

CHAPTER THREE - FACILITY REQUIREMENTS

The following information revises Chapter 3 of the original Master Plan.

General

This airport has been classified as a Basic Utility Stage 1 Airport. Utilizing the FAA Advisory Circulars AC 150-5300-4B Airport Design, and AC 150/5325-4A, Runway Length Requirements for Airport Design, several dimensional standards must be met to provide safety at the airport. These standards are delineated as the runway width, runway length, runway safety area, imaginary surfaces and runway clear zone. The imaginary surfaces are divided into primary and transitional surfaces. Table 2 quantifies the dimensional standards for a Basic Utility Stage 1 Airport.

TABLE 2
DIMENSIONAL STANDARDS
BASIC UTILITY - STAGE 1 AIRPORT

Description	Requirement
Runway Width	60 feet
Runway Length	3,300 feet
Runway Safety Area	120 feet
Primary Surface Area (Width)	250 feet
Transitional Surface (Height)	150 feet
Transitional Surface (Slope)	7:1
Primary Surface Area (Beyond Ends)	200 feet
Runway Clear Zone (Length)	1,000 feet
Runway Clear Zone (Slope)	20:1

If 200 feet beyond the ends of a runway cannot be met, displaced thresholds will be required 200 feet from the end of the runway. The Town of Kearny's runway as originally designed had a 200 foot displaced threshold on the west end and was expected to have the same 200-foot displacement on the east end of a 3,400-foot runway, leaving 3,200 feet of runway for landing.

A meeting was held with the Aeronautics staff to determine their desires for redevelopment of the site. Their preference includes at least a 3,000-foot runway be reconstructed and ultimately lengthened to 3,400 feet. Additionally, they would like to see a continued effort to remove

obstructions from the safety areas to include, at a minimum, relocations of the lake access road and guardrail, runup area, trees, effluent holding pond, etc. Additionally, ADOT expects a life of approximately 20 years from the facilities in which they invest.

Airside Facilities

The following paragraphs address each of the revised airside facilities.

Runway: In order to meet the requests of a 3,400-foot runway, the flood protection dike was relocated to allow for the required safety areas. With this relocation, 3,600 feet of runway 60 feet in width is possible. Three hundred feet of displaced thresholds are required at both ends, however, due to clear zone encroachments. This allows for 3,300 feet of landing length and 3,600 feet of take off length.

Taxiway: Due to the transitional surface slopes, the dike must be located at a minimum 240 feet from the centerline of the runway. This distance will allow for the construction of a taxiway which meets FAA standards.

Landside Facilities

Airplane Parking: A 12 space aircraft apron is proposed at the east end of the runway. Nine spaces are programmed for the first phase of the construction of the ramp. Three additional spaces are programmed for the second phase of construction of the Terminal/Hanger area ramp. Additionally, an eleven space apron has been proposed at mid-field. Total aircraft parking space at full development would be 23 spaces.

Hangers/Tee Hangers: Two existing hangers will be located on the north side of the east aircraft parking apron. Three additional spaces have been requested by the Airport Board and will be located on the north side of the extension of the east ramp.

Access Road: A non-paved access road which ran along the shoulder of the pre-flood runway is being proposed to be relocated along the north boundary of the airport property. This access road is proposed to be paved in the Phase Two airport construction.

Fire Fighting: It is being proposed to loop a waterline from the Town water well at the west end of the airport, to an existing line north of the railroad tracks at the east end. This line should be adequate to provide fire protection and service to the hanger/terminal area, mid-field facilities and existing mobile home.

Sewer: A sewer line from the wastewater treatment plant to the terminal/hanger area is also being proposed. This line may ultimately be utilized for service of the undeveloped areas at the east end of town.

Auto Parking: Auto parking is being proposed in two locations. One at mid-field (18 spaces) and the other adjacent to the hanger/terminal area apron (14 spaces). A total of 32 auto parking spaces will be available.

Land Acquisition: The airport has adequate property for airport facilities. Land acquisition is being proposed to accommodate the flood protection dike, however, and includes:

Parcel 301-12-B- (.28 Acres, easement)- Galbreath Development

Parcel 301-17-003A - (.65 Acres, easement) - ASARCO Inc.

