

Belfast Municipal Airport  
Belfast, Maine

## Airport Master Plan Update (AMPU) – Phase 2

### Scope of Work

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The intent of this project is to update the 1999 Belfast Municipal Airport (BST) Master Plan as well as the 2008 BST Airport Layout Plan (ALP) for the City of Belfast, Maine. The existing master plan is sixteen years old and needs to be updated to reflect current conditions, current projections of airport activity, new environmental and other regulatory factors, and to plan for future facilities and land uses to support projected aviation and non-aviation needs for the long-term financial viability of the Airport. Additionally, obsolete elements of the existing ALP must be corrected and an updated Capital Improvement Program (CIP) must be developed to allow the Airport and its funding agencies to make strategic investments in projects over the long term.

Airport Solutions Group, LLC (herein referred to as the “Consultant”) will work in close coordination with Airport Management (referred to herein as the “Sponsor”), the Airport Advisory Committee, City of Belfast representatives, and other project stakeholders including the Federal Aviation Administration (FAA) and the Maine Department of Transportation – Aviation Program (MaineDOT Aviation), and other airport users/stakeholders to ensure that the plan reflects the long-term development needs of the Airport and the local community. To this end, the Consultant, the Sponsor and other interested parties have held preliminary discussions regarding the identification and recognition of a variety of relevant issues and conditions prior to and during the preparation of this scope of work. The Sponsor has established a general direction to be taken toward the preparation of this master plan by identifying a set of goals and issues. Following are several of the current considerations at BST that could be addressed in this AMPU effort:

- There have been significant structural changes have occurred in the aviation industry nationally, regionally, and locally since the last AMPU and ALP Update;
- FAA completed the *General Aviation Airports: A National Asset* study to supplement the NPIAS airport role classification system;
- FAA New England Region and the New England states’ aviation agencies are in the process of conducting a regional general aviation airport system plan - the *New England Regional Airport System Plan (NERASP) - General Aviation*;
- An LPV instrument approach survey has been conducted and a new approach is planned for BST;

- BST has been approached by local businesses/industries and aircraft operators seeking to enhance airport and runway capabilities in order to accommodate increased corporate aircraft activity; and
- BST has already completed Phase I of the AMPU in response to that inquiry by local businesses for enhanced runway operational considerations.

With respect to the last bullet, it should be noted that Phase I of the 2014 BST AMPU was a “runway corridor analysis” that focused on potential future critical aircraft and their runway requirements. This was conducted through a regional airport operational analysis, interviews with aircraft users, operators, local businesses and other customers requiring access to the airport. This analysis also included the production of new forecast demands through application of national trends and market share allocations that indicated that existing and future aircraft activities at BST would require and/or benefit from runway enhancements, including a 700-foot runway extension. During the course of the BST AMPU Phase I study, specific tasks were conducted that will directly transfer to the efforts associated with Phase II. These will be noted in the task items below.

This document establishes the scope of services required to successfully complete this AMPU that meets the needs of the Airport and community by providing a program for realistic and practical implementation. The project will use the guidance of FAA Advisory Circular (AC) 150/5070-6B, *Airport Master Plans*, and other relevant FAA ACs and Orders, and Federal Aviation Regulations (FARs), among others. The versions of these publications to be utilized will be those that are current as of the date the Sponsor authorizes ASG to proceed with the project.

## **TASK ONE – STUDY DESIGN**

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### **1.1 Project Definition**

This scope of work serves as a guideline for Phase II of the BST AMPU. The Consultant’s level of effort is described herein; costs of accomplishing each component of this planning effort will be identified in Appendix B upon approval of the scope of work. A preliminary schedule for completing the work program is included as Appendix A; however, it will be further refined as necessary during the course of the project. Work activities under the Study Design task include the following:

- Coordination and discussions with Airport Sponsor;
- Coordination and discussions with sub-consultants;
- Preparation of draft study design, budget, and schedule;
- Coordination with other project stakeholders (e.g. City of Belfast, FAA, MaineDOT, etc.)
- Prepare final work program, budget, and schedule.

Consultant Responsibilities: Produce a final scope of work, schedule and budget.

Sponsor Responsibilities: Coordinate with the Consultant as required.

Task Product: Final scope of work, schedule and budget.

## 1.2 Project Coordination Elements

This study is designed to have multiple layers of public outreach and project oversight elements, including a Project Management Team (PMT) and a Project Advisory Committee (PAC).

### Project Management Team (PMT)

A Project Management Team will be established to provide management and oversight to ensure that the project is executed within the approved scope of work/budget, and remains on schedule. The PMT will include representatives from the Airport Sponsor, the FAA and MaineDOT Aviation. The role of the PMT will be to serve in the following capacities:

- Monitor and oversee the project scope, schedule and budget,
- Be a focal point to ensure technical work is complete,
- Ensure that information is distributed effectively,
- Review and comment on reports and other work products in a timely manner,
- Ensure that coordination with public officials and stakeholders is responsive, and
- Serve as an advisor to the Consultant.

Three (3) PMT meetings will be held during the course of the study. Specific details are provided in Task Eight.

### Project Advisory Committee (PAC)

A Project Advisory Committee is an important tool in conducting an effective master planning effort. Comprised of members that represent key project stakeholders identified by the Sponsor, the PAC serves various critical roles in the planning process, including the following:

- Providing review and comment on draft study products;
- Acting as a liaison to the agencies that the membership represents, as well as to other constituencies.
- Expressing the interests of the organizations and constituencies that the membership represents;
- Working with the Sponsor and the Consultant to explore existing and projected conditions, confer on potential development alternatives, and to ultimately build consensus on recommended airport development plans.

The PAC should be comprised of approximately 8 to 12 members (note that the PMT is considered to be part of the PAC), and it is anticipated that membership will include

representatives from key airport stakeholders such as airport tenants, airport fixed-base operators (FBOs), local businesses, local neighbors, airport pilots, the city administration, and other elected officials, among others. There will be two (2) PAC meetings in addition to the scheduled public meetings associated with the project. Additional details are provided in Task Eight.

