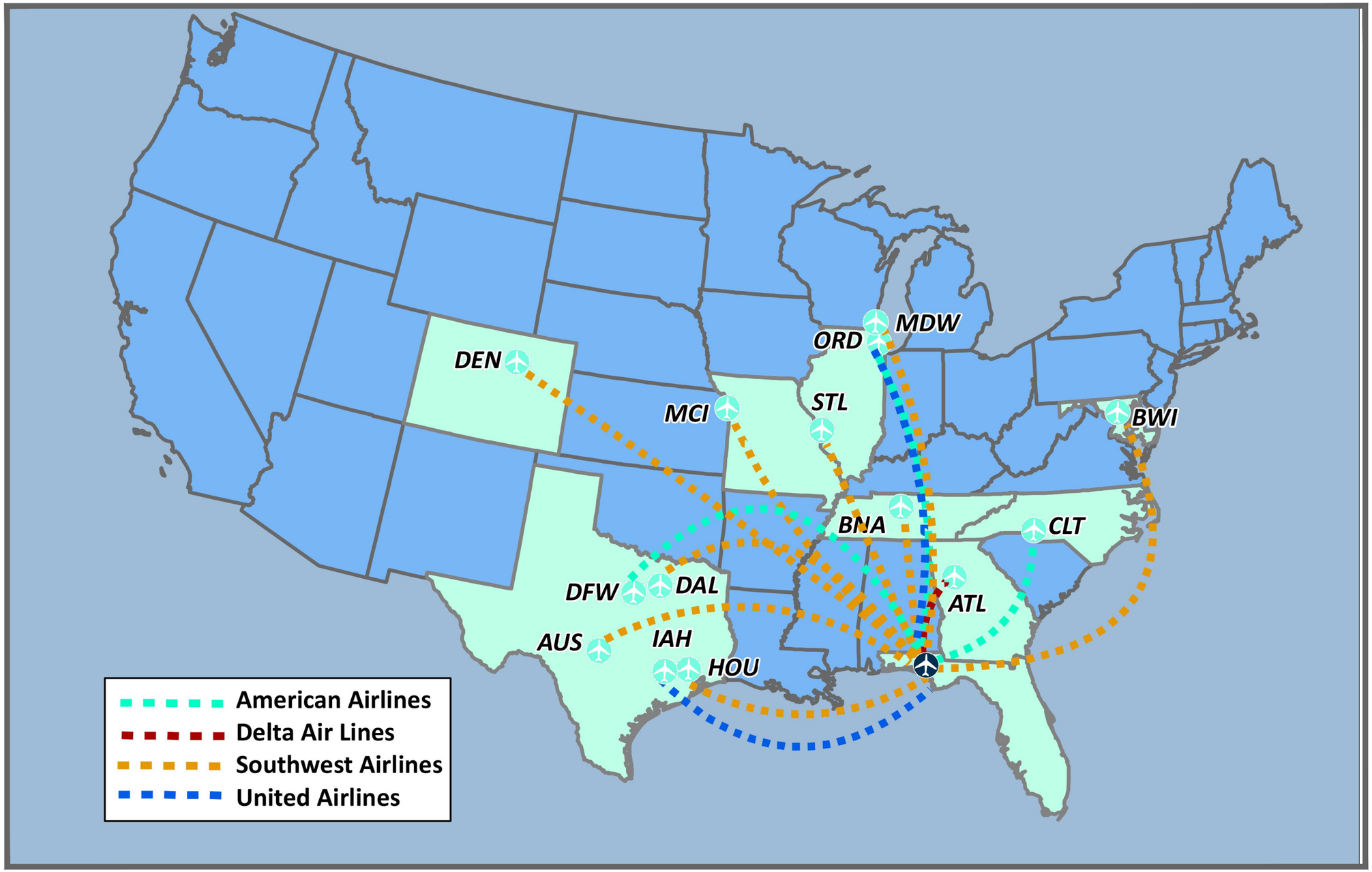


**Figure 1-3**
Air Service

### 1.4.2 Fixed-Base Operator (FBO)

Sheltair Aviation is the single FBO providing aviation services and amenities to general aviation (GA) users and pilots operating out of ECP. A summary of the services offered by Sheltair includes fueling and maintenance of GA aircraft, limited avionics, aircraft storage (two bulk hangars), and tie-down parking. The FBO operates out of the Executive Terminal, located to the west of the Runway 34 threshold, which has a planning/weather room, pilot's lounge, cafeteria/vending area, conference room, wireless internet, and concierge service. The FBO also leases out flight instruction operations to sub-operators. Long-term parking is available near the FBO Terminal for customers utilizing its services.

### 1.4.3 Additional Service Providers

Three additional companies providing aeronautical related services at ECP are Menzies Aviation, Global Aviation, Avionics Solutions, Inc., and DC Aviation.

Menzies Aviation is responsible for managing the Airport's fuel farm, managing the FBO's fuel storage, and conducting all fueling operations for commercial carriers. Menzies Aviation is also responsible for the maintenance of American and Southwest's ground service equipment (GSE), while Global Aviation Services is responsible for maintenance of GSE operated by Delta and United. Avionics Solutions, Inc. provides on-call aircraft maintenance services to the airlines. DC Aviation operates an aircraft maintenance facility.

### 1.4.4 Rental Car Companies

Seven rental car companies currently provide services at ECP. Each company has an operations area in the Terminal, dedicated ready/return parking in the main lot, and access to the on-site quick turnaround (QTA) rental car maintenance and car wash facility.

The rental car companies serving ECP, as of April 2019, are:

- *Alamo Rent-A-Car*
- *Avis Rent-A-Car*
- *Budget Rent-A-Car*
- *Dollar/Thrift Car Rental*
- *Enterprise Rent-A-Car*
- *Hertz Rent-A-Car*
- *National Rent-A-Car*

### 1.4.5 Concessions

Concessionaires at an airport provide travelers in the sterile and non-sterile/non-secured areas (defined in **Section 1.4.5**), as well as meeters/greeters in the non-sterile area, with amenities such as restaurants/food vendors, newsstands, gift shops, and foreign currency exchange. At ECP, dining and shopping services are provided by First Class Concessions and by Hy's Toggery, respectively.

### 1.4.6 Department of Homeland Security

The Department of Homeland Security provides ECP with services from the Transportation Security Administration (TSA), as well as Customs and Border Protection (CBP). Airports and Airlines are required to meet security regulations established in Title 49 Code of Federal Regulations (CFR) Part 1542, *Airport Security,* and Title 49 CFR Part 1540, *Civil Aviation Security: General Rules*. As set forth in Title 49 CFR Part 1540.5, the "sterile area" refers to the most restrictive areas of the Airport (e.g. the concourses) and cannot be accessed by the public or badged personnel until being processed through security measures specified in 49 CFR Part 1542. "Secured areas" are areas outside the concourse that are accessible only to badged personnel (proximity of baggage makeup and aircraft parking). "Non-sterile/non-secure areas" do not have regulated security measures and are accessible to the general public. The Security Identification Display Area (SIDA), means that all personnel must display a SIDA badge issued by ECP. SIDA areas can include non-secure areas, as well as airfield.

CBP is responsible for processing international passengers and baggage arriving at the Airport from international airports that do not have pre-screening facilities. CBP does not process passengers departing the Airport. The TSA is responsible for adequately screening passengers prior to departure. Currently, there is no regularly scheduled international traffic at the Airport. International activity is limited to emergency, pre-arranged, or medical operations.

# 2 INVENTORY OF FACILITIES AND EXISTING CONDITIONS

The initial step in the master planning process is to develop an inventory of the existing physical conditions and operational characteristics of the Airport and its surroundings. The information presented in this chapter is the basis for evaluating the Airport's existing and future facility requirements. The following elements are detailed in this chapter

- Airfield
  - Airport Design Criteria
  - Runway System
  - Taxiway System
  - Aircraft Parking Aprons
  - Airfield Markings
  - Airfield Signage
  - Airside Pavement Condition
- Navigational Aids (NAVAIDs) and Instrument Procedures
  - En-Route NAVAIDs
  - Types of Instrument Approach
  - Procedures and Instrument Approach
  - NAVAIDs
  - Airfield Lighting
- Passenger Terminal Facility
  - Terminal Facility Layout
  - Terminal Building Functional Areas
  - Airline Ticketing Lobby
  - Checked Baggage Screening
  - Passenger Security Screening
  - Airline Gates and Holdrooms
  - Terminal Concessions and Amenities
  - Baggage Claim
  - Rental Car Counters
  - Airport Administrative Support Areas
  - Airline Service and Support Areas
  - Concession Storage and Support Areas
  - Back Office Space
  - Terminal Signage and Wayfinding
- Automobile Access and Parking
  - Existing ECP Parking
  - Observed Utilization of Parking
  - Current Parking Rates
  - Off-Airport Competing Parking
  - Curb-Front Traffic
  - Regional Roadway Network
- Support Facilities
  - Airport Perimeter Fence
  - Airport Equipment Storage and Maintenance
  - Air Traffic Control Tower (ATCT)
  - Aircraft Rescue and Firefighting (ARFF)
  - Aircraft Fueling
  - Snow and Ice Control
  - Air Cargo Facilities
  - General Aviation (GA) Facilities and Activities
  - Rental Car Facilities
- Airspace Environment
- Meteorological Conditions
- Financial Structure

## 2.1 AIRFIELD

The Airport's airside and airfield facilities generally include the facilities located within the airport perimeter fence that are most closely associated with the movement and operation of aircraft, such as taxiing, takeoff, landing, and parking. Additional elements related to airfield activity and infrastructure include the runway and taxiway systems, aircraft parking aprons and hangars, and airfield pavement, markings, signage, lighting, and NAVAIDs. The existing facilities, as well as descriptions of the characteristics and conditions are depicted in **Figure 2-1** and **Figure 2-2**. The airport's different pavement areas are shown in **Figure 2-3**, as they pertain to the airside and landside pavement analyses in **Section 2.1.9** and **2.4.3**, respectively.

**Aircraft Landing on Runway 16/34**

Source: Google Maps, CHA, 2019.

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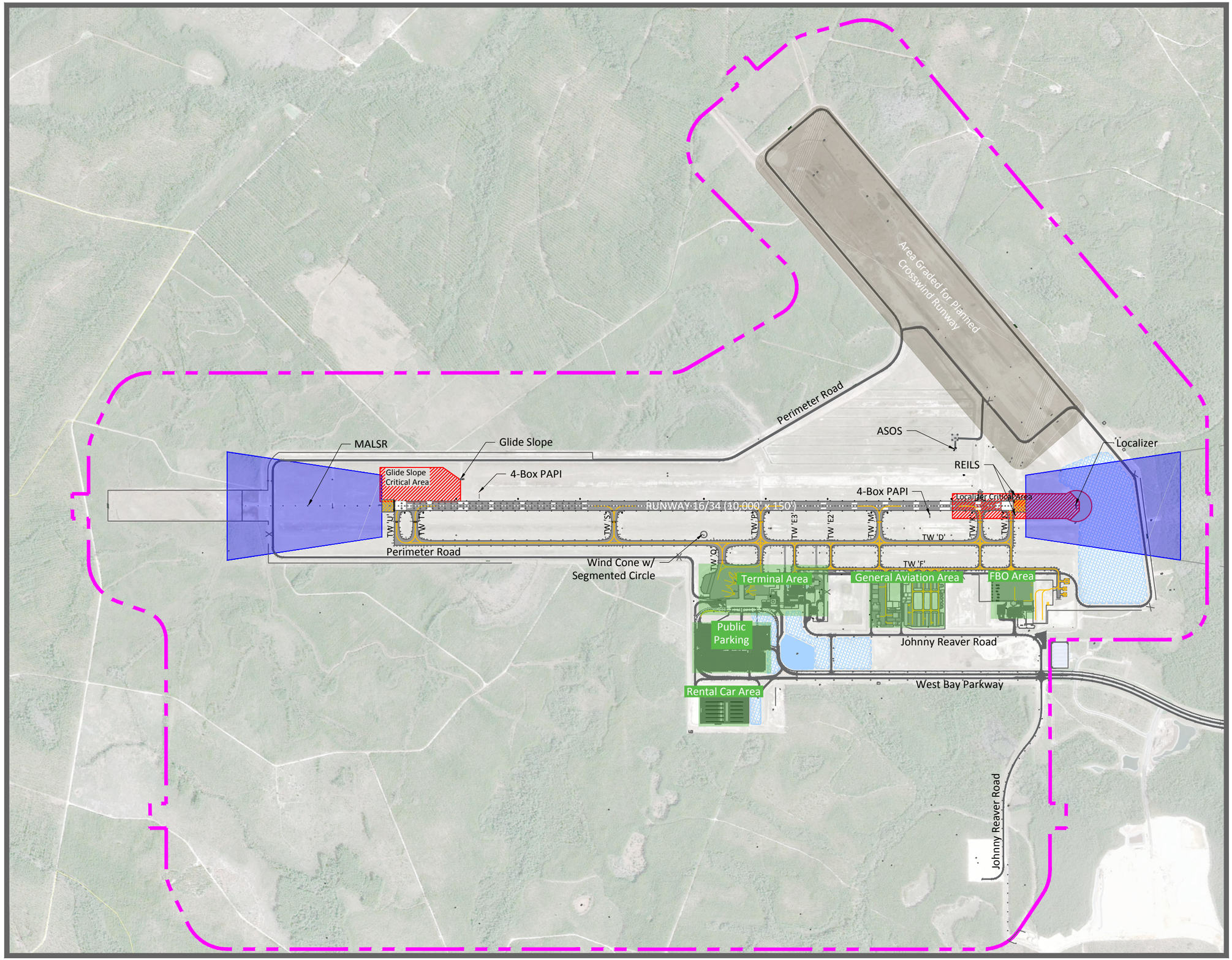


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## LEGEND

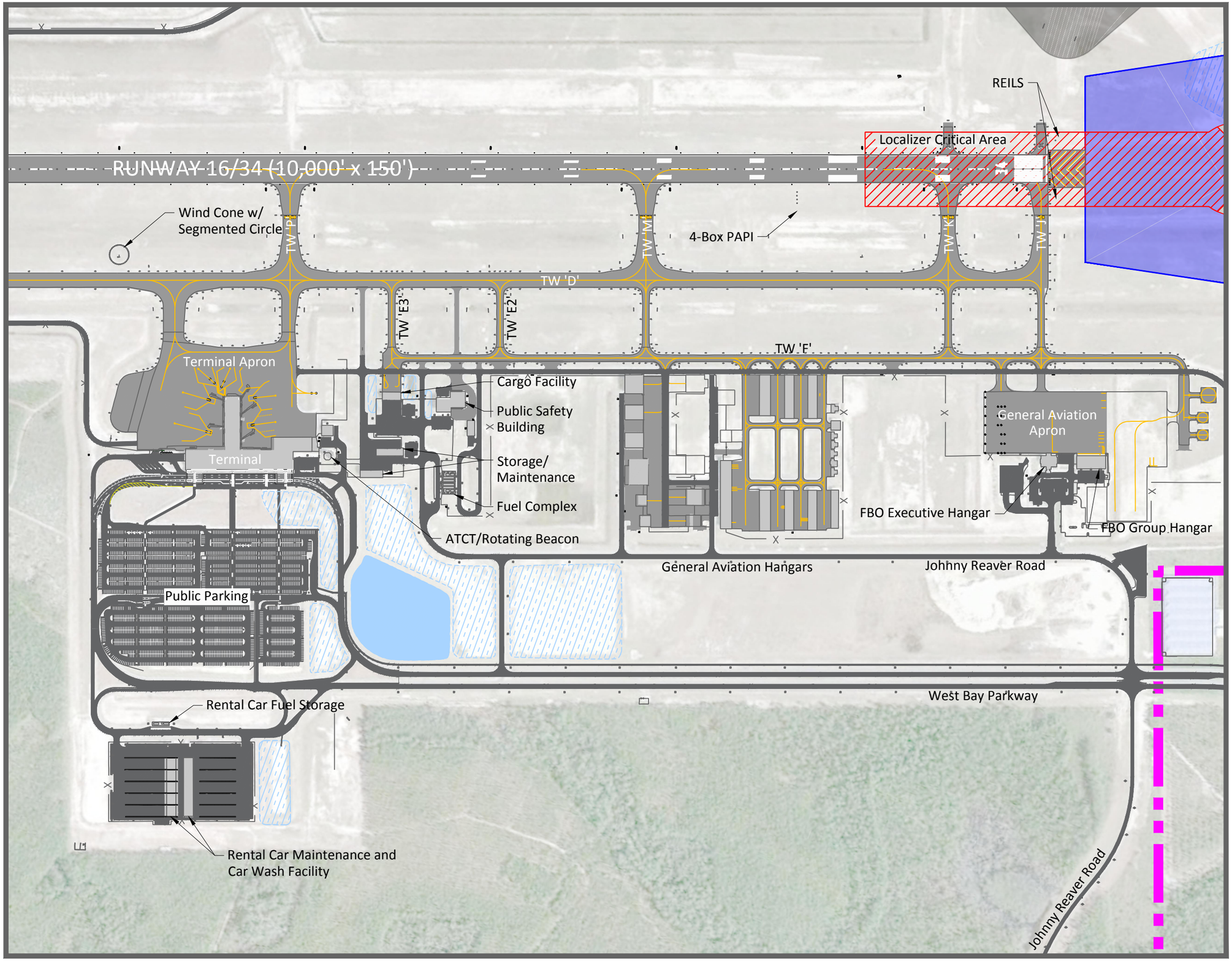
- Airfield Pavement
- Buildings
- Runway Protection Zone (RPZ)
- Stormwater Management Ponds
- Stormwater Management Dry Ponds
- NAVAID Critical Area
- Airport Property Line

