Banning Municipal Airport
Airport Master Plan Update

FINAL REPORT

Prepared for
City of Banning
Riverside County, California

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2007

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EXECUTIVE SUMMARY

This Master Plan is being conducted by the City of Banning for the Banning Municipal Airport to provide a direction for future airport development and to ensure that the necessary facilities are improved or made available to meet the forecasted demand for services at the airport. This Master Plan was funded wholly by the City of Banning and was developed based on guidance from FAA Advisory Circulars and FAA A/C 150/5070-6B *Airport Master Plans.*

The main objective of this study is the preparation of an Airport Master Plan to determine the extent, type, and schedule of development needed to accommodate existing needs and future aviation demand at the airport. The recommended development will be presented in the following three planning periods: short term (0-5 years) intermediate-term (6-10 years), and long term (7-20 years).

An inventory of the existing facilities, preparation of aviation demand forecasts, an airfield capacity analysis, environmental overview, and identification of facility requirements through the year 2026 are included in Chapters 1 through 5 of this document. Chapter 6 considers a single development alternative and the final chapters of this draft final report, incorporating the previous work, make recommendations for the 20-year planning period and present the Airport Layout Plan and a financial plan for Banning Municipal Airport.

The following are significant findings of the master plan update.

INVENTORY

- There is currently a shortage of T-hangar space available at Banning Municipal Airport. This need is supported by a list of 57 persons waiting to hangar their aircraft at the Airport.
- Minimal services are available at the Airport to attract Airport users.
- Runway to taxiway separation standards is not met.
- Runway 26 end has a relocated threshold to meet runway safety area dimensions.

ENVIRONMENTAL

- No significant environmental impacts are anticipated with any of the proposed development for Banning Municipal Airport.

FORECASTS

- The Airport does not have an air traffic control tower. Historical air traffic activity is based on estimates by airport personnel.
- The forecasts prepared for this master plan update were based on an inventory of existing based aircraft that was significantly different from the number recorded in previous airport master records (FAA Form 5010). As a result, the

forecasts prepared for this master plan update differ from those in the FAA TAF.

- The forecasts also reflected the need for more/improved hangar space as demonstrated by the T-hangar waiting list and proposed airport and community development that may attract business jet activity to the Airport.

AVIATION FORECAST SUMMARY

	Existing (2006)	2011 (5 year)	2016 (10 year)	2026 (20 year)
Single Engine Aircraft (A-I & B-I)	55	56	58	65
Piston or Turbine Multi Engine (B-I or B-II)	1	2	2	2
Total Based Aircraft	**56**	**58**	**60**	**67**
Itinerant Operations	7,350	8,120	8,400	9,380
Local Operations	3,150	3,480	3,600	4,020
Total Annual Operations	**10,500**	**11,600**	**12,000**	**13,400**

AIRPORT DESIGN

- The Airport Reference Code at Banning Municipal Airport will remain B-II.
- Banning Municipal Airport will build four new 10-bay T-hangars.
- Banning Municipal Airport will build up to four new conventional hangars.
- Taxiway A is to be relocated to meet runway to taxiway separation standards.
- A taxiway has been planned to connect the north terminal area with Runway 8-26.

FINANCIAL ANALYSIS

- Banning Municipal Airport has the potential to increase revenue by constructing additional T-hangars.
- Increasing available services on the Airport may generate additional revenue.
- Consideration should be given to studying having contracted Fixed Base Operator (FBO) services.

AIRPORT LAYOUT PLAN

The Airport Layout Plan (ALP) illustrates the overall development plan for Banning Municipal Airport and presents the various airport improvement projects in three phases. Phase 1, or the short-term development (1-5 years), is concentrated on satisfying existing needs and correcting existing problems. These projects are considered to be the highest priorities in the development plan, and are supported by findings reached during previous portions of this study.

The intermediate-range development, Phase 2, encompasses the period (6-10 years) and includes airfield and landside improvements. The long-range development is Phase 3 (11-20 years). In this phase, additional landside facilities are planned to complete the needs defined in this plan.

This plan reflects the commitment on the part of the City of Banning to support and to improve the Airport and maintain its economic benefits to its aviation users and the community.

Proposed Airport Development Plan Phasing

Short Term Planning Period (1-5 Years) Airport Standards & Safety Improvements	
1-1	Relocate Taxiway A
1-2	Install Taxiway A lighting
1-3	Install REILS (Rwy 8 & Rwy 26)
1-4	Replace segmented circle/relocate windcone from taxiway safety area
1-5	Acquire private property (Building #10)
1-6	Demolish Bldg #10 (private hangar)
1-7	Extend and grade runway safety area 65 feet east (Rwy 26)
1-8	Obstruction removal/relocation
1-9	Install AWOS
1-10	Sign and stripe existing terminal parking lot
1-11	Install new inadvertent entry fence
Intermediate Planning Period (6-10 Years) Terminal Area Development	
2-1	Demolish T-hangars #1, #2, & #3
2-2	Site work to improve drainage between hangars #1, #2 & #3
2-3	Construct four (4) new T-hangars (near former T-hangars #1, #2, & #3)
2-4	Construct/expand apron area west of existing based aircraft parking area
2-5	Construct new automobile parking south of four new T-hangars along East Barbour Avenue
2-6	Acquire 1.63 acres at northeast corner of East Barbour Ave. & S. Hathaway St.
2-7	Construct conventional hangars on new apron area west of existing based aircraft area
2-8	Renovate terminal building
2-9	Demolish Bldgs #12 & #13
Long Term Planning Period (11-20 Years) Future Development as Demand Warrants	
3-1	Acquire 10 acres north of airport for future development
3-2	Construct new access road from John Street to northwest portion of airport
3-3	Construct new apron north of Runway 8-26
3-4	Construct two (2) 10,000 SF conventional hangars on new apron area north of Runway 8-26
3-5	Construct 2,600’ X 35’ partial parallel taxiway north of Runway 8-26

This Master Plan Update has documented the existing aviation need for a general aviation airport in the City of Banning and Riverside County area based on existing conditions, communication with local business entrepreneurs, and discussions with City officials. From today to the year 2026, the continued development of the Airport could be influenced by many factors, yet the most basic question remains: "What is the value of the Airport: to the City of Banning, adjacent business, neighboring community, and airport users?”

For the community, the value of the Airport rests in the community's expectations and vision for the future. In a growing economy, aviation can serve the community as an additional asset to assist in development or attracted a business to the community.

CHAPTER 1 - INTRODUCTION

1.01 General

This Master Plan is being conducted by the City of Banning for the Banning Municipal Airport (the Airport) to provide a direction for future airport development and to ensure that the necessary facilities are improved or made available to meet the forecasted demand for services at the airport. This Master Plan was funded through a matching grant from the Federal Aviation Administration (FAA) and was developed based on guidance from FAA Advisory Circulars and FAA A/C 150/5070-6B *Airport Master Plans.*

The main objective of this study is the preparation of an Airport Master Plan to determine the extent, type, and schedule of development needed to accommodate existing needs and future aviation demand at the airport. The recommended development will be presented in the following three planning periods: short term (0-5 years) intermediate-term (6-10 years), and long term (7-20 years).

FAA Advisory Circular (AC) 150/5070-6B, *Airport Master Plans*, defines an airport master plan as the planner's ultimate development of a specific airport. It effectively presents the research and logic from which the plan was evolved and artfully displays the plan in a graphic and written report. The AC further states that the overall objective of the airport master plan is to provide guidelines for future development which will satisfy aviation demand and be compatible with the environment, community development, other modes of transportation, and other airports. Above all else, the plan must be technically sound, practical, and economically feasible.

The last master plan effort for the Banning Municipal Airport was completed in 1990. Due to changing economics, demographics, and aviation activity at the airport, an updated master plan was deemed necessary. Specifically, the goal of this master plan is to meet the following objectives:

1) **Document the issues** that the proposed future development will address.

2) **Justify the proposed development** through the technical, economic, and environmental investigation of concepts and alternatives.

3) **Provide an effective graphic presentation of the development** of the airport and anticipated land uses in the vicinity of the airport.

4) **Establish a realistic schedule for the implementation of the development** proposed in the plan, particularly the short-term capital improvement program.

5) **Propose an achievable financial plan** to support the implementation schedule.

and other planning documents when evaluating new development on or around the Airport.

The third step involves the identification and detailing of recommended plans and presents a staged Capital Improvement Program (CIP), financial program, and an analysis of economic and financial feasibility.

The fourth and final step is the implementation of the plan. This Airport Master Plan Update is meant to be an active guide for the future development of the airport, and should be used as such.

1.03 Goals and Key Issues

During the scoping process and kickoff meeting, C&S Engineers summarized the goals and key issues important to the Banning Municipal Airport. Understanding goals and key issues helped to provide a context for the airport master plan update.

Goals:

1. **Make the Banning Municipal Airport valuable to the community.**
   - ✈ Establish mutually beneficial relationships between the Airport and surrounding businesses.
   - ✈ Market the airport by organizing community events at the Airport.
   - ✈ "Clean-up" the airport to attract more users and create a recreational area for the community.
   - ✈ Identify ways in which the Airport can become profitable.

2. **Ensure services and facilities are available to existing users and to attract future users.**
   - ✈ Jet A fuel availability.
   - ✈ Charter service availability.
   - ✈ Upgrade terminal building.
   - ✈ Instrument approach procedure availability.

3. **Bring the Airport up to FAA design standards.**
   - ✈ Make sure the layout of the airside and landside facilities meets the requirements of the FAA.

4. **Meet hangar demand.**
   - ✈ Create a plan to address hangar waiting list
   - ✈ Ensure all hangars are being used for aviation purposes.

5. **Ensure compatible land use planning.**

6. **Create a realistic funding schedule for airport development.**

Key Issues:

- Airport drainage.
- Potential obstructions to Part 77 surfaces.
- Potential Runway Safety Area (RSA) infringements, Runway Protection Zone (RPZ) incompatibility.
- Existing location of buildings in relation to the Building Restriction Line.
- Runway 26 threshold.
- Non-standard lighting and markings.
- T-hangar availability.
- Non-aviation use of existing T-hangars.
- Airport access and circulation.
- Need for noise abatement procedures

1.04 Background

Incorporated in 1913, the City of Banning is located in the San Gorgonio Pass, between Mount San Gorgonio on the north and Mount San Jacinto to the south, in Riverside County, California. Banning served as a stagecoach stop by the Colorado Stage & Express Line on its route to the Colorado River in 1862, when gold had been discovered between the Arizona territories and Los Angeles. However, in 1876, the railroad replaced the stagecoach, but Banning retained its recognition and reputation to this day as "STAGECOACH TOWN, U.S.A."

In 1927, George L. Wing, J.M. Westerfield, and W.S. Hathaway obtained options on 70 acres of Southern Pacific land east of the City for an airport. Purchase and preparation of the land totaled $6,000. To help fund development of the property, Airport investors and the American Legion hosted a celebration which featured a non-stop air race from Los Angeles to the City of Banning.

Banning Municipal Airport facilities include one terminal building, one facility capable of housing a fixed base operator, six T-hangars, three conventional hangars, and fuel facilities. Within the Airport fencing, Mercy Air operates from one double wide trailer and a privately owned building not on Airport property rents storage facilities.

1.05 Airport System Planning Role

Nationally, there are approximately 132,000 general aviation flights per day which connect the majority of communities with the nation's air transportation system. The Banning Municipal Airport fulfills several different roles to its users as a general aviation utility airport. These roles are described as follows:

- **A base for area pilots** - The Airport is the most convenient place to base aircraft for most pilots who live and work in the City of Banning and throughout Riverside County. Pilots prefer to store their aircraft at Banning Municipal Airport because of the climate and reasonable hangar rates.

- **Recreational flying** – Flying solely for pleasure is a main activity of pilots with aircraft based at the airport.

- **Flight training** – Although Banning Municipal Airport does not have its own flight school, BNG is used for flight training. Flight instructors bring their students to BNG for crosswind flight training because it is known to have windy conditions. The Airport is also used as a cross-country destination for flight students. Students fly in from areas around California to have their flight log books stamped.

- **Facilities and services** – The Airport currently sells both 100LL and Jet A aviation fuel.

- **Emergency/medical transport** – During an emergency, air access may be the only transportation type available to a community. At Banning Municipal Airport, Mercy Air conducts emergency transport flights using a Bell 412 helicopter.

- **Business/economic development** – The Airport is a factor in providing transportation for promotional events at the nearby Morongo Casino and Resort.

1.05-1 California Aviation System Plan – System Requirements Element (2003)

The System Requirements Element is one of ten Elements and Working Papers that make up the California Aviation System Plan (CASP). "The primary purpose of the System Requirements Element is to identify and prioritize needed airport capacity and safety related infrastructure enhancements that impact the safety and effectiveness of the California Aviation Transportation System."

The California Aviation System Plan divides the state into zones. Banning Municipal Airport is located within the Los Angles/Desert Region. There are six counties within this region: Los Angles, Ventura, Riverside, Orange, Imperial, and San Bernardino. This region is the most populated area in the state; "by 2020, the population is forecast to increase approximately 30.3% to nearly 22 million people. SCAG estimates most of the region's population growth will occur in north Los Angeles, Riverside, and San Bernardino Counties."

This complex region has 47 public use airports and two joint-use military airfields. According the CASP, by 2015 the Los Angeles/Desert Region is expected to see an 11% increase in based aircraft and a 9% increased in the number of operations. This is an average increase of approximately 1% per year for based aircraft and operations over the next 10 years.

This CASP document identified minimum facility standards for each airport classification. Banning Municipal Airport does not meet the minimum standard for a community general aviation airport because it lacks a 24-Hour Automated Weather System (AWOS/ASOS). For a community general aviation airport such as Banning, the following minimum standards apply:

6) **Provide sufficient project definition and detail for subsequent environmental evaluations** that may be required before the project is approved.

7) **Present a plan that adequately addresses the issues** and satisfies local, state, and Federal regulations.

8) Document policies and future aeronautical demand to support municipal or local deliberations on spending, debt, land use controls, and other policies necessary to **preserve the integrity of the airport and its surroundings**.

9) Set the stage and **establish the framework for a continuing planning process**. Such a process should monitor key conditions and permit changes in plan recommendations as required.

In order to answer the questions and meet the goals of this airport master plan, the final report will be divided into the following sections for examination:

- Inventory of Existing Conditions
- Environmental Overview
- Aviation Demand Forecasts
- Airfield Capacity Analysis
- Facility Requirements
- Alternatives for Airport Development
- Airport System Design
- Financial Analysis

1.02 The Master Planning Process

The planning process for the Airport Master Plan study is comprised of four basic steps as presented in **Figure 1-1**. The first step involves an examination of existing conditions and includes data collection, site inventory, and operations analysis. Also included in this phase is a needs analysis which involves preparing aviation demand forecasts, translating these forecast values into a listing of required airport facilities, and analyzing the demand/capacity relationships at the airport.

The second step uses the analyses presented and environmental background information as a basis for preparing alternative development concepts. This step concludes with the evaluation of these alternatives and is presented in the Phase 2 Report.

The process of developing this Master Plan includes coordination with local jurisdictions surrounding the Airport to ensure that future airport development plans are taken into consideration in each community's local comprehensive land use plan or master plan. Local land use planners and airport planners are encouraged to utilize and compare this

Phase 1 Inventory

- Inventory of Existing Facilities
- Environmental Baseline
- Forecasts of Aviation Demand
- Demand/ Capacity Analysis
- Facility Requirements

Phase 2 Alternatives

- Alternative Development Plans
- Evaluation Criteria
- Select Preferred Alternative

Require FAA Approval

Phase 3 Implementation

- Airport System Design
- Airport Layout Plan
- Airport Airspace Drawing
- Terminal Area Plan
- Land Use Plan
- Airport Property Map
- Financial Plan

Final Phase

- Final Master Plan Document
- FAA Approved Airport Layout Plan
- Capital Improvement Plan

C&S COMPANIES ENGINEERS DESIGN BUILD TECHNICAL RESOURCES OPERATIONS

THE CITY OF BANNING STAGECOACH TOWN, U.S.A.

PROCESS

Banning Municipal Airport

Airport Master Plan Process

Figure 1-1

CHAPTER 2 - EXISTING CONDITIONS

This inventory chapter documents the number, type and general condition of the existing facilities that comprise Banning Municipal Airport. It also describes the general study area including socioeconomic conditions. It is a complete compilation of all systems including airfield, terminal area, ground access, parking, navigational aids, airspace, pavement conditions, physical characteristics and a review of environmental issues.

The purpose of performing a comprehensive inventory of the existing facilities is that, in later phases, the facilities will be assessed as to their capacity to accommodate future aviation demand. By comparing the capacity of existing facilities with the future demand, capacity deficiencies may be determined. Once the deficiencies are identified, alternative development concepts (capable of accommodating future demand) can be formulated, evaluated and ultimately, a recommended development program is established.

2.01 Airport Setting

Banning Municipal Airport (FAA ID BNG) consists of 295 contiguous acres situated on the eastern border of the City of Banning, California adjacent to the railroad and U.S. Interstate 10. The City of Banning is located in Riverside County, California, and is part of the Inland Empire Region as shown in **Figure 2-1**.

The Airport is located approximately 85 miles east of the City of Los Angles. Principal roads that surround the airport property are Interstate 10 to the north, South Hathaway Street to the west, and East Barbour Street to the south. The geographic location of the airfield is latitude: 33º 55.38’ North, longitude: 116º 51.03’ West at an elevation of 2219 feet above mean sea level (MSL).

2.01-1 Climate

Temperatures in the area range from lows in the upper 30s during winter months, to highs in the upper 90s during summer months. The average annual rainfall in Banning is approximately 18 inches. Higher mountain slopes in the San Gorgonio Pass may receive as much as 30 inches of rainfall per year. East of Banning, these averages decrease, with approximately 12 inches annually in Cabazon, to only approximately eight inches per year at the eastern end of the San Gorgonio Pass.

The area is characterized by strong winds, which are funneled through the narrow San Gorgonio Pass, causing sand to occasionally become airborne. The area also is located in a region subject to strong Santa Ana winds, which generally occur in the late fall. During

Santa Ana conditions, winds may exceed 40 miles per hour (mph), with even higher gusts.

2.01-2 Topography and Drainage

The City of Banning and the Airport are located in the San Gorgonio Pass area, with the San Bernardino Mountains to the north and the San Jacinto Mountains to the south. The Airport is on an alluvial plain formed by the adjacent mountain canyons and the mountains provide dramatic views (General Plan, page II-1). Seasonal drainage channels exist on-site and a blue line stream is immediately north of the Airport boundary. These drainages traverse from roughly west to east, draining into the San Gorgonio River east of the Airport and, ultimately, into the Whitewater River about ten miles downstream.

2.01-3 Soils

The soils in the San Gorgonio Pass area have not been mapped. However, subsurface material in the Airport vicinity is characterized by thick alluvial deposits, overlain by a relatively thin gravelly topsoil layer. The Airport area is characterized by two types of young alluvial deposits of unconsolidated sediments containing a mixture of silt, sand, gravel, and boulders. They represent recent deposits in active stream channels and modern floodplains and fan deposits of the Holocene and latest Pleistocene age. Alluvial deposits are highly subject to erosion and also are vulnerable to slope failure on slopes steeper than 2:1 (horizontal to vertical). Boulders also may be encountered during construction (*Draft General Plan*, Exhibit V-1 and page V-5).

ENGINEERS
DESIGN BUILD
TECHNICAL RESOURCES
OPERATIONS

THE CITY OF BANNING

Banning Municipal Airport

Study Area

Figure 2-1

STUDY

2.01-4 Land Use

Land use decisions that conflict with aviation activity and airport facilities can result in undue constraints being placed on an airport. It is important that general aviation and commercial service airports operate in an environment that maximizes the compatibility of these airports with off-airport development.

In 1982, the Federal government adopted the Airport and Airway Improvement Act (AAIA) to provide assurances with which an airport owner must comply. One facet of the Act involves the establishment and maintenance of compatible land uses around airports. This assurance requires an airport to restrict the use of land adjacent to or in the immediate vicinity of the airport, within reason. Other assurances in the Act relate to planning, land use plan consistency, public participation, and safety.

Planning and Zoning

The City of Banning approved the Final Zoning Ordinance in March 2006. Based on this zoning ordinance the Banning Municipal Airport, and the land uses surrounding the airport are compatible, as shown in Chapter 5, Environmental Overview, **and Table 5-1**.

The property that borders the Airport to the north and to the west is zoned "Airport Industrial": land uses must be focused on airport-related and transportation-related functions, including machining, manufacturing, warehousing, flight schools, restaurants and office uses. Aircraft maintenance, repair and catering services are also appropriate.

The property south of the Airport is zoned "Industrial." This district includes industrial parks and freestanding industrial users. Examples of permitted uses include light and medium intensity manufacturing operations, warehousing and distribution, mini-storage, associated offices, commercial recreation facilities, auto storage and repair, and retail uses supplementary to the industrial area.

Land directly east of Runway 26 is owned and controlled by the Morongo Band of Mission Indians.

California Airport Land Use Planning Handbook

The California Airport Land Use Planning (ALUP) Handbook is published by the California Department of Transportation Division of Aeronautics. The Handbook establishes statewide requirements for the conduct of airport land use compatibility planning. It provides guidance to airport land use commissions (ALUC's), or those proprietors having jurisdiction over airport land use. The following bullets summarize important guidelines to consider when analyzing land use around Banning Municipal Airport.

Regional Transportation

Southern California Area Governments (SCAG) estimates most of the Los Angeles Desert Region's population growth will occur in north Los Angeles, Riverside, and San Bernardino Counties; however, a large percentage of the jobs will remain in Los Angeles and Orange counties. This job and housing imbalance will have a severe impact on the region's transportation infrastructure, including airports.

2.01-5 Socioeconomic Conditions

Socioeconomic data provides an overview of general trends in a county and region. This data is important from a municipal perspective as it helps plan for infrastructure, service, and employment needs. In the airport master planning process socioeconomic data is used to help identify trends and answer basic questions regarding the type and volume of future airport and aviation activity.

Between 1990 and 2000, the United States Census Bureau reported that the population for the City of Banning increased approximately 14.5 percent; from 20,572 in 1990 to 23,562 in 2000, as shown in **Table 2-1**. Between 2000 and 2004 however, the population has grown at an even faster rate. The population increased approximately 21 percent; from 23,562 in 2000 to an estimated 28,686 in 2004.

Table 2-1
AREA POPULATION

Year	City of Banning [1]	San Gorgonio Pass Area[/2]	Banning % of San Gorgonio Pass Area	Riverside County [1]	Banning % of Riverside	State of California [1]	Banning % of California
1990	20,572	75,255	27.3%	1,170,413	1.8%	29,760,021	0.069%
1995	22,450	85,424	26.3%	not available	not available	31,589,000	0.071%
2000	23,562	94,058	25.1%	1,545,387	1.5%	33,871,648	0.070%
2004	28,686	110,232	26.0%	1,782,650	1.6%	35,484,453	0.081%

[1] U.S. Census estimates

[2] 2004 Banning Demographic Characteristic Study

The City of Banning is one of six cities located within the San Gorgonio Pass, which is part of the Inland Empire. In 2004, John Husing, Ph.D. studied this rapid growth rate and writes,

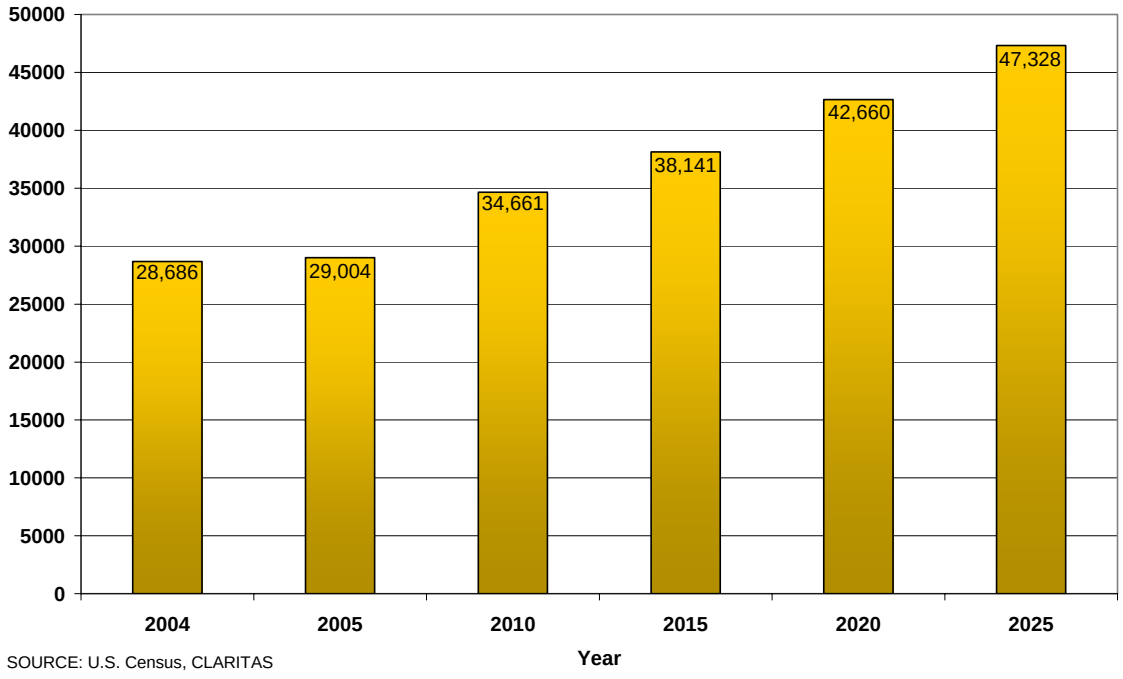
> "*the Inland Empire is one of America's fastest growing places. From 2000-2020, the area's population is expected to go from 3.2 million to 5.0 million… that is more people that will be added by 47 of the 50 states… the region is expected… to*

equal the growth of San Diego, Orange, Ventura, and Imperial counties combined."

Dr. Husing explains this growth as a result of coastal congestion causing land and space costs to rise. Undeveloped land in the region has allowed for less expensive industrial and residential development. Affordable housing, office space, and labor costs are powerful incentives for people and businesses to move out of congested coastal areas.

According to demographic forecasts provided by CLARITAS, a reputable source for accurate and up-to-date demographic data and consumer information, the dynamic growth in population is expected to continue in the City of Banning.

Table 2-2 City of Banning Population Forecast



SOURCE: U.S. Census, CLARITAS

According to the US Census, approximately 52% of the Banning population was female, the median age of a Banning resident in 2000 was 40.7, and nearly 27 percent of the population was 65 years and older. It is expected however, that the affordability of homes in the San Gorgonio Pass area will entice younger families to relocate.

The San Gorgonio community is becoming more diverse and beginning to represent other Southern California communities. Between 1990 and 2000, the largest population increase was among Hispanics as shown in **Table 2-3**.

Table 2-3
SAN GORGONIO PASS ETHNIC COMPOSITION

Ethnicity	1990	% of total population	2000	% of total population
White	51,794	76.5%	56,159	67.4%
Hispanic	10,860	16.0%	19,810	23.8%
Black	2,363	3.5%	2,613	3.1%
Asian	1,896	2.8%	2,032	2.4%
Indian	725	1.1%	865	1.0%
Other	88	0.1%	1,813	2.2%

Source: 2004 Banning Demographic Characteristic Study

Education

According to Census 2000, educational attainment in the City of Banning was highest in the high school diploma or equivalent category as shown on **Table 2-4.** Between 1990 and 2000 the greatest increase was found in the "some college, no degree" category. The attainment levels in the City of Banning however, are lower than in other Southern California Counties.

Table 2-4
EDUCATIONAL ATTAINMENT OF BANNING POPULATION 25 YEARS AND OLDER

Category	1990		2000		% change
Total Population 25 years and older	13,203		15,386		
Less than 9th grade	1,747	13.2%	1,312	8.5%	-4.7%
9th to 12th grade, no diploma	3,095	23.4%	2,379	15.5%	-7.9%
High school graduate (includes equivalency)	3,529	26.7%	4,878	31.7%	5.0%
Some college, no degree	2,675	20.3%	4,017	26.1%	5.8%
Associate degree	865	6.6%	868	5.6%	-1.0%
Bachelor's degree	758	5.7%	1,064	6.9%	1.2%
Graduate of professional degree	534	4.0%	868	5.6%	1.6%

Source: U.S. Census

Income

According to the 2004 Banning Demographic Study, the median family income for the City of Banning in 2003 was $ 36,514. This median income is lower than the for the whole San Gorgonio Pass area ($40,287), and lower that of Riverside County ($49,253).

The largest income group in Banning is between $50,000 and $74,999. The second largest income group is between $15,000 and $24,999. Income distribution is shown in **Table 2-5**.

Table 2-5
CITY OF BANNING INCOME DISTRIBUTION

Low	High	Families	Percent
$0	$9,999	916	9.5
$10,000	$14,999	714	7.4
$15,000	$24,999	1,668	17.3
$25,000	$34,999	1,346	14.0
$35,000	$49,999	1,580	16.4
$50,000	$74,999	1,749	18.1
$75,000	$99,999	910	9.4
$100,000	$149,999	495	5.1
$150,000	$199,999	153	1.6
$200,000	& Up	115	1.2
Total Families		**9,646**	**100.0**

Source: 2004 Banning Demographic Characteristic Study

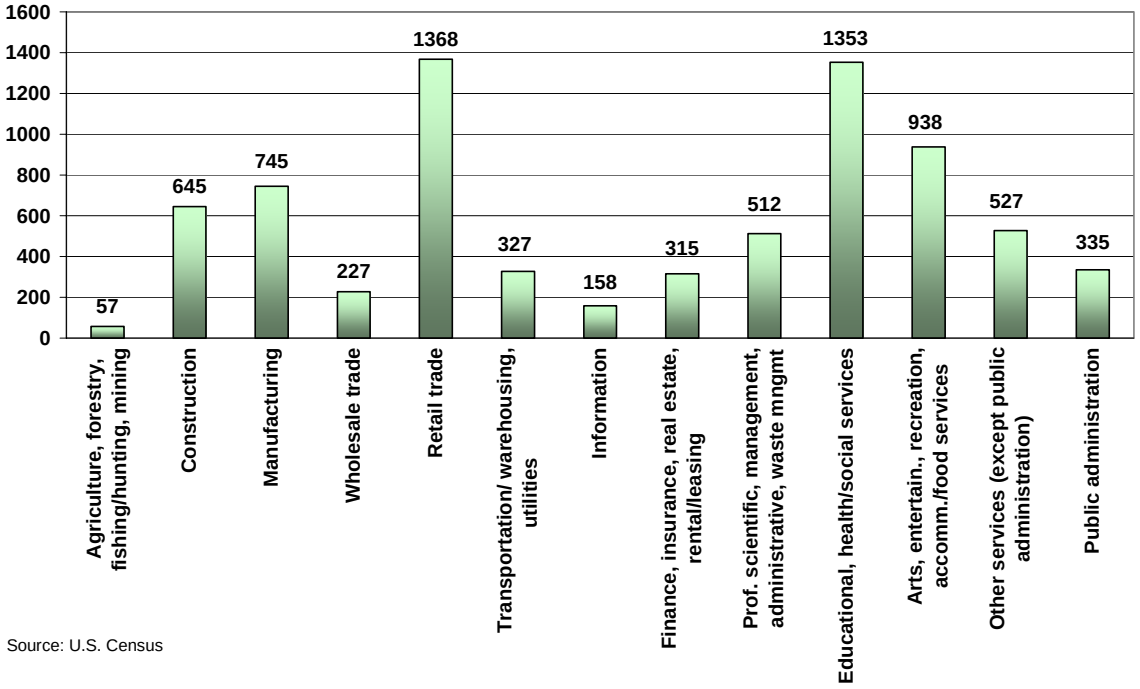
The average pay per job in the Pass area rose from $18,111 in 1991 to $26, 295 in 2002. Inflation however, rose nearly 29 percent, leaving a net gain in purchasing power of only $2,954 over the last 10 years.

Industry

The largest employers in the San Gorgonio Pass area are those businesses involved in retail trade, hotel and other "consumer" services, and education. The fastest growing sector in the San Gorgonio Pass area is manufacturing, and the majority of firms in the Pass area are small firms; in 1991, there were 1,090 companies with an average of 11.3 workers, in 2002 there were 1,216 firms with an average of 15.6 employees.

Within the City of Banning, the "retail trade" and "educational, health and social services" categories are the top two industries, accounting for 18.2% and 18.0% respectively of total employment as shown on **Table 2-6**. Of the 7,507 total civilians employed 16 years of age and older the "sales and office occupations" employ most (approximately 33 percent) of the Banning workforce.

Table 2-6 Persons Employed by Industry



Source: U.S. Census

The top employers in Banning are shown on **Table 2-7**. They include Casino Morongo that opened its resort hotel in 2004; the Desert Hills Premium Outlets – an upscale shopping area located east of the Banning Municipal Airport; Deutsch, a manufacturer of inter-connectors (fittings) for various industries around the world, located south of the Airport; and the Banning Unified School District and San Gorgonio Hospital.

Table 2-7
TOP EMPLOYERS – CITY OF BANNING

Employer	Number of Jobs
Casino Morongo	1,600
Desert Hills Outlets	1,700
Deutsch	750
Banning Unified School District	350
San Gorgonio Hospital	312
City of Banning	186
Green Thumb Produce	150
Pacific Window Corp	125
Diamond Hills Auto	75

Source: City of Banning, Claritas 2005

Industrial Development

The 2004 Banning Demographic Characteristic Study noted the following industrial development in the San Gorgonio Pass area:

- 26 major facilities of over 250,000 square feet have been built east of the I-10 corridor towards Banning between 2000 and 2004, and another nine have expanded into the eastern Riverside-Moreno Valley-Perris area.
- UPSP railroad is considering building an intermodal rail yard in the San Gorgonio Pass or Victor Valley.
- Several groups are discussing development of an "Inland Port" where international cargo would be shipped unsorted from the parts, before being processed and stored in inland warehouses.
- 1,130 major projects have taken new or additional space in the Inland Empire. Of these, 592 have been manufacturing companies, 401 have been distributors, and 137 have been large service operations or agencies.

Morongo Band of Mission Indians

The Morongo Indians have six operations in the Banning area: Casino Morongo, Arrowhead Water Bottling, Morongo Travel Center, Hadley's Fruits & Nuts, Coco's restaurant, and A&W Root Beer Restaurant. According to the 2004 Banning Demographic Characteristic Study, these operations had a total economic impact of $290 million for the San Gorgonio Pass in 2002. It is expected that in 2008, with the Morongo Indian's new casino hotel built, the total economic impact will rise to $626 million.

Mopar Drag City

The ¼ mile drag strip called "Mopar Drag City" is currently in the planning stages. The venue is currently planned to be located south of Banning Municipal Airport property. Mopar Drag City has the potential to bring significant amounts of people and economic impact to the area. It is expected that this national motor sports market will bring people from all over the country to Banning.

Foreign Trade Zone

The Foreign Trade Zone (FTZ) has been an incentive to businesses in the City of Banning and is an area which is exempt from paying duty tax. The Airport has applied for FTZ status to include the Airport boundary which would be an incentive to attract business in the future. Businesses may purchase items from foreign companies and not have to pay duty tax until the item, which has been used to complete a finished product, has been sold in the United States. If the item is sold outside of the United States, a duty tax would remain unpaid.

Housing

Riverside County is consistently forecasted for continued growth. Riverside County is one of the fastest growing counties in the country. Population is expected to grow at an annual rate of 3.4 % which is higher than the regional average rate of 1.25%, according to the Southern California Association of Governments (SCAG) 2004 Regional

Transportation Plan/Growth Vision. People desire a suburban lifestyle which is unaffordable in other areas of southern California.

Housing prices and monthly housing costs based on a percentage of income are important to development of the airport because it shows the buying power of the community. The less money spent on housing leaves more money to spend on recreational uses which can include purchase and use of an aircraft.

Progressive Residential Growth Plans

The City of Banning is growing and residential plans have been developed. There are four major areas planning for large community developments and three smaller residential tracts also planning for development.

Black Bench Ranch (1,500 acres), Banning Bench (600 acres), Sunset Crossroads (548.4 acres), and Deutsch Property (1,886 acres) are large community developments. Stallion Estates (145 acres), Fiesta Developments (158.5 acres), and C.W. Teft (452.51 acres) are all approved residential tracts.

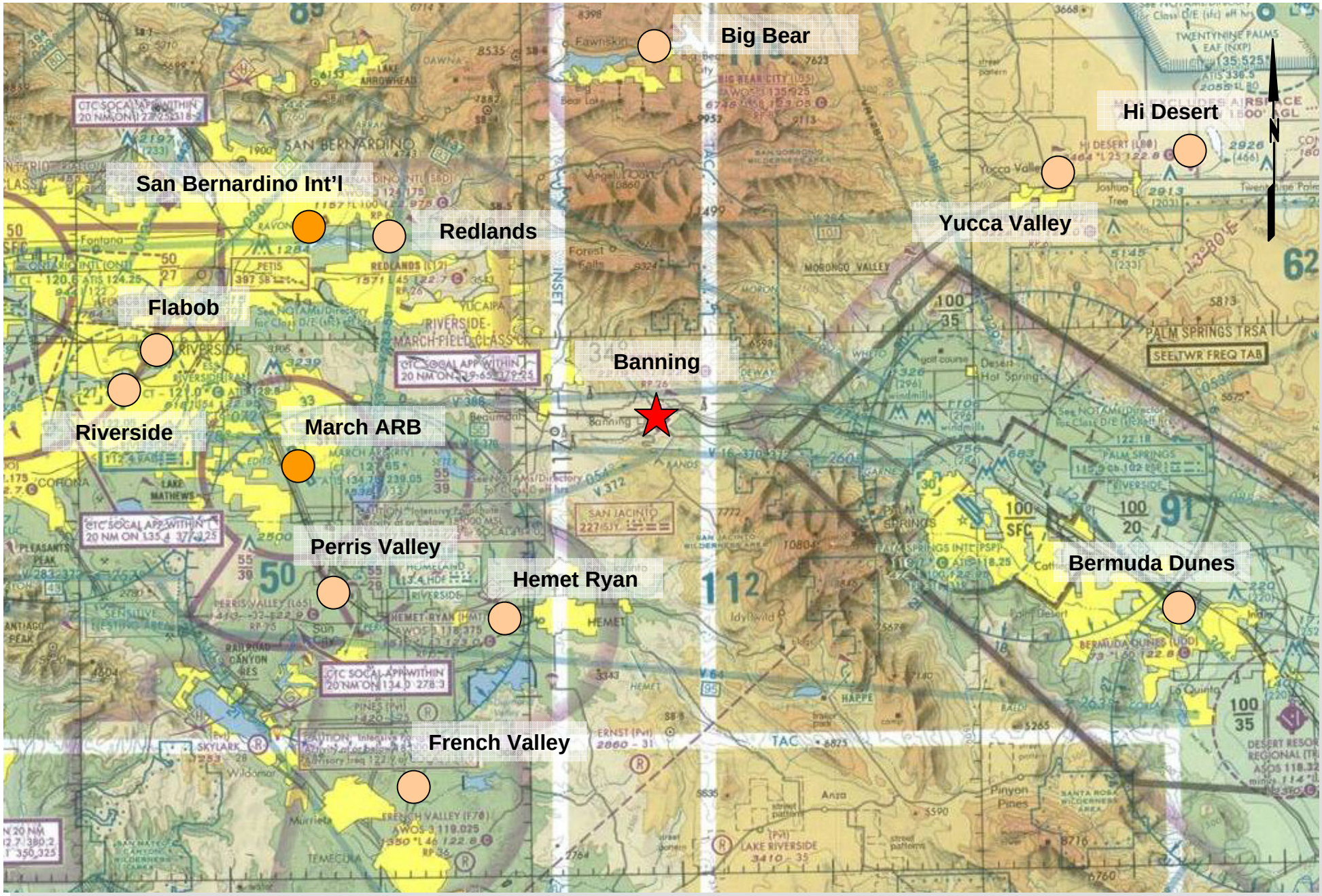
2.02 Surrounding Airports

The airport service area is a geographical region served by a select airport. A determination can be made regarding the area of service offered by Banning Municipal Airport by locating competing airports and their relative distance to population centers, assessing the role of surrounding airports, and evaluating their facilities, equipment, and services as well as programmed expansion projects.

