BISBEE DOUGLAS INTERNATIONAL AIRPORT
DOUGLAS, ARIZONA
AIRPORT MASTER PLAN UPDATE
SCOPE OF WORK

OBJECTIVE

Cochise County desires to update the Bisbee Douglas International Airport Master Plan to address key issues, objectives and goals pertinent to the airport's development. The following Scope of Work describes the effort required to successfully complete the Master Planning program, addressing the needs of the community and providing a program for realistic development.

Armstrong Consultants (Consultant) will retain responsibility for the technical aspects of the planning study and will assure the coordination with and exchange of information between the consultant team, airport management, and county staff, working groups, interested parties including other government bodies, Arizona Department of Transportation Multimodal Planning Division – Aeronautics Group (ADOT) and the Federal Aviation Administration (FAA) in order that the overall project is completed in a timely and quality manner.

The overall goal of the master plan is to provide the framework to meet existing and future aviation demands that will allow the airport to operate in a safe and cost-effective manner, while considering potential environmental and socioeconomic impacts.

Specific goals and objectives of the project include, but are not limited to:

- 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.
- Propose an achievable Capital Improvement 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, ADOT 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 that will monitor key conditions and permit changes in plan recommendations as required.
- Review of existing land uses surrounding the airport for compatibility and control.

The Airport Master Plan document and Airport Layout Plan will be prepared in accordance with Federal regulations, Advisory Circulars (ACs) and guidance, including the current regional FAA ALP checklist, FAA AC 150/5070-6B, *Airport Master Plans*; AC 150/5300-13A, *Airport Design*; AC 150/5060-5, *Airport Capacity and Delay*; and AC 150/5325-4B, *Runway Length Requirements for Airport Design*; 14 CFR Part 77, *Safe, Efficient Use, and Preservation of the Navigable Airspace*; FAA Order 5100.38C, *AIP Handbook*; FAA Order 1050.1E, *Environmental Impacts: Policies and Procedures*, FAA Order 5050.4B, NEPA *Implementing Instructions for Airport Actions*, and the 2007 FAA Environmental Desk Reference.

A summary of the Airport Master Plan Elements is listed below, each of which is further described in the remainder of this document.

AIRPORT MASTER PLAN ELEMENTS

Element 1 ..... Project Management
Element 2 ..... Public Involvement
Element 3 ..... Existing Conditions
Element 4 ..... Environmental Conditions
Element 5 ..... Aviation Forecasts
Element 6 ..... Facility Requirements
Element 7 ..... Development Alternatives
Element 8 ..... Airport Layout Plans
Element 9 ..... Implementation and Financial Plan
Element 10 ..... Documentation

ELEMENT 1
PROJECT MANAGEMENT

Task 1.0 Project Management and Quality Control

Description: To provide appropriate direction and project management for the development of the Bisbee Douglas International Airport Master Plan as each assignment is undertaken and completed, Armstrong Consultants will maintain close liaison with Airport Management, and County Staff, interested parties, the FAA and ADOT to ensure the plan truly reflects the appropriate airport role and development needs.

To ensure consistency throughout the project in terms of written and graphic communication, Armstrong Consultants will be responsible, through regular in-house meetings and communications, for quality control, final word processing, proof-reading, editing, final artwork and other graphics, presentation graphics, and production of all documents, including working papers, technical memorandums, draft reports, final reports, summary brochures, and others as appropriate.

Ongoing coordination discussions will be held among Consultant team members for purposes of project quality control, coordination and strategy. In addition to Public Information Meetings and TAC meetings, regular meetings and discussions will be held between the Consultant and Airport Management supported by telephone discussions and written progress reports. The purpose of the meetings will be to report on progress made on the study since the prior meeting,

receive input from the participants, report on important phases or sub-phases that have been completed, identify problems encountered for the purpose of resolution, evaluate and select alternatives presented, and generally afford an opportunity to review the work and findings at various stages of completion.

The Consultant will develop a schedule for conducting the Airport Master Plan, modifying it as appropriate with the approval of Airport Management. Invoices will be submitted to the sponsor at key project milestones based on the percentage of tasks completed. Progress reports will accompany each billing.

Output*:* A program for assuring exceptional project execution from all members of the Armstrong Consultants team, including schedule, budget, meeting summaries, billings and progress reports.

ELEMENT 2
PUBLIC INVOLVEMENT PROGRAM

Task 2.1 Establish Airport Master Plan Technical Advisory Committee (TAC)

Description: A Technical Advisory Committee (TAC) will be established, to consist of approximately five to ten (5-10) members. The TAC will serve as a non-voting body to advise the consultant on content and recommendations for the master plan through meetings and review of the working papers. Members to serve on the TAC will be determined by airport management, and county staff. Typical membership consists of interested stakeholders which may include technical experts, airport staff, Airport Advisory Board Members, Cochise County staff from public works, county planning, zoning, and engineering department. Also include are airport tenants, fixed base operators, economic development, local chamber of commerce, local business representatives, local citizen groups (HOAs), ADOT and FAA agency representatives. ADOT policy requires an invitation to the Military Airspace liaison and the Arizona State Land Department to participate on the TAC.