FBO - Fixed Base Operator
REILS - Runway Edge Indicator Lights
ASOS - Automated Surface Observing System
PAPI - Precision Approach Path Indicator
MALSR - Medium Intensity Approach Lighting System with Runway Alignment Indicator Lights

**Figure 2-1**
Existing Facilities

NORTHWEST FLORIDA BEACHES INTERNATIONAL AIRPORT

MASTER PLAN UPDATE




GRAPHIC SCALE (FEET)

0 5 10

LEGEND

- Airfield Pavement
- Buildings
- Runway Protection Zone (RPZ)
- Stormwater Management Ponds
- Stormwater Management Dry Ponds
- NAVAID Critical Area
- Airport Property Line

FBO - Fixed Base Operator
REILS - Runway Edge Indicator Lights
PAPI - Precision Approach Path Indicator

**Figure 2-2**
Terminal Area Facilities

NORTHWEST FLORIDA
BEACHES INTERNATIONAL AIRPORT

MASTER PLAN UPDATE

GRAPHIC SCALE (FEET)
0 1100

- Runway
- Taxiways & Taxilanes GA
- Hangar/Apron
- Terminal Apron
- Fuel Farm Roads
- Sheltair Facility Aprons
- Cargo Facility Aprons
- Secured Access Road
- Maintenance Facility Landside
- Parking
- Rental Car Facility
- Landside Roads

**Figure 2-3**
Airport Pavement Areas

### 2.1.1 Airport Design Criteria

The FAA uses a classification system, known as the Airport Reference Code (ARC), to signify the airport's highest Runway Design Code (RDC), the design standards to which the runway is to be built. RDC consists of three components: aircraft approach speed (AAC), airplane design group (ADG) relating to either the aircraft wingspan or tail height (whichever is more restrictive), and visibility minimums. ARC is determined by taking the highest RDC minus the visibility component. It affects runway and taxiway dimensions, separation standards, pavement marking standards, and other safety standards. Furthermore, it is used only for planning and design purposes and does not limit the aircraft that may be able to operate safely at the airport. The relationship between the ARC and design standards is further described in FAA AC 150/5300-13A, *Airport Design*. The characteristics of the RDC are shown in **Table 2-1**.

**Critical Aircraft: 737-800, MD-88**

**Airport's Current Designation: ARC D-III**

As previously noted, the ARC is based on an aircraft's approach speed and wingspan or tail height, whichever is most restrictive. The most demanding aircraft is commonly referred to as the critical, or design, aircraft and must account for a minimum of 500 annual itinerant operations. An itinerant operation is the takeoff or landing of an aircraft going from one airport to another, at least 20-miles from each other. The ARC consists of a letter designating the aircraft approach category and a Roman numeral designating the ADG. Based on FAA TFMC data, ECP is currently designated with an ARC D-III.

Approach categories A and B include small piston-engine aircraft and corporate jets with approach speeds of less than 121 knots, while categories C, D, and E include larger aircraft with approach speeds of 121 knots or greater (those typically associated with commercial or military use). Similarly, design groups I and II typically include small piston-engine aircraft and light to midsize corporate jets, as well as single- and twin-engine turboprop aircraft. Design groups III, IV, and V include larger corporate jets and the majority of the commercial jet fleet, as well as numerous military aircraft. Design group VI includes very large jets such as the Airbus A380 and the military C-5 transport aircraft. TDG represents the Taxiway Design Group, which relates to the undercarriage dimensions of the aircraft.

The 2014/2015 FAA-approved ALP identified the critical aircraft at ECP as the B737-800 (ADG D-III, TDG 5) and the MD-88 (ADG D-III, TDG 4) as the most demanding passenger aircraft operating regularly (over 500 annual operations) at ECP, with the B777-300 serving as the ultimate critical aircraft. It should be noted that MD-88 activity is being phased out at ECP over the coming years.

The existing and future ARC will be analyzed in greater detail in **Chapter 4**, *Facility Requirements*.

**Table 2-1 – Airport Reference Code**

| Approach Categories | | | |
|---|---|---|---|
| **Approach Category** | **Airspeed (Knots)** | | **Example Aircraft** |
| A | <91 | | Beechcraft-E33 Bonanza, Cessna 152 |
| B | 91 ≤ 121 | | CRJ-200, ERJ-135/140/145 |
| C | 121 ≤ 141 | | B737-700W |
| D | 141 ≤ 166 | | A300, B757, MD-88 |
| E | 166+ | | B-52H, B-2 Spirit |
| **Airplane Design Group** | | | |
| **Design Group** | **Tail Height (feet)** | **Wingspan (feet)** | **Example Aircraft** |
| I | <20 | <49 | Beechcraft-E33 Bonanza, Cessna 152 |
| II | 20-<30 | 49 ≤ 79 | CRJ-700, ERJ-145 |
| III | 30-<45 | 79 ≤ 118 | A319, CRJ-900, MD-88 |
| IV | 45-<60 | 118 ≤ 171 | B757, MD 11 |
| V | 60-<66 | 171 ≤ 214 | A300, B757 |
| VI | 66-<80 | 214 ≤ 262 | B-52H, B-2 Spirit |

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

### 2.1.2 Runway System

The existing airfield configuration at ECP consists of a single runway, identified as Runway 16/34, oriented in a northwest/southeast direction and situated east of the Terminal building. The runway, which is constructed of concrete with a grooved surface, is 150 feet wide and has a usable runway length of 10,000 feet in length. The runway's load-bearing capacity is 100,000 pounds single-wheel; 155,000 pounds dual-wheel; 400,000 pounds duel tandem; and 750,000 pounds dual double tandem. **Table 2-2** highlights the specifications of Runway 16/34. Runway markings, runway lighting, and navigational aids will be discussed in later sections. The runway pavement is in excellent condition and the markings are in good condition.

A site has been graded for the future development of a planned crosswind runway that will be intended to serve as a backup to Runway 16/34. The demand and feasibility of this runway, as well as alternative options, will be evaluated in later chapters as part of this Master Plan Study.

**Table 2-2 – Existing Runway Specifications**

| Specification Item | Runway 16/34 |
|---|---|
| Runway Length (feet) | 10,000 |
| Width (feet) | 150 |
| Runway End Elevation (feet above MSL) | **Runway 16:** 68.8<br>**Runway 34:** 53.7 |
| Pavement Type | Concrete/Grooved |
| Pavement Load Bearing | 750,000 lbs.<br>(Dual Double Tandem) |
| Aircraft Approach Category | D |
| Airplane Design Group | III |
| Runway Markings | Precision |
| Runway and Approach Lighting | PAPI-4, C/L<br>**Runway 16:** MALSR, TDZL, ILS/DME<br>**Runway 34:** REIL |
| Navigational Aids | GPS<br>**Runway 16:** ILS/LOC |
| Runway Design Code | D-III |

Note: Four-Box Precision Approach Path Indicator (PAPI-4), Centerline Lights (C/L), Medium-Intensity Approach Lighting System with Runway Alignment Indicators (MALSR), Touch Down Zone Lights (TDZL), Instrument Landing System (ILS), Distance Measuring Equipment (DME), Runway End Identifier Lights (REIL), Touch Down Zone-No Lights (TDZ), Global Positioning System (GPS), Localizer (LOC).

Source: AirNav.com (FAA Information Effective 03 January 2019), CHA, 2019.

### 2.1.3 Taxiway System

An airport's taxiway system connects the runways to aircraft parking aprons, storage hangars, and other facilities. Runway 16/34 is served by a full-length parallel taxiway: Taxiway 'D'. Access to the runway is provided by seven 90-degree entrance/exit taxiways: Taxiways 'J', 'K', 'M', 'P', 'S', 'T', and 'U'. All of these taxiways are designed to Group-III standards. Taxiway 'P' and Taxiway 'Q' provide access to the Terminal Apron, while Taxilane 'F' provides access to the GA hangars and apron, FBO, Cargo Facility, and Public Safety Building. Access to Taxilane 'F' is provided by Taxiways 'E1', 'E2', 'J', 'K', and 'M'. Taxilane 'F', Taxiways 'E1', 'E2', and the western portions of Taxiways 'J', 'K', and 'M' are all designed to Group-II standards. All the taxiways at ECP are constructed from bituminous asphalt concrete and are summarized in **Table 2-3.**

**Table 2-3 – Existing Taxiway Specifications**

| Taxiway | Design Group | Width (ft) | Description |
|---|---|---|---|
| D | III | 75 | Full Parallel Taxiway providing access between Runway and Terminal, Hangars, Aprons, etc. |
| E1 | II | 35 | Connects Taxiway 'D' to Taxilane 'F' near Fuel Farm and Public Safety Building |
| E2 | II | 35 | Connects Taxiway 'D' to Taxilane 'F' and Air Cargo Building |
| F | II | 35 | Runs parallel to Taxiway 'D' and provides access to GA and Support Facilities |
| J | II / III | 35 / 75 | Serves as entrance taxiway to Runway 34 from Taxiway 'D'; Provides access to Taxilane 'F' and GA Apron |
| K | II / III | 35 / 75 | Serves as bypass taxiway to Runway 34 end and connects to Taxiway 'D' and Taxilane 'F' |
| M | II / III | 35 / 75 | Provides access from Runway to Taxiway 'D' and Taxilane 'F' in area of GA hangars |
| P | III | 75 | Provides access from Runway to Taxiway 'D' and Terminal Apron |
| Q | III | 105 | Provides access from Taxiway 'D' to Terminal Apron |
| S | III | 75 | Provides access from Runway to Taxiway 'D' |
| T | III | 75 | Serves as bypass taxiway to Runway 16 end and connects to Taxiway 'D' |
| U | III | 75 | Serves as entrance taxiway to Runway 16 end from Taxiway 'D' |

Source: CHA, 2019.

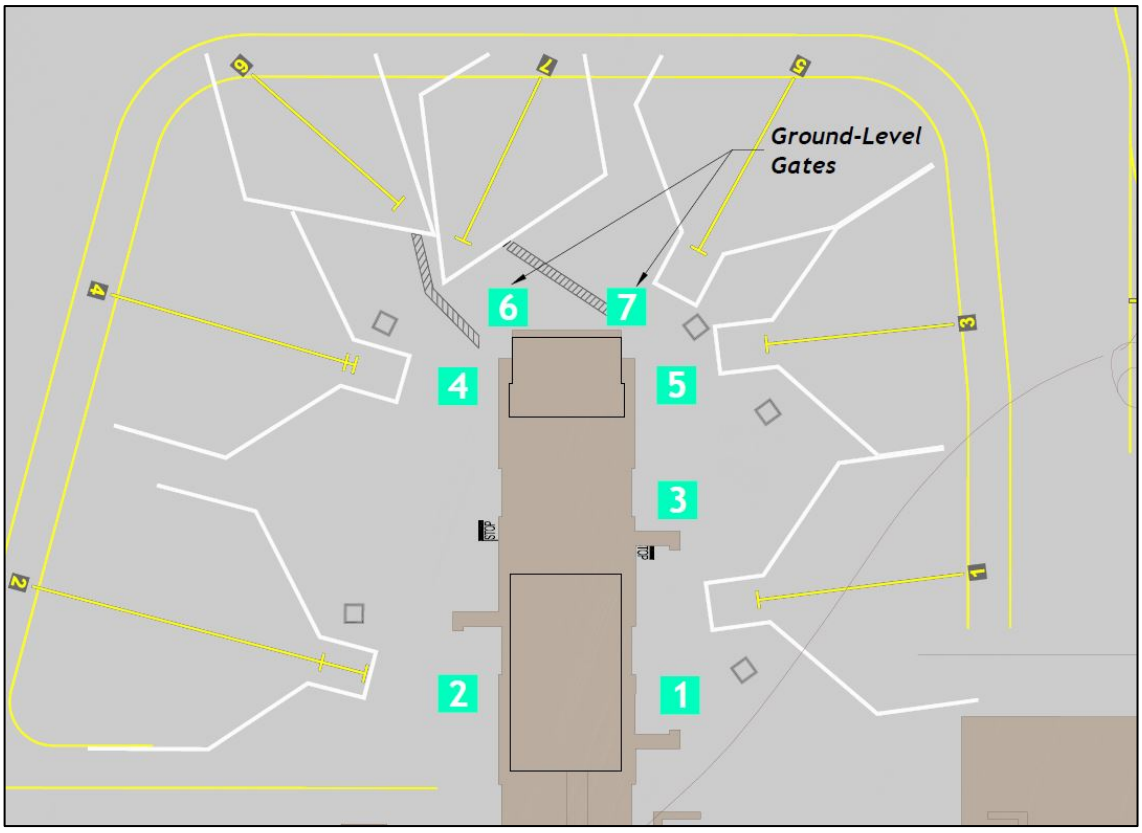
### 2.1.4 Aircraft Parking Areas

Airport aprons, also referred to as ramps, provide space for short-term and long-term aircraft parking and deicing operations, as well as the loading/unloading of passengers and goods. ECP has four aprons: a Terminal apron, a general aviation apron, Fixed Base Operator (FBO) apron, and a cargo apron.

***Terminal Apron***

The Terminal apron consists of approximately 58,600 square yards (SY) of Portland Cement Concrete (PCC) pavement and currently offers seven gate positions. Gates 1, 3, 4, and 5 are designed to accommodate aircraft as large as the Boeing 737-800. Gates 6 and 7 are designed to accommodate most regional jets, while Gate 2 is intended to be the future international gate and is designed to accommodate up to a Boeing 767-300. Gates 6 and 7 currently employ ground boarding, however Gate 6 will have a boarding bridge by the end of 2019. A schematic of the gate layout, with the largest aircraft the gate can accommodate, is presented in **Figure 2-4**. In addition to passenger loading and unloading, the apron is also utilized for Remain Overnight (RON) aircraft parking, de-icing operations, and Ground Service Equipment (GSE) storage.

**Figure 2-4 – Gate Layout**




Source: CHA, 2019.

***General Aviation and FBO Aprons***

The FBO's apron is located adjacent to the FBO Terminal building, at the south end of Taxiway F, near the Runway 34 threshold. This approximate 45,000 SY asphalt apron is managed by the FBO and has parking positions and tie-downs for Group-I and Group-II aircraft. Additional apron space is located in the GA hangar area and is utilized by aircraft operators with active hangar leases through the FBO.

