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**CARROLL COUNTY REGIONAL AIRPORT  
AIRPORT LAYOUT PLAN UPDATE  
DRAFT SCOPE OF SERVICES  
JUNE 28, 2004**

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**A. DESCRIPTION OF WORK**

**Goals and Objectives**

The following describes URS Corporation's (URS's) approach to the successful completion of the upcoming Airport Layout Plan (ALP) update for Carroll County Regional Airport / Jack B. Poage Field (DMW). In addition to the typical aspects of updating an ALP, this project will involve detailed evaluation of major airfield and landside improvements as well as to incorporate and refine previously approved projects. Through ongoing conversations with Carroll County (County) staff and representatives from the Federal Aviation Administration (FAA), URS understands the project goal to evaluate the potential to extend Runway 16-34 and to potentially reconfigure the airfield to accommodate corporate aircraft with larger wingspans. These improvements must be implemented in a manner where they satisfy existing and anticipated aviation demand while minimizing the impact to the ongoing operation of the Airport and avoiding impacts to neighboring businesses. Finally, the long-term development plan for the airport must focus on maintaining and enhancing the economic viability of the Airport while avoiding adverse impacts to the surrounding community and the environment.

Through the recent completion of efforts such as the Comprehensive Environmental Assessment, the County has already undertaken several of the required elements that must be included in a typical ALP update. Therefore, URS's efforts will focus mainly on the County's goal of addressing and meeting the demand for major airfield and landside improvements, but not try to "reinvent the wheel". Our basic approach to this effort is to work with the County and to conduct a diligent and thorough plan that does not focus on the more ancillary aspects of more comprehensive Master Planning efforts.

In support of this goal, the following summarize URS's understanding of components of this effort:

- URS will work closely with the County from the onset of this project to provide guidance and pertinent information that will assist the County in making the decision whether to plan DMW for the accommodation of based aircraft and transient aircraft that are classified as C-III aircraft in the Federal Aviation Administration's (FAA's) Airport Reference Code (ARC).
- Based on the County's decision whether to plan for upgrading the airfield to accommodate C-III aircraft or to maintain DMW as a C-II facility, URS will further define and evaluate a series of airfield alternatives that will include, but are not limited to those already proposed by the County (described below in a subsequent Task). Based on conversations with County staff and FAA representatives, it is our

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understanding that alternatives must demonstrate the ability to accommodate the current and anticipated aviation demand while minimizing the impact to the operation of the Airport and avoiding impacts to its neighbors during its implementation.

- URS will develop a business plan that will assess the financial impact on DMW (e.g., projected debt funding requirements, overall debt levels, projected debt service coverage, projected cash balances, etc.) and the likely financial effects on Airport users (e.g., fuel sales, additional hangar leases, etc.) of the preferred development alternative. These measures would be calculated on the basis of the rates and charges methodology outlined in the existing agreements that DMW holds with its tenants, FBO, and charter services.
- URS will perform a detailed land re-use analysis for the recently purchased property east of the T-hangar area as well as for any airport property that may be deemed expendable (a non-aviation related property which may have a higher economic value as a different land use) as a result of the implementation of the preferred airfield and landside development alternatives. This effort will concentrate on maximizing the revenue-generating capabilities of these properties and may recommend the release of properties that may not be economically viable for airport related development.
- URS will work closely with County staff and the newly appointed Public Information Officer to develop a public involvement program designed to keep the community informed and involved during the entire process, yet minimizes the ability for individuals that oppose the Airport to cause unnecessary delays in the project's completion.

The following provides a brief description of our understanding of the specific tasks anticipated for this project. Upon further refinement of the Scope for this project by the County's Evaluation Committee, URS will develop a detailed Scope of Services to include a project schedule and a list of products that URS will deliver to the County throughout the conduct of this project.

### ***Task 1 - Project Initiation And Preplanning***

URS will act as an extension of County staff during all aspects of this effort. Upon approval of the draft Scope of Services, URS will work with the County and FAA to develop a detailed Scope of Services and Price Proposal that meets the anticipated requirements of all involved parties. URS will also provide initial and ongoing assistance to the County for matters pertaining to maintaining the County's status as a compliant Airport Sponsor by meeting various FAA requirements. The following is a list of anticipated subtasks as part of this effort:

- Preparation and distribution of all required documentation for the FAA Grant that will partially fund this project.
- Preparation and regular update to the County's Disadvantaged Business Enterprise (DBE) program.

- Preparation and submittal of all necessary documentation for FAA reimbursement of all eligible costs associated with this project.

***Task 2 - Public Involvement Program***

At the onset of the project, URS will work with the County to develop a Public Involvement Program, tailored for this specific project. The goal of this program will be to keep the public informed throughout the project and to allow for public input during key decision points.

URS recommends that the County establish a Technical Advisory Committee (TAC) to provide input throughout the process. In our experience with similar projects, the TAC should include a variety of representatives that may include a representative from the following groups: citizen of neighborhood association; airport tenant; FAA; local elected official; and off-airport business. The TAC should meet regularly and provide input and comment on various deliverables that URS develops prior to them being made public.

In addition to the TAC coordination, a series of informal workshops shall be conducted to coincide with key milestones of this project. URS will assist the County with all aspects of this process and prepare and distribute the appropriate presentation and informational materials for each workshop. URS will chair each workshop and provide a means for the public attendees to voice their opinions in writing.

