

SECTION 11.0

IMPLEMENTATION PLAN

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11.1 INTRODUCTION

The major value of long-term planning is to ensure that adequate provisions have been made for growth and that land use is organized in such a fashion that any expenditure for capital improvements will become part of a long-range development. It is not practical, nor is it necessary, to complete all improvements shown in one program. In fact, it would be financially impossible to undertake one massive improvement program for the 20-year requirements. It should be a policy to construct new airport facilities only as activity demand illustrates the economic benefit of making such improvements. However, it is possible to establish a series of priorities and to set forth these priorities within the framework of the forecasts in planning periods of 0-5 years (short-range), 5-10 years (intermediate-range), and 10-20 years (long-range). In addition, ultimate airport improvements, which visions the airport beyond 20 years, is presented in the long-range development discussion of this section.

It should also be pointed out that in using a theory of constructing new facilities only when demand indicates a need, periodic review of the overall plan and individual projects must be made. This review will ensure that any changes in criteria resulting from technological advances will be fully considered as airport development progresses. Typically, a Master Plan is updated every 5-10 years, depending on how much growth and/or changes have occurred at the airport over the short-term period.

In general, the investigative work undertaken for this study indicates that priorities should be established as follows:

- Ensure that all airfield (runway/taxiway system) elements are adequate and permit safe, reliable aircraft operations;
- Develop additional aviation facilities to accommodate growth and increase airport revenues;
- Control necessary land through zoning to permit future airfield expansion, preclude incompatible land use encroachment, and provide adequate noise buffer zones; and
- Reserve potential aviation development areas to meet long-range aviation activity demands.

Under this general priority list, it is possible to outline improvement programs for the stages consistent with the financial capability of the airport to implement the programs. The following paragraphs set forth the programs on this basis.

It should be noted that possible changes in funding capability of the City, Federal, or State governments might require delaying certain actions until funding is available. However, the general sequencing of development action should remain as shown.

A preliminary list of ongoing and potential new Capital Improvement Program (CIP) projects has been prepared. Each line item will include a description of the project, justification of the project, approximate timeline, and project cost estimate. The development program is broken down into four subsections as follows: ongoing projects (2002-2003), short-range CIP (2003-2007), intermediate-range CIP (2008-2012), and long-range CIP (2012-2022).

11.2 DOUBLE EAGLE II AIRPORT ONGOING PROJECTS (2002-2003)

Note: Projects that other consultants are currently working on will be described and incorporated into this document when information becomes available. The ongoing projects are illustrated on Figure 11.1.

- 1) Eclipse Aviation Facility Program (150-Acre Site)
 - Plant Facility (sf)
 - Hangar (sf)
 - Administration Building (sf)
 - Support Buildings (sf)
 - Aircraft Apron (sy)
 - Auto Parking (sy)
 - Eclipse Aviation Internal Roadways, etc.
 - Other

- 2) Land Exchange Program
 - Description of the Land Exchange
 - Timeline of Land Exchange
(started May 2001/estimated completion date June 2002)

- 3) Infrastructure/Access (to Eclipse Aviation)
 - Utilities
 - Easements
 - Access Road from Paseo del Volcan to Eclipse Aviation Site

- 4) Airport Traffic Control Tower (Ongoing Site Selection Study by Others)

- 5) Airport Stormwater Program (Ongoing/Proposed Drainage Improvements)

11.3 RECOMMENDED 0-5-YEAR CAPITAL IMPROVEMENT PROGRAM (2003-2007)

The 5-year program recommends specific annual airport improvements beginning in 2003 and continuing through 2007. Table 11.1 lists the recommended 5-year capital improvements.

The major items discussed within this planning period include: the runway extension program and the rehabilitation of airfield pavement and airfield lighting systems. Tables 3.1 and 3.2, previously referenced, identify specific airfield pavement and airfield lighting systems requiring rehabilitation. Additional improvements involve the construction of additional aircraft storage hangars, new corporate hangars, road improvements, and administration/maintenance expansion.

The cost estimates for the short-range improvement program are shown as project cost, which include engineering, survey, testing, administration, and contingencies. These cost estimates are identified in Table 11.1, which is presented after the descriptions of recommended capital improvements and show total project costs and possible sources of funding. Proposed improvement items in the 5-year CIP are graphically illustrated on Figures 11.2 and 11.3, which follow the funding source tables.

The following is a list of CIP projects that could be implemented by the City of Albuquerque over the next five years if funding is available:

1) EA/EIS Runway 4 Extension Project/5-Year Program

Project Narrative: This project involves the preparation of an Environmental Assessment (EA) report or an Environmental Impact Statement (EIS) report for a runway extension. In addition, other proposed 5-year CIP airfield improvement projects will be included.

Project Justification: Prior to implementing the Runway 4/22 extension, it is a Federal requirement that an EA/EIS be prepared for the runway extension. The study requires approval from appropriate governmental agencies prior to implementation.

Project Cost: The estimated cost of this environmental study is not available at this time.

2) Runway 4 Extension Program (Runway Extension, Taxiway Extension, NAVAID Relocations, etc.)

Project Narrative: The initial phase of the Runway 4 extension program involves site preparation, clearing/grubbing, grading, and drainage improvements. The final phase of the runway extension program involves actual construction of the airfield. The runway would be extended 3,600 feet to the southwest along with parallel taxiways and taxiway connectors. Airfield lighting (High Intensity Runway Lights (HIRLs)) would be installed. The existing Precision Approach Path Indicator (PAPI) and Runway End Identification Lighting (REIL) systems on Runway 4 end would be relocated.

Project Justification: Presently, the length of Runway 4/22 limits selected business jet traffic from achieving full fuel and accommodating full passenger loads. Extending Runway 4/22 would better accommodate current and future business jet traffic and allow the City of Albuquerque to market the airport's general aviation facilities and the Albuquerque area. The runway extension could attract other

types of aviation-related businesses that would locate at Double Eagle II Airport primarily because of the extended length of the runway.

Project Cost: The estimated project cost is \$4,613,434.

3) Rehabilitate Runway 17/35

Project Narrative: Runway 17/35 was constructed in 1984 and, with an estimated 20-year life cycle, will require complete rehabilitation in the near future. The runway would be designed in accordance with FAA ADG-II standards. The resurfacing will provide a new wearing surface and a crowned pavement section for improved longitudinal grade and crown for drainage. The runway is to be resurfaced to the existing 6,000-foot length x 100-foot width. The runway rehabilitation will consist of milling the existing 2-inch bituminous surface and placing a new 4-inch bituminous surface course for the 100-foot-wide section. As a safety feature, Runway 17/35 would be grooved.

Project Justification: The pavement on Runway 17/35 has served its design life and is showing signs of deterioration. The pavement has become a constant maintenance problem. The airport has been crack sealing Runway 17/35 for the last 4-5 years, but some of the cracks are now (January 2002) wider than 2 inches and maintenance alone is no longer effective. The rehabilitation project is vital to maintaining the operation of the airport.

Project Cost: The estimated project cost for rehabilitation of Runway 17/35 is \$1,755,840.

4) Rehabilitate Taxiway "B"

Project Narrative: Taxiway "B" system, including connector taxiways B1, B2, and B3, has served its design life and will require rehabilitation. The entire taxiway would be rehabilitated at the existing 35-foot width. The taxiway would be designed in accordance with FAA ADG-II standards. The taxiway rehabilitation will consist of milling the existing 2-inch bituminous surface and placing a new 4-inch bituminous surface course for the 35-foot-wide section (approximately 33,950 sy).

Project Justification: Taxiway "B" pavement has served its design life and is showing signs of deterioration. The pavement has become a constant maintenance problem. Like Runway 17/35, the airport has been crack sealing Taxiway "B" for the last 4-5 years. The rehabilitation project is vital to maintaining the operation of the airport.

