KNOX COUNTY REGIONAL AIRPORT
MASTER PLAN UPDATE
SCOPE OF WORK
January 28, 2025

This document is a Scope of Work (SOW) for the preparation of an Airport Master Plan Update (AMPU) for the Knox County Regional Airport (CLIENT) by Stantec Consulting Services (CONSULTANT).

PURPOSE, GOALS, OBJECTIVES

This project is an update of the Airport's 2015 master plan, which includes the preparation of a new Airport Layout Plan (ALP). The goal of the master plan is to provide the framework needed to guide future airport development that cost-effectively satisfies aviation demand while considering potential environmental and socioeconomic impacts. This AMPU meets the following objectives:

1. Document the issues that the proposed development addresses.
2. Justify proposed development through the technical, economic, operational benefit and need, and environmental investigation of concepts and alternatives.
3. Provide an efficient graphic presentation of the Airport's air and landside component development and anticipated land uses of the Airport.
4. Establish a realistic schedule for implementing the development proposed in the Plan, particularly the short-term capital improvement program.
5. Propose an achievable financial plan to support the implementation schedule.
6. Provide sufficient project definition and detail for subsequent environmental evaluations before approval.
7. Present a plan that adequately addresses the issues and satisfies local, state, and Federal regulations.
8. Document policies and future aeronautical demands to support airport deliberations on spending, debt, land use controls, and other necessary policies to preserve the Airport's integrity and surroundings.

STUDY ELEMENTS

This AMPU is a comprehensive study of the Airport that describes short-, medium-, and long-term plans for airport development. This Update includes eight principal elements.

1. Public Involvement Program
2. Environmental Considerations
3. Existing Conditions
4. Aviation Forecasts
5. Demand/Capacity Analysis & Facility Requirements
6. Alternatives Development & Evaluation
7. Airport Layout Plans
8. Financial Feasibility Analysis

FOCUS

Through discussions with the CLIENT and CONSULTANT's understanding of the Knox County Regional Airport, several areas where the project should focus were developed:

1. Assess the current and future critical design aircraft and subsequent airport and runway reference codes.
2. Determine infrastructure needs consistent with the future Airport and runway reference codes, including runway, taxiway, taxilane, and aircraft parking requirements.
3. Consider climate change and possible resiliency measures as they impact or may impact the Airport during this update period (8-12 years).
4. Prepare an ALP reflecting the Airport's long-term vision and ensure consistency with current FAA design standards and FAA and MaineDOT policies.
5. Conduct the project with transparency to include public and private input.

PROCESS

The master plan and ALP are prepared consistent with FAA Advisory Circular (AC) 150/5070.6B guidelines, Airport Master Plans, AC 150/5300-13B, Airport Design, FAA SOP 2.00, Airport Layout Plan Checklist, and other related FAA Advisory Circulars and guidance documents.

The technical report and ALP are prepared in three phases. The first step is preparing a working draft technical report and an ALP. The second step is preparing a final draft of the technical report and ALP. The final step is a compilation of the draft documents into the final master plan and ALP.

PROJECT TEAM

The Project Team includes the CLIENT, the Federal Aviation Administration (FAA), and the Maine Department of Transportation (MaineDOT). The Project Team represents their group and collective interests in this project. The Project Team is also responsible for establishing project goals, including this scope of work, communicating with other team members, including airport management and the CONSULTANT, and reviewing and commenting on the various documents as they are produced and before the next phase of the project begins. The Project Team meets regularly via teleconference and ensures the documents are released to the Planning Advisory Committee. The CONSULTANT will prepare and distribute meeting minutes.

STAKEHOLDERS

The following groups and organizations are considered stakeholders in this project.

- Knox County and the Regional Airport Staff
- Federal Aviation Administration
- Maine Department of Transportation

- Penobscot Island Air
- Cape Air
- The towns of Owls Head and South Thomaston

PUBLIC INVOLVEMENT PROGRAM

A significant element of this master plan is a dynamic public outreach program that is part of this project to encourage information sharing and collaboration among the airport staff, users and tenants, resource agencies such as the FAA and MaineDOT, elected and appointed public officials, and the public.

Airport Public Advisory Committee (APAC)

Because of its diverse composition, including representatives of the airport community, the Knox County Airport Public Advisory Committee (APAC) will serve as the planning advisory committee for this project. The APAC will meet at least eight times and serve as the stakeholders' sounding board and information exchange group. The APAC's role is to review project plans and proposals, interact with each other, make consensus recommendations to airport management and the stakeholders, and finally give recommendations on the finished Plan to the CLIENT. The meetings will be open to the public.

The APAC is designed to provide a real and visible link between the mid-coast communities, the Airport Manager, and the County. The ten-seat Committee is specifically tasked to facilitate airport communications flow to and from local communities and citizens and provide aviation, environmental, and business advice for airport management, which is essential in developing this critical Airport document. Committee members are appointed to the ten seats with staggered terms. The ten seats include:

1. Knox County District #1: Town of South Thomaston
2. Knox County District #2: Town of Warren
3. Knox County District #3: Town of Camden
4. Town of Owls Head
5. Town of South Thomaston
6. Environment Representative
7. On-Airport Businesses Representative
8. Commercial Pilot Representative
9. Knox County Flying Club Representative
10. County Business Representative

Public Information Meetings

Five Public Information Meetings (PIM) will be held in an "open house" format with interactive information stations staffed by knowledgeable staff and members of the consultant's team in an informal method to engage the public and stakeholders in soliciting their opinions on development options. This format will

permit stakeholders to visit a meeting site at their convenience and visit with planners on an informal one-on-one basis. A PowerPoint or video presentation will be prepared to introduce the study process.