Output: Establish a TAC to provide input and review throughout the planning process. Three TAC meetings will be held.

Task 2.2 Public Information Meeting

Two public information meetings will take place, one at the completion of the development alternatives portion of the airport master plan, and one upon the completion of the draft final master plan prior to the approval by the airport sponsor. The forum for the meetings will be an open house with a short presentation and the opportunity for questions and answers from the public.

Purpose

The purpose of the Public Involvement Program is to facilitate open and proactive communication with the public, and community knowledge and support for the resulting plan so that participating members of the public will have a vested interest in the resulting plan. While unanimous agreement on all aspects of the master plan is not expected, recognition that the involvement process has been a fair and equitable one, and that all voices have been heard and considered is anticipated. This program will provide access to information about the

project, will provide opportunities for the public to give input on needs, problems and solutions, and will provide a mechanism whereby planners can evaluate and seriously consider and respond to public input received.

General Principles

The Public Involvement Program will conform to the following general principles:

- Public participation will begin in the earliest stages of the planning process and will continue throughout the process.
- The public will have access to project information.
- Timely and adequate public notice will be provided for meetings.
- All public participation activities and input will be fully documented and distributed to members of the planning team and available to the public.
- The public involvement process will feature two-way communication, with a free exchange of information, ideas, and values between the planners and members of the public.
- The study team will give consideration to all reasonable suggestions by the community.
- Written responses to citizen comments and questions will be prompt and informative.

2.2.1 Preparation of Printed and Presentation Materials. Both those attending committee and public meetings and those who do not attend such meetings will benefit from informational materials made available to them. The public involvement plan includes materials to be provided to specific target audiences and participants. These materials include three newsletters and graphic exhibits prepared for TAC and public information meetings. Committee members will receive copies of working papers prepared during the planning process.

2.2.2 Web Site. Information, materials and documentation relating to the airport master plan will be provided to the sponsor to be placed on the sponsor's web-site. The Consultant will furnish the inclusions for the web site and will work with Cochise County's representative to keep the information up to date.

ELEMENT 3
INVENTORY EXISTING CONDITIONS

The purpose of this Element is to prepare, assemble and organize basic information, data and mapping to be used throughout all phases of this study. This Element will maximize the use of existing information. Only when existing information is not available, or is incomplete, will new data be assembled. Comprehensive plans, studies, regulations, ordinances, and policies of the Sponsor, involved communities, and state agencies will be used to assure that recommendations of the study will be consistent with the current and long-range objectives, goals, and needs of the various governmental levels and jurisdictions. The collection of information and documents will serve as a database for source material to be used throughout the project.

Task 3.1 TAC Meeting No. 1

Description: A kickoff meeting with the Consultant Team, Airport Management, county staff,

appropriate officials, and TAC Members will be held at the very beginning of the project. The purpose of such a meeting will be to develop team relationships, establish early direction for the study effort, and ensure a thorough understanding of the master planning process, its benefits, and use of the Airport Master Plan in the decision-making process.

Output: An introductory meeting to establish team relationships and initial direction for the airport master planning effort.

Task 3.2 Obtain Background Data

Description: Obtain copies of existing reports, plans, photographs, or other documents which may provide data on the history of the airport, economic impact, area transportation systems, utilities, jurisdictional boundaries or other data and information pertinent to the study. Assemble, catalogue and review all data for use in later tasks of the study and to support inquiries and interviews in the local area.

The background Section of the report will provide a brief overview of the history of the airport, its aeronautical role in the national aviation system and its role in the community's infrastructure. The airport's economic impact and contribution to the community will be described. A history of federal and ADOT grant funding will be provided along with a description of the Assurances and obligations associated with those grants.

Output: Organized reference file and background discussion to support master plan analyses.

Task 3.3 Obtain Land Use and Zoning Data

Description: Obtain copies of existing local planning and land use regulations contained in existing documentation and mapping within the airport influence area (i.e. 14 CFR Part 77 Airspace Surfaces). This effort will concentrate on identifying the boundaries of controlling jurisdictions and the land uses by type. These types will be general and will include, but not be limited to residential, commercial, agricultural, recreation, conservation and public uses. In addition, available information will be obtained that will identify the typical characteristics which may influence construction and planning for an airport. These characteristics include soil classifications, topographic conditions, flood hazard areas, public utilities, drainage and flood control works, major power and pipeline rights-of-way, and key ground transportation routes. Existing, or currently proposed, airport zoning will be evaluated to determine compliance with existing FAA grant assurances and level of protection afforded to the airport.

Output: Assemble land use data to describe the airport's regional setting.

Task 3.4 Inventory Site Visit of Airport Physical Facilities

Description: The physical facilities inventories of the Airport will include an examination of plans and documents, as well as an on-site inspection of each physical facility to determine its type, size, condition, adequacy and use.