Project Cost: The estimated project cost for rehabilitation of the Taxiway "B" system is \$769,362.

5) Rehabilitate Runway 17/35 Medium Intensity Runway Lights (MIRLs)

Project Narrative: Runway 17/35 has old stake-mounted runway lights that should be replaced with the current standard airfield lighting equipment. This project could be performed in conjunction with the pavement rehabilitation project or as a stand-alone project.

Project Justification: Due to the age and condition of the lighting equipment, replacement is required.

Project Cost: The estimated project cost is \$401,715.

6) Rehabilitate Taxiway “B” MITL

Project Narrative: Taxiway “B” has old stake-mounted taxiway lights that should be replaced with the current standard airfield lighting equipment. This project could be in conjunction with the pavement rehabilitation project or as a stand-alone project.

Project Justification: Due to the age and condition of the lighting equipment, replacement is required.

Project Cost: The estimated project cost is \$607,006.

7) Rehabilitate Runway 4/22

Project Narrative: Runway 4/22 was constructed in 1983 and, with an estimated 10-12-year life cycle, will require complete rehabilitation in the near future. The runway would be designed in accordance with FAA ADG-II standards. The resurfacing will provide a new wearing surface and a crowned pavement section for improved longitudinal grade and crown for drainage. The runway is to be resurfaced to the existing 7,400-foot length x 100-foot width. The runway rehabilitation will consist of surface preparation and a 2-inch bituminous overlay for the 100-foot-wide section. As a safety feature, Runway 4/22 would be grooved.

Project Justification: Runway 4/22 pavement has served its design life and is showing signs of deterioration. Runway 4/22 is in a little better shape than Runway 17/35, but could become a constant maintenance problem. Pavement rehabilitation will be required within the short-term program and is vital to maintaining the operation of the airport.

Project Cost: The estimated project cost for rehabilitation of Runway 4/22 is \$2,244,017.

8) Rehabilitate Taxiway “A”

Project Narrative: Taxiway “A” system (including connector taxiways A1 through A6) has served its design life and will require rehabilitation. The entire taxiway would be rehabilitated at the existing 40-foot width. The taxiway would be designed in accordance with FAA ADG-II standards. A 40-foot-wide taxiway section would be resurfaced with a 2-inch bituminous surface on a prepared surface for the 40-foot-wide section (approximately 45,100 sy).

Project Justification: Taxiway “A” pavement has served its design life and is showing signs of deterioration. The pavement could become a constant maintenance problem if not resurfaced. The resurface project is vital to maintaining the operation of the airport.

Project Cost: The estimated project cost for rehabilitation of the Taxiway “A” system is \$1,020,841.

9) Rehabilitate Runway 4/22 MIRLs

Project Narrative: Runway 4/22 has can-mounted MIRLs. To achieve preferred visibility minimums under IFR conditions, a HIRL system is required. This project could be in conjunction with the pavement rehabilitation project or as a stand-alone project.

Project Justification: Due to the age of the lighting equipment and the need for higher intensity lighting, the MIRLs need to be replaced.

Project Cost: The estimated project cost is \$578,925.

10) Rehabilitate Taxiway "A" MITLs

Project Narrative: Runway 4/22 has can-mounted lights. These old airfield lights have served their useful life and need to be replaced with current standard airfield lighting equipment. This project could be in conjunction with the pavement rehabilitation project or as a stand-alone project.

Project Justification: Due to the age of the lighting equipment, they need to be replaced.

Project Cost: The estimated project cost is \$797,814.

11) New Airport Rotating Beacon

Project Narrative: Replace the existing airport rotating beacon with new a beacon tower structure and new rotating beacon equipment.

Project Justification: The existing airport beacon located adjacent to the electrical vault is operable but is old and does not work well. Due to the age of the equipment, spare parts get harder to find every year. The current beacon location would interfere with operation of the proposed airport traffic control tower.

Project Cost: The estimated project cost is \$78,333.

12) Emergency Power

Project Narrative: Double Eagle II Airport has two large emergency power generators that are currently in storage. Construct a building to facilitate the two emergency power generators and connect to the existing airport electrical power system.

Project Justification: Provides emergency power backup to the existing airport electrical power system.

Project Cost: The estimated project cost is \$73,308.

13) Supplemental Wind Cone

Project Narrative: Install new supplemental wind cones at the ends of Runways 4 and 35.

Project Justification: As an additional airport safety feature and visual NAVAID, supplemental wind cones provide the pilots with wind direction and wind force information.

Project Cost: The estimated project cost is \$29,412.

14) Rehabilitate Existing Transient Apron

Project Narrative: The existing transient apron, approximately 24,800 sy, would be rehabilitated. This would consist of surface preparation and a 2-inch bituminous overlay. The apron would be designed in accordance with FAA ADG-II standards.

Project Justification: The apron has served its design life and is showing signs of deterioration. The pavement could become a constant maintenance problem if not resurfaced. The resurface project is vital to maintaining the operation of the airport.

Project Cost: The estimated project cost is \$552,691.

15) Additional Aircraft Parking Apron

Project Narrative: Construct an additional aircraft-parking apron by expanding the existing apron to the southeast. The plan depicts two aprons: one approximately 630 feet x 300 feet located west of Taxiway A-1” and the second approximately 800 feet x 150 feet located east of Taxiway “A-1”, along with miscellaneous taxiway improvements. The apron would be designed in accordance with FAA ADG-II standards to accommodate transient business jets.

Project Justification: As transient aircraft activity increases, expansion of the existing public apron is required to accommodate additional transient aircraft parking.

Project Cost: The estimated project cost is \$1,830,102.

16) Chainlink Perimeter Fence

Project Narrative: Replace the existing farm fence with standard 6-foot chainlink fence. Possible multi-phased project if funding is not available to fence the entire airport in one project. New AOA perimeter fencing (approximately 49,000 linear feet) would be installed for security purposes.

Project Justification: Secure the airport property from unauthorized entry of vehicles and people. This is part of a continuing effort by the City of Albuquerque to secure the entire airport by enclosing it with perimeter fencing.

Project Cost: The estimated project cost is \$1,197,164.

17) Expanded Maintenance Shop

Project Narrative: Expand the existing airport maintenance facility and add more shop and interior storage spaces.

Project Justification: The existing airport maintenance facility is small and could use more shop space and interior storage space for snow removal equipment and other vehicles.

Project Cost: The estimated project cost is \$138,955.

18) Aircraft Wash Rack

Project Narrative: Construct a new FBO aircraft wash rack. This would consist of a 50-foot x 50-foot concrete pad with a center drain and oil/water separator.

Project Justification: The FBOs currently have a stop-gap system of oil booms for aircraft washing. The project is needed to comply with federal EPA stormwater regulations.

Project Cost: The estimated project cost is \$172,739.

19) Paseo del Volcan Road Improvements

Project Narrative: Rehabilitate the existing two-lane roadway (Paseo del Volcan) from I-40 to Double Eagle II Airport FBO facilities, which is approximately 7± miles.

Project Justification: This is the primary access road to Double Eagle II Airport for users, tenants, employees, emergency vehicles, and visitors. In addition, the City of Albuquerque public work vehicles use this road from the interstate to the soil amendment facility located on the west side of the airport. The roadway was built in 1982 and the pavement has served its design life and needs to be rehabilitated.

Project Cost: The estimated project cost is \$1,100,445.

20) FBO Expansions (Existing FBOs)

Project Narrative: On leased property, each FBO would construct additional aircraft storage facilities and FBO support facilities.

Project Justification: With anticipated growth at the airport, both existing FBOs have expansion plans, which could be implemented within this timeline.

Project Cost: The estimated project cost is not available at this time.

21) Infrastructure/Spine Road Extension Phase I (Southwest of Existing Road)

Project Narrative: Prepare the site and construct the infrastructure necessary to develop the midfield area.