Two (2) information sessions will be provided for the general public to review the Airport Layout and Future Development Plan progress, view graphic presentation materials, make comments, and hold discussions with the URS Team. The public information meetings will be held for interested citizens of Carroll County. TAC and public information meetings are anticipated at the following milestones:

**AIPORT LAYOUT PLAN MEETING MATRIX**

<b>Meeting Purpose</b>	<b>Quantity</b>
Scope of Work Review	Three (3) Meetings
Chief of Staff and County Commission Grant Application and Fee Acceptance	One (1) Meeting
Airport Layout Plan Kick-Off	One (1) Meeting
<b>Airport Layout Plan Subsections</b>	
Forecasts, Inventory, and Facility Requirements	One (1) Meeting
Identification of Three Development Alternatives	One (1) Meeting
Identification of Final/ Preferred Alternative	One (1) Meeting
Draft Airport Zoning Ordinance & Development Guidelines	One (1) Meeting
Capital Improvements Plan & Business Plan	Two (2) Meetings
Completion of Final Draft	One (1) Meeting
<b>Public Presentations</b>	
Public Workshops (Development Alternatives, Final Draft)	Two (2) Meetings
Final Draft to the Chief of Staff and County Commissioners	One (1) Meeting
Airport Layout Plan Update Close-Out	One (1) Meeting

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To accompany the public involvement meetings, URS shall create a website to be linked/affixed with the County website. This website will be utilized to disseminate information and updates to the general public about this specific plan process, meeting schedule, development alternatives, and determinations. All information (graphics and text) placed on and produced for this website will be coordinated and approved by the County.

### ***Task 3 - Inventory***

This task will provide the information necessary to document existing conditions at DMW and will consist of detailing all landside and airside facilities, financial, and community information in order to establish baseline conditions for the study. Baseline year will be the County's fiscal year (FY) 2004. This baseline year of FY 2004 will remain constant throughout the study.

#### ***3.1 - Approach***

A three-step procedure will be used in completion of this task: Data Collection, Data Analysis and Coordination, and Data Reporting. The first step, Data Collection, relates directly to assembling available information. Data Analysis and Coordination involves the interpretation of the various data sources to determine baseline conditions. Finally, Data Reporting consists of the preparation of a report that will establish the study's base.

Since establishment of the base project information is vital to the preparation of the plan, it is important that the most current information available be used. Therefore, collection efforts will first be directed at locating and reviewing previous reports and studies, which have been completed at DMW. After these are reviewed, more detailed efforts will be undertaken through additional inventories.

#### ***3.2 - User Inventory***

A tenant survey will be developed by URS and approved by the TAC and County. The survey will serve to provide activity indicators including services offered, lease durations, fuel sales, types of based and itinerant aircraft, number of employees, and future plans. The survey will be conducted, analyzed, and a report prepared documenting the survey results. If required, the Airport will help distribute and collect surveys from tenants. The tenant user inventory report will be included as an appendix to the Airport Layout Plan Report.

#### ***3.3 - Airport Inventory***

The airport inventory will document conditions at DMW and will include airside and landside facilities, airspace and navigation aids, on-airport land uses (aviation and non-aviation), financial data, and historical development. Details on the data assembled are as follows:

- Airside Facilities - Location, configuration, size, and use characteristics will be updated for the following airside elements:
  - Runways

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- Taxiways
  - Runup/Holding Areas
  - Landside Facilities - Location, configuration, size, and use characteristics will be updated for the following landside elements:
    - FBO Facilities
    - Airport Administration & Maintenance Facilities
    - Public Works Facilities
    - Airport Facilities
    - Administration Building
    - Access Roadway(s)
    - Non-Runway Dependent/Non-Aviation related areas
  - FBO Facilities - Location, configuration, size, and use characteristics will be updated for the following airside elements:
    - Terminal Facilities
    - Transient Apron(s)
    - Based aircraft Apron(s)
    - T-Hangar Area(s)
    - Conventional Hangar Area(s)
    - Fuel Farm(s)
    - Automobile Parking Areas
    - Access Roadways

The Building areas on the airport will only be reviewed relative to size, age, use and possible relocation or demolition (detailed on the Airport Layout Plan.)

**Airspace/Structure and Navigation Aids** - Airspace use in the Carroll County area will be documented and navigation aids and communication facilities will be identified. This includes considerations of all available facilities and operational procedures existing at the time of inventory data collection. From existing data, manmade and natural obstructions, which affect the use of the airspace, will be documented. Existing flight patterns and designated approach procedures and airspace constraints will be identified. Data from FAA navigation aid studies, if available, will be obtained and documented.

**Land Use** - On airport aviation-related land use and the relationship of the patterns of use will be documented to serve as the basis for completion of the Airport Land Use Plan. Information on the Airport will be derived from on-site work. Included will be a determination of currently vacant or underutilized airport property including aviation purposes or non-aviation purposes. Land available for future development will be documented, as will any developmental restrictions and existing demand for parcels.

**Airport Activity Statistics** - Existing records relative to aviation activity at DMW will be collected for a minimum of three (3) calendar years ending in December of the previous year (2003).

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**Financial Data** - The current financial structure of the Airport, including operational costs, the capital financing approaches used (including all funding sources) in the past, will be described. This discussion is intended to provide the conditions and provisions for use in developing the capital financing alternatives for the development of DMW. The documents that govern and regulate the financial operation of the airport will be analyzed.

