

**Cities of Auburn & Lewiston
Auburn-Lewiston Municipal Airport
Auburn Maine**

Scope of Services: Airport Master Plan Update

March 2023

SCOPE OF SERVICES

INTRODUCTION

It is the desire of the Cities of Auburn & Lewiston and the Auburn-Lewiston Municipal Airport (LEW), to evaluate the airport through the preparation of an airport master plan update (AMPU), to assure that the airport and its environs are safe and efficient as well as to evaluate the growing needs of the airport users and the aviation needs of surrounding communities. The initial tasks of the project will be to acquire aerial airport mapping for the development of an Airport Master Plan Update and Airport Layout Plan (ALP). The project will contain the aviation activity forecast, environmental inventory, facility requirements, alternatives analysis, financial and implementation plan, and the ALP Sheet Set. This AMPU will be prepared per the guidance in Federal Aviation Administration (FAA) Advisory Circulars (ACs) 150/5070-6B, *Airport Master Plans*, 150/5300-13B, *Airport Design*, and other applicable state and local guidelines.

Located in Auburn, Maine, the Auburn-Lewiston Municipal Airport serves as an essential air transportation resource for the Lakes & Mountains Region of Maine. LEW is an important transportation node for corporate aviation, emergency transportation, diversions, and recreational aviation.

Responding effectively to changes will require a planning project that can identify needed facilities as local conditions and/or airport users change. The goals of the AMPU include:

- Meeting the aviation needs of citizens and businesses in the airport's service area
- Maintaining safe and efficient airside facilities compliant with airport design standards and FAA and State of Maine Department of Transportation (MaineDOT) guidance
- Identifying opportunities for economic sustainability at the airport as required by grant assurances
- Positioning the airport to be a regional air transportation leader including potential commercial service
- Engaging the public through participation in the planning process
- Maintaining planning flexibility for future changes in the aviation industry

The specific objectives to be accomplished under the AMPU include:

- Assessing the need for additional hangar space
- Assessing the location for an FBO customer service facility
- Reviewing of the appropriate length of Runway 4-22
- Assessing available land for aeronautical and non-aeronautical development
- Assessing the terminal building under varying growth scenarios
- Identifying considerations for Airport electrification
- Exploring intermodal connections to the Airport

- Assessing the impacts of the realignment of Exit 75 off Route 95 on passenger access
- Submitting for FAA approval of the resulting aviation forecasts and ALP
- Updating the Airport's Disadvantaged Business Enterprise (DBE) plan and completing uniform reporting for Fiscal Years 2024-2026

A comprehensive list of tasks and subtasks is contained within this document and reflects the Airport's objectives for the project. This scope of services in its entirety represents the results of the Master Plan project.

TASK 1.0 – STUDY DESIGN & PROJECT ADMINISTRATION

PURPOSE

To prepare a comprehensive study design that is acceptable to the Airport and is also fully eligible for FAA funding of the AMPU and ALP.

METHODOLOGY

McFarland-Johnson Inc. (CONSULTANT) will coordinate with the Cities of Auburn & Lewiston (SPONSOR) and FAA to prepare a Scope of Services (SOS) for the AMPU and ALP. Careful consideration will be given to the development of an SOS that is consistent with FAA and MaineDOT requirements and is also responsive to the Airport's specific needs concerning potential airport and economic development opportunities.

1.1 Conduct Scoping Meeting

One (1) scoping meeting was held with representatives of LEW, FAA, MaineDOT, and CONSULTANT to discuss the scope of this project.

1.2 Prepare Draft Scope of Services

The CONSULTANT will prepare a draft SOS for review and comment by LEW, FAA, and MaineDOT.

1.3 Prepare Final Scope of Services

The CONSULTANT will prepare the final SOS.

1.4 Prepare Fee Schedule

Based on the final SOS, the CONSULTANT will prepare the fee schedule. A blank fee schedule sheet will be submitted for an independent fee estimate and one (1) round of negotiations, if necessary.

1.5 Contracting

The CONSULTANT will:

- Prepare and submit a Contract to LEW for execution,
- Negotiate and prepare subconsultant contracts, and
- Process contracts internally.

1.6 Prepare Progress Reports

The CONSULTANT will prepare a monthly progress report for LEW based on current FAA requirements (24) and will send monthly reports to MaineDOT (24). These reports will be prepared to start with the month after the Notice to Proceed until project closeout; 24 progress reports are anticipated.

1.7 Invoice Airport

The CONSULTANT will invoice LEW monthly, based on the monthly progress reports; 24 are anticipated.

1.8 Prepare Grant and Grant Reimbursement Requests

CONSULTANT will create the following items to send to the FAA and carbon copy MaineDOT:

- FAA grant application – one (1)
- FAA quarterly reports – seven (7)
- For each invoice the CONSULTANT will prepare the necessary grant reimbursement requests for LEW's signature and distribution to FAA via Delphi (eInvoice) – 24
- FAA financial annual reporting – three (3)
- FAA project and grant proper project closeout requirement, both electronic and paper, to include Federal Financial Report Form Number SF-425 – one (1)
- FAA yearly DBE reports – three (3)
- MaineDOT grant reimbursement request – four (4)
- MaineDOT project closeout report – one (1)

TASK 2.0 – AIRPORT MAPPING & SURVEY

PURPOSE

To update airport aerial imagery and develop comprehensive Geographic Information Systems (GIS) mapping in accordance with current Airports GIS (AGIS) requirements for the development of an ALP. The GIS mapping data will be the basis for development of the Master Plan and the mapping application. This task will be performed through a subcontract with an experienced photogrammetric mapping firm (MAPPING SUBCONSULTANT).

METHODOLOGY

2.1 Airport Imagery and Mapping

MAPPING SUBCONSULTANT will provide new aerial photography and mapping meeting the requirements of AC 150/5300-16B, *General Guidance and Specifications for Aeronautical Surveys: Establishment of Geodetic Control and Submission to the National Geodetic Survey*; AC 150/5300-17C, *General Guidance and Specifications for Aeronautical Surveys: Airport Imagery Acquisition and Submission to the National Geodetic Survey*; and AC 150/5300-18B *General Guidance and Specifications for Aeronautical Surveys: Airport Survey Data Collection and Geographic Information System Standards*. All deliverables will adhere to the requirements of an “Airport Layout Plan” as identified in Table 2-1 of AC 150/5300-18B. A survey for Runways with Vertical Guidance (VG) will be completed for Runway 4-22 and Non-Vertically Guided Approach Operations for Runway 17-35 as shown in **Attachment A**. Planimetric data will be collected for Airport property, plus the surrounding area of influence, including a minimum of 1,000 feet surrounding the existing airport property line. Mapping of features located on airport property will be compliant with AGIS requirements as to layering, topology, and attribution. A Statement of Work will be developed and submitted to the FAA for review prior to upload on the FAA’s Airports GIS website. Obstruction data within the 14 CFR Part 77 primary, approach (limited to the 10,000 feet from the runway end), and transitional surfaces will also be collected for use with the development of LEW Airspace and Inner Approach Drawings within the ALP.

The MAPPING SUBCONSULTANT will assist airport staff in creating user accounts and initiating the project through the FAA’s AGIS website and will prepare the required Statement of Work and Quality Control Plans for submissions to the AGIS for approval by the FAA and National Geodetic Survey (NGS).

As LEW has existing Primary and Secondary Airport Control Stations that were last recovered in 2007, the MAPPING SUBCONSULTANT will attempt to recover and validate these stations to serve as the basis of control. The MAPPING SUBCONSULTANT will establish photogrammetric control stations to aid in the aero-triangulation of the aerial photography. In addition to the

imagery control, crews must establish a minimum of five OPUS-derived Check Points to satisfy AGIS requirements.

The MAPPING SUBCONSULTANT will survey the runway end points and centerline profile to form the basis of the obstruction identification surfaces. The runway profile and offsets will be collected at a minimum of 50-foot spacing. The MAPPING SUBCONSULTANT will survey all navigational-aids and will provide documentation to support the attribution of airfield features for submission to AGIS (i.e., airfield sign messages, heights of fencing).

The MAPPING SUBCONSULTANT will compile base mapping that meets standards for 1' = 200' mapping for all planimetric deliverables. Contour intervals will not exceed two feet intervals. Existing LIDAR data, obtained in 2020, will be utilized for contour generation in areas obscured from view in the aerial imagery. The MAPPING SUBCONSULTANT will develop a composite orthophotograph for the airport mapping limits with a pixel size no greater than 1.0 feet.

2.2 Airport Feature Attribution and Mapping

MAPPING SUBCONSULTANT will conduct field survey to populate feature attribute fields. Field survey will include both visual inspections and Global Positioning System (GPS) survey of selected subsurface features to verify existing record plans from airport projects. CONSULTANT will obtain tax parcel and land use data for on-airport and selected off-airport property for incorporation in the mapping.

TASK 3.0 – INVENTORY

PURPOSE

To document existing airfield facilities and gather information on current and potential airport users. The airport and surrounding service area, current and potential airport users, airport facilities, aeronautical activity, land use patterns and plans, NAVAIDs, airspace and obstructions, and socioeconomic data will be documented.

METHODOLOGY

A review of existing documents relating to the airport and surrounding area will be conducted including existing airport master plan, airport layout plan and airspace plan, aeronautical surveys, applicable State Aviation System Plans, airport marketing and business plans, community plans, and recent newspaper or other media articles. Discussions will be held with airport management, local planning agencies, airport tenants, and other interested parties concerning airport activity and its relationship to the airport service area and airport needs.

Historical airport activity data will be obtained from FAA Terminal Area Forecasts (TAF), airport management counts and/or fixed base operator (FBO) counts, airport records (General Audio Recording Device (GARD), and Automatic Dependent Surveillance-Broadcast (ADS-B) as provided by LEW/FAA), and valid documentation in the form of accurate counts, reasonably documented estimates, letters from aircraft owners as to their intent to use the airport, or any combination thereof that demonstrates demand. Extensive use will be made of applicable existing data and studies where available, including a comparison to the FAA's Traffic Flow Management System Counts (TFMSC).

The results of the Inventory will be documented in Interim Report #1 for review and comment.

3.1 Airport Facilities Inventory

The CONSULTANT will collect data on airport facilities, including airside facilities, landside facilities, and property available for future aviation and non-aviation uses. The inventory shall include, but not be limited to:

- a. Documenting the general size, condition, and usage of runways, taxiways, aprons, and other airside facilities. Inventory will include airport instrumentation, approach aids, instrument approach procedures, airfield marking and lighting, safety areas, object free areas, and protection zones, as well as a review of currently approved Modifications of Standards (MOS) as provided by the FAA.
- b. Identifying and documenting the approximate size, location, and use of Airport, FAA, and tenant-owned buildings within the airport property (landside). This will include airport facilities such as the airport terminal, airfield maintenance facilities, and non-airport facilities such as FBO (Fixed Base Operator) buildings. The CONSULTANT will produce a list of tenants, a tenant/leased areas map, and a building inventory. This data will be provided in tabular format.
- c. Documenting portions of the Airport suitable for aeronautical and non-aeronautical use (highest and best use of airport land), including:
 - i. Hangar siting priorities
 - ii. The ability to accommodate student dormitories/classrooms
 - iii. Intermodal facilities on airport property
 - iv. Solar farm options
- d. One (1) site visit for two (2) staff will be conducted to verify the information, resolve outstanding questions, and schedule one (1) meeting with local pilots and users.

TASK 4.0 – ENVIRONMENTAL OVERVIEW

PURPOSE

Prepare an overview of existing environmental conditions and constraints at the Airport.

METHODOLOGY

An Inventory of Environmental Conditions and Constraints to development at the Airport will be prepared. The Inventory will consider the format and each of the environmental categories identified in FAA Orders 1050.1F, *Environmental Impacts: Policies and Procedures*, and 5050.4B, *National Environmental Policy Act (NEPA) Implementing Instructions for Airport Actions*. Recent relevant documents, including NEPA documents, previous permit applications, and other existing plans, data, and studies will be reviewed to identify known conditions at the Airport. The CONSULTANT will also review work done on past projects and will document how the past projects and their associated planning and permitting will play into the work proposed in the Master Plan. An on-site wetland delineation will be conducted as part of this task that covers the areas shown in **Attachment B** to assist with proposed facility siting.

Noise contours will be created for existing and proposed operations. CONSULTANT will create one (1) figure for a voluntary noise abatement procedure as a result of a one (1) virtual meeting with NOISE SUBCONSULTANT, LEW, and FAA.

CONSULTANT will document the Maine historical site of Airport Hill including the deed easement in place and how that might impact future aeronautical/non-aeronautical development.

CONSULTANT will document vegetation management practices and a permit history based on what is readily available and provided by the SPONSOR. Resource agencies will be contacted to identify the known presence or absence of resources under their respective jurisdictions. CONSULTANT will identify federal listings of rare plants and animals, including coordination with the U.S. Fish and Wildlife Service (USFWS), state-listed rare (threatened, endangered, or species of special concern) animals through coordination with the Maine Department of Inland Fisheries and Wildlife, and a review for state-listed rare plants and community types through the Maine Natural Areas Program.

Publicly available information on cultural resources and readily available data from previous studies will be summarized. CONSULTANT will review the 2010 Environmental Assessment to be provided by the Airport.

The results of the Environmental Overview will be documented in Interim Report #1 for review and comment.

4.1 Environmental Overview

CONSULTANT will review and document the potential environmental constraints and permitting requirements associated with each of the recommended alternatives identified in the Master

Plan. In accordance with FAA Orders 5050.4B and 1050.1F, the following resource categories will be considered. These include:

- a. Air Quality;
- b. Coastal Resources;
- c. Compatible Land Use;
- d. Construction Impacts;
- e. Department of Transportation Act, Section 4(f) parcels;
- f. Farmlands;
- g. Fish, Wildlife, and Plants;
- h. Floodplains;
- i. Hazardous Materials, Pollution Prevention, and Solid Waste;
- j. Historical, Architectural, Archeological, and Cultural Resources;
- k. Light Emissions and Visual Impacts;
- l. Natural Resources and Energy Supply;
- m. Noise;
- n. Secondary (Induced) Impacts;
- o. Socioeconomic Impacts and Environmental Justice;
- p. Environmental Health and Safety Risks;
- q. Water Quality;
- r. Wetlands; and
- s. Wild and Scenic Rivers.