***Task Product:*** *An appropriate project coordination program for this planning process.*

***Sponsor Task Responsibilities:*** *Coordinate the establishment of the PAC; provide guidance in the design of the overall public coordination program.*

***ASG Task Responsibilities:*** *Establish an appropriate project coordination program.*

## **TASK TWO – DATA COLLECTION**

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This phase includes the collection, assimilation and documentation of appropriate airport data to serve as the basis of subsequent tasks. Maximum utilization of existing information that is applicable to the objectives and overall intent of this study will be made to avoid redundant collection efforts. The BST AMPU Phase I included a limited level of data collection specific to the runway corridor analysis that will be directly integrated into Phase II. Additionally, data from the 1999 AMPU and the 2008 ALP Update will be reviewed for currency and then integrated directly into this effort. Given that FAA has requested that these existing sources serve as the primary basis for this effort, it is anticipated that only a basic level of data update will be required for Phase II. Therefore, new data collection will only be conducted to fill significant information gaps. Additionally, per request of the FAA, the AMPU chapter that will result from this task will minimize the narrative component of a traditional master plan chapter and will be designed to emphasize tables, graphics and images. Additionally, the chapter will conclude with a summary of facilities their estimated maintenance schedule that will serve as input into the Facility Requirements chapter.

***Consultant Responsibilities:*** *Conduct appropriate inventory effort, including providing the Sponsor with a listing of data requests. Consolidate the data collection effort into a narrative that will serve as a chapter in the AMPU.*

***Sponsor Responsibilities:*** *Fulfill the Consultant’s data request as available in a timely manner*

***Task Product:*** *AMPU chapter that summarizes data collection efforts.*

## **TASK THREE – PROJECTION OF AVIATION DEMAND**

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The importance of assessing future trends relating to airport utilization and operational activity levels is especially significant in the development of the AMPU in that many of the proposals and

recommendations of the plan will be principally based on aviation demand forecasts. This ultimately enables the determination of potential impacts created by the type and magnitude of future operational activity at the airport. In essence, forecasting acts as the hub for the remainder of the plan. Because of the importance and potential long-term effects of aviation activity forecasts on the AMPU, they must be reasonable, appropriate and defensible.

Forecasting was conducted in Phase I of the BST AMPU in order to identify the critical design aircraft for Runway 15-33. The Consultant utilized appropriate forecasting methodologies including national industry forecast growth projections and changes to market area capture growth percentages that BST could realize from other neighboring airports. Through discussions with FAA, it was determined that this level of effort was also appropriate for Phase II of the BST AMPU. Therefore, the consultant will directly integrate the results of the Phase I forecasting effort into the AMPU forecasting chapter for Phase II.

Note that the FAA must still review the AMPU's forecasts of aviation demand, and their approval will be required prior to commencing Task Four. With Sponsor acceptance of the AMPU Phase I forecasts, they will be submitted to the FAA for review as early as possible in the planning process. Note that per request of the FAA, the AMPU chapter that will result from this task will minimize the narrative component of a traditional master plan chapter and will be designed to emphasize tables, graphics and images.

Consultant Responsibilities: Conduct appropriate aviation demand forecast effort. Consolidate that effort into a narrative that will serve as a chapter in the AMPU.

Sponsor Responsibilities: Provide input and review/approve data in a timely manner.

Task Product: AMPU chapter that summarizes the forecast demand efforts.

#### **TASK FOUR - DEMAND/CAPACITY ANALYSIS AND FACILITY REQUIREMENTS**

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This task will utilize the results of the Projection of Aviation Demand to assess the ability of existing airside and landside facilities to meet the forecasted level of demand for the five, ten and twenty-year planning horizons. Activities conducted under this task will result in the definition of requirements those facilities that will be needed to meet the demand forecast over the planning period. Note that as part of Phase I of the BST AMPU, some elements of this task were already completed, including a runway length analysis. Through discussions with FAA and MaineDOT Aviation, the following will be conducted as part of this task:

- **Airport Design Standards Review/Evaluation**  
An evaluation of the airfield dimensional criteria with respect to FAA AC 150/5300-13A, *Airport Design*, will be conducted and recommendations will be made for resolution of any

discrepancies. The facility analysis and recommendations related to the critical/design aircraft and the existing and future physical layout of the runway system at BST are critical issues that should be addressed early in the process of preparing the AMPU. Any deviations from FAA design standards, along with proposed remedies for those deviations, will be identified and submitted to the FAA for a potential “Modification to Standards” determination. Any such determinations would have to be included in the AMPU document as well as on the ALP.

- **Airside Facilities Requirements**

The Consultant will convert the aviation demand forecast into the number, type, and amount of airside facilities needed over the planning period including runway, taxiway, NAVAIDS and approaches, lighting and approximate land area needs, among others. A final determination of facility requirements will be made along with recommendations for future improvements. Special consideration will also be given to any navigational aid facilities needed for the continued safe and effective use and development of the airport and the location of such facilities. If required, the Consultant will work with the FAA to determine the most appropriate facilities and the location of the facilities.

- **Landside Facilities Requirements**

Considering established facility standards, the Consultant will convert the aviation demand forecast into generalized information regarding the number, type, amount and nature of aprons, terminal area aircraft parking spaces, hangars, access roads, security fencing and facilities, regional roadway network interfaces, automobile parking requirements, maintenance buildings, fueling facilities location, and the approximate land area needed thereof. The Consultant will also identify any airport land areas deemed to be available for non-aeronautical uses (if any).

### **Develop Working Paper and Document Chapter**

The Consultant will develop a detailed working paper describing the results of Tasks Two, Three, and Four, which will also serve as the basis of discussions with the PMT and PAC. The technical portions of the paper will be written in terms that are easily understandable to a layperson. The Working Paper will also form the basis of three chapters for the AMPU. Note that per request of the FAA, the AMPU chapters that will result from this task will minimize the narrative component of a traditional master plan chapter and will be designed to emphasize tables, graphics and images.

***Task Product:*** Working Paper 1 and Chapters One, Two and Three of the AMPU.

***Sponsor Task Responsibilities:*** Assist the Consultant as required by reviewing/commenting on documentation.

***ASG Task Responsibilities:*** Produce Working Paper 1 in draft and final formats. (Electronic copies of the Working Paper will be prepared and distributed to all stakeholders, including the Airport, FAA and

*MaineDOT Aviation. Up to 10 double-sided, hard copies of the Working Paper will be provided as needed.) Produce Chapters One, Two, and Three of the AMPU.*

## **TASK FIVE - AIRPORT DEVELOPMENT ALTERNATIVES AND RECOMMENDED PLAN**

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Based on the defined goals and objectives of the PMT and on an evaluation of potential alternatives for airport development, this task will result in a specific recommended airport development plan that is reasonable and practicable. Specifically, this task will include the development of detailed alternatives designed to meet the facility needs identified in the previous task. These alternatives will then be evaluated for their ability to meet the airport's long-term needs in an efficient, cost effective and financial feasible manner while maintaining the operational efficiency of the airport. As a tool of the alternatives review and evaluation, the Consultant will employ a weighted evaluation matrix that will be developed in cooperation with the PMT. This will ultimately be utilized in selecting the recommended airport development plan.