### 2.1.5 Airfield Markings

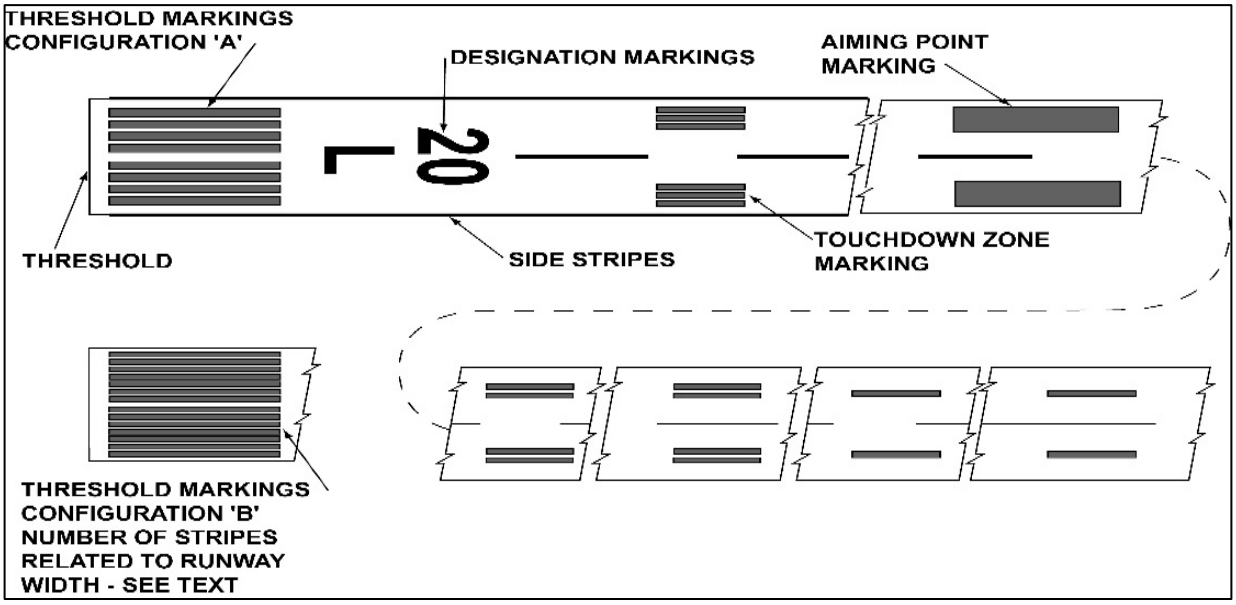
FAA AC 150/5340-1L, *Standards for Airport Markings*, provides the standards for surface markings used on airfield roadways and airfield pavements, such as runways, taxiways, and aprons, assuming the surfaces are built in accordance to the standard dimensions and layouts in AC 150/5300-13, *Airport Design* (this excludes privately owned apron areas). The most recent version of this guidance was published in September 2013; however, the FAA released a draft version of FAA AC 150/5340-1M, *Standards for Airport Markings*, in March 2017, and includes new standards for enhanced taxiway centerline markings, surface-painted hold sign markings and the extension of the runway holding position markings onto the paved shoulders. These standards apply to all airports certificated under Title 14 CFR Part 139. Examples of airfield markings are provided in **Table 2-4**, **Figure 2-5**, and **Table 2-5**.

## Table 2-4 – Runway Markings

| Type of Marking | Purpose of Marking |
|---|---|
| Designation | Numbers and letters are determined from approach direction; labeled according to Compass Rose |
| Centerline | Identifies the center of the runway; Provides alignment guidance during takeoff and landings |
| Threshold | Delineates the beginning of the runway that is available for landing |
| Aiming Point | Serve as a visual aiming point for a landing aircraft, located approximately 1,000 feet from the landing threshold |
| Touchdown Zone | Identify the touchdown zone for landing operations and are coded to provide distance information in 500 feet increments |
| Runway Edge Marking | Define the edge of the usable, full-strength surface |

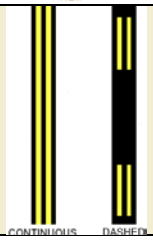
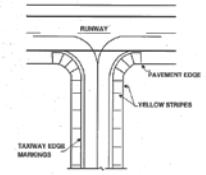
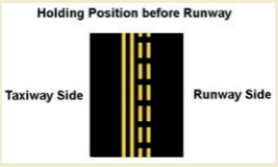
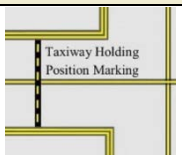
Source: CHA, 2019.

## Figure 2-5 – Runway Markings




Source: CHA, 2019.

**Table 2-5 – Taxiway Markings**

| Type of Marking | Purpose of Marking | Visual Representation of Marking |
|---|---|---|
| Normal Centerline | Provides a visual cue to permit taxiing along a designated path |  |
| Enhanced Centerline | Intended to warn the pilot that he/she is approaching a runway holding position marking and should prepare to stop unless he/she has been cleared onto or across the runway by ATC; Usually at larger, commercial service airports |  |
| Edge Markings | Continuous- Define the taxiway edge from the shoulder or other abutting paved surface not intended for use by aircraft; Dashed- Defines the taxiway edge from the adjoining pavement intended for use by aircraft |  |
| Shoulder Markings | Identifies paved shoulders (areas intended to prevent blast and water erosion); not intended for use by aircraft (may not be full-strength pavement) |  |
| Runway Holding Position | Indicate where an aircraft is supposed to stop when approaching a runway |  |
| Taxiway/Taxiway Intersection | Indicate where an aircraft is supposed to stop when approaching intersecting taxiways |  |

Source: CHA, 2019.

### 2.1.6 Pavement Markings

All pavement markings are to adhere to the specifications referenced in the FAA Advisory Circular 150/5340-IL, Standards for Airport Markings, or the FDOT Standard Specifications for Road and Bridge Construction. All markings were to be done with Type II waterborne paint with colors and glass beads designated in **Table 2-6**.

**Table 2-6 – Pavement Marking Materials**

| | Paint | | Glass Beads |
|---|---|---|---|
| **Type** | **Color** | **Fed Std. 595 Number** | **Type** |
| Waterborne Type II | White | 37925 | III |
| Waterborne Type II | Yellow | 33538 | III |
| Waterborne Type II | Red | 31136 | IV |
| Waterborne Type II | Black | 37038 | No beads |

Source: FAA A/C 150/5370-10H, 2018

***Runway Markings***

Runway 16/34 includes threshold, designator, touchdown zone, aiming point, centerline, lead-in lines, and edge markings, all enhanced with black outlines and placed in accordance FAA A/C 150/5340-1L. These markings have experienced minor damage as a result of weathering and routine usage.

***Taxiway & Taxilane Markings***

The taxiways and taxilane markings at ECP include centerline (6" in non-movement area, 12" in movement area), enhanced centerline, vehicle roadway, edge, surface-painted hold position, and non-movement area boundary markings, which are all enhanced with black outlines and placed in accordance with FAA A/C 150/5340-1L.

### 2.1.7 Airfield Signage

According to Title 14 CFR Part 139.311, *Marking, Signs, and Lighting*, each certificate holder, such as ECP, must provide and maintain sign systems for air carrier operations on the airport that are authorized by the Administrator and consist of at least the following:

- Signs identifying taxiing routes on the movement area.
- Holding position signs.
- Instrument Landing System (ILS) critical area signs.

The holding position signs, as well as the ILS critical area signs, must be internally illuminated. FAA AC 150/5340-18F, *Standards for Airport Sign Systems*, contains all regulations pertaining to airfield signage for Part 139 airports, while specifications are contained in AC 150/5345-44K, *Specifications for Runway and Taxiway Signs*. A further description of typical airfield signage is included in **Table 2-7**. See AC 150/5340-18F, Glossary of sign types, for additional sign type descriptions.

Upon visual inspection, lighted airfield signage currently found on ECP's airfield consists of all required signage for a Part 139 certificated airport including airfield location signage, mandatory instruction signage, and runway hold position signage. Additional signage may be required to accommodate future improvements or additions to airfield pavements.

**Table 2-7 – Airfield Signage**

| Type of Sign | Purpose of Sign | Visual Description of Sign |
|---|---|---|
| Mandatory Instruction Sign | Denote taxiway/runway intersections, runway/runway intersections, Instrument Landing System (ILS) critical areas, Precision Obstacle Free Zone (POFZ) boundaries, runway approach areas, CAT II/III operations area, military zones, and no entry zones | White Inscription/Red Background |
| Location Sign | Identify the taxiway or runway apron upon which the aircraft is located | Yellow Inscription/Black Background |
| Boundary Sign | Identify the boundary of the Runway Safety Area (RSA)/Object Free Zone (OFZ) or ILS critical area for a pilot exiting the runway | Black Inscription/Yellow Background |
| Directional Sign | Indicate directions of other taxiways leading out of an intersection | Black Inscription/Yellow Background; Always Contains an Arrow |
| Destination Sign | Indicate the direction to a remote location | Black Inscription/Yellow Background; Always Contains an Arrow |
| Runway Distance Remaining Sign | Provide distance remaining information to pilots during takeoff and landing operations | White Inscription/Black Background |

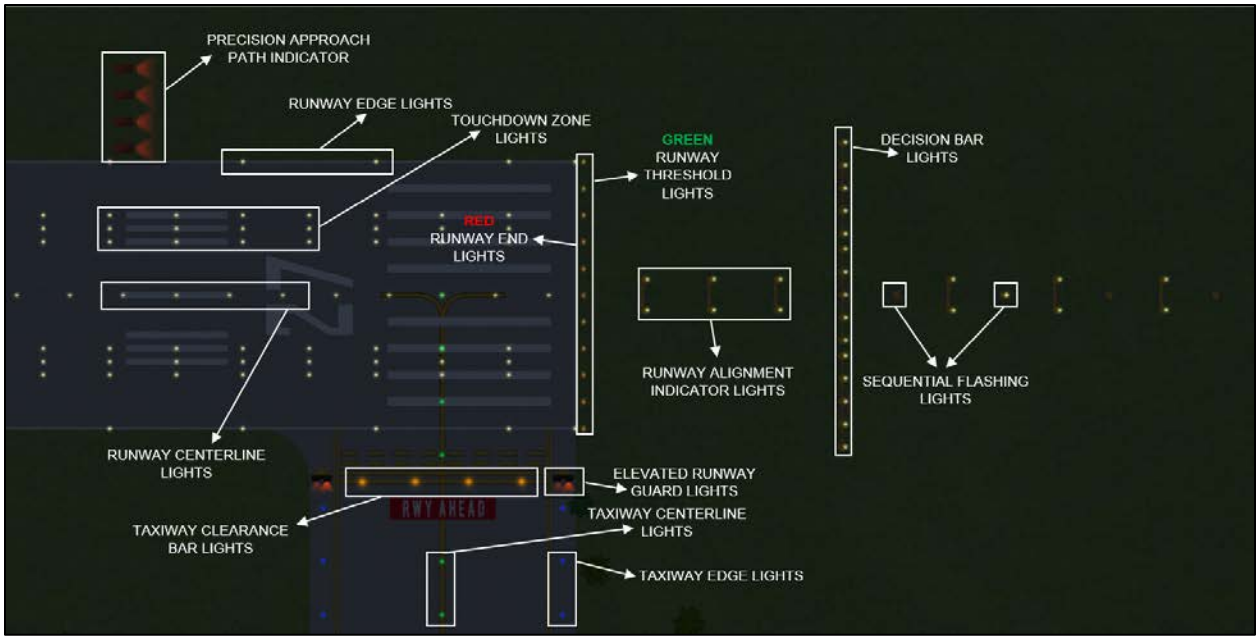
Source: FAA AC 150/5340-18F, CHA, 2019.

### 2.1.8 Airfield Lighting

In addition to the visual aids previously described, lighting on the airfield includes the rotating beacon, Precision Approach Path Indicator (PAPI) lights, runway threshold lighting, runway edge lighting, Runway End Identifier Lights (REILs), runway centerline lights, Runway Touchdown Zone Lights (TDZLs), taxiway edge lighting and apron lighting. **Figure 2-6** depicts examples of airfield lighting.

Each of the lighting systems/types present at ECP are described below in the following sub-sections.

**Figure 2-6 – Example of Airfield Lighting**




Source: FAA, CHA, 2019.

***Rotating Beacon:***

The rotating beacon functions as the universal indicator for locating an airport at night. For a civilian airport, it has one clear and one green lens, 180 degrees apart, and is generally visible 10 miles from the airport. According to the Aeronautical Information Manual, October 2017, at Class C airports, the operation of the airport beacon during the hours of daylight often indicates that the ground visibility is less than three miles, and/or the ceiling is less than 1,000 feet. The rotating beacon at ECP is located on top of the Air Traffic Control Tower, south of the Terminal building.

***Precision Approach Path Indicator (PAPI) Lights:***

A PAPI is a system of lights located near a runway end. It provides pilots with visual glide slope guidance information during an approach to the runway. PAPIs typically have an effective visual range of at least three miles during the day and up to 20 miles at night and inform pilots if they are high, low or on the correct approach descent path for the threshold. Runways 16 and 34 are equipped with PAPI-4 (four-light unit) systems.

***Runway Threshold Lighting:***

Runway threshold lighting emits green light outward from the runway and red light toward the runway to mark the ends of the runway. The green lights indicate the landing threshold to arriving aircraft, whereas the red lights indicate the end of the runway for departing aircraft. The red and green lights are usually combined into a single fixture and special lenses or filters are used to emit the desired light in the appropriate direction. ECP has runway threshold lighting on each runway end.

***Runway Edge Lighting:***

Runway edge lighting is white in color and is used to outline the edges of a runway during periods of darkness or restricted visibility. The runway edge lights are positioned parallel to the runway centerline at least two feet from the edge of the full-strength pavement designated for runways not used by jet aircraft and 10 feet from the edge of the full-strength pavement designated for runways used by jet aircraft. The spacing of the light units must not exceed 200 feet. These systems are classified according to their intensity, or brightness: High-Intensity Runway Light (HIRL), Medium-Intensity Runway Light (MIRL), and Low-Intensity Runway Light (LIRL). Some airports utilize a pilot-controlled system where the light-intensity can be changed, or stepped up/down, by clicking a button located on the radio. Runway 16/34 is equipped with a HIRL system. Additionally, the Airport has pilot-controlled lightning during times when the tower is closed.

***Runway End Identifier Lights (REILs):***

The primary function of the REIL is to provide rapid and positive identification of the end of the runway. The REIL system consists of two synchronized, unidirectional flashing white lights that are positioned on each corner of the runway landing threshold, facing the approach area and aimed at an angle of 10 to 15 degrees. Runway 34 is equipped with REILs.

***Runway Centerline Lights:***

Runway centerline lights are required for Category (CAT) II and III precision approach runways, as well as CAT I approaches, where the Runway Visual Range (RVR) is less than 2,400 feet. The lighting system consists of embedded lights located along the centerline at 50-foot, equally spaced, longitudinal intervals. The lights are white in color, except for the last 3,000 feet. From 3,000 feet to 1,000 feet, the centerline lights consist of alternating red and white lights, with the last 1,000 feet being all red. Runway 16/34 has runway centerline lights.

***Runway Touchdown Zone Lights (TDZL):***

The TDZLs indicate the touchdown zone when landing under adverse visibility conditions. They consist of two rows of transverse light bars disposed symmetrically about the runway centerline. The system consists of steady-burning white lights beginning 100 feet beyond the landing threshold and extend to 3,000 feet beyond the landing threshold or to the midpoint of the runway, whichever is less. Although both runway ends have touch down zone markings, only Runway 16 has touch down zone lights.

***Taxiway Edge Lighting:***

Taxiway lighting delineates the taxiway's edge and provides guidance to pilots during periods of low visibility and at night. The most commonly used type of taxiway lighting is a series of blue fixtures, which are sometimes supplemented by blue edge reflectors, set at 200-foot intervals along the taxiway edges, but not more than 10 feet outward from the edge of the full-strength pavement. All the Airport's taxiways are equipped with Medium-Intensity Taxiway Lighting (MITL) systems.

***Apron Lighting:***

Apron floodlight systems illuminate the Terminal apron and FBO apron areas.

### 2.1.9 Airfield Pavement Condition

Descriptions for the various typical pavement sections can be found below, with runway pavement conditions summarized in **Table 2-8**. The materials listed were those specified on the release for construction drawings and adhere to the specifications referenced in the FAA Advisory Circular 150-5370-10, Standard Specifications for Construction of Airports, or the FDOT Standard Specifications for Road and Bridge Construction at the time of construction for each pavement area.