Existing data will be used to the extent possible. Some elements will need only a brief narrative to document the lack of impacts. Other areas will need a more detailed discussion of impacts and potential impacts. Data gathered from Task 3 will also be used to assist in these efforts.

4.2 Airport Recycling, Reuse, and Waste Reduction

An airport recycling, reuse, and waste reduction plan, in accordance with the FAA *Memorandum for Guidance on Airport Recycling, Reuse and Waste Reduction*, dated September 30, 2014, will be completed for the Airport by the CONSULTANT. This plan will be developed using existing information and documentation relative to the airport's waste disposal and/or recycling program. The scope and detail of the plan will be governed by the extent and accuracy of the available information, but review and documentation of the following elements will be completed:

- a. Facility description and background
- b. Waste audit (existing or new)
- c. Review of recycling feasibility
- d. Operation and maintenance requirements
- e. Review of waste management contracts
- f. Potential cost savings or revenue generation

- g. Plan to minimize solid waste generation

The airport recycling, reuse, and waste reduction plan will be documented and included as an appendix to the master plan report and submitted as part of the final draft for FAA review and acceptance. One (1) site visit with two (2) CONSULTANT staff will be conducted for this task.

4.3 Existing and Proposed Noise Contours

NOISE SUBCONSULTANT will develop detailed aircraft operations data for the Master Plan noise modeling years using existing fleet mix information derived from the FAA's National Offload Program (NOP) radar flight track data and the Master Plan forecast. The forecast aircraft operations data shall consist of scaling the existing aircraft fleet to the category totals in the Master Plan forecast provided by CONSULTANT. NOISE SUBCONSULTANT will make any necessary adjustments to the future fleet mix based on the Master Plan forecast.

NOISE SUBCONSULTANT will also use the NOP radar flight track data to develop existing runway usage rates, a set of typical flight tracks, and flight track usage rates. NOISE SUBCONSULTANT will prepare a high-level noise model inputs memorandum (approximately 10 pages) for CONSULTANT and LEW review of the aircraft operations in an Existing Conditions scenario and a Forecast Year scenario. NOISE SUBCONSULTANT will revise noise model inputs as necessary, based on CONSULTANT and LEW feedback.

NOISE SUBCONSULTANT will process the noise model inputs for the latest version of the FAA's Aviation Environmental Design Tool (AEDT) for the existing and forecast noise modeling scenarios identified for the Master Plan. The same flight track distribution and runway utilization rates by aircraft type will be used for the Existing Conditions modeling and the Forecast Year scenario, except to the extent necessary to model the scenario (e.g., a runway closure).

NOISE SUBCONSULTANT will develop 60 dB, 65 dB, and 70 dB Day Night Average Sound Level (DNL) contours in AEDT for each of the noise modeling scenarios. NOISE SUBCONSULTANT will export the shapefiles and CONSULTANT will prepare GIS graphics showing the contours.

TASK 5.0 – FORECASTS OF AVIATION DEMAND

PURPOSE

To establish forecasts of aeronautical activity (passenger enplanements, air taxi operations, general aviation aircraft operations, and based aircraft) at the airport for the short-range (0-5 years), intermediate (6-10 years), and long-range (11-20 years) planning periods and to establish forecasts of runway/taxiway utilization and parking demands.

METHODOLOGY

The forecasts of aviation demand will begin with a collection of forecasting data. Data collection will include information necessary to develop the forecasting methodology and perform statistical analyses dictated by these methodologies. In addition, this data collection effort will involve gathering relevant previous forecasting efforts. Items to be collected include but are not limited to the following:

- a. Previous forecast efforts such as the current Master Plan and State Aviation System Plan
- b. Obtain FAA TAF and review national forecasts. The forecasts will be compared to the 2022 FAA TAF
- c. The FAA ADS-B/ TFMSC data should be used as a key resource for historical information and compared to the Airport's GARD data

With these data, future projections of aviation demand activity can be made. Additionally, these projections can be compared to other forecasts to determine reasonableness. Techniques to be used may include regression analysis, trend analysis, market share, and other appropriate statistical methods. Airport activity forecasts will also be evaluated in relationship to national trend forecasts prepared by the FAA.

The results of the Aviation Demand Forecasts will be documented in Interim Report #1 for review and comment. Upon the Airport's review, a preferred forecast will be selected and concurrence from FAA will be requested.

5.1 Aviation Forecasts

Aviation activity forecasts will be developed by the CONSULTANT, in part, based on relationships found to exist between the airport service area and airport activity. The following forecast elements will be included in the study:

- a. Air passengers
 - i. Annual enplanements
 - ii. Peak hour enplanements
- b. Air taxi operations
 - i. Peak month, peak hour
 - ii. Fleet mix
- c. General aviation operations
 - i. Peak month, peak hour
 - ii. Itinerant split
 - iii. Fleet mix
- d. Annual military operations
- e. Annual instrument approaches

f. Registered and based aircraft

Fundamentally, these outputs should be used as inputs to airfield facility requirement generators, noise studies, or policy guidance. Forecasts will be developed on an unconstrained basis for short, intermediate, and long-range planning timeframes. These timeframes correspond to the following years:

Short Range:	2024 – 2028
Intermediate Range:	2029 – 2033
Long Range:	2034 – 2043

Unconstrained forecasts refer to those forecasts made based on historical demand at the Airport and changes to the airport and community. Considerations such as the physical constraints posed by either landside or airside facilities, or policy-level considerations limiting this activity are not taken into account. The resulting forecasts will be considered unconstrained, even though they may be based upon historically constrained data. As mentioned previously, they will not be constrained by future physical facilities or policy considerations at this point in the study.

5.2 Forecast Scenarios

Four (4) forecast scenarios will be discussed and provided in text and tabular presentation. This data will be incorporated into a flexible and dynamic forecast approach that will permit the aviation forecasts to be updated as new data becomes available, leading to better estimates of airport facility requirements and scheduling of improvements.

5.3 Critical Aircraft

An existing and future critical aircraft will be established for the runways (runway design code) and taxiways (taxiway design group) and an airport reference code based upon the usage by this critical aircraft or group of aircraft will be determined. The critical aircraft will be defined as the most demanding aircraft, or group of aircraft, which complete at least 500 operations in a calendar year at the Airport. The critical aircraft will be identified based on the guidance identified in FAA AC 150/5000-17, *Critical Aircraft and Regular Use Determination*.

TASK 6.0 – FACILITY REQUIREMENTS

PURPOSE

To examine capacity over the planning period and determine the type and amount of airport facilities (runways, taxiways, aprons, tie-downs, storage hangars, vehicle parking, terminal area facilities, navigational and approach/landing aids, airport lighting, instrument approaches, etc.)

needed to accommodate forecast aviation demand over the next 20 years and meet current design standards.

METHODOLOGY

The capacities and requirements of runways, taxiways, aircraft parking areas, vehicle parking facilities, and GA terminal facilities will be assessed based on the demand forecasts identified in Task 5.0. Airport facility requirements for the next 20 years will be determined through a comparison of aviation demand with existing airport features and facilities.

FAA standards documented in AC 150/5300-13B, *Airport Design*, and other FAA and state regulations will also be used to determine requirements. Requirements will be presented describing those changes necessary to accommodate existing and future demand and/or improve airport features to meet current design standards.

The results of the Facility Requirements will be documented in Interim Report #2 for review and comment.

6.1 Airfield Capacity Analysis

The FAA methodology outlined in AC 150/5060-5, *Airport Capacity and Delay*, will be used to establish the Airport's Annual Service Volume (ASV), as well as VFR and IFR hourly capacities. Information such as the existing runway and taxiway configurations, historical weather data, aircraft mix, Airport instrumentation and airspace conditions will be used to derive hourly departure and arrival capacities, ASV, instrument capacities and annual delays. The aviation demand forecasts will provide the basis for comparing forecasted levels of aviation demand versus the future capacity of the airfield.

6.2 Airside Facility Requirements

Based on the anticipated aircraft fleet mix and level of operational activity, this section will determine the need for airfield improvements. Particular attention will be given to maximizing the use of the current runway system and recommendations for additional or improved approach procedures. Layout dimensions or other requirements for the existing and proposed RDC/TDG/ARC that do not meet current conditions will be identified and addressed. Airside elements examined by the CONSULTANT will include, but not necessarily be limited to, the following:

- a. Runway improvements, safety areas, object free areas, object free zones, protection zones, visibility zones, and approach areas
 - i. The runway safety area (RSA) will be assessed, and information sent to FAA to make an RSA determination. Up to two figures will be included in this element

- b. Designation of each existing runway (Primary/Crosswind/Secondary/Additional)
- c. Existing and future runway length to meet the demands of the critical design aircraft
- d. Taxiways/taxilanes and geometry standards, safety areas, object free areas, and separations/wingtip clearances
- e. Aircraft parking aprons (based and itinerant tie-down needs)
- f. Pavement conditions using MaineDOT's most current pavement conditions map and report to
- g. Reported load-bearing capacity of pavements
- h. Airport marking and lighting
- i. Instrument approaches and NAVAIDs (Navigational Aids)
- j. Airspace obstructions and a review of applicable imaginary surfaces for each runway
- k. The Airport fence line, including what physical access control system(s) may be needed in the future

6.3 Landside Facility Requirements

Based on the results of Tasks 3 and 5, requirements for landside airport facilities will be identified by the CONSULTANT. Interviews will be conducted virtually with airport management and operational personnel as part of the process to determine current procedures and potential areas of concern. Opportunities to improve airport revenue generation and sustainability will be sought and investigated for these functions as well:

- a. FBO areas and facilities
- b. Aprons, tie-downs, hangars, taxilanes
- c. Airport administrative/operations offices
- d. Aviation fuel storage and distribution
- e. Airfield maintenance facilities and snow removal equipment and storage
- f. Non-aviation use areas

6.4 Forecast Scenario Facility Requirements

The facility implications and changes to the requirements for elements 6.1 through 6.3 will be presented based on the forecast scenarios in Task 5.2. Detailed requirements will not be recalculated; however, each scenario will have facility impacts (if applicable) presented in aggregate, additive, form to the airport facility requirements based on the approved FAA forecast.

TASK 7.0 – ALTERNATIVES ANALYSIS

PURPOSE

In this task, feasible Development Alternatives having the potential to satisfy the various Airport Facility Requirements identified in Task 6.0, based on forecasts in Task 5.0, will be presented. The alternatives will be evaluated based on the criteria described below and the preferred alternative(s) identified. The preferred alternative(s) will be incorporated into an overall development plan for the Airport, which will be the basis for the final ALP.

METHODOLOGY

The alternatives will consider the airside and landside features and required support development.

Evaluation criteria for the alternatives will be guided by FAA design standards, cost-effectiveness, environmental considerations, and the degree to which the alternative in question meets the identified facility requirement. A set of standards will be established for each type of plan developed (i.e., airside, landside). To facilitate a future NEPA review of projects prior to construction, the “No Build Alternative” will also be evaluated.

The results of the Alternatives will be documented in Interim Report #2 for review and comment.

7.1 Identify Airside Alternatives

The formulation of airside alternative sketch plans and diagrams is the primary purpose of this element. From the aviation demand forecasts, the extent of improvements needed to accommodate future demand and the needs of the existing and future critical aircraft or family of aircraft will be known. Additionally, the extent of capacity enhancement required to accommodate future operations at the Airport will also be known.

Alternatives will be presented by the CONSULTANT to meet or attempt to meet both design and geometry non-standard conditions as well as obtain the maximum operational flexibility at the Airport. The airside alternative sketch plans and diagrams will permit technical and operational evaluation and will assist in formulating reasonable and logical development phasing plans. This task will identify as many as three (3) airside alternatives, including the No-Build Alternative. These alternatives will incorporate both runway and taxiway improvements, as well as NAVAID and approach improvements. One of the three (3) airside alternatives will be chosen as the preferred alternative and will determine what land will be protected for aeronautical use versus non-aeronautical purposes.

The Alternatives Chapter will review and recommend improvements to non-conforming conditions as detailed in the 2006 ALP, including the penetrations to Code of Federal Regulations (CFR) Part 77 surfaces of Christian Hill and Airport Hill. This Master Plan includes alternatives and planning-level cost estimates being submitted to rectify non-conforming conditions or to draft and submit a request for up to three (3) MOS.

7.2 Identify Landside Alternatives

Alternatives prepared to meet the landside development needs over the planning period will be evaluated by the CONSULTANT in this task. Landside Alternative sketch plans and diagrams will be prepared to identify the general location and size of potential development sites. Up to three (3) alternatives, including a No-Build Alternative, will be developed. Due to the broad nature of the potential Landside Alternatives, construction cost estimates will not be developed at the Alternatives stage but will be developed at the Recommended Plan stage if the Alternative will be planned and programmed by the Airport within the Airport Capital Improvement Plan (ACIP) timeframe. Outputs from the aviation demand forecasts and discussions with airport management and users will help determine the general size, location, and sequencing for the development of landside facilities.

7.3 Identify Airport Land Use

The purpose of this task will be to identify the aeronautical and non-aeronautical land uses that are anticipated to provide maximum compatibility and economic benefit to LEW and improve the function and efficiency of the Airport, based on the data obtained and analyses completed in previous tasks. These areas will be shown as two different colored hatches.

A review of highest and best use for three (3) proposed development areas at LEW will be completed to identify the mix and priority of land uses to be included in the final land use plan. A maximum of two (2) alternative land uses/development types will be proposed for each of the three development areas. The alternatives will include immediate possibilities related to industries already established in the area surrounding the Airport and/or those determined to be emerging markets in the region by the SPONSOR. Economic data and demographics in the subject neighborhood, also known as the sub-market, will be reviewed. In the case of LEW, the sub-market is considered to be those properties located in Androscoggin County, generally surrounding the Airport.

The final land use plan will identify potential aeronautical and non-aeronautical land uses that may be established.