- **Goals Development.**

Based on input from the Sponsor and PMT, the Consultant will assemble a series of goals that will serve as the basis of the evaluation matrix for that will be utilized for selecting the recommended airport development plan. These will establish a common basis in the evaluation and selection process.

- **Prepare Development Alternatives**

The Consultant will be responsible for identifying and documenting Two (2) reasonable alternatives for airside and landside facility modifications and improvements. Specifically, this will include alternatives related to the configuration of the taxiway system and alternatives related to development on all appropriate airport sites, additional navigational facilities, new/updated terminal facilities, environmental enhancement considerations, general aviation development areas, user development areas, vehicular accommodation and surface transportation development (i.e., access/entrance roadways, parking, service roadways, internal roadway systems, etc.), utilities, off-airport land acquisition and development, specific site development projects and programs, and other airport proposals and programs. It should be noted that Phase I of the BST AMPU already conducted the alternatives identification and selection process related to Runway 15-33. The results of this analysis will be integrated in to this task directly.

The process of alternative development could begin with a “brainstorming” session involving the Sponsor, the PMT, the Airport Commission, and others as appropriate. It is important that the alternative analysis and evaluation give adequate consideration to the engineering feasibility,

environmental impact potential and development costs, all of which are included in various sections of this work program.

- **Development Alternatives Evaluation**

Viable alternative development concepts will be prepared and presented in narrative form and graphically illustrated in report and large-scale presentation form. The alternatives will then be presented to the PMT and PAC for review and consideration. Each will be evaluated through application of the evaluation criteria identified in the previous task with generalized implications and consequences of each alternative being identified through the application of a decision matrix. This evaluation will be conducted in conjunction with a cost analysis and environmental review in order to ensure that the established goals of the Airport are met and that they are consistent with Federal and State requirements. This effort will assist in yielding a positive and unified direction for specific projects and establishing an overall framework for airport development, otherwise known to be the “Recommended Development Plan and Program.”

Note that one of the objectives of this task is to evaluate the preliminary financial feasibility of the alternative development programs. This preliminary feasibility evaluation includes considering BST’s capability to fund the alternative capital development concepts, finance airport operations, service any existing debt and service any new debt required to finance the program.

Environmental factors should be considered during the development and analysis of the airport project alternatives. This would assist the decision-making process that the FAA must complete for its approval of projects under NEPA. As such, it is important that this alternatives analysis provide sufficient documentation regarding the justification for each project so that this may serve as the basis for the purpose and need section of any future environmental document.

Specifically, this alternatives analysis process will identify the potential environmental impacts of each development. Categories of potential impacts are defined in FAA Order 1050.1, *Environmental Impacts: Policies and Procedures* and FAA Order 5050.4B, *NEPA Implementing Instructions for Airport Actions*. Note that every impact category mentioned in FAA Order 5050.4B does not need to be addressed, but only those categories whose resources the alternatives would possibly affect. Additionally, likely federal, state and local permits that may be needed for each proposed project will be identified in this alternatives analysis. A decision matrix showing each alternative and its potential environmental impacts will be integrated into the alternatives selection process. (Note that this may also be useful for subsequent environmental processing.)

**Develop Working Paper and Document Chapter.**

The Consultant will develop a detailed working paper describing the previous tasks and will serve as the basis of discussions with the PMT and PAC. The technical portions of the paper will be written in terms that are easily understandable to a layperson. The Working Paper will also form the basis of a chapter for the master plan update that documents the results of this task effort. Note that per request of the FAA, the AMPU chapter that will result from this task will minimize the narrative component of a traditional master plan chapter and will be designed to emphasize tables, graphics and images.

**Task Product:** *Working Paper 2 and Chapter Four of the Master Plan Update.*

**Sponsor Task Responsibilities:** *Assist the Consultant as required by reviewing/commenting on documentation.*

**ASG Task Responsibilities:** *Produce Working Paper 2 in draft and final formats. (Electronic copies of the Working Paper will be prepared and distributed to all stakeholders, including the Airport, FAA and MaineDOT Aviation. Up to 10 double-sided, hard copies of the Working Paper will be provided as needed.) Produce Chapter Four of the Master Plan Update.*

**TASK SIX – IMPLEMENTATION PLAN**

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A key component of the master planning process is to identify a development program that is practical, reasonable, and capable of assisting in enhancing economic viability for the Airport. This task presents the costs and financial implications associated with the final proposals contained in the Development Plan and Program for the Belfast Municipal Airport.

- **Project Cost Estimates**

Cost estimates of facility requirements, based on current dollars, will be prepared for the first five-year period; a more generalized cost breakdown will be prepared for the ten-year period; and a facility breakdown with costs will be prepared for the twenty-year 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 extended by the size of the particular facility tempered with engineering judgment considerations. Cost estimates, while very accurately prepared and presented, are intended to be used for planning purposes only and are not to be construed as formal opinions of probable construction cost.

- **Implementation Schedule**

The implementation schedule identifies all airport development projects within the 5-year, 10-year and 20-year planning periods. The short-term (5-year) plan is an immediate action program recognizing and identifying realistic local, state and federal funding levels. The short-term plan is identified within the Capital Improvement Program (CIP) and will be noted with indicators, or triggers, that represent action measures and associated requirements. The intermediate-term (10-year) plan is a detailed description for sizing airport requirements and layout. Intermediate projects could be identified within the CIP. The long-term (20-year) plan identifies the ultimate role of the airport, airport design type and the concept for accommodating ultimate facility requirements. Some long-term projects could also be identified within the CIP. The report's drawings will include colored phasing, depicting the short-term, intermediate-term and long-term development stages.

**Task Product:** Presentation of schedules for development throughout the planning period by phase increments and noted with indicators or triggers that represent action requirements.

**Sponsor Task Responsibilities:** *Assist the Consultant as required in reviewing documentation.*

**ASG Task Responsibilities:** *Produce Task Products.*

- **Financial Plan**

A financial analysis will be conducted that will outline the actions and initiatives necessary to carry out the CIP in a financially sound manner. Included in the financial analysis will be the identification of alternate project phasing considerations and projections of revenues and expenses.