***Runway 16/34***

Runway 16-34 has a 150' wide Portland Cement Concrete (PCC) surface which is generally in good condition. The PCC exhibits minor joint spalling, corner spalling, shrinkage cracks, and small patches. These forms of distress are generally associated with loading and are in line with expected wear given the runway's usage and age.

The overall runway pavement conditions are summarized in **Table 2-9**.

**Table 2-8 – Runway 16/34 Typical Pavement Sections**

| Description | Material 1 (Thickness) | Material 2 (Thickness) | Material 3 (Thickness) |
|---|---|---|---|
| **Runway 16/34[1]** | FAA P-501 (14") | FAA P-403 (4") | FDOT 160 (6") |
| **75' Wide Taxiways[1]** | FAA P-401 (5") | FAA P-211 (8") | FDOT 160 (8") |
| **Group 1 Aprons & Taxilanes[1]** | FAA P-401 (2.5") | FAA P-211 (6") | FDOT 160 (8") |
| **Group 2 Aprons & Taxilanes[1]** | FAA P-401 (4") | FAA P-211 (6") | FDOT 160 (8") |
| **Cargo Apron[1]** | FAA P-401 (4") | FAA P-211 (8") | FDOT 160 (8") |
| **Terminal Apron PCC[1]** | FAA P-501 (14") | FAA P-403 (4") | FDOT 160 (6") |
| **Terminal Apron AC[1]** | FAA P-401 (5") | FAA P-211 (8") | FDOT 160 (8") |
| **Pushback Apron[4]** | FAA P-404 (5") | FAA P-211 (8") | FDOT 160 (8") |
| **Fuel Farm Transfer Area[1]** | FDOT 350 (10") | FDOT 285 (6") | FDOT 160 (12") |
| **Fuel Farm Road[1]** | FDOT 334 (2.5') | FDOT 285 (9.5") | FDOT 160 (12") |
| **Sheltair Apron 1 & 2[3]** | FAA P-401 (4") | FAA P-209 (8") | FDOT 160 (8") |
| **Sheltair Apron 3[5]** | FAA P-404 (4") | FAA P-211 (8") | FDOT 160 (8") |
| **Sheltair Landside Parking[3]** | FDOT 334 (2.5") | FDOT 285 (9.5") | FDOT 160 (12") |
| **Cargo Apron[1]** | FAA P-401 (4") | FAA P-211 (8") | FDOT 160 (8") |
| **Airside Secured Access Road[1]** | FAA P-401 (2.5") | FAA P-211 (6") | FDOT 160 (8") |
| **Maintenance Area[2]** | FDOT 334 (2.5") | FDOT 285 (9.5") | FDOT 160 (12") |
| **Landside Roads[1]** | FDOT 334 (2.5") | FDOT 285 (9.5") | FDOT 160 (12") |
| **Rental Car Facility Pads[1]** | FDOT 350 (6") | FDOT 160 12" | N/A |
| **Rental Car Facility Apron[1]** | FDOT 334 (2.5") | FDOT 285 (9.5") | FDOT 160 (12") |
| **Landside Parking Lots[1]** | FDOT 334 (1.5") | FDOT 285 (9.5") | FDOT 160 (12") |

[1]Source: Construction Drawings, 2007
[2]Source: Construction Drawings, 2008
[3]Source: Construction Drawings, 2010
[4]Source: Construction Drawings, 2013
[5]Source: Construction Drawings, 2014

**Taxiways & Taxilanes**

Taxiway D runs parallel to Runway 16/34. Taxiways U, T, S, P, M, K, & J are arranged from north to south and are 75' wide Asphaltic Concrete (AC) pavement until 75' from Runway 16/34, at which point they become PCC pavements with the same section as the runway. These taxiways have fillet geometry for Taxiway Design Group (TDG) 3 or 4, per their usage designations, and connect Taxiway D to Runway 16/34. Taxiway P and Taxiway Q are TDG 3 and TDG 4 AC pavements, respectively, which connect the commercial Terminal to Taxiway D. Taxiways E3, E2, M, K, & J are TDG 2 AC pavements which connect Taxiway D to Taxilane F and aprons to the west

All AC taxiways & taxilanes exhibited low to medium severity weathering, raveling, and longitudinal and transverse (LT) cracking which are expected given their age and usage. The areas of PCC taxiways are generally in good condition, similar to Runway 16/34.

Taxiway D exhibits significant bleeding at the intersection with Taxiway M which may impact serviceable lifespan due to a reduction in the flexible material in the AC. Taxiway D also exhibits pairs of low to medium severity depressions which generally align with the wheel path of large commercial aircraft between Taxiway Q and Taxiway U. The depressions correspond to the locations of drainage pipes under the taxiway.

Taxiways T and U exhibit low and high severity depressions, respectively, which generally align with the rear wheel locations of large commercial aircraft when stopped at the Runway 16/34 hold bars. The depressions correspond to the locations of drainage pipes under the taxiways.

Taxilane J exhibits a low severity depression just to the east of the Sheltair apron near the secure access road markings.

The remainder of the taxiways & taxilanes exhibit no other notable distress at the time of inspection.

***GA Hangars***

The corporate and T-hangar areas generally consist of TDG 1 & 2 AC pavements which exhibit low to medium severity weathering, LT cracking, oil spillage, depressions, and raveling. At the T-hangars all pavements are continuous with the aprons, however the corporate hangars have individual pads for each hangar. Some pads are AC, some are PCC, and were installed by the tenant of each hangar.

***Terminal Apron***

The Terminal apron consists of PCC pavement and two types of AC pavement. The PCC pavement around the Terminal which is in very good condition, exhibiting only minor joint spalling and small patches. The P-401 AC pavement exhibits significant weathering, LTD, reflective cracking, oil spillage, rutting, and shoving on the near the PCC pavements at the Terminal. The most severely damaged portions of this AC pavement are scheduled to be repaired in 2019. The pushback apron south of the Terminal apron was constructed in 2014 with a typical section which consists of a surface course of P-404 pavement and is generally considered to be in good condition.

**Table 2-9 – Runway Pavement Condition**

| Runway | PCN Classification | Numerical Value (0-100) | Pavement Type | Subgrade Strength Category | Allowable Tire Pressure | Method |
|---|---|---|---|---|---|---|
| 16/34 | 56/R/B/W/T | 56 | Rigid | Medium | Unlimited / No-Pressure | Technical Study |

Source: The Airport Authority, 2019.

## 2.2 NAVIGATIONAL AIDS (NAVAIDS) AND INSTRUMENT PROCEDURES

Pilots utilize a variety of navigational aids (NAVAIDs) and instrument procedures, including Very High Frequency (VHF) Omni Direction Range (VORs), standard Terminal arrival routes (STARs), instrument approach procedures (IAPs) and NAVAIDs, approach lighting systems (ALS), airfield lighting, and rotating beacons. By providing point-to-point guidance information or position data, NAVAIDs assist pilots to safely and efficiently locate airports, land aircraft, taxi aircraft, and depart from airports during nearly all meteorological conditions. **Table 2-10** summarizes the Airport's existing instrument approach procedures, by runway, and the NAVAIDs required.

**Table 2-10 – Navigational Aids (NAVAIDs) and Airfield Lighting**

| Runway | Runway Markings | Navigational Aids | Lighting | Minimum Ceiling (AGL)/ Visibility | Instrument Approach Types |
|---|---|---|---|---|---|
| 16 | Precision | ILS/DME, GPS, RVR, SA CAT I SA CAT II | PAPI-4, C/L, MALSR, TDZL | 200 ft. / ½ mile 150 ft. / 1400 RVR (SA CAT I) 100 ft. / 1200 RVR (SA CAT II) | ILS or LOC, RNAV (GPS) |
| 34 | Precision | GPS, RVR | REIL | 200 ft. / ¼ mile | RNAV (GPS) |

Source: AirNav.com (FAA Information Effective 03 January 2019), CHA, 2019.

### 2.2.1 Enroute NAVAIDS

En-Route NAVAIDs assist pilots during navigation between airports. These facilities are usually ground-based and electronically emit signals that are received by aircraft on a specific radio frequency. They are almost always used in some manner by pilots operating on Instrument Flight Rules (IFR) flight plans but can also be used during Visual Flight Rules (VFR) flights for position information. Currently, there are no ground-based en-route NAVAID providing guidance to and from ECP.

### 2.2.2 Standard Terminal Arrival Routes (STARs)

Standard Terminal Arrival Routes (STARs) are preplanned IFR air traffic control arrival procedures published for pilot use. STARs serve as a critical form of communication between pilots and ATC by providing a method and criteria for descent, routing, and communications when navigating to the destination after leaving the en-route structure. ECP does not currently have any STARs.

### 2.2.3 Types of Instrument Approach Procedures (IAPs) and Instrument Approach NAVAIDs

Based on current FAA classifications, there are four types of instrument approach categories:

- Visual (V): Approaches performed under visual flight rules only, when meteorological conditions include a cloud ceiling height of 1,000 feet or greater and visibility of 3 miles or greater. Both ends of Runway 16/34 are capable of visual approaches, which are supported by Precision Approach Path Indicators (PAPI-4 system).
- Non-Precision Approach (NPA): Instrument approach procedures providing only lateral guidance with a ceiling minimum of 400 feet above the threshold. These can include VHF Omnidirectional Range (VOR), non-directional beacon (NDB), area navigation (RNAV), lateral navigation (LNAV), localizer performance (LP), and localizer (LOC) equipment. At ECP, Runway 16 has LOC equipment.
- Approach Procedure with Vertical Guidance (APV): Instrument approach procedures providing vertical guidance minimums of 250 feet above the threshold and visibility minimums as low as ¾ mile. These can include an ILS, LNAV/Visual Navigation Aids (VNAV), Localizer Performance with Vertical Guidance (LPV) or Area Navigation (RNAV) Required Navigation Performance (RNP). Runway 16 and 34 both have RNAV (GPS) and maintain this type of procedure.
- Precision Approach (PA): Instrument approach procedures providing vertical guidance less than 250 feet above the threshold and visibility minimums lower than ¾ mile. These can include an ILS, LPV, and Global Navigation Satellite System (GNSS) Landing System (GLS). Runway 16 has a Special Authorization Category I (SA CAT I) ILS which provides vertical guidance as low as 150 feet above the threshold and visibility minimums of ¼ mile, and a Special Authorization Category II (SA CAT II) ILS, providing vertical guidance as low as 100 feet with visibility minimums of ¼ mile.

An ILS consists of two components: a localizer (LOC) and a glide slope (GS). A localizer is situated 1,000 feet past the departure-end of the runway that has the approach and provides lateral positioning guidance to pilots. It utilizes radio frequencies (RF) to transmit signals to aircraft by focusing the RF beam down the centerline of the runway toward the approach end of the runway for approximately 10 miles, focused within 35 degrees to the left or right of the runway centerline. The glide slope is located near the runway approach end at a distance from the threshold to provide optimum crossing height, with a preferred offset of 400 feet from the runway centerline. It transmits a signal for approximately 10 nautical miles, with a horizontal coverage of eight degrees on each side of the localizer course, measured from the origin of the glide slope beam. The glide slope must be established between 2.0 and 4.0 degrees and is typically established with a glide path angle of 3.00 degrees.

The third component of an ILS, in addition to the localizer and glideslope, is the approach lighting system (ALS). The ALS provides a lighted approach path along the extended centerline of the runway. Runway alignment indicator lights flash in sequence as a series of white lights moving toward the runway threshold, which emphasize runway centerline alignment. Roll indication is emphasized by a single row of white lights located on either side of, and symmetrically, along the column of approach lights.

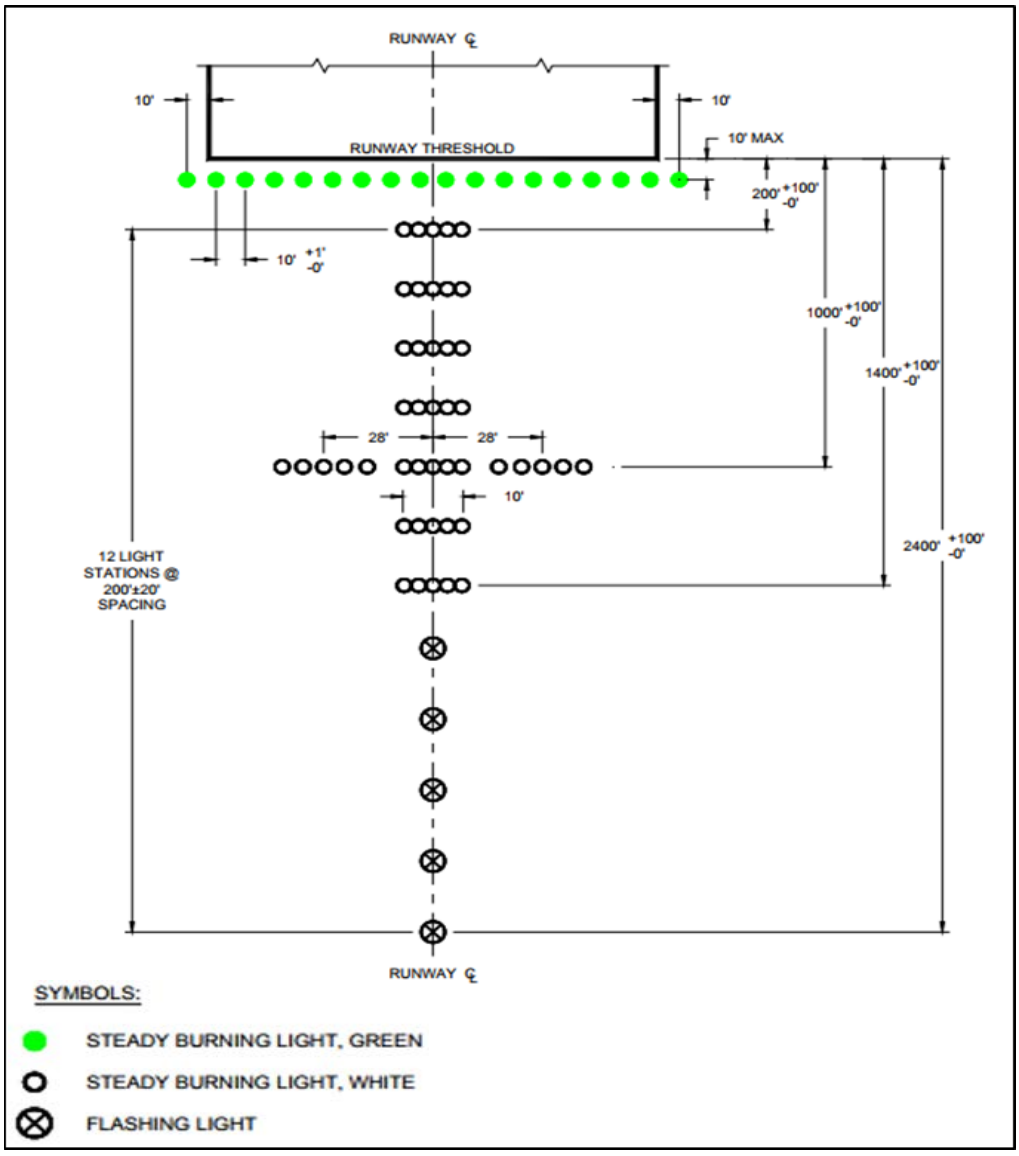
Typically, airports with non-precision approaches utilize Medium Intensity Approach Lighting Systems (MALS), along with Runway Alignment Indicator Lights (RAILS). Together, these systems form the Medium Intensity Approach Lighting Systems with Runway Alignment Indicator Lights (MALSR) that are utilized for precision runways, such as Runway 16.

A Runway Visual Range (RVR) system is used to measure visibility, luminance, and runway light intensity to help a pilot determine the distance able to see down the runway. Each RVR system consists of a Visibility Sensor, Ambient Light Sensor, Runway Light Intensity Monitor, Data Processing Unit, and Controller Display. ECP has an RVR on Runways 16 and 34 with a 1-Second Power Transfer system.