This information will be used in later Tasks to evaluate the effectiveness of those facilities in meeting aviation demand at the airport.

- Airfield/Airspace: Runway, taxiway and holding apron configurations to include pavement design/construction/maintenance history and condition, lighting, visual aids and navigational aids. Military airspace and other restricted or protected areas, including national parks and wilderness areas. Obstruction data will be identified from the existing obstruction chart. Airport perimeter fencing and access control gates will be inventoried.

- General Aviation Facilities: The quantity and type of hangars, transient aircraft parking apron, tie-down positions, fixed base operators and general aviation services will be inventoried. Structural use, hangar utilization, and airport tenant lease uses will be identified.

- Airport Property: Existing airport property will be identified as well as on-airport land uses.

- Ancillary/Support Facilities: Fuel storage, snow removal equipment and storage facilities, surrounding emergency response and other airport administration and maintenance facilities to be inventoried. Determine existing capacities including number of tanks types of fuel and available equipment and adequacy of storage tanks based on existing and forecasted demand. Define other types of businesses and building sizes on the airport.

Output: Site visit and tabulated airport facilities inventories for the Airport.

Task 3.5 Infrastructure (Roadways, Parking and Utilities)

Description: Making maximum use of existing information and current studies, perform inventory of airport access system with special emphasis on access and use of the road system. Existing conditions will be documented to help determine adequacy of the present road system and parking facilities. Support facilities and utility systems will be inventoried.

- Access, Circulation and Parking: Construction, condition and lighting of ground access systems will be inventoried and evaluated on the adequacy for existing and future use of the airport. Multi-modal transportation facilities will be identified and signage (i.e. way finding) for the airport will be evaluated.

- Utilities and Support: Utilities supporting the Airport will be reviewed and documented. Power and emergency power, gas service, sewer, water, telecommunication and suppliers for each will be identified within the report. The inventory will utilize information, maps and data provided to Armstrong Consultants by the Sponsor.

Output: Base data, for use in later Elements of this study.

Task 3.6 Obtain Socioeconomic Data

Description: Obtain area-wide socioeconomic data, update and verify the projections and content where necessary. This effort will include population data, income and employment. Review existing data available on factors that may reveal a potential for induced or secondary socioeconomic impacts such as shifts in human settlement patterns, changes in population growth, public service demands and any changes to business or economic activity. This information will be

utilized in the preparation of aviation activity forecasts and consideration of potential environmental impacts.

Output: Socioeconomic background data.

Task 3.7 Assemble Weather Data

Description: Wind data from the NOAA National Climatic Data Center records from the on-airport ASOS will be compiled to generate an updated wind rose and resulting runway crosswind coverage for the airport.

Output: Wind data to be used in subsequent elements.

Task 3.8 Financial Data

Description: Specific financial data and information necessary to provide adequate financial evaluation of any proposed development will be identified. An evaluation of airport funds will be accomplished to develop future recommendations consistent with sound fiscal management of the airport and the funding resources required. This information will pertain primarily to the following, as it is available:

a. Current and projected airport operating budgets (revenue and expenses)
b. Capital improvement projects planned or in progress
c. Airport leases, user fees
d. FAA and ADOT grants
e. Debt service

Output: Financial data to be used in subsequent phases of this study.

Task 3.9 Obtain Aerial Photogrammetry and Topographical Survey

Description: Aerial photogrammetry and contour mapping of the airport will be obtained. No AGIS surveying will be included as part of the project.

Product: Aerial Photography and mapping

Task 3.10 Inventory of Regional Airports

Description: An inventory and description of existing airport facilities within a 30 nautical mile radius of Bisbee Douglas International Airport.

Product: Inventory of surrounding airports

Task 3.11 Obtain Historic and Existing Operational and Based Aircraft Data

Description: Available historic and existing air traffic data for the airport will be collected and reviewed including:

a. Historic aviation activity
b. Based aircraft
c. Enplanement data
d. County traffic counts
e. Operations by aircraft type and volume
f. Fleet mix
g. Cargo volume
h. Critical aircraft and Runway Design Codes (RDC) will be identified.

Output: Input for later tasks which include forecasting, demand/capacity and facility requirements.

Task 3.12 Document Obstructions and Non-standard Conditions

Description: Data from Task 3.9 will be used to document the airport and surrounding environs resulting in a listing of obstructions to 14 CFR Part 77 airspace and conditions which are non-standard with respect to design standards contained in FAA AC 150/5300-13A, *Airport Design*

Output: Input for later tasks.