### **3.4 - Community Inventory**

URS will examine the zoning in the area of the Airport for consistency with Federal Regulations (FAR) concerning imaginary surface heights, including *FAR PART 77*. The collection of data for the area in the vicinity of the Airport will consist of the following subject areas:

- Existing land use
- Future land use
- Zoning designations and regulations
- Building codes
- Base maps
- Height zoning (restrictions)
- Roads, streets and airport access
- Noise mapping and local ordinance regulations

### **3.5 - Aerial Photogrammetry/Photography**

This task will include obtaining current electronic mapping and new aerial photography of the airport and surrounding areas needed for future analyses such as facilities requirements, environmental evaluation, noise impact assessment, and the Airport Layout Plan Set.

Accuracy of the photography will allow application of a suitable scale through use of photogrammetric procedures utilizing ground control and survey data. One (1)-foot topographical ground contours will be provided within the existing airport property boundary and additional areas adjacent to airport property, the study area, and/ or as dictated by the County.

Color contact prints will be made and provided to the County, FAA, and MAA at a suitable scale (1" = 300' to 1"= 500') for use in various meetings and presentations and as part of the development of the Airport Layout Plan.

### **Task 4 - Refining Aviation Forecasts**

This task involves reviewing and refining the recently approved (2003) aviation forecasts. As mentioned previously, the FAA approved aviation forecasts as part of the Comprehensive Environmental Assessment (EA). Because of the recent efforts and FAA approval, URS does not anticipate expenditure of much time completing this effort. Instead, our focus will be on refining the forecasts to assist the County in making the decision as whether to upgrade DMW to accommodate the larger (C-III) aircraft as detailed in the next section. Any refinement and revisions to the previously approved forecasts will be presented to the County, TAC, and will be

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submitted to the FAA for approval. The approved forecasts will form the basis of the other tasks in the work program including demand/capacity analysis, facility requirements, alternatives development, conceptual design and phasing, noise analysis, and financial planning. Specific elements of this effort will include a review and potential revisions to the following aviation forecasts for the 20-year planning period:

- annual operations
- number of based aircraft
- fleet mix (by type of aircraft and ARC)
- peak hour
- peak day
- annual operations per based aircraft
- Instrument Landing Procedures (IFR)

Any revisions to the aviation forecasts will be prepared by employing standard statistical modeling techniques, such as simple regression analysis, multiple regression analysis, market share analysis and socioeconomic analysis. A comprehensive review and assessment of existing studies and forecast materials will be conducted in conjunction with the independently produced projections.

#### ***Task 5 - Accommodation Of Critical Aircraft***

URS's approach as to the chronological order of this task is somewhat unique to this particular project. We understand that it is the County and FAA's goal to determine whether to plan for accommodating larger corporate aircraft, or to maintain the current runway-taxiway separation, early in this process. This analysis is typically undertaken later in an ALP update; however, because of its importance, URS proposes to provide all of the necessary tools and information for the County to make an informed decision as to the future of DMW at the earliest stage of this project possible. Much of the efforts described in the following paragraphs will be refined and verified as the ALP update progresses; however, URS proposes to gather as much reliable data from the onset to assist the County in their decision-making.

#### ***5.1 - Background***

The FAA has developed three (3) categories for what is considered an airport's "critical aircraft": approach speed; wingspan; and maximum takeoff weight. The term "critical aircraft" is defined as the most demanding aircraft or group of aircraft that is either based at a particular airport or that performs at least 500 annual operations (landings and/or take offs) at that airport. The FAA categorizes these aircraft in an alphanumeric system called the Airport Reference Code (ARC) which combines a range of approach speeds (Category A, B, C, and D) and wingspans (Group I, II, III, IV, V, and VI). Currently, DMW's airfield (runways, taxiways, and various imaginary surfaces) is configured to accommodate aircraft included in Aircraft Approach Category C (approach speed 121 knots or more but less than 121 knots) and Airplane Design Group III (wingspans 49 feet up to but not including 79 feet).

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### **5.2 - Demand by Larger Aircraft**

URS shall perform a user specific individual survey to determine the additional demand and level of interest for an ARC upgrade. These County approved surveys will be administered to individuals or businesses that may desire to utilize or base their aircraft at a C-III airport in Carroll County. There is current interest by owners/operators of aircraft such as the Grumman Gulfstream V and Bombardier Global Express to base their aircraft at DMW. Corporate jets such as these have larger wingspans (up to 97 feet depending on actual model) than the current critical aircraft at DMW. In order to accommodate these types of aircraft, the existing separation between the runway and parallel taxiway would have to be increased from 300 feet to 400 feet.

### **5.3 - Economic Impact**

URS will develop a detailed Business and Financial Plan as part of this project that is described in a later section. However, much of this effort will commence concurrent to this task. One of the major aspects that will enable the County to decide whether to “upgrade” DMW to an ARC of C-III is an accurate estimate of the potential revenues that will be generated as a result of this upgrade. URS will analyze and quantify the anticipated direct and induced economic benefits such as: increased the fuel sales; sales tax generated from aircraft sales, maintenance, and repair; relocations of aviation-related businesses to the DMW area; and other benefits that would likely occur if activity increased as a result of the ARC upgrade.

### **5.4 - Community Impact**

Planning to accommodate “larger” aircraft may cause concern among Carroll County residents, particularly those who wish to preserve the rural and historic characteristics of the County. URS will perform a detailed analysis of the potential impacts to the community and its residents. This effort may include the following aspects:

- An aircraft noise analysis that compares the noise generated by typical C-III aircraft as compared to a scenario where DMW will not accommodate larger C-III aircraft except on a limited basis.
- A ground traffic analysis will be undertaken to identify any potential increases in vehicular traffic resulting from DMW’s reconfiguration and upgrade to a C-III facility.