7.4 Alternatives Analysis

This element begins with the set of identified alternatives, evaluates the advantages and disadvantages of each based upon a set of criteria, and then results in a consolidated

recommended development strategy for the Airport, which will be the basis for the ALP. The following criteria will be used by the CONSULTANT for the review and evaluation of each alternative:

a. Airside Alternatives:

- i. **Facility Requirements:** Does the Alternative meet the existing and future needs of the Airport and is the alternative feasible for implementation?
- ii. **Environmental Consequences:** What are the environmental consequences associated with the implementation of the alternative? To what extent does this alternative further the achievement of the Airport's environmental goals?
- iii. **FAA Standards:** Does the alternative meet the design standards of FAA AC 150/5300-13B, *Airport Design*, and CFR Part 77 Surfaces to the maximum extent feasible?
- iv. **Development Costs:** Does the alternative have reasonable development costs in comparison to other alternatives that achieve the same goal? At the alternatives stage, comparative cost estimates will be used for general comparison amongst airside alternatives.
- v. **Development Flexibility:** To what extent does this alternative leave flexibility for change and additional future surrounding development? Does this alternative allow flexibility from an operational standpoint?

b. Landside Alternatives:

- i. **Land Use Compatibility:** Is the alternative compatible with on-airport and off-airport patterns of land use? This criterion will evaluate such things as access to the airside movement areas and the local road network and the degree to which the alternative is compatible with activities occurring in surrounding on- and off-airport lands.
- ii. **Environmental Consequences:** What are the environmental consequences associated with the implementation of the alternative?
- iii. **Potential for Expansion:** Is the alternative flexible and dynamic in the sense that it can accommodate future changes in demand and unanticipated expansion? This criterion recognizes the fact that location decisions made today will influence future airport development for many years to come. Planning will consider future development needs beyond the facility requirements of the current planning period.
- iv. **Operational Efficiency:** Will this alternative contribute to the development of a smoothly functioning airport with efficient movement of aircraft? This criterion will consider whether the alternative makes the best and most efficient use of airport facilities and infrastructure.

- v. **Revenue Generation Capability:** Does the alternative take a strategic business and capital-based approach that allows or creates opportunities for airport management to increase revenue generation and/or diversify revenue sources thereby improving the overall competitiveness and cost-effectiveness of the Airport?

c. Forecast Scenario Planning Alternatives:

- i. The facility requirements based on the forecast scenarios identified in Task 5.2 will be used to promote an adaptable development plan given actual demand in the future. One planning-level concept will be created for each forecast/facility requirements pair that results in an alternative differing from that of the alternatives based on the approved forecast. These alternatives will highlight various potential scenarios and opportunities for the airport. These scenario-based alternatives will be summarized and presented as part of the alternatives analysis process and will serve as a planning resource following the completion of the Airport Master Plan Update to evaluate and accommodate future unanticipated changes at the Airport. By capitalizing on the data and analysis already conducted as part of the master planning process the need for subsequent planning efforts is greatly reduced.

It is recognized that unforeseen changes during the planning process may require the addition of other criteria or changes in the selected criteria.

7.5 Selection of the Preferred Alternative

In this task, the CONSULTANT along with input from airport management and stakeholders will select the preferred development alternative to be included in the overall recommended plan and ALP Drawing Set for the Airport. The recommended plan will be described by identifying the facilities for each functional area of the Airport, within each time frame. The recommended facilities will be described in relation to their quantity, general location, and timing of required development. The optimum configuration will be developed to accommodate the demand for air transportation in the area, considering community compatibility, environmental considerations, cost, funding, and financial feasibility. The type and location of each airport improvement will be set forth in terms of the planning activity levels identified in the aviation demand forecasts, as well as the following three time periods:

Short Range:	2024 – 2028
Intermediate Range:	2029 – 2033
Long Range:	2034 – 2043

The preferred development alternative will be the basis for phasing, cost estimating, and the financial feasibility analyses completed in the following tasks. A short video utilizing three-

dimensional renderings that shows existing conditions and the preferred alternative will be prepared to show what the final buildout of the Airport could resemble.

TASK 8.0 – FINANCIAL & IMPLEMENTATION PLAN

PURPOSE

To develop necessary components for the implementation of the preferred development plan including project phasing and order of magnitude estimates of construction costs. Utilizing this data, develop an updated ACIP and draft ALP Drawing Set for review and comment prior to finalizing the AMPU and ALP in Task 9.0.

METHODOLOGY

Projects will be phased out based on the forecast needs and timing and priorities identified by LEW and confirmed with MaineDOT and FAA. Order of magnitude cost estimates will be prepared to inform the ACIP and funding plans.

The results of the Financial & Implementation Plan will be documented in the Draft MPU for review and comment.

8.1 Project Phasing

Refinement and final development of project phasing for the preferred development alternative, as presented in Task 7.5, will be completed by the CONSULTANT. Phasing will be based on the schedule of improvements necessary to meet the anticipated demand, accommodate existing or potential development opportunities, and/or maintain the greatest amount of development flexibility within the site. The phasing plan will be developed to assign each project to a planning period (short-, intermediate-, or long-range). Each project in the short-range period will be individually described in sufficient detail to describe the nature and purpose of the project, identify potential conflicts with other projects, and identify projects that must occur to enable completion. For the intermediate- and long-range time periods, the project staging will consist of a list of required projects, but without the level of implementation detail provided in the short range.

8.2 Order of Magnitude Estimates

Cost estimates of facility requirements, based on current dollars, will be prepared for the first five-year period (0-5 years); a more generalized cost breakdown will be prepared for Year 6 through Year 10 period; and a facility breakdown with costs will be prepared for Year 11

through Year 20 period. These facility requirements could include such items as the terminal, runways, taxiways, aprons, hangars, access roads, perimeter roads, safety areas, lighting and signing, fencing, buildings and hangars, auto parking, airport maintenance, fuel facilities, among others as appropriate. Conceptual planning-level facility costs will be prepared using unit prices prorated by the size of the particular facility tempered with engineering judgment considerations. Cost estimates are intended to be used for planning purposes only and are not to be construed as formal opinions of probable construction costs.

8.3 Airport Capital Improvement Plan (ACIP)

The ACIP will be updated by the CONSULTANT based on the preferred alternative and recommended plan (Task 7), phasing plan (Task 8.1), and order of magnitude cost estimates (Task 8.2) as developed and presented in previous tasks. A listing of Airport development projects necessary to implement the phased development plan will be prepared. The phases will be organized into short-range (0-5 years), intermediate-range (6-10 years), and long-range (11-20 years) projects. For each project, order of magnitude cost estimates and funding sources will be identified. All realistically available funding sources will be considered, including federal, state, local, and private funding based on information from the Airport. The resulting ACIP will be compatible with FAA's 5-year Airport Capital Improvement Plan requirements. The ACIP will be prepared and supported by tabular data and narrative descriptions in the report.

8.4 Airport Financial Plan and CIP Funding

A financial plan will be developed for the Airport by the CONSULTANT to evaluate financial and cash flow implications associated with implementing various airside and landside alternatives considered. Further, opportunities to enhance revenue generation and/or diversify revenue sources through the implementation of the recommended plan will be documented.

A review of the most pertinent financial and operational aspects of the Airport business that will affect the pursuit of strategies outlined in the recommended plan will be completed. The overview will focus on the following:

- a. 3-Year Airport profit/loss statements (2020-2022) if available
- b. Airport Capital Improvement Plan/Program

Utilizing this information, the CONSULTANT will examine the budget, financial and operating performance, and structure of the Airport to understand potential funding limitations and impacts, as well as project future performance for the short- to intermediate-term period.

The analysis will document the ability of the airport to fund the preferred ACIP based on existing and projected financial activity and available funding sources. The financial plan will provide planning-level projections of financial performance to serve as a resource for airport

management. The plan will allow stakeholders to quickly review various recommendations and see summarized financial information.

TASK 9.0 – ALP DRAWING SET

PURPOSE

To finalize the AMPU based upon the review and comments of airport management, Cities of Auburn & Lewiston, and funding agencies.

METHODOLOGY

Based upon the results of Task 7.0 (Alternatives Analysis) and input from airport management, the FAA, and MaineDOT, a draft ALP Drawing Set, and associated narrative will be prepared by the CONSULTANT. The Draft Narrative Plan and ALP Drawing Set will be prepared in accordance with FAA requirements and will use the ARP Standard Procedure for FAA Review and Approval of Airport Layout Plans SOP 2.0 Checklist (**Attachment C**). A brief explanation of each of the drawings comprising the ALP Drawing Set follows.

- 9.1. Title Sheet
- 9.2. Existing Airport Layout
- 9.3. Airport Layout Plan
- 9.4. Airport Data Tables
- 9.5. Terminal Area Plan
- 9.6. Airport Airspace Plan
- 9.7. Inner Portion of the Approach Surface Drawings
- 9.8. Runway Departure Surface Drawings
- 9.9. Airport Land Use Plan
- 9.10. Exhibit “A” Property Map

9.1 Title Sheet

The CONSULTANT will prepare a Title Sheet in accordance with the ARP *Standard Procedure for FAA Review and Approval of Airport Layout Plans (ALPs)*, SOP 2.0 Checklist.

9.2 Existing Airport Layout Plan

The CONSULTANT will prepare a Drawing depicting the current airport layout in accordance with the ARP *Standard Procedure for FAA Review and Approval of Airport Layout Plans (ALPs)*, SOP 2.0 Checklist.

9.3 Airport Layout Plan

The CONSULTANT will prepare an Airport Layout Plan in accordance with industry and FAA guidelines. The drawings will depict those features as indicated on the attached *ARP Standard Procedure for FAA Review and Approval of Airport Layout Plans (ALPs)*, SOP 2.0 Checklist.

9.4 Airport Data Tables

The CONSULTANT will prepare an Airport Data Tables Sheet (if needed) in accordance with the *ARP Standard Procedure for FAA Review and Approval of Airport Layout Plans (ALPs)*, SOP 2.0 Checklist.

9.5 Terminal Area Plan

The CONSULTANT will prepare a Terminal Area Plan indicating existing and recommended future uses and development for the passenger terminal, general aviation areas, tenant areas, ground vehicle access, and vehicle and aircraft parking. The drawing will include those features as indicated on the *ARP Standard Procedure for FAA Review and Approval of Airport Layout Plans (ALPs)*, SOP 2.0 Checklist.

9.6 Airport Airspace Plan

The CONSULTANT will prepare an Airport Airspace Plan for existing and ultimate CFR Part 77 imaginary surfaces, including approach slopes and any height or slope protection established by local zoning ordinance (if applicable). The drawing will include those features as indicated on the *ARP Standard Procedure for FAA Review and Approval of Airport Layout Plans (ALPs)*, SOP 2.0 Checklist.

9.7 Inner Portion of the Approach Surface Drawings

The CONSULTANT will prepare an Inner Approach Surface and Runway Protection Zone Control including plan and profile sections of the ultimate runway protection zones and inner approach surface areas showing the controlling obstructions therein, associated top elevations, and proposed disposition. The drawing(s) will include those features as indicated on the attached *ARP Standard Procedure for FAA Review and Approval of Airport Layout Plans (ALPs)*, SOP 2.0 Checklist, such as the Threshold Siting Surface, and CFR Part 77 Surfaces.

9.8 Runway Departure Surface Drawings

The CONSULTANT will prepare the Runway Departure Surface Drawing including a 40:1 Surface Drawing for the applicable instrument departure to four (4) departure runway ends. The CONSULTANT will give special emphasis to the identification of any obstructions that penetrate

the 40:1 departure surface by more the 35 feet. The AMPU will provide recommendations for obstruction removal based on the findings from these drawings.

9.9 Airport Land Use Plan

The Airport Land Use Plan will be prepared by the CONSULTANT and will indicate specific airport uses and show off-airport compatible and non-compatible land uses as well as aeronautical and non-aeronautical on-airport land uses. The drawing will include those features indicated on the *ARP Standard Procedure for FAA Review and Approval of Airport Layout Plans (ALPs)*, SOP 2.0 Checklist.

9.10 Exhibit “A” Property Map

In addition to the development of the ALP Drawings noted above, CONSULTANT will do a pen-and-ink update to the 2016 Exhibit “A” Property Map. No boundary survey is included in this contract.

SPONSOR will provide all relevant information including previous boundary survey, documentation of all lands acquired through fee or easement, documentation of all lands released in the history of the airport, and metes and bounds survey results previously conducted.

TASK 10.0 – DELIVERABLES

PURPOSE

To define the project deliverables.

METHODOLOGY

The AMPU and ALP Drawing Set will be finalized based on comments on Interim Reports, input received from the Technical Advisory Committee (TAC) and public meetings, and in coordination with airport management. The resulting Final Report and ALP Drawing Set will be submitted to the Airport, MaineDOT, and the FAA for approval and signature. The following deliverables will be made available at specific milestones throughout the project:

10.1 Interim and Draft Reports

Electronic copies in Portable Data Format (PDF) for each of the Interim Reports and the Draft AMPU Report will be prepared by the CONSULTANT. No printed copies will be provided. These reports are anticipated to be delivered based on the following project milestones:

- a. Interim Report #1 – Upon completion of Task 5.0

- b. Interim Report #2 – Upon completion of Task 7.0
- c. Draft AMPU Report – Upon completion of Task 9.0

The Interim Reports and Draft AMPU Report will consist of a written report summarizing the findings of each subsequent task in tabular and text format. One (1) round of comments is anticipated based on LEW, MaineDOT, and FAA review.

10.2 Final Report

The Final Report will consolidate supporting documentation and findings developed throughout the course of the study process. The Final Report will be prepared by the CONSULTANT in an 11" x 17" landscape format. The Final Report will incorporate appropriate graphics and be printed and bound as requested by airport management. The Final Report will be submitted to airport management and FAA. The ALP Drawing Set will be prepared on compatible electronic media for use in preparing reports, exhibits, and presentation materials. An electronic copy of the Final Report in Microsoft Word and PDF format and an electronic copy of the ALP Drawing Set in AutoCAD format (or fully compatible format) and PDF format will be provided to the Airport and FAA. Full-size reproducible drawings of the Final ALP Drawing Set will be submitted to FAA for approval and signature.

A total of five (5) printed copies of the Final AMPU Report and ALP Sheet Sets for the Airport, and one (1) printed copy of the Final AMPU Report and ALP Sheet Sets for MaineDOT will be prepared by the CONSULTANT. The CONSULTANT will also prepare electronic copies in PDF format for transmittal via web-based file sharing.

TASK 11.0 – PUBLIC PARTICIPATION AND MEETINGS

PURPOSE

This task will establish a communications framework for the Technical Advisory Committee (TAC), airport tenants, the general public, airport staff, and the CONSULTANT team throughout the master plan process. To allow for technical review of interim and draft documents, solicit comments and input on study progress and engage the public through participation in the planning process.