ELEMENT 4
BASELINE ENVIRONMENTAL CONDITIONS

Task 4.1 Inventory Environmental Conditions

Description: Through the use of existing reports, maps, studies, environmental documents, the internet, and walking survey document and correspondence with the US Fish and Wildlife Service, US Army Corps of Engineers and the State Historic Preservation Office the airport's environmental setting and key environmental resources that may be affected by airport development will be described. In addition to socioeconomic and land use data from previous Tasks the following information, to the extent available, will be collected:

- State inventories of endangered and threatened species in the vicinity;
- State inventories of historic and archaeological sites;
- Topographical maps and earth/soil information;
- State data concerning air quality in the Airport vicinity;
- Airport policies and procedures, including a wildlife management plan and any operating permits;
- State and local transportation inventories and transportation plans;
- Previous on-site environmental studies;
- Environmental Health Department information; and,
- Stormwater Pollution Prevention (SWPPP) and Spill Prevention Control & Countermeasures (SPCC) Plans.
- Evaluate any existing community waste recycling plans.
- Indentify existing surrounding Section 4(f) properties.

Output: Inventory and field surveys of the airport's existing environmental setting.

ELEMENT 5
AVIATION FORECASTS

The purpose of this study Element is to examine the most significant factors associated with the demand for aviation transportation and to develop annual forecasts of aviation activity anticipated to occur during the next twenty years. The aviation forecast will be developed using acceptable forecasting analysis and be consistent with the FAA's Terminal Area Forecast (TAF). Any substantial differences between the forecast and the TAF will be resolved before work continues on subsequent parts of the master plan study.

Forecasts will be prepared in accordance with FAA guidance, including *Forecasting Aviation Activity by Airport* (July 2001) and *Guidance on Review and Approval of Local Aviation Forecasts* (June 2008).

Task 5.1 Evaluate Factors influencing Aviation Demand

Description: Review local, regional and national trends influencing and affecting aviation demand at the airport. Economic characteristics, demographic characteristics and geographic attributes of the service area will be considered along with aviation-related factors, such as fleet trends and other factors such as the role of the airport within the community will be considered and factored into the forecasts.

Output: Information to be used in forecast development.

Task 5.2 Update Existing Operational and Fleet Forecasts for the Twenty-Year Planning Period

Description: Review previous forecasts including FAA National Plan of Integrated Airport Systems (NPIAS), TAF, State Aviation Systems Plans (SASP), and previous Airport Master Plans (AMP), and apply selected methodologies to the number of existing based aircraft to develop short, medium and long-term aviation forecasts.

Methodologies for developing forecasts may include:

a. Comparative analysis of the previous and existing forecasts listed above.
b. Trend analysis of historical activity levels projected forward.
c. Market share analysis using a top-down relationship between national, regional, state and local activity levels. Historical market shares will be calculated and used as a basis for projecting future market shares.
d. Per Capita Analysis correlating future growth to future population growth
e. Cohort analysis or a combination of the other forecasting analysis
f. The FAA's Model for Estimating General Aviation Operations at Non-Towered Airports Using Towered and Non-Towered Airport Data (July 2001)

Forecasts will be presented in Excel spreadsheet format as in Appendix B and C templates in "Forecasting Aviation Activity by Airport, and shall include:

a. Annual aircraft operations (General Aviation and Commercial Service)
b. Based aircraft

c. Aircraft fleet mix, critical aircraft and Runway Design Code (RDC)
d. Cargo volume
e. Peaking characteristics

Output: Forecasts of aviation activity projected for the twenty-year planning.

Task 5.3 Forecasts Coordination and Approval

Description: Forecasts will be submitted to FAA and ADOT for review and final approval will be completed by FAA. The general requirement for FAA approval of the master plan study's forecasts is that they are supported by an acceptable forecasting analysis and are consistent with the TAF. Forecast results shall be compared with the most recent TAF using FAA's template contained FAA guidance, *Forecasting Aviation Activity by Airport.*

Output: Forecasts will be submitted for FAA approval prior to completing the next Element.

ELEMENT 6
FACILITY REQUIREMENTS

The objective of this element is to determine existing and future facility requirements. This element will include consideration of runways, taxiways, instrumentation, lighting and marking, approach and protection zones, and those areas of development required for landside and airport support facilities. Utilizing the data developed from the previous elements, perform an analysis to verify the general airport requirements necessary to meet projected demand.

Task 6.1 Demand/Capacity Analysis

Description: This analysis will involve a comparison of the forecasts prepared in Element 5 to both airside and landside capacity. Airside capacity will include an analysis of existing and future airfield layouts, area meteorology, instrumentation, and aircraft operational demand on Annual Service Volume (ASV) and peak hour demand. Methodologies outlined in Advisory Circular 150/5060-5 will be used.

Output: An analysis of existing and forecasted aircraft operations to both landside and airside capacity.

Task 6.2 Airside Requirements

Description: Based on the forecasts prepared in Element 5, the demand/capacity analysis, and other applicable data, an analysis of airside facility needs will be made.

6.2.1 Runways
Including length, width, dimensional criteria, orientation, crosswind or secondary runway needs, pavement type, condition and strength; based on ARC/RDC and critical aircraft.

6.2.2 Taxiways
The taxiway system will be analyzed for geometry, pavement type, condition,

strength, capacity, and safety enhancements, including FAA recommendations for locations of intersections.

