CHAPTER ONE:

INTRODUCTION

The Airport Master Plan Update (AMPU) for the Belfast Municipal Airport (the Airport or BST) has been undertaken by the City of Belfast (also known as the Airport Sponsor), to define a long-range, measured plan for reasonable and orderly Airport development that will produce a safe, efficient, economical, and environmentally-acceptable air transportation facility. The study was funded by the Federal Aviation Administration (FAA), the Maine Department of Transportation - Airports and Aviation Division, and the City of Belfast. Technical work was conducted by a Study Team that was led by Airport Solutions Group, LLC, and supported by NewEarth Ecological Consulting. This planning effort also benefited by active participation from a dedicated Project Management Team (PMT) and a local Project Advisory Committee (PAC), both of which are described in detail below (**Section 1.3**).

An AMPU is designed to provide a carefully considered, systematic approach to the Airport's overall maintenance, development, and operation over a 20-year planning period. It reviews and assesses the Airport's current conformance with federal and state airport design and operational standards to help ensure that the Airport continues to operate in as safe a manner as possible. This document will identify the need for future airport facilities in order to help the Airport then plan for their ultimate construction. This study will also help ensure that BST can appropriately plan for and coordinate project approvals, design, financing, and construction, while avoiding the detrimental effects that could be realized due to inadequate or noncompliant airport facilities.

1.1 MASTER PLAN PURPOSE AND OBJECTIVES

1.1.1 Master Plan Purpose

The overall purpose of the BST AMPU is to define the City of Belfast's strategy for the long-term development of the Airport. It provides the framework to guide future airport development that will cost-effectively satisfy current and future aviation demand in a logical and financially-feasible manner, while also considering relevant environmental and community factors.

1.1.2 Master Plan Objectives

Consistent with the master plan purpose, specific objectives were established for the AMPU (and by extension, the Airport itself) by individual members of the PAC. (It was attempted to record any and all objectives that were brought forth; as a result, some objectives may appear to be duplicative of others, reflect inaccurate Airport information, or, even to a limited degree, contradict each other. Also

please note that more specific facility objectives were also identified as part of these discussions. These are discussed in greater detail in **Chapter Four**, ***Airfield Capacity and Facility Requirements***. The objectives below are presented in the order in which they were generated.) The BST AMPU should:

- address development on and around BST (including residential and commercial development);
- plan for BST to continue to grow as an economic asset for the entire community;
- reflect BST's existing needs and anticipate future challenges;
- be consistent with the City of Belfast's Comprehensive Plan (Note: this may affect Airport Overlay Districts, land uses, and/or dimensional standards. An Airport Overlay District is a district that creates specific zoning standards that recognizes airport uses and needs. The City of Belfast does not currently have such a district.);
- review existing land uses on and around BST, and must anticipate potential future uses;
- aspire to find realistic numbers to underlie the goals we set, such as the number of landings per year;
- have BST serve all aviation needs and uses, including recreational aviation;
- attempt to quantify the specific impact of a potential runway extension;
- have BST continue to provide maximum service to all medical-related flights (i.e., ensure no reduction in the use of the Airport by medical-related flights);
- pursue a runway length that best supports the users of the runway;
- support the needs of local visitors to BST and the City;
- maintain the safety of aircraft operations, as well as the safety of those who live near and around BST, as the highest priority;
- investigate if it is realistic that BST could support small commercial flights (referring to regular scheduled airline service) today or in the future;
- identify appropriate facilities and airport policies to attract a new fixed base operator for BST (Note: there is currently one fixed base operator at BST);
- plan for fuel storage and fuel services at BST at a level commensurate with future demand;
- preserve BST's long-term development potential in order to allow the City of Belfast to be flexible to respond to future needs while respecting the environment;
- preserve and protect public and private investments in BST's existing facilities;
- maximize BST's economic benefit for the local community, the city, the state, and the region;
- provide a plan that allows the Airport to meet the long-term air transportation needs of the city, the state, and the region in a safe, secure, and efficient manner;
- promote compatible land uses in the vicinity of BST in a manner that is sensitive to the surrounding communities and the environment;

- ensure that development plans are consistent with the safe, secure, efficient, environmentally responsible, and financially sound operation of BST; and
- actively engage the public throughout the planning process.