Parcel 301-15-010 - (7.67 Acres - acquisition) - Galbreath Development

Parcel 301-16-001A - (7.50 Acres - acquisition) - Galbreath Development

Parcel 301-17-005C - (16.11 Acres - acquisition) - Galbreath Development

Additional Facilities

In addition to the reconstruction of the airport facilities with the flood reconstruction project, the following facilities will be constructed.

Wastewater Treatment
Plan (250,000 gpd):

The wastewater treatment plant for this alternative will be required to meet the treatment levels of the Town's current draft NPDES permit. Based upon these requirements, the effluent is required to meet a Phosphorus level of .35mg/l. This requirement requires that some sort of biological treatment be performed to remove phosphorus. Current test reports indicate Phosphorus levels of 5-6 mg/l on the influent and 4.5 - 5 mg/l on the effluent, which indicates that phosphorus is present and will be required to be treated. Treatment is proposed to be performed with an AeroMod System, which utilizes a DRIMAD system for sludge drying and ultimate disposal to the Dudleyville landfill. Alternative methods of disposal are to reviewed during the preliminary design report for the project.

Effluent disposal must be accommodated through discharge to the Gila River and reuse. Discharge to the Gila River will eliminate the need for an effluent holding pond and reuse will allow for possible irrigation of revegetated areas within the project site and the adjacent golf course area.

The plant is required to be placed approximately 100 feet from the property line of the golf course. The plant is proposed to be located in the vicinity of the existing effluent holding pond. The conflict with crossover traffic on the runway will be eliminated during maintenance and operation of the plant with this location. The proposed AeroMod plant can be configured to meet the 100 foot setback requirement from the golf course property. Also, this location will not encroach upon the runway safety areas of the realigned runway. If the plant is requested to be closer to the golf course, a waiver from the golf course owners will be required.

Minor modifications to the current NPDES permit are required in addition to the Aquifer Protection Permit (APP), which is currently under review by the Arizona Department of Environmental Quality. A reuse permit will also be required.

The existing lagoons, holding pond and current effluent disposal area will be required to be abandoned through an approved closure plan. The closure plan will outline the methods for disposal of the sludge in the existing lagoons. The sludge has been tested and contains no hazardous materials. It is expected that sludge treatment will be similar to that of the new plant.

Lake and Campground
(8-Acre Surface Area):

The lake, in this alternative is relocated north of the airport runway to eliminate pedestrian conflicts as mentioned above and allow for the lake to be protected from damage during the 100-year storm. The reconfigured lake will be required to maintain a surface area of eight acres. It may be necessary to relocate a portion of the campground to accommodate this reconfiguration. A drain through the proposed flood protection dike will also be required, to accommodate on site flows during low flow storms.

Flood Protection
(7,400 feet):

The flood protection will be required to meet the requirements of the Federal Emergency Management Agency Levee Protection Policy to protect the site from the 100 year event and obtain Pinal County Flood

Control District approval. This will require the construction of a flood protection dike as follows:

The dike will be required to have a top width of twenty feet, with 3:1 slope on the riverside and a 2:1 slope on the site side. A slurry cutoff wall which extends approximately 12 feet below grade will be required in the center of the dike to prevent pore failure of the dike. Riprap will be placed in high velocity areas along the riverside of the dike to prevent erosion.

The flood protection dike must be approximately 14 to 16 feet above the existing ground elevation to be 3 feet above the computed water surface elevation of this alternative.

The Flood dike must be extended to a point outside the 100 year floodplain to properly flood protect the site. In analysis of the site, this can be performed on the east end at the railroad crossing of Steamboat Wash and on the west end at a point approximately 1500 feet west of the recreational lake's spillway. A flood wall has been included on the east end of the dike and runway to accommodate the runway safety areas and avoid the 404 permit. Easements or property will be required to accommodate the extensions. Property Acquisition costs are not included in this proposal.

A Letter of Map Revision (LOMR) is required to officially remove the site from the floodplain. The first step in the LOMR process is to acquire a Conditional Letter of Map Revision prior to construction. The LOMR will follow later completion of the construction.