6.2.3 Aircraft Parking Aprons
The sizing needs for commercial service, general aviation and air cargo aprons will be determined based on forecasted activity levels and fleet mix.

6.2.4 Navigation Aids
Evaluate existing electronic and visual aids to navigation including ILS, MALSR, VOR, REILs, PAPIs, AWOS etc. and determine if any new or replacement equipment is needed.

6.2.5 Airspace Requirements
14 CFR Part 77 surfaces requirements will be determined. This will include required setbacks for future airport related development based on future recommended instrument approach procedures.

6.2.6 Non-Standard Conditions and Modifications to Design Standards
Needs for correcting existing non-standard conditions or modifications to design standards will be identified.

Output: Detailed description of the airside facilities required to meet aviation demand throughout the 20-year planning period.

Task 6.3 Landside Requirements

Description: Landside facility requirements will be based on the demand/capacity analysis and the evaluation of existing conditions to provide an appropriate airside/landside balance compatible with identified airfield requirements.

6.3.1 Aircraft Storage Requirements
The type and quantity of hangars, sunshades or other facilities required to accommodate existing and future demand will be identified.

6.3.2 Snow Removal Equipment (SRE)
Current and future SRE, storage building and facility needs will be determined.

6.3.3 Fuel Storage and Dispensing
Discussions with airport management and fuel suppliers, and review of fuel sales data, will be conducted to determine if fuel storage is adequate. Evaluate the existing fuel system and determine if additional fuel facilities, including bulk storage, self-serve, or mobile refulers are need during the planning period.

6.3.4 Utilities
The requirements for water, sewer, gas and telephone will be evaluated to determine needs for expansion and extension into future landside development areas.

6.3.5 Vehicle Parking

Future tenant, employee, passenger and visitor parking requirements will be identified.

6.3.6 Access and Airport Circulation
Future vehicle circulation and access road needs will be evaluated for general aviation, commercial businesses and tenants.

Output: Detailed description of landside facilities required to meet aviation demands at the airport through the twenty-year planning period.

ELEMENT 7
DEVELOPMENT ALTERNATIVES

Alternative development concepts will be derived for meeting FAA safety and design standards and for meeting the facility requirements for both airside and landside facilities. Reasonable and feasible alternatives to implement will be considered for further evaluation. Alternatives considered, but later rejected will be discussed.

Task 7.1 Airside Development Alternatives

Description: The airside facility requirements developed in the previous Tasks will be translated into a series of alternative plans for comparative evaluation in relation to established planning criteria. The alternatives will address available options including development of new facilities, expansion of existing facilities, or abandonment of excess or deteriorated facilities. The alternatives with the greatest potential for meeting airside demands will be evaluated to establish costs, environmental impacts, and operational considerations.

An evaluation of the impacts associated with the alternative airside development options will be addressed. This will include consideration of:

- Operational Performance: Including capacity, capability and efficiency.
- Best Planning Tenets and Other Factors: Including safety & security, conformance with design standards, flexibility, alignment with sponsor's strategic vision and social and political feasibility.
- Environmental Factors: Utilizing the information gathered in Element 4, consider potential environmental impacts, including land acquisition, associated with each alternative.
- Fiscal Factors: Including estimated development costs determined by applying estimated unit prices to estimated construction unit quantities taken from existing base mapping.

Output: Evaluation of "no action" alternative and up to three development alternatives for meeting airside facility requirements for the twenty-year planning period.

Task 7.2 Landside/Terminal Area Development Alternatives

Description: The landside/terminal airside facility requirements developed in the previous Tasks will be translated into a series of alternative plans for comparative evaluation in relation to established planning criteria. The alternatives will address available options including development of new facilities, expansion of existing facilities, or abandonment of excess or deteriorated facilities including general aviation, air cargo and other related facilities. The existing on airport land uses will be evaluated to determine recommended configuration for the future which may include the

relocation of existing facilities. The alternatives with the greatest potential for meeting airside demands will be evaluated to establish costs, environmental impacts, and operational considerations.

An evaluation of the impacts associated with the alternative airside development options will be addressed. This will include consideration of:

- Operational Performance: Including capacity, capability and efficiency
- Best Planning Tenets and Other Factors: Including safety & security, conformance with design standards, flexibility, alignment with sponsor's strategic vision and social and political feasibility
- Environmental Factors: Including potential significant environmental impacts and land acquisition, if any.
- Fiscal Factors: Including estimated development costs determined by applying estimated unit prices to estimated construction unit quantities taken from existing base mapping.

Output: Evaluation of "no action" alternative and up to three development alternatives for meeting the landside/terminal area requirements identified in previous Tasks.

Task 7.3 Conduct TAC Meeting No. 2

Description: A TAC meeting will be held to present and discuss the development alternatives and to receive input for the preferred development alternative(s) and recommended development plan.