Project Justification: A project is needed in this timeframe, similar to the Eclipse Aviation project, to prepare a site for future general aviation facility developments that would include corporate hangars, T-hangars, and FBO facilities.

Project Cost: The estimated project cost is \$1,182,778.

22) Site Preparation for Corporate Hangar Complex (Phase I - 25± Acres)

Project Narrative: Prepare site to lease for the construction of a corporate hangar complex.

Project Justification: In conjunction with the first phase of a midfield infrastructure program, a demand for corporate hangar complex could be required.

Project Cost: The estimated project cost is \$291,827. This cost estimate represents an order of magnitude budget figure.

23) Site Preparation for Future T-Hangar Development (Phase I - 25± Acres – Greenfield Site)

Project Narrative: Prepare site to lease for the construction of T-hangars.

Project Justification: In conjunction with the first phase of a midfield infrastructure program, demand for a future T-hangar complex could be required.

Project Cost: The estimated project cost is \$210,095. This cost estimate represents an order of magnitude budget figure.

24) Site Preparation for Future FBO Development (Phase I - 25± Acres – Greenfield Site)

Project Narrative: Prepare site to lease for the development of new FBO facilities.

Project Justification: In conjunction with the first phase of a midfield infrastructure program with additional aviation growth, demand for a future FBO complex could be required.

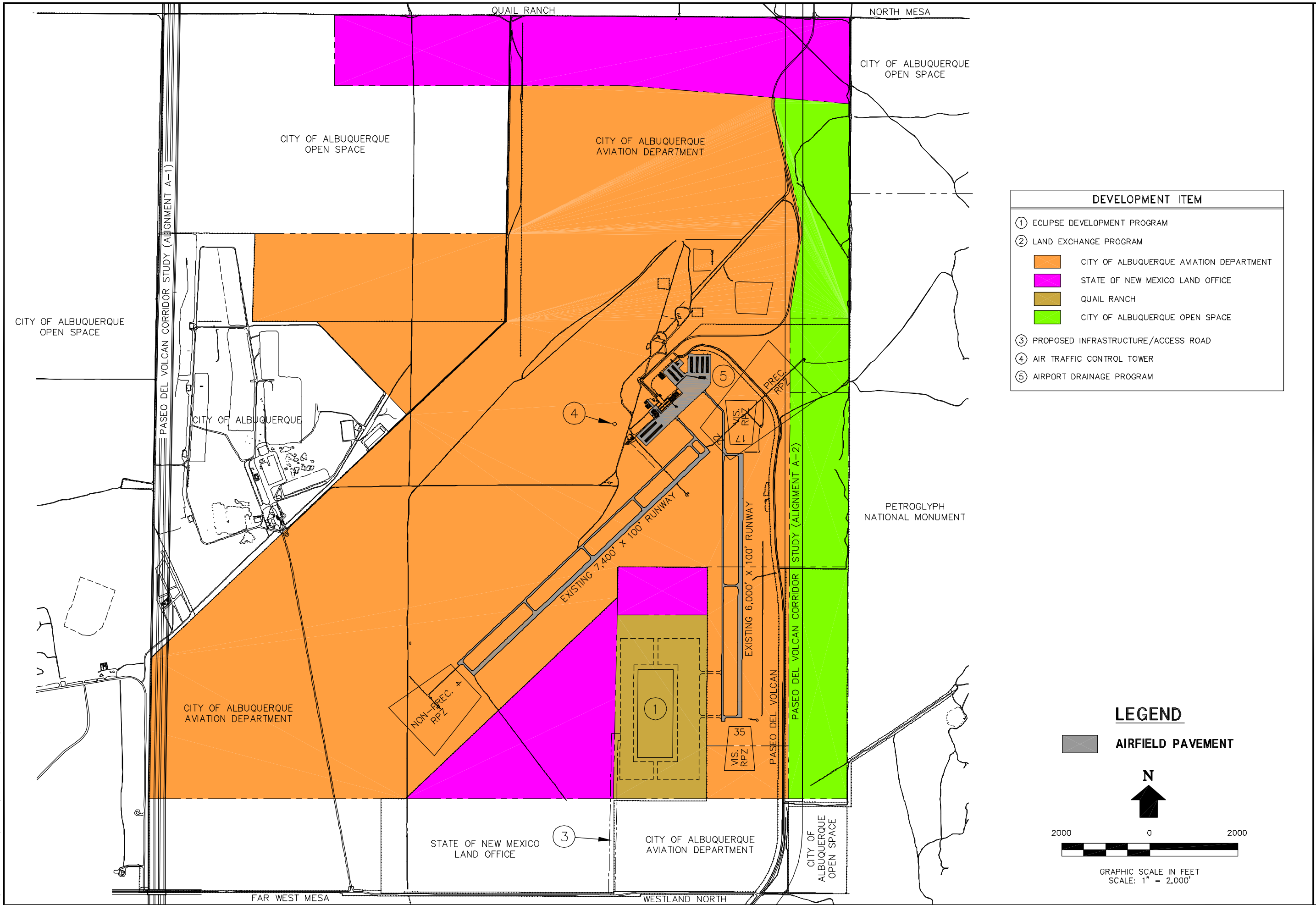
Project Cost: The estimated project cost is \$210,095. This cost estimate represents an order of magnitude budget figure.





TABLE 11.1
PHASE I COST ESTIMATE SUMMARY – 0-5 YEAR CAPITAL IMPROVEMENT PROGRAM
Double Eagle II Airport
Master Plan Study

No.	Project Name	Total Estimated Cost	Federal Share	State Share	Local Share
1	EA/EIS Runway 4 Extension Project/5-Year Program	N/A	N/A	N/A	N/A
2	Runway 4 Extension Program	\$4,613,434	\$4,152,090	\$230,672	\$230,672
3	Rehabilitate Runway 17/35	\$1,755,840	\$1,580,256	\$87,792	\$87,792
4	Rehabilitate Taxiway "B"	\$769,362	\$692,426	\$38,468	\$38,468
5	Rehabilitate Runway 17/35 MIRLS	\$401,715	\$361,543	\$20,086	\$20,086
6	Rehabilitate Taxiway "B" MITLs	\$607,006	\$546,306	\$30,350	\$30,350
7	Rehabilitate Runway 4/22	\$2,244,017	\$2,019,615	\$112,201	\$112,201
8	Rehabilitate Taxiway "A"	\$1,020,841	\$918,757	\$51,042	\$51,042
9	Rehabilitate Runway 4/22 MIRLS	\$578,925	\$521,032	\$28,946	\$28,946
10	Rehabilitate Taxiway "A" MITLs	\$797,814	\$718,032	\$39,891	\$39,891
11	New Airport Rotating Beacon	\$78,333	\$70,500	\$3,917	\$3,917
12	Emergency Power	\$73,308	\$65,977	\$3,665	\$3,665
13	Supplemental Wind Cone	\$29,412	\$26,471	\$1,471	\$1,471
14	Rehabilitate Transient Apron	\$552,691	\$497,422	\$27,635	\$27,635
15	Additional Aircraft Parking Apron	\$1,830,102	\$1,647,092	\$91,505	\$91,505
16	Chainlink Perimeter Fence	\$1,197,164	\$1,077,447	\$59,858	\$59,858
17	Expanded Maintenance Shop	\$138,955	\$125,060	\$6,948	\$6,948
18	Aircraft Wash Rack	\$172,739	\$155,465	\$8,637	\$8,637
19	Paseo del Volcan Road Improvements	\$1,100,445	\$376,352.12	\$362,046	\$362,046
20	FBO Expansions	N/A	N/A	N/A	N/A
21	Infrastructure/Spine Road Extension Phase I	\$1,182,778	\$532,250.16	\$29,569.45	\$620,959
22	Site Preparation for Corporate Hangar Complex - Phase I	\$291,827	\$0	\$0	\$291,827
23	Site Preparation for Future T-Hangar Development - Phase I	\$210,095	\$0	\$0	\$210,095
24	Site Preparation for Corporate Hangar Complex - Phase I	\$210,095	\$0	\$0	\$210,095
	Total	\$19,856,897	\$16,084,094	\$1,234,699	\$2,538,105


N/A = Estimated cost is not available at this time.