According to FAA Order 6850.2B, *Visual Guidance Lighting Systems*, the MALSR consists of a threshold light bar and seven five-light bars located on the extended runway centerline, the first bar being located 200 feet from the runway threshold, with the remaining bars each at 200-foot intervals out to 1,400 feet from the threshold. One additional five-light bar is located on each side of the centerline bar, 1,000 feet from the runway threshold, to form a 66-foot-long crossbar known as a roll bar. The individual lights in all bars are approximately 2½ feet apart and are aimed into the approach to the runway, away from the runway threshold. All lights in the MALSR system are steady burning white, except for the threshold lights, which have green filters. The threshold lights are a row of lights on 10-foot centers located coincident with and within the runway edge lights near the threshold and extend across the runway threshold.

RAIL's consist of five sequenced flashers located on the extended runway center line, the first being located 200 feet beyond the approach end of the MALS with successive units at each 200-foot interval, out to 2,400 feet from the runway threshold. All lights are aimed into the approach to the runway, away from the runway threshold, and flash in sequence toward the threshold at the rate of twice per second. A diagram for the commonly used MALSR configuration is depicted in **Figure 2-7**.

**Figure 2-7 – MALSR Configuration**




Source: FAA Order 6850.2B, *Visual Guidance Lighting Systems*.

### 2.2.4 Standard Instrument Departures (SIDs)

Standard Instrument Departure (SID) routes, also known as departure procedures, are published flight procedures followed by aircraft on an IFR flight plan immediately after takeoff from an airport. They provide an easy to understand departure procedure that airports use to balance terrain and obstacle avoidance, noise abatement (if necessary), and other airspace management considerations. SIDs are always printed graphically, rather than textually. ECP does not have any specified departure procedures; however, the Airport does have takeoff obstacle notes relating to tree-clearance heights.

## 2.3 PASSENGER TERMINAL FACILITY

An assessment of the ECP Terminal was completed based on site visits and tenant interviews, as well as analysis of historical airport data and reviews of previous studies. The intention of this effort is to develop a general understanding of the existing Terminal facility. The Terminal layout is depicted in **Figure 2-8** and **Figure 2-9**. A detailed breakdown of square footage of all areas can be found in **Appendix A**.

***Documents and Resources Reviewed:***

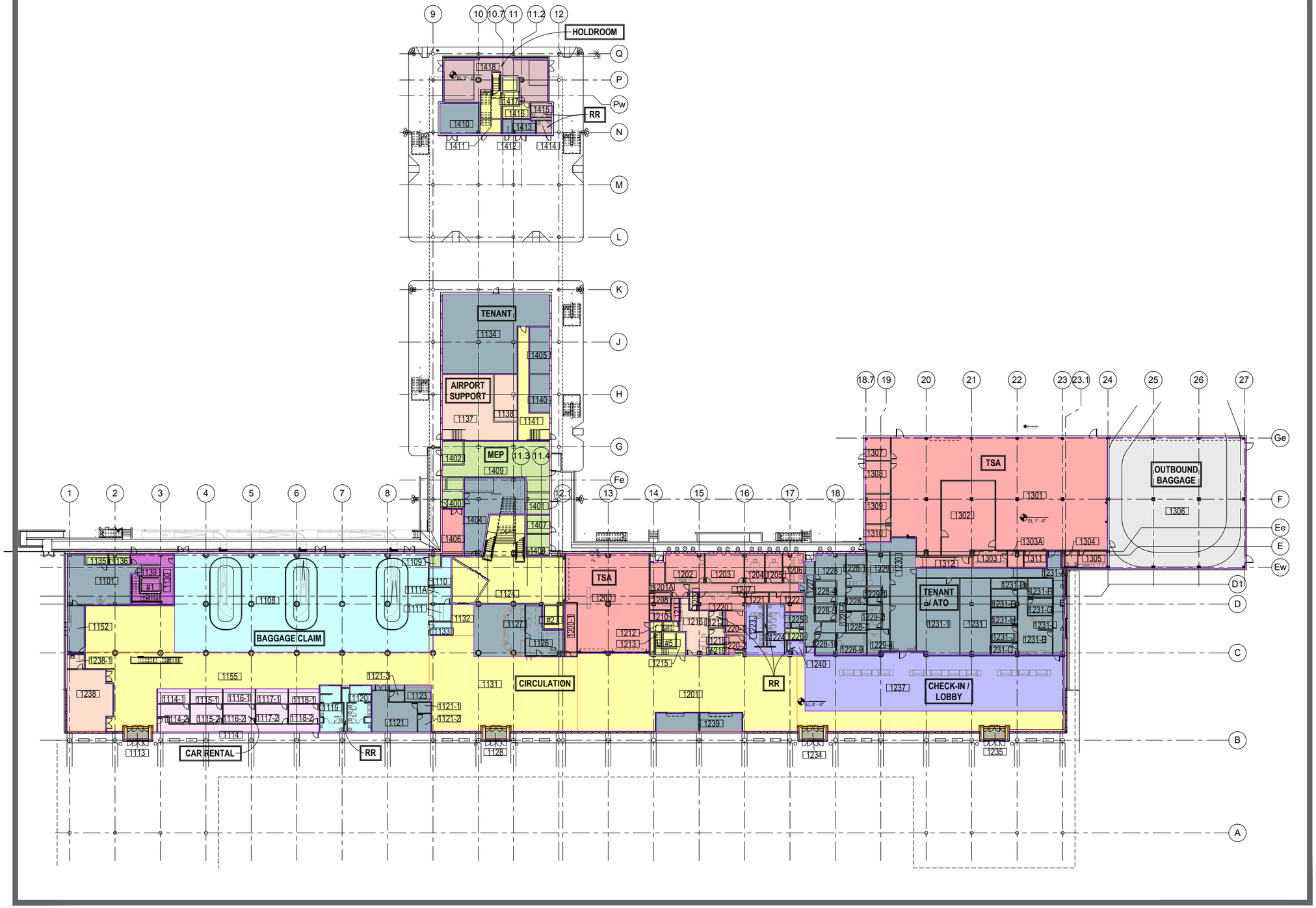
- Northwest Florida Beaches International Airport Master Plan Study: Final Report (June 2014)
- Northwest Florida Beaches International Airport Executive Summary (July 2015)
- Press Releases via Northwest Florida Beaches International Airport and Moore Communication Group's PR Council
- Base Drawing files received via the Panama City-Bay County Airport and Industrial District

***Tenants Interviewed:***

- Airport Fire, Maintenance, and Public Safety (Police) departments/personnel
- Alamo/Enterprise/National Car Rental
- American Airlines
- Avis/Budget Group Car Rental
- Delta Air Lines
- First Class Concessions
- Hertz/National/Thrifty Car Rental
- Menzies Aviation
- Panama City-Bay County Airport and Industrial District (Airport Authority)
- Republic Parking
- Retail Operator
- Robinson Aviation (RVA Aviation)
- Sheltair Aviation
- Southwest Airlines
- Transportation Security Administration (TSA)
- United Airlines

NORTHWEST FLORIDA
BEACHES INTERNATIONAL AIRPORT

# MASTER PLAN UPDATE



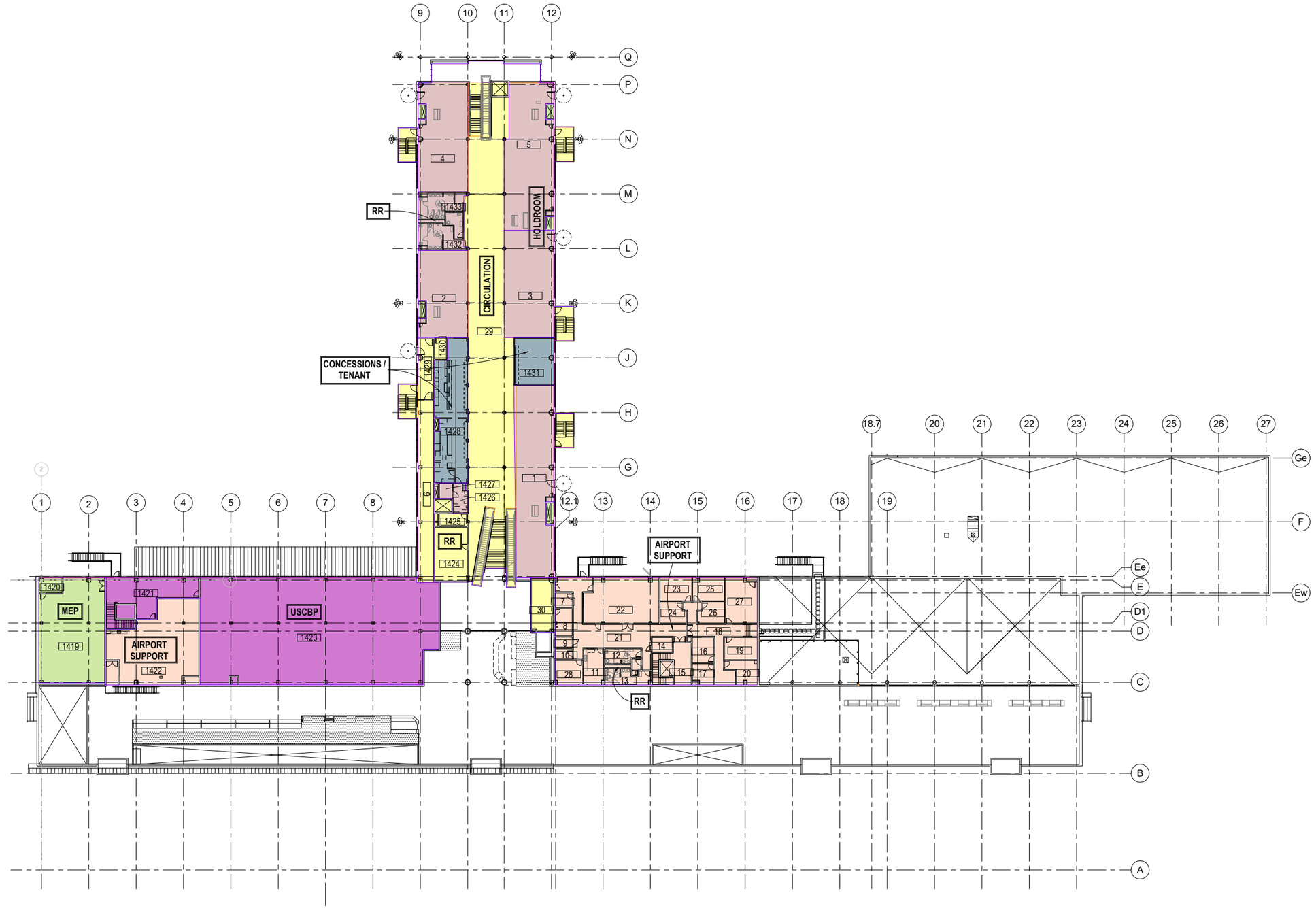

GRAPHIC SCALE (FEET)
0 20 40

- Airport Support
- Baggage Claim
- Car Rental
- Check-In Lobby
- Circulation
- Concessions/Tenant
- Holdroom
- MEP
- Outbound Baggage
- TSA
- CBP

**Figure 2-8**
Passenger Terminal - Lower Level

NORTHWEST FLORIDA
BEACHES INTERNATIONAL AIRPORT

MASTER PLAN UPDATE




GRAPHIC SCALE (FEET)
0 20 40

- Airport Support
- Circulation
- Concessions/Tenant
- Holdroom
- MEP
- CBP

**Figure 2-9**
Passenger Terminal - Upper Level

### 2.3.1 Terminal Facility Background

The Terminal at ECP is a LEED-designed facility based on a linear layout and consists of two levels: the ground-level and the second level. Passengers enter and/or exit the facility via four vestibules located on the west side of the Terminal building. Upon entering the facility, enplaning passengers (passengers who will be departing from ECP via air carrier service) can make their way towards the airline ticketing counters at the south end of the Terminal on the ground-level and then proceed to the centralized passenger security screening checkpoint. After screening, passengers departing via Gates 1-5 circulate to the second floor, while passengers departing via Gates 6 and 7 continue through the concourse and back down to ground level. Deplaing passengers (passengers who arrive to ECP via an air carrier and in which ECP is the final destination) will flow through the concourses in the opposite direction as the enplaning passengers. When approaching the centralized security area, the deplaning passengers pass through an exit corridor leading to the ground-level and out towards the baggage claim area at the north end of the Terminal. Rental Car services are also available at the north end of the Terminal, across from baggage claim.

The Terminal and concourse are T-shaped with the concourse projecting airside from the middle of the Terminal. The concourse currently has five passenger boarding bridges serving a mixture of regional jets and Group III, narrowbody jets. There are also ground-boarded gates at the end of the concourse. A central plant that provides chilled water with an associated cooling tower is located just south of the terminal. Hot water is generated in the lower level of the concourse on the north side of the air handler room.

### 2.3.2 Ticketing Hall

The existing ticketing area at ECP is a two-story space providing a large volume space indicative of transportation Terminals with a sloped wood slat linear ceiling extending to the top of clerestory above the ticket counters which is approximately five feet high. Linear suspended lighting is provided above the ticket counters. The floor finish is predominantly porcelain tile. Wall finishes consist of painted drywall.


The functional layout of the ticketing area presents functional and operational challenges. The depth of the ticket lobby does not meet current standards for queuing and circulation. The distance from the face of the ticket counters is only approximately thirty feet. Allowing seven feet for passenger check-in clearance and fifteen feet for queuing depth, only eight to ten feet remains for circulation. Fifteen feet for circulation would be considered a minimum; twenty feet is preferred.

The situation is exacerbated by two factors; 1) Queuing for the SSCP extends into the ticketing area during peak periods reducing the available area even further, and 2) ECP serves Southwest Airlines who drives a higher demand and shorter processing windows for checking baggage at the ticket counters. The above factors result in significant overcrowding in the ticketing hall making it difficult for passengers to move effectively to the SSCP.

Restrooms are provided in the ticketing area. These are shared between TSA personnel, passengers and ticketing agents. An assisted-care restroom is provided in this area as well. These restrooms are somewhat undersized for peak loads.

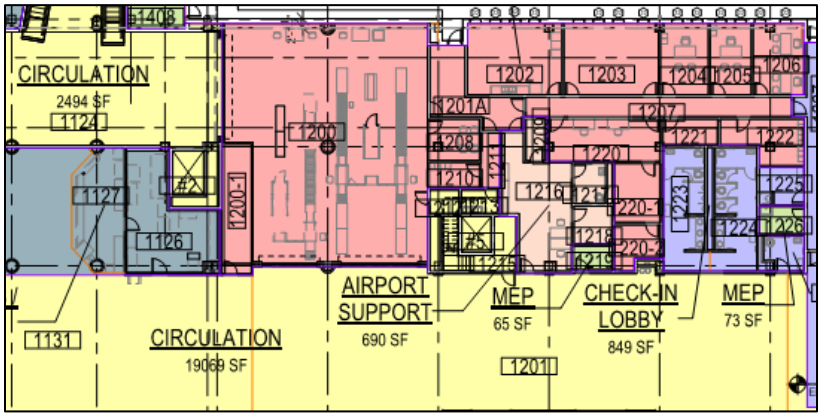
### 2.3.3 Security Screening Checkpoint (SSCP)/TSA Offices

The SSCP is located between the restaurant/bar concession at the center of the Terminal and a stairway to the upper level administration area. TSA offices are located along the airside wall adjacent to the SSCP providing efficient circulation between the offices and break areas to the SSCP area. No queuing space is provided at the entrance to or within the screening area and, therefore, queuing has been located in the Terminal circulation corridor and extended toward the ticketing area using stanchions. Queuing is insufficient during peak periods resulting in lines extending well into the ticketing area.

The screening area is limited to two standard screening lanes, one of which is used as a Pre-check/special screening lane. There is only approximately 8 feet from the end of the conveyors to the airside wall of the Terminal. There is little or no room for adding screening lanes in the future.

Passengers are required to make a 90 degree turn to exit the screening area and there is little space for re-composure. The elevator for transporting passengers to the upper level concourse is immediately adjacent to the SSCP. Wheelchairs and other passengers provide further impediment to passengers exiting the SSCP as well. The private screening area is in a location that is difficult to reach.

**Figure 2-10 – SSCP Layout**




Source: Leo Daly, 2019.