Surrounding airports have varying degrees of influence on the airport service area with respect to competing services (flight training, maintenance, charters, fuel, courtesy car, etc.), facilities and equipment, navigational aids, and accessibility. It should be noted that the demand for aviation facilities does not conform to political or geographical boundaries. **Figure 2-2** and **Table 2-1** provides information regarding the role, facilities, and services offered at the nearest public use GA airports. Understanding the capabilities and influence of the surrounding airports provides insight into the existing and future aviation demand and role for Banning Municipal Airport.

Aircraft owners base their aircraft at a specific airport because of its location, the condition of its facilities, availability of navigational aids, services offered, cost of those services, and the price and availability of hangars and apron areas for aircraft parking. Not only do these factors determine the amount of local traffic and tenants an airport will attract, but also the amount of itinerant traffic (aircraft based at other airports) that will use the airport.

Figure 2-2 depicts ten general aviation airports within a 40-mile radius of the Banning Municipal Airport. These general aviation airports are considered to offer similar facilities and services to the Banning Municipal Airport. **Table 2-8** compares the facilities, services, and costs of these ten airports to Banning Municipal Airport.



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OPERATIONS

THE CITY OF BANNING

Banning Municipal Airport

General Aviation Airports

Figure 2-2

Table 2-8
SURROUNDING PUBLIC USE AIRPORTS & FACILITIES

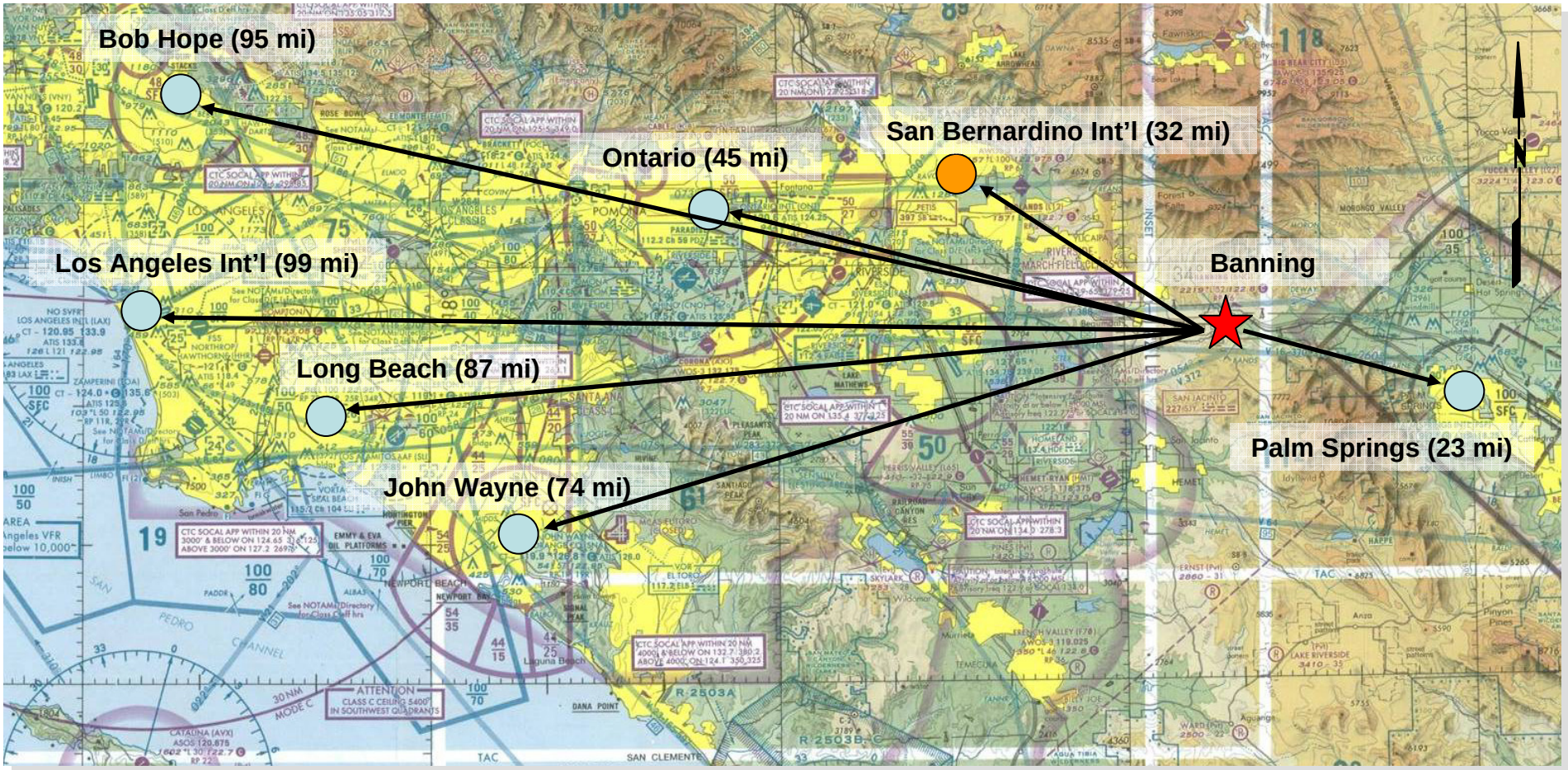
Airport	Runway(s) (ft.)	Instrument Approaches	Based Aircraft	Fixed Based Operator	Fuel Type Sold	T-Hangar Rates	Tie-Down Fees
Banning Municipal (BNG)	8/26:4,955 -asphalt	None	75	None	100LL	$150-$350	$40/month; $3.50/night
Redlands Municipal (L12)	8/24:4,505 asphalt	Yes	221	2	100LL	$300-$310	$45/month;$5 -$7/night
Flabob (RIR)	6/24:3,200 asphalt	None	202	None	100LL	$85-$225	$35.00 monthly
Riverside Municipal (RAL)	9/27:5,401 asphalt 16/34:2,851 asphalt	Yes	235	1	100LL Jet A	$495-$850	$95 - $135 month
Perris Valley (L65)	15/33:5,100 asphalt/dirt	None	115	None	None	None Available	$45.00 monthly
French Valley (F70)	18/36:6,000 asphalt	Yes	310	2	100LL Jet A	$295-$425	$60/month; $3/day
Hemet Ryan (HMT)	5/23:4,314 asphalt 4/22:2,045 asphalt	Yes	352	1	100LL Jet A	$300-$320	$50.00 monthly
Bermuda Dunes (UDD)	10/28:5,002 asphalt	Yes	137	1	100LL Jet A	$375 - $520	$75/month;$10/night
Yucca Valley (L22)	6/24:4,363 asphalt	None	49	None	None	None Available	not available
Roy Williams (L80)	6/24:2,493 asphalt	None	12	None	100LL	$125-$500	$50/ month; $5/day
Big Bear City (L35)	8/26:5,850 asphalt	Yes	131	2	100LL Jet A	$200-$300	$40/month;$5/day

Source: AirNav, information provided by airport personnel (2007)

Four of the eleven airports have waiting lists for aircraft hangars. Big Bear City Airport has approximately 150 aircraft on their waiting list. According to airport management, Banning Municipal Airport has over fifty (50) aircraft on their hangar waiting list. Leasing hangar space is a good source of revenue for an airport.

The California Aviation System Plan (CASP) – System Requirements Element categorizes all the public use airports in California into nine regions. The Banning Municipal Airport is part of the Los Angeles/Desert region. There are 57 public-use airports in this region. The Banning Municipal Airport is categorized as a community general aviation airport in this region. It does not offer commercial air service. The region has six primary commercial hub airports: Bob Hope, John Wayne-Orange County, Long Beach Municipal, Los Angeles International, Ontario International, and Palm Springs International. The locations of these airports relative to the Banning Municipal Airport are shown on **Figure 2-3.**

The commercial service airports closest to Banning are Palm Springs International Airport (PSP) and Ontario International Airport (ONT). Although San Bernardino International Airport (SBD) does not currently offer commercial service their existing facilities poise the Airport for supporting commercial activity in the near future.



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OPERATIONS

THE CITY OF BANNING

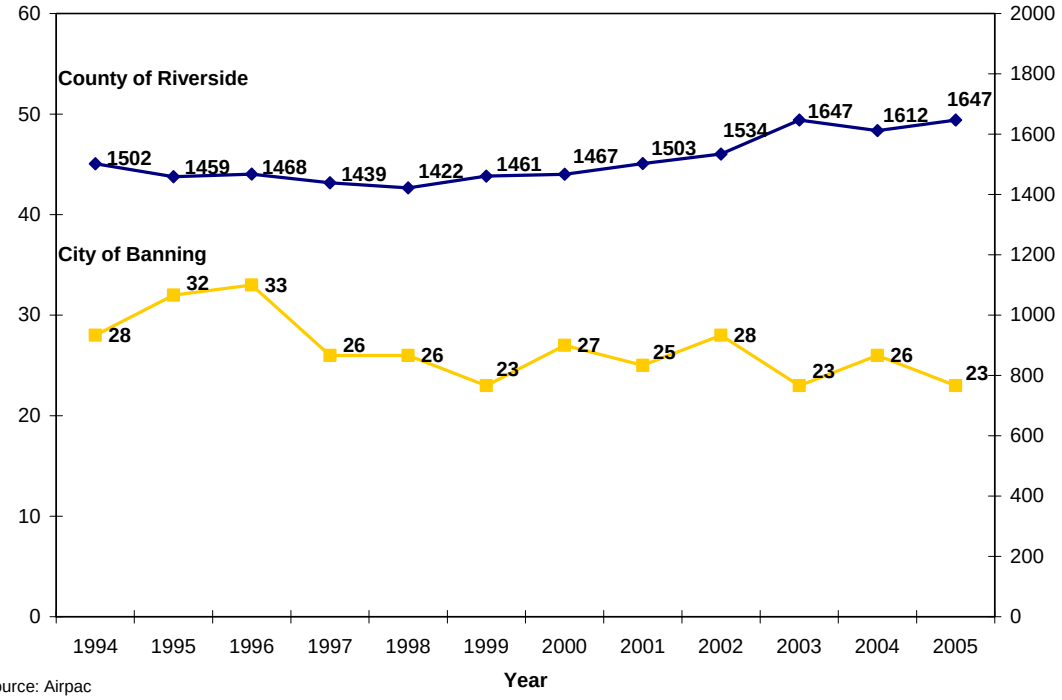
Banning Municipal Airport

Commercial Service Airports

Figure 2-3

General Aviation in Riverside County remains a stable contributor to the economy. The total number of registered aircraft in the County has increased 8 percent; from 1502 in 1994 to 1647 in 2005, as shown in **Table 2-9**. There were fewer registered aircraft in the City of Banning (zip code 92220) in 2005 than in the previous ten years.

Table 2-9 Total Registered Aircraft



Source: Airpac

Most of the aircraft registered in Riverside County are light single engine aircraft and high performance single engine aircraft as shown in **Table 2-10**.

Table 2-10
RIVERSIDE COUNTY REGISTERD AIRCRAFT TYPE

Type of Aircraft	1995[/1]	2000	2005
Acrobat	not applicable	3	5
Advertisement	not applicable	1	1
Agricultural	not applicable	20	21
Amphibious	not applicable	2	2
Balloon	not applicable	91	97
Business Jet	7	14	12
Cabin Class Twin	36	37	38
Commuter	14	9	10
Exhibit	not applicable	16	15
Experimental	not applicable	2	3
Glider	not applicable	73	64
High Performance Single Engine	360	344	390
Kit Built	not applicable	101	120
Light Single Engine	486	436	523
Light Twin Engine	95	74	77
Market Survey	not applicable	1	0
Other	408	139	147
Research and Development	not applicable	1	2
Racing	not applicable	1	1
Reciprocating Helicopter	21	24	26
Sea Plane	not applicable	0	1
Survey	not applicable	2	2
Training	not applicable	1	0
Turbine Helicopter	19	20	19
Turbine Propeller Aircraft	13	18	18
Utility	not applicable	6	7
Warbird	not applicable	31	46
Total	**1,459**	**1,467**	**1,647**

[1] some aircraft categories were not yet created

Source: Airpac

2.03 Airport Reference Code

The Airport Reference Code (ARC) is a coding system used to relate airport design criteria to the operational and physical characteristics of the airplanes intended to operate at the airport. The airport reference code has two components relating to the airport design aircraft.

The first component, depicted by a letter, is the aircraft approach category and relates to the aircraft approach speed (operational characteristic). The second component, depicted

by a Roman numeral, is the airplane design group and relates to airplane wingspan (physical characteristic).

The current Airport Reference Code (ARC) for Banning Municipal Airport is B-II. The "B" indicates aircraft with approach speed of 91 knots or more but less than 121 knots. The Roman numeral "II" indicates a wingspan of 49 feet up to but not including 79 feet.

The 1990 Master Plan used ARC B-II standards for airport design and it is recommended that the ARC remain B-II for the planning period as the forecasted number of B-II operations is expected to continue to increase throughout the planning period.

Specific airport design standards are shown in **Table 2-11** and have been applied assuming usage by aircraft with an ARC designation of B-II and a runway with not lower than ¾ statute mile approach visibility minimum.

Table 2-11
RUNWAY DESIGN STANDARDS (ARC B-II)

Design Criteria[1]	Standard	Existing Conditions	Meets Standards?
Runway Width	75 ft	100 ft.	Yes
Runway Shoulder Width	10 ft.	25 ft.	Yes
Runway Centerline to			
Taxiway Centerline	240 ft.	200 ft.	No
Aircraft Parking Area	250 ft.	280 ft.	Yes
Runway Safety Area			
Width	150 ft.	150 ft.	Yes
Length Prior to Landing Threshold	300 ft.	235 ft.	No
Length Beyond Runway End	300 ft.	300 ft.	Yes
Runway Object Free Area			
Width	500 ft.	500 ft.	Yes
Length Beyond Runway End	300 ft.	300 ft.	Yes
Obstacle Free Zone			
Width	250 ft.	250 ft.	Yes
Length Beyond Runway End	200 ft.	200 ft.	Yes
Runway Protection Zone			
Inner Width	500 ft.		
Outer Width	700 ft.		
Length	1,000 ft.		
RPZ Area	13.77 acres		

[1] Design standards for aircraft approach category A&B visual runways and runways with not lower than ¾-statute mile approach visibility minimums.

2.04 Critical Design Aircraft

The selection of appropriate FAA airport design criteria is based primarily upon the critical or design aircraft that will be utilizing the airport. At Banning Municipal Airport, the current critical or design aircraft for dimensional criteria is the Beech King Air 200, based on current and anticipated continuing use at the Airport.

The 1990 Airport Master Plan for Banning Municipal Airport identified the Cessna Citation, a small twin engine jet, as the critical aircraft because, according to City personnel, a Cessna Citation approved maintenance facility was in operation at the Airport during this time period. Because the Cessna Citation is not the most common B-II aircraft currently operating at Banning Municipal Airport, the design aircraft is currently the Beech King Air 200. The ARC remains B-II.

According to Airport management, a Beech King Air 200 lands at the Airport a 2-3 times a month with approximately 50 operations per year. Airport staff has also indicated that B-II aircraft are common among many of the transient aircraft which fly into the airport, including small to medium business jets and other turbo-prop aircraft.

The Beech King Air 200 is a twin-engine turboprop aircraft with a 1,644 nautical mile range. It has a wingspan of 54 feet and a maximum takeoff weight of 12,500 pounds. Its approach speed is 96 knots. Thus, for design purposes, the aircraft is categorized as a member of Airplane Design Group II (aircraft with wingspans up to but not including 79 feet) and Aircraft Approach Category B (approach speed of 91 knots or more but less than 121 knots). **Table 2-12** provides dimensional and operational characteristics of the Beech King Air 200.

Beech King Air 200 (Stock Photo)

Table 2-12
CRITICAL AIRCRAFT CHARACTERISTICS

Aircraft Type	ARC	Wing Span	Aircraft Length	Aircraft Height	Seating	Max Gross Takeoff Weight	Ground Roll Distance Takeoff	Landing Distance	Approach Speed (Knots)
Beechcraft King Air 200	B-II	54 ft	43 ft	14 ft	8	12,500 lbs	2,579 ft.	2,845	96 kts

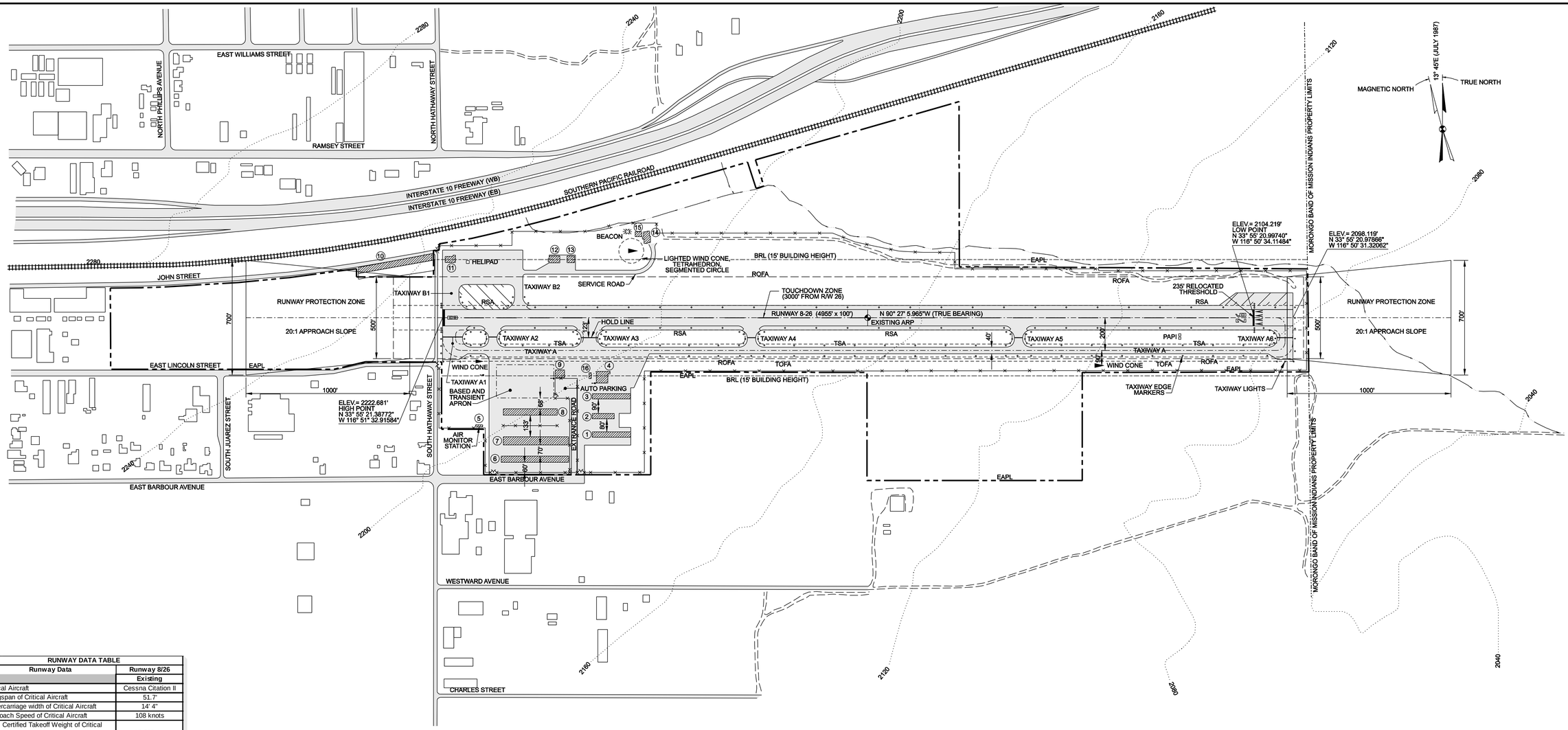
Source: Raytheon Aircraft Company, Beechcraft King Air 200 Technical Data Sheet

2.05 Existing Airside Facilities

This and the following sections provide an inventory of the existing facilities at Banning Municipal Airport. These facilities are depicted on **Figure 2-4**, Existing Airport Layout. The specific types and quantities of facilities identified will be evaluated in subsequent chapters, in conjunction with established planning criteria, to determine future needs for the Airport.

FAA Advisory Circular 150/5300-13 *Airport Design* prescribes the design standards to be maintained at the airport. These design criteria provide a guide for airport designers to assure a reasonable amount of uniformity in airport landing facilities. Any criteria involving widths, gradients, separations of runways, taxiways, and other features of the landing area must necessarily incorporate wide variations in aircraft performance, pilot technique, and weather conditions. The FAA design standards provide for uniformity of airport facilities and also serve as a guide to aircraft manufacturers and operators with regard to the facilities that may be expected to be available in the future. Airside facilities discussed in this section include runways, wind analysis, taxiways, navigational aids, and pavement marking and lighting.

The FAA-required design standards for a B-II aircraft are depicted in **Table 2-11**. It should be noted that Banning Municipal Airport currently meets all FAA design criteria with the exception of runway to taxiway separation standards.



PLAN

SCALE: 1"=300'

300 0 300 600FT.
300'

RUNWAY DATA TABLE	
Runway Data	**Runway 8/26**
	Existing
Critical Aircraft	Cessna Citation II
Wingspan of Critical Aircraft	51.7'
Undercarriage width of Critical Aircraft	14' 4"
Approach Speed of Critical Aircraft	108 knots
Max. Certified Takeoff Weight of Critical Aircraft	13,300 lbs
Effective Gradient (%)	2.4
Maximum Gradient (%)	2.4
Pavement Design Strength	40,000 lbs sw 60,000 lbs dw
Approach Visibility Minimums for each Runway End	Visual / Visual
RSA Length Beyond Stop End of Runway	300/235'
RSA Width	150/150'
OFA Length Beyond Stop End of Runway	300/300'
OFA Width	500/500'
OFZ Length Beyond Stop End of Runway	200'/200'
OFZ Width	250'/250'
Distance from Runway Centerline to Hold Bars and Signs	123'
Marking for each Runway End	Visual / Visual
Standard Separation - Runway Centerline to Parallel Taxiway Centerline	200'
Standard Separation - Taxiway Centerline to Fixed or movable object	65.5'
Taxiway Object Free Area Width	131'
Taxiway Safety Area Width	79'
Taxiway Wingtip Clearance	18'
Elevations (NAVD 88) of Runways End	
Elevation of Runway Touchdown Zone (TDZ)	2223'/2188'
Elevation of Runway High Point	2222.681'
Elevation of Runway Low Point	2104.219'
Line of Sight Requirments met	yes
Runway Length	4,955'
Runway Width	100'
Runway Surface Type	asphalt
Taxiway Surface Type	asphalt
Approach Slope	8-20:1 / 26-20:1
Pavement Strength	
Single Wheel	40,000 lbs
Dual Wheel	60,000 lbs
Runway Lighting	MITL
Navigational Aids	beacon, segmented circle, wind cones, tetrahedron
Visual Aids	26-PAPI

LEGEND	
Existing	**Description**
	Runway Centerline
RSA	Runway Safety Area (RSA)
ROFA	Runway Object Free Area (ROFA)
	Runway Protection Zone (RPZ)
TOFA	Taxiway Object Free Area (TOFA)
TSA	Taxiway Safety Area (TSA)
BRL	Building Restriction Line (BRL)
ARP	Airport Reference Point
	Airport Buildings
	Other Buildings
EAPL	Airport Property Line
	Railroad
	Fence
	Roads
2000	Ground Elevation Contours
	Overhead Lights

AIRPORT DATA TABLE	
Airport Data	**Existing**
Airport Elevation (MSL)	2222.681'
Airport Reference Point (NAD 83)	
Latitude	33° 55' 21.194" N
Longitude	116° 51' 03.515" W
NAVAIDS	Beacon, Lighted Wind Cone, Tetrahedron, PAPI
Mean Max Temperature of Hottest Month (August)	96.6°F
Airport Reference Code	B-II
GPS	N/A

FACILITIES TABLE		
Existing		
#	**Description**	**Top Building Elevation**
1	Farell Cooper T-Hangar D	2197'
2	Farell Cooper T-Hangar C	2205'
3	Farell Cooper T-Hangar B	2205'
4	Conventional Hangar	2211'
5	Air Quality Monitor Station	2210'
6	T-Hangar C&D	2206'
7	T-Hangar A&B	2209'
8	T-Hangar E	2210'
9	Terminal Building	2219'
10	Private Conventional Hangars	2254'
11	Mercy Air Mobile Building	2251'
12	Conventional Hangar G	2237'
13	Conventional Hangar H	2234'
14	Conventional Hangar Building	2216'
15	Electrical Building	2214'
16	Fuel Station/ Island	2206'

Runway End Coordinates (NAD 83 Datums)	
Latitude - 8	33° 55' 21.38772" N
Longitude - 8	116° 51' 32.91584" W
Latitude - 26	33° 55' 20.99740" N
Longitude - 26	116° 50' 34.11484" W

REVISIONS		
BY	DATE	CHANGE

FIGURE 2-4

BANNING MUNICIPAL AIRPORT

CITY OF BANNING — RIVERSIDE COUNTY, CALIFORNIA

EXISTING AIRPORT LAYOUT

DESIGNED: JCT | DRAWN: JCT | SHEET 2 OF 8

CHECKED: DS | DATE: AUGUST 2006

PROJECT FILE NO.: D55.001.001 | CADD FILE NO.: BANNING EAL.DGN

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2.05-1 Runways

Banning Municipal Airport is equipped with a single runway designated as Runway 8-26. Runway 8-26 has a usable length of 4,955 feet and is 100 feet wide with 25-foot wide paved shoulders in an east/west orientation. Useable runway length is the length between each threshold bar used for takeoff and landing. The runway has a longitudinal gradient (slope) of approximately 2.4 percent to the west.

Runway 8-26 is a visual runway intended solely for the operation of aircraft using visual approach procedures, with no straight-in instrument approach procedure and no instrument designation indicated on an FAA- approved airport layout plan.

Runway 26 has a relocated threshold of 235 feet, and provides a takeoff and landing length of 4,955 feet. A relocated threshold is a threshold located at a point on the runway other than the physical pavement end. The threshold was relocated to provide the (FAA) standard runway safety area lengths.

The relocated threshold is indicated by a 10-foot wide white threshold bar across the width of the runway. Yellow arrowheads are located across the width of the threshold bar, in the portion of the runway before the relocated threshold. Runway markings for BNG are shown on **Figure 2-5**.

A pavement study conducted by LandMark Geo-Engineers and Geologists (November, 2005) found the pavement strength to be 40,000 pounds for single wheel gear and 60,000 pounds for double wheel gear. The runway and taxiways have been re-paved and overlaid several times through the years with the most recent being in 2004. The runway pavement is rated as being in good condition.

The Airport was surveyed in July 2006 by The Thomsen Company, Inc., to determine runway end elevations and locations. The complete study can be found in **Appendix B**.

Runway Threshold Lights

Runway 8-26 signage

Hold Position Markings

Paved Runway Shoulder

Relocated Threshold Markings

Threshold Markings

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OPERATIONS

THE CITY OF BANNING
STAGECOACH TOWN, U.S.A.

Banning Municipal Airport

RUNWAY

Runway Lighting, Markings, Signs

Figure 2-5

2.05-2 Taxiways

Taxiways provide airfield and terminal area access, and enhance airport operational safety and capacity by minimizing runway occupancy. Taxiway A is a full-length parallel taxiway that provides access to the runway from the apron, T-hangars, itinerant apron, and fueling facilities. Taxiway A has six runway entrance/exit points designated as A1 through A6, running from west to east along the runway. Taxiways B1 and B2 connect the north apron with the runway. Taxiway markings are shown in **Figure 2-6**. Each taxiway is constructed of asphalt and is marked with centerline markings. All taxiway dimensions meet or exceed design standards as shown in **Table 2-14**.

Table 2-14
TAXIWAY DESIGN STANDARDS (ARC B-II)

Design Criteria	Standard	Existing Conditions	Meets Standards?
Taxiway Width	35 ft.	40 ft.	Yes
Taxiway Shoulder Width	10 ft.	10 ft.	Yes
Taxiway Centerline to			
Fixed or Moveable Object	65.5 ft.	75 ft.	Yes
Taxiway Safety Area Width	79 ft.	79 ft.	Yes
Taxiway Object Free Area Width	131 ft.	131 ft.	Yes

Source: FAA AC 150/5300-13, Airport Design; January 2006 Airport Inventory

Taxiway Design

Taxiway Safety Area (TSA) is to provide room for rescue and firefighting operations. The TSA width equals at least the wingspan of the most demanding airplane and is centered on the taxiway centerline. The TSA dimensions are met at Banning Municipal Airport and are shown in **Table 2-14**.

Taxiway Object Free Area (TOFA) are centered on the taxiway centerline and should be cleared to prohibit service vehicle roads, parked airplanes, and above ground objects, except for objects that need to be located in the OFA for air navigation or aircraft ground maneuvering purposes. TOFA dimensions are met and shown in **Table 2-14**.

Taxiway Edge Reflectors

Taxiway Edge Lights

Taxiway Centerline Markings

Alpha 1 Location Sign

Taxiway Drainage Catch Basin

Alpha 5 Location Sign

C&S COMPANIES ENGINEERS DESIGN BUILD TECHNICAL RESOURCES OPERATIONS

THE CITY OF BANNING STAGECOACH TOWN, U.S.A. ESTABLISHED 1913

Banning Municipal Airport

Taxiway Lighting, Markings, Signs, Drainage

Figure 2-6

TAXIWAY

2.05-3 Helicopter Facilities

A general aviation heliport accommodates helicopters used by individuals, corporations, and helicopter air taxi services. Mercy Air installed the helipad at Banning Municipal Airport from which they operate a Bell 412 Helicopter. The helipad is 18 feet square and marked with a solid yellow line defining a circle of the rotor diameter for their helicopter; however, no other markings are indicated. It is recommended that helicopter facilities are marked. Helicopter facilities are shown in **Figure 2-7**.

Government helicopters frequently land at Banning Municipal Airport to utilize the terminal facilities. A Riverside County Sheriff helicopter parked adjacent to the terminal building is shown in **Figure 2-7**. Terminal facilities will be discussed further in the landside facility inventory.

2.05-4 Navigational Aids

A navigational aid (NAVAID) is any facility used for guiding or controlling flight in the air or during the landing or takeoff of aircraft. This category includes landing instrumentation, runway marking, lighting and other visual aids. Banning Municipal Airport is currently equipped with the following marking, lighting, and visual aids:

- Medium intensity runway lighting (MIRL) on Runway 8-26
- Precision Approach Path Indicator (PAPI) on Runway 26
- Threshold lights at both runway ends
- Visual runway marking on Runway 8-26
- Taxiway lights, taxiway reflectors
- Wind cone; tetrahedron; segmented circle
- Rotating beacon
- Very High Frequency Omni-Directional Radio Range (VOR/VORTAC)
- Global Positioning System (GPS)
- Airport Signage

Pavement Edge Lighting

Edge lighting systems are used to outline usable operational areas of airports during periods of darkness and low visibility weather conditions. These systems are classified according to the intensity or brightness produced by the lighting system. Runway and taxiway edge lights define the edge of the runway and taxiway.

Banning Municipal Airport has medium-intensity runway lights (MIRL) which are in good condition.

All taxiways at Banning Municipal Airport are primarily indicated with blue reflector edge markers which are 10 feet from the edge of the taxiway pavement. Reflectors are in good condition. Taxiway A has some taxiway lights on the Runway 26 end which are also in good condition.

Airfield lighting systems can be controlled through a pilot-controlled lighting system. A pilot controlled lighting system allows pilots to turn on or increase the intensity of the lighting systems from the aircraft with the use of the aircraft's radio transmitter. The medium intensity runway edge lighting is connected to the pilot control lighting system at Banning Municipal Airport.

Precision Approach Path Indicator (PAPI)

The Banning Municipal Airport has a Precision Approach Path Indicator (PAPI) for Runway 26 which is in good condition and is shown in **Figure 2-7**. The light units are installed in a line perpendicular to the runway edge. Each light unit emits a two-color (red and white) light beam. When the light units are properly aimed, the optical system provides visual approach slope information. PAPI allows a pilot to judge approximately how many degrees above or below the glide path the aircraft is flying during an approach by the number of red versus white lights being projected.

Threshold Lighting

Threshold lights emit green light outward from the runway and emit red light toward the runway to mark the ends of the runway. The green lights indicate the landing threshold to landing aircraft and the red lights indicate the end of the runway, both landing and departing. Banning Municipal Airport has threshold lights for both runways and they are in good condition.

Pavement Marking

Runway 8-26 is classified for visual runway markings because it is a runway having no straight-in instrument approach procedure. Runway designation markings, side stripes, and threshold bars are white and are in good condition.

Taxiways are marked with yellow centerline markings and are in good condition. Centerline markings assist pilots in maintaining proper clearance from pavement edges and objects near the taxilane/taxiway exits. Taxiway edge markings should be installed wherever there is a need to separate the taxiway from a pavement that is not intended for aircraft use or to delineate the edge of the taxiway that is not otherwise clearly visible. There are not taxiway edge markings at Banning Municipal Airport.

Taxilane centerline markings guide pilots at a specified clearance around the non-movement areas of the airport. There are no taxilane centerline markings at Banning Municipal Airport.

Wind Cone, Tetrahedron, Segmented Circle

The lighted wind cone, lighted tetrahedron, and two unlighted wind cones alert pilots to current surface wind speed and direction along the runway. Banning Municipal Airport is not currently equipped with an automated weather observation system (AWOS) however pilots routinely receive unofficial wind and weather information from airport personnel through radio communication.

A segmented circle performs two functions; it aids the pilot in locating obscure airports and it provides a centralized location for such indicators and signal devices as may be required on a particular airport. The segmentation of the circle is necessary so that from a reasonable distance it can be readily distinguished from a solid circle which is sometimes used to mark the center of a landing area. The segmented circle is shown in **Figure 2-7**.

Rotating Beacon
The location of an airport at night is universally indicated by a rotating beacon which projects two beams of light, one white and one green, 180 degrees apart. The rotating beacon at Banning Municipal Airport is pole mounted on the northwest side of the airfield, north of the runway lot (shown in **Figure 2-7**) and is in good condition.

Very High Frequency Omni-Directional Radio Range (VOR/VORTAC)
VORTAC system emits a high frequency radio signal utilized for both point-to-point enroute and non-precision instrument approaches. The closest VOR facility is the Homeland VOR (HDF) is approximately 19 miles northwest of the field.

Global Positioning System (GPS)
GPS is a highly accurate worldwide satellite navigational system that is unaffected by weather and provides point to point navigation by encoding transmissions from multiple satellites to a ground based or aircraft receiver. GPS is presently FAA certified for enroute and non-precision instrument navigation. GPS will eventually be enhanced by the availability of ground based reference stations. A published non-precision GPS approach for either runway for approach category A and B aircraft could benefit the Airport in the future.

Airport Signage
Standard airport signs provide runway and taxiway location, direction, and mandatory instructions, as well as airport situational awareness for aircraft maneuvering on the ground. Signage is in accordance with FAA regulations and all signs are in excellent condition.

2.05-5 Airside Drainage

Airfield development should be planned to utilize existing drainage patterns and avoid increasing storm-water runoff onto adjacent properties and areas that include runways and taxiways.

Airside drainage issues have been addressed through the installation of a catch basin which is located on the south side of Taxiway A at Runway 26 end. Catch basins direct water runoff and minimize erosion.

Beacon, Lighted Wind Cone, Tetrahedron & Segmented Circle

Helicopter Facilities

Wind Sock

PAPI

Riverside County Sheriff Helicopter Parked North of Terminal Building

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THE CITY OF BANNING STAGECOACH TOWN, U.S.A. ESTABLISHED 1913

EQUIPMENT

Banning Municipal Airport

Helicopter Facility and Navigational Equipment

Figure 2-7

2.06 Existing Landside Facilities

The landside facilities consist of those airport elements that support the various activities of the airport except for the navigation and maneuvering of aircraft. At general aviation airports, landside facilities include aircraft parking aprons, hangars, auto parking and terminals used as pilot operations facilities. (See **Table 2-15)**.

The landside facilities at Banning Municipal Airport are located north and south of Runway 8-26. Facilities owned by the City include T-hangars, conventional hangars, a terminal building, and a fuel island. The landside facilities at Banning Municipal Airport are depicted on **Figure 2-9** and described in **Table 2-15**.

2.06-1 Terminal Building

The terminal building at Banning Municipal Airport is constructed of brick and wood, is in fair condition, and has an area of approximately 1,200 square feet.

Restrooms, an open administrative area, flight planning area, beverages, a microwave, and vending machines make up the interior rooms of the building. There are benches in front of the terminal building, and a water tank stored in a small wooden attached shed behind the building. Car rental is available by through a private rental car company.

2.06-2 Apron Areas

Apron areas provide parking for both transient and based aircraft, areas for loading and unloading aircraft, and access to terminal facilities and services at the airport. FAA AC 150/5300-13, change 9, *Airport Design* recommends that the apron used for based airplanes should be separate from transient airplanes and the area for based airplanes should be smaller per airplane than for transient. This is because the aircraft type of a based airplane is known. Apron areas should be designed to allow for flexibility and expandability.

Banning Municipal Airport has one apron area for both transient and based aircraft as shown on **Figure 2-8**. The apron has 21 tie-down spaces marked by numbers and metal chains. The apron does not have taxilane markings or tie-down layout markings. The overnight tie-down fee is $3.50, and the monthly fee is $40. In 2004, the apron area, which is approximately 6,513 square yards, was resurfaced and is in good condition. Portions of the apron are being used for vehicular parking.

Based Aircraft on Apron

Apron Numbering

Tie-Down Metal Chains

Transient Aircraft on Apron

Tie-Down Spots near Fence

Vehicle Parking on Apron

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Banning Municipal Airport

APRON

Apron Area

Figure 2-8

2.06-3 Aircraft Storage

Banning Municipal Airport owns six T-hangar buildings (with a total of 50 bays) and four conventional hangars. Detailed information about these hangars is provided in **Table 2-15** and shown in **Figure 2-9**. These hangars are leased on a month by month basis, and range in price from $150 to $350 per month.

T-hangars are located in areas where there are multiple grade changes between the T-hangars. In the area of the Farrell Cooper T-hangars (Buildings #1, 2, 3) steep grades are causing a drainage concern especially to building #1. There is a concrete block wall with chain link fence on top to separate the grade changes between Building #8 and Building #7 as shown in **Figure 2-10**.