County Commissioners

Four presentations to the Knox County Commissioners are planned throughout the study, alternating with the PIMs after the initial kickoff meetings. These meetings provide the public with an additional opportunity to understand the process and project status and ask questions. The sessions will be scheduled during the Commissioner's regular meeting schedule.

Press Releases

The CONSULTANT will prepare a draft press release for the CLIENT to announce each planned PIM. The PR will be advertised at least one week before each meeting.

Airport Website

The CLIENT plans to establish a separate Airport Master Plan page on its existing website where draft documents of the airport master plan will be available to the public, along with meeting agendas and minutes. The CONSULTANT will provide the CLIENT with clean copies of each document to upload to the site.

Meeting Schedule

Table 1 is a matrix of the planning meetings and presentations.

Table 1. Master Plan Meeting Schedule

GROUP	KICKOFF	INVENTORY	FORECASTS	FACREQ	ALTERNATIVES	ALP	FINANCIAL	FINAL DRAFT
DATE*	02/25	04/25	06/25	08/25	10/25	12/25	02/26	04/26
APAC	X	X	X	X	X	X	X	X
PIM	X		X		X		X	X
County Commissioners	X			X		X		X
Press Release	X		X		X		X	X

* Approximate date based on receipt of a Notice to Proceed on or about January 31, 2025

TASKS

The work effort in this section represents the work that the CONSULTANT will perform for the CLIENT. Each element that follows has a corresponding line in the fee schedule.

A. ADMINISTRATIVE

This task defines the CONSULTANT's administrative effort as part of the project.

A.1. Determine the Type and Detail of Study

The CONSULTANT will work directly with the CLIENT to develop the master plan concept. These discussions, which will be held via telephone and email, will be used to prepare the draft SOW.

A.2. Prepare Draft Scope of Work

The CONSULTANT will prepare a draft scope of work, which will not include fees, for review and comment by the CLIENT, FAA, and MaineDOT.

A.3. Conduct Scoping Meeting

Two scoping meetings will be held with the CLIENT, FAA, MaineDOT, and the CONSULTANT's representatives to discuss this project's scope. This meeting will be held via a video conference call (TEAMS).

A.4. Prepare Final Scope of Work

The CONSULTANT will prepare and distribute the final scope of work via email to the CLIENT, MaineDOT, and FAA.

A.5. Prepare Fee Schedule

The CONSULTANT will prepare a fee schedule and provide the CLIENT with a copy of this SOW and an Excel spreadsheet containing the tasks but no labor or expense fees and costs.

A.6. Contracting

The CONSULTANT will prepare and submit a task order for execution to the CLIENT. The CONSULTANT will negotiate and finalize a contract with the technical editor.

A.7. Prepare Grant Application

The CONSULTANT will prepare and submit this project's federal and state grant applications to the CLIENT for review, signature, and submission to the FAA and MaineDOT for processing. The CLIENT should review, sign, and return the FAA grant offer with a copy sent to the CONSULTANT. The County must be able to sign the grant application and related documents via eSignature.

A.8. Prepare Disadvantage Business Enterprise (DBE) Update

The CONSULTANT will update the CLIENT's DBE program and file the 2025 annual DBE reports as required under 49 CFR Part 26, Disadvantage Business Enterprise Program.

A.9. Prepare End of Year FAA Reports

The CONSULTANT will prepare the annual Federal Fiscal Report (SF-425). This report is anticipated to be filed for FY 2025 and FY 2025.

A.10. Technical Editing

To assist the CLIENT in meeting its annual DBE goal, The CONSULTANT will hire the services of a technical editor certified as a DBE in Maine to review the initial first draft of each working paper and the final draft.

A.11. Invoice Client

The CONSULTANT will invoice the CLIENT approximately every month (anticipate 12-15).

A.12. Prepare Grant Reimbursement Requests

The CONSULTANT will prepare an FAA grant reimbursement, and MaineDOT pay voucher via CAPLAN for the CLIENT's signature on each invoice. The CLIENT is responsible for distribution to MaineDOT, which will process both documents. It is assumed that 12-15 reimbursement requests will be prepared for budgeting purposes.

A.13. Kickoff Meetings and Presentations

As part of the project kickoff, the APAC, public, and County Commissioners will receive a presentation that overviews the planning process. The CONSULTANT will prepare a formal professional presentation in PowerPoint with appropriate handouts for each meeting and a presentation of this task throughout the scope.

A.13.1. Airport Public Advisory Committee

An APAC presentation will be held at the airport terminal. If possible, this presentation will be held during one of the Committee's regularly scheduled meeting dates. Otherwise, a special meeting will be requested.

A.13.2. Public Information Meeting

A public information meeting (PIM) will be held in the Owls Head Transportation Museum during the early evening hours on a weekday. This meeting aims to inform the public of the pending master plan update, its purpose, goals, and objectives. Refer to Public Information Meetings, page 3, for details.

The CONSULTANT will prepare a press release announcing the meeting's date, time, location, and purpose. The CLIENT will publish such notices as necessary and consistent with county policy.

A.13.3. County Commissioners Presentation

The CONSULTANT will provide the County Commissioners with a brief overview of the master plan process during one of the Commissioner's regularly scheduled meetings. The date will be coordinated with the CLIENT, who will coordinate this with the county clerk.

A.14. Project Closeout

The CONSULTANT will prepare and distribute the FAA project closeout report to the CLIENT for approval and submission to MaineDOT and the FAA.