SOURCE: URS CORPORATION, 2002.




DEVELOPMENT ITEM	
①	ECLIPSE DEVELOPMENT PROGRAM
②	LAND EXCHANGE PROGRAM
	CITY OF ALBUQUERQUE AVIATION DEPARTMENT
	STATE OF NEW MEXICO LAND OFFICE
	QUAIL RANCH
	CITY OF ALBUQUERQUE OPEN SPACE
③	PROPOSED INFRASTRUCTURE/ACCESS ROAD
④	AIR TRAFFIC CONTROL TOWER
⑤	AIRPORT DRAINAGE PROGRAM


LEGEND

 AIRFIELD PAVEMENT

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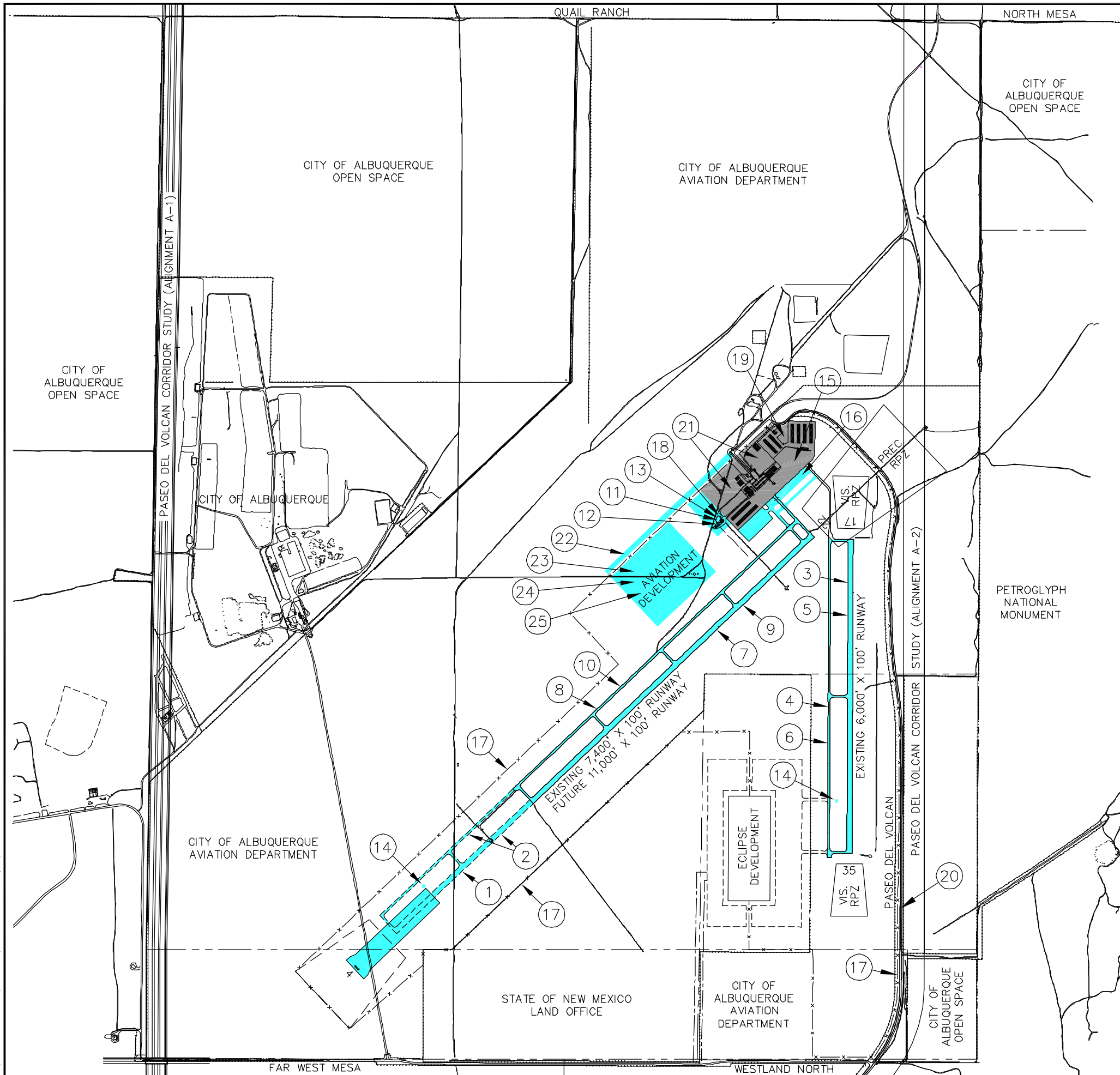
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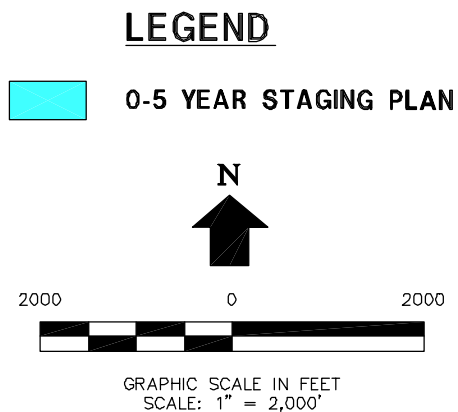
GRAPHIC SCALE IN FEET
SCALE: 1" = 2,000'

CURRENT ON-GOING CIP PROJECTS (2002-2003)