Table 2-15
CITY OWNED HANGARS

Building Number	Building Type	Structure Type	Size (approx.) (SF)	Height (approx.)	Condition	Tenant	Lease
1	8-bay T-Hangar	Wood frame, metal siding, concrete base	7,552	15 ft.	Poor	Individual	Monthly
2	4-bay T-Hangar	Wood frame, metal siding, concrete base	4,655	15 ft.	Poor	Individual	Monthly
3	8-bay T-Hangar	Wood frame, metal siding, concrete base	6,882	15 ft.	Poor	Individual	Monthly
4	Conventional Hangar	Wood roof, concrete block, concrete base	4,899	15 ft.	Fair	Individual	Monthly
6	12-bay T-Hangar	Steel frame, metal siding, concrete base	15,580	15 ft.	Good	Individual	Monthly
7	10-bay T-Hangar	Steel frame, metal siding, concrete base	19,008	17 ft.	Good	Individual	Monthly
8	8-bay T-Hangar	Steel frame, metal siding, concrete base	12,426	10 ft.	Good	Individual	Monthly
12	Conventional Hangar	Aluminum siding, metal roof	1,736	15 ft.	Poor	Individual	Monthly
13	Conventional Hangar	Wood frame, aluminum siding, concrete base	2,280	15 ft.	Poor	Individual	Monthly
14	Conventional Hangar	Wood frame, metal siding, concrete base	1,200	11 ft.	Poor	Individual	Monthly

Source: City of Banning, Airport Inventory, February 2006.

T-Hangar 1

T-Hangar 2

T-Hangar 3

Hangar 4

T-Hangar 6

T-Hangar 7

T-Hangar 8

Hangar 13

Hangar 14

Hangar 12

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Banning Municipal Airport

City Owned Buildings

Figure 2-9

2.06-4 Landside Drainage

Terminal development should be planned to utilize existing drainage patterns and avoid increasing storm-water runoff onto adjacent properties and areas that include aircraft parking aprons and aircraft storage hangars.

City of Banning personnel have identified drainage concerns on the south east portion of the airport property, in the area of the Farrel Cooper Hangars, during periods of rain. All future development should take into consideration downstream impacts to avoid increasing the existing drainage concerns.

2.06-5 Other Buildings

Mercy Air
Mercy Air provides emergency medical transportation by helicopter and operates out of a double wide mobile building on the Airport. Mercy Air owns the building, which is in fair condition, and uses it for their offices, located northwest of Runway 8-26.

Private Building, Private Property
In addition there is a private building, on private property northwest of the Runway 8 end, within the Airport fence which has 10 storage bays. The building is constructed out of concrete with metal bi-fold doors opening each bay. The building is approximately 28,344 square feet and 14 feet in height. It is in fair condition and locked for security.

Air Quality Monitor Station
The South Coast Air Quality Management District (AQMD) maintains an air quality monitor station at Banning Municipal Airport. The air quality monitor is housed in a single wide trailer and is located west of T-hangar E. The South Coast AQMD classifies this monitor station as a compliance site for the reason that it tests for criteria pollutants: Ozone (O_3), Nitrogen dioxide (NO_2), and particulate matter less than 10 micron in size (PM_{10}). The PM_{10} sampler is a silver machine and is located outside the trailer.

All of these buildings described above are shown in **Figure 2-10**.

2.06-6 Fuel Facilities, Services

Banning Municipal Airport has one 10,000-gallon underground fuel tank for 100 LL. Fuel station is shown in **Figure 2-10**. The City provides full service fuel between the hours of 8:00 A.M. and 5:00 P.M. A Jet-A fuel truck, with a capacity of approximately 2,000 gallons, is located on the airport and it is property of Mercy Air. This Jet-A fuel is not available for based or transient aircraft at Banning Municipal Airport.

For the years 2004 and 2005, fuel tanks were filled three times each year for a total of 25,389 and 25,369 gallons respectively.

The City of Banning serves as the Fixed Base Operator (FBO) to provide services to the airport.

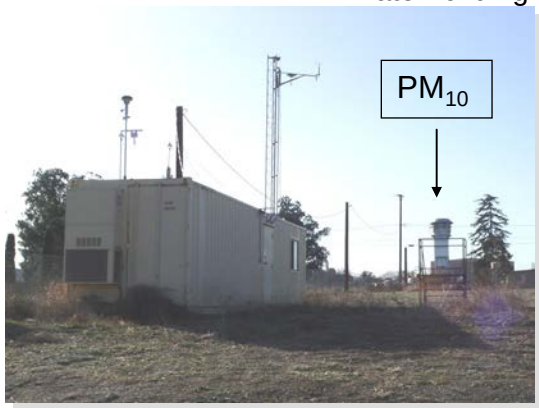
Mercy Air Building

Mercy Air Jet A Fuel Truck

Private Building 10

100 LL Fuel Station

Electrical Building



Air Quality Monitoring Station

Fence Between T-hangars E and AB

Terminal Building

Terminal Building Interior and Pilot Lounge

4th Gate at Hathaway & Lincoln

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Banning Municipal Airport

Other Buildings, Facilities, Utilities, Fencing

BUILDINGS

Figure 2-10

2.06-7 Automobile Parking

Auto parking is available south of the terminal building and outside the security fencing. The parking lot is approximately 556 square yards which provides approximately 13 parking spaces; however the spaces are not marked. It is recommended that the parking lot be striped.

There are two parking spots inside the security fence, east of the terminal building, for airport personnel. This parking area is not striped and it is recommended that stripes be marked.

Designated parking is not available in the vicinity of the T-hangar buildings or the north facilities on the Airport, which sometimes results in cars being parked in areas which can obstruct the safety of aircraft movement or vehicles may be parked in aircraft storage facilities.

2.06-8 Aircraft Rescue and Fire Fighting (ARFF)

Current rescue and fire fighting services are provided by the County of Riverside.

2.06-9 Airport Fencing and Security

The airport property boundary, the airfield including the Aviation Operations Area (AOA), and the airport terminal area complex are protected by means of perimeter fencing six feet in height. Fencing is in fair condition. In order to enhance the airport's safety and security, perimeter fencing should be a consideration when developing future alternative development and capital improvement plans for the airport.

There are four gates; of these, three provide secured access to the airfield: one on the north side with access off John Street, and two on Barbour Avenue. These three secured gates are equipped with key pad coded entry and can be activated using a remote.

The fourth gate is located at the corner of South Hathaway Street and East Lincoln Street and is locked with a chain. This gate is not rigid. The two doors are held together by the chain and hang unevenly allowing gaps between the joints. This gate is in overall poor condition and is shown in **Figure 2-10**. This current condition is a security concern in that it does not stop trespassers.

2.06-10 Infrastructure/Utilities

The primary airport entrance road, Veterans Way, is a 31-foot wide asphalt road and is accessible off of Barbour Street. The entrance road is in good condition and terminates at the auto parking area behind the terminal building at a secured airport entrance gate.

Information concerning utilities available at Banning Municipal Airport is listed in **Table 2-16**.

Table 2-16
UTILITIES DATA

Utility	Source
Water	City of Banning
Sewer	City of Banning
Power	City of Banning
Gas	Southern California Gas Company
Telephone	Verizon, multiple providers

Source: Banning Municipal Airport; City of Banning

2.07 Airspace Environment

Aircraft navigating from one airport to another operate using Visual Flight Rules (VFR) or Instrument Flight Rules (IFR). The term VFR refers to rules that govern the procedures for conducting flight under visual conditions. It is also a term used to indicate a type of flight plan. The term IFR refers to a set of rules governing the conduct of flight under instrument meteorological conditions. It is also a term used to indicate a type of flight plan.

Although most general aviation aircraft are equipped to fly IFR, and many general aviation pilots are trained to fly IFR, a high percentage of general aviation flight activity operates under VFR. VFR traffic is not generally controlled by an air traffic control facility, meaning the pilot is responsible for maintaining adequate separation from other traffic and terrain. VFR traffic generally uses prominent land features for navigation especially in uncontrolled airspace.

Banning Municipal Airport serves only general aviation aircraft. There is no scheduled commercial air service at the Airport, and a very small percentage of military activity. The general aviation activity at the Airport includes flight training and recreational flying.

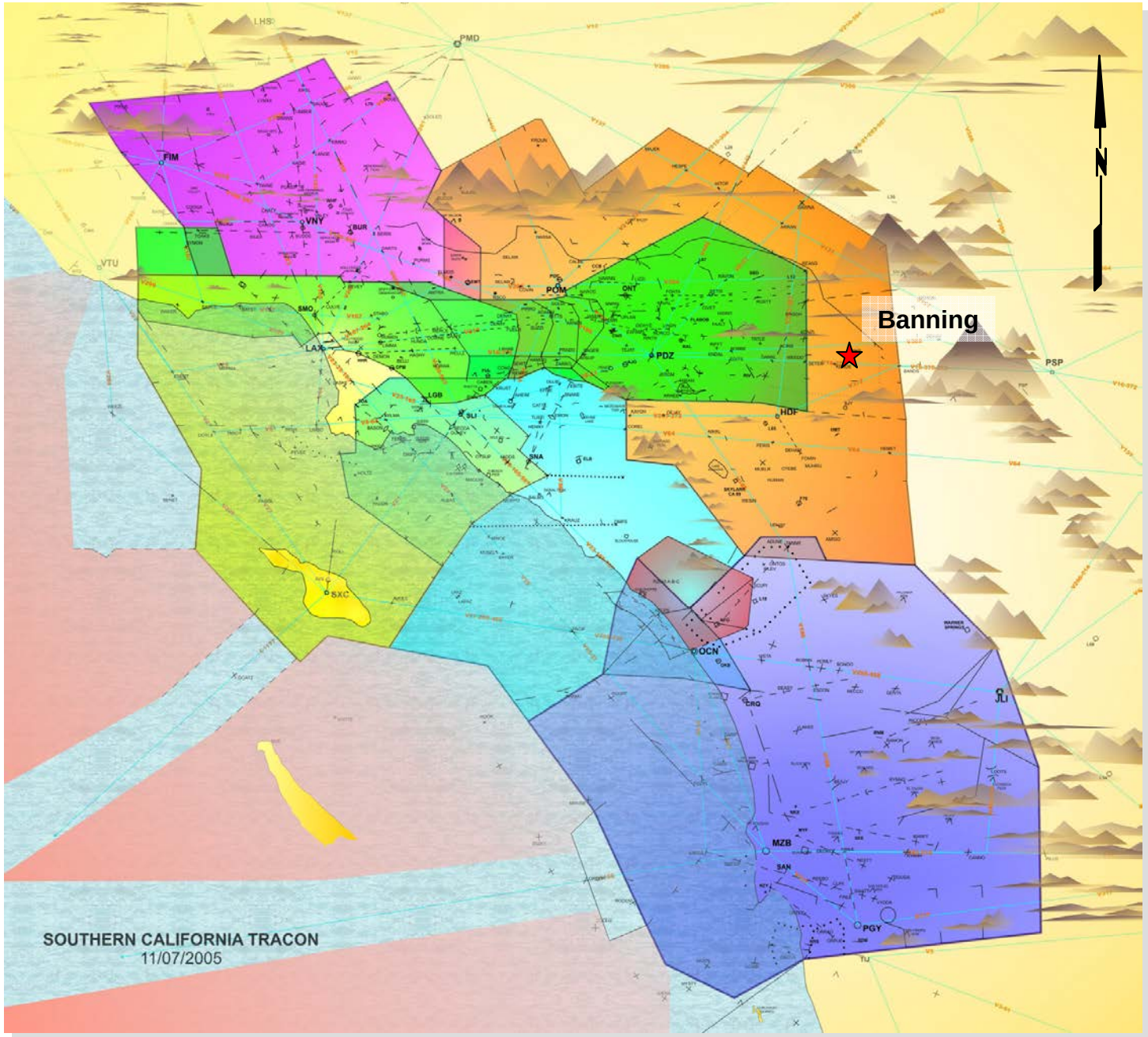
Air Traffic Control

Controlled airspace is a generic term that describes Class A, Class B, Class C, Class D, Class E, and uncontrolled Class G airspace. Controlled airspace in the National Airspace System is divided into various air traffic control sectors for complete aircraft origin to

destination oversight. Air traffic control (ATC) services are provided to all IFR flights in controlled airspace as well as those VFR flights in accordance with the airspace classification. The primary purpose of ATC is to prevent a collision between aircraft operating in the system and to organize and expedite the flow of traffic. ATC does this by separating, sequencing, and metering air traffic.

The airspace surrounding Banning Municipal Airport is Class G airspace (uncontrolled). This means that ATC services are only provided for IFR flights and VFR flights requiring vectoring services. However, spot location, landing, departing, and taxi announcements on the designated UNICOM frequency are advisable for safety purposes.

Air Traffic Control services for IFR flights into Banning Municipal Airport and Visual Flight Rules (VFR) flights requiring vectoring services are provided by the Southern California (SOCAL) Terminal Radar Approach Control (TRACON) facility. The SOCAL TRACON boundary is shown on **Figure 2-11**. For the Banning Municipal Airport, the elevation of SOCAL TRACON begins at the surface up to 13,000 feet.



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SOCAL TRACON Boundary

Figure 2-11

TRACON

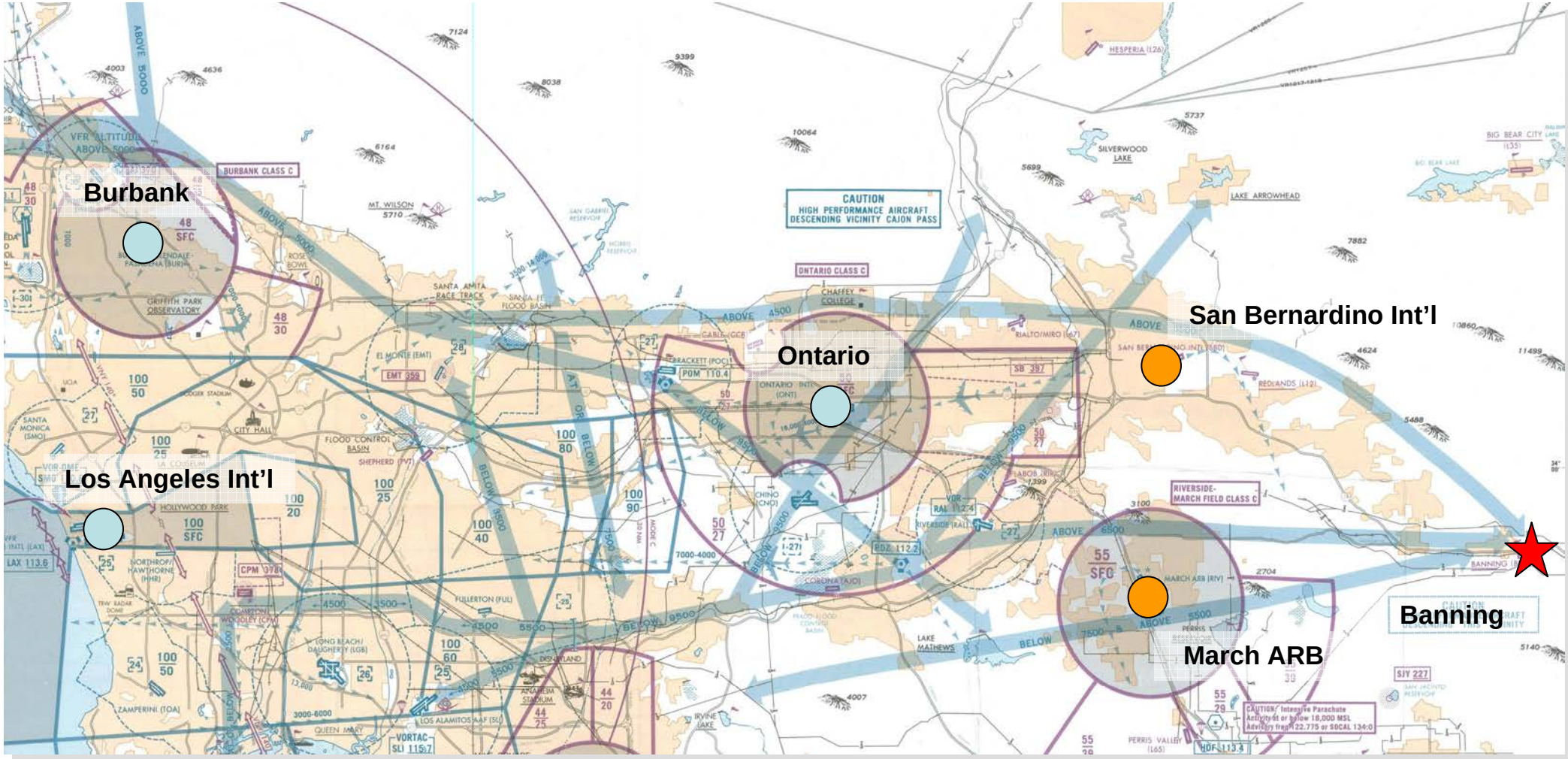
Beyond the proximate boundaries of SOCAL TRACON, traffic is controlled by various Air Route Traffic Control Center (ARTCC) facilities. ARTCC facilities in the United States are the largest component of the national airspace system. They manage air traffic over a multi-state area during the enroute phase of flight, within their geographical perimeter from the surface or overlying controlled airspace upward. The ARTCC facilities providing air traffic control services for California are: Los Angeles ARTCC (ZLA) and Oakland ARTCC (ZOA), as shown below.

Air Navigation

Enroute navigation relies mostly on victor airways and jet routes, which are airways in the sky defined by VORs (a ground based navigational system). Airways located below 18,000 feet MSL are depicted on low altitude enroute charts and are referred to as Victor airways. Victor airways are prescribed tracks between ground-based navigational aids, along which air traffic control service is provided. Airways at and above 18,000 feet MSL up to 45,000 MSL are shown on high altitude enroute charts and are called Jet routes. Jet routes are prescribed tracks between ground-based navigational aids, along which air traffic control service is provided.

Aircraft flying VFR or filing a VFR flight plan typically rely on airspace maps and visual landmarks to navigate between airports. Aircraft arriving or departing west of Banning Municipal Airport have three VFR Routes they can use that provide flight altitudes and a general flight path when flying into, out of, through or near complex terminal airspace, such as the congested Los Angeles Class B airspace. These routes do not require an ATC clearance and are not sterile of other traffic, i.e. The entire Class B airspace and the airspace underneath a VFR Route may be heavily congested with many different types of aircraft. These routes are shown with thick blue arrows on **Figure 2-12**.

Banning Municipal Airport has a visual runway with only visual approaches available to landing aircraft. This means that aircraft landing at the Airport use a right hand traffic pattern. There are no straight-in approaches available.



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Banning Municipal Airport

VFR Routes

Figure 2-12

ROUTES

CHAPTER 3 - FORECASTS OF AVIATION DEMAND

3.01 Overview

Aviation demand forecasts are prepared to estimate future airport facility needs, identify constraints, and provide an initial timetable for facility improvements. Forecasts also provide a basis for airport development alternatives, environmental analyses, and economic and financial plans.

FAA AC 150/5070-6B, *Airport Master Plans*, suggests that "forecasts should be realistic, based upon the latest available data, be supported by information in the study, and provide an adequate justification for airport planning and development." Forecasts are submitted to the FAA for review and approval.

Forecasts are prepared for the short, medium, and long-term. The short-term forecast should support a capital improvement program, the intermediate-term a realistic assessment of needs, and the long-term a concept-oriented statement of needs. Forecasts for the Banning Municipal Airport will be prepared for 2011, 2016, and 2026.

The FAA's Office of Aviation Policy and Plan (APO-110) prepared the report *Forecasting Aviation Activity by Airport* in 2001. The document identifies the following key steps required for forecasting:

1. Identify aviation activity parameters and measures to forecast.
2. Collect and review previous airport forecasts.
3. Gather data.
4. Select forecast methods.
5. Apply forecast methods and evaluate results.
6. Summarize and document results.
7. Compare airport planning forecast results with FAA Aviation Terminal Area Forecasts (TAF).

Activity Measures

Aviation demand forecasts for the Banning Municipal Airport have been prepared for the following elements:

- Based aircraft by category
- Fleet mix by aircraft type
- Critical aircraft
- Aircraft operations (itinerant and local)

Resources

Forecast data presented in this section used the following resources:

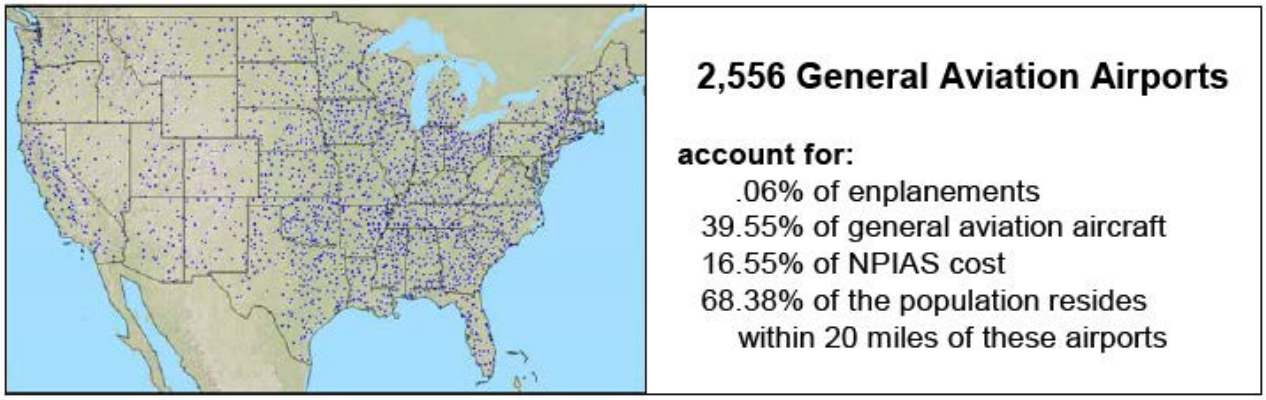
- National Plan of Integrated Airport Systems (NPIAS) Report to Congress 2005-2009
- FAA Aerospace Forecasts for Fiscal Years 2005-2016
- California Aviation System Plan – System Requirements Element (2003)
- FAA Aviation Terminal Area Forecasts (1990-2020)
- Banning Municipal Airport Master Plan (1990)
- US Census Data for Riverside County
- FAA Order 5090.3C, *Field Formulation of the National Plan of Integrated Airport Systems (NPIAS)*

Methodology

Development of aviation forecasts involves analytical and judgmental assumptions to realize the highest level of forecast accuracy. These general aviation demand forecasts were developed in accordance with national trends, and in context with the inventory findings.

3.02 General Aviation Trends

Banning Municipal Airport is a general aviation airport. General Aviation refers to that segment of civil aviation that encompasses all facets of aviation except air carrier and commuter activity. General aviation includes air taxi operators, corporate-executive transportation, flight instruction, aircraft rental, aerial application, aerial observation, recreational flying, and other uses.



NOTE: Alaska and Hawaii included in statistics.
Source: National Plan of Integrated Airport Systems (NPIAS) Report to Congress 2005-2009

National Plan of Integrated Airport Systems (NPIAS) Report to Congress 2005-2009

The NPIAS identifies 3,344 existing airports that are significant to national air transportation and are eligible to receive grants under the Federal Aviation Administration (FAA) Airport Improvement Program (AIP). Of all the eligible airports, 2,556 are general aviation airports. Banning Municipal Airport is identified as a general aviation airport in the NPIAS. This report estimates that Banning Municipal Airport will require $1,375,556 in development costs between 2005 and 2009.

The NPIAS forecasts general aviation operations to increase at a rate of 1.7 percent annually, from 35.5 million GA aircraft operations in 2003 to 43.4 million aircraft operations in 2015. The business and corporate segments provide the greatest potential for future growth. An increased number of jet aircraft in the general aviation fleet will result in a demand for longer runways at certain reliever and general aviation airports. However, smaller more affordable business jets are being developed that will be able to operate at airports with shorter runways.

A longer-term innovation being examined by the National Aeronautics and Space Administration (NASA) and FAA is the concept of small aircraft and general aviation airports being used for daily personal transportation operating on virtual highways in the sky.

FAA Aerospace Forecasts for Fiscal Years 2005-2016

General aviation is an important part of both the aviation industry and our national economy. According to the FAA general aviation directly generated $13.7 billion in revenues and created 178,000 jobs in the year 2000.

The 2001 economic recession and generally weak recovery combined with rising prices for aviation fuels reduced demand for general aviation products and services. However, the market for general aviation products and services staged a relatively strong recovery in 2004, which was stimulated by strong U.S. economic activity and accelerated depreciation allowances for the operators of new aircraft.

The FAA is committed to fostering general aviation. Together with NASA, the FAA has begun building the framework for the Small Aircraft Transportation System (SATS). SATS is a travel alternative aimed to relieve congested interstate highways and hub-and-spoke airports. The system will use new generation affordable aircraft, advanced communication and navigation technologies, and general aviation airport facilities to take travelers to their destinations.

The FAA is also committed to improving navigation at general aviation facilities by publishing Localizer Performance with Vertical-guidance (LPV) approaches at general aviation airports with limited or no instrument approach capability. By the year 2005, most aircraft were expected to begin to have Global Positioning System (GPS)/ Wide Area Augmentation System (WAAS) instrumentation capability.

The introduction of Light Sport Aircraft (LSA) is expected to increase the number of pilots and interest in flying. Unmanned or Uninhabited Aerial Vehicles (UAV's) are also expected to enter the civilian system to provide a communication network among other things. Business aviation will continue to grow through fractional ownership programs and Very Light Jets (VLJ's). VLJ's are smaller more economical business jet aircraft expected to be used early in their release for on-demand taxi service and should inspire more travelers to consider alternatives to commercial aviation.

The general aviation industry also sponsors several programs to promote future growth such as "No Plane, No Gain" and "Project Pilot" to increase and maintain the size of the pilot population.

The active general aviation fleet is expected to increase an average of 1.1 percent annually between 2005 and 2016. There are two distinct market segments in general aviation: turbojets and the second segment which includes piston, turboprop, rotorcraft, and experimental aircraft. Turbojet aircraft are expected to grow an average of 5.4 percent annually while the other segment is expected to grow between 0.2 and 1.2 percent annually.

Table 3-1
FAA ACTIVE GENERAL AVIATION & AIR TAXI AIRCRAFT FORECASTS (000'S)

	Historical			Forecast			% Average Annual Growth (2004 to 2016)
General Aviation Activity	**2000**	**2003**	**2004**	**2005**	**2006**	**2016**	
Total Active Fleet (000)	217.5	210.6	211.3	219.8	223.1	240.1	1.1
Pistons	170.5	161.6	161.7	161.8	162.0	165.2	0.2
Single Engine	149.4	143.9	144.0	144.2	144.4	148.0	0.2
Multi-Engine	21.1	17.7	17.7	17.6	17.6	17.2	-0.2
Turbine	12.8	15.4	15.7	16.2	16.7	24.3	3.7
Turboprops	5.8	7.2	7.3	7.4	7.5	8.4	1.2
Turbojets	7.0	8.2	8.4	8.8	9.2	15.9	5.4
Rotorcraft	7.2	6.8	6.9	7.0	7.1	7.9	1.2
Experimental	20.4	20.6	20.8	21.0	21.2	21.4	0.2
Sport Aircraft	NA	NA	NA	7.7	10.0	15.4	NA
Other	6.7	6.2	6.2	6.2	6.1	5.8	-0.5

Source: FAA Aerospace Forecasts Fiscal Years 2005 - 2016

The market for business jets has grown both in the United States and globally. The introduction of new market aircraft, the shift from commercial to corporate/business air travel, and the growth in the fractional aircraft market are also attributed to the popularity of turbojet aircraft.

3.03 General Aviation Forecasts

FAA AC 150/5070-6, *Airport Master Plans*, defines based aircraft as the "total number of active general aviation and air carrier aircraft which use an airport as 'home base' and have a current airworthiness certificate."

The number of based aircraft is a basic indicator of general aviation demand. By developing a forecast of based aircraft, the growth of other general aviation activities and demands can be projected.

Historic Aviation Activity

To better understand the future aviation activity at Banning Municipal Airport, it is critical to review the historic activity at the Airport. **Table 3-2** outlines historic aviation activity showing prior based aircraft and annual operations.

Table 3-2
HISTORIC AVIATION ACTIVITY (BASED AIRCRAFT AND OPERATIONS)

HISTORICAL COMPARISON	National Fleet	Airport Fleet	National Market Share	Riverside County Pop.	Aircraft per 1,000 people	Annual Operations
1980	N/A	64	N/A	N/A	N/A	30,200
1985	N/A	59	N/A	N/A	N/A	10,080
1990	N/A	102	N/A	1,170,413	0.087	14,130
2000	217,533	56	0.0257	1,545,387	0.036	10,500
2001	211,447	56	0.0265	1,605,083	0.035	10,500
2002	211,244	56	0.0265	1,667,084	0.034	10,500
2003	210,600	56	0.0266	1,731,481	0.032	10,500
2004	211,295	56	0.0265	1,871,950	0.030	10,500
2005	219,780	56	0.0255	1,944,260	0.029	10,500
2006	223,100	56	0.0251	2,019,364	0.028	10,500

Based Aircraft: An actively registered general aviation airplane based at the airport which regularly uses the airport as the primary "home base" for filing flight plans, using airport amenities, and/or maintains a formal commitment for long term storage/parking

Annual Operations – One aircraft operation is one take off or one landing of an aircraft. Operations are identified as local or itinerant. Local operations refer to operations performed by aircraft which are known to be departing for, or arriving from, local practice areas located within a 20 mile radius of the airport; Itinerant Operations refers to all aircraft arrivals and departures other than local operations from another airport at least 25 miles away.

Sources: Banning Municipal Airport Master Plan (1990); FAA Terminal Area Forecasts (January 2005) for operations numbers; July 2005 site inspection and 2005 tenant list supplied by airport management.

3.03-1 Based Aircraft Analysis Methods

There has been a lack of growth at the Airport over the last several years, while other independent variables such as population, employment, and per capita income have risen in Riverside County. This suggests that using a regression analysis would not reveal any significant correlations with based aircraft and population. It should also be noted that the number of based aircraft reflects aircraft that may relocate to other airports or be taken out of service. Therefore, the number of based aircraft is not an aggregate number.

Based aircraft at the airport grew in the early 1980s up through 1990. In 1990, there were 102 based aircraft; many of which were used by the air charter/taxi service that once existed at the airport. However, from 1990 to present, there has been a significant decline in the number of based aircraft to approximately 56. There is currently a list of 57 aircraft waiting for hangar space as of October 2005. This would suggest that there is the potential for growth at the airport in based aircraft and operations if hangar space were provided on an as needed basis.

According to airport management, there have been approximately 56 based aircraft at the airport over the last five years and that is the number of aircraft currently based at the airport (March 2006).

The following methods were utilized to determine a preferred forecast of future based aircraft and are outlined in **Table 3-3**:

- *FAA Terminal Area Forecasts (TAF/Time Series Projection)* – The FAA TAF indicated that there are currently 74 based aircraft and that number will remain constant through the next 20 years. The *adjusted* FAA TAF projects 56 based aircraft for the entire planning period (2006-2026) assuming no growth over the 20 years. This number of based aircraft reflects aircraft that may relocate to other airports or be taken out of service according to the FAA. Utilizing the FAA TAF results in the lowest number of based aircraft. There is also a notable projected decrease in the Airport's share of the national fleet. This decrease is not reflective of the 20-year trend at the Banning Municipal Airport.

- *Constant Market Share Projection* - This projection is based on the Banning Municipal Airport maintaining its current share (percentage) of aircraft in the US general aviation fleet. Currently, the aircraft based at the Airport consist of approximately .03% of the national general aviation fleet. The number of based aircraft in this scenario was generated by comparing the number of based aircraft at the Airport by keeping the market share remaining at the current level and comparing that to the national fleet over the next 20 years. The Constant Market Share method results in an increase to 74 based aircraft in the planning period.

- *FAA Aerospace Trends* - Utilizing the projected growth in the US GA fleet, these increases were evaluated to reflect the number of based aircraft increasing at a percentage determined in the FAA Aerospace Forecasts (2005-2016).

  Turbojet 5.4%
  Turbine Powered (Turbo-Prop) 1.2%
  Single-engine piston 0.2%
  Multi-engine piston -0.2%
  Rotorcraft 1.2%
  Experimental 0.5%

  Utilizing the percent change predicted in the FAA Aerospace Trends, the total number of based aircraft (single and multi engine) for the planning period would be 65 by the year 2026.

- *Constant Ratio Projection (per 1,000 persons)* - A constant ratio per 1,000 County population (2005) in Riverside County was developed for comparison. This assumes

that the existing number of based aircraft per 1,000 County populations (.028 aircraft) will remain the same throughout the planning period. The changing ratios and market shares present a rapid growth scenario to 74 based aircraft by 2026. This is due to the dramatic increases in county population predicted over the next 20 years- assuming the population increases follow the current trend of approximately 3% per year. The market share with the nationwide general aviation fleet in this scenario is predicted to gradually increase as well.

The increase in population over the last 10 years has not significantly impacted the number of based aircraft at the Banning Municipal Airport. The population in Riverside County has increased by over 700,000 people from 1990 to 1994 and the number of based aircraft at the Airport has actually decreased from 101 to 74. In addition, the number of based aircraft per 1,000 county populations has decreased as the population has increased during this same period. This trend indicates that there is currently no correlation between the increases in county population to the number of based aircraft.

- *1990 Banning Municipal Master Plan* - In contrast with many airports around the region, data in the 1990 Master Plan demonstrated that based aircraft at Banning Municipal Airport would increase to 185 aircraft by 2003.

  This number was derived from the assumption that there would be a shift from aircraft based near the urban core (Los Angeles) to the outlying, growth prone suburbs of Riverside County.

Table 3-3
BASED AIRCRAFT FORECASTING METHODS COMPARISON

Year	Based Aircraft	GA National Fleet	Riverside County Market Share (%)	Riverside County Population	Aircraft per 1,000 County Population
Constant Market Share Projection (Preferred)					
Existing (Adjusted TAF)	56	223,100	0.0251	2,019,364	0.028
2011	58	232,205	0.0251	2,342,462	0.025
2016	60	240,070	0.0251	2,666,323	0.023
2026	67	267,204	0.0251	3,520,552	0.019
National FAA Trend Projection (BASE)*					
Existing (Adjusted TAF)	56	223,100	0.0251	2,019,364	0.028
2011	57	232,205	0.0245	2,342,462	0.024
2016	57	240,070	0.0237	2,666,323	0.021
2026	58	267,204	0.0217	3,520,552	0.016
Constant Ratio: Aircraft per 1,000 Riverside County Population (HIGH)					
Existing (Adjusted TAF)	56	232,205	0.0241	2,019,364	0.028
2011	65	240,070	0.0271	2,342,462	0.028
2016	74	253,274	0.0292	2,666,323	0.028
Time Series Projection (FAA TAF)					
Existing (Adjusted TAF)	56	223,100	0.0251	2,019,364	0.028
2011	56	232,205	0.0241	2,342,462	0.024
2016	56	240,070	0.0233	2,666,323	0.021
2026	56	267,204	0.0210	3,520,552	0.016

Note: Current FAA TAF incorrectly indicates existing number of based aircraft. TAF was adjusted to reflect current conditions
Source: C&S Engineers, Inc. (2006)

3.03-2 Preferred Based Aircraft Forecast

The based aircraft forecast methods resulted in a range of 56 to 74 based aircraft by the end of the planning period (2026), resulting in a 0% to 48% growth in based aircraft respectively as shown in **Table 3-3**.

An analysis of the various methods indicates that the Constant Market Share method is the best reflection of the future number of based aircraft at the Banning Municipal Airport. Upon reviewing the total number of based aircraft as a percentage of the national fleet for the previous 16 years, Banning Municipal Airport's has remained consistent at average of .025 percent. This pattern is likely to continue throughout the planning period and accurately reflects the aviation trends in Riverside County with a future based aircraft count of 67.

The population explosion that is occurring in Riverside County indicates it may have an impact on the number of based aircraft (Constant Ratio Method). However, reviewing

historical data indicates that the rise in population has not provided an increase in the number of based aircraft at Banning Municipal Airport **(Table 3-3)**.

As the population increased in Riverside County, the number of based aircraft per 1,000 persons declined. There are a number of factors that may have led to this including the lack of hangar space or competing airports with better facilities. The decrease of based aircraft from 102 in 1990 to the current number of 56 indicates that the Airport has either lost based aircraft to competing general aviation airports in the county or people moving to the county do not own aircraft. Using the current percentage of based aircraft per 1,000 persons throughout the planning period does not accurately reflect recent trends.

The FAA Aerospace Forecast Method and the FAA TAF provide for the slowest growth and do not accurately reflect previous trends or account for future growth in Riverside County. Both of these methods result in a flat number of based aircraft over the 20 year planning period.

3.03-3 Based Aircraft Fleet Mix Forecast

The current based aircraft fleet mix at Banning Municipal Airport is presented in **Table 3-4.** This was compared to the existing and forecasted GA aviation fleet mix trends in the FAA Aerospace Forecasts (2004-2016).

According to the FAA Forecasts, single engine aircraft growth will be slower in the short term as older aircraft are retired. Experimental aircraft, which tend to consist of single-engine models, are expected to experience a 1.2% growth rate in the coming decade.

The number of multiple-engine piston aircraft is expected to decline at a rate of 0.5% annually. The turbo-prop market is expected to increase 1.2% annually according to the FAA Aerospace Forecasts. Therefore it is likely that at least one multiple engine aircraft will base at the field due to the percentage growth in the turbo-prop and business jet/light jet market.

Banning Municipal Airport has a current fleet mix of 98% single engine aircraft and 2% multiple engine aircraft. Multiple engine piston aircraft are expected to continue to decrease, while the turbo-jet multiple engine aircraft is expected to increase. In general, the multiple engine aircraft will continue to maintain position in the fleet mix with the variation being in the type of engine driving the aircraft. Banning Municipal Airport should be able to maintain its existing fleet mix (**Table 3-4)** based on the current fleet mix remaining consistent for the entire planning period.

Table 3-4
FORECAST BASED AIRCRAFT FLEET MIX

Year	Single Engine Piston	Multi-Engine Piston OR Turbo-Jet	Total Based Aircraft
Existing*	55	1	56
2011	56	2	58
2016	58	2	60
2026	65	2	67

Source: C&S Engineers, Inc., 2005
* Based on current airport tenant list/site inspection, January, 2006

US Census Data for Riverside County- 1990 through 2004
Aviation trends throughout the country can be correlated to the fluctuations in the local population. The population trends for Riverside County over the last 15 years were reviewed and compared to the aviation trends at Banning Municipal Airport. The population for Riverside County was used because the Airport services the aviation needs of the entire county and has based aircraft owners who do not necessarily reside in the city of Banning.

The population of Riverside County has increased by more than 30% from 1990 to 2000, making it one of the fastest growing areas in the country. This increase in population will be compared to the impact on the number of based aircraft and operations at Banning over the past 10 years.

3.03-4 General Aviation Operations Forecasts

An aircraft operation is a measure of activity that is defined as either a takeoff or a landing and is defined as two separate operations. The annual general aviation operations forecasts were derived for both local and itinerant operations through the use of Operations Per Based Aircraft (OPBA) ratio. Typically, the OPBA ratios are calculated as an average of historical information.

For this study, information concerning historical OPBA levels was taken from the historical FAA Terminal Area Forecasts (January, 2005) for Banning Municipal Airport which has an OPBA ranging from 188 (current) to 472 (1980). An OPBA of approximately 188 and a local/itinerant operational split of 30 percent local and 70 percent itinerant (based upon Banning Municipal Airport historical data), in conjunction with based aircraft forecasts, were used to determine the operations forecasts shown in **Table 3-5**.

Several factors were studied when determining the OPBA. Surrounding airports and operations in the area were studied and are shown in **Table 3-5**.

Table 3-5
OPBA COMPARISON TO SURROUNDING AIRPORTS

Airport	Based Aircraft	Annual Operations	OPBA
Redlands Municipal (L12)	215	44,000	205
Hemet-Ryan (HMT)	216	80,000	370
Yucca Valley (L22)	48	12,500	260
French Valley (F70)	307	130,000	423
BANNING MUNICIPAL AIRPORT	**56**	**10,500**	**188**

Source: C&S Engineers, Inc.