B. DATA COLLECTION

This task addresses collecting data and how that process will work. Most data gathering for a master plan study occurs when planners evaluate conditions. Typical broad categories of information to be collected include the history of the Airport, physical facilities of the Airport, the regional setting of the Airport and surrounding land uses; the environmental setting of the Airport, socioeconomic and demographic data for the airport service area; historical aviation activity; and airport business affairs.

B.1. Aerial Survey & Photogrammetry

The CONSULTANT will coordinate for a subconsultant to perform an aerial survey based on 18B standards[1] to collect data necessary to develop an accurate base map of the airport and obstacle data on and around the Airport, including the runway approach and departure surfaces (all runways) and high-altitude photography. **Appendix A** of this SOW contains the specific details of the sub-consultant's proposed SOW, including deliverables. This data will be uploaded to the FAA's Airport Data and Information Portal (ADIP).[2]

B.2. Inventory Data

This task involves collecting and reviewing, to the extent readily available, existing data. As applicable, existing documents related to the Airport will be collected, reviewed, and included in this AMPU. These documents will include, but are not limited to:

a. Local or Regional Planning Documents and Comprehensive Plans
b. FAA Form 5010, Airport Master Record, and other related FAA documents and datasets
c. Record Drawings - History of the Airport since the last Update with emphasis on airport infrastructure changes, such as the runway safety area and runway reconstruction projects
d. Wildlife Hazard Site Visit Findings
e. FAA and MaineDOT Grant History since 2008
f. FAA/MaineDOT Airport Capital Improvement Plan
g. Local Property Tax Maps
h. Local Zoning Ordinances/Maps

[1] AC 150/5300-18B - General Guidance and Specifications for Submission of Aeronautical Surveys to NGS: Field Data Collection and Geographic Information System (GIS) Standards
[2] The Airport Data and Information Portal (ADIP) helps the Federal Aviation Administration (FAA) collect airport and aeronautical data to meet the demands of the Next Generation National Airspace System.

i. Environmental documentation

j. Meteorology and Climate Data

k. Flight plan activity from Traffic Flow Management System Counts (TFMSC)

l. Maine Statewide Airport Systems Plan (MSASP)

B.3. SITE VISIT

The CONSULTANT will conduct a planning site visit with the Airport Manager to collect data that is not available internally, interview personnel as necessary to inventory, walk the airport property, and take photographs.

C. PREPARE TECHNICAL REPORT & ALP (FIRST DRAFT)

Task C involves the preparation of the first draft of the master plan technical report and ALP. The CONSULTANT will prepare the seven chapters of the master plan, plus appendices and the ALP, throughout this task. The tasks and elements that follow describe the process and work effort.

C.1. APPENDICES

Several appendices will be prepared as part of the master plan technical report. These include, but not including:

A. Terms and Abbreviations used in the technical report.

B. Environmental overview (from the Inventory of Existing Facilities chapter)

C. Meeting Minutes and Attendance Sheets

D. Engineers Probably Cost Estimates (from the Alternatives Analysis)

E. Airport Layout Plan

C.2. INTRODUCTION

The CONSULTANT will prepare an introductory chapter that describes the purpose and objectives of the study and provides the reader with administrative aspects of the report and ALP. This section will include a list of FAA and MaineDOT-funded projects, a brief history of projects completed, federal, state, and locally funded projects, and other significant events at the Airport since the last Update in 2008.

C.3. EXISTING CONDITIONS

The initial step in the master planning process is to develop an inventory of an airport's existing physical conditions, operational characteristics, and surroundings. The CONSULTANT will describe the Airport as it existed at the start of the project.

C.3.1. Airside Facilities

The description of the airside facilities will be detailed, including tables and photographs documenting the existing conditions. These facilities include runways, taxiways, taxilanes, aircraft parking aprons, hangars, and navigation aids (visual and electronic).

C.3.2. Landside Facilities

The description of the landside facilities will be detailed, including tables and photographs documenting the existing conditions. These facilities include the terminal, vehicular parking areas, access roads, fueling facilities, other buildings, and infrastructure not associated with the airside.

C.3.3. Safety and Security

The Airport's security and safety infrastructure will be described and cataloged with tables and photographs. This effort includes security and wildlife fencing and gates, ARFF equipment, FOD program, runway safety program, wildlife hazard mitigation, safety management system (SMS), driver and surface operation procedures, policies, certification, and other related elements and infrastructure. The fence line will be delineated along with gates and gate numbering on the Airport Layout Plan.

C.3.4. Activity Data

Airport operations activity data will be collected and reported in tables and graphics. The data includes passenger enplanements, aircraft operations, based aircraft, and fleet mix for based and itinerant aircraft operations.

C.3.5. Environmental Overview

The CONSULTANT will provide a textual and graphic description of the existing airport environment, which will be prepared as an appendix to the technical report depending on the extent of the data.

The principal objective of the environmental overview chapter is to document environmental conditions that should be considered when identifying and analyzing airport development alternatives. This information is used to develop future options with the subsequent environmental processes in mind. It considers environmental data when evaluating the other options. The idea is to ensure the master plan aids in forming a possible purpose and need statements in subsequent environmental documents. This task will include:

a. An assessment of protected resources and environmental issues as defined by the impact categories found in FAA Order 5050.4B, National Environmental Policy Act (NEPA) Implementing Instructions for Airport Actions.
b. Existing environmental permits
c. Mitigation projects and efforts
d. Identifying wetlands and buffers located on airport property using available existing data. This assessment will include a review of existing wetland maps for accuracy. The base map and other future ALP plans will comprise these wetland boundaries.
e. Preliminary identification of environmental features on and surrounding the Airport

C.3.6. Meteorology, Climate, Climate Change, and Resiliency

Airport meteorology and climate data will be collected and reported in text, tables, and graphs. This data includes, but is not limited to:

- Wind data from the Airport's Automatic Weather Observation System (AWOS). This data will develop three airport wind roses for all weather conditions: instrument meteorological conditions (IMC) and visual meteorological conditions (VMC).
- Temperature data will be collected and cataloged, including seasonal variations and the mean high and low temperatures.
- Precipitation will include measurements of rain and snow.