METHODOLOGY

The Public Participation and Coordination process will consist of three elements: 1) TAC Meetings, 2.) Public Information Meetings and 3) FAA coordination. Although identified as a discrete task, these elements will occur at key times throughout the project.

Stakeholder outreach and input are important parts of enhancing the master planning process. FAA's AC 150/5070-6B, *Airport Master Plans*, and FAA AC 150/5050-4, *Citizen Participation in Airport Planning*, provide guidance for effective techniques to engage the public and other airport stakeholders in the planning process. Development of a Public Involvement Program will begin at the earliest stages of the master planning process to identify stakeholders and key issues, and will include the following features:

- a. TAC meetings
- b. Public information meetings
- c. FAA coordination meeting

Each meeting in the subsequent sections includes travel time, meeting the SPONSOR one (1) hour before the meeting for on-site setup and pre-meeting, meeting preparation (slides, boards, potential handouts), one (1) round of presentation and boards review and revision per meeting, debrief with the SPONSOR after each meeting, meeting notes preparation, and one (1) round of revisions to meeting notes per meeting.

11.1 TAC Meetings

The use of focused committees has been an effective tool to engage the public and stakeholders during the master plan process and to solicit feedback during key points in the study. The TAC made up of different Airport tenants, general aviation users, and City officials can provide the necessary feedback for on-Airport issues under consideration.

Meetings with key stakeholders, which are envisioned to include members of airport management, tenants, and users along with Airport staff, will be held throughout the project and will be attended by two (2) staff members of the CONSULTANT and selected subconsultants (if any). These meetings will be used to share ideas, discuss schedules, present interim reports, and develop solutions to any challenges that present themselves during the project. It is anticipated that the following such in-person (where possible) meetings will occur throughout the course of the project:

- a. TAC Meeting #1/Public Meeting #1 – this will be a joint meeting open to the public
- b. TAC Meeting #2

Additional meetings required will be conducted via conference call.

11.2 Public Information Meetings

Two (2) Public Information Meetings will be held during the course of the planning process to provide information in a presentation style followed by an open house and to solicit comments from the general public. The first will be a joint meeting open to the public that will serve as

both TAC 1 and a public meeting. This meeting will take place when the Forecasts (Task 5.0) are substantially complete.

The second public meeting will be a presentation followed by an open house after the completion of Task 8.0. The workshop will be held in an informal open-house format late in the afternoon/early evening for a typical period of two (2) hours at facilities in the vicinity of the airport. This meeting will be held on the same day as the second TAC meeting.

Representatives of SPONSOR and CONSULTANT will staff (up to two (2) people per meeting which may include subconsultants) the workshop sessions during the entire period to talk individually with citizens about the project. The CONSULTANT will prepare workshop handout materials and furnish board-mounted graphics (maps, charts, etc.) to be on display so that citizens can become familiar with the project and issues relative to the AMPU. Citizen comment forms will be prepared and distributed at the workshop. The CONSULTANT will prepare advertisements for the meetings and coordinate the timely publication of advertising for the SPONSOR to provide community notifications at least two weeks prior to the meeting. The airport shall be responsible for providing space for the Public Information Meetings. The two public meetings will be the only forum for citizens and nearby landowners as it relates to the master plan process. Any additional landowner/neighborhood coordination and consultation will result in a modified scope.

The content of the in-person (where possible) public meetings will be generally summarized as:

- a. Public Meeting #1 - Master Plan Process, Inventory, Forecast, Environmental Overview, and Facility Requirements
- b. Public Meeting #2 - Alternatives Analysis, Recommended Plan, and Implementation

11.3 FAA Coordination Meeting

During the course of the project, there will be one (1) virtual coordination meeting with representatives from the FAA New England Region Airports Division Office. The SPONSOR and CONSULTANT will attend the meeting. The goal of this meeting will be to achieve concurrence on recommended development with FAA regional planning and engineering staff. It is anticipated that this meeting will be virtual and up to one (1) hour long, attended by up to two (2) CONSULTANT staff.

11.4 Auburn-Lewiston Airport Board of Directors Meetings

It is anticipated CONSULTANT will attend up to two (2) meetings to present to the Auburn-Lewiston Airport Board of Directors. These meetings may be attended in person with up to two (2) CONSULTANT staff.

TASK 12.0 – DBE Plan Update

PURPOSE

DBE Plans will be completed for LEW, to comply with 14 CFR Part 23 and Part 26, *Participation by Disadvantaged Business Enterprises in Department of Transportation Financial Assistance programs*, as related to ongoing FAA AIP projects, by CONSULTANT.

METHODOLOGY

12.1 Plan Updates - 2024-2026 DBE Plan

This task will involve reviewing and updating the following items relevant to the DBE Plan:

- a. Obtain current Airport Capital Improvement Plan (ACIP) to ascertain upcoming projects and determine project activity required.
- b. Breakdown projects into logical work units so that the potential for involvement by DBE's can be determined. Assign area of service for each type of work to be included in ACIP projects.
- c. Determine list of NAICS codes to be used.
- d. Review MaineDOT Civil Rights Office D/WBE Directory of Businesses to determine the number of "ready, willing and able" DBE firms in the service area.
- e. Review Census Bureau Database to obtain number of "ready, willing and able" firms in the service area.
- f. Calculate DBE goals for projects as well as overall goals.
- g. Review any disparity studies found and adjust project goals.
- h. Publish the Draft DBE plan.
- i. Revise consultation summary and submit final DBE plan to FAA.

12.2 DBE Yearly Adjustments 2024 - 2026

- a. Assist Airport in keeping running totals of DBE accomplishments periodically throughout the year.
- b. If DBE participation is trending lower than the goal, recommend changes in project goals or a switch from race-neutral to race conscious, or both.

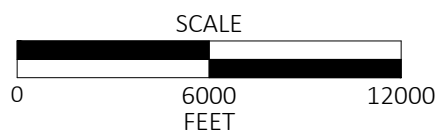
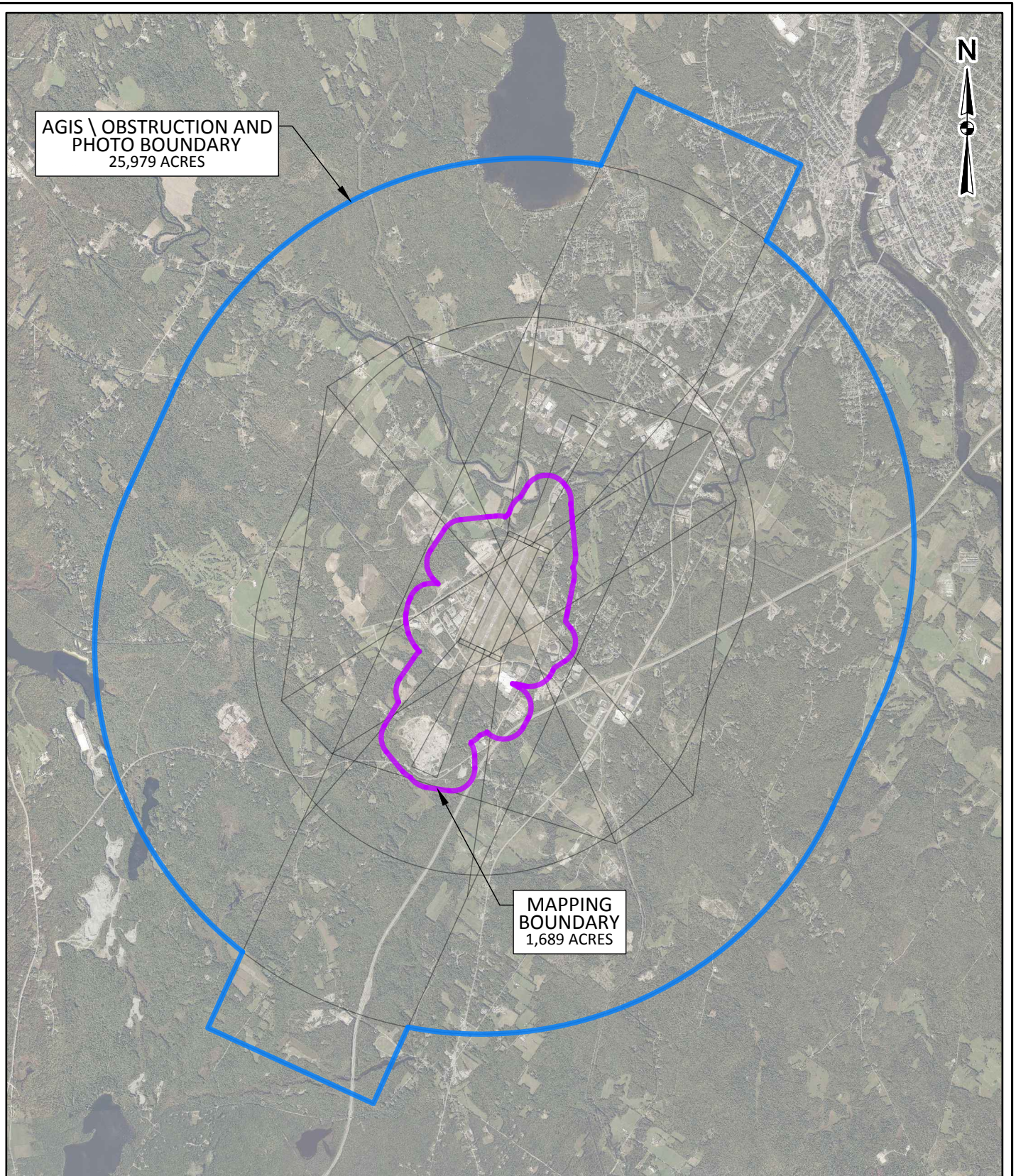
This task will end with the end of federal Fiscal Year 2026.

12.3 Uniform Reports for participation (FAA DOORS Submission)

- a. The report for the DBE program compiles information from the previous Fiscal Year and is submitted on a yearly basis, by December 1st. The preparation and

submission of the Uniform Reports for DBE for fiscal years 2024, 2025, and 2026 are included in this agreement.

CONSULTANT will not attend regular DBE/ACDBE meetings.

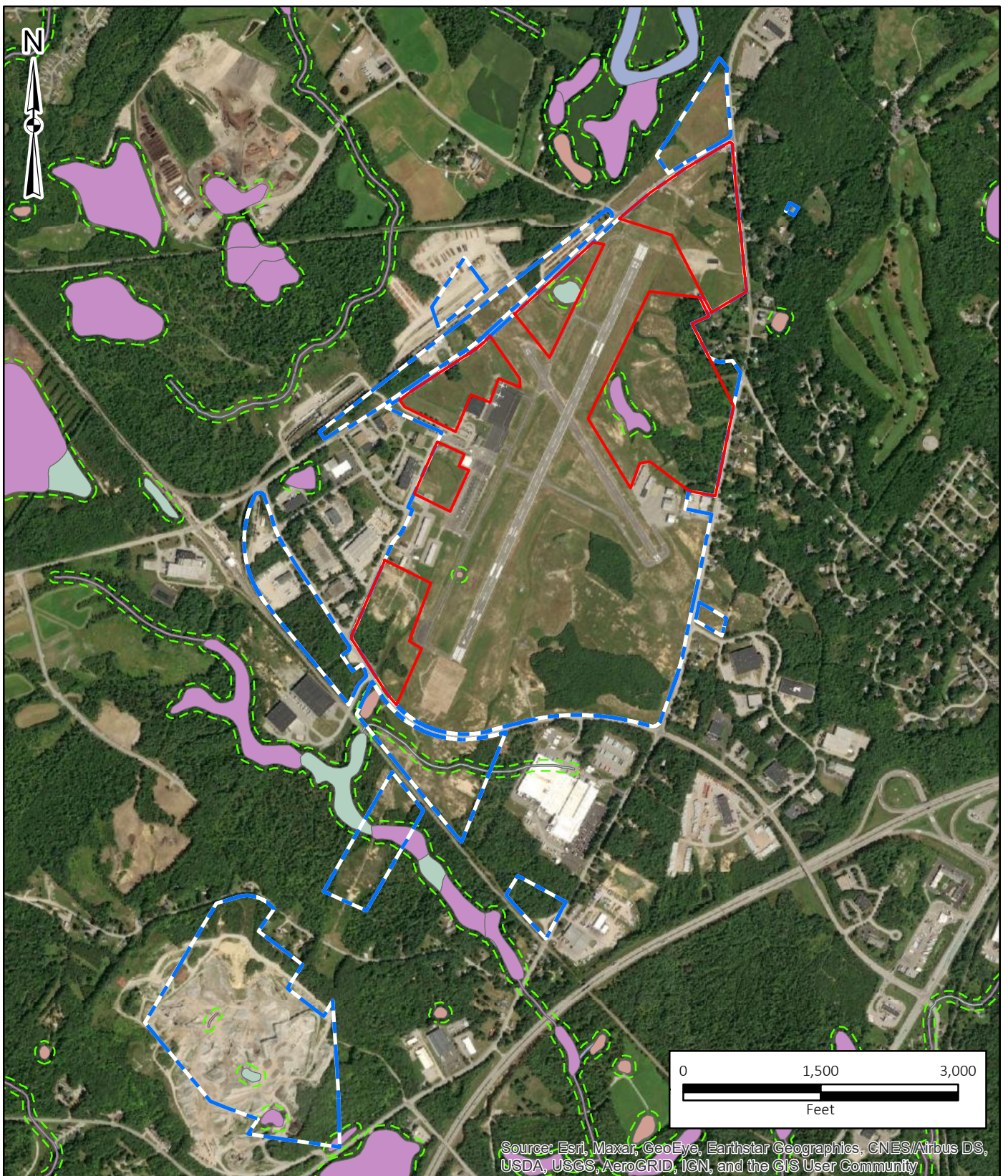


AUBURN-LEWISTON MUNICIPAL AIRPORT
ANDROSCOGGIN COUNTY, MAINE

MAPPING FIGURE

SCALE: 1" = 6,000'	DATE: JANUARY 2023	FIGURE: 1
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Legend

 	Wetland Delineation Area	NWI Wetlands
 	AirportBoundary230220	 Freshwater Emergent Wetland
 	50 FT Wetland Buffer	 Freshwater Forested/Shrub Wetland
		 Freshwater Pond
		 Riverine

AUBURN-LEWISTON MUNICIPAL AIRPORT

ANDROSCOGGIN COUNTY, MAINE

NWI WETLANDS






SCALE :
1" = 1,500'






DATE :
FEBRUARY 2023






FIGURE :
2









A.3. Airport Data Sheet

- For smaller airports, some of the ALP sheets may be combined if practical and approved FAA.