Table 3-5 above shows that Banning Municipal has the lowest OPBA of surrounding public use airports in and around Riverside County. An OPBA of 250 is a number accepted by the FAA as typical for based aircraft at rural general aviation airports. However, the split between itinerant and local traffic is predicted to remain constant throughout the planning period and the air traffic at Banning is predominately itinerant. Therefore, an OPBA of 250 may not be a direct reflection on future operations at the Airport.

The following is a summary of estimated transient aircraft activity at Banning Municipal Airport provided by airport staff:

- 75% Single Engine
- 22% Helicopter
- 3% Turboprop/Turbojet
- 2% Twin Engine

According to airport management, the Airport is a popular destination for flight students from Long Beach, California and Phoenix and Tucson, Arizona as a cross-country flight destination. Flight schools particularly use Banning Airport for touch-and-go operations and to gain flight experience during high wind conditions.

Helicopter operations are divided between Mercy Air, the Sheriff's Department, and personally owned helicopters. Mercy Air has one helicopter, a Bell 412, based at BNG. The Sheriff's department uses the Airport sporadically throughout a work day. Occasionally Casino Morongo uses a helicopter to transport casino guests to their facilities.

Turboprop, turbojet, and twin engine operations account for a small portion of the operations at Banning Municipal Airport. Turboprop aircraft fly in to BNG approximately two times a month for medical transport purposes.

Utilizing historical data and reviewing recent trends, it is estimated that Banning Municipal Airport will have an average 200 OPBA during the 20-year planning period.

Table 3-6
GENERAL AVIATION OPERATIONS FORECAST

Year	Based AC	Itinerant	Local	Total	Ops by B-II Aircraft
Existing 2006*	56	7,350	3,150	10,500	525 (5%)
Forecast					
2011	58	8,120	3,480	11,600	580
2016	60	8,400	3,600	12,000	600
2026	67	9,380	4,020	13,400	670

Source: C&S Engineers, Inc., 2006
*Based upon the FAA TAF (January, 2006)

Forecast Justification

A memorandum from the FAA dated December 23, 2004 from the Director of Airport Planning and Programming (APP-1) requires that an airport's forecast be within 15% of the FAA TAF in the 10-year forecast period unless sufficient justification can be made for a larger difference. As shown in Table 3-7, the forecasts for Banning in the five to ten year range are anticipated to be within reasonable range with the FAA forecasts.

The future operations forecasts can be justified by the following:

- A number of documents are referenced above (see Based Aircraft Forecast) and alternative sources of information were also reviewed such as fuel sales records, interviews with the airport staff, and airport tenant/user surveys.

- Several different forecast methodologies for based aircraft were utilized in determining future based aircraft. The preferred method utilizes trend data, maintains Banning Municipal Airport's percentage of the national aviation fleet and is reflective of previous trends.

- The airport staff states that there is a waiting list of 57 aircraft for hangar space.

- The FAA TAF does not project any increase in operations over the forecast period. Thus any increase in aircraft or operations at the Airport arbitrarily inflates the numbers to a large percentage above TAF.

- The predicted increase in light jet and charter/fractional ownership aircraft makes the Airport an attractive option.

Table 3-7
COMPARISON OF PREFERRED FORECAST OPERATIONS AND FAA TAF

Year	FAA TAF	Preferred Forecast	Adjusted Forecast TAF (%)
2011	10,500	11,600	10%
2016	10,500	12,000	14%
2026	10,500	13,400	28%

Source: C&S Engineers, Inc.

3.03-5 Peak Period Activity Forecasts

Since many of the airfield's facility needs are related to the levels of activity during peak periods, forecasts were developed for peak month and peak hour operations.

The peak period general aviation operations for Banning Municipal Airport were calculated using the following methodology:

Peak Month Operations: This level of activity is defined as the calendar month when peak aircraft operations occur. Peak month percentages are typically 10 percent busier than an average month of the year.

Peak Month Operations = (Annual Operations/12) x 1.1

Design Day Operations: This level of operations is defined as the average day within the peak month.

Design Day Operations = Peak Month Operations/30

Design Hour Operations: This level of activity is defined as the peak hour within the design day. Historic planning methods indicate that these operations will range between 10 and 15 percent of the design day operations. The lower the annual number of operations is the higher the design hour percentage of the design day. Considering our operational forecasts, a figure of 10 percent was used to estimate design hour operations.

Design Hour Operations = Design Day Operations x 0.10

Table 3-8 represents the forecast of peaking characteristics of anticipated general aviation operations at Banning Municipal Airport.

Table 3-8
GENERAL AVIATION OPERATIONAL PEAKING FORECAST

Year	Annual Operations	Peak Month Operations	Design Day Operations	Design Hour Operations
2011	11,600	1,063	35	4
2016	12,000	1,100	37	4
2026	13,400	1,228	41	4

Source: C&S Engineers, Inc. (2006)

3.03-6 Annual Instrument Approaches (AIA)

The forecast of annual instrument approaches helps determine the need for new or improved instrument landing aids at public-use airports. An instrument approach is defined as an approach to an airport, with intent to land, by an aircraft flying in accordance with an Instrument Flight Rules (IFR) flight plan. Instrument flight rules involve a series of pre-determined maneuvers for the orderly transfer of an aircraft under instrument flight conditions (i.e., poor weather) to visual flight conditions. Instrument meteorological conditions (ICM) are those in which other aircraft cannot be seen and safe separation must be ensured.

Banning Municipal Airport does not have an instrument landing system and does not have published instrument approaches. Therefore instrument operations do not have an impact on this forecast or development of the airfield at this time.

3.03-7 Military Operations

The FAA TAF (January 2006) indicates that there have been occasional itinerant military operations. Airport staff and records do not indicate a significant amount of itinerant military activity at Banning Municipal Airport. Due to the limited activity, military operations were not calculated as a separate category, but are considered a part of the overall general aviation operations forecasts.

3.04 Aircraft Activity Trends

Smaller aircraft will comprise the majority of based aircraft and operations. However, it is anticipated that a large percentage of the based single-engine aircraft and annual operations will increasingly be comprised of higher performance/complex aircraft, including a slight proliferation of single-engine experimental and single and twin-piston personal business aircraft.

3.05 Forecast Summary

The major demand forecast elements of the study are summarized in **Table 3-9.** Demand elements from these forecasts will be used in the following chapters to help in the development of the facility requirements.

Table 3-9
GENERAL AVIATION FORECAST SUMMARY

	Existing (2006)	2011 (5 year)	2016 (10 year)	2026 (20 year)
Single Engine Aircraft (A-I & B-I)	55	56	58	65
Piston or Turbine Multi Engine (B-I or B-II)	1	2	2	2
Total Based Aircraft	**56**	**58**	**60**	**67**
Itinerant Operations	7,350	8,120	8,400	9,380
Local Operations	3,150	3,480	3,600	4,020
Total Annual Operations	**10,500**	**11,600**	**12,000**	**13,400**

Source: C&S Engineers, Inc.

CHAPTER 4 - FACILITY REQUIREMENTS

This chapter of the Master Plan identifies long-range airfield and terminal area facilities needed to satisfy the 20-year forecast of aviation demand at Banning Municipal Airport (see Chapter 3-Aviation Forecasts). Airport facilities have been identified based on the accumulation of inventory information and forecast demand elements, and planned in accordance with the Federal Aviation Administration (FAA) design standards and airspace criteria. Improvements needed at the Airport are actually driven by demand level and not a specific time frame or year. Demand levels that will trigger a need for an improvement of a specific facility at the Airport will be identified in this chapter. It should be noted that the identification of needed facilities does not constitute a 'requirement' but is a means of resolving various types of facility or operational inadequacies, and improvements should be made.

Before conceptual alternative planning can begin, it is important that the facility and demand/capacity requirements necessary to accommodate future demand are identified. Future requirements for runways, taxiways, aprons, hangars, and other related facilities are analyzed to determine their ability to handle growth over the short, intermediate, and long-term. This information will be used in the development of alternatives for future airport development and phasing concepts that are based on forecasted activity levels. Requirements have been developed for the various airport functional areas shown below:

Airside Facilities
- Runways
- Taxiways
- Helicopter Facilities
- Navigational Aids
- Lighting

Landside Facilities
- Terminal Building
- Apron Area
- Aircraft Storage
- Airport Buildings
- Other Buildings
- Support Facilities
- Auto Parking
- Aircraft Rescue and Fire Fighting
- Airport Fencing and Security
- Infrastructure/ Utilities

4.01 Emerging Trends

It is important that Banning Municipal Airport consider current trends and changes in the aviation industry. The use of global positioning systems (GPS) for navigation, the increasing use of charter/air taxi services, and the growing Very Light Jet (less than 12,500 pounds maximum take-off weight) aircraft market will have an impact on the future facilities at the Airport. Fractional ownership, along with liability reform, has resulted in a significant increase in the sale of business jets, defined as those turbojet aircraft weighing less than 100,000 pounds maximum gross takeoff weight, with wingspans less than 100 feet, which are used by companies in conducting their business.

These jets will increasingly fly to and from airports that do not have commercial service; i.e., general aviation (GA) airports. Many of these airports currently do not have facilities adequate to accommodate business jets. Providing facilities for business jet aircraft increases the accessibility to small markets/cities by jet aircraft.

The FAA encourages flexible design concepts so they can be easily adapted to the changing environment. The increase in B-I and B-II aircraft activity at the airport could be a direct reflection on these trends. Therefore, certain facility requirements will be analyzed.

4.02 Airfield Capacity

It is important to analyze the capacity of the existing airport facilities compared with the forecasted demand outlined in Chapter 3. Airfield capacity, as it applies to Banning Municipal Airport, is a measure of terminal area airspace and airfield saturation. It is defined as the maximum rate at which aircraft can arrive and depart an airfield with an acceptable level of delay. Measures of capacity include the following:

- Hourly Capacity of Runways: The maximum number of aircraft operations that can take place on the runway system in one hour.
- Annual Service Volume: The annual capacity or a maximum level of annual aircraft operations that can be accommodated on the runway system with an acceptable level of delay.

The existing airfield capacity at Banning Municipal Airport is compared with the forecast levels of aviation activity. From this analysis, facility requirements for the planning period will be developed by converting any identified capacity deficiencies into detailed needs for new airport facilities.

4.02-1 Methodology

A variety of techniques have been developed for the analysis of airfield capacity. Airfield capacity is calculated by using methods outlined in FAA A/C 150/5060-5, *Airport Capacity and Delay* and *Airport Design Version 4.2D Program Mode.* The model calculates the minimum separation distances between the following airfield components:

- Runway/taxiway distance separations;
- Surface grade and airspace slope;
- Runway threshold distances
- Airfield safety areas (RSA, OFA, OFZ);
- NAVAID siting and safety areas;
- Runway protection zone (RPZ) sizes

The current technique accepted by the FAA is described in the FAA Advisory Circular 150/5060-5, *Airport Capacity and Delay*. The Airport Capacity and Delay Model (ACDM) uses the following inputs to derive an estimated airport capacity:

- Airfield layout and runway use
- Meteorological conditions
- Navigational aids
- Aircraft operational fleet mix
- Touch-and-Go operations.

4.02-2 Hourly Capacity

The FAA's Airport Capacity Model combines information concerning runway configuration, runway usage, meteorology, operational fleet mix, and touch and go operations to produce an hourly capacity of the airfield. A weighted hourly capacity combines the input data to determine a base for each VFR and IFR operational runway use configuration at the airport. Each hourly capacity base is assigned a proportionate weight (based on the time each is used) in order to determine the weighted hourly capacity of the entire airfield.

The FAA's Advisory Circular 150/5060-5, *Airport Capacity and Delay*, identifies VFR and IFR hourly capacities for long range planning. For Banning Municipal Airport, with a one-runway system, the FAA recommends the VFR and IFR hourly capacities to be 98 and 59 operations per hour, respectively. Design hour operations forecasts are predicted to remain at 4 per hour throughout the planning period. As shown on **Table 4-1**, the airfield will have sufficient hourly capacity to meet design hour and peak period demands.

Table 4-1
HOURLY CAPACITY SUMMARY

Year	Design Hour Operations	VFR Hourly Capacity	IFR Hourly Capacity	Capacity Utilized (VFR)	Capacity Utilized (IFR)
2011	4	98	59	4%	7%
2016	4	98	59	4%	7%
2026	4	98	59	4%	7%

Sources: C&S Engineers, Inc.; FAA Advisory Circular 150/5060-5, Dec. 1995

4.02-3 Annual Service Volume

An airport's Annual Service Volume (ASV) has been defined by the FAA as "*a reasonable estimate of an airport's annual capacity. It accounts for differences in runway use, aircraft mix, weather conditions, etc., that would be encountered over a year's time*." Therefore, ASV is a function of the hourly capacity of the airfield and the annual, daily, and hourly demands placed upon it. ASV is estimated by multiplying the daily and hourly operation ratios by a weighted hourly capacity.

For Banning Municipal Airport, the FAA's AC 150/5060-5 provides an ASV of 230,000 annual operations for present conditions. Compared to the projection of 13,400 operations by the year 2026, it is evident that airfield capacity is not a constraining factor to growth of the Airport. **Table 4-2** summarizes the ASV relationships developed in this chapter.

Table 4-2
ANNUAL SERVICE VOLUME SUMMARY

Year	Annual Operations	Annual Service Volume[1]	Capacity Utilized
2011	11,600	230,000	5%
2016	12,000	230,000	5%
2026	13,400	230,000	6%

[1] FAA Advisory Circular 150/5060-5, Dec. 1995

4.03 Airside Facilities

The facility requirements analysis uses quantitative information along with qualitative information to review the airfield facilities. It identifies areas where further analysis of improving airfield facilities at Banning Municipal Airport should be undertaken during the alternatives analysis portion of the planning process. Airfield or airside facilities, as described in this report, include runways, taxiways, navigational aids, and pavement marking and lighting.

4.03-1 Runway Requirements

The requirements for runways may be described in a number of terms. In this study, the following descriptors are used:

- Runway orientation
- Runway length and width
- Pavement strength

4.03-2 Runway Orientation

According to the data shown in Chapter 2, **Table 2-13**, Banning Municipal Airport meets and exceeds the desired 95% wind coverage at 10.5 knots. The majority of the aircraft utilizing Banning Municipal Airport are smaller aircraft that are more susceptible to crosswinds with the existing runway orientation. Crosswinds are less than 10.5 knots more than 95% of the time. Thus, the current runway configuration is adequate.

The wind data collected is from the March Air Force Base Weather Observation Station. Aircraft using Banning Municipal Airport would benefit from a local Automated Weather Observation Station (AWOS) which would provide local weather conditions.

4.03-3 Runway Length and Width Analysis

Runway length requirements are dependent upon the flight characteristics of the aircraft that are intended to use the runway. The weight of the aircraft, the thrust developed by its engines, field elevation, temperature, weather conditions, non-stop flight distance, and the amount of fuel needed for the flight interrelate to determine the length of runway required for takeoff and landing with a desired payload (passengers plus cargo). An important factor in determining runway length is the critical aircraft which dictates all design standards at an airport.

FAA AC 5325-4B, *Runway Length Requirements for Airport Design*, states that the recommended length of the primary runway should be based on the following guidelines:

- Consider a specific airplane or family of airplanes having similar performance characteristics or a specific airplane needing the longest runway.

- Forecasts should be based on airplanes needing the runway on a regular basis.

- Adjustments to minimum frequency can be made under unusual circumstances.

- When planning for airplanes up to and including 60,000 pounds maximum take-off weight (MTOW), the runway length should be designated for a family of airplanes.

Runway length at Banning Municipal Airport could remain fairly constant in terms of types of small airplanes using the Airport and their associated operational requirements. However, it is important for the Airport to consider the ultimate development plan for realistic changes in airport activity. Therefore, the runway length analysis will give consideration to aircraft greater than 12,500 pounds MTOW.

Using guidance in FAA A/C 150/5325-4A, *Runway Length Requirements* and *Airport Design Version 4.2D Program Mode*, inputs utilized to calculate runway length included: 1) airport elevation; 2) mean daily maximum temperature of the hottest month; and 3) the difference in runway centerline elevation.

The inputs were applied to the model and determined that the existing runway length is adequate to serve the aircraft currently operating at the airport. (See **Table 4-3**).

Runway width meets FAA design standards based on the ARC for B-II aircraft. No runway widening is necessary.

Table 4-3
RECOMMENDED RUNWAY LENGTHS

Airport elevation	2,222 feet
Mean daily temperature of the hottest month	97 degrees Fahrenheit
Maximum difference in runway centerline elevation	118 feet
Length of haul for airplanes of more than 60,000 lbs.	500 miles
Runway Condition	Dry runways
Small Airplanes	**Length in Feet**
Approach speeds less than 30 knots	370
Approach speeds less than 50 knots	980
Less than 10 passenger seats	
75% of these small planes	3,360
95% of these small planes	4,080
100% of these small planes	4,670
More than 10 passenger seats	4,840
Large Airplanes 60,000 lbs. or less	
75% of these large planes with 60% useful load	6,460
75% of these large planes with 90% useful load	8,890
100%of these large planes with 60% useful load	7,930
100%of these large planes with 90% useful load	11,010
Airplanes 60,000 lbs or more	5,790

Source: FAA A/C 150/5325-4A, *Runway Length Requirements*, and Airport Design Version 4.2D Program Mode

As shown in **Table 4-3**, the results of this analysis indicate the existing runway length is adequate to accommodate 100% of the existing and planned aircraft fleet at or below 12,500 pounds MTOW. The manufacturer specifications for the critical design aircraft, the Beechcraft King Air 200, requires a takeoff distance of 2,845 feet and a landing distance of 2,579 feet (at sea level).

The current useable runway length for Runway 8-26 of 4,955 feet is capable of accommodating 100 percent of small airplanes with less than 10 passenger seats. These typically consist of small single-engine aircraft, most pressurized twin-piston airplanes, and a vast majority of ARC B-II turbine aircraft. Small to medium-cabin business jets/twin engine piston aircraft in the ARC B-I and B-II categories operate with current runway length and some payload restrictions, while larger ones are even more load restricted.

Runway length requirements are not met for aircraft up to 60,000 pounds. If the Airport wanted to accommodate these aircraft, additional runway length would be needed.

Runway Protection Zone (RPZ) for Runway 26 is not protected by the Airport by an avigation easement or property ownership. An agreement between the City of Banning and the Morongo Band of Mission Indians is recommended.

4.03-4 Runway Pavement Strength

According to the pavement study conducted by LandMark Geo-Engineers and Geologists in November 2005, the existing pavement strength of Runway 8-26 is 40,000 pounds MTOW for single wheel landing gear and 60,000 pounds for dual wheel. The pavement strength exceeds the demands of the design aircraft and will not require any pavement strengthening.

4.03-5 Taxiways

As discussed in Chapter 2, there is a full parallel taxiway (Taxiway A) at Banning Municipal Airport. The primary benefit of this taxiway is that is improves the safety of the airport by allowing safe access and circulation of aircraft off the runway by preventing back taxiing.

Taxiway A is currently 200 feet from the runway centerline which does not meet the minimum separation requirements between the runway centerline and parallel taxiway centerline. The taxiway needs to be relocated to the FAA design standard separation distance of 240 feet.

Although a pavement study was conducted for the Airport, there was no information on the existing pavement strength for the taxiways.

Taxilanes provide access to aircraft parking areas, fueling areas, and hangars. Taxilane wingtip clearance for Design Group II is 18 feet and taxilane object free area width is 115 feet. There are no markings for taxilanes at Banning Municipal Airport and it is recommended that markings be added for safe movement on the airfield.

4.03-6 Helicopter Facilities

Helicopter facilities at Banning Municipal Airport are primarily used by Mercy Air. As previously discussed in Chapter 2, the helicopter pad is only marked with a yellow circle to indicate a parking location for the helicopter. It is recommended that the helicopter facility be marked according to the FAA guidelines for the touch down and lift-off (TLOF) area and the parking position identification as discussed in Chapter 2.

4.03-7 Navigational Aids

Existing navigational Aids (NAVAIDS) at the Airport were discussed in Chapter 2. Recommended changes to the NAVAIDS are discussed below. Although NAVAIDS may be considered in good condition, it is recommended to establish a schedule for inspecting and updating existing equipment.

- The segmented circle is recommended to be replaced.

- The wind cone needs to be relocated to a location east of its current location. It must be located near the runway end so that pilots have an unobstructed view during either

landing or takeoff operations, no closer than 250 feet from the runway centerline, and at least 500 feet from the runway end but not farther than 1500 feet, and can not penetrate the obstacle free zone (OFZ). The preferred location is on the left side; however this location is not available at Banning.

- Taxiway lighting is recommended to be installed for the entire parallel taxiway to increase visibility for safe operations.

- Taxilane centerline markings are recommended for safe aircraft movement around the Airport.

- Runway end identifier lights (REIL) aid in early identification of the runway and runway end. They are more beneficial in areas having a large concentration of lights and in areas of featureless terrain. These lights must be installed where there is only a circling approach or a circling and non-precision straight-in approach. REILs provide two flashing white lights near the end of the runway. Optimum location of the lights is 40 feet from the runway edge and in line with the existing runway threshold lights.

- REILS are not used at Banning Municipal Airport; however, they are recommended for both runway ends based on the circling and non-precision approach along with the featureless terrain.

4.03-8 Airside Drainage

As discussed in Chapter 2, airside drainage has been addressed via the catch basin. Drainage patterns will need to be considered prior to additional airside development.

4.04 Landside Facilities

The planning of landside facilities should be based upon a balance of airside and landside capacity. The determination for terminal and support area facilities has been accomplished for the three future planning periods. The principal operating elements covered under these analyses for general aviation requirements include:

- Terminal Building
- Aircraft Parking Apron
- Aircraft Storage
- Landside Drainage
- Other Buildings
- Fuel Facilities
- Automobile Parking
- Airport Fencing and Security
- Infrastructure/ Utilities

4.04-1 Terminal Building

A general aviation terminal is needed to provide space for management offices, lounge areas, restrooms, food services, and other areas for the needs of pilots and passengers. The FAA has devised an approach for calculating general aviation terminal requirements that uses operational peaking characteristics to determine size of terminal areas. The method relates general aviation peak hour pilots and passengers to the functional areas within the terminal to produce overall building size. **Table 4-4** shows the standard square footage requirement per passenger.

The existing general aviation terminal building houses the administrative offices, a pilot's lounge area, and restrooms. The building has an area of approximately 1,200 square feet. The existing terminal building exceeds both the short-term and long-term requirement of 500 square feet. As a result no additional terminal space will be required. However, during the planning period, the facilities which are in fair condition will need to be renovated. Areas to be refurbished include paint and upgrade of the exterior, paint and upgrade of the interior, replacing furniture in the pilots' lounge, and upgrade of administrative offices.

Table 4-4
GENERAL AVIATION BUILDING AREA REQUIREMENTS

Functional Area	Area Per Peak Hour Pilot/Passenger
Waiting Lounge	15.0 SF
FBO Operations	3.0 SF
Public Conveniences	2.0 SF
Concession Area	5.0 SF
Circulation, Storage, HVAC	25.0 SF
TOTAL	**50.0 SF-per Pilot/Passenger**

Source: FAA Advisory Circular 150/5300-13

Using the standards in **Table 4-4**, the recommended general aviation terminal function size for each design year is presented in **Table 4-5**. Numbers of peak hour passengers shown in the table were derived by assuming 2.5 passengers and pilots per general aviation design hour operation.

Table 4-5
GENERAL AVIATION TERMINAL BUILDING REQUIREMENTS

Year	Design Hr Ops	Peak Hour Pilots/PAX	Terminal Size
2011	4	10	500 SF
2016	4	10	500 SF
2026	4	10	500 SF

Source: C&S Engineers, Inc.

4.04-2 Apron Area

The aircraft apron area is used for based and itinerant aircraft parking. The needed apron areas are estimated and presented in the following sections. Currently, apron area available for parking aircraft at the Airport is approximately 6,514 square yards which meets the apron demand for both based and itinerant aircraft.

The existing apron area is not striped for tiedown locations. The purpose of a tiedown layout is to park the maximum number of airplanes while satisfying taxilane object free area width criteria. It is recommended that, in addition to the existing tiedown chains, tiedown locations be marked.

Based Aircraft Apron

Apron areas for based airplanes should be separate from the transient airplanes. The area needed for parking based airplanes should be smaller per airplane than for transient. This is due to knowledge of the specific type of based airplanes and closer clearance allowed between airplanes. An area of 300 square yards per airplane is considered adequate for all single engine and light twin engine airplanes.

The based aircraft parking area is planned to ensure adequate tie-down space for those based aircraft that do not require hangar storage. Currently, about 10% of the aircraft at Banning Municipal Airport are tied down. **Table 4-6** lists the apron requirements for based aircraft.

Table 4-6
BASED AIRCRAFT APRON REQUIREMENTS (Square Yards)

Year	Based Aircraft	Tied Down on Apron	Required Apron*
2011	58	6	1,800 SY
2016	60	6	1,800 SY
2026	67	7	2,100 SY

Source: C&S Engineers, Inc.
*Based on 300 sy per aircraft

Itinerant Parking Apron

Areas designated for the parking of transient (visiting) aircraft are called "itinerant aprons." The itinerant apron areas are also used by based aircraft for loading, fuel, and other activities. The size of such an apron required to meet itinerant demand was estimated in accordance with AC 150/5300-13, *Appendix 5, Small Airport Buildings, Airplane Parking, and Tiedowns.*

- Calculate the average daily operations for the most active month.
- Assume that a busy day at Banning Municipal Airport is 10 percent busier than the average day.
- Allow an area of 360 square yards per transient airplane.
- Based on the FAA Airport Master Record Form 5010 and historical information, the local/itinerant operations ratio is 30/70.

Applying this approach to the general aviation itinerant operations forecast yields the demand for apron area shown in **Table 4-7**.

Table 4-7
ITINERANT AIRCRAFT APRON REQUIREMENTS (Square Yards)

Year	Busy Day Ops	Transient A/C on Apron	Required Apron
2011	35	13	4,680 SY
2016	37	13	4,680 SY
2026	41	15	5,400 SY

Source: C&S Engineers, Inc.

4.04-3 Aircraft Storage

Hangar requirements for a general aviation facility are a function of the number of based aircraft, the type of aircraft to be accommodated, owner preferences, and area climate. Aircraft storage rental fees should be periodically reassessed for competitive and profitable rates. It is recommended that the Airport conduct inspections of the Airport hangars and assess of the lease agreements annually.

Prefabricated conventional, plane-port, and T-hangar units are available from a variety of manufacturers throughout the nation. Storage space for based aircraft was determined using guidelines suggested in manufacturers' literature. Typical aircraft sizes were also reviewed in light of the evolution of business aircraft size.

Conventional hangar space was based upon a standard of 1,200 square feet for a single-engine aircraft and 1,400 square feet for a multi-engine piston aircraft. A standard of 1,400 square feet per T-hangar or plane-port unit was used in calculating area requirements.

These hangar areas were then applied to the based aircraft forecasts to determine the actual hangar area requirements for each hangar type. Tie-down space was allocated as part of the itinerant airport apron area and was previously discussed in this chapter. The following assumptions were made regarding the type of hangar needed for each type of aircraft:

Percent of Aircraft Type	Type of Storage
70% of Multi-Engine Piston	Conventional Hangar
20% of Multi-Engine Piston	T-Hangar
10% of Multi-Engine Piston	Parking Apron
30% of Single-Engine Piston	Conventional Hangar
60% of Single-Engine Piston	T-Hangar
10% of Single-Engine Piston	Parking Apron

Using the above assumptions combined with the forecast of fleet mix (Chapter 3), **Table 4-8** sets forth the demand requirements for hangar space at Banning Municipal Airport. It should be noted that these recommendations are not rigid. For example, the shifting of space requirements between conventional and T-hangars is left to local preference.

Table 4-8
HANGAR AREA DEMAND (SQUARE FEET)

Item	Existing	2011	2016	2026
Conventional				
Single-engine piston	-	20,400 SF	20,400 SF	24,000 SF
Multi-engine piston	-	1,400 SF	1,400 SF	1,400 SF
SUBTOTAL	**10,115 SF**	**21,800 SF**	**21,800 SF**	**25,400 SF**
T-Hangar				
Single-engine	-	47,600 SF	49,000 SF	54,600 SF
SUBTOTAL	**66,103 SF**	**47,600 SF**	**49,000 SF**	**54,600 SF**
GRAND TOTAL	**76,218 SF**	**69,400 SF**	**70,800 SF**	**80,000 SF**

Source: C&S Engineers, Inc.
Note: Rotorcraft and experimental aircraft were calculated as single engine aircraft.

4.04-4 Landside Drainage

As discussed in Chapter 2, drainage problems during periods of rain have been mentioned by the City of Banning. The airfield and terminal design should be planned to utilize existing drainage patterns and avoid increasing storm-water runoff onto adjacent properties and areas that include aircraft parking aprons and aircraft storage areas.

4.04-5 Other Buildings

Buildings not owned by the City of Banning are included in this section. As mentioned in Chapter 2, the Mercy Air Building and the private building, #10, within the airport fence is in fair condition.

According to the program director of Mercy Air, they intend to continue their operations long-term at Banning Municipal Airport. The current condition of their mobile facility is fair and a permanent facility would be recommended.

Building #10 should be acquired and removed due to obstruction issues as discussed in Chapter 2.

The Banning Police Department has expressed interest in the use of Banning Municipal Airport. They intend to develop a Banning Police Department Air Support Unit (BPASU). They have short term and long term plans for their operations at the Airport.

Within the next two years, the short term plan would consist of volunteer FAA certificated pilots who will donate their personal time and aircraft to transport Banning Police Officers to various locations within the California, Arizona, and Nevada region for investigative purposes, air rescue, and for departmental-approved meetings and conferences. Facilities required for this operation will include a hangar with office space capable of communications: phone, fax, police radio, and computer. These facilities would need to be constructed for the BPASU.

Long range plan includes the purchase on an aircraft, helicopter or airplane, which will continue to be flown by volunteer pilots and maintained by volunteer FAA certificated airframe and powerplant mechanics and or inspectors.

Based on Banning Police Department's interest in a facility to operate the Banning Police Department Air Support Unit., a permanent facility to incorporate their needs should be constructed.

4.04-6 Fuel Facilities, Services

Support facilities at Banning Municipal Airport are currently limited to a fuel station providing 100LL aviation fuel. As operations of high performance aircraft increase, it is recommended to make Jet-A fuel available at the Airport.

As discussed in Chapter 2, availability of 100 LL fuel is approximately 25,000 gallons annually. The Airport may consider adding additional capacity of 100 LL to accommodate projected demand. Further, the airport currently does not provide Jet A fuel. Consideration should be given to providing Jet A fuel as this is the preferred type of fuel utilized by various types of turbo prop aircraft and corporate jets.

Chapter 2 discusses the services an FBO can provide to an airport to generate income by increasing the Airport's usage and additional tenant fees. It is recommended that the City of Banning consider attracting an FBO to operate from Banning Municipal Airport.

4.04-7 Automobile Parking

The number of auto spaces required at an airport is also dependent upon the level of general aviation aircraft activity at the facility. The methodology for determining parking needs relates peak hour pilots, passengers, and airport employees to the number of parking spaces required. Numbers of peak hour pilots and passengers were previously derived for the general aviation terminal building requirements.

The number of employees relating to the general aviation function of an airport such as Banning Municipal Airport is estimated and forecast to remain at one employee for all based aircraft. The number of auto parking spaces equaled the sum of the peak hour pilots/passengers and employees at the Airport. This number was converted into paved area by using a standard of 40 square yards per vehicle space (**Table 4-9**).

Table 4-9
AUTO PARKING AREA REQUIREMENTS

Year	Peak Hour Pilots/PAX	Airport Employees	Total Parking Spaces	Area (SY)
2011	10	1	11	440
2016	10	1	11	440
2026	10	1	11	440

Source: C&S Engineers, Inc.

Although parking spaces are considered adequate in number, the location of parking facilities is not adequate. As discussed in Chapter 2, parking facilities are needed for the north airport facilities and for tenants who hangar aircraft in the T-hangars.

4.04-8 Aircraft Rescue & Firefighting Facilities (ARFF)

As discussed in Chapter 2, Banning Municipal Airport does not have scheduled commuter service and is not a FAR Part 139 certificated airport and as a result does not require ARRF facilities. If the Airport has an emergency, 911 and the airport manager are to be called.

It is recommended that the Airport develop an Airport Emergency Plan in accordance with Advisory Circular 150/5200-31A.

4.04-9 Airport Fencing and Security

Perimeter fencing, gates, and terminal fencing between the airport property and the public areas exist to discourage access of people and wildlife to runways and taxiways. For general aviation airports, the specific location, type, and height normally depend upon local security requirements and fencing established by adjacent property owners; otherwise, the fence line is usually situated along the property line.

It is recommended that the Airport develop an Airport Security Manual in accordance with Transportation Security Administration's Information Publication, "*Security Guidelines for General Aviation Airports*."

4.04-10 Infrastructure/ Utilities

Airport utilities and roadways meet facility demands as discussed in Chapter 2.

4.05 Airside and Landside Facility Requirements Summary

The preceding sections have identified the general aviation facility requirements for Banning Municipal Airport. **Table 4-10** (airside) and **Table 4-11** (landside) summarizes the requirements by planning phase and area of need by comparing existing facilities to total airport demand for each period.

Table 4-10
AIRSIDE FACILITY REQUIREMENTS SUMMARY

Airport Component	Existing (2006)	Phase 1 (2007-2011)	Phase 2 (2012-2016)	Phase 3 (2017-2026)
RUNWAY 8-26				
Runway Length/Width	4,955' X 100'	4,955' X 100'	4,955' X 100'	4,955' X 100'
Runway Strength	40,000 lbs. (sw) 60,000 lbs (dw)	40,000 lbs. (sw) 60,000 lbs (dw)	40,000 lbs. (sw) 60,000 lbs (dw)	TBD
Runway Marking	Visual	NPI: 1-Mile	NPI: 1-mile	NPI: 1-mile
Runway Lights	MIRL	MIRL-Upgrade/Update	MIRL	MIRL
Visual Guidance	PAPI (Rwy 26)	VASI or PAPI	PAPI (Rwy 26) REIL (Rwy 8-26) VASI or PAPI (Rwy 8)	PAPI (Rwy 26) REIL (Rwy 8-26) VASI or PAPI (Rwy 8)
TAXIWAY SYSTEM				
Taxiway Types	A (full parallel & connectors), B (connectors)	Upgrade pavement if necessary	Connectors to new developments	Connectors to new developments
Taxiway Lighting	MITL/ reflectors	MITL	MITL	MITL
Taxiway Marking	Per FAA standards	Per FAA standards	Per FAA standards	Per FAA standards
NAVIGATION AIDS				
VOR	Rwy 8; Rwy 26	Rwy 8; Rwy 26	Rwy 8; Rwy 26	Rwy 8; Rwy 26
GPS	None	NPI GPS- 1 mile (Rwy 26)	NPI GPS- 1 mile (Rwy 26)	VOR/LOC GPS/ILS
Rotating Beacon	Operational	Evaluate condition	Evaluate condition	Evaluate condition
Tetrahedron/Wind Cone	Operational	Evaluate condition/Relocate	Evaluate condition/Relocate	Evaluate condition
OTHER				
Airfield Signage	Functional	Functional	Install new; upgrade	Install new; upgrade
Fencing	Maintain/upgrade	Maintain/upgrade	Maintain/upgrade	Maintain/upgrade
Land Acquisition	N/A	Fee simple property in RPZ & future expansion	Fee simple property in RPZ & future expansion	Fee simple property in RPZ & future expansion

Source: C&S Engineers, Inc.

Table 4-11
LANDSIDE FACILITY REQUIREMENTS SUMMARY

Airport Component	Existing (2006)	Phase 1 (2007-2011)	Phase 2 (2012-2016)	Phase 3 (2017-2026)
TERMINAL/FBO FACILITY	1,200 SF	500	500	500
AIRCRAFT HANGARS (SF):				
T-Hangars	66,103 SF	47,600 SF	49,000 SF	54,600 SF
Conventional	10,115 SF	21,800 SF	21,800 SF	25,400 SF
Total:	76,218 SF	69,400 SF	70,800 SF	80,000 SF
AIRCRAFT APRON (SY)				
Itinerant	6,514 SY	4,680 SY	4,680 SY	5,400 SY
Based	Shared w/Itinerant	1,800 SY	1,800 SY	2,100 SY
AUTO PARKING SPACES				
General Aviation Spaces	13	11	11	11
Area (square yards)	556 SY	440 SY	440 SY	440 SY
FUEL FLOWAGE				
100LL (gallons)	25,000 (annually)	28,038	29,005	32,388

Source: C&S Engineers, Inc.

CHAPTER 5 - ENVIRONMENTAL OVERVIEW

An environmental overview has two objectives:

1. To describe the existing environmental conditions at an airport and its surrounding communities, and

2. To identify environmentally sensitive areas that may require special management, conservation, and/or preservation during the planning, design, or construction phases of any proposed airport development project.

FAA Order 1050.1E, *Environmental Impacts: Policies and Procedures*, updates the FAA agency-wide policies and procedures for compliance with the National Environmental Policy Act (NEPA) and implements regulations issued by the Council on Environmental Quality (40 CFR parts 1500-1508). Where FAA Order 1050.1E is silent, FAA Order 5050.4B, *NEPA Implementing Instructions for Airport Actions,* also provides guidance.

The California Environmental Quality Act (CEQA) provides guidance at the state level, as described in the CEQA *Guidelines.*

Among the various existing resources, the City of Banning *General Plan* (2006) provides considerable background information abut the Airport, the adjacent site, and environmental resources.

5.01 Land Impact Categories

5.01-1 Farmland

The Farmland Protection Policy Act (FPPA) regulates federal actions with the potential to convert farmland to non-agricultural use. To be protected under the FPPA, the land must be either "prime farmland" that is not committed to urban development or water storage, unique farmland, or farmland that is of state of local significance. The CEQA *Guidelines* provide similar guidance at the state level.

According to information provided by the California Department of Conservation (2002), there are no prime, unique, or state or locally important farmlands in the vicinity of the Airport.

5.01-2 Compatible Land Use

The compatibility of existing and planned land uses in the vicinity of an airport is usually associated with the extent of the airport's noise impacts. The significance threshold in FAA Order 5050.4B, *NEPA Implementing Instructions for Airport Actions* for determining whether a land use compatibility impact is significant refers to the

significance threshold for noise. Examples of activities that can alter aviation-related noise impacts and affect land uses subjected to those impacts include airport development actions to accommodate fleet mix changes or the number of aircraft operations, air traffic changes, or new approaches made possible by new navigational aids.

Generally, if there are no noise impacts, a similar conclusion may be drawn with respect to compatible land use. However, if a proposed development has other impacts with land use ramifications, the effects on land use may be analyzed in that context and cross-referenced to the Compatible Land Use section to avoid duplication. The CEQA *Guidelines* defines land use impact base on the degree of conflict with any applicable land use plan, policy, or regulations of an agency with jurisdiction over the project.

Noise sensitive areas include residential, educational, health, religious structures and sites, and parks, recreational areas (including areas with wilderness characteristics), wildlife refuges, and cultural and historical sites. Table 5-1 defines those areas in a community that are sensitive to noise or compatible to noise within certain proximity to aircraft operations. Compatible versus non-compatible land use is based on a yearly Day Night Level (DNL) in decibels.

Land Use Designations

Land use surrounding the Airport is generally consistent with the operations at the Airport. According to the City's *General Plan* (Exhibit III-2), the Airport is designated as *Public Facilities – Airport*, land immediately to the north and west is designated *Airport Industrial*, and land immediately to the south is designated as *Industrial*. The City's proposed land use designations are shown in Figure 5-1 (*General Plan*, Exhibit III-2) and the applicable land use designations and their abbreviations (*General Plan*, pages III-7 and III-8) are described below:

- *Industrial (I)* – Includes industrial parks and freestanding industrial users. Examples include light and medium intensity manufacturing operations, warehousing and distribution, mini-storage, and associated offices. Commercial recreation facilities are also appropriate. Auto storage and repair is also allowed. Ancillary retail may also be appropriate.