The data collected in this effort will be used to formulate, if applicable, the need for resiliency measures to help the Airport, if necessary, to identify solutions that reduce the risk of significant climate impacts and quantify benefits from resilience projects. This data, if viable, will be incorporated into possible alternatives developed later in the study in the Demand/Capacity and Facility Requirements and the Alternatives Analysis sections (Tasks C.5 and C.6).

C.3.7. Regional Setting and Land Use

The CONSULTANT will describe the regional setting of the Airport and land use on and off the Airport, including the land uses in areas exposed to airport operations. This task will include identifying land uses that may affect the Airport's safe operation or influence its expansion. Structures obstructing air navigation are the principal safety concern and will be determined.

C.3.8. Financial Structure

The CONSULTANT will examine the Airport's financial resources, including its primary business model, operating revenues and expenses, and capital funds sources and uses. This effort aims to assist in developing the Airport's ability to fund the local share of future capital projects. This assessment will include a 3-5-year

C.3.9. Recycling, Reuse, and Waste Reduction Program.

The CONSULTANT will provide an overview of the Airport's recycling, reuse, and waste reduction practices as outlined in the FAA Guidance of Airport Recycling, Reuse, and Waste Reduction Memorandum, dated September 30, 2014.

C.3.10. Design Aircraft and Criteria

The Airport's critical design aircraft will be determined based on the aircraft's available operational activities. The assessment will include the airport design aircraft and the design aircraft for both runways. Based on this, The CONSULTANT will determine the current design standards based on AC 5300-13B for the Airport and individual runways, taxiways, and taxilanes. This data will be presented as text and tables, as necessary.

C.3.11. Obstruction Analysis

The CONSULTANT will prepare an obstruction plan that illustrates the location of objects within 10 feet and those that penetrate the applicable surface. The effort involves the actual preparation of plans and

the written description of observed obstructions. The following surfaces will be analyzed as part of the aeronautical study:

- **All Runways:** Federal Aviation Regulations (FAR) Part 77 approach surfaces as defined in §77.19
- FAA Obstacle Clearance Surfaces (OCS)[3]
    - Runway 13 OCS numbers 2, 3, 4, 5, 6, 7
    - Runway 31 OCS numbers 2, 3, 5, 6, 7
    - Runway 3 OCS numbers 2, 3, 4, 5, 6, 7
    - Runway 21 OCS numbers 2, 3, 4
- Precision Approach Path Indicator (PAPI) surfaces (Runways 3, 13, and 31)
- VFR Traffic Pattern Surfaces as defined in FAA Order JO 7400.2N, Procedures for Handling Airspace Matters
- Missed approach surfaces Runways 3, 13, and 31
- Localizer Performance with Vertical Guidance (LPV) surfaces will be analyzed to obtain LPV minimums for Runways 31

Deliverables will include updating the FAA Runway Airspace Management (RAM) tool to include the identification and population of known obstruction data (existing, but not including data collected as part of this project (Task B.1)).

C.3.12. Documentation & Distribution

The CONSULTANT will prepare the Inventory chapter of the technical report. The draft report will be submitted to the CLIENT for review and comment and then to the Stakeholders for review and comment. All parties will be notified of the file upload.

C.3.13. Meetings and Presentations

The CONSULTANT will schedule and host the following meetings and presentations.

C.3.13.1. Project Team

A project team meeting will review and amend the inventory if necessary. Meeting minutes will be prepared and distributed.

[3] FAA AC 5300-13B, Tables 3-2, 3-3, 3-4, and 3-5 as applicable

C.3.14. Airport Public Advisory Committee

An APAC presentation covering the inventory of existing conditions will be held at the airport terminal. If possible, this presentation will be held during one of the Committee's regularly scheduled meeting dates. Otherwise, a special meeting may be requested.

C.3.15. Public Information Meeting

No PIM is planned for this task.

C.3.16. County Commissioners Presentation

No Commission presentation is planned for this task.

C.4. FORECASTS OF AVIATION DEMAND

The following tasks will be followed to document existing and future critical aircraft to plan future facilities.

C.4.1. Prepare Draft Forecasts

The CONSULTANT will perform a streamlined forecast under FAA Memorandum, Forecast Review, and Approval Instructions, issued on August 12, 2024. The Memorandum provides guidance for non-towered, low-activity airports, such as Knox County Regional Airport. Under new guidance from the FAA, airports without an air traffic control tower and with less than 90,000 annual operations may forego the traditional forecast process in favor of an analysis of the existing and future critical aircraft by runway.

A critical aircraft (existing and future) will be established for the runways (Runway Design Code or RDC), the Airport Reference Code (ARC), and Taxiway Design Group (TDG) based upon the usage by this critical aircraft or group of aircraft will be determined with the use of FAA AC 150/5000-17, Critical Aircraft and Regular Use Determination.

The forecast chapter will include the following statement, "Current operations at the Airport are less than 90,000 operations annually and not expected to exceed 90,000 operations in the foreseeable future. Therefore, preparation of a detailed forecast is not warranted." For planning purposes, a streamlined forecast will be prepared to determine future airport needs and facility requirements.