### **5.5 - ARC Recommendation Report**

Upon completion of our analysis, URS will produce a recommendation report to the County as to the appropriate ARC to plan for at DMW over the next 20 years. Recommendations will be based on the above-described analyses as well as input from the TAC and County.

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## **Task 6 - Demand/Capacity Analysis And Facility Requirements**

This phase of the Layout Plan will complement the previous effort and will focus not only on the major airfield components associated with upgrading the ARC, but some of the landside facility requirements that may be independent of the ARC decision. Based on the decisions and the approved aviation forecasts, URS will proceed with two tasks, described as follows.

### **6.1 – Demand / Capacity Analysis**

The objective of the Demand / Capacity Analysis is to determine the ability of the existing facilities at DMW to adequately accommodate the planning activity levels. This analysis identifies facility deficiencies to determine facility needs. The capacity of the existing facilities will be examined to serve as a basis for determining the capability of accommodating the planned activity levels. Areas to be examined include:

- The Airspace/Airside Facilities
- The Landside Facilities

#### **6.1.1 - Airspace/Airside Facilities**

Both hourly Capacity and Annual Service Volume will be considered. The adequacy of existing Navigational Aids (NAVAIDS), pavement strength, and exit taxiway locations will be evaluated and addressed.

#### **6.1.2 - Landside Facilities**

On-airport aviation related landside facilities, as defined previously will be evaluated considering service levels, current use patterns, the functions being performed, and industry standards.

The Demand / Capacity Analysis for the airspace and the facilities at the airport will be compared with the aviation activity forecasts and planning activity demand levels. Facility deficiencies will be identified. A narrative, graphic and tabular chapter report will be produced as part of the ALP Report.

### **6.2 - Facility Requirements**

The objective of the facility requirements task is to compare existing on-airport, aviation related facilities and operations with demand projections in order to determine what additional facilities will be required and when they should be anticipated.

Facility needs will be determined for the aviation activity forecasts and planning activity levels. Facility needs will be developed corresponding to three factors.

- FAA design standards and criteria, as specified in various FARs, Orders, and Advisory Circulars.

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- Facility needs associated with each phase of development. Based on the forecasts of Demand / Capacity Analysis, facilities will be recommended according to incremental needs.
  - Rehabilitation and maintenance of existing pavements and structures based on the estimated life span of individual facilities.

This task will identify facility needs, as indicated by the examination of existing facilities, the capacity analyses, and the forecasts of demand. Improvements will be classified as short, intermediate, or long-term to allow the development of a phasing plan. The requirement areas identified below will be analyzed.

### **6.2.1 - Airfield Requirements**

- In addition to the previously described efforts pertaining to the ARC, other airfield requirements such as runway length, strength or clearance requirements, will be identified. Runway length needs for existing aircraft and future aircraft will be calculated for maximum payloads. Other requirements, which will be addressed, include runway widths, safety requirements, and strengths and clearances from taxiways and structures.
- Taxiway Requirements. Separation standards will be established for use in future runway and taxiway layout. The standards will include runway/taxiway, taxiway/taxiway and taxiway/fixed object separations.
- Navigation and Landing Aids. Navigation System and landing aid needs will be identified. The advent of Global Positioning System (GPS) instrument approach capabilities will be examined. Terminal airspace requirements will also be identified.

### **6.2.2 - Landside Requirements**

Utilizing the aviation activity forecasts and planning activity levels previously established, facility requirements would be developed for each of the on-airport, aviation related landside components defined in previously.

The facility needs determined for the Airport will be presented in the five-, ten- and 20-year time frames and based on planning activity levels. Narrative, graphic, and tabular information will be combined to present the methodologies used and results of the analysis.

## **Task 7 - Identification And Evaluation Of Alternatives**

This task is perhaps the focal point of the Airport Layout Plan, as it provides the framework for making decisions regarding future aviation growth. Work completed in previous tasks prepared for the analysis of alternatives, and all subsequent tasks will define how the selected alternative is to be implemented. Two individual tasks are required: alternative identification and alternative evaluation. The evaluation process itself will consist of two steps: an exclusionary step and a comparative step. These are explained in the following.

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First, possible constraints at the Airport will be examined and documented. Within the framework established by this process, up to five (5) airfield configuration alternatives will be refined and analyzed in detail. These alternatives will then be subjected to an exclusionary analysis to determine which do and which do not successfully fulfill the goals and objectives for the Airport. The alternative that best meets the Airport's needs will be selected for continued planning in this report.

Next, a comparative analysis of airport development alternatives will be undertaken. Each alternative to be evaluated will be cogently and consistently described. The alternatives will be analyzed to ascertain the extent to which they meet future determined needs. Limits set by policy, priorities and/or other influencing factors, such as economic conditions will be reflected in the process.

In evaluating alternatives, it will be assumed that relevant policy considerations will be maintained. These include: accommodating forecast demand, maximizing compatibility with surrounding communities, ensuring environmental compatibility, and reinforcing the plans and policies of the County, which promote compatibility.

The work on this task will proceed in separate but interrelated areas of the airfield configuration, the landside layout, and the land use/land acquisition of the Airport.

### **7.1 - Proposed Airfield Configurations**

The County has already identified four (4) build, and one no-build airfield options by which this Draft Scope of Services is based. These options include:

**Alternative 1:** No change option, runway & taxiway remain in place, no extension

**Alternative 2:** Runway 16-34 and parallel taxiway are extended but not moved (both to 6,500 feet)

**Alternative 3:** Relocation of the runway 375 feet to the west, reconfiguring existing runway to taxiway, and extending both to 6,500 feet.