- *Airport Industrial (AI)* – Land uses must be focused on airport-related and transportation-related functions, including machining, manufacturing, warehousing, flight schools, restaurants, and office uses. Aircraft maintenance, repair, and catering services are also appropriate.

- *Public Facilities – Airport (PF-A)* – Land uses are specifically related to airport operations: administration offices, hangars, tie-downs, runways, restaurants, and flight schools. Ancillary retail and service business relating to the airport are appropriate.

Table 5-1
LAND USE COMPATIBILITY* WITH YEARLY DAY-NIGHT AVERAGE SOUND LEVELS

Land Use	Yearly day-night average sound level (Ldn) in decibels					
	Below 65	65-70	70-75	75-80	80-85	Over 85
Residential						
Residential, other than mobile homes and transient lodgings	Y	N(1)	N(1)	N	N	N
Mobile home parks	Y	N	N	N	N	N
Transient lodgings	Y	N(1)	N(1)	N(1)	N	N
Public Use						
Schools	Y	N(1)	N(1)	N	N	N
Hospitals and nursing homes	Y	25	30	N	N	N
Churches, auditoriums, and concert halls	Y	25	30	N	N	N
Governmental services	Y	Y	25	30	N	N
Transportation	Y	Y	Y(2)	Y(3)	Y(4)	Y(4)
Parking	Y	Y	Y(2)	Y(3)	Y(4)	N
Commercial Use						
Offices, business and professional	Y	Y	25	30	N	N
Wholesale and retail-building materials, hardware and farm equipment	Y	Y	Y(2)	Y(3)	Y(4)	N
Retail trade-general	Y	Y	25	30	N	N
Utilities	Y	Y	Y(2)	Y(3)	Y(4)	N
Communication	Y	Y	25	30	N	N
Manufacturing and Production						
Manufacturing, general	Y	Y	Y(2)	Y(3)	Y(4)	N
Photographic and optical	Y	Y	25	30	N	N
Agriculture (except livestock) and forestry	Y	Y(6)	Y(7)	Y(8)	Y(8)	Y(8)
Livestock farming and breeding	Y	Y(6)	Y(7)	N	N	N
Mining and fishing, resource production and extraction	Y	Y	Y	Y	Y	Y
Recreational						
Outdoor sports arena and spectator sports	Y	Y(5)	Y(5)	N	N	N
Outdoor music shells, amphitheaters	Y	N	N	N	N	N
Nature exhibits and zoos	Y	Y	N	N	N	N
Amusements, parks, resorts and camps	Y	Y	Y	N	N	N
Golf courses, riding stable and water recreation	Y	Y	25	30	N	N

* The designations contained in this table do not constitute a Federal determination that any use of land covered by the program is acceptable or unacceptable under Federal, State, or local law. The responsibility for determining the acceptable and permissible land uses and the relationship between specific properties and specific noise contours rests with the local authorities. FAA determinations under part 150 are not intended to substitute federally determined land uses for those determined to be appropriate by local authorities in response to locally determined needs and values in achieving noise compatible land uses.

SLUCM=Standard Land Use Coding Manual.
Y (Yes) =Land Use and related structures compatible without restrictions.
N (No) =Land Use and related structures are not compatible and should be prohibited.

NLR=Noise Level Reduction (outdoor to indoor) to be achieved through incorporation of noise attenuation into the design and construction of the structure.
25, 30, or 35=Land use and related structures generally compatible; measures to achieve NLR of 25, 30, or 35 dB must be incorporated into design and construction of structure.

(1) Where the community determines that residential or school uses must be allowed, measures to achieve outdoor to indoor Noise Level Reduction (NLR) of at least 25 dB and 30 dB should be incorporated into building codes and be considered in individual approvals. Normal residential construction can be expected to provide a NLR of 20 dB, thus, the reduction requirements are often stated as 5, 10 or 15 dB over standard construction and normally assume mechanical ventilation and closed windows year round. However, the use of NLR criteria will not eliminate outdoor noise problems.
(2) Measures to achieve NLR 25 dB must be incorporated into the design and construction of portions of these buildings where the public is received, office areas, noise sensitive areas or where the normal noise level is low.
(3) Measures to achieve NLR of 30 dB must be incorporated into the design and construction of portions of these buildings where the public is received, office areas, noise sensitive areas or where the normal noise level is low.
(4) Measures to achieve NLR 35 dB must be incorporated into the design and construction of portions of these buildings where the public is received, office areas, noise sensitive areas or where the normal level is low.
(5) Land use compatible provided special sound reinforcement systems are installed.
(6) Residential buildings require an NLR of 25.
(7) Residential buildings require an NLR of 30.
(8) Residential buildings not permitted.

_____
Source: Federal Aviation Regulations, Part 150

Existing and Potential Land Use

As of 2004, Airport facilities consisted of a runway that is 4,955 feet long and 100 feet wide, 65 T-hangars, four conventional hangars, and 32 parking tie-downs owned by the City, located primarily on the south side of the runway. There also is a privately-owned facility that is partitioned into 10 bays located in the northwestern section of the Airport. The City owns the land to about 1,800 feet west of the runway, which satisfies the FAA requirement of a 1,000-foot long Runway Protection Zone (RPZ). Most of the area within the RPZ off the east end of the runway is owned by the Morongo Band of Mission Indians, who have indicated a willingness to protect the area, and have also expressed an interest in the future development of the Airport and supporting infrastructure (*General Plan*, page III-38).

The Airport and surrounding lands represent one of the two areas within the City where industrial development has traditionally occurred (*General Plan*, page III-18). Land in the immediate area is undeveloped or sparsely developed in a manner generally consistent with the land use designations. Land to the north and west of the Airport is undeveloped and has a *General Plan* land use designation of Airport Industrial. These lands are owned by private parties, the City, Riverside County, and the Morongo Band of Mission Indians. The City also has conferred with the Morongo Band of Mission Indians regarding potential joint venture opportunities (*General Plan*, page III-38).

According to the *General Plan* (Table III-4), about one-half of the Airport (approximately 144.4 acres) is developed and the City has identified the potential opportunity to capitalize on the Airport to attract tourism and business to the City. The City also plans to release a 20-acre site adjacent to the Airport to a private party for development as a drag strip. The site is located immediately south of the Airport and designated *Industrial*. A similar, somewhat larger, proposal (referred to as "Mopar Drag City") is discussed in the *General Plan* in the context of economic development. According to the *General Plan* (page III-40), the proposed quarter-mile track would have the potential to attract related high-performance industries as well as event visitors.

5.01-3 Fish, Wildlife, and Plants

FAA Order 1050.1E, *Environmental Impacts: Policies and Procedures*, lists numerous requirements related to the protection of fish, wildlife, and plant populations as well as their respective habitats. Key among them is Section 7 of the federal Endangered Species Act (FESA), which applies to federal agency actions and sets for requirements for consultation to determine if the proposed action "may affect" an endangered or threatened species. If an agency, such as the FAA, determines that an action "may affect" a threatened or endangered species, then it must consult with the U.S. Fish and Wildlife Service (USFWS) or the National Marine Fisheries Service (NMFS) to ensure that their action is not likely to jeopardize the continued existence of any federally listed

endangered or threatened species or result in the destruction or adverse modification of critical habitat.

The California Endangered Species Act (CESA) provides similar protection. Among the considerations specified in the CEQA *Guidelines*, are requirements to evaluate project effects on special status species and to determine whether a project would interfere substantially with the movement of any native resident or migratory fish or wildlife species. Where the project would adversely affect special status species, CEQA requires coordination with the California Department of Fish and Game (CDFG) to identify methods to avoid, reduce, or mitigate project impacts. CEQA *Guidelines* also requires evaluation of project consistency with any Habitat Conservation Plan (HCP), Natural Community Conservation Plan, or other approved local, regional, or state conservation plans.

Currently, there are no habitat conservation plans approved for the area. However, the Airport falls within the boundaries of the regional Western Riverside County Multiple Species Habitat Conservation Plan (MSHCP or Plan). The MSHCP allows participating jurisdictions to authorize "Take" of plant and wildlife species identified within the Plan Area. The Airport is covered under the Plan's Section 10(a)(1)(B) Incidental Take Permit as long as the Airport's projects and activities do not conflict with the Plan's goals and policies.

Existing Biological Conditions

An ESA biologist visited the site on 6 February 2006 and those findings are summarized here.

Vegetation and Habitat

Vegetation mostly consists of low lying ruderal vegetation with a few areas of shrub habitat along the southeastern fence line and along the north side of the runway (Figure 5-2). West of the runway is a large open area with scattered ground cover of filaree (*Erodium circutarium*), jimson weed (*Datura wrightii*), and annual grasses. This area is mowed regularly and has limited value for wildlife and sensitive plant species. The shrub habitat to the north and along the fence is dominated by Russian thistle (*Salsola tragus*), with scale broom (*Lepidospartum squamatum*) and deer broom

Figure 5-2 Shrub/grassland habitat at Airport

(*Lotus scoparius*) scattered in between, and annual grasses as ground cover. Two mature trees are located in the far northeast part of the site.

Wildlife

Red-tailed hawks (*Buteo jamaicensis*) regularly nest in the two mature trees (Randy Testman, personal communication; 2006). Other species observed during the site visit include desert cottontail (*Sylvilagus audubonii*), western meadow lark (*Sturnella neglecta*), house sparrow (*Passer domesticus*), starling (*Sturnus vulgaris*), western fence lizard (*Sceloporus occidentalis*), and an unidentified sparrow. Other evidence of wildlife observed included rabbit pellets, an owl feather, small gopher burrows, a few ground squirrel (*Spermophilus beecheyi*) burrows in rock piles near the north boundary, and coyote (*Canis latrans*) scat. Only one special status species was observed, a loggerhead shrike (*Lanius ludovicianus*), perching on the south boundary fence near scale broom shrubs.

A local resident and pilot also provided additional wildlife sighting information (Randy Testman, personal communication; 2006), including evidence of mountain lion (*Felis concolor*) on Airport property. Mountain lion tracks have been seen along buildings on the northern portion of the Airport and a dead feral pig, partially covered with dirt, suggesting a mountain lion kill, was discovered in the shrubs along the southern fence. In December 2005, a mountain lion was sighted running along the northern edge of the property. It is likely the mountain lion accesses the property through a culvert under I-10, as it moves between and the San Bernardino Mountains to the north and the San Jacinto Mountains to the south. Additional wildlife reported by locals include feral dog (*Canis familiaris*), feral pig (*Sus scrofa*), and occasionally white-tailed kite (*Elanus leucurus*).

Endangered, Threatened, and Special Status Species

There are six endangered or threatened species with the potential to occur on or near the Airport identified by California Natural Diversity Database ([CNDDB], 2006), California Native Plant Society ([CNPS], 2005), or other biological information for the area. These species are mountain yellow-legged frog (*Rana muscosa*), southwestern willow flycatcher (*Empidonax traillii extimus*), Stephens' kangaroo rat (*Dipodomys stephensi*), San Bernardino kangaroo rat (*Dipodomys merriami parvus*), Mojave tarplant (*Deinandra mohavensis*), and slender-horned spineflower (*Dodecahema leptoceras*). Presence of any endangered or threatened species that could potentially be impacted by the proposal would require consultation with wildlife agencies.

Several other species of conservation concern, with varying levels of protection, are known to occur or could potentially occur on the Airport. The presence, or likely presence, of these species is discussed above. These include:

- Loggerhead shrike, a California Species of Concern;

- Red-tailed hawk, a raptor protected under the Migratory Bird Treaty Act and CDFG Code Section 3503.5; and

- Mountain lion, a California Fully Protected Species (CDFG Code Section 4700).

The culvert under I-10 near the Airport provides a safe wildlife crossing between the San Bernardino Mountains to the north and the hills leading into the San Jacinto Mountains to the south. Airport development would need to consider and address this wildlife movement area.

Table 5-2 identifies special status species; those listed or proposed for listing, and summarize their habitat requirements and potential to occur in the Airport area.

Table 5-2
SPECIAL STATUS SPECIES REPORTED OR POTENTIALLY OCCURRING IN THE BANNING MUNICIPAL AIRPORT PROJECT AREA

Common name *Scientific name*	Listing Status USFWS/ CDFG/CNPS	Habitat Requirements	Potential to Occur
SPECIES LISTED OR PROPOSED FOR LISTING			
Amphibians			
Mountain yellow-legged frog *Rana muscosa*	FE/CSC	In or near high mountain rivers, riverbanks, meadow streams, isolated pools, and lake borders in the Sierra Nevada and rocky stream courses in the mountains of s. CA	**Low.** No suitable streams on site.
Birds			
Southwestern willow flycatcher *Empidonax traillii extimus*	FE/--	Nests in riparian woodlands, but also found in low, brushy areas, especially near water.	**Low.** No suitable habitat on site.
Mammals			
San Bernadino kangaroo rat *Dipodomys merriami parvus*	FE/--	Prefers early to intermediate seral stages in alluvial scrub vegetation on sandy loam substrates typical of alluvial fans and flood plains	**Low/Moderate.** Marginal habitat on site.
Stephens' kangaroo rat *Dipodomys stephensi*	FE/CT	Prefers buckwheat, chamise, brome grass & filaree, but also occurs in coastal scrub & sagebrush with sparse canopy cover	**Low/Moderate.** Marginal habitat on site.
Plants			
Mojave tarplant *Deinandra mohavensis*	--/CE/List 1B	Riparian scrub, chaparral	**Low.** No suitable habitat on site.
Slender-horned spineflower *Dodecahema leptoceras*	FE/CE/List 1B	Chaparral, coastal scrub	**Low.** No suitable habitat on site.
FEDERAL OR STATE SPECIES OF SPECIAL CONCERN			
Amphibians			
Western spadefoot toad *Spea hammondii*	FSC/CSC	Floodplains and grassland pools	**Low.** No suitable habitat on site.
Reptiles			
Orange-throated whiptail *Cnemidophorus hyperythrus*	FSC/CSC	Coastal scrub, chaparral, and valley-foothill hardwood habitats	**Low.** No suitable habitat on site.
Coastal western whiptail *Cnemidophorus tigris multiscutatus*	FSC/--	Open areas in desert, scrub and grassland habitat	**Moderate.** Suitable habitat on site.

Northern red-diamond rattlesnake *Crotalus ruber ruber*	FSC/CSC	Chaparral, woodland, grassland and desert areas	**Moderate.** Suitable habitat on site.
Coastal rosy boa *Charina trivirgata roseofusca*	FSC/CSC	Chaparral and scrub, prefers moderate to dense vegetation and rocky soils	**Moderate.** Suitable habitat on site.
San Bernadino ringneck snake *Diadophis punctatus modestus*	FSC/CSC	Most common in open, relatively rocky areas, often in moister microhabitats near intermittent streams	**Low/Moderate.** Marginal habitat on site.
San Diego mountain kingsnake *Lampropeltis zonata pulchra*	FSC/CSC	Restricted to the Santa Rosa and Santa Ana Mountains	**Low/Moderate.** Marginal habitat on site.
San Bernardino mountain kingsnake *Lampropeltis zonata parirubra*	--/CSC	Valley foothill woodland, riparian woodland, chaparral, wet meadows in the San Jacinto Mountains	**Low/Moderate.** Marginal habitat on site.
Coast horned lizard *Phrynosoma coronatum blainvillii*	FSC/CSC	Coastal sage scrub, annual grassland, oak woodland, riparian woodland, chaparral, and coniferous forest	**Moderate.** Suitable habitat on site.
Coast patch-nosed snake *Salvadora hexlepis virgultea*	--/CSC	Scrub, chaparral, washes, sandy flats, and rocky areas in Riverside County.	**Moderate.** Suitable habitat on site.
Two-striped garter snake *Thamnophis hammondii*	--/CSC	Highly aquatic, found in or near perennial streams, often those with rocky beds and well developed riparian vegetation	**Low.** No suitable habitat on site.
Birds			
Cooper's hawk *Accipiter cooperi*	--/CSC	Nests in riparian growths of deciduous trees and live oak woodlands	**Low.** (Nesting) No suitable nesting habitat. May forage on site.
Bell's sage sparrow *Amphispiza belli belli*	FSC/CSC	Prefer chaparral with fairly dense stands of chamise.	**Moderate.** Marginal habitat on site.
Golden eagle *Aquila chrysaetos*	CSC/3511	Open hills with grassland, open scrub, adequate prey base, large trees or cliffs for nesting	**Low.** (Nesting) No suitable nesting habitat. May forage on site.
Burrowing owl *Athene cunicularia hypugaea*	FSC/CSC	Nests in mammal burrows in open, sloping grasslands	**Low/Moderate.** (Nesting) Few suitable burrows on site or unsuitable shrub habitat.
Coastal cactus wren *Campylorhynchus brunneicapillus couesi*	**--/**CSC	Coastal sage scrub, require tall opuntia cactus for nesting	**Low.** No suitable habitat on site.
Northern harrier *Circus cyaneus*	--/CSC	Mostly nests in emergent vegetation, wet meadows or near rivers and lakes, but may nest in grasslands away from water.	**Low/Moderate (**Nesting) May nest in ruderal but high levels of disturbance make it unlikely. Suitable foraging habitat on site.
White-tailed kite *Elanus leucurus*	--/3511	Nests near wet meadows and open grasslands dense oak, willow or other large tree stands.	**Low.** (Nesting) No suitable nesting habitat. May forage on site.

California horned lark *Eremophila alpestris actia*	--/CSC	Short grass prairie, fallow grain fields, open areas with short vegetation	**Low/Moderate.** Marginal habitat with high levels of disturbance on site.
Loggerhead shrike *Lanius ludovicianus*	FSC/CSC	Nests in shrublands and forages in open grasslands	**Present.** Suitable shrub habitat for nesting. Observed during site visit.
Mammals			
Dulzura pocket mouse *Chaetodipus californicus femoralis*	--/CSC	Coastal scrub, chaparral & grassland, with grass-chaparral edges especially preferred	**Low/Moderate.** Marginal habitat on site.
Northwestern San Diego pocket mouse *Chaetodipus fallax fallax*	--/CSC	Sandy, herbaceous areas (often in association with rocks or coarse gravel) in coastal scrub, chaparral, grasslands, sagebrush	**Moderate.** Marginal habitat on site.
Pallid San Diego pocket mouse *Chaetodipus fallax pallidus*	--/CSC	Desert wash, desert scrub, desert succulent scrub, pinyon-juniper, etc. in eastern San Diego Co.	**Low/Moderate.** Marginal habitat on site.
San Diego black-tailed jackrabbit *Lepus californicus bennettii*	FSC/CSC	Coastal sage scub in intermediate canopy stages, open shrub habitats with herbaceous edges, or habitat with herbaceous and tree edges	**Moderate.** Patches of suitable habitat on site.
San Diego desert woodrat *Neotoma lepida intermedia*	FSC/CSC	A variety of habitat types with moderate to dense canopies and rock outcrops or rocky cliffs and slopes	**Moderate.** Suitable habitat on site.
Los Angeles pocket mouse *Perognathus longimembris brevinasus*	FSC/CSC	Desert washes, sagebrush, coastal sage scrub, and grasslands	**Low/Moderate.** Marginal habitat on site.
Palm Springs round-tailed ground squirrel *Spermophilus tereticaudus chlorus*	FC/CSC	Restricted to Coahella Valley, desert succulent scrub, desert wash, desert scrub, alkali scrub, levees	**Low.** Marginal habitat on site.
American badger *Taxidea taxus*	--/CSC	Drier, open stages of most shrub, forest, and herbaceous habitat types with friable soils	**Low/Moderate.** Marginal habitat on site.
Plants			
Yucaipa onion *Allium marvinii*	--/--/List 1B	Chaparral	**Low.** No suitable habitat on site. High levels of disturbance.
Plummer's mariposa lily *Calochortus plummerae*	--/--/List 1B	Coastal scrub, chaparral, valley and foothill grassland, cismontane woodland, lower coniferous forest	**Low.** No suitable habitat on site. High levels of disturbance.
Smooth tarplant *Centromadia pungens* ssp. *Laevis*	--/--/List1B	Often in disturbed sites near the coast amid marshes and margins of swamps, valley, foothill grassland & vernal pools	**Low.** No suitable habitat on site.
Parry's spineflower *Chorizanthe parryi ver. parryi*	--/--/List 3	Coastal scrub, chaparral	**Low.** No suitable habitat on site. High levels of disturbance.

White-bracted spineflower *Chorizanthe xanti var. leucotheca*	--/--/List1B	Mojave desert scrub, pinyon juniper woodland	**Low.** No suitable habitat on site.
Mesa horkelia *Horkelia cuneata* ssp. *puberula*	--/--/List 1B	Chaparral, cismontane woodland, coastal scrub from 70 to 810 meters	**Low.** No suitable habitat on site.
San Bernardino aster *Symphyotrichum defoliatum*	--/--/List1B	Meadows and seeps, marshes and swamps, coastal scrub, cismontane woodland, lower montane coniferous forest, grassland	**Low.** No suitable habitat on site.

STATUS CODES:

Federal Categories (U.S. Fish and Wildlife Service)

FE = Listed as Endangered by the Federal Government

FT = Listed as Threatened by the Federal Government

FPE = Proposed for Listing as Endangered

FPT = Proposed for Listing as Threatened

FC = Candidate for Federal Listing

FSC = Federal Species of Concern

FSLC = Federal Species of Local Concern

BPA = Federal Bald Eagle Protection Act

State Categories (California Department of Fish and Game)

CE = Listed as Endangered by the State of California

CT = Listed as Threatened by the State of California

CR = Listed as Rare by the State of California

California Native Plant Society (CNPS)

List 1A = Plants presumed extinct in California

List 1B = Plants rare, threatened, or endangered in California and elsewhere

List 2 = Plants rare, threatened, or endangered in CA

3511 = Fully Protected Species

* = Special Animals

CSC = California Species of Special Concern

5.01-4 Energy Supply and Natural Resources

Transportation-related energy is generally regulated at the federal level. In addition, FAA Order 1050.1E, *Environmental Impacts: Policies and Procedures*, notes that Executive Order 13123, *Greening the Government through Efficient Energy Management*, encourages each federal agency to expand the use of renewable energy within its facilities. The Executive Order also requires each federal agency to reduce petroleum use, total energy use, and associated air emissions, and water consumption at its facilities.

Building energy consumption is generally regulated at the state level. In California, building energy consumption is regulated under the *California Energy Code* (revised 2003) which is set forth in the *California Code of Regulations (CCR), Title 24, Part 6*. The efficiency standards apply to new construction of both residential and non-residential buildings, and regulate energy consumed for heating, cooling, ventilation, water heating,

and lighting. The building energy efficiency standards are enforced through the local building permit process.

Most of the Airport has been mapped as within an area that either has significant mineral deposits or where there is a high likelihood of their presence. The southwest corner of the Airport falls within an area where the status is less clear based on available data (*General Plan,* Exhibit IV-8). The mineral deposits are sand and gravel, or aggregate.

A natural gas pipeline traverses the southern edge of the Airport. Like much of the area, the Airport has the potential for renewable energy development due to the abundant sunshine and proximity to the San Gorgonio Wind Resource Area (*General Plan,* page IV-87). However, there is nothing about this site that would distinguish it for such use compared to other properties in the City of Banning.

Depending on the proposed project, the extent of impacts to the energy supply or natural resources will be determined prior to development. For example, if a project were to cause energy demand to greatly exceed the capacity of the utility infrastructure, or greatly increase fuel consumption, or use a natural resource that is in short supply, then an assessment of the impact to natural resources would be conducted.

5.01-5 Geology and Seismicity

FAA Order 1050.1E, *Environmental Impacts: Policies and Procedures,* does not require the examination of geology and seismicity impacts. However, the CEQA *Guidelines* require evaluation of such site conditions as the degree of seismic, liquefaction, landslide, or erosion potential. State and local regulations also provide protection of health and safety from geologic and seismic hazards. Government Code Section 65302 requires a safety element within a general plan to protect the community from geologic hazards, including an assessment of seismic hazards and recommendations to reduce adverse impacts associated with seismic events. The *California Building Code* has been codified in *CCR, Title 24, Part 2,* and includes significant building design criteria that have been tailored for California earthquake conditions.

As described in the *General Plan* (page V-2), the City of Banning is located at the junction of two distinct geomorphic/geologic boundaries. Banning is located at the boundary of two great tectonic plates, the North American Plate and the Pacific Plate. The San Andreas Fault forms the boundary for these tectonic plates. In addition, the City is located within two geomorphic provinces, each of which has unique physical characteristics – the Transverse Ranges Province and the Peninsular Ranges Province. The San Gorgonio Pass, which marks the boundary between these provinces, was created by tectonic forces and constitutes a down-dropped landmass filled with thick deposits of alluvium. The Airport is located within this area of alluvial deposits.

Geologic and seismic considerations will be addressed during the planning, design, and construction of specific projects at the Airport.

5.02 Water Impact Categories

5.02-1 Water Quality

The Clean Water Act (CWA) is the primary federal law regulating water quality in the U.S. and forms the basis for several state and local laws throughout the country. Its objective is to reduce or eliminate water pollution in the nation's rivers, streams, lakes, and coastal waters. The CWA prescribes the basic federal laws for regulating discharges of pollutants and sets minimum water quality standards for all surface waters in the U.S. At the federal level, the CWA is administered by the U.S. Environmental Protection Agency (EPA). At the state and regional levels, the CWA is administered and enforced by the State Water Resources Control Board (SWRCB) and the Regional Water Quality Control Boards (RWQCBs).

The City of Banning is underlain by a large subsurface aquifer known as the San Gorgonio Pass Subbasin, which is part of the Coachella Valley Groundwater Basin. The San Gorgonio Pass Subbasin is recharged naturally with runoff from the adjacent San Jacinto and San Bernardino Mountains (*General Plan*, page IV-2). The depth to groundwater in the vicinity of the Airport ranges from about 400 to over 500 feet (*General Plan*, page IV-4). The City owns and operates wells, reservoirs, and a distribution system to deliver domestic water (*General Plan*, page IV-5). There are no active City supply wells in the immediate vicinity of the Airport.

The blue line stream immediately north of the Airport boundary and the on-site seasonal drainage channels traverse from roughly west to east, draining into the San Gorgonio River east of the Airport and, ultimately, into the Whitewater River about ten miles downstream.

Specific development proposals would need to evaluate affects on groundwater and surface water quality. Any alteration to these drainage channels may result in the need to obtain a Streambed Alteration Agreement from the California Department of Fish and Game.

5.02-2 Wetlands

As summarized in FAA Order 1050.1E, *Environmental Impacts: Policies and Procedures,* wetlands are protected by the Clean Water Act; Executive Order 11990, *Protection of Wetlands;* and Department of Transportation (DOT) Order 5660.1A, *Preservation of the Nation's Wetlands.* Executive Order 11990 requires federal agencies to ensure their actions minimize the destruction, loss, or degradation of wetlands. It also assures the protection, preservation, and enhancement of the Nation's wetlands to the

fullest extent practicable during the planning, construction, funding, and operation of transportation facilities and projects. DOT Order 5660.1A sets forth DOT policy that transportation facilities should be planned, constructed, and operated to assure protection and enhancement of wetlands. The State's authority to regulate activities in wetlands and waters at the site resides primarily with the CDFG and the RWQCB.

Wetlands are areas that are inundated by surface or groundwater with a frequency sufficient to support, under normal conditions, vegetation or aquatic life that requires saturated or seasonally saturated soil for growth and reproduction. These ecologically productive habitats support a rich variety of both plant and animal life. Wetlands also provide many other functions, such as flood control, replenishment of water supplies, and water quality protection. The importance and sensitivity of wetlands have increased as a result of their widespread destruction to enable urban and agricultural development.

No jurisdictional wetland features were identified on Airport property during the reconnaissance survey. Therefore, future development would not require wetlands consultation or coordination with federal and state water regulatory agencies.

5.02-3 Floodplains

Executive Order 11988 was enacted in 1977 for the purpose of preventing federal agencies from contributing to the "adverse impacts associated with the occupancy and modification of floodplains" and the "direct or indirect support of floodplain development." Executive Order 11988 defines floodplains as "the lowland and relatively flat areas adjoining inland and coastal waters including flood prone areas of offshore islands, including at a minimum, the areas subject to a one percent or greater chance of flooding in any given year" (i.e., the area that would be inundated by a 100-year flood). Executive Order 11988 requires that federal agencies "take action to reduce the risk of flood loss, to minimize the impact of floods to human safety, health and welfare, and to restore and preserve the natural and beneficial values served by floodplains."

CEQA *Guidelines* require evaluation of activities that would alter the existing drainage pattern or rate of surface water runoff, such as by altering the course of a stream or increasing the rate or amount of surface runoff causing flooding on or off the site; create or contribute runoff water that that would exceed the capacity of existing or planned stormwater drainage systems; place structures within a 100-year flood hazard area that would impede or redirect flood flows; or expose people or structures to a risk of loss, injury, or death involving flooding.

The Airport property is not identified as being within a FIRM Flood Hazard Area or a USGS Flood-prone Area (*General Plan*, Exhibit V-5). A few on-site drainage courses and the blue line stream immediately north of the Airport boundary traverse the site from roughly west to east. These drainages are vegetated and fairly steep-sided and only flow during storm events (Robert Estrada, personal communication; 2005).

Under these conditions, flooding and floodplain impacts are not likely.

5.02-4 Wild and Scenic Rivers

The Wild and Scenic Rivers Act of 1968, as amended, and its implementing regulations at 36 CFR Part 297 describes those river segments designated or eligible to be included in the Wild and Scenic Rivers System. The President's 1979 Environmental Message Directive on Wild and Scenic Rivers (2 August 1979) directs federal agencies to avoid or mitigate adverse effects on rivers identified in the Nationwide Rivers Inventory as having potential for designation under the Wild and Scenic Rivers Act. The 11 August 1980 Council on Environmental Quality (CEQ) Memorandum on Procedures for Interagency Consultation requires federal agencies to consult with the National Park Service (NPS) when proposals may affect a river segment included in the Nationwide Rivers Inventory. The primary goal of the act is to prohibit new water impoundments on designated rivers.

The State of California also adopted the California Wild and Scenic Rivers Act (Public Resources Code Section 5093.50 et seq.) in 1972 to preserve designated rivers possessing extraordinary scenic, recreation fishery, or wildlife values. The policy seeks to preserve such rivers in their free-flowing condition.

There are no wild and scenic rivers on the Airport property and none would be affected by the proposed action. The closest wild and scenic river is the Kern River, approximately 120 miles north of the Airport. The closest river on the Wild and Scenic Rivers Study List is the Whitewater River. The drainage courses on the south part of the site eventually drain to the Whitewater River approximately ten miles downstream. The Whitewater River has a potential classification as a "wild" river and has outstandingly remarkable values associated with scenery and cultural resources. It is described in the Wild and Scenic Rivers Study List as having "moderately steep stream beds with generally steep mountainsides; views of surrounding mountains and desert". Improvement projects at the Airport would not affect the free flowing nature or outstandingly remarkable values of the Whitewater River.

5.02-5 Coastal Resources

Federal activities involving or affecting coastal resources are governed by the Coastal Zone Management Act (CZMA) and the Coastal Barriers Resources Act.

Coastal Zone Management Act

CZMA and the National Oceanic and Atmospheric Administration (NOAA) implementing regulations (15 CFR Part 930) provide procedures for ensuring that a proposed action is consistent with approved coastal zone management programs. The CZMA is a federal program that is implemented locally. CZMA consistency only applies to states that have an approved Coastal Zone Management Plan (CZMP).

Federal agencies also must ensure that any actions that they authorize, fund, or carry out will not degrade the conditions of coral reef ecosystems pursuant to Executive Order 13089, Coral Reef Protection (63 FR 32701). Under this Order, U.S. coral reef ecosystems are defined to mean those species, habitats, and other natural resources associated with coral reefs in maritime areas and zones subject to the jurisdiction or control of the U.S.

CEQA *Guidelines* requires a consistency with applicable CZMP policies, plans, or regulations set forth by local agencies.

The Airport does not lie within the boundaries of the coastal zone and no coral reef ecosystems are located on or in the vicinity of the Airport.

Coastal Barriers Resources Act

Coastal barriers are landscape features that shield the mainland from the full force of wind, wave, and tidal energies. They can take on a variety of forms including islands and spits. Legislation passed in 1982 and 1990 limits federally-subsidized development within a defined Coastal Barrier Resources System.

The Coastal Barrier Resources Act of 1982 (CBRA), as amended by the Coastal Barrier Improvement Act of 1990 (16 U.S.C. 3501-3510; PL 97348) prohibits, with some exceptions, federal financial assistance for development within the Coastal Barrier Resources System (CBRS) that contains undeveloped coastal resources along the Atlantic and Gulf coasts and the Great Lakes.

Coastal barrier resources are not present along California's Pacific coast. For this reason, CEQA also does not address these resources.

5.03 Atmospheric Impact Categories

5.03-1 Air Quality

Air quality is a function of both the rate and location of pollutant emissions under the influence of meteorological conditions and topographic features effecting pollutant movement and dispersal. Atmospheric conditions such as wind speed, wind direction, atmospheric stability, and air temperature gradients interact with the physical features of the landscape to determine the movement and dispersal of air pollutants, and consequently affect air quality.

Regulation of air pollution is achieved through both federal and state ambient air quality standards and emission limits for individual sources of air pollutants. An "ambient air quality standard" represents the level of air pollutant in the outdoor (ambient) air necessary to protect public health. The EPA has identified criteria pollutants and established National Ambient Air Quality Standards (NAAQS or national standards) to

protect public health and welfare. NAAQS have been established for ozone, carbon monoxide (CO), nitrogen dioxide (NO2), sulfur dioxide (SO2), particulate matter less than or equal to 10 microns (PM10), and particulate matter less than or equal to 2.5 microns (PM2.5), and lead. California has adopted more stringent ambient air quality standards for most of the criteria air pollutants (CAAQS or state standards). The South Coast Air Basin is currently nonattainment for ozone and PM10 standards.

Under the Clean Air Act, the FAA has the responsibility for applying the General Conformity Rule to federal actions involving airport development in nonattainment areas. The criteria for determining the conformity of such actions state that a conformity determination must be performed when the emissions caused by a federal action equal or exceed what are known as *de minimis* levels.

According to FAA's *Air Quality Procedures for Civilian Airports & Air Force Bases* (September 2004), an air quality assessment (dispersion modeling) is not needed if activity forecasts, for a general aviation airport, predict less than 180,000 general aviation operations annually. The Airport currently serves approximately 12,000 general aviation operations on an annual basis. The *General Plan* (Exhibit V-7) predicts 70,000 annual operations at buildout, which is less than 40 percent of the activity level that would require dispersion modeling.

The South Coast Air Quality Management District has published a handbook (*CEQA Air Quality Handbook*, November 1993) that is intended to provide guidance for analyzing and mitigating project-specific air quality impacts from construction and operational activities. Airport development would need to follow this guidance.

5.03-2 Noise

The primary noise source in the area is transportation related, including noise from I-10 and the railroad, as well as aircraft operating in and out of the Airport (*General Plan*, page V-43). The Airport averages about 10 to 15 arrivals and departures daily, mostly by private, single-engine, fixed-wing aircraft (*General Plan*, page V-47). The current noise contours (*General Plan*, Exhibit V-6) are generally contained within the Airport boundary, and extend to lands designated for airport and related industrial uses, which are considered less sensitive (*General Plan*, page V-47).

Noise is an important environmental issue with regard to the operation of most airports. Most environmental noise sources produce varying amounts of noise over time, so the measured sound levels also vary. Governmental agencies have developed a variety of noise descriptors as a means of quantifying, describing, and regulating these sound levels. The descriptors are typically used to assess noise from aircraft and surface traffic as well as from construction activities.

Noise Descriptors

In the United States, there are two basic approaches for quantifying, describing, and regulating noise levels for transportation noise sources. These approaches are generally reported as "noise descriptors," which are based upon established principles of physics and reported in numerical terms.

The first approach addresses the noise resulting from single noise "events." This approach is most directly relevant to aircraft noise events, which are generally perceived as discrete occurrences. It also is sometimes relevant in assessing construction noise impacts. The second type of noise descriptor commonly used to describe aircraft and surface transportation noise is referred to as a "cumulative" noise descriptor. Such descriptors describe in numerical terms the amount of noise occurring at a given location over a defined period of time. This period of time can be as short as one hour, but is more commonly calculated for an annualized 24-hour period. Cumulative noise descriptors can be used to describe noise exposure from a specific source, such as a roadway or an airport, or they can be used to describe total noise exposure from all noise sources affecting a specific location.

The cumulative noise descriptor defined for use in the State of California is the Community Noise Equivalent Level (CNEL). FAA Order 1050.1E, *Environmental Impact: Policies and Procedures,* and FAA Order 5050.4B, *NEPA Implementing Instructions for Airport Actions,* state that cumulative noise exposure of individuals to noise resulting from aviation activities must be established in terms of annual community noise equivalent level (CNEL).

Noise Thresholds

There are no FAA-approved or adopted criteria or thresholds for evaluating the significance of changes in aircraft single events that may result from an airport improvement project. However, an increase in a single event sound level of at least 3 dB is generally required before most people perceive a change. An increase of 5 dB is required before a change is clearly noticeable.

The City of Banning has established a one-hour average limit for outdoor noise levels in residential areas of 55 dBA during daytime hours and 45 dBA during evening and nighttime hours (Ordinance 1138). Both California and the City have established a CNEL of 65 dBA as the standard for maximum outdoor noise levels in residential areas.

FAA Regulations have determined that 65 CNEL is the level of noise "acceptable to a reasonable person residing in the vicinity of an airport." This is consistent with federal (FAA and U.S. Department of Housing and Urban Development) land use compatibility guidelines and federal noise attenuation grant funding eligibility criteria.

According to FAA Order 1050.1E, *Environmental Impacts: Policies and Procedures*, no noise analysis is needed for proposals involving Design Group I and II airplanes

(wingspan less than 79 feet), with landing speeds less than 166 knots, operating at airports whose forecast operations during the planning period do not exceed 90,000 annual propeller operations (247 average daily operations) *or* 700 jet operations (2 average daily operations). These numbers of general aviation and propeller and jet operations result in noise levels not exceeding 60 dB DNL contours of less than 1.1 square miles that extend no more than 12,500 feet from start of takeoff roll. The 65 dB DNL contour areas would be 0.5 square mile or less and extend no more than 10,000 feet from start of takeoff roll. Similarly, no noise analysis is required for existing airports with annual average daily of 10 helicopter operations, with hover times not exceeding two minutes.

Although the level and intensity of activity at the Airport is well under these thresholds, a noise analysis could be useful to more specifically describe the noise conditions. The *General Plan* presents noise contours for existing and buildout conditions at the Airport (Exhibits V-6 and V-7, respectively). These contours are included here as Figure 5-3 and Figure 5-4, respectively. As shown in Figure 5-4, the buildout noise contours extend considerably east and west of the airport, but the 65 dBA CNEL contour remains in the area of the Airport itself and the surrounding industrial lands. Lower noise levels, within the range of acceptable noise levels for sensitive receptors, occur further east and west, over lands designated for industrial and residential development. No schools are located within or in proximity to the Airport's annual projected 65 dBA CNEL noise contour.

If projects at the Airport require noise analysis, then the Integrated Noise Model and/or the Heliport Noise Model, along with local land use information, must be used to determine the level of significance. The noise contours would be based upon characteristics such as aircraft and engine type, aircraft mix, flight tracks and operational profiles, volume of daily operations, and runway elevation and length.