- A simplified forecast will be developed that will include the following for the forecast period of 20 years, broken out into the short-term (first five years), intermediate-term (years 6-10), and long-term (11-20 years):
- Aircraft operations, including fleet-mix operations
- Based aircraft, including fleet mix aircraft
- The number of expected passenger enplanement
- Terminal size requirements to ensure adequate space for current and possible future activity and needs, including the Transportation Security Administration needs.

A preferred forecast will be developed in narrative and tabular format, and the reasonableness and practicality of the estimates of future activity will be reviewed. A consistency check will be performed with previously approved forecasts about the data sources used in developing those forecasts.

The CONSULTANT Upon the CLIENT's review, concurrence from the FAA will be requested before proceeding with the balance of the report.

C.4.2. Documentation & Distribution

The CONSULTANT will prepare the forecast chapter of the technical report. The draft report will be submitted to the CLIENT for review and comment and then to the Stakeholders for review and comment. All parties will be notified of the file upload.

C.4.3. Meetings

The CONSULTANT will schedule and host the following meetings and presentations.

C.4.3.1. Project Team

A project team meeting will review and amend the forecasts if necessary. Meeting minutes will be prepared and distributed.

C.4.3.2. APAC Meeting

The CONSULTANT will schedule an APAC meeting to give the Committee an overview of the forecasts and solicit questions and comments. Meeting minutes will be prepared and distributed.

C.4.3.3. Public Information Meeting

A public information meeting (PIM) to provide an overview of the forecasts will be held in the Owls Head Transportation Museum during the early evening hours on a weekday. This meeting aims to provide an overview of the work completed to date and answer questions. Refer to Public Information Meetings, page 3, for details.

The CONSULTANT will prepare a press release announcing the meeting's date, time, location, and purpose. The CLIENT should publish such notices as necessary and consistent with County policy.

C.4.3.4. County Commissioners Presentation

No meeting is scheduled for this task

C.4.4. Update Forecasts

The CONSULTANT will adjust the forecasts as necessary based on FAA comments.

C.5. DEMAND/CAPACITY ANALYSIS & FACILITY REQUIREMENT

This chapter will analyze the ability of the Airport and its existing facilities to accommodate the current and anticipated levels of activity as described in Chapter 3, Forecasts of Aviation Demand, and approved by the FAA. This analysis identifies deficiencies and determines facility needs throughout the 20-year planning period that can be satisfied through planning and development activities. The CONSULTANT

will evaluate what additional facilities will be required to accommodate forecast activity. This task begins with assessing the ability of existing facilities to meet current and future demand.

The CONSULTANT analysis will define the aviation problems and explain why the Airport needs to resolve them. Findings support a problem, and the potential solutions to that problem must be documented. The CONSULTANT will ensure that this needs analysis provides sufficient information to provide a basis for describing the purpose and need for proposed federal actions. The CONSULTANT will document any decisions by the CLIENT not to continue to grow to accommodate forecast activity or to accommodate forecast activity only up to a point. This assessment will indicate the probable consequences of the decision (e.g., demand will be capped, the market will go unmet, or the demand will be diverted to another airport). The facility requirements assessed in this chapter will include the following tasks.

C.5.1. Identify Existing Capacity

The CONSULTANT's analysis is designed to identify the Airport's existing capacity and shortfalls. The requirements for new or expanded facilities, if applicable, will reflect the unique circumstances of the Airport but are not limited to the following areas.

a. Identify any capacity shortfalls and why.
b. The FAA or other regulatory agencies develop and adopt updated standards to correct non-standard conditions and eliminate standard modifications.
c. What is Knox County’s strategic vision for the Airport?
d. What is the condition, arrangement, or functionality of existing facilities?

C.5.2. Evaluate Airside Facility Capacities and Requirements

The CONSULTANT will identify the capacity and operational efficiency of the existing airside facilities and assess the best approach to rectifying capacity shortfalls and areas where capacity exceeds demand over the next 20 years. The CONSULTANT will identify safety issues and areas not meeting FAA design criteria. This analysis evaluates and assesses the condition of the airside facilities listed to ensure they meet existing and forecast demand. The facilities include:

a. Runways,
b. Taxiways and Taxilanes,
c. Runway-Taxiway Interface Design Problems,
d. Aircraft Parking Aprons,
e. Navigation Aids (lighted and electronic) and,
f. Instrument Approach Procedures (IAP)

C.5.3. Identify Landside Facility Capacities and Requirements

The CONSULTANT will identify the capacity and operational efficiency of the existing landside facilities and assess the best approach to rectifying capacity shortfalls and areas where capacity exceeds demand over the next 20 years.

The CONSULTANT will identify safety issues that do not meet FAA design criteria. This assessment includes evaluating and assessing the condition of existing landside facilities, including, but not limited to, pavement condition, design standards, the condition or status of aircraft parking areas and hangars, public buildings both inside and outside, and private buildings to the extent possible. Data and photographs collected during earlier site visits will be used to document this assessment. The following infrastructure will be examined.

a. Terminal Building
b. Hangars
c. Storage Buildings and Facilities
d. Snow Removal Equipment Inventory
e. Fueling Systems and Services

C.5.4. Demand Triggers

The CONSULTANT will identify the demand levels that will trigger the need for airside and landside facility additions or improvements and estimate the extent of new facilities required to meet that demand.

C.5.5. Resiliency

The CONSULTANT will evaluate any climatic issues impacting existing and future airport requirements. If appropriate, any resiliency issues or concerns will be incorporated into applicable alternatives and addressed in the next section.