**Alternative 4:** New Parallel taxiway is built 400 feet to the west of existing runway, both extended to 6,500 feet

**Alternative 5:** Option that moves runway or taxiway to the west, as far as practical while avoiding on-going commercial development and shifts the runway and taxiway to the north.

### **7.2 - Alternatives Evaluation and Analysis**

The alternatives analysis section of this study will involve a detailed evaluation of the costs, feasibility, and operational and potential environmental impacts of the implementation of each alternative. The primary factor, which will limit development in the long term, is the

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airfield and the potential for physical expansion of the Airport to accommodate projected airfield development, as needed. This task must identify and evaluate alternatives for runway and taxiway development. In the event proposed runway and/or taxiway development and associated design considerations exceed existing Airport boundaries, potential infringements upon properties and land uses adjacent to Airport property will be analyzed. Alternatives that involve additional airfield expansion west of the existing runway, will be developed to avoid impacts to the new commercial development west of the airport. A key component of the alternatives analysis will involve a detailed phasing plan that results in minimum closures and other adverse impacts to the airfield and landside facilities of the airport.

URS will develop a detailed evaluation matrix that compares each of the airfield alternatives based on a pre-determined set of criteria. URS will seek input from the County and the TAC as to applying “weighting” to each of the evaluation criteria. Alternatives to improving the airfield by runway and taxiway modifications will be developed by the following steps:

- Preliminary alternative airfield configurations will be further defined by the URS and developed through a meeting with the TAC considering demand/capacity, community impacts, off-site land use impacts and relative costs.
- URS will evaluate the preliminary alternatives and recommend a final alternative.
- A meeting will be held with the TAC to review URS’ preliminary evaluation and finalize selection of a final alternative.
- The final alternative will be analyzed for planning activity level demand loadings to generate demand/capacity and service level assessments.
- Cost estimates will be prepared for the preferred alternative.

At the conclusion of this evaluation, the ultimate airfield configuration will be identified and the necessary airspace to support the system developed.

### **7.3 - Landside Alternatives – Airport Buildings**

The on-Airport, aviation related landside facilities--building areas must be developed to reflect the airspace/airfield facilities. All existing and potential building areas on and off the Airport will be considered. However, the focus of this task is to evaluate those buildings, which are directly related to supporting aviation activity. All other non-aviation development on-airport will be evaluated in a cursory manner considering location, function, and future utility, and compatibility with aviation operations. The landside facility development plan must exhibit the following characteristics:

- Flexibility: A plan that is demand-responsive, and can adjust over time to changes in quantifiable demands as well as changes in the nature of demands.
- Vision: A plan that addresses probable future aviation trends and technologies, as well as trends in other transportation arenas.
- Definition: A plan that sets a sure course of action for the short range, clearly supported and realistic.

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- Systematic: A plan that views each part of the landside system as an interrelated part of the whole airport--and of a global and regional transportation system.
  - Balance: A plan that can extend the landside to the fullest extent necessary to stay in balance with the capacity of the fully expanded airside and landside; and that each of the parts of the building areas may be kept in proper balance over time.
  - Convenience: A plan that enables the County and its tenants to achieve a high level of public service.
  - Environmentally Responsible: A plan that considers the objectives of the regulatory environment.
  - Incremental: A plan that properly guides small increments of growth and modification that the County and its tenants may need over time and gives due consideration to community.
  - Economically Sound: A plan that enables the County, its tenants, and its neighbors to prosper over the years.
  - Operational: A plan that meets the needs of the tenants and users.

### **7.3.1 - Landside Facilities – Surface**

The landside facilities and surface access roadways must provide sufficient capacity and time-efficient ease of use. Of particular interest will be the evaluation of the Airport's vehicular access points to determine their adequacy and proper location.

Preliminary alternative access system configurations will be identified by URS and developed through a meeting with the TAC considering facility requirements, space constraints, and other considerations.

- URS will evaluate the preliminary alternatives and recommend a final alternative.
- A meeting will be held with the TAC to review URS' preliminary evaluation and finalize selection of a final alternative.
- The final alternative will be analyzed for planning activity level demand loadings to generate demand/Capacity and service level assessments.
- Cost estimates will be prepared for the final alternative.

### **7.3.2 - Landside Development Plan**

URS will work closely with the TAC and County to develop a short list of alternative layouts for T-hangars, corporate hangars, and other airport facilities. Consideration will be given to developing existing aviation building areas to the maximum extent possible before considering new areas, or areas not already zoned as aviation use areas. The Landside Development Plan will be closely coordinated to complement and be fully compatible with the preferred airfield configuration alternative.

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### **7.3.3 - Alternatives Recommendation**

URS will compile all pertinent data for the airfield and landside options and produce a recommendation for County, TAC, and FAA consideration and approval. The Report will basically outline the positives and negatives of each alternative, results of the evaluation matrix, and costs of implementation. We will dwell upon the experience and in-house expertise to recommend development that is in the best interests of the County, DMW, and the Westminster Community.

#### **Task 8 - Land Use/Re-Use**

The objective of the Land Use/Re-Use Analysis is two fold: to evaluate the impacts that the alternative airfield and landside improvements will have on the use of land within the Airport's boundary, on contiguous parcels, and on the community as a whole and to assist in selection of all alternatives including a preferred land use/land acquisition plan; and to determine the highest and best use for recently acquired properties and properties that may become expendable (non-aviation related property which may have a higher economic value as a different land use) as a result of implementation of the preferred airfield and landside alternative.