Airport Data Sheet					
Item	Instructions	Sponsor/Consultant			FAA
		Yes	No	N/A	
A. Title and Revision Blocks	Each drawing in the Airport Layout Plan drawing set shall have a Title and Revision Block. For drawings that have been updated, e.g., as-builts, the revision block should show the current revision number and date of revision.				
B. Wind Rose (all weather and IFR) with appropriate airport reference code and runway orientation depicted, crosswind coverage, and combined coverage, source of wind information and time period covered (for IFR runways applicable minimums should be included):	Assembly and analysis of wind data to determine ultimate runway orientation and also provides the operational impact of winds on existing runways. If instrument procedures are present or will be requested then both all-weather and instrument meteorological condition wind roses are required. See AC 150/5300-13A, Appendix 2.				
1. 10.5, 13, 16, 20 knots wind rose (based on appropriate airport reference code)	When a runway orientation provides less than 95 percent wind coverage for any aircraft forecasted to use the airport on a regular basis, a crosswind runway is recommended. The 95 percent wind coverage is computed on the basis of the crosswind not exceeding 10.5 knots for Airport Reference Codes A-I and B-I, 13 knots for Airport Reference Codes A-II and B-II, 16 knots for Airport Reference Codes A-III, B-III, and C-I through D-III, and 20 knots for Airport Reference Codes A-IV through D-VI. See also AC 150/5300-13A, Paragraph 302(c)(3) and AC 150/5300-13A, Appendix 2.				
2. Percentage of wind coverage/crosswind					
3. Source of data	Wind data may be obtained from NOAA at http://www.ncdc.noaa.gov/ Reference AC 150/5300-13A, Appendix 2, Paragraph A2-5 and A2-6.				








Airport Data Sheet					
Item	Instructions	Sponsor/Consultant			FAA
		Yes	No	N/A	
4. Age of data (last 10 consecutive years of data with most current data no older than 10 years)	Data must be from the latest 10-year period from the reporting station closest to the airport. Reference AC 150/5300-13A, Appendix 2, Paragraph A2-5.				
C. Airport Data Table					
1. ARC for Airport	List the Airport Reference Code (ARC) for airport. 5300-13AARC is an airport designation that signifies the airport's highest Runway Design Code (RDC), minus the third (visibility) component of the RDC. Reference AC 150/5300-13A.				
2. Mean maximum temperature of hottest month	List the mean maximum temperature and the hottest month for the airport location as listed in "Monthly Station Normals of Temperature, Precipitation, and Heating and Cooling Degree-Days" (Climatology of the United States No. 81). See AC 150/5325-4, 506.b.				
3. Airport elevation (highest point of the landing areas, nearest 0.1 foot) – using North American Vertical Datum of 1988 (NAVD88)	List the Airport Elevation, the highest point on an airport's usable runway expressed in feet above mean sea level (MSL). Use NAVD88. Reference AC 150/5300-13A, Paragraph 102(g) All elevations shall be in NAVD88. A note shall be put on the Airport Layout Drawing that denotes that the NAVD88 vertical control datum was used.				
4. Airport Navigational Aids, including ownership (NDB, TVOR, ASR, Beacon, etc.)	List the electronic aids available at the airport.				






Airport Data Sheet					
Item	Instructions	Sponsor/Consultant			FAA
		Yes	No	N/A	
5. Airport reference point coordinates, nearest second (existing, future if appropriate, and ultimate) - NAD83	<p>List the Airport Reference Point, the latitude and longitude of the approximate center of the airport. Use the North American Datum of 1983 (NAD83) coordinate system. See AC 150/5300-13A, Paragraph 207.</p> <p>All latitude/longitude coordinates shall be in NAD83. A note shall be put on the Airport Layout Drawing that denotes that the NAD83 coordinate system was used.</p>				
6. Miscellaneous facilities (taxiway lighting, lighted wind cone(s), AWOS, etc.) [Including type/model and any facility critical areas]	List any other facilities available at the airport.				
7. Airport Reference Code and Critical Aircraft (existing & future)	List the existing and ultimate Airport Reference Code and Critical Aircraft, the most demanding aircraft identified in the forecast that will use the airport. Federally funded projects require that critical design airplanes have at least 500 or more annual itinerant operations at the airport (landings and takeoffs are considered as separate operations) for an individual airplane or a family grouping of airplanes. See AC 150/5325-4, 102.a.(8) and AC 150/5070-6, 702.a. Indicated dimensions for wingspan and undercarriage, along with approach speed.				
8. Airport magnetic variation, date and source	Magnetic declination may be calculated at http://www.ngdc.noaa.gov/geomag-web/#declination . This model is using the latest World Magnetic Model which has an Epoch Year of 2010. See FAA Order 8260.19, "Flight Procedures and Airspace." Chapter 2, Section 5, for further information.				
9. NPIAS service level (GA, RL, P, CS, etc.)	See FAA Order 5090.3C.				





Airport Data Sheet					
Item	Instructions	Sponsor/Consultant			FAA
		Yes	No	N/A	
10. State equivalent service role	As applicable pursuant to State Aviation Department System Plan.				
D. Runway Data Table	The Runway Data Table should show information for both existing and ultimate runways.				
1. Runway identification (Include identifying runways that are "utility")	A column for each runway end should be present. List the runway end number and if pavement strength is less than 12,500 pounds (single-wheel), then note as utility.				
2. Runway Design Code (RDC)	5300-13A The first component, depicted by a letter, is the AAC and relates to aircraft approach speed (operational characteristics). The second component, depicted by a Roman numeral, is the ADG and relates to either the aircraft wingspan or tail height (physical characteristics); whichever is more restrictive. The third component relates to the visibility minimums expressed by RVR values in feet of 1200, 1600, 2400, and 4000. List the RDC for each runway. See AC 150/5300-13A, Paragraph 105(c).				
3. Runway Reference Code (RRC)	The RRC describes the current operational capabilities of a runway where no special operating procedures are necessary. Like the RDC, it is composed of three components: AAC, ADG, and visibility minimums. List the RRC for each Runway. See AC 150/5300-13A, Paragraph 318.				
4. Pavement Strength & Material Type	Indicate the runway surface material type, e.g., turf, asphalt, concrete, water, etc.				
a. Strength by wheel loading	List the existing and ultimate design strength of the landing surface. See AC 150/5320-6, Chapter 3.				
b. Strength by PCN	See AC 150/5335-5.				



Airport Data Sheet					
Item	Instructions	Sponsor/Consultant			FAA
		Yes	No	N/A	
c. Surface treatment	Note any surface treatment: grooved, PFC, etc.				
5. Effective Runway Gradient (%) Author to note maximum grade within runway length. Note to included statement that the runway meets line of sight requirements	List the maximum longitudinal grade of each runway centerline. See AC 150/5300-13A, Paragraph 313.				
6. Percent (%) Wind Coverage (each runway)	List the percent wind coverage for each runway for each Aircraft Approach Category. See AC 150/5300-13A, Appendix 2.				
7. Runway dimensions (length and width)	Dimensions determined for the Critical Design Aircraft by using graphical information in AC 150/5325-4.				
8. Displaced Threshold	Provide the pavement elevation of the runway pavement at any displaced threshold. See AC 150/5300-13A, Paragraph 303(2).				
9. Runway safety area dimensions (actual existing and design standard)	List the existing and ultimate dimensions of the Runway Safety Area (RSA). See AC 150/5300-13A, Paragraph 307.				
10. Runway end coordinates (NAD83) (include displaced threshold coordinates, if applicable) to the nearest 0.01 second and 0.1 foot of elevation.	Show the latitude and longitude of the threshold center and end of pavement (if different) to the nearest .01 of a second and 0.1 foot of elevation.				
11. Runway lighting type (LIRL, MIRL, HIRL)	List the existing and ultimate type of runway lighting system for each runway, e.g., Reflectors, Low Intensity Runway Lighting (LIRL), Medium Intensity Runway Lighting (MIRL), or High Intensity Runway Lighting (HIRL). LIRLs will typically not be shown for new systems. See AC 150/5340-30, Ch. 2.				

Airport Data Sheet					
Item	Instructions	Sponsor/Consultant			FAA
		Yes	No	N/A	
12. Runway Protection Zone (RPZ) Dimensions	List the existing and ultimate Runway Protection Zone (RPZ) dimensions. See AC 150/5300-13A, Paragraph 310. Prior to including new or modified land use in the RPZ, the Regional and ADO staff must consult with the National Airport Planning and Environmental Division, APP-400. This policy is exempt from existing land uses in the RPZ. See AC 150/5300-13A, Paragraph 310 and FAA memorandum dated September 27, 2012.				
13. Runway marking type (visual or basic, non-precision, precision)	Indicate the existing and ultimate pavement markings for each runway. See AC 150/5340-1, Section 2.				
14. 14 CFR Part 77 approach category (50:1; 34:1; 20:1) Existing and Future	List the existing and ultimate approach surface slope. See FAA Order 7400.2, Figures 6-6-3 and 6-3-9.				
15. Approach Type (precision, non-precision, visual)	List the existing and ultimate Part 77 Approach Use Types. See FAA Order 7400.2, Figures 6-6-3 and 6-3-9.				
16. Visibility minimums (existing and future)	List the existing and ultimate visibility minimums for each runway. See AC 150/5300-13A, Table 1-3.				
17. Type of Aeronautical Survey Required for Approach (Vertically Guided, not Vert. Guided)	List the type of aeronautical survey required for the visibility minimums given. See AC 150/5300-18, Section 2.7 and AC 150/5300-13A, Table 3-4 and Table 3-5.				
18. Runway Departure Surface (Yes or N/A)"	Determine applicability of 40:1 Departure Obstacle Clearance Surface (OCS) as defined in Paragraph 303(c) of AC 150/5300-13A.				

Airport Data Sheet					
Item	Instructions	Sponsor/Consultant			FAA
		Yes	No	N/A	
19. Runway Object Free Area	List the existing and ultimate dimensions of the Runway Object Free Area (OFA). See AC 150/5300-13A, Paragraph 309. Objects non-essential for air navigation or aircraft ground maneuvering purposes must not be placed in the ROFA, unless a modification to standard has been approved.				
20. Obstacle Free Zone	The OFZ clearing standard precludes aircraft and other object penetrations, except for frangible NAVAIDs that need to be located in the OFZ because of their function. Modification to standards does not apply to the OFZ. List the Runway OFZ, Inner-approach OFZ, Inner-transitional OFZ, and Precision OFZ if applicable.				
21. Threshold siting surface (TSS)	List the existing and ultimate threshold siting surface (i.e. approach and departure surfaces). Identify any objects penetrating the surface. If none, state "No TSS Penetrations". Reference AC 150/5300-13A, Paragraph 303.				
22. Visual and instrument NAVAIDs (Localizer, GS, PAPI, etc.)	List the existing and ultimate visual navigational aids serving each runway.				
23. Touchdown Zone Elevation	List the highest runway centerline elevation in the existing and ultimate first 3000 feet from landing threshold. See FAA Order 8260.3, Appendix 1.				
23. Taxiway and Taxilane width	List the existing and ultimate width of the taxiways and taxilane. Reference AC 150/5300-13A, Paragraph 403 and Table 4-2.				
24. Taxiway and Taxilane Safety Area dimensions	List the existing and ultimate taxiway and taxilane safety area dimensions. Reference AC 150/5300-13A, Paragraph 404(c) and Table 4-1.				







Airport Data Sheet					
Item	Instructions	Sponsor/Consultant			FAA
		Yes	No	N/A	
25. Taxiway and Taxilane Object Free Area	List the existing and ultimate taxiway and taxilane object free area dimensions. Reference AC 150/5300-13A, Paragraph 404(b) and Table 4-1.				
26. Taxiway and Taxilane Separation	List any objects located inside the Taxiway/Taxilane Safety Area and Taxiway/Taxilane Object Free Area. Also provide the distance from the taxiway/taxilane centerline to the fixed or movable object. Reference Paragraph 404(a) and Table 4-1.				
27. Taxiway/Taxilane lighting	List the existing and ultimate type of taxiway lighting system, e.g., Reflectors, Low Intensity Taxiway Lighting (LITL), Medium Intensity Taxiway Lighting (MITL), or High Intensity Taxiway Lighting (HITL). LITLs will typically not be shown for new systems. See AC 150/5340-30, Chapter 4.				
28. Identify the vertical and horizontal datum	<p>All latitude/longitude coordinates shall be in North American Datum of 1983 (NAD 83). A note shall be put on the Airport Layout Drawing that denotes that the NAD 83 coordinate system was used.</p> <p>All elevations shall be NAVD88. A note shall be put on the Airport Layout Drawing that denotes that the NAVD88 vertical control datum was used.</p>				
E. Modification to Standards Approval Table (if applicable, a separate written request, including justification, should accompany the modification to standards). Show: Approval Date/ Airspace Case No. / Standard to be Modified / Description	<p>Provide a table to list all FAA approved Modifications to Standards. See AC 150/5300-13A, Paragraph 106(b), and FAA Order 5300.1.</p> <p>List "None Required" on the table if no Modifications have yet been proposed or approved.</p>				








Airport Data Sheet					
Item	Instructions	Sponsor/Consultant			FAA
		Yes	No	N/A	
F. Declared Distances Table	Required even if Declared Distances are not in effect. Declared distances are only to be used for runways with turbine-powered aircraft. The TORA, TODA, ASDA, and LDA will be equal to the runway length in cases where a runway does not have displaced thresholds, stopways, or clearways, and have standard RSAs, ROFAs, RPZs, and TSS. Reference AC 150/5300-13A, Paragraph 323.				
1. Take Off Run Available (TORA)	List the runway length declared available and suitable for the ground run of an airplane taking off, i.e., Take Off Run Available (TORA). The TORA may be reduced such that it ends prior to the runway to resolve incompatible land uses in the departure RPZ, and/or to mitigate environmental effects. Reference AC 150/5300-13A, Paragraph 323(d)(1).				
2. Take Off Distance Available (TODA)	List the length of remaining runway or clearway (CWY) beyond the far end of the TORA ADDED TO the TORA. The resulting sum is the Take Off Distance Available (TODA) for the runway. The TODA may be reduced to mitigate penetrations to the 40:1 instrument departure surface, if applicable. The TODA may also extend beyond the runway end through the use of a clearway Reference AC 150/5300-13A, Paragraph 323(d)(2).				
3. Accelerate Stop Distance Available (ASDA)	5300-13A List the length the length of runway plus stopway (if any) declared available and suitable for satisfying accelerate-stop distance requirements for a rejected takeoff. Additional RSA and ROFA can be obtained by reducing the ASDA. Reference AC 150/5300-13A, Paragraph 323(d)(3).				