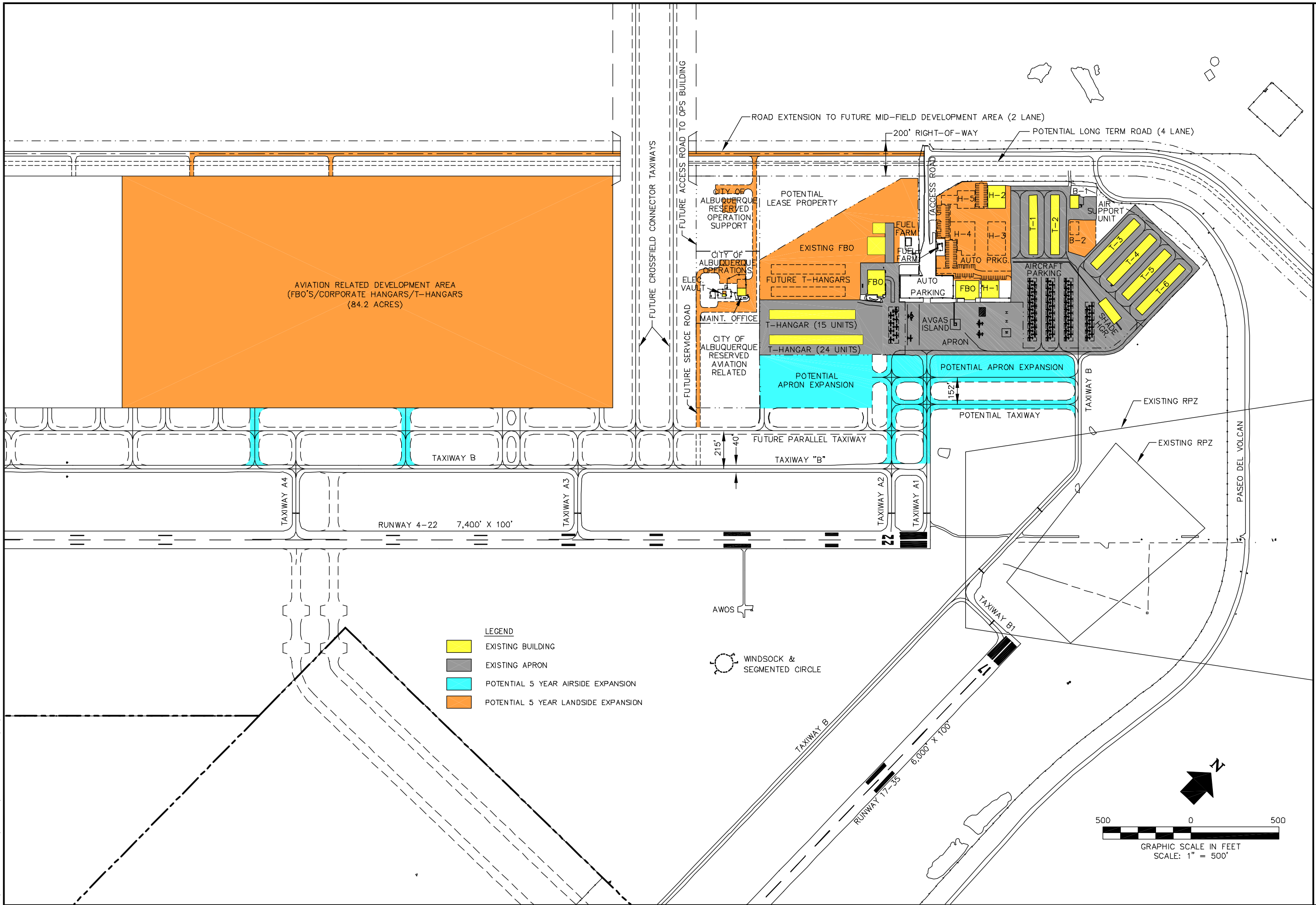
FIGURE:
11.1



DEVELOPMENT ITEM	
①	EA/EIS RUNWAY 4 EXTENSION PROJECT/5-YEAR PROGRAM
②	RUNWAY 4 EXTENSION PROGRAM (RUNWAY EXTENSION, TAXIWAY EXTENSION, NAVAIID RELOCATIONS, ETC.)
③	REHABILITATE RUNWAY 17-35
④	REHABILITATE TAXIWAY "B"
⑤	REHABILITATE RUNWAY 17-35 MIRL
⑥	REHABILITATE TAXIWAY "B" MITL
⑦	REHABILITATE RUNWAY 4-22
⑧	REHABILITATE TAXIWAY "A"
⑨	REHABILITATE RUNWAY 4-22 MIRL
⑩	REHABILITATE TAXIWAY "A" MITL
⑪	NEW AIRPORT ROTATING BEACON
⑫	EXPANDED ELECTRICAL VAULT
⑬	EMERGENCY POWER
⑭	SUPPLEMENTAL WIND CONE
⑮	REHABILITATE EXISTING TRANSIENT APRON
⑯	ADDITIONAL AIRCRAFT PARKING APRON
⑰	CHAIN LINK PERIMETER FENCE
⑱	EXPANDED MAINTENANCE SHOP
⑲	AIRCRAFT WASH RACK
⑳	PASEO DEL VOLCAN ROAD IMPROVEMENTS
㉑	FBO EXPANSIONS (EXISTING FBO'S)
㉒	INFRASTRUCTURE/SPINE ROAD EXTENSION PHASE I (SOUTHWEST OF EXISTING ROAD)
㉓	SITE PREPARATION FOR FUTURE CORPORATE HANGAR COMPLEX (PHASE I - 25± ACRES)
㉔	SITE PREPARATION FOR FUTURE T-HANGAR DEVELOPMENT (PHASE I - 25± ACRES - GREENFIELD SITE)
㉕	SITE PREPARATION FOR FUTURE FBO DEVELOPMENT (PHASE I - 25± ACRES - GREENFIELD SITE)



J:\DOUBLE EAGLE II\EXHIBITS\FIG 11.3.DWG 07/17/02 16:13



11.4 RECOMMENDED 5-10-YEAR CAPITAL IMPROVEMENT PROGRAM (2008-2012)

The following is a list of the intermediate-range stage (5-10-year) development items for Double Eagle II Airport. Several items listed include facilities and airfield improvements, which would be constructed as the need is justified. The airport will continue to grow and the cost presented in this phase of the plan represents order of magnitude and will serve as a preliminary budget.

The cost estimate for the intermediate-range improvement program is shown as project cost, which includes engineering, survey, testing, administration, and contingencies. The preliminary estimated project cost in 2002 dollars is \$10,751,212. These project cost estimates are listed in Table 11.2, which is presented after the brief descriptions of proposed intermediate-range improvement items. In addition, recommended improvements are graphically illustrated on Figure 11.4, which follows Table 11.2.

1) Crossfield Parallel Taxiways Between Runway 4/22 and 17/35

Project Narrative: Two lighted 35-foot-wide parallel east/west taxiway connectors would be constructed between existing Runways 17/35 and 4/22. These taxiways would be designed in accordance with FAA ADG-II standards. These new taxiway connectors would link the runway system with existing Taxiways "A" and "B."

Project Justification: A crossfield parallel taxiway would be constructed between Runways 4/22 and 17/35 to increase the efficiency of future anticipated aircraft ground traffic flow movement on the airport.

Project Cost: The estimated project cost for the crossfield parallel taxiways is \$1,955,767.

2) Runway 4/22 Outer Parallel Taxiway (Phase I)

Project Narrative: A lighted 35-foot-wide parallel (outer) taxiway to Taxiway "A" and Runway 4/22 would be constructed in phases to improve overall aircraft ground traffic activity and would increase operational utilization and capacity of Runway 4/22. This taxiway would be designed in accordance with FAA ADG-II standards.

Project Justification: In support of the midfield aviation development, a section of the outer parallel taxiway would be constructed. Construction of the 4/22 parallel taxiway would increase airport capacity and the efficiency of aircraft ground traffic movements.

Project Cost: The estimated project cost is \$1,483,016.

3) Runway 4/22 East Parallel Taxiway

Project Narrative: A lighted 35-foot-wide x 8,000-foot-long east parallel taxiway to Runway 4/22 would be constructed from the end of Runway 4 to the new proposed crossfield (east) taxiway system. This taxiway would be designed in accordance with FAA ADG-II standards.

Project Justification: In support of the southeast midfield aviation development, a section of the parallel taxiway would be constructed. Construction of the 4/22 east parallel taxiway would increase airport capacity and the efficiency of aircraft ground traffic movements on the east side of the airfield.

Project Cost: The estimated project cost is \$2,432,009.

4) Runway 17/35 Outer Parallel Taxiway

Project Narrative: A lighted 35-foot-wide x 3,000-foot-wide parallel (outer) taxiway to Taxiway "B" and Runway 17/35 would be constructed from the end of Runway 35 to the proposed crossfield (east) taxiway system. This taxiway would be designed in accordance with FAA ADG-II standards.

Project Justification: In support of the southeast midfield aviation development, a section of the outer parallel taxiway would be constructed. Construction of the 17/35 parallel taxiway would increase airport capacity and the efficiency of aircraft ground traffic movements.

Project Cost: The estimated project cost is \$928,107.

5) Crosswind Runway Program (EIS and Development Items)

Project Narrative: Construct a 3,000-foot x 100-foot unpaved landing strip on a northwest/southeast orientation. This landing strip would accommodate the small general aviation aircraft in accordance with FAA ADG-I standards. Also included in this project would be a designated aircraft parking area, security fencing, and an access road to transport users between the FBO facilities and the unpaved landing strip. Prior to the implementation of this project, an EA/EIS will have to be prepared and approved.