URS aviation planners, engineers, environmentalists, and financial planners will collaborate in this effort to develop a plan for the various non-airfield parcels for DMW. Specifically, we will perform a detailed analysis of the area east of the existing T-hangar apron that was recently purchased by the County as well as other parcels.

Regardless of the build airfield alternative selected, it is likely that the County will have to purchase additional property. It is our experience that, for projects such as this, the amount of land that will be purchased (based on the appraisers and negotiators input) far exceeds what is required to implement a particular project. To extend Runway 16-34 to the north under any of the build scenarios will require a large amount of embankment. This may result in the need to purchase property for the sole purpose of providing "borrow" material for the runway construction. Part of our effort will be to identify those properties that would not fit any airport need for 20 years and beyond. We will develop recommendations as to the disposal of these properties as well as the re-use of those, which we feel should remain under County/Airport control.

Our efforts will focus on developing a plan based on the following goals:

- Maximize the revenue-generating capabilities of those properties that are not necessarily "fixed by function" in terms of aviation related development.
- Allow for phased and coordinated development so that landside facilities (such as T-, and corporate hangars) can be constructed in a manner where existing revenue-generating facilities will not be compromised during, or as a result of construction.
- Allow for flexibility. URS will develop the plan so that the County has the ability to take advantage of potential unforeseen economic conditions both positive and negative. Should demand for landside facilities increase beyond the

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planned implementation, the County must quickly be able to react to such conditions. Likewise, an “escape plan” should also be developed to react to lower demand of an unforeseen economic downturn. This simply is a means of phasing the implementation of landside development in a manner where only what is needed is constructed. Too often, airports undertake large programming projects that are not flexible and either may build infrastructure that does not generate revenue, yet the Airport continues to pay down its debt.

### **Task 9 - Implementation/Phasing Plan**

URS understands that DMW is close to the break-even point in terms of costs versus revenue. Our goal for this project will be to never lose sight that DMW is already a valuable commodity and, although the planned improvements should increase the attractiveness and value of the Airport, the implementation of those improvements should not result in operational impacts that hurt the revenue-generating power that exists today.

One of the key elements of the evaluation of both airfield and landside development alternatives will be to minimize the interruption of the daily operation of DMW and avoid interruption to its valued neighboring businesses. URS will develop a set of detailed phasing plans for each improvement project that keep this goal in mind, yet meets all required FAA safety standards. Some of the aspects of this effort include:

- Continued coordination throughout the planning process with the County, FAA, TAC, Airport Manager, and other representatives.
- Coordination with all Department of Public Works and local utility providers to ensure that disruption of services to the Airport and Community are minimized and announced in a timely manner
- Preparation and submission of FAA-mandated Safety and Phasing Plans in compliance with requirements contained in FAA Advisory Circular 150/5370-2E, “*Operational Safety on Airports During Construction.*”

It is also important to note that development of the construction phasing and scheduling will assist in providing a funding schedule to allow the airport to secure the monies as necessary to construct the project.

### **Task 10 - Environmental Overview**

#### **10.1 - Objective**

An analysis of potential environmental impacts caused by the proposed development projects will be undertaken to assist in the development of alternatives. The purpose of the Environmental Overview is to identify potentially “significant” impacts in general conformance with the National Environmental Policy Act of 1969 (NEPA). While this inventory is not intended to fully satisfy NEPA requirements, it may be used as a preliminary review of environmental considerations that would need to be analyzed in more detail within the NEPA process. It is assumed that an Environmental Assessment would be required prior to implementation of the preferred actions associated with this Airport Layout Plan.

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Also, the identification of potential environmental impacts and proposed mitigation measures would assist in more accurately anticipating costs for inclusion in this Airport Layout Plan report.

The objectives of the Environmental Overview Chapter of the Airport Layout Plan will be:

- To evaluate potential environmental impacts of the selected plan to allow refinement of the preferred airfield, landside, and land use strategies, as needed.
- To assess the potential magnitude and significance of the impacts.
- To identify and briefly discuss, as necessary, possible abatement and mitigation measures which may reduce or eliminate any potentially significant adverse impacts.

### ***10.2 - Approach***

All preliminary examinations of the environmental impact categories will be done in conformance with FAA Orders 5050.4A, *Airport Environmental Handbook*, and 1050.1E, *Policies and Procedures for Considering Environmental Impacts*, and all current applicable federal, state and local regulations. In particular, the FAA AC 150/5200-33, *Hazardous Wildlife Attractants on or Near Airports*, will be utilized as a reference as applicable to this task.

As identified in FAA Orders 5050.4A and 1050.1E, there are 18 potential impact categories to be addressed:

- Air Quality
- Coastal Resources
- Compatible Land Use
- Construction Impacts
- Department of Transportation Act: Section 4(f)
- Farmlands
- Fish, Wildlife, and Plants
- Floodplains
- Hazardous Materials, Pollution Prevention, and Solid Waste
- Historical, Architectural, Archaeological, and Cultural Resources
- Light Emissions and Visual Impacts
- Natural Resources and Energy Supply
- Noise
- Secondary (Induced) Impacts
- Socioeconomic Impacts, Environmental Justice, and Children's Environmental Health and Safety Risks
- Water Quality
- Wetlands
- Wild and Scenic Rivers

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Each category will be briefly discussed to identify the potential environmental impact concerns at the Airport. If deemed necessary, a more detailed discussion of specific categories will be included if it is identified that significant impacts to that category may occur as a result of the proposed projects. The Environmental Overview will use the recent Environmental Assessment (EA) completed for the Airport as a base and expand on and update the information, as needed, for each category. The Environmental Overview will focus on several categories that are anticipated to be areas of interest at the Airport, namely compatible land use, potential noise exposure changes, and existing wetland and stream areas.