As the initial step in the financial analysis, baseline expenses and revenues will be projected for the airport. These projections will be based on a number of factors including historical operating results, anticipated inflationary impacts, tenant lease provisions and terms, and anticipated operational changes affecting the airport's financial performance. In addition to projecting baseline revenues and expenses, the anticipated "incremental" revenues and expenses that may result from the implementation of specific projects will be estimated. Project implementation costs will be inflated to represent cost increases assumed from 2013 to the year in which each respective project is undertaken.

Based on the projection of airport revenues and expenses, the funding assumptions will be incorporated to determine the initial feasibility of undertaking the programmed CIP (as phased in this financial planning task). Basic feasibility will be measured primarily by calculating the impacts on tenant rates and charges, and BST cash flow.

- **Capital Improvement Program (CIP)**

The Capital Improvement Program (CIP) generally consists of projects identified within the short-term (5-year) period. As previously noted, intermediate-term (10-year) and long-term (20-year) projects may be identified within the CIP as well. The CIP identifies development projects, noting total development costs, project priorities, and appropriate types of FAA funds to be programmed for implementation. The CIP will be coordinated with state and federal agencies.

**Task Product:** Conceptual planning-level cost estimates will be provided in a spreadsheet format allowing data to be transferred to the Sponsor electronically for future use and manipulation. Project cost estimates will provide sufficient detail to allow project time schedules to be established and programmed into the appropriate funding programs. A financial plan reflecting existing and projected cash flow as well as identifying funding sources and amount of funds needed for project implementation. Development and presentation of a Capital Improvement Program that identifies development projects, presents costs and priorities, and identifies funding sources; *Chapter Five* of the AMPU that encompasses the results of the overall task. Note that per request of the FAA, the AMPU chapter that will result from this task will minimize the narrative component of a traditional master plan chapter and will be designed to emphasize tables, graphics and images.

**Sponsor Task Responsibilities:** *Assist the Consultant as required in reviewing documentation.*

**ASG Task Responsibilities:** *Produce Task Products, including Chapter Five of the AMPU.*

## **TASK SEVEN – AIRPORT LAYOUT PLAN (ALP) SET**

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The Consultant will update the existing ALP set for BST to reflect existing conditions and the recommended development plan as identified in this study. Each of the components of the ALP set will meet all requirements as stipulated in FAA AC 150/5070-6B, *Airport Master Plans*, FAA AC 150/5300-13A, *Airport Design*, as well as all other applicable standards and checklists. (Note that no new aeronautical or land surveys will be conducted as part of this AMPU.) The ALP will contain sufficient data to obtain approvals from the FAA.

- **Title Sheet**

The title sheet will include the title of the project, location and vicinity maps, and a sheet index.

- **Existing Conditions Sheet**

An existing conditions sheet will be produced that will serve as the basis of the ALP sheet. Information on this sheet will include, but not be limited to, the physical layout of the existing airport and of the existing physical facilities developed thereon, as well as building and facilities data, runway and taxiway systems, NAVAID critical areas, building elevations, topography, roads

and parking areas, and the airport boundary, among others. Also included will be all relevant and appropriate existing airport design standards as reflected in FAA AC 150/5300-13A, including runway safety areas, runway object free areas, runway protection zones, obstacle free zones, among others. This sheet will be scaled appropriately to the standards established by FAA.

- **Airport Layout Plan**

The ALP will utilize information from the Existing Conditions Sheet as its basis, and will include all tables and data noted above for the Data Sheet, if space allows. The Airport Layout Plan will include all existing and proposed information and data resulting from this AMPU and as required by FAA AC 150/5070-6B, *Airport Master Plans*, FAA AC 150/5300-13, *Airport Design*, as well as all other applicable standards and checklists. Also included on this plan will be an appropriate signature block.

Data will be provided that includes wind roses, wind coverage tables, airport data tables appropriate runway data tables, and declared distances table (if required). All existing and proposed modifications to FAA standards will be identified and delineated in a table along with their proposed disposition. Note that existing wind roses and runway coverages will not be updated as part of this effort.

- **Terminal Area Plan**

The Consultant will prepare a terminal area plan that will illustrate existing and proposed facilities proximate to the airport's terminal area, including such elements as building (including terminal) configuration and location, taxiway and apron development, vehicle access roads (including recommendations for service road and access locations) and parking areas, specifically indicating those facilities which currently exist and those which are proposed. The relationship with appropriate surrounding airfield and landside components (i.e., runway, taxiways, object free area, runway protection zones, external roadways, on-airport navigational aids, airport boundary, among other considerations) will also be illustrated as will available topographical characteristics.

- **Airport Airspace Drawing**

Based on AC 150/5300-13A, *Airport Design*, an Airport Airspace Drawing will be prepared in accordance with the findings, recommendations and approvals resulting from the AMPU. All existing FAR Part 77 sloping imaginary surfaces will be shown with 50-foot contours on a basemap at an appropriate scale.

- **Inner Portion of the Approach Surface Drawings.**

Inner Portion of the Approach Surface Drawings will be prepared for Runway 15-33 in accordance with the findings, recommendations and approvals resulting from the study. These drawings will include a plan view showing the existing and the ultimate runway protection and (inner) approach zones developed for each runway end. Plan and profile views of each area will be developed identifying the most egregious physical obstructions within the selected viewport (Note: this effort is not intended to serve as a formal, detailed obstruction analysis/evaluation). The obstruction's height and location will be noted by dimension lines. General areas of obstructions requiring removal or relocation to meet FAA standards will be noted and an action plan identified in the form of future recommended project(s).

The Inner Portion of the Approach Surface Drawings will be prepared depicting the following:

- 1) Areas under imaginary surfaces as defined in FAR Part 77, *Objects Affecting Navigable Airspace*;
- 2) Existing and planned approach slopes and any height zoning ordinance limitations;
- 3) A plan and profile of runway protection zones and approach areas showing controlling structures and other objects penetrating the runway protection zones and approach areas;
- 4) Location and elevation of obstructions exceeding FAA airspace surface requirements; and,
- 5) Areas attracting large numbers of birds or other potential hazards to aircraft flight within the approach zones.

- **Land Use Plan.**

A Land Use Plan will be developed which depicts existing and recommended uses of all land within the ultimate airport property line (on-airport) and within the vicinity of the airport (off-airport), generally identified as that area surrounding the airport associated with aircraft noise (no new noise analysis or new contours will be developed as part of the AMPU). Land uses will be depicted by general land use categories pursuant to existing community zoning maps, including such categories as agriculture, residential, industrial, commercial, parks and open space, aviation-related, public, noise sensitive, among others. The Land Use Plan will be illustrated on a drawing (same sheet size as the ALP) and described within the body of the AMPU. Findings resulting from this study effort will be incorporated into environs land use recommendations that will be provided to affected governmental jurisdictions in the vicinity of the airport.