C.5.6. Land/Easement Requirements

An assessment will ensure that airport operations and infrastructure can be contained within the existing airport boundary.

C.5.7. Emerging Trends

The CONSULTANT will examine emerging trends in the aviation industry that may impact RKD. These include, but are not limited to, Autonomous Air Mobility (AAM) and Vertiports.

C.5.8. Documentation & Distribution

The CONSULTANT will prepare the Inventory chapter of the technical report. The draft report will be submitted to the CLIENT for review and comment and then to the Stakeholders for review and comment. All parties will be notified of the file upload.

C.5.9. Meetings

The CONSULTANT will schedule and host the following meetings and presentations. Minutes of each meeting will be prepared and distributed.

C.5.9.1. Project Team

A project team meeting will review and amend the facility requirements if necessary.

C.5.9.2. APAC Meeting

The CONSULTANT will schedule an APAC meeting to provide the Committee with an overview of the facility requirements and solicit questions and comments. The meeting will be held at the airport terminal during a regularly scheduled meeting. Otherwise, a special meeting may be required.

C.5.9.3. Public Information Meeting

No public meeting is scheduled for this element.

C.5.9.4. County Commissioners

The CONSULTANT will coordinate with the CLIENT to schedule a presentation for the county commissioners to provide them with a project update and answer questions. The date will be coordinated with the CLIENT, which will coordinate with the county clerk.

C.6. ALTERNATIVES DEVELOPMENT AND EVALUATION

The alternative analysis brings together different elements of the planning process to identify and evaluate options to meet the needs of airport users as well as the CLIENT's strategic vision for the Airport. The critical aspects of this process include the identification of alternate ways to address previously identified facility requirements; an evaluation of the alternatives, individually and collectively, so that stakeholders gain a thorough understanding of the strengths, weaknesses, and other implications of each option; and selection of the recommended (preferred) alternative.

The alternatives analysis will be a "tabletop" assessment[4] that includes planning level cost estimates based on the most recently available engineering and construction costs. These alternatives may consist of development to meet the existing role of the Airport and development needed for resource constraints. The evaluation will depend on conformance with current FAA design criteria, constructability, project phasing, preliminary environmental requirements, and cost considerations.

C.6.1. Identify and Evaluate Development Airside Alternatives

The CONSULTANT will prepare and evaluate up to four alternative airside layouts that accommodate the needs of the Airport through the 20-year planning period. The analysis will include estimated costs and environmental considerations. The various alternatives include the following possible assessments:

[4] Detailed engineering analyses are not included.

Taxiway and taxilane layouts should meet both FAA design standards and proposed changes to the existing layout (additional or fewer taxiways) and changes in taxiway and taxilane markings, signage, or lighting, including navigation aids.

C.6.2. Noise

Assuming there will be no changes to the runway layout, including length, threshold locations, and alignment, the CONSULTANT will prepare future noise contours based on forecasts for long-term fleet mix operations. The contours will be prepared using the Aviation Environmental Design Tool (AEDT) for 60, 65, and 70 db. The contours created in this task will be overlaid on the Land Use Plan to provide the community with a tool that shows the impacts of noise generated by aircraft operating from RKD. The report will include a technical analysis explaining the contours' development process, what an AEDT analysis represents (and does not indicate), and the areas on and off the Airport that the three contours encompass. If any changes to the runway layout, length, threshold locations, or alignment occur, then the CONSULTANT will update the contours and technical language. The contours will be identified on the Land Use Plan, developed as part of the ALP process identified in §C.7.

C.6.3. Identify and Evaluate Development Landside Alternatives

The CONSULTANT will prepare and evaluate up to four alternative landside layouts that accommodate the needs of the Airport through the 20-year planning period. The assessments will consider hangar and apron development, the terminal building, fueling and storage systems, and other related support facilities. The CONSULTANT analysis will include cost estimates and environmental considerations.

C.6.4. Environmental Impacts

Potential environmental issues and permit requirements for each proposed airside and landside project will be addressed. This preliminary assessment assists in the ultimate selection of the recommended alternative. This effort is not a detailed analysis but rather a general discussion about potential impacts associated with the concepts presented by landside and airside.

The effort will include an assessment of any climate-related concerns and help the CLIENT make decisions about infrastructure priorities to reduce climate impacts, if any.

C.6.5. Alternatives Matrix

The CONSULTANT will prepare a matrix that lists each of the airside and landside alternatives, which includes a description of each option, the estimated total cost, and environmental and resiliency issues that might delay or otherwise render an option challenging to implement.

C.6.6. Documentation & Distribution

The CONSULTANT will prepare the alternatives chapter of the technical report. The draft report will be submitted to the CLIENT for review and comment and then to the Stakeholders for review and comment. All parties will be notified of the file upload.

C.6.7. Meetings

The CONSULTANT will schedule and host the following meetings and presentations.

C.6.7.1. Project Team

A project team meeting will review and amend the alternatives analysis if necessary.

C.6.7.2. APAC Meeting

An APAC presentation will be held at the airport terminal to review the alternatives and obtain a consensus on the preferred alternative. If possible, this presentation will be held during one of the Committee's regularly scheduled meeting dates. Otherwise, a special meeting will be requested.

C.6.7.3. Public Information Meeting

A public information meeting will be held in the Owls Head Transportation Museum during the early evening hours on a weekday. This meeting aims to provide an overview of the work completed and present the various developed alternatives to the public (refer to Public Information Meetings, page 3, for details). The CONSULTANT will prepare a press release announcing the meeting's date, time, location, and purpose. The CLIENT should publish such notices as necessary and consistent with county policy.