1.1.3 Maine Aviation Systems Plan Update Goals

The objectives identified by the PAC are generally consistent with the seven goals for the Maine Airport System (which includes BST) that were identified and adopted for use in the 2006 Maine Aviation Systems Plan Update:

- To promote an airport system that improves Maine's quality of life by supporting health, welfare, and safety-related services and activities.
- To have an airport system that adequately serves current and forecast demand.
- To encourage and recognize system airports that support aviation programs and outreach opportunities in Maine.
- To provide for a safe airport system, as measured by compliance with applicable FAA standards.
- To advance a system of airports that is supportive of Maine's economy, ensuring that the airport system is matched to Maine's socioeconomic and demographic characteristics.
- To protect and support an airport system that maintains the flexibility to respond to changes in future needs in Maine, while considering the environment.
- To provide an airport system that is easily accessible from both the ground and the air.

1.1.4 FAA Master Plan Goals

In addition to addressing the previous objectives, the AMPU should also meet the following master planning objectives established by the FAA in **FAA Advisory Circular (AC) 150/5070-6B**, ***Airport Master Plans***:

- Document the issues that the proposed development will address.
- Justify the proposed development through the technical, economic, and environmental investigation of concepts and alternatives.
- Provide an effective graphic presentation of the development of the Airport and anticipated land uses in the vicinity of the Airport.
- Establish a realistic schedule for the implementation of the development proposed in the plan, particularly the short-term capital improvement program.
- Propose an achievable financial plan to support the implementation schedule.
- Provide sufficient project definition and detail for subsequent environmental evaluations that may be required before the project is approved.

- Present a plan that adequately addresses the issues and satisfies local, state, and federal regulations.
- Document policies and future aeronautical demand to support municipal or local deliberations on spending, debt, land use controls, and other policies necessary to preserve the integrity of the Airport and its surroundings.
- Set the stage and establish the framework for a continuing planning process. Such a process should monitor key conditions and permit changes in plan recommendations as required.

1.2 OVERVIEW OF AIRPORT ISSUES

The most recent Airport Master Plan and the most recent Airport Layout Plan Update conducted for the Airport were completed in 1999 by Dufresne-Henry and in 2009 by Stantec Consulting Services, respectively. (Dufresne-Henry and Stantec Consulting Services were previous consultants for the Airport.) Since that time, many of the Airport issues identified in those efforts have been addressed by the completion of specific projects or the updating of specific airport policies. Others not addressed may have been due to changing industry circumstances and/or master plan assumptions, or have still yet to be resolved.

For the 2016 AMPU, the following points of focus were identified as ones to be addressed:

- Runway 15-33 approaches: BST needs to establish a long-term plan to maintain clear approach surfaces to its only runway.

- Runway 15-33 length: There have been multiple inquiries regarding the potential extension of the primary runway. An appropriate length should be identified and the need for potential runway extension should be vetted.

- Taxiway A: There is currently only a short, partial parallel taxiway on the airport. This is a safety issue and the development of a full-length parallel taxiway should be assessed.

- Terminal area development: As the existing terminal area continues to be developed, there needs to be a review of the long-term development plan for the area. Specifically, this will review potential segregation of operations, prioritization of development areas, expansion of services (such as provision of aviation fuel), etc.

- Long-term development areas: Airport property should be reviewed to establish a long-term development prioritization. Also included should be potential determinations on airport lands not required for future aviation-related development.

- Airport land use compatibility: As the Airport and surrounding community continue to develop, the need to establish appropriate airport land use compatibility policies becomes more important.

- Pavement maintenance: Prepare an airport pavement maintenance program that considers the age and condition of existing airport pavements, options for maintenance or repair, and approximate costs for these improvements.

All of these issues, among others, will be discussed to varying degrees in subsequent chapters.

1.3 MASTER PLAN COMMUNICATION AND COORDINATION

Public involvement is an integral part of any significant airport planning study since it encourages information sharing and collaboration among the community and the airport stakeholders that hold a collective interest in the outcome of the study. Stakeholders typically include the airport sponsor, tenants, users, local businesses and residents, resource agencies, elected and appointed public officials, and the general public. With such a diverse stakeholder group, a variety of forums are often employed to enhance the effectiveness of the project coordination effort.