Airport Data Sheet					
Item	Instructions	Sponsor/Consultant			FAA
		Yes	No	N/A	
4. Landing Distance Available (LDA)	5300-13A List the length of runway declared available and suitable for satisfying landing distance requirements. The LDA may be reduced to satisfy the approach RPZ, RSA, and ROFA requirements. Reference AC 150/5300-13A, Paragraph 323(e).				
G. Legend	Provide a Legend that identifies all symbols and line types used on the drawing. Lines must be clear and readable with sufficient scale and quality to discern details.				
Remarks					








A.4. Airport Layout Plan Drawing









- For smaller airports, some of the ALP sheets may be combined if practical and approved by FAA.
- Two, or more, sheets may be necessary for clarity, existing and proposed. The reviewer should be able to differentiate between existing, future, and ultimate development. If clarity is an issue, some features of this drawing may be placed in tabular format. North should be pointed towards the top of the page or to the left. (scale 1"=200' to 1"=600')

Airport Layout Plan Drawing					
Item	Instructions	Sponsor/Consultant			FAA
		Yes	No	N/A	
A. Title and Revision Blocks	Each drawing in the Airport Layout Plan drawing set shall have a Title and Revision Block. For drawings that have been updated, e.g., as-builts, the revision block should show the current revision number and date of revision.				
B. Space for the FAA approval stamp	Leave a blank four-inch by four-inch area for the FAA approval stamp.				
C. Layout of existing and proposed facilities and features:	To assure full consideration of future airport development in 14 CFR Part 77 studies, airport owners must have their plans on file with the FAA. The necessary plan data includes, as a minimum, planned runway end coordinates, elevation, and type of approach for any new runway or runway extension. See AC 150/5300-13A, Paragraph 106.				
1. True and magnetic North arrow with year of magnetic declination	Magnetic declination may be calculated at http://www.ngdc.noaa.gov/geomag-web/#declination . This model is using the latest World Magnetic Model which has an Epoch Year of 2010. See FAA Order 8260.19, "Flight Procedures and Airspace." Chapter 2, Section 5, for further information.				
2. Airport reference point – locate by symbol a Lat./Long. To nearest second (existing, future, and ultimate) NAD 83	List the Airport Reference Point, the latitude and longitude of the approximate center of the airport. Use the NAD 83 coordinate system. See AC 150/5300-13A, Paragraph 207.				
3. Wind cones, segmented circle, beacon, AWOS, etc.	Show as applicable pursuant to AC 150/5300-13A, Chapter 6.				

Airport Layout Plan Drawing					
Item	Instructions	Sponsor/Consultant			FAA
		Yes	No	N/A	
4. Contours (showing only significant terrain differences)	Topography, budget, and future uses of the base mapping, will dictate what intervals of topographical contours to use on the maps. Topographic issues may be important in the alternatives analysis, which may require that reduced contour intervals be used. See AC 150/5070-6, 1005.				
5. Elevations: All NAVD88	All latitude/longitude coordinates shall be in NAD83/NAVD88.				
a. Runway – existing, future, and ultimate ends (nearest 0.1 ft.)	Show the latitude and longitude of the threshold center and end of pavement.				
b. Touchdown Zone Elevation (highest point in first 3,000 ft. of runway)	List the highest runway centerline elevation in the existing and ultimate first 3000 feet from landing threshold. See FAA Order 8260.3, Appendix 1.				
c. Runway high/low points (existing and future)	For all runways identify high and low points (centerline) and provide elevation information.				
d. Label runway/runway intersection elevations	Label the pavement elevation of runway intersections where the centerlines cross.				
e. Displaced Thresholds (if any)	Label the pavement elevation and coordinates of the runway pavement at any displaced threshold. See AC 150/5300-13A, Paragraph 303(a)(2).				
f. Roadways & Railroads (where they intersect Approach surfaces, the extended runway centerline, and at the most critical points)	Provide elevation information for the traverse ways' centerline elevation where they intersect the Part 77 Approach surfaces (existing and ultimate). Note whether this elevation is the actual elevation or the traverseway elevation plus the traverseway adjustment (23' for railways, 17' for interstate highways, 15' for other public roads, or 10' for private roads). See also 14 CFR Part 77.				







Airport Layout Plan Drawing					
Item	Instructions	Sponsor/Consultant			FAA
		Yes	No	N/A	
g. Structures, Buildings, and Facilities	All buildings on the Airport Layout Drawing should be identified by an alphanumeric character. List these identifiers in a table and give a description of the building. If no Terminal Area drawing is done, also include the top of structure elevation in MSL. If any of the structures violate any airport or approach surfaces give an ultimate disposition to remedy the violation. Don't forget navigation aid shelters, AWOS/ASOS, RVRs, PAPIs, Fueling systems, REILs, etc. Also identify the structure use (hangar, FBO, crew quarters, etc.), as needed. Some lesser objects may be identified by symbols in the legend.				
h. Define features to include: trees streams, water bodies, etc.	Provide information and delineate trees, streams, water bodies, etc., on or near airport property and approach surfaces.				
6. Runway Details					
a. Runway Design – runway length, runway width, shoulder width, blast pad width, blast pad length, and cross wind component. (existing, future, and ultimate)	AC 150/5325-4 describes procedures for establishing the appropriate runway length. AC 150/5300-13A, Table 3-4 and Table 3-5 provides the minimum runway length. AC 150/5300-13A, Table 3-8 provides the standard dimensions of the runway width, shoulder width, blast pad width, blast pad length, and crosswind component based on RDC. Clearly denote the runway numbers at the thresholds. Show location of existing and future threshold lights.				
b. Orientation – true bearing to nearest 0.01 second (and runway numbers)	Show the true bearing to the nearest .01 of a degree of the runway centerline.				

Airport Layout Plan Drawing					
Item	Instructions	Sponsor/Consultant			FAA
		Yes	No	N/A	
c. End Coordinates – existing, future, and ultimate degrees, minutes, seconds (to the nearest 0.01 second)	Show the latitude and longitude of the threshold center and end of pavement (if different) to the nearest .01 of a second.				
d. Runway Safety Areas (RSA) – actual, existing, future, and ultimate (including dimensions)	Show the extents of the existing and ultimate RSA 5300-13A. Reference AC 150/5300-13A, Paragraph 307.				
e. Runway Object Free Areas (ROFA)	Show the extents of the existing and ultimate ROFA. Reference AC 150/5300-13A, Paragraph 309.				
f. Precision Obstacle Free Zone (POFZ)	Show the extents of the existing and ultimate POFZ. Reference AC 150/5300-13A, Paragraph 308(d).				
g. Obstacle Free Zone (OFZ)	Show the extents of the existing and ultimate OFZ. Reference AC 150/5300-13A, Paragraph 308.				
h. Clearways and Stopways	Show any/all clearways and stopways/overruns and the markings used to denote these areas. See AC 150/5300-13A, Paragraph 311 and 312; and AC 150/5340-1, Section 2, Paragraph 14.				
i. Runway Protection Zone (RPZ) - Dimensions (existing, future, and ultimate)	Show existing and ultimate RPZ. See AC 150/5300-13A, Paragraph 310. Show the existing and ultimate protective area/zone type of ownership. Identify any incompatible objects and activities inside the RPZ. Prior to including new or modified land use in the RPZ, the Regional and ADO staff must consult with the National Airport Planning and Environmental Division, APP-400. This policy is exempt from existing land uses in the RPZ. See AC 150/5300-13A, Paragraph 310 and FAA memorandum dated September 27, 2012.				

Airport Layout Plan Drawing					
Item	Instructions	Sponsor/Consultant			FAA
		Yes	No	N/A	
j. 14 CFR Part 77 Approach Surfaces	Show the portion of the existing and ultimate approach surfaces that are over airport and adjacent property and identify the approach surface dimensions and slope. See FAA Order 7400.2, Figure 6-3-9.				
k. Threshold Siting Criteria: Approach/Departure Surface (existing, future, and ultimate) 5300-13A	Determine and identify pursuant to AC 150/5300-13A, Paragraph 303(b) and 303(c).				
l. Terminal Instrument Procedures (TERPS) surface and TERPS GQS, if applicable.	Determine and identify pursuant to AC 150/5300-13A, Paragraph 303(a)(4)(a), Table 3-4, and Table 3-5. Reference FAA Order 8260.3.				
m. Navigation Aids (NAVAIDS) – PAPI, ILS, GS, LOC, ALS, MALSR, REIL, etc., (plus facility critical area's)	Show all NAVAIDS and provide clearance distances from runways, taxiways, etc. Reference AC 150/5300-13A, Chapter 6.				
n. Marking – thresholds, hold lines, etc.	Show on the runway the type and location of markings, existing and ultimate. See AC 150/5340-1, Section 2.				
o. Displaced threshold coordinates and elevation	Show the latitude, longitude, and the pavement elevation of the runway pavement at any displaced threshold. See AC 150/5300-13A, Paragraph 303(a)(2). 5300-13A.				
p. Runway centerline separation distances	Show the runway centerline separation distances to parallel runway centerline, holding position, parallel taxiway/taxilane centerline, aircraft parking area, and helicopter touchdown pad, if applicable. Reference AC 150/5300-13A, Paragraph 321 and Table 3-8.				
7. Taxiway Details	Show the taxiway centerline separation distances to parallel taxiway/taxilane centerlines, fixed or movable objects.				








Airport Layout Plan Drawing					
Item	Instructions	Sponsor/Consultant			FAA
		Yes	No	N/A	
a. Dimensions – width (existing & ultimate)	Taxiway width based on Taxiway Design Group (TDG). See AC 150/5300-13A, Table 4-2.	✓			
b. Taxiway Edge Safety Margin (TESM)	TESM dimension based on TDG. See AC 150/5300-13A, Table 4-2.	✓			
c. Taxiway Shoulder Width	Taxiway shoulder width based on TDG. See AC 150/5300-13A, Table 4-2.	✓			
b. Taxiway/Taxilane Object Free Area (TOFA)	TOFA width based on Taxiway Design Group (TDG). TOFA extend the entire length of taxiway. See AC 150/5300-13A, Table 4-1.	✓			
c. Taxiway/Taxilane Safety Area (TSA)	TSA width based on TDG. TSA extend the entire length of taxiway. See AC 150/5300-13A, Table 4-1.	✓			
d. Taxiway/Taxilane Centerline Separation from:					
i. Runway centerline	Show the distance from centerline of runway to centerline of taxiway. See AC 150/5300-13A, Table 4-1.	✓			
ii. Parallel taxiway	Show the distance from centerline of taxiway to centerline of parallel taxiway. See AC 150/5300-13A, Table 4-1.	✓			
iii. Aircraft parking	Show the distance from centerline of taxiway to marked aircraft parking/tie downs. See AC 150/5300-13A, Table 4-1.	✓			
iv. Fixed or Movable Objects	Show the distance from centerline of taxiway to airport objects such as buildings, facilities, poles, etc. See AC 150/5300-13A, Table 4-1.	✓			
8. Fences (identify height)	Show the location of existing and ultimate fences and identify height.	✓			







Airport Layout Plan Drawing					
Item	Instructions	Sponsor/Consultant			FAA
		Yes	No	N/A	
9. Aprons					
a. Dimensions (square footage, dimension, or length and width)	Include dimensions of apron and distance from runway and taxiway centerlines. Apron should be sized using activity forecast and the apron design spreadsheet. See AC 150/5300-13A, Chapter 5 and FAA Engineering Brief No. 75.	✓			
b. Identify aircraft tie-down layout	Show proposed tie-down layout on the apron area. See AC 150/5300-13A, Figure A5-1, AC 20-35, and AC 150/5340-1.	✓			
c. Identify Special Use Areas (e.g., deicing or aerial application areas on or near apron)	Show as applicable and pursuant to representative ACs.	✓			
10. Roads	Label all roads.	✓			
11. Legend	Provide a Legend that identifies all symbols and line types used on the drawing. Lines must be clear and readable with sufficient scale and quality to discern details.	✓			
12. Items to be identified with distinct line types	Use distinct line types to identify different items and differentiate between existing and ultimate.	✓			
a. NAVAID Critical Areas (Glide Slope, Localizer, AWOS, ASOS, VOR, RVR, etc.)	Show the critical area outline for all Instrument Landing System and other electronic Navigational Aids located on the airport. See AC 150/5300-13A, Chapter 6 for general guidance and FAA Order 5750.16 for critical area dimensions.	✓			
b. Building Restriction Lines 5300-13A(BRL)	The BRL is the line indicating where airport buildings must not be located, limiting building proximity to aircraft movement areas. See AC 150/5300-13A, Paragraph 213(a).	✓			
c. Runway Visibility Zone (RVZ)	Show the RVZ for the existing and ultimate airport configurations. See AC 150/5300-13A, 305(c).	✓			

Airport Layout Plan Drawing					
Item	Instructions	Sponsor/Consultant			FAA
		Yes	No	N/A	
d. Airport Property Lines and Easements (existing, future, and ultimate)	Show the airport property boundaries, including easements, for the existing and ultimate airport configurations.				
13. Survey Documentation					
a. Survey Monuments (PACS/SACS, see AC 150/5300-16)	Show the location of all established survey monuments located on or near the airport property. Identify Primary and Secondary Airport Control Stations (PACS/SACS) if they exist. See AC 150/5300-16. Show the location of all section corners on or near the airport property.				
b. Offsets, stations, etc.	Show as applicable.				
14. Any Air Traffic Control Tower (ATCT) line of sight/shadow study areas (use separate sheet if necessary)	Reference FAA Order 6480.4.				
15. General Aviation development area (e.g., fuel facilities, FBO, hangars, etc.) – greater detail can be shown on the terminal area drawing	Show as applicable.				
16. Facilities and movement areas that are to be phased out, if any, are described	Show as applicable.				
Remarks					

A.5. Airport Airspace Drawing

- A required drawing.
- Scale 1" = 2000' plan view, 1" = 1000' approach profiles, 1"=100' (vertical) for approach profiles.
- 14 CFR Part 77, Objects Affecting Navigable Airspace, defines this as a drawing depicting obstacle identification surfaces for the full extent of all airport development. It should also depict airspace obstructions for the portions of the surfaces excluded from the Inner Portion of the Approach Surface Drawing.