### 2.3.4 Customs and Border Protection

Space has been allocated to the north end of the second floor for the construction of a Federal Inspection Service (FIS) or "customs" facility for international flights. The airport does not currently provide service to international locations but plans to leverage its location on the Gulf Coast to include international flights. Current planning would utilize the inboard gate on the north side of the concourse for international flights with a dedicated secure corridor for access.

### 2.3.5 Gate Holdrooms

Designed and sized for regional jet service, the gate holdrooms are undersized for the current Group III aircraft utilized by Southwest Airlines and Delta Air Lines. The result is insufficient seating capacity in the holding area. Access aisles between rows of seats have been reduced in width making it more difficult to access seating while maneuvering baggage. There is also insufficient queue space in front of the gate counter for customer service and for passenger boarding queues. The result is that the boarding queues block the concourse circulation during boarding. Alternative boarding such as is used by Southwest Airlines is constricted resulting in boarding queue passengers standing between rows of seats. A breakdown of gates by airline use is shown in **Table 2-11**.

**Table 2-11 – Air Carrier Gate Assignments and Holdrooms**

| Holdroom/Gate | Airline | Boarding Bridge |
|---|---|---|
| **Concourse: Second Level** | | |
| 1 | United | Yes |
| 2 | Southwest | Yes |
| 3 | Southwest | Yes |
| 4 | Delta | Yes |
| 5 | Delta | Yes |
| **Concourse: Ground Level** | | |
| 6 | American | No |
| 7 | American | No |

Source: Airport Authority, CHA, 2019.

Gate numbering signage beyond one's immediate location is not readily visible from the concourse circulation area. However, as a single concourse gate numbering is reasonably intuitive. The architectural vocabulary of the holdrooms is consistent with the ticketing area with wood slat linear ceilings and light fixtures and painted drywall at perimeter walls. The flooring consists of carpet tile.

Two banks of restrooms are located on the concourse level. Based on ADRM recommendations both are smaller than the recommended minimum of six fixtures. The primary bank of restrooms serves four gate positions in addition to the lower level facilities with only four fixtures per restroom. An assisted-care restroom is provided at this location.

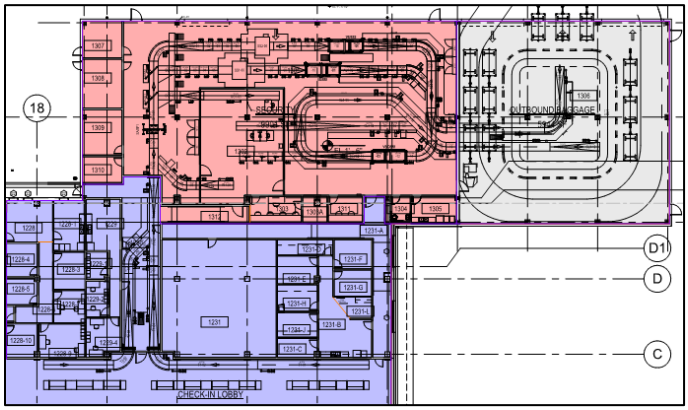
The restroom near the concession area is smaller and more difficult to access given its proximity to the arrivals escalator. It is difficult to see and requires the passenger to deviate from the primary exiting path.

### 2.3.6 Baggage Handling Systems

***Outbound* –** The existing outbound baggage screening and handling system consists of two takeaway belts that merge to feed a fully-automated Checked Baggage Inspection System (CBIS). The CBIS employs two scanners and a Checked Baggage Resolution Area (CBRA) that appear to provide sufficient capacity. However, the outbound makeup device provides only 115 lineal feet of frontage for loading in a rectangular shape. Circulation around the device presents a challenge as clearances for by-pass traffic is minimal. A roll-up door was added to the southwest corner of the makeup area for alternate circulation.

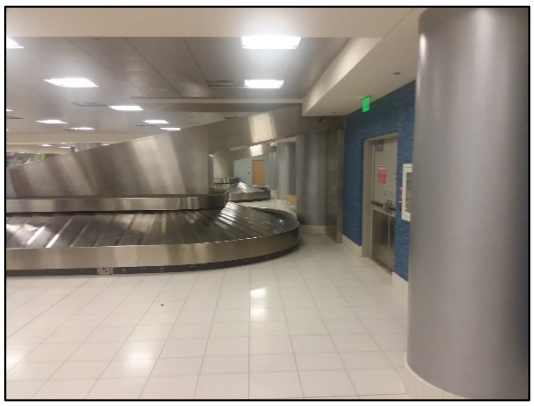
The current makeup device does not provide sufficient capacity for loading during peak hours. Expansion presents a problem in that the primary chillers and the air traffic control tower are located immediately to the south, airside operational clearances prevent expansion to the east, the CBIS is located on the north side and future expansion of the ticketing area prevents expansion to the west. Resolution of this deficiency represents a major goal for the Master Plan Update.

**Figure 2-11 – Outbound Baggage Handling Area**




Source: Leo Daly, 2019.

***Inbound –*** The baggage claim area consists of three sloped-plate carousels that feed from airside conveyors. Each conveyor provides a frontage perimeter of approximately 110 linear feet. However, the proximity of the claim devices to the east baggage claim wall precludes utilizing the east end. The claim devices are fed from conveyors overhead and located approximately 26 feet clear of each other. The required queuing is not available when two adjacent claim devices are operating. Additionally, intermittent columns impede circulation around the devices. Per airport staff, peak period unloading results in an overflow of the baggage claim into the adjacent circulation area.



Oversized baggage is delivered via pairs of doors on the east baggage claim wall. It should be noted that the elevation of the aircraft pavement is 3-4 feet above the finish floor elevation of the Terminal. An access trench is located along the perimeter of the claim area and extends for part of the length of the concourse.

The location of the baggage claim area is convenient to rental car counters and the airport information booth. Accessible restrooms are in close proximity to the baggage claim; however, an assisted care restroom is not provided.

### 2.3.7 Concessions

Concessions throughout the Terminal facility provide a varied selection of goods and services for passengers, employees, and meeters/greeters. Concessionaires include food and beverage services, magazine, book, and gift shops. A breakdown of concessions within the Terminal is shown in **Table 2-12**.

**Table 2-12 – Current Concessions and Amenities**

| Concession/Amenity | Type | Operator | Location |
|---|---|---|---|
| **Concessions** | | | |
| Emerald Coast Pub | Dining/Bar | First Class Concessions | Level 1 |
| Beach Time Grill | Dining | First Class Concessions | Level 2 |
| Grayton Beer Landing Strip | Bar | First Class Concessions | Level 2 |
| Espressology | Coffee Kiosk | First Class Concessions | Level 2 |
| Hy-Lites of the Coast | Shopping | Hy's Toggery | Level 1 |
| Hy-Lites of the Coast | Shopping | Hy's Toggery | Level 2 |
| **Amenities** | | | |
| Military Welcome Center | Other | ECP | Level 1 |
| Service Animal/Pet Relief Area | Other | ECP | Outside at North End of Terminal |

Source: First Class Concessions, Hy's Toggery, Airport Authority, CHA, 2019.

#### *2.3.7.1 Food & Beverage*

*Terminal* – The only Food & Beverage service available in the Terminal is a restaurant/bar located in the center of the Terminal between the SSCP and the secure exit. The facility has a kitchen for preparation of hot food selections. A seating area is provided; however, it is limited to a few tables. Food offerings are limited and do not provide a diverse selection of national brands and locally recognized favorites.

*Concourse* – Food & Beverage selections on the concourse are limited to two establishments one of which serves alcoholic beverages as well, in addition to a coffee kiosk. The bar restaurant provides some seating, but most is located within the circulation area. There is a limited availability of pre-packaged foods.

#### *2.3.7.2 News and Gifts*

*Terminal* – There are retail concessions along the landside of the ticketing lobby. Merchandise is generally limited to novelty clothing and souvenirs.

*Concourse* – News & Gift concessions are limited to a small area near the Food & Beverage concessions at the base of the concourse. Like the Terminal location, sales are limited to novelty clothing and souvenirs. Racks from retail concessions are located in the concourse circulation area.

### 2.3.8 Car Rental

The rental car counters provided near the baggage claim area are laid out in a modular fashion with five modules of approximately 20 feet in width and just over 20 feet in depth. Each module provides an agent counter area and a back office. The queuing area for each is located within the circulation area.

When queues extend beyond the stanchions, they potentially impact the baggage claim queuing and circulation.

### 2.3.9 Other Facilities

***Airport Administration*** – Airport management offices are located on a second level mezzanine in the Terminal above the airline ticket counters. The management suite is located at the south end of the Terminal. The airport's Board Room is located just to the north with a shared kitchen/break area. Areas for storage of files and other materials are limited. There are no "spare" offices in this area for expansion of staff.

***Airport Support***

*Information Booth* – The airport currently operates an information booth located at the center of the Terminal on the landside. It includes a visitor information kiosk and brochure display area.

*Conference Room* – Located at the north end of the Terminal, this conference room is set up for large meetings and A/V presentations.

*Storage* – The lower level of the concourse houses a general storage and records storage area.

***Amenities***


*Military Welcome Center* – A suite providing support for traveling veterans is provided between the baggage claim restrooms and the information booth accommodating the needs of traveling active and retired military personnel. The space provides area for relaxation and sleep.

*Service Animal/Pet Relief Area* – Recently, ECP opened an area outside, located at the north end of the Terminal near the ground transportation area, whose services are dedicated to the service animals and pets of traveling passengers and meeters/greeters. The area is fully enclosed by a fence and has a waste disposal unit, a fire hydrant, and an automatic water dish. The ADA accessible area also has a bench that has been provided for the service animal's or pet's owner.

### 2.3.10 Building Systems

Review of the construction of the building envelope finds that the building is steel-framed construction. The airside walls are CMU at the ramp level with modular wall panels above. The curbside façade is primarily glass storefront. The roof is primarily standing seam roof with minimum slope. Skylights are provided at the Terminal and concourse in addition to a clerestory on the east face above the ticketing area. The envelope is in generally good condition as it is less that ten years old. However, there appears to be some evidence of roof leakage from the skylight areas.

The chillers and cooling tower are located south of the baggage makeup area. Chilled water is piped into the building for distribution by air handlers and associated distribution ductwork. Hot water is generated at the lower level of the concourse. The air handlers for the Terminal are located at the north end of the Terminal on the second level and on the roof above the airline ticketing office area. The concourse is served by an air handler room located approximately in the middle of the lower level of the concourse.

The primary electrical service for the terminal is located adjacent to the CBIS on the north side. Emergency power is provided by a generator directly outside of the room on the airside apron. Emergency power generation has limited capacity. Airport expansion programs may necessitate an additional generator to support emergency situations. Electrical distribution rooms are located throughout.

### 2.3.11 Terminal Facility Summary

In summary, the airport is currently experiencing operational challenges that constrain future expansion in a market that is experiencing significant growth. The roadway constraints on the landside, the proximity of the taxiways and runways on the airside, and the tower and support facilities located at the ends of the terminal present significant obstacles to any proposed expansion. FAA AIP funding support for relocating facilities that are only approximately 10 years old may require a higher level of airport funding to accomplish in addition to the requisite approvals. However, the terminal will not continue to support the observed and forecasted increase in demand without expanding the facility. The identified operational challenges in the terminal are as follows:

- The ticketing lobby does not provide the depth required to serve the intense peaks resulting from baggage checking requirements while maintaining adequate circulation.
- The size and configuration of the Security Screening Checkpoint is not adequate to process passengers resulting in long waits and lines extending into the ticketing area.
- Aircraft gate holdrooms are not sized for larger aircraft resulting in overcrowding of the concourse.
- The concourse cannot be extended on the airside without impacting airside operations. Additional gates for expansion will require a second concourse or reconfigured concourse arrangement to support expansion.
- Opportunities for concessions revenue enhancement are limited based on available area.
- The baggage claim area is overcrowded based on car rental queues and claim device congestion.
- The outbound baggage make-up area has reached its capacity and the configuration of the baggage carousel limits the expansion opportunities.
- Administrative office space has reached capacity and additional space is needed.

These challenges and any others provided by airport staff will become part of the goals and objectives for long range airport planning.

## 2.4 AUTOMOBILE ACCESS AND PARKING

This section details the existing inventory of parking at the Airport, as well as the existing traffic conditions at the departures and arrivals curbsides of the Airport. The data presented was gathered from a variety of sources, including on-site observations, information provided by the Airport's parking operator (Republic Parking System), previous studies of the Airport, and other public data sources.

### 2.4.1 Roadway Access to Terminal and Vehicle Circulation

The Airport is located on West Bay Parkway, which is accessed via State Road 388. West Bay Parkway is used to access the Terminal curbside and encircles most of the Airport's parking functions. **Figure 2-9** depicts vehicular circulation of the Terminal area and covers roadways for cars traveling to parking, passenger pick-up and drop-off, rental car drop-off, rental car return, and exiting the Airport.

***Access to the Terminal and Support Facilities***

ECP is approximately 20-minutes from Panama City Beach and 30-minutes from Panama City, Florida. When accessing the Airport from Panama City Beach, drivers travel State Road 79 north toward West Bay, travel east onto State Road 388 and continuing approximately four miles. The entrance to the Airport is on the north side of the roadway. The Airport is accessible from Panama City by traveling on State Road 77 north through Lynn Haven and Southport until reaching State Road 388. Traveling west on State Road 388 and proceeding for approximately 8 miles, drivers can locate the Airport entrance on the northside of State Road 388.

The Air Cargo, Public Safety, and Fixed Base Operator areas are accessible by taking West Bay Parkway and turning eastbound onto Johnny Reaver Road.

***Access to Parking Functions***

Parking functions at ECP, which are encircled by West Bay Parkway, include parking for the public, employees, rental car companies, and transportation network companies (TNCs). A two-lane, one-way access road runs from south to north through the center of the Airport's parking campus, dividing it into two sections: east and west (see **Section 2.4.3**). Public exit the Airport parking facilities via the north end of the center access road, whereas employees and rental car personnel exit via a separate one-way road, north of the employee lot, that runs east-to-west. Employees and rental car personnel can also exit via a one-way road to the west of the cashier plaza. An additional exit is available for rental cars, located as the northwest corner of the rental car parking lot in the east parking campus.

### 2.4.2 Terminal Curbsides

Terminal curbsides are utilized by passenger vehicles, transportation network companies (TNCs), and hotel shuttles. ECP's Terminal is served by continuous inner- and outer- curbsides[4] running north to south that are parallel and adjacent to the Terminal frontage. The Terminal curbside area consists of five lanes, which are divided by a pedestrian sidewalk: three lanes to the east (Lanes 1-3) and two lanes to the west (Lanes 4 and 5).

The south end of Lane 1 is utilized for passenger drop-off/departures, while the north end of the curbside is for picking up arriving passengers. It should be noted that to enhance the security of the Airport, Terminal curbside parking is limited to loading and unloading only. Lanes 2, 3, and 5 all serve as through-put lanes. Lane 4, which is adjacent to the outer-curbside, is utilized by shuttle services. Seating is available along the pedestrian sidewalk for passengers waiting for shuttles.

### 2.4.3 Airport Parking Lots

The Airport provides parking options for the public, employees, rental car companies, and TNCs. Parking is also available for Airport Management and support staff. See **Table 2-13** for an inventory of parking spaces.

**Table 2-13 – Airport Parking Inventory**

| Type | # of Spaces |
|---|---|
| Long-Term | 184 |
| Covered Annual Pay | 15 |
| Short-Term | 180 |
| Rideshare (Short Term Lot) | 4 |
| Extended Long Term | 667 |
| Covered Parking | 285 |
| **Total** | **1,335** |

Source: Republic Parking, CHA, 2019.

[4] Both the inner- and outer-curbside span a length of 528 linear feet, which was determined by assuming that the curbsides start and end with the south and north thresholds of the outer canopy.

***Public Parking***

Republic Parking Systems is responsible for handling public parking at ECP. The Airport's public parking functions include two Long-Term, one Short-Term, and one Covered parking lot. The smallest of the two Long-Term lots, the Short-Term lot, and Covered parking are located in the parking's east campus, while the larger Long-Term lot is in the west parking campus.