The FAA must review and ultimately approve an AMPU's Airport Layout Plan. Prior to sending the final ALP for FAA approval, the draft ALP will be submitted via the FAA 7460-1 online database for a 45-60 day review period. Once the determination from this draft ALP review is received, the ALP will be finalized and sent for FAA approval. Specifically, the Consultant will submit four (4) copies of the ALP set

to the FAA for final review, comment and signature. Signed copies of the ALP sets will be distributed as required.

**Task Product:** *FAA-Approved Airport Layout Plan set; Chapter Six of the Master Plan Update that encompasses the results of the overall task.*

**Sponsor Task Responsibilities:** *Assist the Consultant as required in reviewing documentation.*

**ASG Task Responsibilities:** *Produce Task Products, including Chapter Six of the Master Plan Update*

## **TASK EIGHT – PROJECT COORDINATION MEETINGS / WORKSHOPS**

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Local, state, and FAA representatives will be consulted for input and invited to attend meetings associated with the project. Requests for input to the study process by the airport sponsor, local planning agencies, public and community leaders, and state and FAA officials will assure the study and associated efforts are consistent with local and regional plans.

- **Project Management Team (PMT)**

The Project Management Team was established in Task One to provide management and oversight to ensure that the project is executed within the approved scope of work and budget, and remains on schedule. Three (3) PMT meetings will be held during the course of the study, which are anticipated to occur for the following specific purposes:

1. Reviewing and establishing appropriate facility requirements
2. Development of recommended development plan
3. Establishing ALP and CIP

The Consultant will prepare an agenda and draft meeting materials for distribution to the PMT approximately seven days in advance of each meeting. The Consultant will also prepare draft meeting notes, coordinate with the PMT, then finalize and distribute the notes to the PMT. Input received will be summarized and incorporated, as appropriate, into the final documentation.

**Task Product:** *Three (3) PMT meetings.*

**Sponsor Task Responsibilities:** *Assist the Consultant as required in establishing and conducting the meetings.*

**ASG Task Responsibilities:** *Facilitate the PMT meetings including developing appropriate notices, agendas, presentations, materials and meeting notes.*

- **Project Advisory Committee (PAC)**

The Project Advisory Committee was established in Task One to play a key role in the planning process by providing direct support and guidance to the PMT. The PAC will advise the PMT through two (2) PAC meetings, tentatively scheduled after completion of the following work elements:

- Inventory/Forecast/Facility Requirements
- Establishing appropriate development alternatives & recommended development plan

The PAC will also be expected to attend scheduled public meetings associated with the project. It is anticipated that PAC members will receive advance copies of study work products, presentation briefings, etc. approximately seven days prior to the public meetings. Agendas of all meetings will be prepared by the Consultant and sent to the members in advance; meeting notes will also be prepared and distributed after each meeting.

This task will include the generation of a formal public coordination plan that defines roles, responsibilities, schedules and objectives. This task also includes the establishment of the PMT and PAC through identifying and formally inviting participants to these groups.

**Task Product:** Two (2) PAC meetings.

**Sponsor Task Responsibilities:** Assist the Consultant as required in establishing and conducting the meetings.

**ASG Task Responsibilities:** Facilitate the PAC meetings including developing appropriate notices, agendas, presentations, materials and meeting notes.

### 8.3 Public Coordination

*Public Information Meetings / Workshops.* One (1) public meeting or workshop will be held to present the final recommended airport development plan.

*Belfast Municipal Airport Commission Briefings.* The consultant will prepare and present two (2) project briefings for the Belfast Municipal Airport Commission. These briefings will be scheduled at the discretion of the Sponsor.

*Additional Presentations.* One (1) additional public presentation will be conducted at the discretion of the Sponsor. This presentation could take the form of an additional public workshop and/or a project briefing for the Belfast City Council.

Note that the Consultant will prepare the necessary graphics and handouts and have appropriate personnel available for all meetings and briefings. The Consultant is responsible for setting up the meetings and coordinating with the appropriate agencies involved. The Sponsor

will be responsible for all advertising and notices relating to the meetings, as well as providing a location for the meetings.

***Task Product:*** One public informational meetings/workshop; two Airport Commission meetings; and one undefined public presentation.

***Sponsor Task Responsibilities:*** *Assist the Consultant as required in establishing and conducting the meetings.*

***ASG Task Responsibilities:*** *Facilitate the meetings including developing appropriate notices, agendas, presentations, materials and meeting notes.*

## **TASK NINE – DOCUMENTATION**

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In addition to the documentation described in previous tasks, the following documentation elements are included in this project scope.

- **Draft and Final Report**

The Consultant will provide electronic PDF copies of the draft report to the Sponsor for distribution to all appropriate entities for review. The draft report will include all elements from previously produced Working Papers plus revised and new material as necessary.

Following a review and comment period of the draft Report that will include a single round of PMT comments approved by the Sponsor, a Final Report will be produced and printed. Up to five (5) hard copies (double-sided) of the final report (in addition to electronic copies) will be provided and distributed by the Consultant. The Consultant will also provide up to 10 CDs containing electronic copies of the final report in a PDF format.

- **Reproducible Drawings**

The Consultant will prepare four (4) reproducible drawing sets at an appropriate scale on a sheet no smaller than 24" by 36" for each of the sheets contained in the Airport Layout Plan drawing set. Two sets will be provided to the FAA, one set to MaineDOT Aviation, and the final set will be provided to the Sponsor.

## **TASK TEN – PROJECT MANAGEMENT / CONTRACT ADMINISTRATION**

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In addition to the study components and documentation described in previous tasks, the following general tasks are identified for project management and contract administration.

### Project Management

The Consultant will perform the standard project management functions associated with a planning project funded under AIP including but not limited to initial coordination with the Sponsor, FAA and Maine DOT regarding a conceptual project scope. In fact the Consultant already conducted an initial meeting at the FAA on April 1, 2014, the results of which form the basis for this scope document. The Consultant will also reach out to prospective sub-consultants for specialty assistance on the project; such assistance is anticipated for aviation forecasting and environmental review. The Consultant will produce a draft and final scope of work based on comments received from the Sponsor, FAA and Maine DOT. The Consultant will produce a proposed fee estimate based on the approved scope of work, and participate in negotiations with the Sponsor and the Sponsor's Independent Fee Estimator (IFE) as may be necessary. The Consultant will produce and deliver a final fee proposal based on negotiations.