C.6.7.4. County Commissioners

No County Commission meeting is planned for this phase.

C.6.8. Prepare Preferred Alternative Plan

The CONSULTANT will coordinate with the CLIENT, the FAA, and MaineDOT to determine the preferred airport layout plan. This Plan forms the basis of the ALP set, prepared later in this study.

C.6.9. Environmental Review

Completing the alternatives chapter will include an environmental overview of projects proposed in the short term (first five years). This effort includes discussing the potential impacts of the short-term improvements on the 21 environmental impact categories following FAA Order 5050.4B, *National Environmental Policy Act (NEPA) Implementing Instructions for Airport Actions*.

C.6.10. Complete & Distribute Alternatives Working Paper

The CONSULTANT will complete the draft Alternatives paper based on the preferred alternative selected and agreed upon by all project stakeholders. This effort will include a detailed discussion of the recommended alternative and a summary of the entire chapter.

C.7. AIRPORT LAYOUT PLAN (ALP)

This task involves the preparation of the ALP set.

C.7.1. ALP Checklist

Before developing the ALP set, The CONSULTANT will submit its recommendations and adjustments to the FAA's ALP Checklist, SOP 2.00.

C.7.2. Prepare ALP Set

The CONSULTANT will prepare the ALP set, consisting of 12 sheets, based on the preferred alternative and with the approved ALP Checklist (Task C.7.1). This set will include the following individual sheets, prepared as both 24" x 36" (ARCH D) as a separately bound set and 11" x 17" for inclusion in the technical report.

1. Title Sheet
2. Airport Data Sheet
3. Facilities Plan
4. Airport Layout Plan
5. Terminal area Drawing for the main terminal area
6. Terminal area Drawing for the Flying Club area
7. Inner Portion of the Approach Surface Drawing for Runway 13
8. Inner Portion of the Approach Surface Drawing for Runway 31
9. Inner Portion of the Approach Surface Drawing for Runway 3-21
10. Airspace Drawing
11. Land Use Drawing
12. Exhibit A[5]

C.7.3. ALP Checklist

The CONSULTANT will complete the ALP Checklist (FAA SOP 2.00) and submit it to the FAA for review and comment.

C.7.4. Documentation and Distribution

The CONSULTANT will prepare the ALP set and the technical report for the ALP chapter. The report will describe each sheet of the ALP set along with the proposed changes to the airport layout.

The draft report will be submitted to the CLIENT for review and comment and then to the Stakeholders for review and comment. All parties will be notified of the file upload.

C.7.5. Meetings

The CONSULTANT will schedule and host the following meetings and presentations.

C.7.5.1. Project Team

If necessary, the CONSULTANT will schedule a project team meeting to review and amend the draft ALP.

[5] The CONSULTANT will not update the Exhibit A. It is included as a reference only.

C.7.5.2. APAC Meeting

The CONSULTANT will schedule an APAC meeting to provide an overview of the airport layout plans and solicit questions and comments.

C.7.5.3. Public Information Meeting

No public information meeting is planned for this task.

C.7.5.4. County Commissioners

The CONSULTANT will provide the County Commissioners with a brief overview of the master plan process during one of the Commissioner's regularly scheduled meetings. The date will be coordinated with the CLIENT, who will coordinate with the county clerk.

C.7.6. Upload to OE/AAA

The CONSULTANT will make necessary changes to the Airport Layout Plan, prepare a memorandum of significant changes to the ALP, and, with FAA approval, upload the ALP (sheet 4), the Memorandum, and the ALP Checklist to the FAA via the OE/AAA (Obstruction Evaluation) portal. The FAA and CLIENT will be notified and provided with the Aeronautical Study Number (ASN).

C.8. FINANCIAL PLAN

The Financial Plan guides what will be required to demonstrate the CLIENT's ability to fund the projects in the master plan. The CONSULTANT will emphasize the projects the CLIENT can expect to implement over the near term, as presented in a Capital Improvement Plan (CIP). A more general discussion of the funding of medium- and long-term projects will be included because of the uncertainty of future funding and possible shifts in the importance of those projects.

C.8.1. Develop Financial Feasibility Analysis

The CONSULTANT will develop a financial feasibility analysis using a planning analysis that includes four subtasks.

a. Compare the existing CIP with those projects illustrated on the ALP and recommend removing projects no longer relevant to the Airport's development.

b. Consider the schedule, scope, sources, and uses of funds to integrate the projects in this master plan into a realistic CIP. This effort is significant because of current AIP entitlement funding and the limited availability of discretionary funding.

c. Based on the ALP, specific projects may be divided into smaller projects that reflect how projects are approved, designed, and constructed.

d. Specific projects and associated subprojects will be listed on a master table sorted by the three planning periods and fiscal years in which they are expected to be accomplished.

In addition, all projects slated for the first 10 years will include a written project description with the following information.

a. Project name
b. Brief project scope
c. Project purpose or objective
d. Project schedule (estimated begin/end dates for permitting, design, and construction)
e. Prerequisites (dependent and interrelated projects)
f. Estimated project cost
g. Environmental processing required
h. The type and source of funding, including the Airport Improvement Program (AIP), the Bipartisan Infrastructure Law (BIL), MaineDOT grants in kind, local share, and other funding sources will be included.
i. Special considerations will include property acquisition requirements, known environmental mitigation requirements, and site constraints.

C.8.2. Capital Improvement Plan (CIP)

The CONSULTANT will prepare the CLIENT's new Capital Improvement Plan (CIP). The CIP will be presented as a comprehensive spreadsheet listing each project noted in the previous sections. The table will break out cost estimates by project year, name, estimated costs, and funding division by organization (FAA, state, airport, and, if applicable, private enterprise).