Airport Airspace Drawing					
Item	Instructions	Sponsor/Consultant			FAA
		Yes	No	N/A	
A. Title and Revision Block	Each drawing in the Airport Layout Plan drawing set shall have a Title and Revision Block. For drawings that have been updated, e.g., as-builts, the revision block should show the current revision number and date of revision.				
B. Plan view (based on ultimate runway lengths) Include location of water or sewage facilities if inside horizontal surface.					
1. U.S. Geological Survey (USGS) Quad Sheet for base map	Use the most current USGS Quadrangle(s) as a base map for the airspace drawing.				
2. Runway end numbers	Show the ultimate runways and runway numbers. Contact the FAA before renumbering existing runways.				
3. Part 77 Surfaces (Horizontal, Conical, Transition, based on ultimate). Including elevations at the point where surfaces change.	Show the extents of the Part 77 imaginary surfaces. For airports that have precision approach runways show balance of the 40,000' approach on a second sheet, if necessary. See 14 CFR Part 77.19.				
4. 50' elevation contours on sloping surfaces (NAVD88)	Show contour lines on all sloping Part 77 imaginary surfaces. See 14 CFR Part 77.19.				
5. Top elevations of penetrating objects for the inner portion of the approach surface drawing	Identify by unique alphanumeric symbol all objects beyond the Runway Protection Zones that penetrate any of the Part 77 surfaces. See 14 CFR Part 77.				
6. Note specifying height restriction (ordinances/statutes)	List any local zoning restrictions that are in place to protect the airport and surrounding airspace. See AC 150/5190-4.				
7. North Arrow with	Magnetic declination may be				







Airport Airspace Drawing					
Item	Instructions	Sponsor/Consultant			FAA
		Yes	No	N/A	
magnetic declination and year	calculated at http://www.ngdc.noaa.gov/geomag-web/#declination . This model is using the latest World Magnetic Model which has an Epoch Year of 2010. See FAA Order 8260.19, "Flight Procedures and Airspace." Chapter 2, Section 5, for further information.				
C. Profile view					
1. Airport Elevation	List the Airport Elevation, the highest point on an airport's usable runway expressed in feet above mean sea level (MSL). Use NAVD88 datum. See AC 150/5300-13A, Chapter 1, Paragraph 102(g).				
2. Composite Ground Profile along extended Runway Centerline (Representing the composite profile, based on the highest terrain across the width and along the length of the approach surface)	Depict the ground profile along the extended runway centerline representing the composite profile, based on the highest terrain across the width and along the length of the approach surface.				
3. Significant objects (bluffs, rivers, roads, schools, towers, etc.) and elevations	Identify all significant objects (roads, rivers, railroads, towers, poles, etc.) within the approach surfaces, regardless of whether or not they are obstructions. Use the objects' same alphanumeric identifier that was used on the plan view. Identify the top elevations of all significant objects (roads, rivers, railroads, towers, poles, etc.) within the approach surfaces, regardless of whether or not they are obstructions.				
4. Existing, future, and ultimate runway ends and approach slopes	Show existing and ultimate runway ends and FAR Part 77 approach surface slopes. See 14 CFR Part 77.19.				
D. Obstruction Data Tables (identify obstacles not depicted on the Inner Portion of the Approach Surface Drawing)					
1. Object identification number	Identify all significant objects (roads, rivers, railroads, towers, poles, etc.) within the approach				






Airport Airspace Drawing					
Item	Instructions	Sponsor/Consultant			FAA
		Yes	No	N/A	
	<p>surfaces, regardless of whether or not they are obstructions. Use the objects alphanumeric identifier that was used on the plan view.</p> <p>Identify the top elevations of all significant objects (roads, rivers, railroads, towers, poles, etc.) within the approach surfaces, regardless of whether or not they are obstructions.</p>				
2. Description	Provide a brief description of the object, e.g., Power Pole, Cell Tower, Natural Gas Flare, etc.	✓			
3. Date of Obstruction Survey	Provide the date of latest obstruction survey.	✓			
4. Ground Surface Elevation	Provide the ground surface elevation (MSL) at the base of each object.	✓			
5. Object Elevation	List the above ground level (AGL) height and the top of object elevation (above mean sea level / AMSL / MSL) for each object.	✓			
6. Amount of surface penetration	List the surface that is penetrated and the amount the object protrudes above the surface. See 14 CFR Part 77.	✓			
7. Proposed or existing disposition of the obstruction	Provide a proposed or existing disposition of the object to remedy the penetration. See AC 70/7460-1.	✓			
a. Proposed Disposition (existing)		✓			
b. Proposed Disposition (future)		✓			
Remarks					










A.6. Inner Portion of the Approach Surface Drawing










- A required drawing.
- Scale 1"=200' Horizontal, 1"=20' Vertical, two sheets may be necessary for clarity. Typically, the plan view is on the top half of the drawing and the profile view is on the bottom half. Views should be drawn from the runway threshold to a point on the approach slope 100 feet above the runway threshold elevation, at a minimum, or the limits of the RPZ, whichever is further.
- Drawings containing the plan and profile view of the inner portion of the approach surface to the runway and a tabular listing of all surface penetrations. The drawing will depict the obstacle identification approach surfaces contained in 14 CFR Part 77, Objects Affecting Navigable Airspace. The drawing may also depict other surfaces, including the threshold-siting surface, Glideslope Qualification Surface (GQS), those surfaces associated with United States Standards for Instrument Procedures (TERPS), or those required by the local FAA office or state agency. The extent of the approach surface and the number of airspace obstructions shown may restrict each sheet to only one runway end or approach.






Inner Portion of the Approach Surface Drawing					
Item	Instructions	Sponsor/Consultant			FAA
		Yes	No	N/A	
A. Title and Revision Block	Each drawing in the Airport Layout Plan drawing set shall have a Title and Revision Block. For drawings that have been updated, e.g., as-builts, the revision block should show the current revision number and date of revision.				
B. Plan View (existing, future, and ultimate)					
1. Inner portion of approach surface	Show the area from the runway threshold out to where the ultimate approach surface slope is 100 feet above the threshold elevation.				
2. Aerial photo for base map	Use an aerial photograph for the base map.				
3. Objects (identified by numbers)	Identify all significant objects (roads, rivers, railroads, towers, poles, etc.) within the approach surfaces, regardless of whether or not they are obstructions using an alphanumeric character.				
4. Property line within approaches	Show the property lines that are within the area/portion of airport shown.				

Inner Portion of the Approach Surface Drawing					
Item	Instructions	Sponsor/Consultant			FAA
		Yes	No	N/A	
5. Road & railroad elevations, plus movable object heights	Provide elevation information for the traverse ways' centerline elevation where they intersect the Part 77 Approach surfaces (existing and ultimate). Note whether this elevation is the actual elevation or the traverse way elevation plus the traverse way adjustment (23' for railways, 17' for interstate highways, 15' for other public roads, or 10' for private roads). See also 14 CFR Part 77.				
6. Part 77 Approach Surface clearance over Roads and Railroads at the most critical points, the Centerline and Edge of the surface.	Provide elevation information for the traverse ways where they intersect the edges and centerline of the Part 77 Approach surfaces (existing and ultimate). Note whether this elevation is the actual elevation or the traverseway elevation plus the traverseway adjustment (23' for railways, 17' for interstate highways, 15' for other public roads, or 10' for private roads). See also 14 CFR Part 77.				
7. Physical end of runway, end number, elevation (NAVD88) Nearest 0.1 foot	Show the existing and ultimate runway end, runway number, and the elevation of the threshold center.				
8. Airport Design Surfaces					
a. Runway Safety Area	Show the extents of the existing and ultimate Runway Safety Area (RSA). See AC 150/5300-13A, Paragraph 307 and Table 3-8.				
b. Runway Object Free Area	Show the extents of the existing and ultimate Object Free Area (OFA). See AC 150/5300-13A, Paragraph 309 and Table 3-8.				
c. Runway Obstacle Free Zone (OFZ)	Show the extents of the existing and ultimate OFZ which includes the inner-approach OFZ, inner-transitional OFZ, and the Precision OFZ (POFZ), if applicable. See AC 150/5300-13A, Paragraph 308.				

Inner Portion of the Approach Surface Drawing					
Item	Instructions	Sponsor/Consultant			FAA
		Yes	No	N/A	
d. Runway Protection Zone (RPZ)	Show the extents of the existing and ultimate RPZ. Prior to including new or modified land use in the RPZ, the Regional and ADO staff must consult with the National Airport Planning and Environmental Division, APP-400. This policy is exempt from existing land uses in the RPZ. See AC 150/5300-13A, Paragraph 310, Table 3-5 and FAA memorandum dated September 27, 2012.				
e. NAVAID critical area	Show the critical area outline for all Instrument Landing System and other electronic Navigational Aids located on the airport. See AC 150/5300-13A, Chapter 6 for general guidance and FAA Order 5750.16 for critical area dimensions.				
9. Ground contours	Show ground contour lines in 2', 5', or 10' intervals. Topographic issues may be important in the alternatives analysis, which may require that reduced contour intervals be used. See AC 150/5070-6, Paragraph 1005.				
10. North arrow with magnetic declination and year	Magnetic declination may be calculated at http://www.ngdc.noaa.gov/geomag-web/#declination . This model is using the latest World Magnetic Model which has an Epoch Year of 2010. See FAA Order 8260.19, Chapter 2, Section 5, for further information.				
C. Profile view					
1. Existing and proposed runway centerline ground profile (list elevations at runway ends & at all points of grade changes) (representing the composite profile based on the highest terrain across the width and along the length of the approach surface)	Depict the ground profile along the extended runway centerline representing the composite profile, based on the highest terrain across the width and along the length of the approach surface to where the ultimate approach surface slope is 100 feet above the threshold elevation. A more effective presentation may be a rendering of a composite critical profile.				







Inner Portion of the Approach Surface Drawing					
Item	Instructions	Sponsor/Consultant			FAA
		Yes	No	N/A	
2. Future development from plan view	Identify future development using same alphanumeric identifier that was used on the plan view.				
3. Part 77 Approach/transition surface; existing and future VASI/PAPI siting surface	Show the boundaries of the existing and ultimate Part 77 Approach Surface. See FAA Order 7400.2, Figure 6-3-9, See also 14 CFR Part 77.				
4. Threshold Siting Surface	Depict any applicable siting requirements pursuant to Table 3-2 of FAA AC 150/5300-13A.				
5. Terrain in approach area (fences, streams, etc.)	Show all significant terrain(fences, streams, mountains, etc.) within the approach surfaces, regardless of whether or not they are obstructions				
6. Objects – identify the controlling object (same numbers as plan view)	Show all significant objects (roads, rivers, railroads, towers, sign and power poles, etc.) within the approach surfaces, regardless of whether or not they are obstructions. Identify the objects using same alphanumeric identifier that was used on the plan view.				
7. Cross section of road & railroad	Show the cross-section of any roads and/or railroads that cross the area shown. Indicate cross section elevations of roads and railroads at edges and extended centerlines that cross the area shown.				
8. Existing and proposed property and easement lines	Show the airport property boundaries, including easements, for the existing and ultimate airport configurations. AC 5300-13A Note easements for pipelines and residential through the fence gateways.				
D. Obstruction tables for each approach surface (surface should be identified)	A separate table for each runway end must be used to enhance information clarity.				
1. Object identification number	List each object by the same alphanumeric symbol used in the plan view.				









Inner Portion of the Approach Surface Drawing					
Item	Instructions	Sponsor/Consultant			FAA
		Yes	No	N/A	
2. Description	Provide a brief description of the object, e.g., Power Pole, Cell Tower, Natural Gas Flare, etc.				
3. Date of Obstruction Survey and Survey Accuracy	Provide the date of latest obstruction survey.				
4. Surface Penetrations	5300-13A For any object that penetrates the Part 77 surface, the approach surface, or the obstacle free zone, describe the vertical length the object protrudes.				
5. Proposed disposition of surface penetrations	Provide a proposed disposition of the object to remedy the penetration as described in item 4 above. See AC 70/7460-1 for Part 77 violations. "Removal" and/or "Lower" should be listed for any Airports safety area/zone violations. See AC 150/5300-13A, Paragraph 303 and 308.				
6. Object elevation	List the Above Ground Level (AGL) height and the top of object elevation in MSL for each object.				
7. Triggering Event (e.g., a runway extension) – Timeframe/expected date for removal	List the surface that is penetrated and the amount the object protrudes above the surface. See 14 CFR Part 77 and AC 150/5300-13A, Paragraphs 303 and 308.				
8. Allowable approach surface elevation (if applicable)					
9. Amount of approach surface penetration (if applicable)					
10. Proposed disposition of approach surface obstruction (if applicable)	Provide a proposed disposition of the object to remedy the penetration. See AC 70/7460-1 for Part 77 violations. "Removal" and/or "Lower" should be listed for any Airports safety area/zone violations. See AC 150/5300-13A, Paragraph 303.				