City of Banning, CA
General Plan Map
Preferred Alternative

Map Prepared on: October 22, 2004

R. 1W
R. 1E
R. 2E
T. 2S
T. 3S
San Bernardino County
Riverside County
BANNING CANYON
BLUFF ST
WILSON ST
RAMSEY ST
LINCOLN ST
WESTWARD AV
REPPLIER RD
GEORGE ST
MORONGO RD
SUNSET AV
HIGHLAND SPRINGS AV
SAN GORGONIO
8TH
22ND
HARGRAVE
PANORAMIC
IDYLLWILD
HWY
SUN LAKES BLVD

N

Scale
1:24,000

0 2,000 4,000 6,000
Feet

LEGEND

- Banning City Limits
- Banning Sphere of Influence
- Banning Planning Areas
- County Line
- Township/Range Lines
- Section Line
- Major Roads
- Minor Roads
- Railroads

- Ranch/Agriculture (10 ac min.)
- Ranch/Agriculture - Hillside (10 ac min.)
- Rural Residential (0-1 du/ac)
- Rural Residential - Hillside (0-1 du/ac)
- Very Low Density Residential (0-2 du/ac)
- Low Density Residential (0-5 du/ac)
- Medium Density Residential (0-10 du/ac)
- High Density Residential (11-18 du/ac)
- General Commercial
- Downtown Commercial
- Highway Serving Commercial
- Professional Office
- Business Park
- Industrial
- Airport Industrial
- Industrial-Mineral Resources
- Public Facilities
- Public Facilities - RR/Interstate
- Open Space - Resources
- Open Space - Parks
- Open Space - Public
- Open Space - Hillside Preservation
- Specific Plan Areas

Riverside County Vicinity Map

NOTE:
1. This map represents the best available information and is intended for general planning purposes only.
2. The data shown on this map was collected and re-compiled from the following sources:
City of Banning, California
City of Beaumont, California
County of Riverside
Morongo Band of Mission Indians
Southern California Association of Governments
Thomas Bros. Maps

BANNING CALIFORNIA ESTABLISHED 1913

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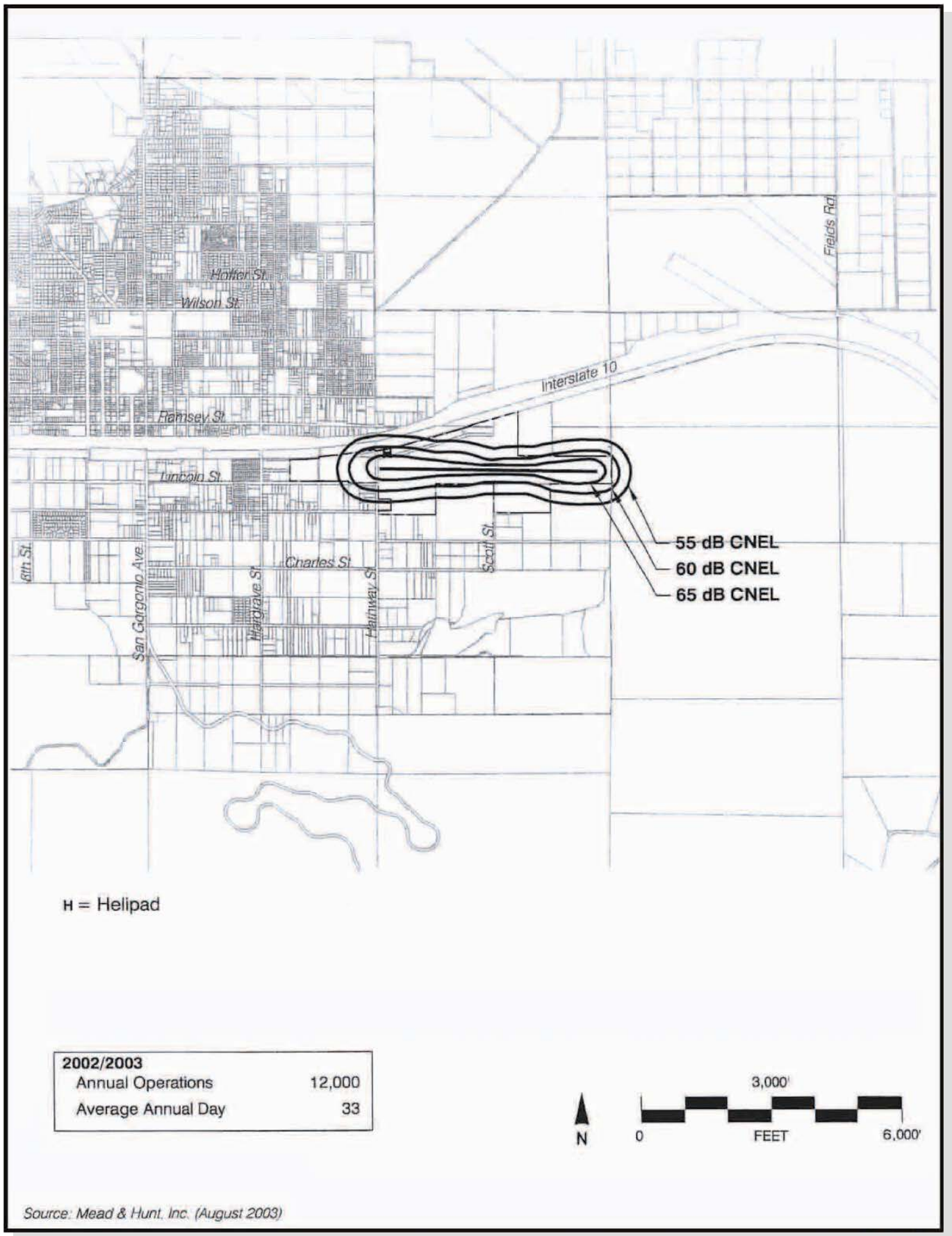
THE CITY OF BANNING

Banning Municipal Airport

Proposed General Plan Land Use Map

Figure 5-1

LAND USE



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Banning Municipal Airport

Existing Airport Noise Contours

Figure 5-2

5.04 Community Impact Categories

5.04-1 Historical, Architectural, Archaeological, and Cultural Resources

Cultural resources, also referred to as historic properties, are districts, sites, buildings, structures, objects, and landscapes significant in American history, prehistory, architecture, archaeology, engineering and culture. For the purposes of this Master Plan, cultural resources include existing and/or potential historic and prehistoric archaeological sites, historic buildings and structures, and Native American Traditional Cultural Properties (TCPs).

The National Historic Preservation Act (NHPA) of 1966, as amended, establishes the Advisory Council on Historic Preservation (ACHP) and the National Register of Historic Places (NRHP) within the National Park Service (NPS). Section 106 of the NHPA requires federal agencies to consider the effects of their undertakings on properties on or eligible for inclusion in the NRHP. Compliance with Section 106 requires consultation with the ACHP, the State Historic Preservation Officer (SHPO), and /or the Tribal Historic Preservation Officer (THPO) if there is a potential adverse effect to historic properties on or eligible for listing on the NRHP. Consultation on preservation-related activities also may occur with other Federal, State, and local agencies, Tribes, Native Hawaiian organizations, the private sector, and the public.

The Archaeological and Historic Preservation Act of 1974 provides for the preservation of historic American sites, buildings, objects, and antiquities of national significance by providing for the survey, recovery, and preservation of historical and archaeological data which might otherwise be destroyed or irreparable lost due to a federal, federally licensed, or federally funded action.

CEQA provides similar guidance regarding impacts to historical and unique archaeological resources.

The Airport and the immediate vicinity have been disturbed previously. Adjacent property includes sites that have been cleared and used for cattle grazing and for industrial and manufacturing activities. The Airport has been assessed as having low sensitivity for archaeological resources (*General Plan*, Exhibit IV-6). No Indian villages have been identified at the Airport and the site does not exhibit the general characteristics of archaeological sites identified in the vicinity. The Airport has been assessed as having low sensitivity for historic-period buildings, although a portion of the site may be within an area characterized by sporadic occurrence of historic-period buildings (*General Plan*, Exhibit IV-7). No historic buildings have been identified on Airport property.

Future construction activities would need to consider potential impacts to previously unidentified archaeological resources.

5.04-2 Department of Transportation, Sec. 4(f)

Section 4(f) of the Department of Transportation (DOT) Act, which was recodified and renumbered as section 303 (c) of 49 U.S.C., states that the Secretary of Transportation will not approve any program or project that requires the use of any publicly owned land or park, recreation area, or wildlife and waterfowl refuge of nation, state, or local significance, unless there is no feasible and prudent alternative to the use of such land and such program, and the project includes all possible planning to minimize harm resulting from the use.

CEQA does not specifically address Section 4(f) resources, but the CEQA *Guidelines* address potential impacts to the types of resources covered by DOT Section 303 (recreational facilities, wetlands, historic resources, and wildlife refuges).

The City of Banning has identified three public parks located somewhat more that one-half mile from the Airport: Roosevelt Williams Park, Lion's Park, and Smith Creek Park (*General Plan,* Exhibit III-9). Roosevelt Williams Park and Lion's Park are developed City-owned parks; Smith Creek Park also is City-owned, but is undeveloped (*General Plan,* page IV-22). A drag racing facility is proposed for property immediately south of the runway. This public recreation facility is not a 4(f) property and there are no Section 4(f) properties affected by activities at the Airport.

5.04-3 Socioeconomic Impacts

Transportation

FAA Order 1050.1E, *Environmental Impacts: Policies and Procedures,* and FAA Order 5050.4B, *NEPA Implementing Instruction for Airport Actions,* indicate that a significant impact would occur if the proposed action causes an increase in congestion from surface transportation by causing a decrease in the Level of Service below acceptable levels determined by the appropriate transportation agency.

CEQA requires the evaluation of project impacts to intersection functioning and delays, traffic safety, and parking demand.

Access to the Airport is provided via Barbour Street, a collector highway (*General Plan,* Exhibit III-4), which is envisioned as becoming a major highway or arterial highway (*General Plan,* Exhibit III-6). City streets operate almost universally as Level of Service (LOS) C (*General Plan,* page III-71). The exceptions, where operations deteriorate to LOS D, are not in the vicinity of the Airport.

Specific development proposals would need to evaluate impacts to intersection functioning and delays, traffic safety, and parking demand.

Environmental Justice

Executive Order 12898, *Federal Actions to address Environmental Justice in Minority and Low-Income Populations,* requires all federal agencies to identify and address disproportionately high and adverse impacts to minority and low-income populations. U.S. Department of Transportation (DOT) Order 56102.2 presents DOT's policy to promote the principles of environmental justice through the incorporation of those principles in all DOT programs, policies and activities. The DOT Order defines a low-income person as an individual whose median household income is at or below the poverty level. Minorities are defined as individuals or populations who are considered in the black, Asian/Pacific Islander, or American Indian/Alaskan Native racial categories, or individuals of Hispanic origins.

CEQA does not address environmental justice.

Specific development proposals would need to identify and address disproportionately high and adverse impacts to minority and low-income populations.

Children's Environmental Health and Safety Risk

Children may suffer disproportionately from environmental health and safety risks as a result of their developing bodies and systems and from the effect of products or substances with which they are likely to come in contact or ingest (e.g., air, food, drinking water, recreational waters, soil, or products to which they might use or be exposed). Pursuant to Executive Order 13045, *Protection of Children from Environmental Health Risks and Safety Risks,* FAA Order 1050.1E (Section 16.1b) directs federal agencies to make it a high priority to identify and assess environmental health risks and safety risks to children (i.e., the portion of the population under 18 years of age). Federal agencies are encouraged to ensure that their policies, programs, and activities, and standards address disproportionate risks to children that result from environmental health risks or safety risks.

CEQA does not specifically require evaluation of the impacts associated with children's environmental health and safety.

Specific development proposals would need to identify and address disproportionately high and adverse impacts to children's environmental health and safety.

5.04-4 Induced Socioeconomic Impacts

Induced impacts occur if a major development proposal affects the surrounding community. FAA Order 1050.1E, *Environmental Impacts: Policies and Procedures, Section 15,* states that when a proposed action involves induced or secondary impacts to

surrounding communities, the factors shall be described in general terms. The CEQA *Guidelines* also require consideration of effects to population and housing (often tied to employment), public services, and utilities.

Employment, Population, and Housing

The FAA requires the evaluation of a proposed project's potential to affect population and housing demand and to change business and economic activity. Such effects are captured in the following evaluation of population and employment.

CEQA *Guidelines* require evaluation of a project's potential to induce substantial population growth in an area, either directly (by proposing new homes and businesses) or indirectly (through the extension of roads or other infrastructure).

Specific development proposals would need to consider effects on employment, population and housing.

Public Services

FAA Order 1050.1E, *Environmental Impacts: Policies and Procedures, Section 15,* states that a major airport development proposal could potentially have induced or secondary impacts on public services in surrounding communities. Normally, induced socioeconomic impacts on public services would not be considered significant unless there were significant impacts in other categories, such as land use or direct social impacts. However, a project would need to address demands for public services that exceed the capacity of existing public facilities, such as schools or hospitals.

The CEQA *Guidelines* state that a project may be deemed to have a significant effect on public services if project construction could cause significant environmental impacts in order to maintain acceptable service ratios, response times, or other performance objectives for any of the public services.

Specific development proposals would need to consider effects on public facilities and services.

Utilities

Airport development would be considered to have a significant impact on the water delivery system if major new facilities are required to accommodate the projected demand. For wastewater, an action is considered to have a significant impact on the sanitary and industrial wastewater systems if a major new wastewater facility is required to meet the projected demand.

The CEQA *Guidelines* state that a project may be deemed to have a significant effect if it were to exceed wastewater treatment standards of the applicable RWQCB or require construction of new water or wastewater systems (the construction of which would cause significant environmental effects).

The City provides water to its customers with water produced from local groundwater wells. New facilities have recently been constructed to convey State Water Program (SWP) water to the area for groundwater recharge, agriculture, or processing for potable use (*General Plan*, page IV-7).

Specific development proposals would need to consider effects on utility systems.

5.04-5 Hazardous Materials, Pollution Prevention, and Solid Waste

According to FAA Order 1050.1E, *Environmental Impacts: Policies and Procedures*, two statues of most importance to the FAA when proposing actions to construct and operate facilities and navigational aids are the Resources Conservation and Recovery Act (RCRA) and the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA). RCRA governs the generation, treatment, storage, and disposal of hazardous wastes. CERCLA provides for consultation with natural resources trustees and clean-up of any release of a hazardous substance (excluding petroleum) into the environment.

FAA Order 1050.1E states that terminal area development may involve circumstances which require consideration of solid waste impacts. If the projected quantity or type of solid waste generation or method of collection or disposal would cause an "appreciably different" level of service to meet project needs, then solid waste related impacts would be significant.

CEQA provides similar guidance for evaluation hazardous materials and solid waste impacts.

Project-specific environmental review would require review of the hazardous nature of any materials or wastes to be used, generated, or disturbed and consideration of control measures. The effects of transporting and disposing of solid waste would also be required.

5.04-6 Construction Impacts

FAA Order 1050.1E, *Environmental Impacts: Policies and Procedures*, provides primary guidance and notes that construction activities are addressed by regulations at all levels of government and that these impacts are generally discussed under descriptions within the appropriate impact category. At a minimum, project specifications should incorporate the provisions of Advisory Circular 150/5370-10 Standards for Specifying Construction of Airports, (Change 10), Item P-156 Temporary Air and Water Pollution, Soil Erosion, and Siltation Control.

The CEQA *Guidelines* do not establish a specific significance threshold for construction impacts. Instead significance is derived from Section 15382 which defines "significant effect on the environment" as "substantial, or potentially substantial, adverse changes in any of the physical conditions within the area affected by the project…"

Construction impacts, which generally would be temporary and of short duration, include increased air pollutant emissions, noise disturbance, soil erosion, water quality degradation, potential exposure of workers to hazardous materials and construction debris disposal. Permits or certificates pertaining to specific impacts may be required on a project by project basis.

Construction impacts and impact avoidance would be considered during project-specific planning, design, and construction.

5.04-7 Light Emissions

FAA safety requirements prohibit any major source of glare from being present at the Airport. FAA Order 1050.1E, *Environmental Impacts: Policies and Procedures*, and FAA Order 5050.4B, *NEPA Implementing Instructions for Airport Actions*, require the project sponsor to identify light emissions (e.g., strobe lights, high-intensity airfield or facility lighting) that could create an annoyance for people in the vicinity of an installation as a potential impact of airport development.

According to the CEQA *Guidelines*, potentially significant aesthetic effects include substantial or potentially substantial adverse changes in objects having aesthetic significance, and substantial or potentially substantial, demonstrable negative aesthetic effects. Production of new light and glare is among the potential aesthetic effects that could result in a significant impact.

Prior to project development, if lighting is to be altered, public involvement and consultation with appropriate federal, state and local agencies and tribes may help determine the extent of these impacts.

CHAPTER 6 - ALTERNATIVES OF AIRPORT DEVELOPMENT

6.01 General

This chapter will discuss, evaluate, and present the alternatives proposed for development at Banning Municipal Airport for the years of 2006 through 2026.

The alternatives presented in this chapter provide options for meeting both short and long-term development needs in a cost effective manner. The evaluation of alternatives is a process of deciding which options are most compatible with the goals and objectives of the City of Banning and provides aviation facilities to accommodate existing and anticipated needs. The evaluation process helps determine an airport that concept can be transformed into a realistic development plan.

The recommended alternative is the formulation of a development concept, rather than the presentation of a design recommendation. While the assessment of alternatives is based on technical, economical, and practical judgment, the most favorable development plan should be compatible with city planning/economic development initiatives, along with social, political, and environmental goals. Flexibility may be the most important assessment, since the level of commercial and general aviation activity can vary significantly especially due to the new business developments in the immediate area of the airport.

The alternative plans undergo a comparative evaluation process consisting of qualitative and quantitative factors. Ideally, the evaluation process would express all factors involved in terms of a common quantitative measure, such as dollar value or number of homes impacted by sound. Because of the difficulties inherent in expressing certain factors in quantifiable terms, the evaluation process must rely on the use of both quantitative and qualitative factors.

The factors considered are grouped in seven basic categories as follows:

- Airport Design Standards;
- Best Planning Tenets & Other Factors;
- Environmental Impacts;
- Strategic Vision and Goals of Airport;
- Facility Requirements;
- Development Cost/ Fiscal Factors; and
- Implementation Feasibility.

6.02 Description of Alternative Plans

Developing alternative plans involve three principal steps:

1. Identify airside and landside alternatives that:

- Consider safety and functionality
- Create efficiency
- Can be developed economically and realistically
- Consider marketing the airport to potential businesses

2. Evaluate development alternatives considering the following elements:
   - Airport Design Standards
   - Best Planning Tenets and Other Factors
   - Environmental Impacts
   - Strategic Vision and goals of the Airport
   - Facility Requirements
   - Development Costs
   - Implementation Feasibility

3. Select a Preferred Alternative
   - The preferred alternative relies on a summation of the evaluation criteria, any supplemental analysis, stakeholder input, and guidance from the airport sponsor.

Two plans were prepared to represent a future development alternative and a no build alternative. Although they do not exhaust all the variations which may be applied, the alternative forms an appropriate base to produce a "preferred" plan of development for the Airport.

The alternative plans which were considered are as follows:

Alternative 1: No Build Alternative

This plan represents a scenario in which no development takes place at the Airport. This alternative is depicted on Figure 2-4, the Existing Airport Layout drawing.

Alternative 2: Airport Development

The development alternative proposes the following:

Short Term Planning Period (2007 – 2011)

- Relocate existing parallel taxiway south to comply with FAA B-II design standards to include runway centerline to taxiway centerline separation of 240 feet.

- Install taxiway lighting to replace taxiway markers.
- Install Runway End Identifier Lights (REILs) to enhance runway safety.
- Install Automated Weather Observation System (AWOS) to inform pilots of current weather conditions and for increased safety of operations.
- Replace segmented circle for improved in-flight visibility.

- Relocate unlighted wind cone on south side of runway to move it out of taxiway safety area and object free area.
- Grade Runway Safety Area east of Runway 26 to meet standards
- Acquire private property and demolish private hangar building, indicated at #10, because it is an obstruction to FAR Part 77 transitional surface.
- Relocate light pole obstructions.
- Sign and stripe existing terminal parking lot.
- Install new inadvertent entry fence, 8 feet tall with 3-foot barbed wire on top.

Intermediate Planning Period (2012 – 2016)

- Extend/construct pavement toward the east property line in the vicinity of T-hangars #1, #2, and #3 to provide space for new buildings.
- Demolish T-hangar buildings, indicated at #1, #2, and #3 to be replaced with new T-hangars.
- Conduct site work to improve drainage in southeast T-hangar location.
- Construct four new 10-bay T-hangar buildings (12,000 square feet each) on south east property along East Barbour Street to provide for additional needed hangar space.
- Acquire 1.63 acres of land on north east corner of East Barbour Avenue and South Hathaway Street for future airport development which includes additional apron area: 9,680 square yards for aircraft tie-downs.
- Construct and expand apron area west of existing based and itinerant aircraft parking area.
- Construct two additional 10,000 square-foot conventional hangars, west of existing apron area along South Hathaway Street to provide aircraft storage for large aircraft.
- Demolish existing conventional hangars, indicated at #12 and #13, due to the poor condition.
- Renovate terminal building with primarily cosmetic changes to include: update of the exterior to be esthetically pleasing, upgrade of interior facilities with new flooring, and upgrade of pilot passenger facilities to meet the goals of the airport.

Long Term Planning Period (2017 – 2026)

- Acquire approximately 10 acres north of airport and south of Interstate 10 for future airport development.
- Construct new access road from John Street to northwest portion of the Airport.
- Construct new 2,222 square yard apron area to north of Runway 8-26 and future taxiway.
- Construct partial parallel taxiway (2,600’ X 35’) on north side of Runway 8-26 in accordance with B-II design standards.
- Construct new auto parking area on existing airport property at north airport entrance: 10,000 square feet (1,111 square yards).
- Construct two 10,000 square-foot conventional hangars on new apron area north of Runway 8-26.

6.03 Evaluation Criteria

Evaluation criteria were developed to determine which of the airside and landside development alternatives would best meet Banning Municipal Airport's requirements for the year 2026. Evaluation criteria are divided into seven categories as discussed below.

6.03-1 Airport Design Standards/Operational Performance

The alternatives were rated on their ability to meet the FAA airport design standards and to continue to provide for safe operation of aircraft at the Airport. FAA design standards provide uniformity for airports in regards to runway and taxiway widths, separation distances, gradients, and other areas of the airport to promote safety. These standards are design criteria involving widths, gradients, separations of runways, taxiways, and other features of the landing area that must necessarily incorporate wide variations in aircraft performance, pilot technique, and weather conditions. The FAA design standards provide for uniformity of airport facilities and serve as a guide to aircraft manufacturers and operators with regard to the facilities which may be expected to be available in the future.

The alternative plans for Banning Municipal Airport are based in general on design standards, contained in FAA AC 150/5300-13, for an Airport Reference Code B-II airport, as listed in **Table 6-1**. (Aircraft Approach Category B includes aircraft with a speed less than 121 knots. Airplane Design Group II includes airplanes with a wingspan up to but not including 79 feet.) The Beech King Air 200 (B-II) is the most common transient user of the Airport.

Table 6- 1
AIRPORT DESIGN STANDARDS RUNWAY 8-26
(Airport Reference Code B-II)

Design Criteria:	Required Distance or Dimension:
Runway Centerline to	
- Taxiway Centerline	240 feet
- Aircraft Parking Area	250 feet
Runway Width	75 feet
Runway Safety Area	
- Width	150 feet
- Length (beyond runway end)	300 feet
Runway Object Free Area	
- Width	500 feet
- Length (beyond runway end)	300 feet
Taxiway Width	35 feet
Taxiway Safety Area Width	79 feet
Taxiway Object Free Area Width	131 feet

Source: C&S Engineers, Inc., and Federal Aviation Administration Advisory Circular 150/5300-13

The Airport currently meets the required standards for a B-II airport with the exception of the following:

- Runway centerline to Taxiway A centerline separation standard is not met; current distance is 200 feet and FAA requirement is 240 feet.
- Runway safety area criteria for Runway 26 are not met. The current safety area should be graded. There is adequate space available for the RSA; however 65 feet east of the pavement end needs to be graded to meet the 300-foot requirement.

6.03-2 Best Planning Tenets and Other Factors

In assessing the alternatives, it is important to consider a number of factors beyond the technical aspects and design standards. The FAA in AC 150/5070-6B provides a list of best planning tenets and other factors that need to be considered when determining the preferred alternative. The following is a list of tenets and other factors to consider for each alternative:

- Conforms to the best practices for safety and security
- Provides for the highest and best use of on and off airport property
- Allows for forecasted growth throughout the planning period
- Provides flexibility to adjust to unforeseen changes
- Technically feasible
- Socially/politically feasible
- Satisfies the user's needs

6.03-3 Environmental Impacts/Factors

Each alternative must take into consideration any environmental impacts that may be associated with proposed development. Discussion of environmental impacts is included in the respective alternative section. See Chapter 5 for the complete environmental overview of potential areas of concern in the vicinity of the Airport.

6.03-4 Strategic Vision and Goals of the Airport

The future planning of the Airport is the responsibility of the City of Banning. The City wants to protect it's investment in the Airport through prudent planning. Numerous meetings were held and discussions took place to determine the goals and vision of the airport. These discussions with the City of Banning and airport personnel were instrumental in development of the alternatives. Goals shown here are summarized from discussion in Chapter 1.

Goals:

- *Make the Banning Municipal Airport valuable to the community.*
- *Ensure services and facilities are available to existing users and to attract future users.*
- *Bring the Airport up to FAA design standards.*
- *Meet hangar demand.*

- *Ensure compatible land use planning.*
- *Create a realistic funding schedule for airport development.*

6.03-5 Facility Requirements

This criterion was used to rate alternatives based on ability to satisfy the facility requirements identified in Chapter 4. Facility requirements are developed from an analysis of the demand and capacity requirements, and from geometric and other standards governing the design of airport components.

6.03-6 Development Costs/ Fiscal Factors

This criterion was used to rate alternatives based upon probable development costs and will be discussed in further detail in subsequent sections.

6.03-7 Implementation Feasibility

"What is the likelihood that this alternative will be implemented?" This question is key to determining implementation feasibility. The preferred development alternative must have the ability to be implemented through logical phases that meet the airport's increasing requirements to the year 2026. Therefore, each alternative was evaluated on its feasibility for implementation, considering both quantitative and qualitative factors. These include factors such as the urgency of the need to address deficiencies and safety concerns, the degree of environmental impacts, community receptiveness, feasibility of developments, and the sponsor's willingness to bear the development cost.

6.04 Evaluation of Alternatives

Each alternative was evaluated based on the seven criteria discussed previously: airport design standards, environmental impacts, strategic visions and goals of the airport, best planning tenets and other factors, development costs, facility requirements, and implementation feasibility. Each alternative plan has been evaluated against these standards.

6.04-1 Airport Design Standards

It is assumed that each development alternative will include such projects as appropriate obstruction removal, property acquisition, proper grading of runway safety areas, and the installation of visual guidance aids. This section compares the alternatives regarding their ability to meet FAA dimensional design standards.

No Build Alternative

Current airport design standards for runway centerline and taxiway centerline separation are 40 feet short of meeting FAA standards; current width is 200 feet and a 240-foot separation is required.

FAA design standards for runway safety areas are not met. The runway safety area is to be cleared and graded capable of supporting aircraft rescue and firefighting equipment and the occasional passage of aircraft without causing structural damage to the aircraft. Sufficient area exists for the RSA at the Runway 26 end; however 65 feet needs to be graded.

Development Alternative
This alternative relocates the taxiway south to comply with FAA design standards for runway centerline to taxiway centerline separation. Additional development on the airport, to include additional taxiway to the north of Runway 8-26, T-hangars, conventional hangars, expansion of apron areas and parking areas, and additional navigational equipment are also in compliance with FAA design standards.

6.04-2 Best Planning Tenets & Other Factors

Consideration of the planning tenets and other factors identified in Section 6.03-2 will aid in determining the preferred alternative.

No Build Alternative
This alternative will not conform to any of the best planning tenets with the exception of being technically feasible since no construction or work is planned in this alternative. This alternative is deficient in meeting projected growth, improving security, and does not provide flexibility for unforeseen changes in airport operations.

Development Alternative
Existing airport property has limited areas for future development; however this development alternative maximizes the available space and allows for future growth. This alternative meets all the goals of the planning tenets as listed below:

- Conforms to the best practices for safety and security
- Provides for the highest and best use of on and off airport property
- Allows for forecasted growth throughout the planning period
- Provides flexibility to adjust to unforeseen changes
- Technically feasible
- Socially/politically feasible
- Satisfies the user's needs

6.04-3 Environmental Impacts / Factors

The potential environmental impacts evaluated for the build alternative are listed below:

Noise
Compatible Land Use
Social Impacts
Induced Socioeconomic Impacts
Air Quality
Water Quality
DOT Act, Section 4(f) Lands
Historic, Architectural, Arch-ecological & Cultural Resources
Biotic Communities
Endangered & Threatened Species
Light Emissions
Geology and Seismicity
Wetlands
Flood Plains
Coastal Zone Management
Coastal Barriers
Wild & Scenic Rivers
Prime & Unique Farmland
Energy Supply & Natural Resources
Solid Waste
Construction Impacts
Environmental Justice
Protection of Children from Environmental Health Risks and Safety Risks

The alternative was analyzed for its impact in each of the categories noted above. (For preliminary environmental overview, see Chapter 5). Specific impacts for each alternative are discussed below:

No Build Alternative
There are no impacts to the environment because no development will occur.

Development Alternative
As outlined in Chapter 5, the alternatives may impact some of the environmental categories; however, the impact on these categories cannot be fully determined until an environmental assessment or Environmental Impact Statement is prepared under a separate study.

Compatible Land Use: Land use surrounding the airport is compatible with airport uses. If airport demand increases in the future, there are options for expansion. Working with the Morongo Band of Mission Indians is important to assure incompatible land uses do not interfere with airport operations.

Endangered, Threatened, and Special Status Species: There are six endangered or threatened species with the potential to occur on or near the Airport identified by California Natural Diversity Database ([CNDDB], 2006), California Native Plant Society 9 ([CNPS], 2005). Presence of any endangered or threatened species that could potentially be impacted by the proposal would require consultation with wildlife agencies.

Geology and Seismicity: The City of Banning is located at the junction of two distinct geomorphic/geologic boundaries. Banning is located at the boundary of two great tectonic plates, the North American Plate and the Pacific Plate. The San Andreas Fault forms the boundary for these tectonic plates. The San Gorgonio Pass was created by tectonic forces and constitutes a down-dropped landmass filled with thick deposits of alluvium. The Airport is located within this area of alluvial deposits.

Geologic and seismic considerations will be addressed during the planning, design, and construction of specific projects at the Airport.

Construction Impacts: There would be construction impacts due to earth movement, equipment noise, and some soil erosion.

6.04-4 Strategic Vision and Goals of the Airport

Airport development could provide a key role in attracting corporate operators and more transient aircraft for attractions such as the Morongo Indian Casino. As previously discussed in this chapter, the alternatives will be reviewed against the Airport goals. This type of evaluation is judgmental, at best, but it is key to assuring development is in line with the needs and desires of the community.

No Build Alternative
A "no build alternative" would not meet the goals and visions for the economic health of the airport.

Development Alternative
This development will aid in promoting usage of the airport and provide safe operations which includes meeting the vision and goals for the Airport as previously discussed in this chapter.

6.04-5 Facility Requirements

Chapter 4 discusses the facility requirements for Banning Municipal Airport. Specific facility needs for the short, intermediate, and long term are outlined in Chapter 4.

No Build Alternative
This alternative would not meet the Airport's planning period requirements as the existing facility deficiencies of the airfield would not be addressed. This alternative will be unable to accommodate future growth in based aircraft.

Development Alternative
Development of the airport will meet the Airport's existing and future facility requirement needs.

6.04-6 Development Costs / Fiscal Factors

Current unit construction costs for major airside and landside development work were estimated. This consisted of preparation of an opinion of probable costs based upon the consultant's knowledge of contractors and construction material suppliers. The major work items selected for this purpose are presented in **Table 6-2** with associated probable unit costs.

TABLE 6-2
UNIT COSTS FOR AIRPORT DEVELOPMENT
(2006 Dollars)

Item	Unit	Unit Cost
Earthwork	Cubic Yard	$8
Pavement Construction	Square Yard	$150
Pavement Rehabilitation	Square Yard	$55
Taxiway Lighting	Linear Foot	$65
Road Construction	Square Yard	$80
T-Hangar	Per Bay	$55,000
Conventional Hangar	Square Foot	$150
Automobile Parking	Square Yard	$150
Obstruction Removal	Per Acre	$6,000
Relocate Windcone	Per Windcone	$50,000
Hangar Demolition	Square Foot	$6
REILS	Per Runway End	$50,000
Fencing	Per Linear Foot	$30

Source: C&S Engineers, Inc.

Table 6-3 provides a preliminary outline of the probable costs for each project outlined in the build alternative. These costs are outlined at a planning level and should not be considered as 'true cost' but rather a potential estimate based on a per unit cost for the type of facility or infrastructure being proposed. The cost table has been broken down to reflect projects proposed for the short, intermediate, and long term.

Short term projects address immediate needs at the airport such as compliance with FAA regulations (realigning Taxiway A) and providing navigational aids. Intermediate term projects address needs for aircraft storage and terminal area improvements to accommodate forecasted growth in based aircraft and operations and are typically triggered on an 'as needed' basis. Long term projects are those that are necessary to accommodate future

demand, but may not necessarily be required if the airport is able to accommodate project demand with facilities constructed during the short and intermediate term.

It should be noted that these are preliminary design, build, and development costs and are subject to a number of other influences such as environmental conditions and demand.

Table 6-3
OPINION OF PROBABLE DEVELOPMENT COSTS (2006 Dollars)

Item	Unit Cost	Build
Short Term Projects (1-5 Years), Airfield Compliance; Navigation Aids		
Relocate Taxiway A	$150/SY	$2,100,000
Install Taxiway A lighting	$65/LF	$363,000
Install REILS (Rwy 8 & Rwy 26)	$75,000/Each	$150,000
Replace segmented circle/relocate windcone from taxiway safety area	$20,000	$20,000
Acquire private property (Building #10) for RPZ protection	$37,500/acre	$37,500
Demolish Bldg #10 (private hangars)	$6/SF	$126,000
Extend and grade runway safety area 65 feet east (Rwy 26)	$8/Cubic Yard	$52,000
Obstruction removal/relocation	$6,000	$18,000
Install AWOS	$100,000/each	$100,000
Terminal building parking lot improvements; signage; parking space striping	$20,000	$20,000
Install new inadvertent entry fence	$30/LF	$559,500
Intermediate Term Projects (6-10 Years), Terminal Area Improvements/Expansion		
Demolish T-hangars #1, #2, & #3	$6/SF	$114,000
Site work to improve drainage between hangars #1, #2 & #3	$8/Cubic Yard	$80,000
Construct four (4) new T-hangars (near former T-hangars #1, #2, & #3)	$55,000/Bay	$1,650,000
Construct/expand apron area west of existing based aircraft parking area	$150/SY	$375,000
Acquire 1.63 acres; northeast corner of East Barbour Ave. & S. Hathaway St	$37,500/Acre	$61,125
Construct new automobile parking south of four (4) new T-hangars along East Barbour Avenue	$80/SY	$106,000
Construct conventional hangars on new apron area west of existing based aircraft area	$150/SF	$3,000,000
Demolish Bldgs #12 & #13	$6/SF	$11,400
Renovate terminal building	$145/SF	$173,565
Long Term Projects (11-20 Years), As Demand Warrants		
Acquire 10 acres north of airport for future development	$33,000/Acre	$330,000
Construct new access road from John Street to northwest portion of airport	$80/SY	$280,000
Construct new apron north of Runway 8-26	$150/SY	$2,800,000
Construct two 10,000 SF conventional hangars on new apron area north of Rwy 8-26	$150/SF	$3,000,000
Construct 2,600’ X 35’ partial parallel taxiway north of Rwy 8-26	$150/SY	$1,500,000
Total for Planning Period		**$17,027,090**

Source: C&S Engineers, Inc. (2006)

6.04-7 Implementation Feasibility

The last evaluation criterion was the implementation feasibility of the alternatives. Considering both quantitative and qualitative factors, this criterion answers the question: "What is the likelihood that this alternative will be implemented?"

No Build Alternative
With the "No build" alternative, no implementation would be involved. However taking no action would allow existing deficiencies and violations of FAA standards discussed in Section 6.04-1 to go uncorrected.

Development Alternative
The City of Banning has verbally committed to the improvement and development of the airport. Therefore, it is highly likely that the development plan will be implemented.

6.04-8 Evaluation Summary

Compliance with FAA design standards is the primary objective of the development alternative. Initial phase development focuses on these projects. Relocating the existing parallel taxiway to the south will increase separation from the runway to accommodate B-II aircraft.

The Development Alternative scenario maximizes use of the available space at the airport while allowing for future growth and development opportunities as demand increases. Enhancing airport facilities through upgrading the terminal facility, increasing the amount of quality aircraft storage facilities (T-hangars, conventional hangars), removing unsightly hangars which are potential liability problems, and increasing the amount of apron area are all enticements for increase of airport usage.

The City of Banning has expressed its desire to see the Airport become an asset to the neighboring communities which include the local businesses, municipal government agencies, and the Morongo Band of Mission Indians. It should be noted that the City of Banning has applied for Foreign Trade Zone status for the Airport property which will be a catalyst for future businesses and tenants at Banning Municipal Airport.

Table 6-4 summarizes the evaluation of the alternatives for each of the evaluation criteria.

Table 6-4
ALTERNATIVE EVALUATION SUMMARY

Evaluation Criteria	No Build Alternative	Preferred Alternative
FAA Design Standards	No	Yes
Best Planning Tenants	No	Yes
Environmental Factors	Yes	Yes
Vision/Goals of Airport	No	Yes
Facility Requirements	No	Yes
Financial Feasibility	Yes	Yes
Implementation Feasibility	Yes	Yes

Source: C&S Engineers, Inc. (2006)

CHAPTER 7 - AIRPORT SYSTEM DESIGN

7.01 General

This chapter discusses the development program for Banning Municipal Airport from the year 2007 to the year 2026. This airport system design is based upon the Airport's existing facilities, the recommended facility requirements and airport development alternatives discussed in Chapters 4 and 6, and a list of capital improvement projects planned to satisfy aviation demand to the year 2026.

This chapter will present airport development for the following three phases:

- Phase 1 – 2007 to 2011
- Phase 2 – 2012 to 2016
- Phase 3 – 2017 to 2026

7.02 Facility Requirements

The Airport Layout Plan (ALP) depicted on Sheet 3 of 8 of the Airport Layout Plan drawing set (included at the end of this chapter) was developed as a result of these facility requirements and discussions with the City of Banning. The ALP serves as a public document which is a record of aeronautical requirements, both present and future, and as a reference for community deliberations on land use, proposals, budgets, and resource planning.

The plan incorporates all of the major elements of the development alternative as determined and presented in Chapter 6, which detailed the proposed development phasing for the 20-year planning period.

7.03 Airport Layout Plan

The Airport Layout Plan drawing illustrates the overall development plan for Banning Municipal Airport and presents the various airport projects in three phases.