### **10.2.1 - Airport Noise And Compatible Land Use Analysis**

Existing and ultimate noise exposure maps will be generated based on the aviation forecasts and recommended alternative using the latest versions of FAA's Integrated Noise Model (INM) program. In addition, maps of existing and planned land use (based upon information from County personnel, aerial photography, and other known sources) will be developed. In addition, site visits to ascertain existing and planned land uses in the vicinity of Carroll County Regional Airport will be made. The compatibility of existing and planned land uses in the vicinity of Carroll County Regional Airport with respect to noise impacts will be examined and discussed. Other existing and/or planned land uses, which are, or may be, incompatible with normal airport operations, will be identified and discussed. Also, project impacts, which would, or might, have incompatible land use ramifications will be identified and discussed as applicable.

### **10.2.2 - Wetland And Stream Analysis**

National Wetlands Inventory (NWI) mapping as well as any field delineations conducted as a part of the recent EA at the Airport will be used to identify any potential or existing wetland or stream areas on the Airport. The identification of such areas will assist in mapping and avoiding, to the maximum extent practicable, wetland and stream impacts in designing and choosing a preferred alternative.

## **Task 11 - Airport Plans**

### **11.1 - Objective**

This task takes the final selected alternatives identified previously to fully develop the Airport Plans for Carroll County Regional Airport. The plans will provide for graphic depiction of the recommended development for DMW including the staged improvement of airfield and landside facilities as recommended in under our Implementation/Phasing Task 9. Included are a cover sheet and other separate plans, which together will comprise the ALP set itself.

- Cover/Title Sheet
- Existing Facilities Plan
- Airport Layout Plan
- ALP Data Sheet (as needed)

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- Terminal Area Plan(s)
  - Approach and Runway Protection Zone Plans
  - Part 77 Airspace Surfaces
  - Existing Off-Airport Land Use and Noise Contours
  - Future Off-Airport Land Use and Noise Contours
  - Existing/Future Noise Contours Comparison Plan
  - Airport Property Map
  - Airport and Adjacent Property Land Use Plan (color graphics for presentation purposes and compatible with County format)

### ***11.2 - Approach***

All plans will be on standard 24 x 36-inch sheets with border. One (1) set of completed plans will be mounted on sturdy backing material for presentation requirements.

Previous work phases have concentrated on determining the needs of DMW and deciding upon the optimum way to meet those needs. In this task, the recommended improvements will be refined and presented graphically in the form of Airport Layout Plan drawings.

The Airport Layout Plans package will provide the physical details of the 20-year development plan. The primary drawing is the Airport Layout Plan (ALP), which is the overall development plan for the Airport showing both existing and proposed facilities. The total package consists of both the ALP and a series of backup drawings that are closely interrelated.

Aerial photogrammetry will be used to establish an overall master base drawing for use in developing the ALP set and other graphics for the Airport Layout Plan. The photographic-based drawing will be refined to remove extraneous elements and improve drawing efficiency. The complete base will be checked and verified for accuracy and integrity. For each type of ALP drawing that is required, the area of coverage, drawing limits and scale will be defined. In addition, standard sheet layout, title blocks, legends, line types and plotter line weights will be designated for consistency. A discussion of each of these drawings is presented below.

#### ***11.2.1 - Existing Facilities Plan***

The existing facilities drawings will have only enough detail to understand what facilities are located at the Airport at the time the inventory is taken. This will include pavement, buildings, structures, major tenants, standard safety measurements. Limited labeling and dimensioning will be included. Labeling will include construction dates of existing facilities. The airport will be responsible for providing these dates to URS. This is an exhibit that the County will be able to use for in-house planning and public relations use.

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### **11.2.2 - Airport Layout Plan**

The ALP for Carroll County Regional Airport will depict the development program selected after the alternatives are evaluated and a preferred alternative is selected. Included with this plan will be the following:

- Airport Facilities
- Airport Land Use, as appropriate
- Basic Data Table
- Legend

The ALP will clearly identify existing and proposed facilities. Within the airport boundary, it will also identify recommended land uses for aviation and non-aviation related categories, as appropriate. It will conform to standards as described in FAA AC 150/5070-6A and FAA AC 150/5300-13 and comply with the *FAA-WADO Airport Layout Plan Checklist*.

### **11.2.3 - Terminal Area Plan(s)**

This plan(s) will depict a detailed development plan for the general aviation terminal area as defined by existing FBO areas and future plan areas.

### **11.2.4 - Approach And Runway Protection Zone Plans**

Approach and Runway Protection Zone plans will be prepared for each active runway, depicting each runway approach, existing and proposed, at the Airport. Existing and potential obstructions to air navigation derived from existing data will be described graphically and in tabular fashion, together with representations of all approach surfaces.

### **11.2.5 - Part 77 Airspace Surfaces**

Airspace drawings, prepared in accordance with FAR Part 77, will be prepared. All horizontal, conical, approach and transitional surfaces will be depicted, together with an isometric sectional view of the Airport's airspace.

### **11.2.6 - Existing And Future Off-Airport Land Use And Noise Contours**

These drawings will be used by Airport Management and the County for coordination of compatible land uses around the airport. Existing and future noise contours, as selected by the Carroll County Administration with input from the TAC from those produced in Task 10 will be superimposed over each land use plan. The land uses will generally conform to FAR Part 150 recommendations and any Carroll County land use planning that exists at the time of preparation of this drawing.