Short-Term parking is the closest parking lot to the Terminal building and consists of 180 parking spaces. Adjacent to and west of the Short-Term surface lot is Covered parking, consisting of 285 parking spaces. Although adjacent, drivers cannot access the lots interchangeably. The drivers must first exit the lot they are in and access the other parking lot via the parking lot's designated entrance. To the north of the Covered parking is the smallest of the two Long-Term lots.

The larger Long-Term lot, as previously mentioned is in the west parking campus. The Long-Term parking lots cumulate to 851 spaces. When exiting any the public parking lots, drivers will be processed at the cashier plaza located at the north end of the center access road leading out of the parking campus and to West Bay Parkway.

During peak activity levels at the Airport and times that the previously described public parking lots surpass capacity, such as during holidays, an overflow lot located to the west of the Airport's main parking campus and across West Bay Parkway is available, at the discretion of Airport Operations. This lot offers up to 300, unpaved, parking spaces.

ECP also provides a parking lot that serves only passenger pick-up purposes, known as the Cell Phone Waiting Area. This lot is located along West Bay Parkway and allows the persons to stay with their vehicle while waiting for arriving passengers. Upon arrival to ECP, the deplaning passengers can use their personal cell phones or one of the Airport's courtesy telephones to call and arrange a pick-up location. It is important to note that while utilizing the Cell Phone Waiting Area, vehicles must be attended at all times and must stay to the south side of the parking area, as the north side is utilized for staging ground transportation and TNC vehicles.

***Additional Parking Functions***

In addition to public parking locations, the Airport provides parking to employees, rental car companies, ground transportation companies, and Airport Management and support staff.

<u>Employee Parking</u>

Employee parking is located in the west parking campus and is comprised of 204 parking spaces. The parking lot can be accessed once an employee presents his or her airport-issued parking card to the automated machine at the entrance to the lot. Once presented and approved via the automated system, a gate-arm lifts, allowing the vehicle to enter the lot.

<u>Rental Car Parking Areas</u>

Within the main parking campus, in the eastern section, is the Rental Car Ready/Return lot, comprised of 250 spaces. This lot is where customers can retrieve vehicles once being processed at the rental car counters inside the Terminal, as well as where customers can return vehicles when the rental period concludes.

After being returned, rental cars are stationed at a lot (consisting of 455 stalls) to the north of the Quick Turnaround (QTA) maintenance and wash facility, which is located outside the Airport's main parking campus and west of the designated overflow parking lot. After they are processed and ready for rental, the vehicles are parked in a lot (consisting of 455 stalls) to the south of the QTA, or in a ready-return lot (consisting of 303 stalls) in between the employee and short-term lots. The functions of the QTA will be discussed in **Section 2.5.7**.

Ground Transportation and TNC Parking

Parking is available for ground transportation (ex., taxis and limos) and transportation network companies (ex., Uber and Lyft); however, the parking is located outside the Airport's primary parking campus. Co-located with the Cell Phone Waiting Area, the staging area for ground transportation and TNCs is along West Bay Parkway. When parking, the companies must remain to the north side of the parking area to ensure they do not impede upon the public utilizing the Cell Phone Waiting Area.

Airport Management and Support Staff Parking

A parking lot containing twenty parking spaces is located south of and adjacent to the Terminal building. This lot is restricted to airport management and support staff.

### 2.4.4 Off-Airport Parking

Currently, the Airport does not have any off-site parking competitors. In December of 2012, the previous 11-acre, off-site covered parking area, which was owned by St. Joe Co. and managed by Lynx/Scott Airport Parking, ceased operation as part of an agreement with the Airport.

### 2.4.5 Landside Pavement Conditions

***Fuel Farm***

The fuel farm consists of PCC pavements near the fuel transfer areas and AC pavements for the roadways. All pavements are generally considered to be in good condition.

***Sheltair Facility***

The Sheltair apron consists of two types of AC pavements. The original aprons installed in 2010 and 2011 have a P-401 surface course (Aprons 1 & 2) and exhibit low to medium severity LT cracking, weathering, oil spillage, depressions and small to medium patches. Apron 3 was installed with a P-404 surface course in 2014 and is generally considered to be in good condition.

The Sheltair vehicle park areas consists of AC pavements exhibiting low severity LT cracking, raveling and small patches. These distresses are as expected given the age and usage of the pavement.

Sheltair also utilizes three PCC helipads to the south of their lease area which exhibit low severity corner spalling, joint spalling, and shrinkage cracking, but all distresses are expected given the age and usage of the pavement.

***Cargo Facility***

The cargo facility consists of AC pavement exhibiting low severity LT cracking, raveling, and small patches. These distresses are in line with expectation given the age and usage of the pavement.

***Secured Access Road***

The secured access road consists of AC pavement between the SIDA area to the north and the Sheltair facility to the south. The remainder of the perimeter road consists of asphalt millings or gravel. The paved portion of the road exhibits low severity LT cracking, depressions, raveling, and small patches. The distresses are in line with expectation given the age and usage of the pavement.

***Maintenance Facility***

The maintenance facility consists of AC pavement which exhibits low severity depressions, weathering, patching and LT cracking. The distresses are in line with expectation given the age and usage of the pavement.

***Landside Parking Facility***

The landside parking facility consists of AC pavement which exhibits low severity depressions, rutting, weathering, patching and LT cracking. The PCC curbing surrounding the parking facilities exhibits significant rust staining at the joints which could be indicative of failing reinforcement. The distresses are in line with expectation given the age and usage of the pavement.

***Rental Car Facility***

The rental car facility consists of PCC pavement at the wash and maintenance pads, and AC pavement everywhere else.

The PCC pavements are generally in fair condition with corner spalling, joint spalling, shrinkage cracks, and minor severity LT cracks, but no noticeable settlement. Significant cracking of the PCC collars around drains were noted, with minor settlement.

The AC pavement is in poor condition with significant areas exhibiting medium severity swelling, and rutting, medium severity depressions, oil spillage, polished aggregate, weathering, raveling, swelling, rutting, and advanced low severity LT cracking bordering on block cracking in some areas. The pavement appears to have structurally failed in some areas and will likely need to be repaired in the near future.

***Landside Roads***

The landside roads consist of AC pavement which exhibit low severity shoving, rutting, weathering, and LT cracking. The distresses are as expected given the age and usage of the pavement.

## 2.5 SUPPORT FACILITIES

Support facilities provide vital functions related to the overall operation of the Airport, and typically include facilities related to airport fencing, airport equipment storage and maintenance, Air Traffic Control (ATC), Aircraft Rescue and Firefighting (ARFF), aircraft fueling, snow and ice control, FBO/GA services, and rental cars. **Figures 2-1** and **2-2** depicts the location of key facilities around the airfield. In addition to the previously mentioned tenants interviewed (**Section 2.3**), the fixed base operator (FBO) tenant, Sheltair Aviation, was interviewed.

### 2.5.1 Airport Perimeter Fence

As required by TSA, the airfield is currently protected by a chain-link fence that encloses the runways, taxiways, and aircraft movement and non-movement areas. The airfield fence, which has 14 gates that provide access to various points of the airfield, measures approximately 46,000 linear feet.

### 2.5.2 Airport Equipment Storage and Maintenance

Located on the west side of the airfield, south of the Terminal building, are ECP's maintenance and equipment storage facilities. The Airport's airfield maintenance area consists of two facilities: one on the northwest corner and one on the southeast corner of the equipment and maintenance storage area.

The northwest facility is approximately 4,740 square feet, 600 square feet of which is used as office space. The facility consists of seven bays: four open bays and three bays equipped with roll-up doors. The middle bay houses an equipment washing station.

The southeast building, which is used as storage for maintenance equipment, is approximately 5,795 square feet and includes five bays: four open bays and one bay equipped with a roll-up door.

HVAC and Airport Generators

The Airport currently has two HVAC chillers and is in need of a third. The current configuration where the HVAC chillers are housed has contingency for a third HVAC chiller built into the configuration. It should be noted that the HVAC system is not connected to the existing generator system at the Airport.

Furthermore, the generator system currently in place is not a full power generator; therefore, the generator would not be capable of sufficiently operating all systems at the Airport in the case of an emergency. During instances of power outages, the backup power is not sufficient enough to provide air cooling functions. The lack of power capabilities also affects public safety personnel because they experience loss of communication lines and experience poor connection with the county's Emergency Operations Center (EOC).

### 2.5.3 Air Traffic Control Tower (ATCT)

The current ATCT, located directly south of the Terminal building, opened simultaneously with the opening of ECP in May 2010. The facility, whose services are contracted out by the FAA to Robinson Aviation (RVA Aviation), is operational daily from 6:00 am to 10:00 pm Central Standard Time (CST). Currently, seven controllers are employed: five full-time and two part-time. When Air Traffic Controllers are present, pilots communicate with the tower (Panama City Tower) via frequency 118.95 and with ground control (Panama City Ground) via frequency 121.65. When closed, pilots communicate via a common traffic advisory frequency (CTAF – 118.95).

During the time the tower is closed, pilot-activated lighting systems are utilized to control the following lights: HIRL for Runway 16/34, the Runway 16 MALSR and PAPI, and the Runway 34 REIL and PAPI.

### 2.5.4 Aircraft Rescue and Firefighting (ARFF)/Public Safety Facility

The Airport's ARFF and Public Safety operations are co-located within a two-story facility (measuring approximately 16,575 square feet) on the west side of the airfield, south of the Terminal building. The northern section of the facility contains office and administrative space for all the Airport's public safety personnel, which include firefighters and police officers. This section also contains joint-use operations and lounge rooms, an exercise room, and living quarters. The southern section of the facility is dedicated to storage of ARFF vehicles and equipment, which will be further detailed below.

ARFF

ARFF vehicles are designed to provide an invaluable service to the commercial and private users of the Airport and the passengers and cargo they transport. The aviation industry is reliant on prompt and effective fire and rescue services during aircraft emergencies. These services include fire containment and suppression, passenger and crew rescue, airframe and cargo preservation, and maintenance of the site to aid in after-incident investigations. The vehicles that airport fire departments employ serve as the medium to deliver firefighters, specialized tools and equipment, and firefighting agents to the scene of an aircraft incident. They must be designed to perform specific functions, constructed for longevity and ease of maintenance, and tailored to the airport's needs.

Within three minutes from the initial alarm, a minimum of one required ARFF vehicle must reach the midpoint of the farthest runway serving air carrier aircraft from its assigned post or must reach any other specified point of comparable distance on the movement area that is available to air carriers and begin application of the extinguishing agent. Within four minutes from the initial alarm, all other required vehicles must reach the previously stated locations and begin application of the extinguishing agent. The current location of the ARFF facility at ECP allows firefighting equipment to access any airfield pavement within the required time established by Federal regulations.

The document used to determine an airport's index is Title 14 CFR Part 139.315, *Aircraft Rescue and Firefighting: Index Determination*. ECP operates as an ARFF Index B. The requirements for ARFF vehicles to transport a specific quantity and type of firefighting agents are established by Title 14 CFR Part 139.317, *Airport Rescue and Firefighting: Equipment and Agents*. As an ARFF Index B, the Airport can choose to have a minimum of one or two vehicles; however, specifications of the vehicles depend upon the total number of vehicles chosen.

ECP currently has one rescue truck and two crash tracks (13- and 25 years old), but only one crash truck is recognized by the FAA. The crash trucks meet the specifications as described below:

- Two vehicles, each carrying 1,500 gallons of water, 500 pounds of dry suppressant and 110 pounds of Aqueous Film Forming Foam (AFFF).

Over the course of the planning horizon, ECP is projected to receive five or more daily operations by aircraft measuring 129 feet or greater (ex., B737-800); therefore, the Airport is expected to transition from an ARFF Index B to an Index C. In addition to transitioning equipment and increasing carrying capacities (ex. water requirement will double), the Airport will also have to provide an on-site ARFF training facility. Currently, all ARFF training is conducted at Tyndall Air Force Base (AFB) or at the United States Naval Support Activity (NSA) Panama City. Site recommendations for the training facility will be presented in **Chapter 5**.

Public Safety

When conducting interviews with ARFF and police personnel, they advised the facility is at maximum capacity and that parking at the Public Safety facility is insufficient.

**Chapter 4** will determine the amount of space needed and **Chapter 5** will discuss locations pertaining to a dedicated ARFF training area, expansion of the ARFF/Public Safety facility, and additional parking for public safety personnel.

### 2.5.5 Aircraft Fueling

The Airport owns a fuel farm to the south of the Terminal building but west of the ARFF/Public Safety facility, as well as an automotive fueling facility east of the maintenance and storage buildings.

Although the fuel farm is owned by the Airport, management and operation of it is contracted out to Menzies Aviation. In addition to managing the fuel farm, Menzies Aviation is responsible for refueling commercial aircraft for all airlines operating at ECP and for managing fuel storage for the FBO; however, all general aviation aircraft refueling is conducted through Sheltair Aviation.

Fuel is transported to commercial aircraft via two specialized fuel trucks, each with a carrying capacity of 5,500 gallons. Menzies Aviation has made a request for a third fuel truck. Fuel trucks are stored next to the Public Safety building during the day and in the fuel containment area by the fuel farm at night.

Fuel is transported to general aviation aircraft via four fuel trucks with the following specifications: two 5,000-gallon Jet-A trucks, one 1,200-gallon AvGas truck, and one 750-gallon AvGas truck. According to Sheltair Aviation, a 7,500-gallon Jet-A is desirable.

Within the fuel farm are eight above-ground fuel tanks with fuel storage capacities and types of fuel as follows:

- Four 50,000-gallon tanks (Jet-A)
- Four 15,000-gallon tanks (100LL AvGas)

Fuel consumption varies depending on peak periods. On a typical day, approximately 10,000 to 15,000 gallons of fuel are consumed by commercial carriers, increasing to between 30,000 and 35,000 gallons during peak periods. General aviation aircraft use up to 150,000 gallons per month during summer peaks and approximately 100,000 gallons during winter months.

Because of the amount of fuel consumed, four to five loads of fuel are delivered to the Airport during a typical week. During peak weeks, fuel deliveries increase to between six and eight deliveries, for a total of approximately 48,000 gallons each week.

The automotive fueling area consists of one 1,000-gallon unleaded tank, which is used by Airport maintenance and service vehicles. This area also contains four 1,000-gallon waste tanks, two of which are for fuel and water separation.

### 2.5.6 General Aviation (GA) Facilities and Activities

General Aviation (GA) functions and activities occur on the west side of the airfield, with one site south of the primary fuel farm and ARFF/Public Safety Building and another site on the south end of the airfield. The GA area contains hangars, apron parking positions, and an FBO facility for customer use. According to the FBO, facility sizing of the public-use building is sufficient.

The FBO operates and controls the leases for two bulk hangars (measuring 10,000 SF and 20,000 SF), as well as for tie-down positions. The apron can provide between 40 and 45 tie-down positions for single-engine and transient aircraft.

### 2.5.7 Air Cargo Facilities

The Airport's ±4,000 SF[5] air cargo facility neighbors the airport maintenance facility and Public Safety Building, south of the Terminal. It is comprised of four separate units, each outfitted with roll-up doors for shipping and receiving operations. This facility handles cargo operations for both individual cargo carriers and belly cargo activity for passenger airlines serving ECP.


[5] Square footage does not account for interior or exterior walls.

### 2.5.8 Rental Car Facilities

Seven rental car companies operate at the Airport and offer services that are primarily utilized by non-resident passengers flying into ECP. These passengers are processed at one of the five rental car counters, located along the west wall on the north end of the first level of the Terminal. National and Alamo share the first counter followed by Enterprise, Budget/Avis, Hertz, and Dollar/Thrifty. After being processed at the rental car counters, customers can pick up the rental vehicles at the Ready/Return parking lot, located east of the Terminal building and north of Covered Parking. The lot is easily accessed via a pedestrian sidewalk connecting from the Terminal, outside of the vestibule on the far north end, to the Ready/Return lot. When the rental period concludes, renters return the vehicles to the Ready/Return lot. Once being dropped off, the rental car companies take the returned vehicles to the quick turnaround (QTA) facility, located outside the Airport's main parking campus and west of the designated overflow parking lot. This facility is shared by all the rental car companies operating at the Airport.