For the BST AMPU, a PMT was established, comprised of members representing the Airport Sponsor, FAA, and the Maine Department of Transportation – Airports and Aviation Division to ensure that the project was executed within the approved scope of work, budget, and schedule. Additionally, the PMT served as an important resource with respect to providing information and guidance regarding specific technical elements. Dedicated PMT meetings were held four times during the master planning project.

A PAC was established to serve as a resource to ensure the AMPU addressed the key issues facing the Airport and its surrounding community today and into the future. The PAC consisted of individuals representing Airport neighbors, the City of Belfast (City Councilor, City Manager, Economic Development Director and Airport Manager, and Assistant Planner), the City's Airport Advisory Committee, pilots who regularly use BST, and businesses who regularly use BST. (A list of the actual PAC membership can be found as **Appendix B**.) Their roles were to review and comment on draft study products, and to provide linkages to agencies and other constituencies as represented by the PAC membership. Six PAC meetings were held during the master planning project.

Finally, in addition to the PMT and PAC, other forms of public involvement included a public information session and briefings to City of Belfast personnel. The public information session provided an opportunity to engage the public in

meaningful conversation about the Airport and the AMPU. A March 22, 2016 session was conducted in an "open house" format staffed by City of Belfast personnel and the Study Team. Other additional briefings or technical meetings were organized with key agencies and stakeholders, as required.

1.4 MASTER PLAN UPDATE ELEMENTS

The BST AMPU has been prepared consistent with the guidance provided in **FAA Advisory Circular 150/5070-6B**, ***Airport Master Plans***, and other industry-accepted principles and practices. This AMPU has seven chapters that are designed to identify future facility requirements and provide the supporting rationale for their implementation.

Chapter ONE

Introduction provides an overview of the AMPU, including its purpose, its objectives, its work products, and the overall structure of the project.

Chapter TWO

Inventory establishes a sound basis for plan and program development through the assimilation and documentation of relevant data. The inventory is designed to assemble essential data regarding the physical, operational, and functional characteristics of BST, its sub-components, and its environs. This data collection process includes the gathering of environmental data so that it can be considered throughout the master planning process.

Chapter THREE

Forecasts of Aviation Activity essentially serves as the foundation of the AMPU by utilizing local socioeconomic information, as well as national air transportation trends, to project the levels of aviation activity that can reasonably be expected to occur at the Airport over a 20-year period. Assessing these future trends relating to airport utilization and operational activity levels is especially important in that many of the proposals and recommendations of the plan are principally based on the resultant aviation activity demand forecasts. Therefore, it is very important that the resultant forecasts be both reasonable and defensible.

Chapter FOUR

Airfield Capacity and Facility Requirements utilizes the results of the Forecasts to assess the ability of existing airside and landside facilities to meet the projected level of demand for the 5-, 10-, and 20-year planning horizons. This analysis results in the definition of requirements for additional facilities, expansion to existing facilities, and the determination of those facilities that will meet the forecast of demand over the course of the 20-year planning period. Beyond this, the Airport is examined with respect to improvements needed to safely serve the type of aircraft expected to operate at the Airport in the future, including compliance with FAA design standards, as well as navigational aids to increase the safety and efficiency of operations.

Chapter FIVE

Alternatives Analysis and Development Concepts considers a variety of solutions to accommodate the anticipated facility needs identified by the Facility Requirements analysis. Through this process, various facility and site plan alternatives are proposed and weighed with respect to their ability to meet the projected facility needs. An analysis is completed to evaluate the alternatives for their ability to meet the identified facility requirements in an efficient and appropriate manner designed to meet the airport's long-term goals. As a tool for the review and evaluation of alternatives, evaluation matrices are employed to help identify the strengths and weaknesses of each proposed development alternative, with the intention of determining a single direction for development. Included in this chapter is an environmental screening of the development plan.

Chapter SIX

Airport Plans provides both a graphic and narrative description of the recommended plan for the use, development, and operation of the Airport.

Chapter SEVEN

Financial Implementation Plan focuses on the capital improvement program which defines the schedules, costs, and funding sources for the recommended development plan. It is important that the development program is practical, reasonable, and capable of assisting in enhancing the economic viability of the Airport.

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