Output: TAC Meeting. Input for preferred alternative

Task 7.4 Public Information Meeting No. 1 / Public Hearing

Description: A public information meeting will be held to present and discuss the development alternatives, provide information on the first phase of this study, and to receive public input for the preferred alternative(s) and recommended development plan. If so desired by the Sponsor, the first portion of the meeting may be held open-house style with a follow on public hearing format. The Sponsor will provide a recorder for the hearing, if held.

Output: Documented Public Information Meeting. Input for preferred alternative. Consultant will facilitate the public information meeting including the development of a PowerPoint presentation.

Task 7.5 Selection of Preferred Alternative

Description: The results of the previous Tasks along with TAC, FAA and ADOT input will be provided to the Sponsor for the selection of the preferred alternative and development plan. The selected alternative will be carried forward and form the basis of the Airport Layout, Financial and Implementation Plans including the Airport Capital Improvement Plan (CIP).

Output: Selection of the preferred alternative to be used in the remaining Master Plan Tasks.

ELEMENT 8
AIRPORT LAYOUT PLANS

This study element will produce a set of current and updated Airport Layout Plan (ALP) Drawing set

that depicts existing and the recommended airport development, in accordance with FAA standards, including AC 150/5070.6B, *Airport Master Plans*, latest edition of FAA ALP checklist and AC 150/5300-13A, *Airport Design*. Sources of information for these drawings will include previous ALP and master planning documentation, aerial photogrammetry, obstruction charts, USGS mapping, legal descriptions, existing property surveys, local and regional government mapping, FAA databases, and any other secondary sources readily available to the Sponsor/Consultant. Computer aided drafting will be used to generate the new drawing set.

- Airport Data Table sheet include a Modification to Standard Table; and
- Exhibit A, Airport Property Map, include metes and bounds for each parcel and parcel legal descriptions included on the Parcel Data Table.

FAA approval of the ALP Drawing set is required.

Output: Updated Airport Layout Plan drawing set for FAA airspace review and approval. The drawing set shall include, at minimum:

- Cover Sheet
- Airport Layout Plan
- Data Sheet
- Terminal Area Plan
- Airport Airspace Drawing
- Inner Portion of the Approach Surface Drawing
- Runway Departure Surfaces Drawing
- On-Airport Land Use Drawing
- Off-Airport Land Use Drawing, including the 65 DNL contour
- Exhibit A, Airport Property Map

Task 8.1 Cover Sheet

Description: An ALP drawing set Cover Sheet will be prepared which shall include the name and location of the airport and sponsor, location and vicinity maps, numbered list of drawing sheets contained within the set and the date of the set.

Output: ALP drawing set Cover Sheet drawing.

Task 8.2 Airport Layout Plan (ALP)

Description: In accordance with FAA AC 150/5070.6B, Appendix F, Airport Layout Drawing Set, and AC 150/5300-13A, *Airport Design*, the Airport Layout Plan will be prepared to reflect existing and future physical features and development, wind data, location of airfield facilities (runway, taxiways, NAVAIDs) and terminal/building area development. In addition, critical areas for all NAVAIDs will be shown, as well as a table describing non-standard conditions and modifications to standards and the disposition of each condition or modification.

Output: Updated ALP drawing for the Airport that meets FAA requirements and guidelines. A separate sheet containing required airport and runway data tables will follow the ALP sheet if space is limited on the ALP.

Task 8.3 Terminal/Building Area Layout Plan

Description: Specific terminal/building area plans will be developed which reflect recommended development of future aviation needs, as identified in this study. Existing and future building heights will be provided in a table. Access and parking facilities for the airport will also be included in this drawing.

Output: Updated Terminal/Building Area Layout Plan reflecting development of building areas at the airport, surface access, security fencing and other airport facilities.

Task 8.4 Airport Airspace Drawing

Description: This drawing will depict obstacle identification surfaces for the ultimate airport development configuration. It will also depict airspace obstructions for the portions of the surfaces excluded from the Inner Portions of the Approach Surface Drawing.

Per criteria outlined in 14 CFR Part 77, a topographic drawing will be prepared depicting a plan view of the ultimate airport Part 77 surfaces and a small-scale profile view of the Part 77 approach surfaces. Natural and manmade obstructions to the airspace surrounding the Airport will be identified. The data obtained in Task 3.8 will be used as a basis for developing the drawing. Airspace case studies for proposed structures in the vicinity of the airport will be reviewed for potential new objects and/or obstructions within Part 77 Airspace. This task will result in a depiction of the Part 77 Airspace surfaces and known obstructions from best available data and is not intended to produce a new or updated obstruction survey or Obstruction Chart.

Output: Updated airport airspace drawing.

Task 8.5 Inner Portion of the Approach Surfaces and Departure Surfaces Drawings

Description: Drawings containing the plan and profile view of the inner portion of the approach surface to the runway and a tabular listing of all surfaces penetrations. The drawing will depict the obstacle identification approach surfaces contained in 14 CFR Part 77. A large-scale plan and profile drawing will be prepared of the existing and ultimate inner portion of the 14 CFR Part 77 approach surfaces for each runway end. The data obtained in Task 3.8 will be used as the basis for developing the drawing. The drawing will include aerial photography as the base drawing and will depict the Runway Protection Zones and location, elevation, penetration, and disposition of obstructions exceeding Part 77 criteria.