Table 7-1
PHASE DEVELOPMENT

	Short Term Planning Period (1-5 Years) Airport Standards & Safety Improvements
1-1	Install AWOS
1-2	Extend and grade runway safety area 65 feet east (Rwy 26)
1-3	Relocate Taxiway A
1-4	Install Taxiway A lighting
1-5	Install REILS (Rwy 8 & Rwy 26)
1-6	Replace segmented circle/relocate windcone
1-7	Acquire private property (Building #10)
1-8	Remove obstruction – Building #10 (private hangars)
1-9	Relocate light pole obstructions
1-10	Sign and stripe existing terminal parking lot
1-11	Install new airport security fence
1-12	Install PAPI for Runway 8
	Intermediate Planning Period (6-10 Years) Terminal Area Development
2-1	Demolish T-hangars #1, #2, & #3
2-2	Site work to improve drainage between hangars #1, #2 & #3
2-3	Construct four (4) new T-hangars (near former T-hangars #1, #2, & #3)
2-4	Construct/expand apron area west of existing based aircraft parking area
2-5	Construct new automobile parking south of four (4) new T-hangars along East Barbour Avenue
2-6	Acquire 1.63 acres; northeast corner of East Barbour Ave. & S. Hathaway St
2-7	Construct conventional hangars on new apron area west of existing based aircraft area
2-8	Renovate terminal building
2-9	Demolish bldgs #12 & #13
	Long Term Planning Period (11-20 Years) Future Development as Demand Warrants
3-1	Acquire 10 acres north of airport for future development
3-2	Construct new access road from John Street to northwest portion of airport
3-3	Construct new apron north of Runway 8-26
3-4	Construct two (2) 10,000 SF conventional hangars on new apron area north of Runway 8-26
3-5	Construct 2,600' X 35' partial parallel taxiway north of Runway 8-26

Source: C&S Engineers, Inc.

7.04 Obstruction Plans and Profiles

The obstruction plans and profiles for the Airport are presented on Sheet 5, Airspace Plan and Obstruction Data, and Sheet 6, Inner Approach Plans and Profiles. These drawings provide detailed obstruction information and depict the imaginary surfaces on and around Banning Municipal Airport, through which no object should penetrate. The dimensions and criteria employed in determining these obstructions on or near the surfaces for the airport are those outlined in Federal Aviation Regulations (FAR) Part 77, *Objects Affecting Navigable Airspace*.

As defined by FAR Part 77, the **primary surface** of a runway is an area longitudinally centered on the runway for a width dependent on the type of runway, and extending 200 feet beyond each end of the landing threshold. At Banning Municipal Airport, Runway 8-26 is defined as a utility runway with visual approaches to both runway ends with visibility minimums greater than ¾ statute mile. As such, its existing primary surface is 250 feet wide.

Because of the growth of the Banning area and development anticipated by the Morongo Band of Mission Indians, it is appropriate to anticipate the introduction of a nonprecision instrument approach for the Airport at sometime in the future. Therefore, the planned primary surface width is 500 feet. It is prudent to anticipate this now and plan for the wider primary surface (500 feet wide rather than 250 feet wide) so that landside development does not occur in areas closer to the runway that could be in conflict with development of a future instrument approach at the Airport.

There are no obstructions to the planned primary surface for Runway 8-26.

Approach surfaces are longitudinally centered on the extended runway centerline and extend outward and upward from each end of the primary surface. The slope and configuration of each runway approach surface also vary as a function of runway type and availability of instrument approaches. As previously noted, Runway 8-26 is a visual runway with visual approaches to both runway ends. Therefore, Runways 8 and 26 have approach surfaces with an inner width of 500 feet that extend outward and upward at a 20 to 1 slope for a distance of 5,000 feet to an outer width of 1,500 feet.

There are no obstructions to the approach surfaces for Runway 8 -26.

The **transitional surfaces** extend outward and upward from the primary and approach surfaces to the horizontal surface at right angles to the runway centerline at a slope of 7 to 1. There are four obstructions to the Airport's transitional surfaces. Three of the transitional surface obstructions are 40-foot tall light poles and are recommended to be relocated or lighted with a red obstruction light. Specific obstruction information and corrective actions are shown on Sheet 5.

The fourth obstruction is a private hangar referred to as Building 10. This hangar is on the edge of the surface and is marked with a red obstruction light on the southwest corner of the building. It is recommended this structure be demolished upon acquisition of the property.

The **horizontal surface** is a horizontal plane 150 feet above the established airport elevation, which in the case of Banning Municipal Airport is 2,223 feet above mean sea level (MSL). Thus, the horizontal surface is at an elevation of 2,373 feet above mean sea level. The perimeter of the horizontal surface is delineated by arcs with a radius of 5,000 feet from the center point of the runway ends for Runways 8 and 26. Adjacent arcs are connected by lines that are tangent to these arcs. There are no obstructions to the horizontal surface.

The **conical surface** extends outward and upward from the edge of the horizontal surface at a slope of 20 to 1 for a horizontal distance of 4,000 feet. There are no known obstructions to the airport's conical surface.

7.04-1 Runway Protection Zones (RPZ)

Runway protection zones are also shown on Sheets 2, 3, and 5 of the ALP drawing set. As defined by FAA AC 150/5300-13, Airport Design, the function of the RPZ is to enhance the protection of people and property on the ground by clearing RPZ areas (and maintaining them clear of incompatible objects and activities). This is best done by obtaining property interest in the RPZ area giving the airport owner the desired degree of control. The RPZ is trapezoidal in shape and centered on the extended runway centerline. The dimensions of the RPZ are determined by the type of aircraft that the facility expects to serve, and by the approach visibility minimums for each runway end.

The RPZ begins 200 feet from each runway end. For Runways 8 and 26, with approach visibility minimums of not lower than one mile and serving aircraft in Approach Category B, the RPZ length is 1,000 feet, the inner width is 500 feet, and the outer width of the RPZ is 700 feet.

The Airport currently controls the land in the existing RPZ through ownership for Runway 8. However, a portion of the RPZ for Runway 26 is located within the Morongo Reservation property. A letter addressed to the City of Banning from the FAA, dated January 27, 1978 (Appendix C), waives the requirement to own or have control of the property in the clear zone (RPZ) for Runway 26.

The Runway 8 RPZ extends into a portion of a 0.63 acre parcel. The property is located along John Street and the Southern Pacific Railroad and over a portion of East Lincoln Street. Obtaining ownership of this property will assure the Airport adequate control over current and future objects and obstructions in these areas, which is considered critical to the continued safe operation of the Airport.

7.04-2 Threshold Siting Analysis

Runway threshold siting requirements are outlined in FAA Advisory Circular 150/5300-13, Airport Design, Appendix 2. This document identifies specific dimensions and slopes for all runway ends based on the type of aircraft operations and instrumentation associated with that runway. In most cases, the threshold is located at the beginning of full-strength runway pavement. However, displacement of the threshold may be required when it is not possible to remove or relocate an obstruction in the airspace required for landing an aircraft.

Design standards for the runway safety area lengths required relocating the threshold for Runway 26. Currently, the threshold is relocated 235 feet allowing aircraft to utilize the area behind the runway threshold for taxiing only. Both runways are expected to support smaller airplanes with approach speeds greater than 50 knots with visual runways. The threshold siting surfaces for both runways begins at the runway end markings and extend at an upward slope at 20:1. The threshold siting surfaces are clear of any obstructions.

7.04-3 Obstruction Summary

It should be noted that an object is considered an obstruction if it penetrates a FAR Part 77 surface. A bush or tree top located within 10 feet of an FAR Part 77 surface may also be considered an obstruction (based on anticipated growth). In addition, FAA design standards recommend clearing the entire Runway Protection Zone of all aboveground objects. As can be seen from the previous information, the airspace surrounding Banning Municipal Airport contains four obstructions. Three are 40-foot light poles and one is Building #10 (a private hangar) to the transitional surfaces.

It is recommended that the light poles be relocated or marked with red obstruction lights and that Building #10 be demolished upon acquisition of the property. There are no other obstructions to FAR Part 77 surfaces.

7.05 Land Use and Ground Access Plan

Land Use and Ground Access Plan (**Sheet 7 of 8**) indicates the overall pattern of land use and ground access around Banning Municipal Airport. It also indicates the existing land uses in the immediate area of the Airport.

The immediate area surrounding the airport is a mixture of Industrial and Airport Industrial uses. Although the airport does not have a history of frequent aircraft noise-related complaints, the approach and departure paths to most airports may receive a higher level of perceived noise exposure due to aircraft overflights.

7.05-1 Comprehensive Planning and Zoning

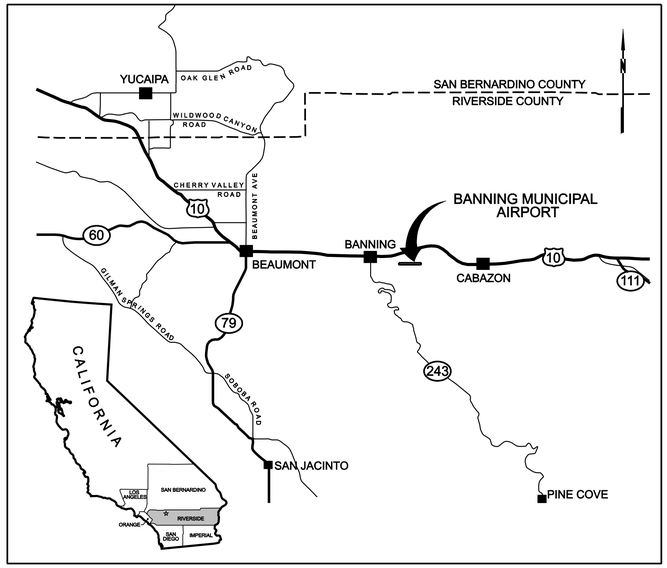
The City of Banning and the communities near the Airport are encouraged to establish an Airport Approach District or Airport Zoning District, to help mitigate the potential impacts of the airport and discourage incompatible land uses adjacent to the airport. An effective working relationship between the Airport and the surrounding communities is perhaps the most important single step in accomplishing the process of compatible land use planning and support for achieving airport-oriented land use measures.

As an example, in certain cases (such as the erection of water towers, communications, antennae, etc.) structures may penetrate the approach or navigational airway surfaces associated with runways at the airport. Determinations of the height of structures by airport and community representatives on a case-by-case basis may be necessary to insure that consideration is given to the placement of potential hazards near the Airport. This process should include information available to airport personnel transmitted through an active involvement in community affairs.

7.05-2 Encourage and Maintain Compatible Land Uses

Recognizing that low-density residential development may not, and most likely should not, be eliminated from all areas near the Airport that may be impacted by some level of aircraft sound, a policy of encouraging compatible development is recommended. This includes continued promotion of open land and industrial/commercial development in available vacant areas near the Airport. It is important to maintain communication with the Morongo Band of Mission Indians as to future development plans on their land east of Runway 26. To this end, the Airport should make it a goal to maintain land use compatibility within the RPZ.

Property surrounding the airport has been recommended for acquisition for the planning period. Four noncontiguous parcels totaling approximately 13 acres are recommended for acquisition (**Sheet 8 of 8)**.



LOCATION MAP

NOT TO SCALE

AIRPORT MASTER PLAN UPDATE

BANNING MUNICIPAL AIRPORT

RIVERSIDE COUNTY

BANNING, CALIFORNIA

SHEET NO.	TITLE
1.	TITLE SHEET
2.	EXISTING AIRPORT LAYOUT
3.	AIRPORT LAYOUT PLAN
4.	TERMINAL AREA PLAN
5.	AIRSPACE PLAN AND OBSTRUCTION DATA
6.	INNER APPROACH PLANS AND PROFILES
7.	LAND USE DRAWING
8.	EXHIBIT A / AIRPORT PROPERTY MAP

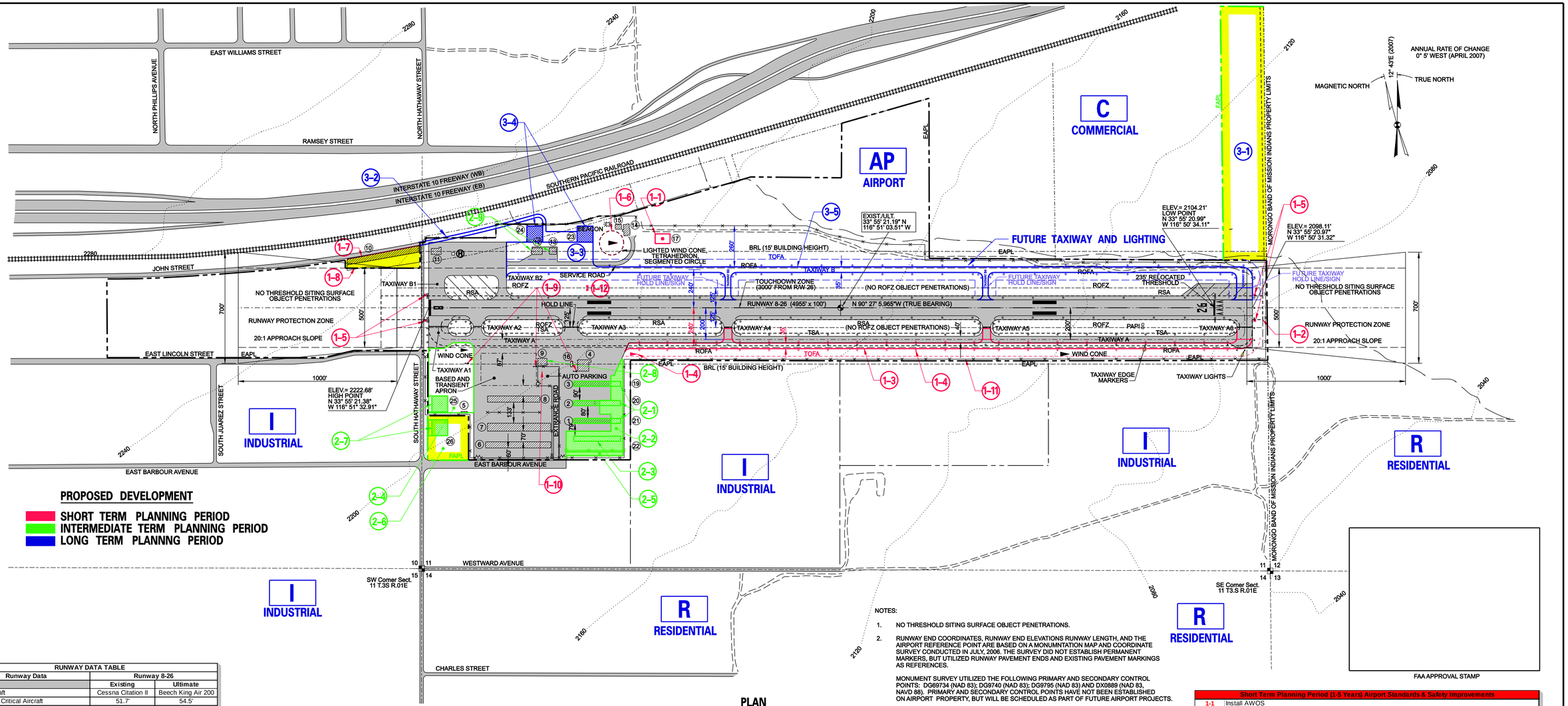
NOTE:
WIND DATA FOR THIS AIRPORT IS NOT AVAILABLE. ACQUISITION OF AN AWOS FOR COLLECTION OF WIND DATA IS SCHEDULED IN THE NEXT TWO YEARS.

MARCH 2007

CITY OF BANNING, CALIFORNIA

DUANE BURK, DIRECTOR OF PUBLIC SERVICES

C&S COMPANIES
ENGINEERS
DESIGN BUILD
TECHNICAL RESOURCES
OPERATIONS



PROPOSED DEVELOPMENT

- SHORT TERM PLANNING PERIOD
- INTERMEDIATE TERM PLANNING PERIOD
- LONG TERM PLANNNG PERIOD

PLAN

SCALE: 1"=300'

300 0 300 600FT.

300'

NOTES:

1. NO THRESHOLD SITING SURFACE OBJECT PENETRATIONS.
2. RUNWAY END COORDINATES, RUNWAY END ELEVATIONS RUNWAY LENGTH, AND THE AIRPORT REFERENCE POINT ARE BASED ON A MONUMNTATION MAP AND COORDINATE SURVEY CONDUCTED IN JULY, 2006. THE SURVEY DID NOT ESTABLISH PERMANENT MARKERS, BUT UTILIZED RUNWAY PAVEMENT ENDS AND EXISTING PAVEMENT MARKINGS AS REFERENCES.

   MONUMENT SURVEY UTILIZED THE FOLLOWING PRIMARY AND SECONDARY CONTROL POINTS: DG69734 (NAD 83); DG9740 (NAD 83); DG9795 (NAD 83) AND DX0889 (NAD 83, NAVD 88). PRIMARY AND SECONDARY CONTROL POINTS HAVE NOT BEEN ESTABLISHED ON AIRPORT PROPERTY, BUT WILL BE SCHEDULED AS PART OF FUTURE AIRPORT PROJECTS.
3. USABLE RUNWAY LENGTH BASED ON MONUNMENTATION SURVEY CONDUCTED IN JULY, 2006. THE 235' OF PAVEMENT PRIOR TO RELOCATED THRESHOLD IS PART OF THE TAXIWAY AND IS NOT DESIGNATED OR MARKED USABLE FOR TAKE OFF OR LANDINGS.
4. ACCURATE GROUND COUTOUR DATA AT 2' TO 10' INTERVALS IS NOT AVAILABLE WITH EXISTING SURVEY DATA.
5. MAGNETIC VARIATION BASED ON NOAA NATIONAL GEOPHYSICAL DATA CENTER, INTERNATIONAL GEOMAGNETIC REFERENCE FIELD 10TH GENERATION (2005).

RUNWAY DATA TABLE

Runway Data	Runway 8-26	
	Existing	Ultimate
Critical Aircraft	Cessna Citation II	Beech King Air 200
Wingspan of Critical Aircraft	51.7'	54.5'
Undercarriage width of Critical Aircraft	14' 4"	14' 8"
Approach Speed of Critical Aircraft	108 knots	96 knots
Max. Certified Takeoff Weight of Critical Aircraft	13,300 lbs	12,500 lbs
Effective Gradient (%)	2.4	2.4
Maximum Gradient (%)	2.4	2.4
Pavement Design Strength	40,000 lbs sw 60,000 lbs dw	40,000 lbs sw 60,000 lbs dw
Approach Visibility Minimums for each Runway End	Visual / Visual	Visual / Visual
RSA Length Beyond Stop End of Runway	300'	300'
RSA Width	150'	150'
ROFA Length Beyond Stop End of Runway	300'	300'
ROFA Width	500'	500'
ROFZ Length Beyond Stop End of Runway	200'	200'
ROFZ Width	250'	250'
Distance from Runway Centerline to Hold Bars and Signs	125'	125'
Marking for each Runway End	Visual / Visual	Visual / Visual
Standard Separation - Runway Centerline to Parallel Taxiway Centerline	200'	240'
Standard Separation - Taxiway Centerline to Fixed or movable object	65.5'	65.5'
Taxiway Object Free Area Width	131'	131'
Taxiway Safety Area Width	79'	79'
Taxiway Wingtip Clearance	18'	18'
Elevations (NAVD 88) of Runways End	2,222'/2,104'	2,222'/2,104'
Elevation of Runway Touchdown Zone (TDZ)	2,223'/2,188'	2,223'/2,188'
Elevation of Runway High Point	2,222	2,222
Elevation of Runway Low Point	2,104	2,104
Line of Sight Requirments met	N/A	N/A
Runway Length	4,955'	4,955'
Runway Width	100'	100'
Runway Surface Type	Asphalt	Asphalt
Taxiway Surface Type	Asphalt	Asphalt
Approach Slope	8-20:1 / 26-20:1	8-20:1 / 26-20:1
Pavement Strength		
Single Wheel	40,000 lbs	40,000 lbs
Dual Wheel	60,000 lbs	60,000 lbs
Runway Lighting	MITL	MITL
Navigational Aids	beacon, segmented circle, wind cones, tetrahedron	beacon, segmented circle, wind cones, tetrahedron, GPS
Visual Aids	26-PAPI	8-26 PAPI, REILS

Deviations from FAA Airport Design Standards

No.	Design Standard	Required	Existing	Action	Date Approved
A	RUNWAY TAXIWAY SEPARATION	240'	200'	RELOCATE TAXIWAY SOUTH	

AIRPORT DATA TABLE

Airport Data	Existing	Proposed
Airport Elevation (MSL)	2,222	2,222
Airport Reference Point (NAD 83/NAVD 88)		
Latitude	33° 55' 21.19" N	33° 55' 21.19" N
Longitude	116° 51' 03.51" W	116° 51' 03.51" W
NAVAIDS	Beacon, Lighted Wind Cone, Tetrahedron, PAPI	Beacon, Lighted Wind Cone, Tetrahedron, PAPI, AWOS
Mean Max Temperature of Hottest Month August	96.6°F	96.6°F
Airport Reference Code	B-II	B-II
GPS	N/A	N/A

FACILITIES TABLE

Existing			Proposed		
#	Description	Top Building Elevation*	#	Facility Name	Top Building Elevation*
1	Farell Cooper T-Hangar D	2197'	17	AWOS	2240'
2	Farell Cooper T-Hangar C	2205'	19	New T-Hangar Building D	2190'
3	Farell Cooper T-Hangar B	2205'	20	New T-Hangar Building C	2205'
4	Conventional Hangar	2211'	21	New T-Hangar Building B	2205'
5	Air Quality Monitor Station	2210'	22	New T-Hangar Building	2195'
6	T-Hangar C&D	2206'	23	New Conventional Hangar (north)	2241'
7	T-Hangar A&B	2209'	24	New Conventional Hangar (north)	2235'
8	T-Hangar E	2210'	25	New Conventional Hangar (north)	2220'
9	Terminal Building	2219'	26	New Conventional Hangar (south)	2220'
10	Private Conventional Hangars	2254'			
11	Mercy Air Mobile Building	2251'			
12	Conventional Hangar G	2237'			
13	Conventional Hangar H	2234'			
14	Conventional Hangar Building	2216'			
15	Electrical Building	2214'			
16	Fuel Station/ Island	2206'			

Top Building Elevations are estimated

NOTE:

THE CONTENTS OF THIS PLAN DO NOT NECESSARILY REFLECT THE OFFICIAL VIEWS OR POLICY OF THE FAA. ACCEPTANCE OF THIS DOCUMENT BY THE FAA DOES NOT IN ANY WAY CONSTITUTE A COMMITMENT ON THE PART OF THE UNITED STATES TO PARTICIPATE IN ANY DEVELOPMENT DEPICTED HEREIN NOR DOES IT INDICATE THAT THE PROPOSED DEVELOPMENT IS ENVIRONMENTALLY ACCEPTABLE IN ACCORDANCE WITH APPROPRIATE PUBLIC LAWS.

CITY OF BANNING

APPROVED BY: _____ DUANE BURK, DIRECTOR OF PUBLIC WORKS

DATE: _____

LEGEND

Existing	Description	Proposed
	Runway Centerline	
RSA	Runway Safety Area (RSA)	RSA
ROFA	Runway Object Free Area (ROFA)	ROFA
ROFZ	Runway Obstacle Free Zone (ROFZ)	ROFZ
	Runway Protection Zone (RPZ)	
TOFA	Taxiway Object Free Area (TOFA)	TOFA
TSA	Taxiway Safety Area (TSA)	TSA
BRL	Building Restriction Line (BRL)	BRL
	Airport Buildings	
	Other Buildings	
EAPL	Airport Property Line	FAPL
	Other Property Lines	
	Railroad	
	Fence	
	Roads	
2000	Ground Elevation Contours	2000
	Overhead Lights	
	PAPI	
	Windcone	
	Helipad	
	Section Corners	

RUNWAY END COORDINATES (NAD 83/NAVD 88)

Latitude - 8	33° 55' 21.38" N
Longitude - 8	116° 51' 32.91" W
Latitude - 26	33° 55' 20.99" N
Longitude - 26	116° 50' 34.11" W

Short Term Planning Period (1-5 Years) Airport Standards & Safety Improvements

1-1	Install AWOS
1-2	Extend and grade runway safety area 65 feet east (Rwy 26)
1-3	Relocate Taxiway A
1-4	Install Taxiway A lighting
1-5	Install REILS (Rwy 8 & Rwy 26)
1-6	Replace segmented circle/relocate windcone
1-7	Acquire private property (Building #10)
1-8	Remove obstruction - Bldg #10 (private hangars)
1-9	Relocate light pole obstructions
1-10	Sign and stripe existing terminal parking lot
1-11	Install new airport security entry fence
1-12	Install PAPI for Runway 8

Intermediate Planning Period (6-10 Years) Terminal Area Development

2-1	Demolish T-hangars #1, #2, & #3
2-2	Site work to improve drainage between hangars #1, #2 & #3
2-3	Construct four (4) new T-hangars (near former T-hangars #1, #2, & #3)
2-4	Construct/expand apron area west of existing based aircraft parking area
2-5	Construct new automobile parking south of four (4) new T-hangars along East Barbour Avenue
2-6	Acquire 1.63 acres; northeast corner of East Barbour Ave. & S. Hathaway St
2-7	Construct conventional hangars on new apron area west of existing based aircraft area
2-8	Renovate terminal building
2-9	Demolish bldgs #12 & #13

Long Term Planning Period (11-20 Years) Future Development as Demand Warrants

3-1	Acquire for future airport development
3-2	Construct new access road from John Street to northwest portion of airport
3-3	Construct new apron north of Runway 8-26
3-4	Construct two (2) 10,000 SF conventional hangars on new apron area north of Runway 8-26
3-5	Construct 2,600' X 35' partial parallel taxiway north of Runway 8-26

FAA APPROVAL STAMP

NO	REVISION	DATE	BY	APP'D
2	ALP UPDATE	12/26/1990	JC	
1	ALP UPDATE	2/25/1985	JC	

REVISIONS

BANNING MUNICIPAL AIRPORT

CITY OF BANNING — RIVERSIDE COUNTY, CALIFORNIA

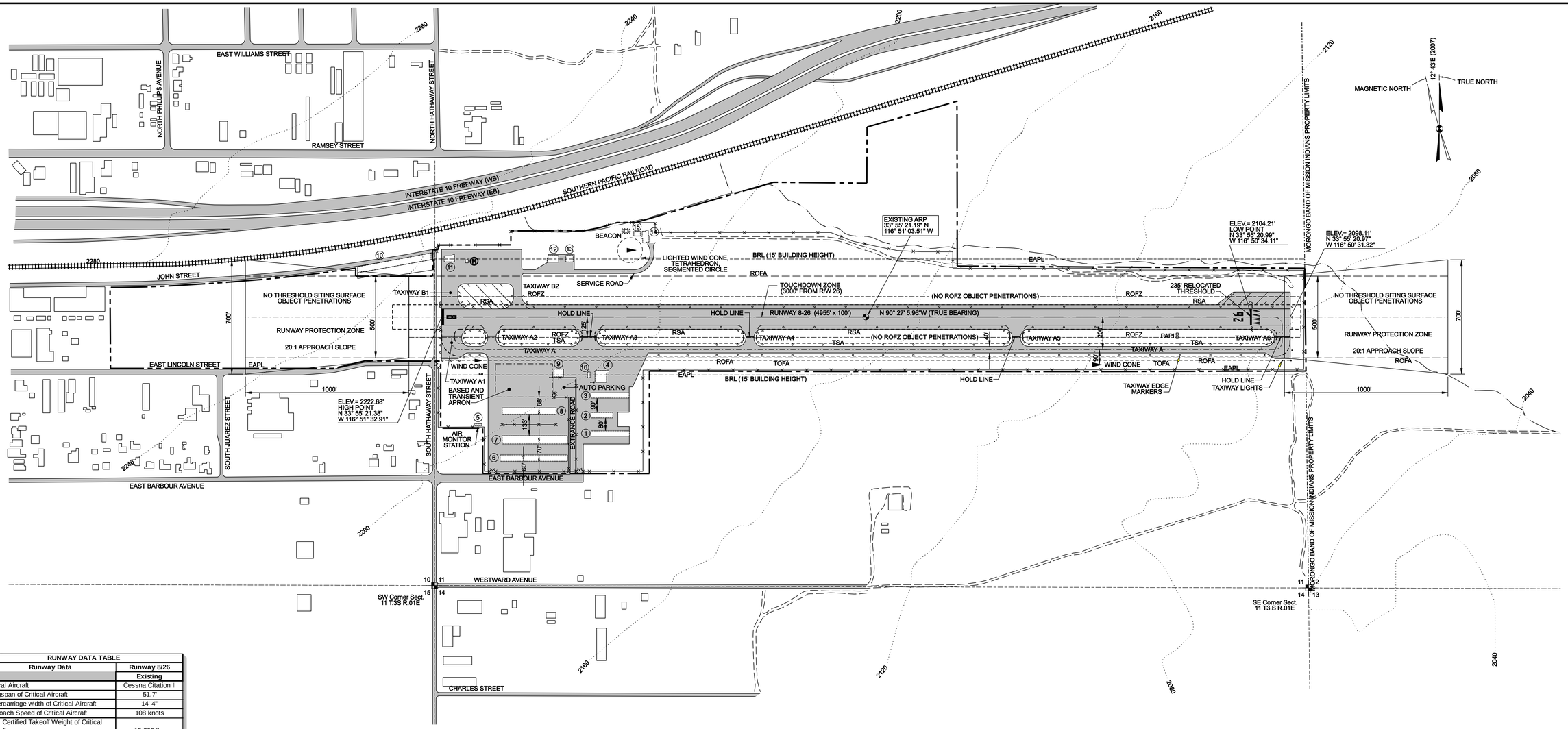
AIRPORT LAYOUT PLAN

DESIGNED: JCT | DRAWN: JCT | SHEET 3 OF 8

CHECKED: RWW, CRM | DATE: MARCH 2007

PROJECT FILE NO.: D55.001.001 | CADD FILE NO.: BANNING ALP.DGN

C&S COMPANIES — ENGINEERS, DESIGN BUILD, TECHNICAL RESOURCES, OPERATIONS



PLAN

SCALE: 1"=300'

300 0 300 600FT.

300'

RUNWAY DATA TABLE	
Runway Data	**Runway 8/26**
	Existing
Critical Aircraft	Cessna Citation II
Wingspan of Critical Aircraft	51.7'
Undercarriage width of Critical Aircraft	14' 4"
Approach Speed of Critical Aircraft	108 knots
Max. Certified Takeoff Weight of Critical Aircraft	13,300 lbs
Effective Gradient (%)	2.4
Maximum Gradient (%)	2.4
Pavement Design Strength	40,000 lbs sw 60,000 lbs dw
Approach Visibility Minimums for each Runway End	Visual / Visual
RSA Length Beyond Stop End of Runway	300'
RSA Width	150'
ROFA Length Beyond Stop End of Runway	300'
ROFA Width	500'
ROFZ Length Beyond Stop End of Runway	200'
ROFZ Width	250'
Distance from Runway Centerline to Hold Bars and Signs	125'
Marking for each Runway End	Visual / Visual
Standard Separation - Runway Centerline to Parallel Taxiway Centerline	200'
Standard Separation - Taxiway Centerline to Fixed or movable object	65.5'
Taxiway Object Free Area Width	131'
Taxiway Safety Area Width	79'
Taxiway Wingtip Clearance	18'
Elevations (NAVD 88) of Runways End	2,222'/2,104'
Elevation of Runway Touchdown Zone (TDZ)	2,223'/2,188'
Elevation of Runway High Point	2,222
Elevation of Runway Low Point	2,104
Line of Sight Requirments met	N/A
Runway Length	4,955'
Runway Width	100'
Runway Surface Type	Asphalt
Taxiway Surface Type	Asphalt
Approach Slope	8-20:1 / 26-20:1
Pavement Strength	
Single Wheel	40,000 lbs
Dual Wheel	60,000 lbs
Runway Lighting	MITL
Navigational Aids	beacon, segmented circle, wind cones, tetrahedron
Visual Aids	26-PAPI

LEGEND	
Existing	**Description**
	Runway Centerline
RSA	Runway Safety Area (RSA)
ROFA	Runway Object Free Area (ROFA)
ROFZ	Runway Obstacle Free Zone (ROFZ)
	Runway Protection Zone (RPZ)
TOFA	Taxiway Object Free Area (TOFA)
TSA	Taxiway Safety Area (TSA)
BRL	Building Restriction Line (BRL)
	Airport Buildings
	Other Buildings
EAPL	Airport Property Line
	Other Property Lines
	Railroad
	Fence
	Roads
2000	Ground Elevation Contours
	Overhead Lights
8	PAPI
	Windcone
H	Helipad
	Section Corners

AIRPORT DATA TABLE	
Airport Data	**Existing**
Airport Elevation (MSL)	2,222'
Airport Reference Point (NAD 83)	
Latitude	33° 55' 21.194" N
Longitude	116° 51' 03.515" W
NAVAIDS	Beacon, Lighted Wind Cone, Tetrahedron, PAPI
Mean Max Temperature of Hottest Month (August)	96.6°F
Airport Reference Code	B-II
GPS	N/A

FACILITIES TABLE		
Existing		
#	**Description**	**Top Building Elevation***
1	Farell Cooper T-Hangar D	2197'
2	Farell Cooper T-Hangar C	2205'
3	Farell Cooper T-Hangar B	2205'
4	Conventional Hangar	2211'
5	Air Quality Monitor Station	2210'
6	T-Hangar C&D	2206'
7	T-Hangar A&B	2209'
8	T-Hangar E	2210'
9	Terminal Building	2219'
10	Private Conventional Hangars	2254'
11	Mercy Air Mobile Building	2251'
12	Conventional Hangar G	2237'
13	Conventional Hangar H	2234'
14	Conventional Hangar Building	2216'
15	Electrical Building	2214'
16	Fuel Station/ Island	2206'

Top Building Elevations are estimated

RUNWAY END COORDINATES (NAD 83/NAVD 88)	
Latitude - 8	33° 55' 21.38" N
Longitude - 8	116° 51' 32.91" W
Latitude - 26	33° 55' 20.99" N
Longitude - 26	116° 50' 34.11" W

NOTES:

1. NO THRESHOLD SITING SURFACE OBJECT PENETRATIONS.
2. RUNWAY END COORDINATES, RUNWAY END ELEVATIONS RUNWAY LENGTH, AND THE AIRPORT REFERENCE POINT ARE BASED ON A MONUMNTATION MAP AND COORDINATE SURVEY CONDUCTED IN JULY, 2006. THE SURVEY DID NOT ESTABLISH PERMANENT MARKERS, BUT UTILIZED RUNWAY PAVEMENT ENDS AND EXISTING PAVEMENT MARKINGS AS REFERENCES.

   MONUMENT SURVEY UTILIZED THE FOLLOWING PRIMARY AND SECONDARY CONTROL POINTS: DG69734 (NAD 83); DG9740 (NAD 83); DG9795 (NAD 83) AND DX0889 (NAD 83, NAVD 88). PRIMARY AND SECONDARY CONTROL POINTS HAVE NOT BEEN ESTABLISHED ON AIRPORT PROPERTY, BUT WILL BE SCHEDULED AS PART OF FUTURE AIRPORT PROJECTS.
3. USABLE RUNWAY LENGTH BASED ON MOUNUMENTATION SURVEY CONDUCTED IN JULY, 2006. THE 235' OF PAVEMENT PRIOR TO RELOCATED THRESHOLD IS PART OF THE TAXIWAY AND IS NOT DESIGNATED OR MARKED USABLE FOR TAKE OFF OR LANDINGS.
4. ACCURATE GROUND COUTOUR DATA AT 2' TO 10' INTERVALS IS NOT AVAILABLE WITH EXISTING SURVEY DATA.
5. MAGNETIC VARIATION BASED ON NOAA NATIONAL GEOPHYSICAL DATA CENTER, INTERNATIONAL GEOMAGNETIC REFERENCE FIELD 10TH GENERATION (2005).

NO	REVISION	DATE	BY	APP'D
2	ALP UPDATE	12/26/1990	FC	
1	ALP UPDATE	2/25/1985	FC	

REVISIONS

FIGURE 2-4

BANNING MUNICIPAL AIRPORT

CITY OF BANNING — RIVERSIDE COUNTY, CALIFORNIA

EXISTING AIRPORT LAYOUT

DESIGNED: JCT | DRAWN: JCT | SHEET 2 OF 8

CHECKED: RWW | DATE: MARCH 2007

PROJECT FILE NO.: D55.001.001 | CADD FILE NO.: BANNING EAL.DGN

C&S COMPANIES — ENGINEERS, DESIGN BUILD, TECHNICAL RESOURCES, OPERATIONS

CONICAL SURFACE
OUTER ELEVATION = 2572.68'
20:1 SLOPE

HORIZONTAL SURFACE
ELEVATION = 2372.68'

TRANSITIONAL SURFACE
7:1 SLOPE

PRIMARY SURFACE

OUTER LIMITS OF
RUNWAY PROTECTION ZONE

APPROACH SLOPE 20:1

R/W 8 END

R/W 26 END

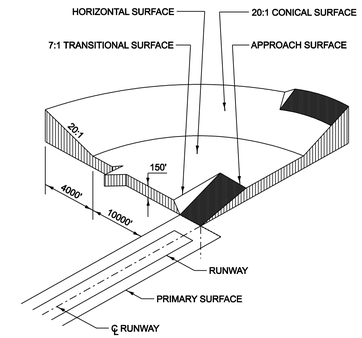
AIRPORT PROPERTY LINE

MAGNETIC NORTH

TRUE NORTH

12° 43E (2007)

OBSTRUCTION TABLE				
Part 77 Surface: Runway 8 Approach				
Part 77 Slope: 20:1				
Number	**Description**	**Top Elevation**	**Penetration**	**Proposed Action**
N/A				
Part 77 Surface: Runway 26 Approach				
Part 77 Slope: 20:1				
Number	**Description**	**Top Elevation**	**Penetration**	**Proposed Action**
N/A				
Part 77 Surface: Primary				
N/A				
Number	**Description**	**Top Elevation**	**Penetration**	**Proposed Action**
Part 77 Surface: Transitional				
Part 77 Slope: 7:1				
Number	**Description**	**Top Elevation**	**Penetration**	**Proposed Action**
1	Light Pole	2,253'	26'	Remove or Obs Light
2	Light Pole	2,244'	22'	Remove or Obs Light
3	Light Pole	2,236'	19'	Remove or Obs Light
4	Building #10	2,254'	14'	Remove
Part 77 Surface: Horizontal				
Elevation: 2375'				
Number	**Description**	**Top Elevation***	**Penetration**	**Proposed Action**
5	Terrain	2,650'	300'	None
Part 77 Surface: Conical				
Part 77 Slope: 20:1				
Number	**Description**	**Top Elevation***	**Penetration**	**Proposed Action**
6	Terrain	2,600'	250'	None
7	Terrain	3,170'	620'	None
8	Terrain	2,850	437'	None
*Note- Highest elevation within terrain area				



FAR PART 77 SURFACES

PLAN
SCALE: 1"=1000'

1000' 0 1000 2000FT.