The Consultant will coordinate with the Sponsor and produce grant applications for execution and submittal to the FAA and Maine DOT. The Consultant will also coordinate with the Sponsor and Maine DOT staff and produce applicable contract forms for the project including potential DBE participation. The Consultant will coordinate with its sub-consultants and produce a project schedule, which will be refined during the course of project development. Finally, the Consultant will also produce periodic payment requests based on the anticipated project duration (assume 6 month project).

### Coordination

The Consultant will coordinate closely with the Sponsor and project stakeholders as necessary during the project (at the direction of the Sponsor). Project-specific meetings are described in Task Eight.

### Documentation

The Consultant will produce project status update documentation as required by the sponsoring agencies.

## Appendix A

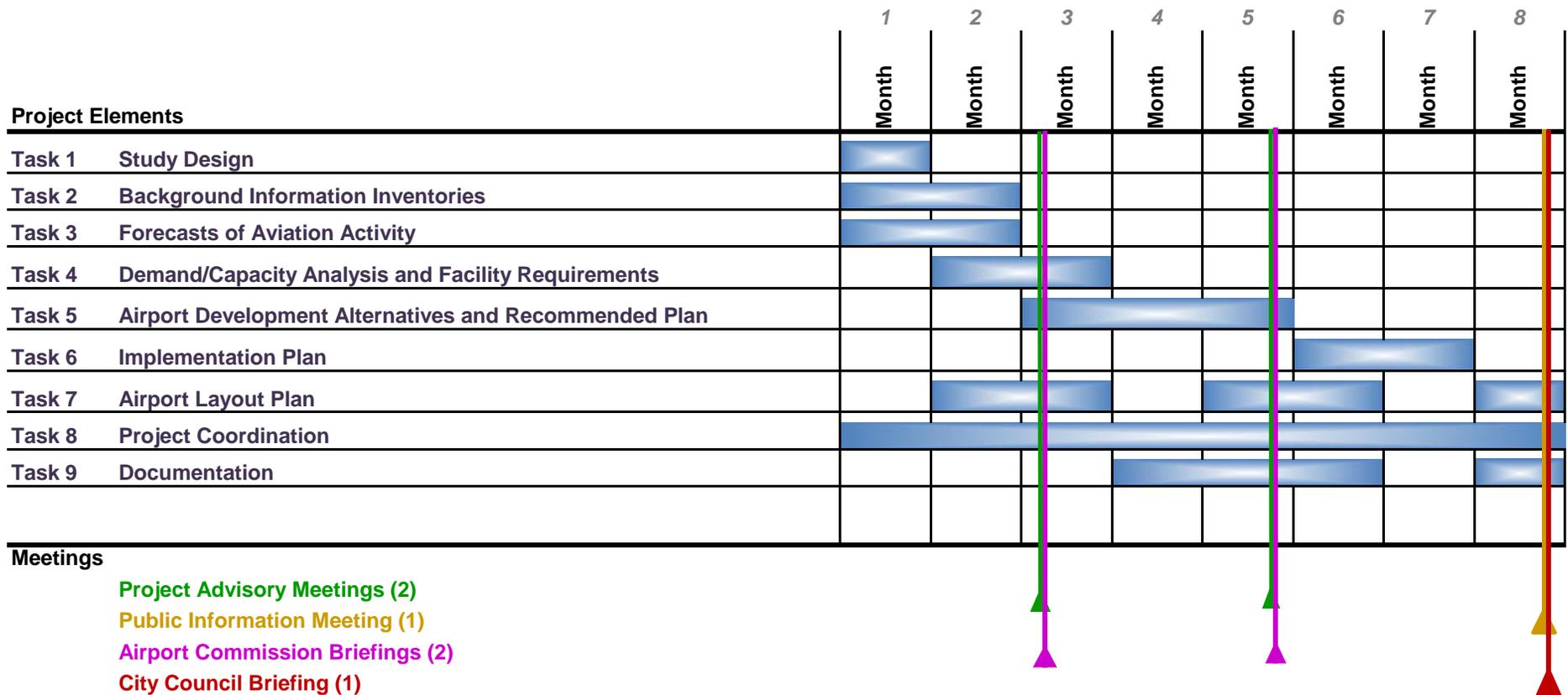
### Project Schedule

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# BELFAST MUNICIPAL AIRPORT

## *Airport Master Plan*

### *Project Schedule*



## Appendix B

### Project Fee

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ASG FEE ESTIMATE  
Belfast Municipal Airport (BST)  
Belfast, Maine