Output: Updated approach and runway protection zone drawings.

Task 8.6 Runway Departure Surfaces Drawing

Description: A large-scale plan and profile drawing will be prepared of the existing and planned instrument runways. The data obtained in Task 3.8 will be used as the basis for developing this drawing. The drawing will include aerial photography as the base drawing and will depict the runway end location, 40:1 Runway Departure Surfaces and location, elevation, penetration, and disposition of obstructions exceeding departure surface criteria.

Output: Updated departure surface drawings for existing and proposed instrument runway ends.

Task 8.7 On-Airport Land Use Drawing

Description: A land use plan for the area within the existing and future airport property boundary will be prepared depicting recommended areas for aeronautical use, general aviation development, revenue generation, airport support services, and other uses appropriate to the airport.

Output: Updated On-Airport Land Use Drawing.

Task 8.8 Off-Airport Land Use Drawing

Description: A compatible land use plan for the area within the Airport Influence Zone, as defined by the 14 CFR Part 77 conical surface boundaries will be prepared. The existing and future 65 decibel DNL noise contours developed in previous tasks will be depicted on the drawing. Recommendations will be provided regarding compatible land uses and height restrictions in the vicinity of the airport. The Land Use Drawing will include planned aircraft traffic patterns. This drawing may be used as the basis for developing compatible land use zoning regulations and will show land uses and public facilities, such as school, parks, and hospitals.

Output: Updated Off-Airport land Use Drawing.

Task 8.9 Exhibit "A" Airport Property Map

Description: The primary intent of the drawing is to identify and/or delineate all designated airport property owned or to be acquired by the airport owner. The drawing will inventory all of the parcels which currently make up the airport or are proposed for acquisition by the airport and will include a data table that provides for each parcel:

- The date the property was acquired
- Acreage
- Federal aid project number, as appropriate
- Type of ownership

This drawing will be prepared in accordance with FAA requirements and guidelines, using existing documents, maps, and land use plans furnished to Armstrong Consultants, Inc. or readily accessible through the County Assessor or Recorder Office.

Output: Updated Exhibit "A" Airport Property Map that meets FAA requirements and guidelines.

ELEMENT 9
IMPLEMENTATION AND FINANCIAL PLAN

Task 9.1 Prepare Cost Estimates

Description*:* Cost estimates of planned projects, 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 prepared for the twenty-year period. These facility requirements potentially include such items as the runways, taxiways, aprons, hangars, access

roads, perimeter roads, safety areas, lighting and signing, fencing, buildings and hangars, auto parking, airport maintenance, fuel facilities, as appropriate. Facility costs will be prepared using unit prices extended by the size of the particular facility tempered with some specific considerations. Cost estimates, are intended to be used for planning purposes only and are not to be construed as engineered construction cost estimates.

Output: Project cost estimates will provide sufficient detail to allow project time schedules to be established and programmed into the appropriate Capital Improvement Plan funding programs.

Task 9.2 Capital Improvement Program Coordination with FAA/ADOT and Sponsor

Description: Prepare and coordinate the Capital Improvement Program (CIP) with the FAA and ADOT for funding availability.

Output: Development of a recommended CIP for the selected development plan concepts for the 20-year planning period.

Task 9.3 Airport Development Plan

Description: The proposed capital development projects will be identified on a drawing and labeled as the Airport Development Plan which will graphically display the planned projects by phase.

Output: Airport Development Plan

Task 9.4 Airport Funding Sources

Description: Project funding sources, including FAA and ADOT grant programs, will be evaluated to assist in identifying the appropriate funding sources available for future capital improvement projects listed on the recommended CIP.

Output: Identifying funding sources

ELEMENT 10
PUBLIC AIRPORT DISCLOSURE MAP

Task 10.1 Airport Influence Area Map

Description: Development of a Public Airport Disclosure Map in accordance with A.R.S. 28-8486 will be developed as part of the Airport Master Plan and will be submitted to the Arizona Department of Real Estate.

Output: Public Airport Disclosure Map

ELEMENT 11
DOCUMENTATION

Task 11.1 Working Papers

Description: A preliminary draft of each Master Plan chapter will be prepared as Working Papers

throughout the study and will be distributed to the TAC, ADOT and FAA for review, comment and discussion at subsequent TAC meetings. When appropriate, multiple chapters may be combined into a single Working Paper. Working Papers will be made available for public review prior to Public Information Meeting. Revisions to Working Papers will be made as appropriate and will be redistributed, if necessary, as updated Working Papers or compiled as a chapter in the Draft Master Plan report for review and comment. The number of copies of each of the deliverables is outlined in Table 1.