Inner Portion of the Approach Surface Drawing					
Item	Instructions	Sponsor/Consultant			FAA
		Yes	No	N/A	
11. Obstacle Free Zone (OFZ)	Determine and depict the applicable OFZ surfaces, see AC 150/5300-13A, Paragraph 308. Provide a proposed disposition of the object to remedy the penetration. Note: Modification to the OFZ standard is not permitted.				
E. Runway Centerline Profile	This may be shown on the Inner Portion of the Approach Surface drawing if there is space to show the runway and Runway Safety Area in sufficient detail otherwise a separate sheet may be necessary. At a minimum this drawing is to show the full length of the runway and Runway Safety Area including: runway elevations, runway and Runway Safety Area gradients, all vertical curves, and a line representing the 5' line-of-sight. See AC 150/5300-13A, Paragraph 305.				
1. Scale	The vertical scale of this drawing must be able to show the separation of the runway surface and the 5' Line-of-Sight line. See AC 150/5300-13A, Paragraph 305.				
2. Elevation	Show runway elevations, runway and Runway Safety Area gradients, and all vertical curve data. See AC 150/5300-13A, Paragraph 318.				
3. Line of Sight	The vertical scale of this drawing must be able to show the separation of the runway surface and the 5' Line-of-Sight line. See AC 150/5300-13A, Section 305.				
Remarks					

A.7. Runway Departure Surface Drawing

- Required where applicable. For each runway that is designated for instrument departures.
- This drawing depicts the applicable departure surfaces as defined in Paragraph 303 of FAA AC 150/5300-13A. The surfaces are shown for runway end(s) designated for instrument departures.
- 40:1 for Instrument Procedure Runways (Scale, 1" = 1000' Horizontal, 1" = 100' Vertical, Out to 10,200' beyond Runway threshold) 62.5:1 for Commercial Service Runways (Scale, 1" = 2000' Horizontal, 1" = 100' Vertical, Out to 50,000' beyond Runway threshold).
- Contact the FAA if the scale does not allow the entire area to fit on a single sheet. The depiction of the One Engine Inoperative (OEI) surface is optional; it is not currently required.







Runway Departure Surface Drawing					
Item	Instructions	Sponsor/Consultant			FAA
		Yes	No	N/A	
A. Title and Revision Blocks	Each drawing in the Airport Layout Plan drawing set shall have a Title and Revision Block. For drawings that have been updated, e.g., as-builts, the revision block should show the current revision number and date of revision.				
B. Plan view (existing & future)	See AC 150/5300-13A, Paragraph 303(c).				
1. Aerial Photo for base map	Use an aerial photograph for the base map. A USGS 7.5 minute series map is also acceptable.				
2. Runway end numbers and elevations (nearest 1/10 of a foot)	Show the existing and ultimate runway end, runway number, and the elevation of the threshold center. For runways that have a clearway, depict this surface and the relocated departure surface. Reference AC 150/5300-13A, Paragraph 303(c)(1).				
3. 50' elevation contours on sloping surfaces (NAVD88)	Show contour lines on the Part 77 imaginary surfaces. See 14 CFR Part 77.19.				
4. Depict property line, including easements	Show the property line(s) that are within the area/portion of airport shown.				
5. Identify, by numbers, all traverse ways with elevations and computed vertical clearance in the departure surface	Identify all significant objects (roads, rivers, railroads, towers, poles, etc.) within the departure surfaces, regardless of whether or not they are obstructions using unique alphanumeric characters.				







Runway Departure Surface Drawing					
Item	Instructions	Sponsor/Consultant			FAA
		Yes	No	N/A	
6. Ground contours	Show ground contour lines in 2', 5', or 10' intervals. Topographic issues may be important in the alternatives analysis, which may require that reduced contour intervals be used.				
C. Profile view (existing & future)					
1. Ground profile	Depict the ground profile along the extended runway centerline representing the composite profile, based on the highest terrain across the width and along the length of the departure surface to extents of the surface dimensions.				
2. Significant objects (bluffs, rivers, roads, buildings, fences, structures, etc.)	Show all significant objects (roads, rivers, railroads, towers, poles, etc.) within the approach surfaces, regardless of whether or not they are obstructions using an alphanumeric character.				
3. Identify obstructions with numbers on the plan view	Identify the objects using same alphanumeric identifier that was used on the plan view.				
4. Show roads and railroads with dashed lines at edge of the departure surface	Show the cross-section of any roads and/or railroads that cross the area shown.				
D. Obstruction Data Tables					
1. Object identification number	Identify all significant objects (roads, rivers, railroads, towers, poles, etc.) within the departure surfaces, regardless of whether or not they are obstructions using unique alphanumeric characters. List each object by the same alphanumeric symbol used in the plan view.				
2. Description	Provide a brief description of the object, e.g., Power Pole, Cell Tower, Tree, Natural Gas Flare, etc.				
3. Object Elevation	List the Above Ground Level (AGL) height and the top of object elevation in MSL for each object.				








Runway Departure Surface Drawing					
Item	Instructions	Sponsor/Consultant			FAA
		Yes	No	N/A	
4. Amount of surface penetration	List the object protrudes above the departure surface. See AC 150/5300-13A, Paragraph 303(c).				
5. Proposed or existing disposition of the obstruction	Provide a proposed disposition of the object to remedy the penetration. See AC 150/5300-13A, Paragraph 303(c).				
6. Separate table for each departure surface	A separate table for each runway end must be used to enhance information clarity.				
Remarks					

A.8. Terminal Area Drawing

- Scale 1"=50' or 1"=100'. Plan view of aprons, buildings, hangars, parking lots, roads.
- This plan consists of one or more drawings that present a large-scale depiction of areas with significant terminal facility development. Such a drawing is typically an enlargement of a portion of the ALP. At a commercial service airport, the drawing would include the passenger terminal area, but might also include general aviation facilities and cargo facilities. See AC 150/5300-13A, Appendix 5.
- Use scale that allows the extent of the terminal/FBO apron area to best fit the chosen sheet size, e.g., typical GA airports may be able to use 1"=50' scale on a 22" X 34" sheet, but a complex hub airport with multiple terminal areas may require a 1"=100' scale on a 36" X 48" sheet. Contact FAA if an airport layout requires scaling or sheet sizing other than what is listed.
- This drawing is not needed at every airport type and is therefore optional.







Terminal Area Drawing					
Item	Instructions	Sponsor/Consultant			FAA
		Yes	No	N/A	
A. Title and Revision Blocks	Each drawing in the Airport Layout Plan drawing set shall have a Title and Revision Block. For drawings that have been updated, e.g., as-builts, the revision block should show the current revision number and date of revision.				
B. Building data table	All buildings on the Airport Layout Drawing should be identified by an alphanumeric character. List these identifiers in a table and give a description of the building. If no Terminal Area drawing is done, also include the top of structure elevation in MSL. Show the location of existing and ultimate hangars. Include dimensions of apron and distance from runway and taxiway centerlines. See AC 150/5300-13A, Appendix 5. Show the elevation of the highest point of each structure.				
1. Structure identification number					
2. Top elevation of structures (AMSL)					
3. Obstruction marking/lighting (existing/future)					
C. Buildings to be removed or relocated noted	If any of the structures violate any airport or approach surfaces give an ultimate disposition to remedy the violation.				
D. Fueling facilities, existing and future	Show the location of existing and ultimate fueling facilities. Include dimensions of apron and distance from runway and taxiway centerlines.				








Terminal Area Drawing					
Item	Instructions	Sponsor/Consultant			FAA
		Yes	No	N/A	
E. Air carrier gates positions shown (existing/future)	Show the existing and ultimate air carrier gate positions. See AC 150/5300-13A, Chapter 5.				
F. Existing and future security fencing with gates	Show the existing and ultimate security fencing and gates. See AC 150/5300-13A, Paragraph 606.				
G. Building restriction line (BRL)	Show the Building Restriction Line (BRL) that is within the area/portion of airport shown. The BRL identifies suitable building area locations on airports. This should be located where the Part 77 surfaces are at 35' above the airport elevation unless a different height is coordinated with the FAA. See AC 150/5300-13A, Paragraph 213(a).				
H. Taxiway or Taxilane centerlines designated	Show centerlines of all taxiway and taxilanes within the area/portion of airport shown.				
I. Dimensions					
1. Clearance Dimensions between runway, taxiway, and taxilane centerlines and hangars, buildings, aircraft parking, and other objects.	Show the location of existing and ultimate apron. Include dimensions of apron and distance from runway and taxiway centerlines. Apron should be sized using activity forecast and the apron design spreadsheet. See AC 150/5300-13A, Chapter 5 and FAA Engineering Brief No. 75.				
2. Dimensions of aprons, taxiways, etc. Apron/Hangar areas that do not meet dimensional standards of the critical aircraft should be identified and the wingspan/design group of the aircraft that can use that area depicted. Include tie down location with clearances	Show the dimensions between existing and ultimate runway, taxiway, and taxilane centerlines and existing and ultimate hangars, buildings, aircraft parking, and other fixed or movable objects. See AC 150/5300-13A, Chapter 3 and Chapter 4. Show proposed tie-down layout on the apron area as well as taxilane marking plan. See AC 150/5300-13A, Appendix 5, AC 20-35, and AC 150/5340-1.				

Terminal Area Drawing					
Item	Instructions	Sponsor/Consultant			FAA
		Yes	No	N/A	
J. Property Line	Show the property line(s) that are within the area/portion of airport shown.				
K. Auto parking (existing & ultimate)	Show the existing and ultimate auto parking areas. See AC 150/5300-13A, Appendix 5.				
L. Major airport drainage ditches or storm sewers	Show any significant airport drainage ditches or storm sewers within the area/portion of airport shown.				
M. Special Use Area (e.g., Agricultural spraying support, Deicing, or Containment)	Show any special use areas within the area/portion of airport shown.				
N. North Arrow with magnetic declination and year	Magnetic declination may be calculated at http://www.ngdc.noaa.gov/geomag-web/#declination . This model is using the latest World Magnetic Model which has an Epoch Year of 2010. See FAA Order 8260.19, "Flight Procedures and Airspace." Chapter 2, Section 5, for further information.				
O. Fence	Show the existing and ultimate perimeter fencing or general area fencing.				
P. Entrance Road	Show the existing and ultimate entrance road. See 5300-13AFAA Order 5100.38, Chapter 6, Section 2.				
Remarks					

A.9. Land Use Drawing


- Scale 1"=200' to 1"=600'.
- A drawing depicting on- and off-airport land uses and zoning in the area around the airport. At a minimum, the drawing must contain land within the 65 DNL noise contour. For medium or high activity commercial service airports, on-airport land use and off-airport land use may be on separate drawings. The Airport Layout Drawing should be used as a base map.
- Drawing optional. Need based on scope of work.

Land Use Drawing					
Item	Instructions	Sponsor/Consultant			FAA
		Yes	No	N/A	
A. Title and Revision Blocks	Each drawing in the Airport Layout Plan drawing set shall have a Title and Revision Block. For drawings that have been updated, e.g., as-builts, the revision block should show the current revision number and date of revision.				
B. Airport boundaries/property, existing & future (fee and easement)	Show the existing and ultimate property lines. If known, show property lines for parcels surrounding the airport.				
C. Plan view of land uses by category (Agricultural, Aeronautical, Commercial, Residential, etc.). Use local land use categories.					
1. On-Airport (existing & future)	Label existing and ultimate on-airport property by usage, e.g., Terminal Area, Air Cargo, Public Ramp, Airfield - Movement, Airfield - Non-movement, etc. Include existing and future airport features (e.g., runways, taxiways, aprons, safety areas/zones, terminal buildings and navigational aids).				
2. Off-Airport (existing & future) [to the 65 DNL Contour at a minimum, if contour known]	Label existing and ultimate off-airport property by usage and zoning, e.g., Agricultural, Industrial, Residential, Commercial, etc.				
D. Boundaries of local government	List any local zoning restrictions that are in place to protect the airport and surrounding airspace. See AC 150/5190-4.				
E. Land use legend	Provide a legend that identifies all symbols and line types used on the drawing. Lines must be clear and readable with sufficient scale and quality to discern details.				

Land Use Drawing					
Item	Instructions	Sponsor/Consultant			FAA
		Yes	No	N/A	
F. Public facilities (schools, hospitals, parks, churches etc.)	Identify public facilities, e.g., schools, parks, etc.				
G. Runway visibility zone for intersecting runways	Show the Runway Visibility Zone(s) for the existing and ultimate airport configurations. See AC 150/5300-13A, Section 305.				
H. Show off-airport property out to 65 DNL if available	Label existing and ultimate off-airport property by usage and zoning, e.g., Agricultural, Industrial, Residential, Commercial, etc.				
I. Airport Overlay Zoning or Zoning Restrictions	List any local zoning restrictions that are in place to protect the airport and surrounding airspace. See AC 150/5190-4.				
J. North arrow with magnetic declination and year	Magnetic declination may be calculated at http://www.ngdc.noaa.gov/geomag-web/#declination . This model is using the latest World Magnetic Model which has an Epoch Year of 2010. See FAA Order 8260.19, "Flight Procedures and Airspace." Chapter 2, Section 5, for further information.				
K. Drawing details to include runways, taxiways, aprons, RPZ, terminal buildings and NAVAIDS	Show existing and future airport features (e.g., runways, taxiways, aprons, safety areas/zones, terminal buildings and navigational aids, etc.). See AC 150/5300-13A.				
L. Crop Restrictions	Show the Crop Restriction Line (CRL). See AC 150/5300-13A, Paragraph 322 and AC 150/5200-33.				
Remarks					

A.10. Airport Property Map / Exhibit A

- Scale 1"=200' to 1"=600'.

Airport Property Map / Exhibit A					
Item	Instructions	Sponsor/Consultant			FAA
		Yes	No	N/A	
A. Will Property Map serve as Exhibit A? – If YES , follow the directions to the right. – If NO , go to item B below.	If prepared in accordance with AC 150/5100-17, Land Acquisition and Relocation Assistance for Airport Improvement Program Assisted Projects, use ARP SOP no. 3.00 Exhibit A guidance instead of below checklist.				
If Property Map will not serve as Exhibit A:					
B. Title and Revision Blocks					
C. Plan view showing parcels of land (existing, future, and ultimate)					
1. Fee land interests (existing and future)					
2. Easement interests (existing and future)					
a. Part 77 protection					
b. Compatible Land Use					
c. RPZ protection					
3. Airport Property Line					
D. Legend – shading/cross hatching, survey monuments, etc.					
E. Data Table					
1. Depiction of various tracts of land acquired to develop airport	If any obligations were incurred as a result of obtaining property, or an interest therein, they should be noted. Obligations that stem from Federal grant or an FAA-administered land transfer program, such as surplus property programs, should also be noted. The drawing should also depict easements beyond the airport boundary.				

Airport Property Map / Exhibit A					
Item	Instructions	Sponsor/Consultant			FAA
		Yes	No	N/A	
2. Method of acquisition or property status (fee simple, easement, etc.)					
3. Type of Acquisition Indicated	(e.g., AIP-noise, AIP-entitlement, PFC, surplus property, local purchase, local donation, condemnation, other)				
4. Acreage					
F. Access point(s) for through-the-fence arrangements including residential					
Remarks					