05/16/2014

	Principle-in-Charge	Proj Mgr	Planner	Senior Engineer	Engineer	Admin	CAD/GIS	Total Hours	Direct Salary	Overhead	Total Labor	Profit	Total Cost	Sub-consultant	TOTAL
<b>Task 1 STUDY DESIGN</b>															
1.1 Project Definition	2.0	12.0						14.0	\$700.00	\$1,082.06	\$1,782.06	\$178.21	\$1,960.27		\$1,960.27
1.2 Public Coordination Elements		4.0						4.0	\$200.00	\$309.16	\$509.16	\$50.92	\$560.08		\$560.08
<b>Subtotal - Task 1</b>	<b>2.0</b>	<b>16.0</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>18.0</b>	<b>\$900.00</b>	<b>\$1,391.22</b>	<b>\$2,291.22</b>	<b>\$229.12</b>	<b>\$2,520.34</b>	<b>\$0.00</b>	<b>\$2,520.34</b>
<b>Task 2 BACKGROUND INFORMATION INVENTORIES</b>															
Facilities Inventory		4.0	16.0	2.0	8.0		8.0	38.0	\$1,352.00	\$2,089.92	\$3,441.92	\$344.19	\$3,786.11		\$3,786.11
Inventory Existing Land Use and Zoning		2.0	4.0				4.0	10.0	\$360.00	\$556.49	\$916.49	\$91.65	\$1,008.14		\$1,008.14
Airspace and NAVAIDS Inventory		1.0	4.0					5.0	\$210.00	\$324.62	\$534.62	\$53.46	\$588.08		\$588.08
Existing Environmental Conditions		2.0	4.0					6.0	\$260.00	\$401.91	\$661.91	\$66.19	\$728.10	\$2,000.00	\$2,728.10
Financial Inventory		2.0	4.0					6.0	\$260.00	\$401.91	\$661.91	\$66.19	\$728.10		\$728.10
Develop Working Paper and Document Chapter		2.0	14.0				4.0	20.0	\$760.00	\$1,174.81	\$1,934.81	\$193.48	\$2,128.29		\$2,128.29
<b>Subtotal - Task 2</b>	<b>-</b>	<b>13.0</b>	<b>46.0</b>	<b>2.0</b>	<b>8.0</b>	<b>4.0</b>	<b>12.0</b>	<b>85.0</b>	<b>\$3,202.00</b>	<b>\$4,949.65</b>	<b>\$8,151.65</b>	<b>\$815.17</b>	<b>\$8,966.82</b>	<b>\$2,000.00</b>	<b>\$10,966.82</b>
<b>Task 3 FORECASTS OF AVIATION ACTIVITY</b>															
Aviation Activity Projections		2.0	4.0					6.0	\$260.00	\$401.91	\$661.91	\$66.19	\$728.10		\$728.10
Develop Working Paper and Document Chapter		2.0	16.0				5.0	24.0	\$915.00	\$1,414.41	\$2,329.41	\$232.94	\$2,562.35		\$2,562.35
Forecast Approval		2.0	4.0					6.0	\$260.00	\$401.91	\$661.91	\$66.19	\$728.10		\$728.10
<b>Subtotal - Task 3</b>	<b>-</b>	<b>7.0</b>	<b>24.0</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>5.0</b>	<b>36.0</b>	<b>\$1,435.00</b>	<b>\$2,218.22</b>	<b>\$3,653.22</b>	<b>\$365.32</b>	<b>\$4,018.55</b>	<b>\$0.00</b>	<b>\$4,018.55</b>
<b>Task 4 DEMAND/CAPACITY ANALYSIS AND FACILITY REQUIREMENTS</b>															
Design Standards Review/Evaluation		4.0	8.0				4.0	16.0	\$620.00	\$958.40	\$1,578.40	\$157.84	\$1,736.24		\$1,736.24
Inside Facilities Requirements Determination		8.0	8.0					20.0	\$820.00	\$1,267.56	\$2,087.56	\$208.76	\$2,296.31		\$2,296.31
Outside Facilities Requirements Determination		8.0	8.0					20.0	\$820.00	\$1,267.56	\$2,087.56	\$208.76	\$2,296.31		\$2,296.31
Develop Working Paper and Document Chapter		4.0	32.0				6.0	42.0	\$1,630.00	\$2,519.65	\$4,149.65	\$414.97	\$4,564.62		\$4,564.62
<b>Subtotal - Task 4</b>	<b>-</b>	<b>24.0</b>	<b>56.0</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>6.0</b>	<b>12.0</b>	<b>\$3,890.00</b>	<b>\$6,013.16</b>	<b>\$9,903.16</b>	<b>\$990.32</b>	<b>\$10,893.48</b>	<b>\$0.00</b>	<b>\$10,893.48</b>
<b>Task 5 AIRPORT DEVELOPMENT ALTERNATIVES AND RECOMMENDED PLAN</b>															
Goals Development		4.0	4.0					8.0	\$360.00	\$556.49	\$916.49	\$91.65	\$1,008.14		\$1,008.14
Prepare Development Alternatives		2.0	20.0	40.0	8.0	40.0	40.0	150.0	\$6,172.00	\$7,994.88	\$13,166.88	\$1,316.69	\$14,483.57	\$2,000.00	\$16,483.57
Development Alternatives Evaluation		1.0	8.0	16.0			16.0	41.0	\$1,490.00	\$2,303.24	\$3,793.24	\$379.32	\$4,172.57		\$4,172.57
Prepare Recommended Development Plan and Program		1.0	8.0	16.0			16.0	41.0	\$1,490.00	\$2,303.24	\$3,793.24	\$379.32	\$4,172.57	\$1,000.00	\$5,172.57
Develop Working Paper and Document Chapter		4.0	32.0				6.0	42.0	\$1,630.00	\$2,519.65	\$4,149.65	\$414.97	\$4,564.62		\$4,564.62
<b>Subtotal - Task 5</b>	<b>4.0</b>	<b>44.0</b>	<b>108.0</b>	<b>8.0</b>	<b>40.0</b>	<b>6.0</b>	<b>72.0</b>	<b>282.0</b>	<b>\$10,142.00</b>	<b>\$15,677.50</b>	<b>\$25,819.50</b>	<b>\$2,581.95</b>	<b>\$28,401.45</b>	<b>\$3,000.00</b>	<b>\$31,401.45</b>
<b>Task 6 IMPLEMENTATION PLAN</b>															
Prepare Cost Estimates		1.0	1.0		16.0	40.0		58.0	\$1,924.00	\$2,974.12	\$4,898.12	\$489.81	\$5,387.93		\$5,387.93
Implementation Schedule		1.0	2.0		8.0		8.0	19.0	\$702.00	\$1,085.15	\$1,787.15	\$178.72	\$1,965.87		\$1,965.87
Financial Plan		1.0	8.0	40.0			8.0	57.0	\$2,250.00	\$3,478.05	\$5,728.05	\$572.81	\$6,300.86		\$6,300.86
Capital Improvement Program (CIP)		1.0	4.0	20.0	4.0		8.0	37.0	\$1,426.00	\$2,204.31	\$3,630.31	\$363.03	\$3,993.34		\$3,993.34
Develop Working Paper and Document Chapter		4.0	32.0				6.0	42.0	\$1,630.00	\$2,519.65	\$4,149.65	\$414.97	\$4,564.62		\$4,564.62