Task 11.1.1 Working Paper #1: Introduction, Inventory, Forecasts

Task 11.1.2 Working Paper #2: Facility Requirements

Task 11.1.3 Working Paper #3 Alternatives Analysis

Task 11.1.4 Working Paper #4 CIP/Financial Plans

Output: Reports including Working Papers, Draft and Final documents will be provided to the FAA, ADOT and TAC at least one week prior to any public or committee meetings.

Task 11.2 Draft Airport Master Plan Report and Executive Summary

Description*:* Report preparation will include writing, editing and typing the Airport Master Plan report, determining the composition of the report with figures, charts, graphs and illustrations, and the printing and distribution of the report. A reduced sized (11"x17") draft Airport Layout Plan drawing set will be included in the Draft Master Plan report. An executive summary brochure of the Airport Master Plan, intended for public distribution, will be prepared to promote understanding and coordination of the plan and will document the general findings and recommendations of the Airport Master Plan.

Output*:* Draft Airport Master Plan Report and Executive Summary to be provided to the Sponsor, ADOT and FAA for review and approval. The numbers of copies of the documents are outlined in Table 1.

Task 11.3 Conduct TAC Meeting No. 3

Description: A TAC meeting will be held to present Draft Airport Master Plan Report and to receive input on the draft documents.

Output: TAC meeting to gain input on the Draft Airport Master Plan.

Task 11.4 Public Information Meeting No. 2 / Public Hearing

Description: A public information meeting will be held to present Draft Airport Master Plan Report and to receive input on the draft documents. If so desired by the Sponsor, the first portion of the meeting may be held open-house style with a follow on public hearing format. The Sponsor will provide a recorder for the hearing, if held.

Output: Documented Public Information Meeting for input on the Draft Airport Master Plan. Consultant will facilitate the public information meeting including the development of a PowerPoint

presentation.

Task 11.5 Draft Airport Layout Plan Drawings

Description: A Draft Airport Layout Plan drawing set and completed FAA ALP checklist will be distributed to the Sponsor FAA and ADOT for initial review and comment and the Draft ALP will be uploaded on the OEAAA website for FAA airspace review.

Output: The ALP drawing set will be provided to FAA for airspace analysis, as well as an electronic version of the ALP drawing set saved on a CD in pdf format, with each drawing sheet saved as a separate file.

Task 11.6 Final Airport Master Plan Report and Executive Summary

Description: Review comments and public input from the Draft Master Plan report will be incorporated into the Final Airport Master Plan report and submitted for approval and adoption by the Sponsor. Final revisions to the Executive Summary Brochure will be made in preparation for public distribution.

Output*:* Final Airport Master Plan Report. Additionally, the Final Master Plan Report will be provided in electronic format, utilizing compact discs (CDs) that will contain the full report, including graphics and Airport Layout Plan drawings. One copy of the Final Master Plan Report and evidence that the Airport Sponsor has adopted the plan (e.g., meeting minutes, county resolution) will be provide to ADOT and FAA.

The final Master Plan Report will be presented to the county and airport for approval/adoption. Appropriate copies of minutes or other documentation describing the county's action on the Master Plan will be provided to the FAA.

Task 11.7 Final Airport Layout Plan Drawings

Description: Review comments will be incorporated into the Final ALP Drawing set and will be submitted to the Sponsor, along with the Final Master Plan report for Sponsor signature and submittal to the FAA and ADOT for approval. All comments and conditions resulting from FAA's airspace review will be addressed to FAA's satisfaction. Approved copies will be distributed by the FAA, to the ADOT, Sponsor and Consultant.

Output: Six (6) paper copies of the final Airport Layout Plan Drawing Set will be provided to the FAA for approval and signature. In addition, an electronic version of the FAA approved ALP drawing set will be provided to FAA on a CD in pdf format, with each sheet saved as a separate file.

SUMMARY OF DELIVERABLES

The deliverables, which will be prepared at various stages throughout this study are outlined below. Deliverables will be provided in MS Word format (.doc), Adobe Acrobat format (.pdf) or AutoCAD format (.dwg).

TABLE 1 SUMMARY OF DELIVERABLES

DELIVERABLE	SPONSOR	FAA	ADOT
Working Paper 1 (Inventory & Forecasts)	12	1	1
Working Paper 2 (Facility Requirements)	12	1	1
Working Paper 3 (Alternatives Analysis)	12	1	1
Working Paper 4 (CIP/Financial Plans)	12	1	1
Draft Airport Master Plan Report & Executive Summary	12	1	1
Draft ALP Drawing Set (prints)	12	3	1
Draft ALP Drawing Set (electronic)	1	1	1
Final ALP Drawing Set (prints) for FAA approval and signature	0	6	0
Approved ALP Drawing Set (prints)	1	1	1
Final ALP Drawing Set (electronic)	1	1	1
Final Airport Master Plan Report	12	1	1
Executive Summary Brochure	50	2	1

*Working Papers 1-4 may be combined.