Project Justification: In order to satisfy the general aviation (ADG-I) operational activity 100 percent of the time for 12 months at Double Eagle II Airport, a crosswind runway is needed and justified to accommodate the small aircraft operations during the two/three-month northwest/southeast wind conditions.

Project Cost: The estimated project cost is \$599,525.

6) Infrastructure/Spine Road Extension Phase II (Southwest of Existing Road)

Project Narrative: Construct the infrastructure necessary to continue development of the midfield area.

Project Justification: The project is needed in order to develop a site for future general aviation facility developments that would include corporate hangars, T-hangars, and FBO facilities.

Project Cost: The estimated project cost is \$726,427.

7) Site Preparation for Corporate Hangar Complex (Phase II - 25± Acres)

Project Narrative: Prepare site to lease for the construction of a corporate hangar complex.

Project Justification: In conjunction with the multi-phased midfield infrastructure development program, additional demand for corporate hangar complex expansion could be required.

Project Cost: The estimated project cost is \$266,849. This cost estimate represents an order of magnitude budget figure.

8) Site Preparation for Future T-Hangar Development (Phase II - 25± Acres – Greenfield Site)

Project Narrative: Prepare site to lease for the construction of T-Hangars.

Project Justification: In conjunction with the multi-phased midfield infrastructure development program, additional demand for a future T-hangar complex expansion could be required.

Project Cost: The estimated project cost is \$210,095. This cost estimate represents an order of magnitude budget figure.

9) Site Preparation for Future FBO Development (Phase II - 25± Acres – Greenfield Site)

Project Narrative: Prepare site to lease for the development of new FBO facilities.

Project Justification: In conjunction with the multi-phased midfield infrastructure development program, demand for a future FBO complex could be required.

Project Cost: The estimated project cost is \$210,095. This cost estimate represents an order of magnitude budget figure.

10) Airfield Electrical Vault Expansion

Project Narrative: The expansion of the airfield electrical vault is needed to accommodate anticipated additional airfield electrical systems. The building size should be increased from 16 feet x 20 feet to 16 feet x 35 feet.

Project Justification: The existing vault is adequate for current conditions but there is minimal space remaining. Future Double Eagle II Airport expansion projects will require additional electrical vault building space.

Project Cost: The estimated project cost is \$36,513.

11) Internal Service Roads - East

Project Narrative: This project involves the construction of 25,700 feet of new paved 24-foot-wide internal service roads. The new construction would require clearing and grubbing, grading, subgrade preparation, and placement of a 4-inch bituminous surface.

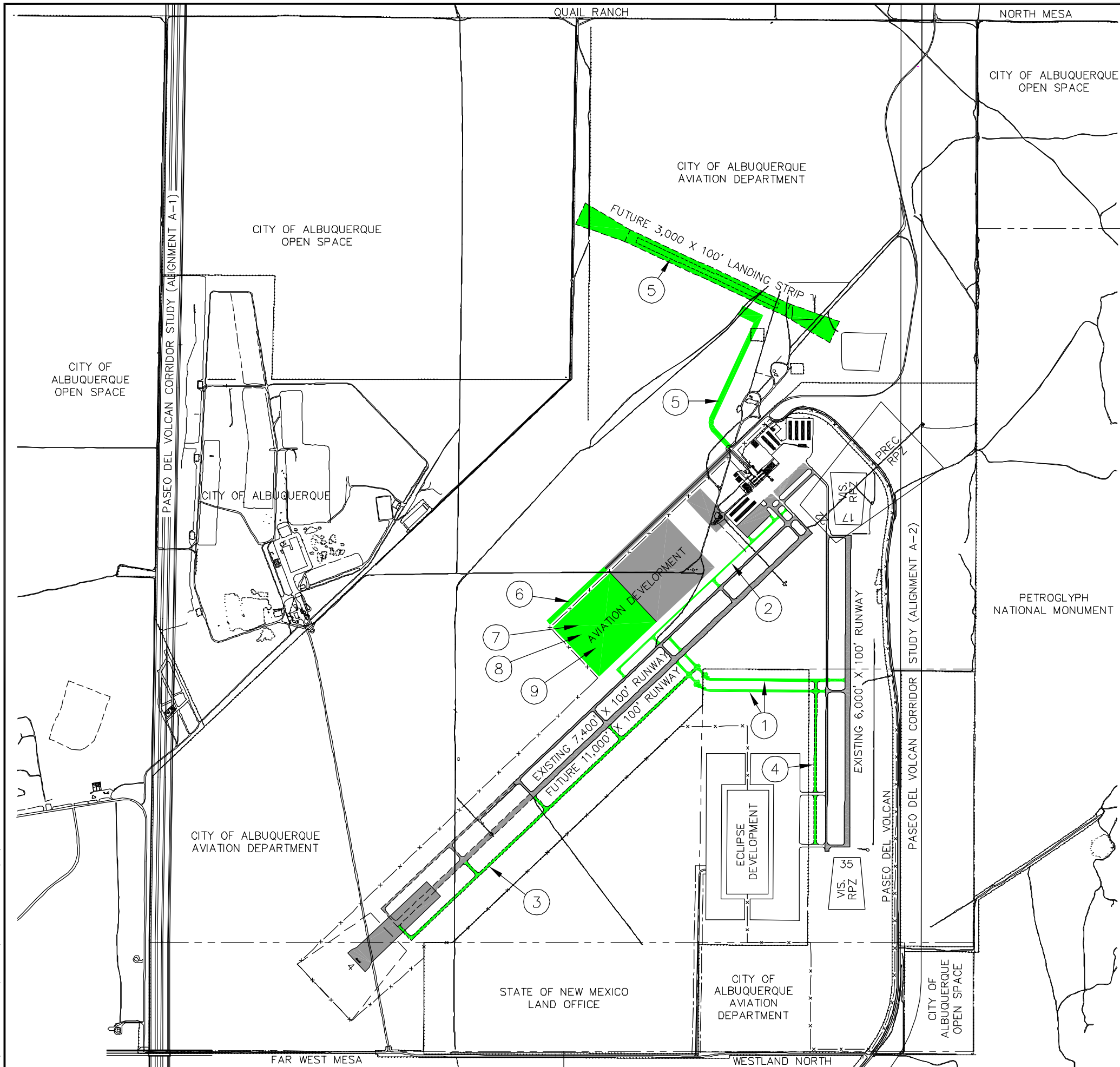
Project Justification: The airfield currently lacks any paved service roads and the existing roads often require vehicles to either drive on active taxiways or cross active runways and taxiways to access various lighting and NAVAID facilities. With the expected increase in operations, this practice will become more difficult and dangerous. A properly laid out system of service roads will keep vehicles outside of the Object Free Area and minimize crossing of active pavements. Paved roads will allow better all weather access to facilities and minimize the tracking of mud and debris onto runways and taxiways when crossings are required.

Project Cost: The estimated project cost is \$1,902,809.