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### **11.2.7 - Airport Property Map**

URS will prepare a boundary survey of the Carroll County Regional Airport. The boundary survey will be obtained through planimetric surveying supported by County Tax Map and Deed Records.

## **Task 12 - Capital Improvement Plan**

### **12.1 - Approach**

A Capital Improvement Plan (CIP) will be prepared and supported by tabular data and narrative descriptions. Capital cost estimates (in current year dollars) will be developed for the proposed Airport improvements, and will be based on the recommended ALP. An implementation schedule will be prepared for the Airport for short- (0-5 years), intermediate- (5-10 years), and long-term (10-20 years) planning periods, according to the aforementioned forecasting projections. The Airport property map will delineate the acquisition of all real property interests necessary for Airport improvement purposes, including land for runway protection zones and Airport environs compatibility. Construction cost estimates will address the construction of required Airport facilities, including runways, taxiways, Airport lighting, Terminal building, hangars and apron areas, parking and Airport interior roadways. Estimates of Planning/Engineering/Administrative costs will be based on a percentage of the total construction and real property assumption costs. It is understood that all phasing and recommendations will be based upon realistic and current FAA - WADO funding expectations.

### **12.2 - Cost Estimates**

Cost estimates for recommended development will be prepared by phases. These estimates will be based on current year costs and will be sufficiently detailed to provide the basis for developing a phasing plan and a financial plan.

To ensure that the cost estimates are representative of local conditions, unit prices from recent construction projects at the Airport and other public work projects in the region will be obtained. The proposed unit prices will be reviewed with Airport and County personnel prior to preparing the cost estimates.

The cost estimates will present the unit prices and estimated quantities for all major items. The estimate will be performed at a conceptual level consistent with development of a capital improvement program. Soft costs for engineering, inspection, etc. will be added to the construction prices to arrive at total program costs. The percentages applied for soft costs (i.e., engineering, testing and inspection) will be reviewed with County personnel prior to their use.

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### **12.3 Phasing of Development**

Phasing plans will be prepared to establish the critical path for implementing projects. Phasing plans can be developed for three (3) forecasted demand levels or for calendar years, as desired by County personnel. It is anticipated that development of the phasing plan will occur in concert with a financial plan. As funding is typically a limiting factor in deciding the phasing of particular projects at general aviation airports, the Airport's existing CIP will be reviewed for comprehensive recommendations and decisions.

Three (3) tables, accompanied by staging drawings, depicting the proposed projects at each forecast demand level will be prepared for inclusion in the report and for use during meetings and presentations. A chart that depicts all projects will also be prepared.

### **Task 13 - Airport Business Plan**

#### **13.1 - Approach**

In addition to the CIP, an Airport Business Plan will be prepared. This study is intended to analyze the Airport in respect to working capital and assess economic development opportunities. This section will collect and analyze available and appropriate data and determine recommendations. These recommendations, like the CIP, will be broken into short- (5 years), intermediate- (10 years), and long-term (20 years) action plans.

##### **13.1.1 - Financial Capacity Analysis**

- Prepare an inventory of existing financial data (current County CIP and budget, debt service schedules, cash balances, AIP status, etc.).
- Assess the potential for enhancing FAA grant receipts to fund Airport Layout Plan projects (e.g., FAA discretionary grants, letters of intent, innovative financing program).
- Assess other potential methods of enhancing Carroll County Regional Airport's financial capacity (e.g., the use of municipal bonds).

##### **13.1.2 - Airport Business Plan**

- Participate in up to two (2) review sessions with both the FAA and the County to ensure that physical development plans and alternatives are consistent with realistic affordability criteria. To the extent practical, these review sessions will be held via conference call.
- Develop proposed sources and uses of funds based on the CIP.
- Review and evaluate the County's existing and long-term CIP in comparison to the FAA's ACIP.

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- Incorporate the information developed in the previous subtasks into the financial model to determine the overall financial capacity of Carroll County Regional Airport.
  - Assess the financial impact on Carroll County Regional Airport (e.g., projected debt funding requirements, overall debt levels, projected debt service coverage, projected cash balances, etc.) and the likely financial effects on Airport users (e.g., cargo fees, fuel sales, additional hangar leases, etc.) of the preferred development alternative. These measures would be calculated on the basis of the rates and charges methodology outlined in the existing agreements that Carroll County Regional Airport holds with its tenants, FBO, and charter services.
  - Working with the County, summarize a preliminary financial plan for the preferred development alternative, including sources and uses of funding for the CIP projects, debt service projections, maintenance and operating expense (staffing, etc.) projections, revenue projections, and the application of revenues. Note that for the 20-year period of the CIP, revenues and expenses of the Airport operations will be estimated on an annual basis for only the first 10-year period to determine the available funding (i.e., cash flow for financing improvements). Financing of improvements beyond the first ten (10) years will be considered in general terms.
  - Prepare ten (10) copies of the draft Airport Business Plan for review and comment by the County Representatives.

### ***13.1.3 - Business Plan Finalization and Concurrence***

- Based on comments received from the TAC, revise the draft implementation plan. Integrate the data and analysis prepared in each of the previous sub-tasks into the Airport Layout Plan Report.
- The Executive Summary to the Airport Layout Plan will include highlights of the financial capacity analysis, capital improvement program, and financial plan components.

### ***13.2 Deliverable***

A working paper will be prepared with appropriate exhibits, documenting the Airport Business Plan. The working paper will document all details as outlined herein. The paper will serve as a stand-alone document as well as incorporated into the Airport Layout Plan text.