C.8.3. Prepare Revenue Generation Analysis

The CONSULTANT will prepare a revenue generation assessment for the CLIENT, one that is based on several possible revenue sources, both those already in use and possible new sources, and how the CLIENT can potentially increase revenue. In addition, this assessment will include potential revenue based on the CLIENT's existing revenue stream. The evaluation will consist of a table for easy comparison and a textual assessment description. These would include, but are not limited to:

a. Fuel sales
b. Aircraft Parking Revenue
c. Aeronautical and non-aeronautical land development
d. Hangar Land Leases
e. Hangar Rentals

C.8.4. Recycle, Reuse, and Waste Management

The CONSULTANT will prepare an assessment of the Airport’s recycling, reuse, and waste management plan and recommendations. The Plan will assess:

a. The feasibility of solid waste recycling at the Airport;
b. Ways to minimize the generation of solid waste at the Airport;

c. Operation and maintenance requirements;
d. A review of waste management contracts; and
e. The potential for cost savings or the generation of revenue.

C.8.5. Documentation and Distribution

The CONSULTANT will prepare the financial analysis chapter of the technical report. The draft report will be submitted to the CLIENT for review and comment and then to the Stakeholders for review and comment. All parties will be notified of the file upload.

C.8.6. Meetings

The CONSULTANT will schedule and host the following meetings and presentations.

C.8.6.1. Project Team

A project team meeting will review and amend the financial analysis if necessary.

C.8.6.2. APAC Meeting

An APAC presentation will be held at the airport terminal to review and discuss the financial analysis. If possible, this presentation will be held during one of the Committee's regularly scheduled meeting dates. Otherwise, a special meeting will be requested.

C.8.6.3. Public Information Meeting

A public information meeting (PIM) will be held in the Owls Head Transportation Museum during the early evening hours on a weekday. This meeting will give the public an overview of the current process and financial analysis. Refer to Public Information Meetings, page 3, for details. The CONSULTANT will prepare a press release announcing the meeting's date, time, location, and purpose. The Airport should publish such notices as necessary and consistent with county policy.

C.8.6.4. County Commissioners

No county commission meeting is scheduled for this task.

C.9. Technical Report & ALP (Final Draft)

This task involves revising the first draft and then assembling it into a revised draft document for review by the Project Team, APAC, the County Commissioners, and the public.

C.9.1. Prepare Second Draft

The CONSULTANT will prepare the second draft technical report, and ALP set based on reconciled comments from the previously submitted draft chapters and ALP set.

C.9.2. Documentation and Distribution

The CONSULTANT will forward the final draft to the Project Team and APAC. A printed copy in 11x17" and 24 x 36" formats will be provided to the CLIENT for review and public availability. The Project Team

should review and comment on the documents with The CONSULTANT. The CONSULTANT will acknowledge any questions or comments and adjust the draft documents before release to the APAC and the public.

C.9.3. Meetings

The CONSULTANT will schedule and host the following meetings and presentations.

C.9.3.1. Project Team

A project team meeting will review and amend the forecasts if necessary.

C.9.3.2. APAC Meeting

The CONSULTANT will schedule an APAC meeting to give the Committee an overview of the forecasts and solicit questions and comments.

C.9.3.3. Public Information Meeting

A PIM will be scheduled to allow the public to understand the forecasting process and recommended forecasts. Refer to Public Information Meetings, page 3, for details. Attendance sheets will be compiled and recorded.

C.9.3.4. County Commissioners

The CONSULTANT will coordinate with the CLIENT to schedule a presentation for the county commissioners to provide them with a project update and answer questions. The CLIENT is responsible for coordinating the agenda with the county clerk.

C.10. PREPARE FINAL TECHNICAL REPORT & ALP

C.10.1. Reconcile Changes

Based on comments from the project team, the APAC, and the public, The CONSULTANT will prepare a written summary of recommended changes and reconciled amendments to the final draft. Any proposed changes will be discussed and resolved with the Project Team before the documents are finalized.

C.10.2. Finalize Report

The CONSULTAZNT will prepare and distribute the final ALP set for electronic signatures to the CLIENT, MaineDOT, and FAA. This effort includes printing, binding, and delivering to the CLIENT three copies of the final technical report and distributing electronically to the CLIENT, FAA, and MaineDOT the technical report in Microsoft Word and PDF, the signed ALP in PDF, and the CAD files.

C.11. EXECUTIVE SUMMARY

C.11.1. Draft ES

The CONSULTANT will prepare an Executive Summary (ES) of the technical report. The Summary will contain a brief overview of the master plan. The anticipated length of the ES is 10-12 pages and will include the following major topics:

a. Introduction
b. Planning Background
c. Summary of Existing Conditions and Forecasted Activity
d. Overview of Airport Requirements
e. Alternatives Studied and Rationale for the Preferred Alternative
f. The ALP (Preferred Alternative Only)
g. Implementation and Financial Plan
h. Recommendations

C.11.2. Documentation and Distribution

The CONSULTANT will electronically send the ES to the Project Team for review and comment. The CONSULTANT will acknowledge any questions or comments and adjust the draft ES based on reconciled changes.

C.11.3. Finalize ES

The CONSULTANT will finalize ES based on reconciled comments from the Project Team. The CONSULTANT will provide the CLIENT, APAC members, MaineDOT, and the FAA with an electronic copy of the ES in PDF format.

C.11.4. Meetings

No meetings are planned for this task.