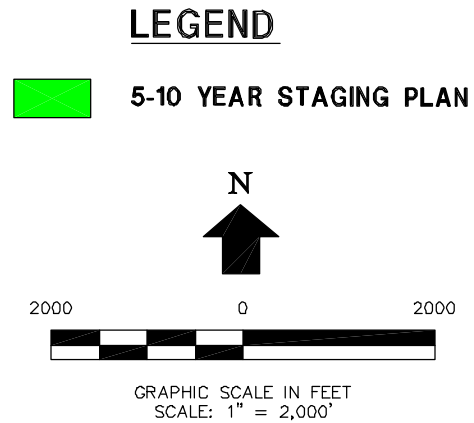
**TABLE 11.2
PHASE II COST ESTIMATE SUMMARY – 5-10 YEAR CAPITAL IMPROVEMENT PROGRAM
Double Eagle II Airport
Master Plan Study**

No.	Project Name	Total Estimated Cost	Federal Share	State Share	Local Share
1	Crossfield Parallel Taxiways Between Runway 4/22 and 17/35	\$1,955,767	\$1,760,190	\$97,788	\$97,788
2	Runway 4/22 Outer Parallel Taxiway (Phase I)	\$1,483,016	\$1,334,714	\$74,151	\$74,151
3	Runway 4/22 East Parallel Taxiway	\$2,432,009	\$2,188,808	\$121,600	\$121,600
4	Runway 17/35 Outer Parallel Taxiway	\$928,107	\$835,297	\$46,405	\$46,405
5	Crosswind Runway Program	\$599,525	\$539,572	\$29,976	\$29,976
6	Infrastructure/Spine Road Extension Phase II	\$726,427	\$326,892.23	\$18,160.68	\$381,374
7	Site Preparation for Corporate Hangar Complex - Phase II	\$266,849	\$0	\$0	\$266,849
8	Site Preparation for Future T-Hangar Development - Phase II	\$210,095	\$0	\$0	\$210,095
9	Site Preparation for Corporate Hangar Complex - Phase II	\$210,095	\$0	\$0	\$210,095
10	Airfield Electrical Vault Expansion	\$36,513	\$32,862	\$1,826	\$1,826
11	Internal Service Roads - East	\$1,902,809	\$1,712,528	\$95,140	\$95,140
	Total	\$10,751,212	\$8,730,864	\$485,048	\$1,535,301

Source: URS Corporation, 2002.



DEVELOPMENT ITEM	
①	CROSSFIELD PARALLEL TAXIWAYS BETWEEN RUNWAY 4-22 AND 17-35
②	RUNWAY 4-22 OUTER PARALLEL TAXIWAY (PHASE I)
③	RUNWAY 4-22 EAST PARALLEL TAXIWAY
④	RUNWAY 17-35 OUTER PARALLEL TAXIWAY
⑤	CROSSWIND RUNWAY PROGRAM (EIS AND DEVELOPMENT ITEMS)
⑥	INFRASTRUCTURE/SPINE ROAD EXTENSION PHASE II (SOUTHWEST OF EXISTING ROAD)
⑦	SITE PREPARATION FOR FUTURE CORPORATE HANGAR COMPLEX (PHASE II - 25± ACRES)
⑧	SITE PREPARATION FOR FUTURE T-HANGAR DEVELOPMENT (PHASE II - 25± ACRES - GREENFIELD SITE)
⑨	SITE PREPARATION FOR FUTURE FBO DEVELOPMENT (PHASE II - 25± ACRES - GREENFIELD SITE)



11.5 LONG-RANGE CAPITAL IMPROVEMENT PROGRAM (10-20 YEARS AND BEYOND)

The following is a list of the long-range stage (10-20+ years) development items for Double Eagle II Airport. Items listed in this program include facilities and airfield improvements, which would be constructed as the need is justified. The airport will continue to grow and the cost presented in this phase of the plan represents order of magnitude and will serve as a preliminary budget for future programming. By this time period, which is around 2012, a new airport Master Plan update should be undertaken and would reassess the needs and phasing of future Double Eagle II Airport projects.

The preliminary project cost for the long-range improvement program, which includes engineering services, testing, administration, and contingencies, is estimated at \$17,065,805 (2002 dollars). These project cost estimates are listed in Table 11.3, which is presented after the brief descriptions of proposed long-range improvement items. In addition, recommended improvements are graphically illustrated on Figure 11.5, which follows Table 11.3.

1) Parallel 4L/22R Runway/Taxiway Program

Project Narrative: Construct a parallel 4L/22R runway/taxiway system. The runway would be designed in accordance with FAA ADG-II standards at a length of approximately 9,000 feet x 100 feet wide with a full 35-foot-wide parallel taxiway. When air traffic activity level of service reaches approximately 200,000 annual operations, the implementation process (planning, programming, and design) for this project should begin.

Project Justification: Long-range airfield capacity requirement, if needed and justified. The benchmark to support and implement the parallel runway is level of service (operations).

Project Cost: The estimated project cost is \$9,737,101.

2) Crossfield Taxiway System (Midfield)

Project Narrative: Construct a parallel crossfield taxiway system linking the existing airfield system with the proposed parallel runway.

Project Justification: Long-range aircraft ground movement requirement that will increase the efficiency and circulation of ground traffic.

Project Cost: The estimated project cost is \$2,842,507.

3) Construction of Airport Internal Loop Road

Project Narrative: In conjunction with the continued midfield development on the west side of the airport, construct the last segment of a two-lane road through the midfield area connecting to the existing east/west road along the southern airport boundary. This would complete the two-lane internal loop road from the Eclipse Aviation site to the midfield development.

Project Justification: Improves the vehicle traffic flow to and from the two aviation development areas on airport property. It also provides a second access point to the midfield area for emergency vehicles, etc.

Project Cost: The estimated project cost is \$1,134,364.

4) Infrastructure/Spine Road Extension Phase III (Southwest of Existing Road)

Project Narrative: Prepare the site and construct the infrastructure necessary to continue developing the midfield area.

Project Justification: This project includes the preparation of a site for continued future general aviation facility developments that would include corporate hangars, T-hangars, and FBO facilities.

Project Cost: The estimated project cost is \$978,494.

5) Site Preparation for Corporate Hangar Complex (Phase III - 25± Acres)

Project Narrative: Prepare site to lease for the construction of a corporate hangar complex.

Project Justification: In conjunction with the multi-phased midfield infrastructure program, additional demand for corporate hangar complex expansion could be required.

Project Cost: The estimated project cost is \$442,552. This cost estimate represents an order of magnitude budget figure.

6) Site Preparation for Future T-Hangar Development (Phase III - 25± Acres – Greenfield Site)

Project Narrative: Prepare site to lease for the construction of T-hangars.

Project Justification: In conjunction with the multi-phased midfield infrastructure program, additional demand for future T-hangar complex extension could be required.

Project Cost: The estimated project cost is \$322,392. This cost estimate represents an order of magnitude budget figure.

7) Site Preparation for Future FBO Development (Phase III - 25± Acres – Greenfield Site)

Project Narrative: Prepare site to lease for the development of new FBO facilities.

Project Justification: In conjunction with the multi-phased midfield infrastructure program, additional demand for a future FBO complex could be required.

Project Cost: The estimated project cost is \$322,392. This cost estimate represents an order of magnitude budget figure.

8) Internal Service Roads - West

Project Narrative: This project involves the construction of 14,900 feet of new paved 24-foot-wide internal service roads. The new construction would require clearing and grubbing, grading, subgrade preparation, and placement of a 4-inch bituminous surface.

Project Justification: When Runway 4L/22R and its associated taxiways are constructed, service vehicles will need new roads to access these facilities. A properly laid out system of service roads will keep vehicles outside of the Object Free Area and minimize crossing of active pavements. Paved roads will allow better all weather access to facilities and minimize the tracking of mud and debris onto runways and taxiways when crossings are required.

Project Cost: The estimated project cost is \$1,150,782.

9) Construct Second Airfield Electrical Vault

Project Narrative: Construct a new 25-foot x 25-foot electrical vault to serve Runway 4L/22R and its associated taxiways on the west side of the airfield. The project will require site preparation, foundation and floor, and either a concrete masonry unit (CMU) or pre-engineered steel building system with backup generator and fuel tank.