<b>Subtotal - Task 6</b>	<b>4.0</b>	<b>19.0</b>	<b>92.0</b>	<b>28.0</b>	<b>40.0</b>	<b>22.0</b>	<b>8.0</b>	<b>213.0</b>	<b>\$7,932.00</b>	<b>\$12,261.29</b>	<b>\$20,193.29</b>	<b>\$2,019.33</b>	<b>\$22,212.61</b>	<b>\$0.00</b>	<b>\$22,212.61</b>
<b>Task 7 AIRPORT LAYOUT PLAN</b>															
Title Sheet			1.0				2.0	3.0	\$90.00	\$139.12	\$229.12	\$22.91	\$252.03		\$252.03
Existing Conditions Sheet		4.0	8.0				32.0	44.0	\$1,320.00	\$2,040.46	\$3,360.46	\$336.05	\$3,696.50		\$3,696.50
Airport Layout Plan		4.0	16.0				40.0	60.0	\$1,840.00	\$2,844.27	\$4,684.27	\$468.43	\$5,152.70		\$5,152.70
Terminal Area Plan		1.0	4.0				16.0	21.0	\$610.00	\$942.94	\$1,552.94	\$155.29	\$1,708.23		\$1,708.23
Airport Airspace Drawing		2.0	4.0				24.0	30.0	\$860.00	\$1,329.39	\$2,189.39	\$218.94	\$2,408.33		\$2,408.33
Inner Portion of the Approach Surface Drawings		2.0	4.0			8.0	32.0	46.0	\$1,284.00	\$1,984.81	\$3,268.81	\$326.88	\$3,595.69		\$3,595.69
Land Use Plan		2.0	4.0				8.0	14.0	\$460.00	\$711.07	\$1,171.07	\$117.11	\$1,288.17		\$1,288.17
ALP Approval		1.0	6.0				8.0	15.0	\$490.00	\$757.44	\$1,247.44	\$124.74	\$1,372.19		\$1,372.19
<b>Subtotal - Task 7</b>	<b>-</b>	<b>16.0</b>	<b>47.0</b>	<b>-</b>	<b>8.0</b>	<b>-</b>	<b>162.0</b>	<b>233.0</b>	<b>\$6,954.00</b>	<b>\$10,749.49</b>	<b>\$17,703.49</b>	<b>\$1,770.35</b>	<b>\$19,473.84</b>	<b>\$0.00</b>	<b>\$19,473.84</b>
<b>Task 8 PUBLIC INFORMATION MEETINGS / WORKSHOPS</b>															
Project Management Team (PMT)		12.0	24.0				12.0	48.0	\$2,100.00	\$3,246.18	\$5,346.18	\$534.62	\$5,880.80		\$5,880.80
PMT Meeting 1		4.0	8.0				4.0	16.0							
PMT Meeting 2		4.0	8.0				4.0	16.0							
PMT Meeting 3		4.0	8.0				4.0	16.0							
Project Advisory Committee (PAC)		8.0	16.0				8.0	32.0	\$1,400.00	\$2,164.12	\$3,564.12	\$356.41	\$3,920.53		\$3,920.53
PAC Meeting 1		4.0	8.0				4.0	16.0							
PAC Meeting 2		4.0	8.0				4.0	16.0							
Public Coordination		12.0	32.0				12.0	48.0	\$2,500.00	\$3,864.50	\$6,364.50	\$636.45	\$7,000.95		\$7,000.95
Public Information Meeting / Workshop		4.0	8.0				4.0	16.0							
Airport Commission Briefings (2 total)		4.0	16.0				4.0	24.0							
Additional Presentations (1 total)		4.0	8.0				4.0	16.0							
<b>Subtotal - Task 8</b>	<b>32.0</b>	<b>72.0</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>32.0</b>	<b>-</b>	<b>136.0</b>	<b>\$6,000.00</b>	<b>\$9,274.80</b>	<b>\$15,274.80</b>	<b>\$1,527.48</b>	<b>\$16,802.28</b>	<b>\$0.00</b>	<b>\$16,802.28</b>
<b>Task 9 DELIVERABLES &amp; COORDINATION</b>															
Draft and Final Report		1.0	8.0	32.0			10.0	8.0	\$2,180.00	\$3,369.84	\$5,549.84	\$554.98	\$6,104.83		\$6,104.83
Reproducible Drawings		1.0	4.0	12.0			4.0	57.0	\$1,730.00	\$2,674.23	\$4,404.23	\$440.42	\$4,844.66		\$4,844.66
<b>Subtotal - Task 9</b>	<b>2.0</b>	<b>12.0</b>	<b>44.0</b>	<b>-</b>	<b>-</b>	<b>10.0</b>	<b>48.0</b>	<b>116.0</b>	<b>\$3,910.00</b>	<b>\$6,044.08</b>	<b>\$9,954.08</b>	<b>\$995.41</b>	<b>\$10,949.49</b>	<b>\$0.00</b>	<b>\$10,949.49</b>
<b>Task 10 PROJECT MANAGEMENT &amp; CONTRACT ADMINISTRATION</b>															
Contract Preparation & Execution		2.0					2.0	4.0	\$150.00	\$231.87	\$381.87	\$38.19	\$420.06		\$420.06
Project Grant Applications		1.0	2.0				8.0	7.0	\$250.00	\$386.45	\$636.45	\$63.65	\$700.10		\$700.10
Prepare & Process Reimbursement Requests (Estimate 7 total RFRs)		1.0	8.0				8.0	17.0	\$650.00	\$1,004.77	\$1,654.77	\$165.48	\$1,820.25		\$1,820.25
Coordinate, Review & Approve Subconsultant Invoices (Estimate 4 total RFRs)		7.0	7.0			14.0		28.0	\$1,050.00	\$1,623.09	\$2,673.09	\$267.31	\$2,940.40		\$2,940.40
Project Management, Coordination		8.0	8.0					16.0	\$800.00	\$1,236.64	\$2,036.64	\$203.66	\$2,240.30		\$2,240.30
<b>Subtotal - Task 10</b>	<b>19.0</b>	<b>25.0</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>28.0</b>	<b>-</b>	<b>72.0</b>	<b>\$2,900.00</b>	<b>\$4,482.82</b>	<b>\$7,382.82</b>	<b>\$738.28</b>	<b>\$8,121.10</b>	<b>\$0.00</b>	<b>\$8,121.10</b>
<b>Total Hours - Project Labor</b>	<b>63.0</b>	<b>248.0</b>	<b>417.0</b>	<b>38.0</b>	<b>96.0</b>	<b>113.0</b>	<b>314.0</b>	<b>1,289.0</b>	<b>\$47,265.00</b>	<b>\$73,062.24</b>	<b>\$120,327.24</b>	<b>\$12,032.72</b>	<b>\$132,359.96</b>	<b>\$5,000.00</b>	<b>\$137,359.96</b>
<b>Rate</b>	<b>\$50.00</b>	<b>\$50.00</b>	<b>\$40.00</b>	<b>\$44.00</b>	<b>\$28.00</b>	<b>\$25.00</b>	<b>\$25.00</b>								
<b>Direct Salary Cost</b>	<b>\$3,150.00</b>	<b>\$12,400.00</b>	<b>\$16,680.00</b>	<b>\$1,672.00</b>	<b>\$2,688.00</b>	<b>\$2,825.00</b>	<b>\$7,850.00</b>	<b>\$47,265.00</b>	<b>Check</b>						
<b>Percentage of Total</b>	<b>4.89%</b>	<b>19.24%</b>	<b>32.35%</b>	<b>2.95%</b>	<b>7.45%</b>	<b>8.77%</b>	<b>24.36%</b>	<b>100.0%</b>				</			