The QTA area is approximately 7.2-acres and includes a QTA facility measuring approximately 15,000 SF, as well as two parking lots: one to the north and one to the south. The lot to the north of the QTA facility is where rental vehicles are staged while waiting to be cleaned and prepared for the next renters. The QTA facility consists of five bays dedicated to vehicle maintenance and five bays dedicated to washing the vehicles. Administrative offices are also located within the facility. To the north of the QTA, but south of the staging area, is a canopy sheltering five fueling stations that are each equipped with two fuel pumps. These fueling stations are sourced via an underground fueling system connecting the fuel pumps to two 15,000-gallon storage tanks that are located to the east of the QTA facility and adjacent to the overflow lot. After vehicles have been processed, they are parked to the south of the QTA until being taken back to the Rental Car Ready/Return lot. Parking spaces for rental car employees are also available at the QTA.

## 2.6 UTILITY ASSESSMENT

The airport utilities include potable water, gravity fed and force main sewer, stormwater conveyance, electrical, telephone, cable, fiberoptic, and fuel lines. The site does not have a deicing fluid collection system. A layout of the main lines servicing the airport can be seen in **Figure 2-12**.

***Potable Water***

Potable water at the airport is sourced from the 42-inch main on the north side of State Road 338 via two separate lines. A 12-inch line designated for potable water and fire protection is provided from the main near West Bay Parkway and runs along the west side of West Bay Parkway up to Johnny Reaver Road. It then branches to provide service to the Sheltair facilities, GA hangars, rental car facilities, Terminal, and ancillary facilities. A 30-inch line to provide fire protection support was tied into the main approximately one mile west of West Bay Parkway and travels north to a booster pump station on the west end of Johnny Reaver Road. The line then continues east along the north/east side of Johnny Reaver Road to service the Sheltair facilities and GA hangars.

All pipes are underground and considered to be in good working order. Back flow preventers, fire hydrants, and the recently replaced booster pumps appear to be in good condition.

***Sanitary Sewer***

Gravity fed sewers service all airport facilities through five branches which flow to a lift station on the west side of West Bay Parkway. The lift station feeds into an 8-inch force main which flows south along the west side of West Bay Parkway, crosses under State Road 338, and travels west to connect into a county force main. The lift station facility and all pipes are underground and considered to be in good working order.

***Stormwater Conveyance***

Stormwater management at the airport can be divided into two separate drainage basins. One basin serves the north, east, and south portions of the airfield, while the other serves most of the landside areas, the remainder of the airfield, and offsite stormwater.

All stormwater north and east of Taxilane F flows through a series of infield swales and pipes to pond C at the south end of the runway. The stormwater from the area between Taxilane F and Johnny Reaver Road as far north as the t-hangar facility drains through a series of swales and pipes which run along the east side of Johnny Reaver Road to pond C. Pond C outfalls through a series of underdrains into a seeping wetland south of the airport.

Stormwater from West Bay Parkway is collected in a series of swales on the west side of the road. Offsite stormwater is collected in a series of stormwater swales along the northwest side of the airport and conveyed to an attenuation pond south of the rental car facility. The stormwater from all facilities north of the t-hangars and west of Taxilane F is conveyed through a system of pipes, swales, and dry ponds to a wet pond west of the maintenance facility. The outfall for both wet ponds and the swales servicing West Bay Parkway is Kelly Branch, west of the airport.

All stormwater swales, ponds, pipes and structures appear to be in good condition. Erosion had previously been an issue in the swale collecting offsite runoff, but significant concrete reinforcing of problem areas in the swale has reduced erosion concerns.

***Electrical Service***

Electrical service is provided from a trunk line on the south side of State Road 338. The connection runs along the west side of West Bay Parkway until it branches on the north side of the intersection with Johnny Reaver Road. From here the lines form a loop which travel along the west side of West Bay Parkway, in front of the Terminal, and on the east side of Johnny Reaver Road to service all airport facilities. All services are underground and considered to be in good working order.

***Telephone Service, Cable Service, Fiberoptic Cable***

Telephone, cable, and fiberoptic lines run along the east side of West Bay Parkway from their origin at State Road 338. The main duct branches on the north side of the intersection with Johnny Reaver Road traveling north to service the rental car, parking, Terminal, and maintenance facilities, and east to service all other airport facilities. All services are underground and considered to be in good working order.

***Natural Gas Lines***

Natural gas service is provided from a line which runs along State Road 388. The connection runs along the east side of West Bay Parkway until it branches on the south side of the West Bay Parkway & Johnny Reaver Road connector near the maintenance facility. The main line terminates near the rental car facility. The branch runs east across Johnny Reaver Road, then south along the east side of Johnny Reaver Road to provide service to the private hangar facilities. Natural gas lines are underground and considered to be in good working order.

***Underground Fuel Lines***

Underground fuel lines are limited to the rental car facility. Lines run from fuel tanks located east of the facility to the refueling service stations located north of the maintenance building. All fuel tanks and pumps appear to be in good condition. Fuel lines are all underground and considered to be in good working order.

NORTHWEST FLORIDA
BEACHES INTERNATIONAL AIRPORT

MASTER PLAN UPDATE

GRAPHIC SCALE (FEET)
0 600 1200

Sanitary Lift Station

Fire Line Booster Pumps

- Fire Suppression
- Potable Water
- Electrical Service
- Communications
- Gravity Sanitary Sewer
- Force Main Sanitary Sewer
- Underground Fuel
- Natural Gas

**Figure 2-12**
Utility Plan

## 2.7 AIRSPACE ENVIRONMENT

The National Airspace System (NAS) is made up of a network of air navigation facilities, Air Traffic Control (ATC) facilities, airports, technology, and appropriate rules and regulations that are needed to operate the system. The FAA created the NAS to protect persons and property on the ground and to establish a safe and efficient airspace environment for civil, commercial, and military aviation within the United States. Airspace is broken down into two categories: regulatory and non-regulatory. Within the regulatory airspace category, there are two types of airspace: controlled and uncontrolled. Categories and types of airspace are defined based on their complexity or density of aircraft movements, or the nature of the operations conducted within the airspace, which dictates the level of safety required and the level of national and public interest. The following sections detail airspace classifications and how they relate to ECP.

### 2.7.1 Airspace Classifications

The purpose of controlled airspace is to provide adequate separation between IFR and VFR aircraft; thus, IFR services are available, but not required, within all controlled airspace. Airspace designated as Class A, B, C, D, and E is controlled airspace.

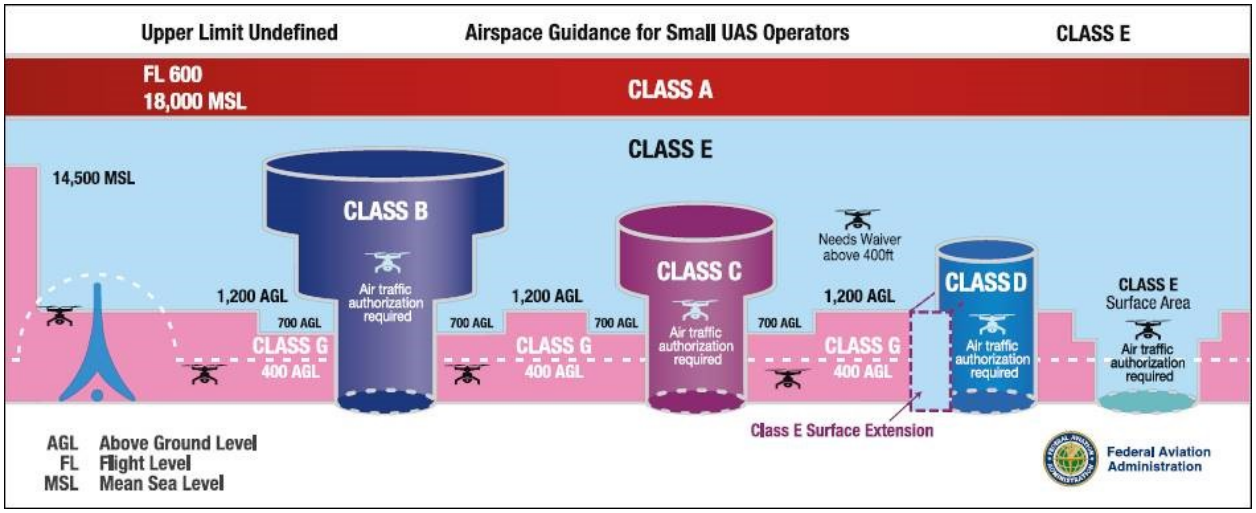
VFR aircraft operating in Class B, C, or D airspace must be in contact with ATC. This gives ATC the authority to manage IFR and VFR traffic in the proximity to airports and ensure proper separation. Controlled airspace designations do not affect IFR traffic as IFR traffic is cleared through controlled airspace by ATC.

Class G airspace is uncontrolled and IFR services may or may not be available.

Large sections of controlled and uncontrolled airspace have been designated as special use airspace. Special use airspace is further defined as prohibited, restricted, warning, military operations, and alert areas. Civil operations within special use airspace may be limited or even prohibited, depending on the area, as operations within these areas is considered hazardous to civil aircraft.

A graphic of the U.S. Airspace Profile is presented in **Figure 2-13**.

**Figure 2-13– U.S. Airspace Profile**




Source: Federal Aviation Administration.

### 2.7.2 ECP's Airspace

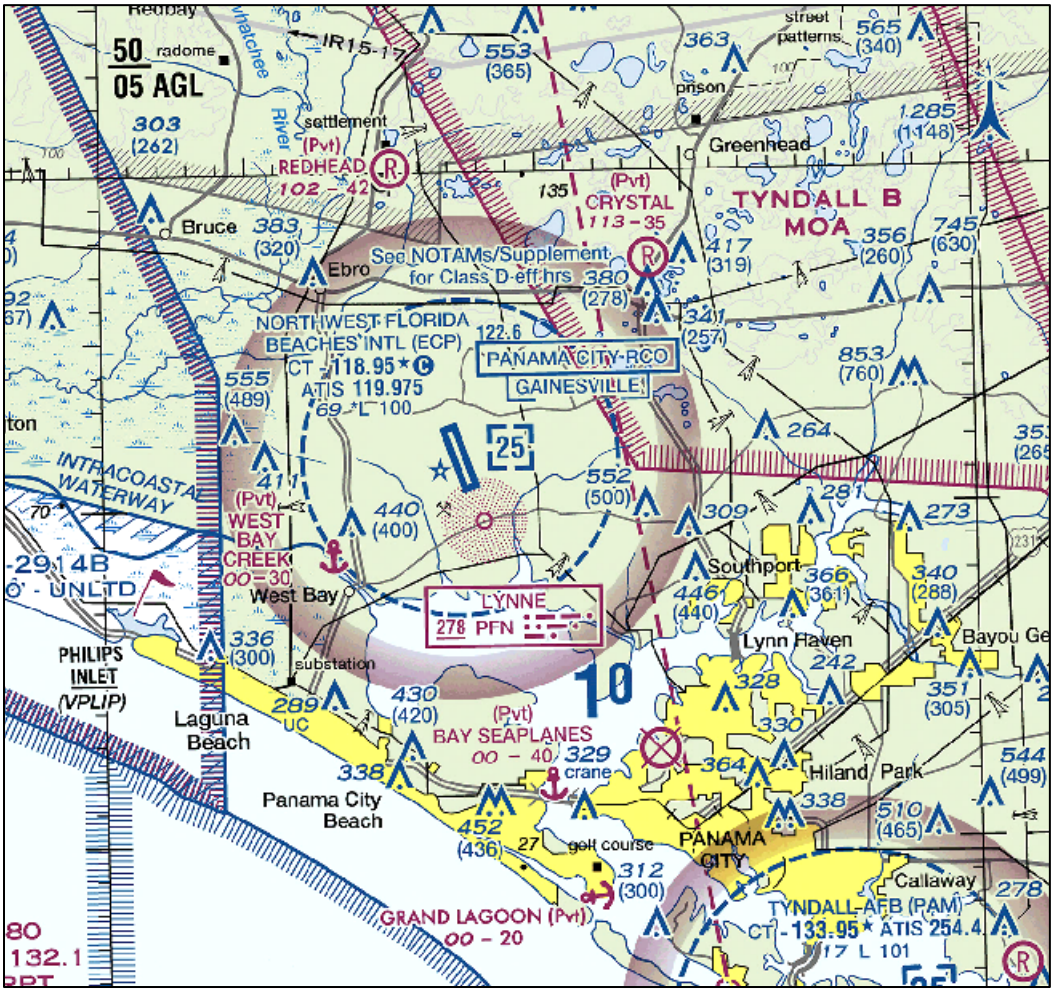
ECP is located within Class D airspace, extending from the runway surface up to 2,500 feet mean sea level (MSL) for a 4.7-nm radius. Prior to entering ECP's airspace, communication must be established with ATC. As previously mentioned in **Section 2.5.3**, the ATCT is closed from 10:00 pm to 6:00 am CST. During the timeframe that the tower is closed, the Airport operates under a Class E airspace. It should be noted that when operating under a Class E airspace, ILS approaches are prohibited.

Furthermore, ECP is located within the Jacksonville Air Route Traffic Control Center (ARTCC) boundary. The Jacksonville ARTCC is one of 22 FAA Area Control Centers in the U.S. According to ECP ATC, although the Jacksonville ARTCC is responsible for controlling en-route IRF traffic, Tyndall Air Force Base ATC handles local radar approach and departure control, as well as ECP traffic departing into the Eglin/Valparaiso Terminal area northwest of the Airport.

The National Aeronautical Charting Office (NACO) of the FAA publishes special aeronautical charts used by pilots to navigate through the National Airspace System. These charts are called sectional charts, or sectionals. A sectional chart provides detailed information on airspace classes, ground-based NAVAIDS, radio frequencies, longitude and latitude, navigational waypoints and navigational routes. It also offers topographical features, such as terrain elevations and ground features that are important to aviators, such as landmarks that will be identifiable from a given altitude. Although these charts are used for VFR and IFR navigation, they are a VFR pilot's primary navigation tool.

**Figure 2-14** displays a segment of the New Orleans Sectional Chart, centered on ECP.

## Figure 2-14 – New Orleans Sectional, 103rd Edition [Effective 8 November 2018]




Source: aeronav.faa.gov.

## 2.8 METEOROLOGICAL CONDITIONS

Meteorological conditions affect airport operations at an airport in many ways. Winds, precipitation, and temperature influence decisions pertaining to NAVAIDs, runway orientation, and required runway length. ECP is equipped with an Automatic Surface Observation System (ASOS), a highly sophisticated weather data sensing, processing, and dissemination system that is designed to support weather forecast activities and aviation operations. While meteorological readings are taken every minute, 24-hours a day, every day of the year, these systems generally report at hourly intervals, but also report special observations if weather conditions change rapidly and cross aviation operation thresholds. Maintained, controlled, and operated by the FAA and the National Weather Service, the ASOS automatically observes, formats, archives, and transmits observations.

When weather conditions exceed predetermined weather element thresholds, a special report is transmitted through an automated very-high-frequency (VHF) airband radio frequency (119.975 MHz) to pilots operating at or near ECP. These messages are also available via phone by calling 850-235-7857.

An analysis of wind observations and coverage on the existing Runway 16/34 will be discussed in **Chapter 4**.

### 2.8.1 Local Climate

The average annual temperature in Panama City, Florida is 69.3 degrees Fahrenheit; The average low is 59.4 degrees Fahrenheit, while the average high is 79.1 degrees Fahrenheit. July was the warmest month in 2018, with a mean temperature of 82.1 degrees Fahrenheit. Average monthly precipitation ranges from 3.1 inches to 7.4 inches, with annual precipitation averaging 61.1 inches. On average, the area surrounding the Airport does not receive snow.

This climate data for Panama City, Florida was obtained from the National Oceanic and Atmospheric Administration (NOAA) and the NWS.

### 2.8.2 Snow and Ice Control Plan

According to Title 14 Code of Federal Regulations (CFR) Part 139.313, *Snow and Ice Control (a)*, "As determined by the Administrator, each certificate holder whose airport is located where snow and icing conditions occur must prepare, maintain, and carry out a snow and ice control plan in a manner authorized by the Administrator." Based on this guidance and the fact that ECP is not located in an area that typically experiences significant snow and icing conditions, the Airport has deemed that a snow and ice control plan as not being necessary.