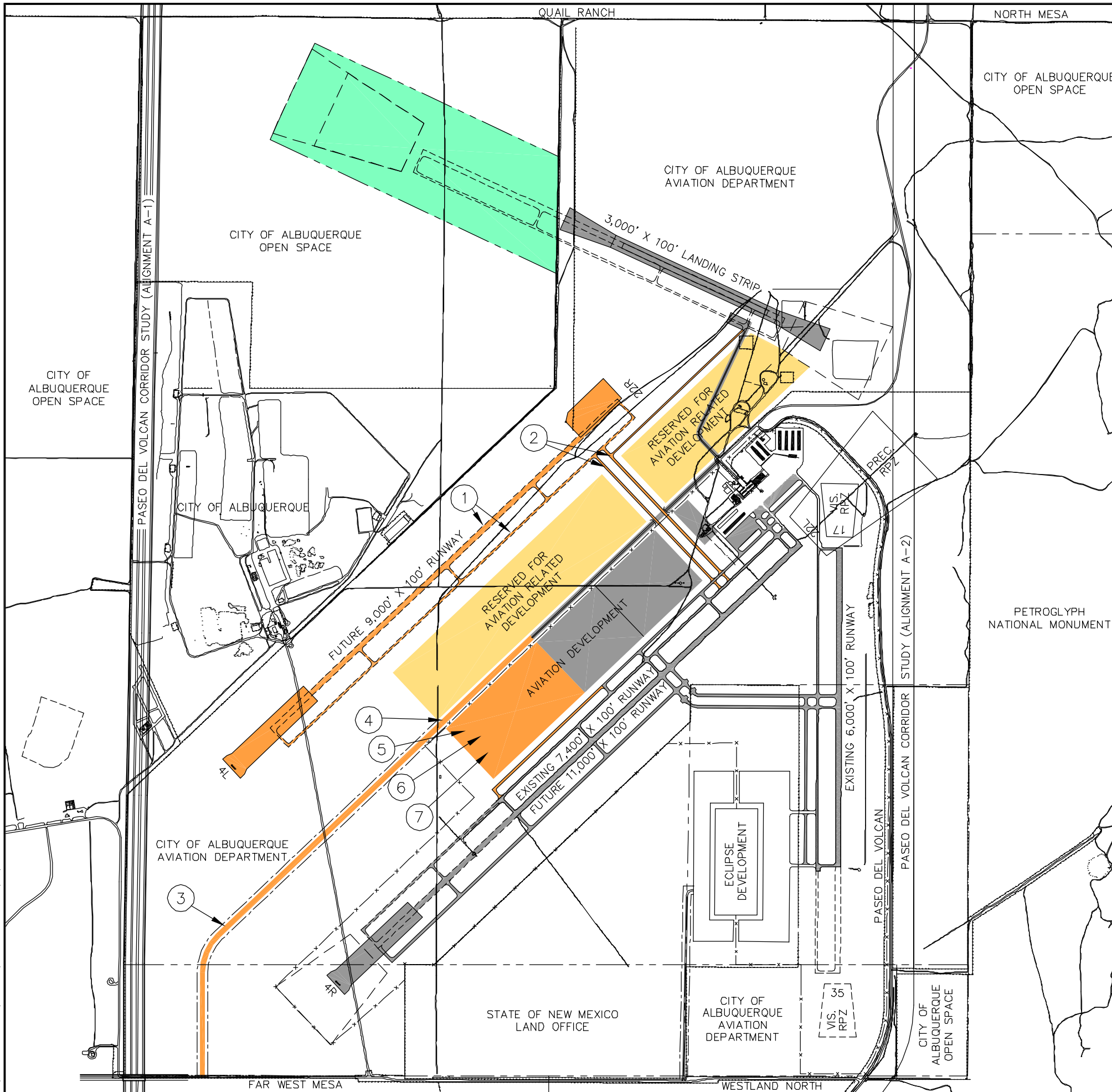
Project Justification: With the construction of new airfield facilities on the west side, additional vault building space is required. A second vault building is preferred to expanding the current vault in order to separate the electrical distribution systems of the east and west sides of the airfield. This arrangement would provide some flexibility to airport operations in the event that one of the vaults needs to be taken off-line.

Project Cost: The estimated project cost is \$255,606.

**TABLE 11.3
PHASE III COST ESTIMATE SUMMARY – LONG-RANGE CAPITAL IMPROVEMENT PROGRAM
Double Eagle II Airport
Master Plan Study**

No.	Project Name	Total Estimated Cost	Federal Share	State Share	Local Share
1	Parallel 4L/22R Runway/Taxiway Program	\$9,737,101	\$8,763,391.04	\$486,855.06	\$486,855.06
2	Crossfield Taxiway System (Midfield)	\$2,842,507	\$2,558,256.70	\$142,125.37	\$142,125.37
3	Construction of Airport Internal Loop Road	\$1,134,364	\$1,020,927.99	\$56,718.22	\$56,718.22
4	Infrastructure/Spine Road Extension - Phase III	\$978,494	\$440,322.17	\$24,462.34	\$513,709.19
5	Site Preparation for Corporate Hangar Complex - Phase III	\$442,552	\$0	\$0	\$442,552
6	Site Preparation for Future T-Hangar Development - Phase III	\$322,392	\$0	\$0	\$322,392
7	Site Preparation for Corporate Hangar Complex - Phase III	\$322,392	\$0	\$0	\$322,392
8	Internal Service Roads - West	\$1,150,782	\$1,035,703.65	\$57,539.09	\$57,539.09
9	Construct Second Airfield Lighting Vault	\$255,606	\$230,045.48	\$12,780.30	\$12,780.30
	Total	\$17,186,190	\$14,048,647	\$780,480	\$2,357,062

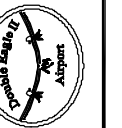
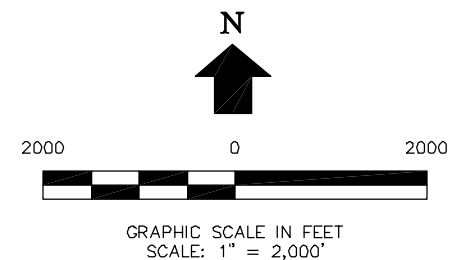
Source: URS Corporation, 2002.



DEVELOPMENT ITEM	
①	PARALLEL 4L-22R RUNWAY/TAXIWAY PROGRAM
②	CROSSFIELD TAXIWAY SYSTEM (MIDFIELD)
③	CONSTRUCTION OF AIRPORT INTERNAL LOOP ROAD
④	INFRASTRUCTURE/SPINE ROAD EXTENSION PHASE III (SOUTHWEST OF EXISTING ROAD)
⑤	SITE PREPARATION FOR FUTURE CORPORATE HANGAR COMPLEX (PHASE III - 25± ACRES)
⑥	SITE PREPARATION FOR FUTURE T-HANGAR DEVELOPMENT (PHASE III - 25± ACRES - GREENFIELD SITE)
⑦	SITE PREPARATION FOR FUTURE FBO DEVELOPMENT (PHASE III - 25± ACRES - GREENFIELD SITE)

LEGEND

- 10-20 YEAR STAGING PLAN
- BEYOND 20 YEAR STAGING PLAN
- BEYOND 20 YEAR STAGING PLAN
- LAND TO BE ACQUIRED OR EXCHANGED



11.6 SUMMARY OF AIRPORT AND INDUSTRIAL PARK IMPROVEMENT STAGING

The total estimated cost for projects listed in the 5-year CIP (2003-2007) is \$19,856,897. Federal participation is estimated at \$16,084,094 with projected State involvement at \$1,234,699. Total local (City) funding is estimated at \$2,538,105.

The total estimated cost for projects listed in the 5-10-year CIP (2008-2012) is \$10,751,212. Federal participation is estimated at \$8,730,864 with projected State involvement at \$485,048. Total local (City) funding is estimated at \$1,535,301.

The total estimated cost for projects stated in the long-range (ultimate) CIP beyond the year 2012 is \$17,186,190. Federal participation is estimated at \$14,048,647 with projected State involvement at \$780,480. Total local (City) funding is estimated at \$2,357,062.

The total estimated cost of all airport improvements proposed during the 20-year planning period is \$47,794,299.