NO	REVISION	DATE	BY	APP'D
2	ALP UPDATE	12/26/1990	FC	
1	ALP UPDATE	2/25/1985	FC	

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BANNING MUNICIPAL AIRPORT

CITY OF BANNING — RIVERSIDE COUNTY, CALIFORNIA

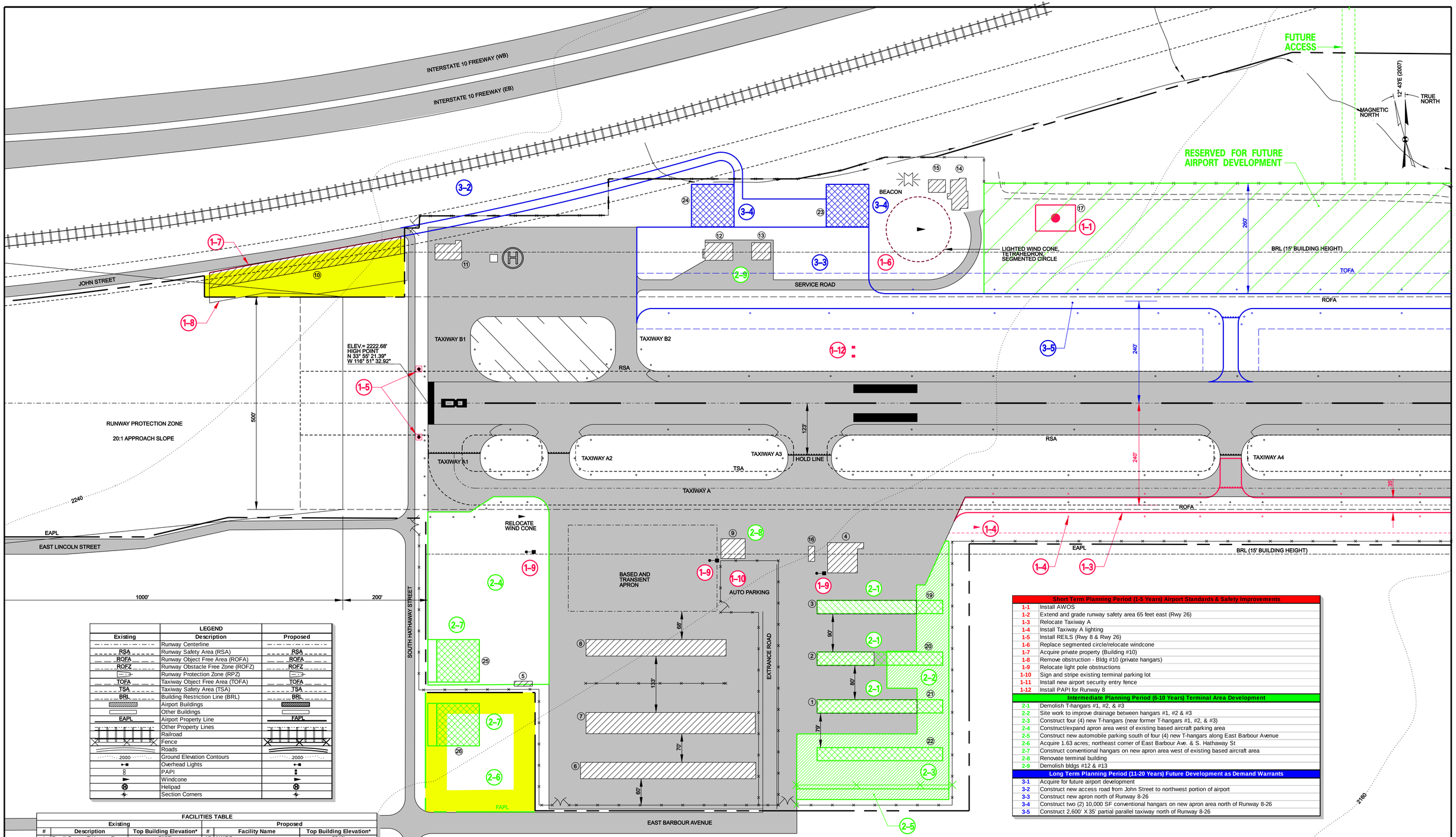
AIRSPACE PLAN AND OBSTRUCTION DATA

DESIGNED: JCT | DRAWN: JCT | SHEET 5 OF 8

CHECKED: RWW, CRM | DATE: MARCH 2007

PROJECT FILE NO.: D55.001.001 | CADD FILE NO.: BANNING AIRSPACE PLAN

C&S COMPANIES — ENGINEERS, DESIGN BUILD, TECHNICAL RESOURCES, OPERATIONS



LEGEND		
Existing	Description	Proposed
	Runway Centerline	
RSA	Runway Safety Area (RSA)	RSA
ROFA	Runway Object Free Area (ROFA)	ROFA
ROFZ	Runway Obstacle Free Zone (ROFZ)	ROFZ
	Runway Protection Zone (RPZ)	
TOFA	Taxiway Object Free Area (TOFA)	TOFA
TSA	Taxiway Safety Area (TSA)	TSA
BRL	Building Restriction Line (BRL)	BRL
	Airport Buildings	
	Other Buildings	
EAPL	Airport Property Line	FAPL
	Other Property Lines	
	Railroad	
	Fence	
	Roads	
2000	Ground Elevation Contours	2000
	Overhead Lights	
	PAPI	
	Windcone	
H	Helipad	H
	Section Corners	

FACILITIES TABLE

Existing			Proposed		
#	Description	Top Building Elevation*	#	Facility Name	Top Building Elevation*
1	Farell Cooper T-Hangar D	2197'	17	AWOS	2240'
2	Farell Cooper T-Hangar C	2205'	19	New T-Hangar Building D	2190'
3	Farell Cooper T-Hangar B	2205'	20	New T-Hangar Building C	2205'
4	Conventional Hangar	2211'	21	New T-Hangar Building B	2205'
5	Air Quality Monitor Station	2210'	22	New T-Hangar Building	2195'
6	T-Hangar C&D	2206'	23	New Conventional Hangar (north)	2241'
7	T-Hangar A&B	2209'	24	New Conventional Hangar (north)	2235'
8	T-Hangar E	2210'	25	New Conventional Hangar (south)	2220'
9	Terminal Building	2219'	26	New Conventional Hangar (south)	2220'
10	Private Conventional Hangars	2254'			
11	Mercy Air Mobile Building	2251'			
12	Conventional Hangar G	2237'			
13	Conventional Hangar H	2234'			
14	Conventional Hangar Building	2216'			
15	Electrical Building	2214'			
16	Fuel Station/ Island	2206'			

Top Building Elevations are estimated

Short Term Planning Period (1-5 Years) Airport Standards & Safety Improvements	
1-1	Install AWOS
1-2	Extend and grade runway safety area 65 feet east (Rwy 26)
1-3	Relocate Taxiway A
1-4	Install Taxiway A lighting
1-5	Install REILS (Rwy 8 & Rwy 26)
1-6	Replace segmented circle/relocate windcone
1-7	Acquire private property (Building #10)
1-8	Remove obstruction - Bldg #10 (private hangars)
1-9	Relocate light pole obstructions
1-10	Sign and stripe existing terminal parking lot
1-11	Install new airport security entry fence
1-12	Install PAPI for Runway 8
Intermediate Planning Period (6-10 Years) Terminal Area Development	
2-1	Demolish T-hangars #1, #2, & #3
2-2	Site work to improve drainage between hangars #1, #2 & #3
2-3	Construct four (4) new T-hangars (near former T-hangars #1, #2, & #3)
2-4	Construct/expand apron area west of existing based aircraft parking area
2-5	Construct new automobile parking south of four (4) new T-hangars along East Barbour Avenue
2-6	Acquire 1.63 acres; northeast corner of East Barbour Ave. & S. Hathaway St
2-7	Construct conventional hangars on new apron area west of existing based aircraft area
2-8	Renovate terminal building
2-9	Demolish bldgs #12 & #13
Long Term Planning Period (11-20 Years) Future Development as Demand Warrants	
3-1	Acquire for future airport development
3-2	Construct new access road from John Street to northwest portion of airport
3-3	Construct new apron north of Runway 8-26
3-4	Construct two (2) 10,000 SF conventional hangars on new apron area north of Runway 8-26
3-5	Construct 2,600' X 35' partial parallel taxiway north of Runway 8-26

PLAN
SCALE: 1"=100'

100' 100 0 100 200FT.

NO	REVISION	DATE	BY	APP'D
2	ALP UPDATE	12/26/1990	FC	
1	ALP UPDATE	2/25/1985	FC	

REVISIONS

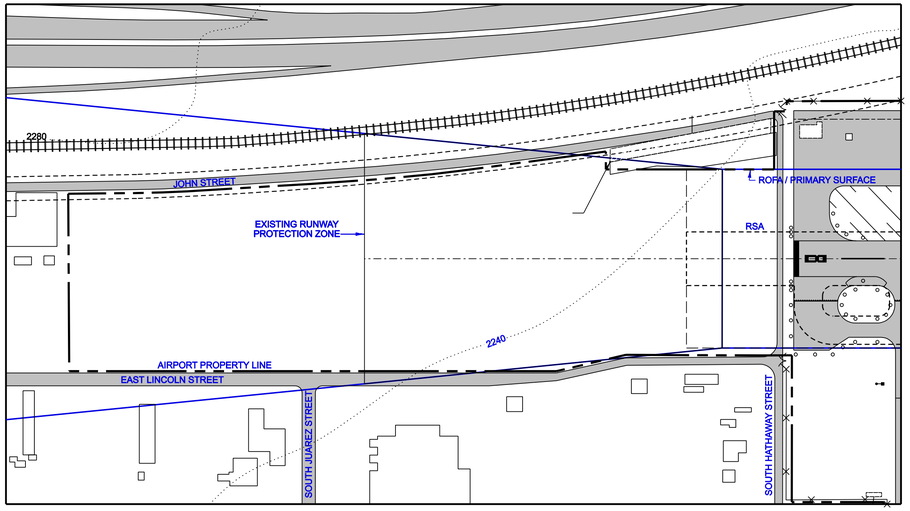
BANNING MUNICIPAL AIRPORT

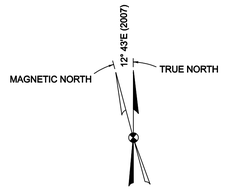
CITY OF BANNING — RIVERSIDE COUNTY, CALIFORNIA

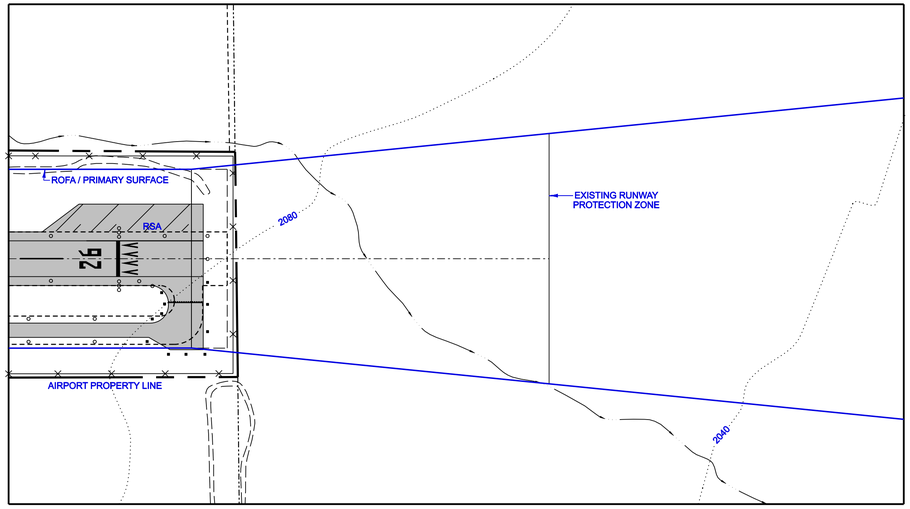
TERMINAL AREA PLAN

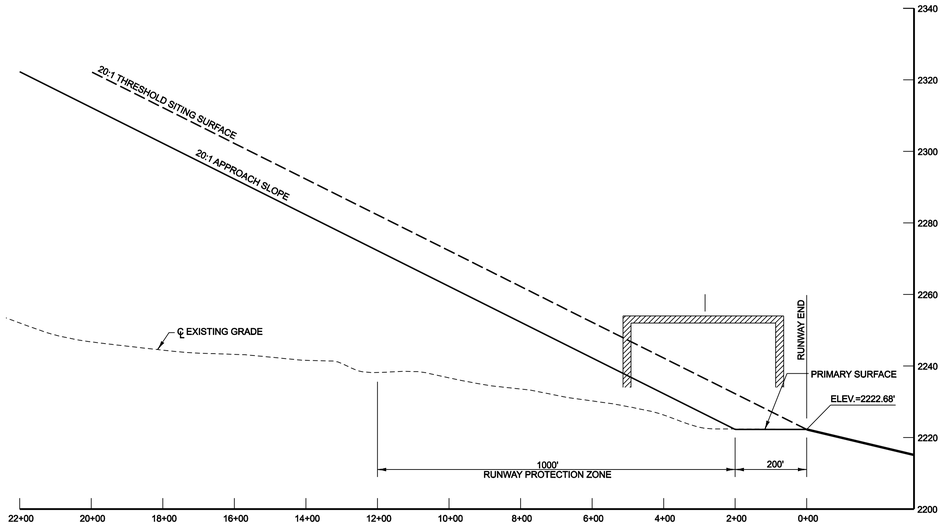
DESIGNED: JCT | DRAWN: JCT | SHEET 4 OF 8
CHECKED: RWW, CRM | DATE: MARCH 2007
PROJECT FILE NO.: D55.001.001 | CADD FILE NO.: BANNING TAP

C&S COMPANIES — ENGINEERS, DESIGN BUILD, TECHNICAL RESOURCES, OPERATIONS



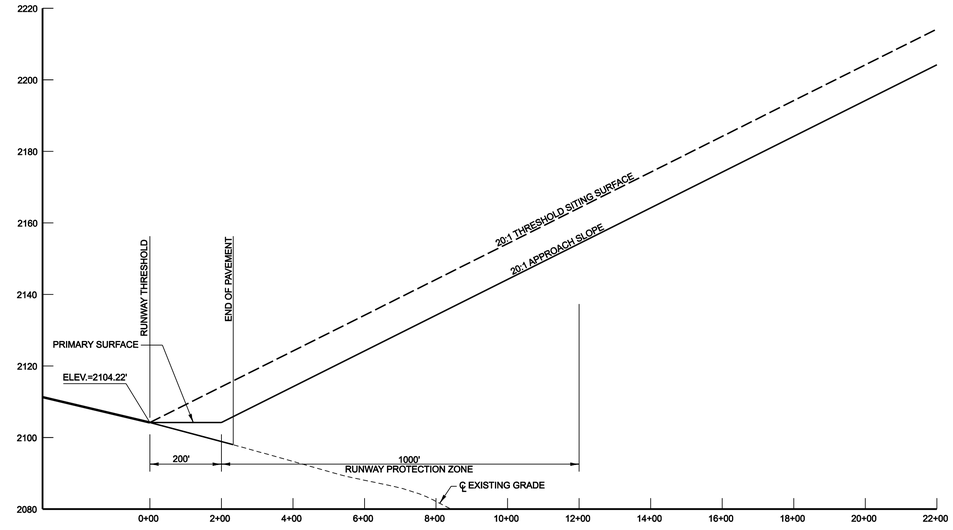






RUNWAY 8 INNER APPROACH PLAN AND PROFILE

SCALE: 1"=200' HORIZONTAL
1"=20' VERTICAL



RUNWAY 26 INNER APPROACH PLAN AND PROFILE

SCALE: 1"=200' HORIZONTAL
1"=20' VERTICAL

LEGEND

- APPROACH SURFACE
- THRESHOLD SITING SURFACE
- TREE OBSTRUCTION
- TERRAIN OBSTRUCTION
- POLE OBSTRUCTION
- BUILDING OBSTRUCTION

NOTES:
1. REFER TO OBSTRUCTION DATA TABLE ON SHEET 5 OF 8 FOR DESCRIPTION, ELEVATION, PENETRATION, AND PROPOSED ACTION FOR EACH OBSTRUCTION.
2. NO THRESHOLD SITING SURFACE OBJECT PENETRATIONS.

200' 200 0 200 400FT.
20' 20 0 20 40FT.

NO	REVISION	DATE	BY	APP'D
2	ALP UPDATE	12/26/1990	FC	
1	ALP UPDATE	2/25/1985	FC	

REVISIONS

BANNING MUNICIPAL AIRPORT

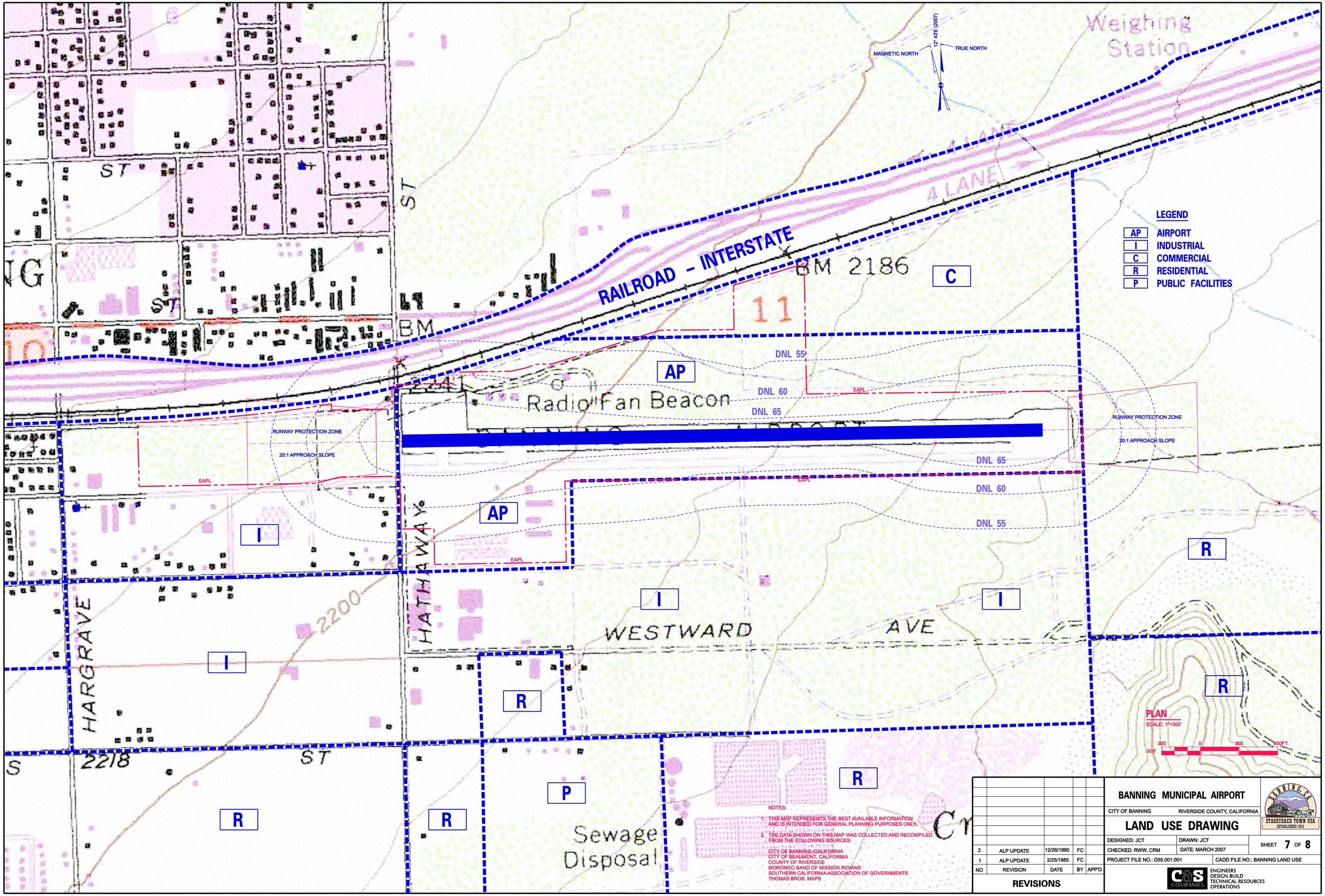
CITY OF BANNING — RIVERSIDE COUNTY, CALIFORNIA

INNER APPROACH PLANS & PROFILES

DESIGNED: JCT | DRAWN: JCT | SHEET 6 OF 8
CHECKED: RWW, CRM | DATE: MARCH 2007
PROJECT FILE NO.: D55.001.001 | CADD FILE NO.: BANNING INNER APP

BANNING, CA — STAGECOACH TOWN USA — ESTABLISHED 1913

C&S COMPANIES — ENGINEERS, DESIGN BUILD, TECHNICAL RESOURCES, OPERATIONS



NOTES:

1. THIS MAP REPRESENTS THE BEST AVAILABLE INFORMATION AND IS INTENDED FOR GENERAL PLANNING PURPOSES ONLY.
2. THE DATA SHOWN ON THIS MAP WAS COLLECTED AND RECOMPILED FROM THE FOLLOWING SOURCES:

CITY OF BANNING, CALIFORNIA
CITY OF BEAUMONT, CALIFORNIA
COUNTY OF RIVERSIDE
MORONGO BAND OF MISSION INDIANS
SOUTHERN CALIFORNIA ASSOCIATION OF GOVERNMENTS
THOMAS BROS. MAPS

NO	REVISION	DATE	BY	APP'D
2	ALP UPDATE	12/26/1990	FC	
1	ALP UPDATE	2/25/1985	FC	

REVISIONS

BANNING MUNICIPAL AIRPORT

CITY OF BANNING — RIVERSIDE COUNTY, CALIFORNIA

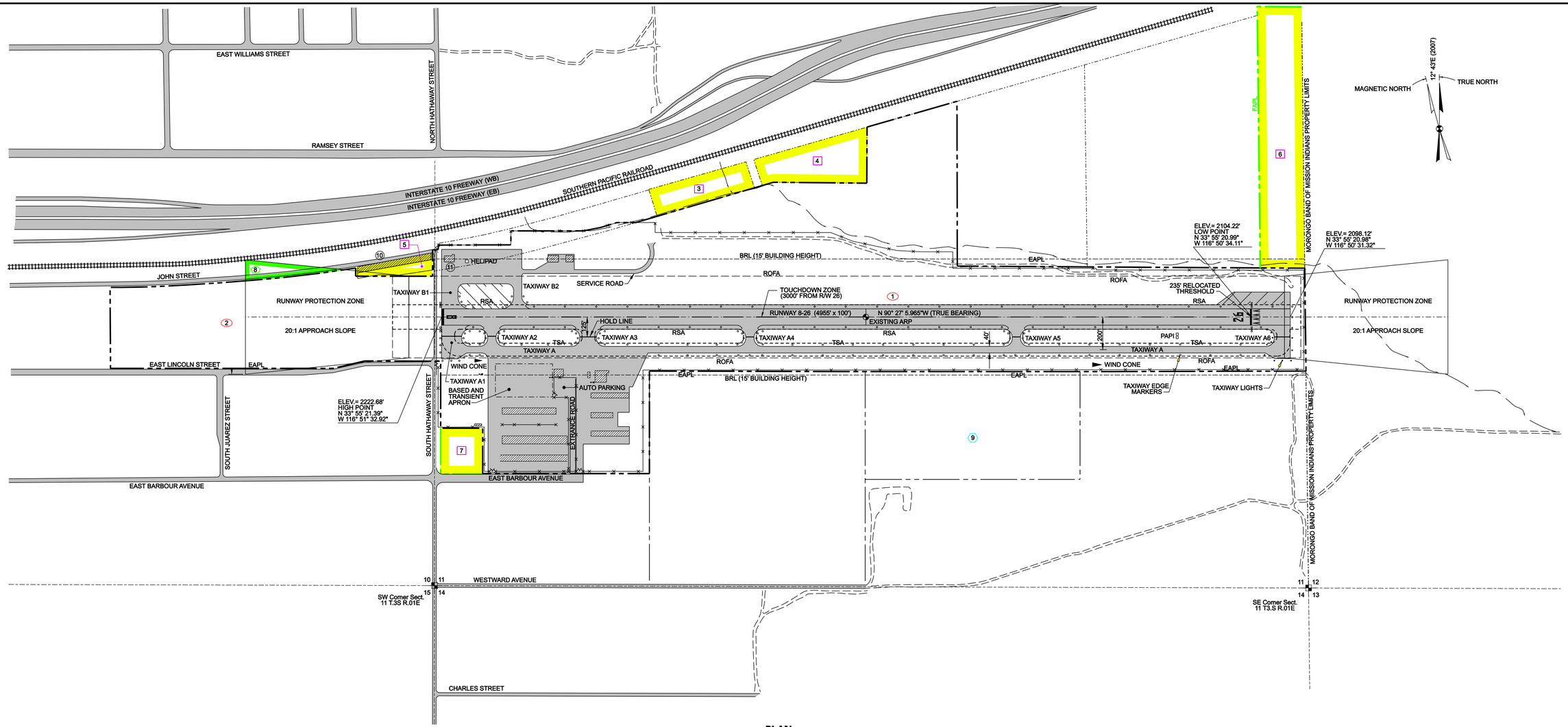
LAND USE DRAWING

DESIGNED: JCT — DRAWN: JCT — SHEET 7 OF 8

CHECKED: RWW, CRM — DATE: MARCH 2007

PROJECT FILE NO.: D55.001.001 — CADD FILE NO.: BANNING LAND USE

C&S COMPANIES
ENGINEERS
DESIGN BUILD
TECHNICAL RESOURCES
OPERATIONS



PLAN

SCALE: 1"=300'

300 0 300 600FT.

300'

EXISTING PROPERTY & EASEMENT TABLE						
Reference Number	Tax Parcel Number	Previous Owner	Acreage	Date of Acquisition	Grant Number or Purchase Information	Purpose of Acquisition or Type of Easement
1	532-130-012	Unknown	127.15	2/1/1977	Unknown	Airport
2	541-250-009	Deutsch Co.	19.32	6/1/1989	Unavailable/Unkown	Airport

PROPOSED ACQUISITION TABLE				
Reference Number	Tax Parcel Number	Owner	Acreage	Purpose
3	532-130-014	Deutsch Co.	1.33	Airport Development
4	532-130-015	Deutsch Co.	1.33	Airport Development
5	541-250-008	Heale, James F	0.83	Obstruction Removal
6	532-130-002	MIC Holdings LLC	10	Airport Development
7	532-130-003	Deutsch Co.	1.63	Airport Development

PROPOSED EASEMENT ACQUISITION TABLE				
Reference Number	Tax Parcel Number	Owner	Acreage	Type of Easement
8	541-250-021	Southern Pacific Railroad	0.45	RPZ

RELEASED PROPERTY TABLE			
Reference Number	Tax Parcel Number	Date of Release	Purpose of Release
9	532-130-018	11/2006	Non-Aeronautical Use

LEGEND		
Existing	Description	Proposed
	Runway Centerline	
RSA	Runway Safety Area (RSA)	RSA
ROFA	Runway Object Free Area (ROFA)	ROFA
ROFZ	Runway Obstacle Free Zone (ROFZ)	ROFZ
	Runway Protection Zone (RPZ)	
TOFA	Taxiway Object Free Area (TOFA)	TOFA
TSA	Taxiway Safety Area (TSA)	TSA
BRL	Building Restriction Line (BRL)	BRL
	Airport Buildings	
	Other Buildings	
EAPL	Airport Property Line	FAPL
	Other Property Lines	
	Railroad	
	Fence	
	Roads	
2000	Ground Elevation Contours	2000
	Overhead Lights	
	PAPI	
	Windcone	
	Helipad	
	Section Corners	

NOTES:

1. GRID BASED ON CALIFORNIA STATE PLANE COORDINATE SYSTEM, CENTRAL ZONE
2. CALIFORNIA STATE PLANE COORDINATE VALUES:

	NORTH	EAST
ARP	N33°55'21.19"	W116°51'03.51"
RW 08 END	N 33° 55' 21.38"	W 116° 51' 32.91"
RW 26 END	N 33° 55' 20.99"	W 116° 50' 34.11"

3. AREA = 150.86 ACRES (TITLE IN FEE)
4. THIS MAP WAS PREPARED FROM CERTAIN DEEDS AND PLANS OF RECORD, IS NOT INTENDED TO INDICATE AN ACTUAL BOUNDARY SURVEY AND IS SUBJECT TO ANY STATE OF FACTS AN ACCURATE AND UP-TO-DATE ABSTRACT OF TITLE WILL REVEAL.
5. ACREAGES LISTED IN TABLES WERE DERIVED FROM DEEDS AND PLANS OF RECORD, WERE NOT FIELD VERIFIED AND MAY NOT COINCIDE WITH THE ACREAGE CALCULATED BY SCALING THIS DRAWING.

NO	REVISION	DATE	BY	APP'D
2	ALP UPDATE	12/26/1990	JC	
1	ALP UPDATE	2/25/1985	JC	

REVISIONS

BANNING MUNICIPAL AIRPORT

CITY OF BANNING — RIVERSIDE COUNTY, CALIFORNIA

EXHIBIT A AIRPORT PROPERTY MAP

DESIGNED: JCT | DRAWN: JCT | SHEET 8 OF 8

CHECKED: RWW, CRM | DATE: MARCH 2007

PROJECT FILE NO.: D55.001.001 | CADD FILE NO.: BANNING PROPERTY MAP

C&S COMPANIES — ENGINEERS, DESIGN BUILD, TECHNICAL RESOURCES, OPERATIONS

CHAPTER 8 - FINANCIAL PLAN

8.01 General

This chapter presents a financial plan to support capital improvement decisions and to serve as a guide for orderly development of Banning Municipal Airport. It identifies capital improvement projects, their sequencing, and the possible financial obligations to be assumed by the federal and state government and the airport sponsor, the City of Banning. The objective of this financial analysis is to identify the most likely plan for funding capital improvement projects to the year 2026.

The financial plan developed for the capital improvements described in this study are consistent with the capital improvements described on the Airport Layout Plan.

8.02 Capital Improvements

The proposed schedule of capital improvements is presented in **Tables 8-1** through **8-4**. The tables describe, by phase, the investment required for airport improvements, as shown on the Airport Layout Plan.

In addition, the proposed airport improvement projects were based on input from the City of Banning and comments from the FAA. Project costs were based on unit costs developed by the consultant from experience at other airports and similar projects. For comparative purposes, the estimated costs of capital improvements are stated in 2006 dollars. Therefore, these costs should be considered as foundation planning costs that will likely have to be adjusted regularly to arrive at actual project costs. In most cases, the actual project costs and corresponding budgeted amounts will be greater, to account for varying economic conditions.

The Capital Improvement Program (CIP) is presented in three phases. Phase 1 (2007-20011), Phase 2 (2012-2016), and Phase 3 (2017-2026) are divided into federal, state, and sponsor portions.

A majority of the airport improvement projects qualify for Federal Aviation Administration/Airport Improvement Program (AIP). Based on current legislation, AIP approved projects are eligible for 95 percent funding. The remaining 5 percent of eligible project costs are divided by the airport sponsor and the California Department of Transportation, Division of Aeronautics. It should be noted that the federal share of 95 percent is due to expire at the end of the federal fiscal year 2007 and funds are anticipated to drop to 90 percent of the project cost. Total investment (i.e., federal/state/sponsor) is estimated to be $17,027,090 to the year 2026. Phase costs are shown in **Tables 8-1** through **8-4**.

8.02-1 Capital Improvements Phasing

The first phase is to address and correct airport standards deficiencies, aircraft safety, and navigational aids. Within the first phase, demolition of select facilities and the acquisition of property (Building #10) are also proposed.

Phase 2 involves the improvement and construction of aircraft storage facilities and other terminal area development. This phase is primarily driven by the increasing demand for hangar space at the airport, as indicated by the waiting list, and discussed in Chapter 4 of this report. Phase 3 is longer range planning designed to accommodate future airport expansion through property acquisition and the construction of a second parallel taxiway.

As demand changes, the priority for certain facilities or projects may change, making the project order of phasing subject to change. However, the order of projects and phasing is outlined here in such a manner that priority projects for the airport that improve aircraft safety and navigation are addressed first.

Table 8-1
CAPITAL IMPROVEMENT PROGRAM (2006 dollars)
PHASE 1, 2007 – 2011

Project		Total Cost	Federal Eligible* 95%	State Eligible 2.5%	Sponsor 2.5%
1-1	Install AWOS	$100,000	$95,000	$2,500	$2,500
1-2	Extend and grade runway safety area 65 feet east (Rwy 26)	$52,000	$49,400	$1,300	$1,300
1-3	Relocate Taxiway A	$2,100,000	$1,995,000	$52,500	$52,500
1-4	Install Taxiway A lighting	$363,000	$344,850	$9,075	$9,075
1-5	Install REILS (Rwy 8 & Rwy 26)	$150,000	$142,500	$3,750	$3,750
1-6	Replace segmented circle/relocate windcone from taxiway safety area	$20,000	$19,000	$500	$500
1-7	Acquire private property (Building #10)	$37,500	$35,625	$938	$938
1-8	Demolish Bldg #10 (private hangars)	$126,000	$119,700	$3,150	$3,150
1-9	Relocate light pole obstructions	$18,000	$17,100	$450	$450
1-10	Sign and stripe existing terminal parking lot	$20,000	$19,000	$500	$500
1-11	Install new airport security fence	$559,500	$531,525	$13,988	$13,988
1-12	Install PAPI for Runway 8				
Total (Phase 1)		$3,546,000	$3,368,700	$88,650	$88,650

Source: C&S Engineers, Inc.
*Federal grant funds are anticipated to change from 95% of the project to 90% at the end of the federal fiscal year 2007.

Table 8-2
CAPITAL IMPROVEMENT PROGRAM (2006 DOLLARS)
PHASE 2, 2012-2016

Project		Total Cost	Federal Eligible* 90%	State Eligible 2.5%	Sponsor 7.5%
2-1	Demolish T-hangars #1, #2, & #3	$114,000	$102,600	$2,850	$8,550
2-2	Site work to improve drainage between hangars #1, #2 & #3	$80,000	$72,000	$2,000	$6,000
2-3	Construct four (4) new T-hangars (near former T-hangars #1, #2, & #3)	$1,650,000	$1,485,000	$41,250	$123,750
2-4	Construct/expand apron area west of existing based aircraft parking area	$375,000	$337,500	$9,375	$28,125
2-5	Construct new automobile parking south of four (4) new T-hangars along East Barbour Avenue	$106,000	$95,400	$2,650	$7,950
2-6	Acquire 1.63 acres; northeast corner of East Barbour Ave. & S. Hathaway St	$61,125	$55,013	$1,528	$4,584
2-7	Construct conventional hangars on new apron area west of existing based aircraft area	$3,000,000	$2,700,000	$75,000	$225,000
2-8	Renovate terminal building	$173,565	$156,209	$4,339	$13,017
2-9	Demolish buildings #12 & #13	$11,400	$10,260	$285	$855
Total (Phase 2)		$5,571,090	$5,013,981	$139,277	$417,832

Source: C&S Engineers, Inc.
*Federal grant funds are anticipated to change from 95% of the project to 90% at the end of the federal fiscal year 2007.

Table 8-3
CAPITAL IMPROVEMENT PROGRAM (2006 DOLLARS)
PHASE 3, 2017-2026

Project		Total Cost	Federal Eligible* 90%	State Eligible 2.5%	Sponsor 7.5%
3-1	Acquire 10 acres north of airport for future development	$330,000	$297,000	$8,250	$24,750
3-2	Construct new access road from John Street to northwest portion of airport	$280,000	$252,000	$7,000	$21,000
3-3	Construct new apron north of Runway 8-26	$2,800,000	$2,520,000	$70,000	$210,000
3-4	Construct two (2) 10,000 SF conventional hangars on new apron area north of Runway 8-26	$3,000,000	$2,700,000	$75,000	$225,000
3-5	Construct 2,600' X 35' partial parallel taxiway north of Runway 8-26	$1,500,000	$1,350,000	$37,500	$112,500
Total (Phase 3)		$7,910,000	$7,119,000	$197,750	$593,250

Source: C&S Engineers, Inc.
*Federal grant funds are anticipated to change from 95% of the project to 90% at the end of the federal fiscal year 2007.

Table 8-4
CAPITAL IMPROVEMENT PROGRAM (2006 DOLLARS)
SUMMARY

Project	Total Cost	Federal Eligible	State Eligible	Sponsor
Phase 1 (2007 - 2011)	$3,546,000	$3,368,700	$88,650	$88,650
Phase 2 (2012 - 2016)	$5,571,090	$5,013,981	$139,277	$417,832
Phase 3 (2017 - 2026)	$7,910,000	$7,119,000	$197,750	$593,250
Total (2006 Dollars)	$17,027,090	$15,501,681	$425,677	$1,099,732

Source: C&S Engineers, Inc.

8.03 Financing Capital Improvements

The total expected airport improvement costs associated with the implementation of the development program are presented in Tables 8-1 through 8-4. However, the portions of those development costs that must be funded by the airport sponsor are of a more immediate concern to the implementation of the plan.

For a majority of airport development projects, airport sponsors are eligible for federal financial assistance through the Airport Improvement Program (AIP). The funds for the AIP are distributed in accordance with provisions contained in the Airport and Airway Improvement Act (the Act). The Airport and Airway Trust Fund, which was established by the Act, provides the revenue used to fund AIP projects.

The State of California has an AIP matching fund program. Effective July 20, 2006, the California Transportation Commission (CTC) set the rate for state matching grants at 2.5%. Airports serving primarily general aviation aircraft can apply to receive a matching grant after the FAA has issued a grant for the airport. Grants are processed in the order received and pending fund availability.

8.04 Conclusions

This chapter has laid out the recommended capital projects and their financial implications for improving Banning Municipal Airport on a development schedule outlined for the next 20 years to the year 2026.

This Master Plan Update has documented the existing aviation need for a general aviation airport in the City of Banning and Riverside County area based on existing conditions, communication with local business entrepreneurs, and discussions with City officials. From today to the year 2026, the continued development of the Airport could be influenced by many factors, yet the most basic question remains: "What is the value of the Airport: to the City of Banning, adjacent business, neighboring community, and airport users?"

For the community, the value of the Airport rests in the community's expectations and vision for the future. In a growing economy, aviation can serve the community as an additional asset to assist in development or attract a business to the community.

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APPENDIX A

ABBREVIATIONS & DEFINITIONS

ABBREVIATED AVIATION TERMS AND NAMES

AAAE	American Association of Airport Executives
AC	Advisory Circular (FAA)
ACHP	Advisory Council on Historic Preservation
ACI-NA	Airports Council International-North America
ACM	Asbestos-containing materials
ADA	Americans with Disabilities Act
ADO	Airports District Office (FAA)
ADPM	Average day of the peak month
AGL	Above ground level
AIP	Airport Improvement Program
AIR-21	Aviation Investment and Reform Act for the 21st Century
ALP	Airport Layout Plan
ALPA	Airline Pilots Association
ALUC	Airport Land Use Commission
ANG	Air National Guard
AOA	Air operations area
AOPA	Aircraft Owners and Pilots Association
APM	Automated people mover
APU	Auxiliary power unit
AQMP	Air Quality Management Plan
ARC	Airport Reference Code
ARFF	Aircraft rescue and fire fighting (formerly crash/fire/rescue [CFR])
ARP	Airport reference point
ARSA	Airport Radar Service Area (now, Class C airspace)
ARSR	Air route surveillance radar
ARTCC	Air Route Traffic Control Center
ASV	Annual service volume
ATA	Air Transport Association of America
ATC	Air traffic control
ATCT	Airport traffic control tower
BCA	Benefit-cost analysis (FAA)
BEA	Bureau of Economic Analysis (U.S. Department of Commerce)
BIDS	Baggage Information Display System
BLM	Bureau of Land Management
BLS	Bureau of Labor Statistics (U.S. Department of Labor)
BMP	Best management practices
BRL	Building restriction line
CATER	Collection and Analysis of Terminal Records
CBD	Central Business District
CEQ	Council on Environmental Quality
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act of 1980 (Superfund)

CFR	Code of Federal Regulation
CMSA	Consolidated Metropolitan Statistical Area
CO	Carbon monoxide
CPI	Consumer Price Index
dBA	A-weighted decibels
DBE	Disadvantaged Business Enterprise
DBO	Date of Beneficial Occupancy
DEIS	Draft Environmental Impact Statement
DGPS	Differential global positioning system
DME	Distance measuring equipment
DNL	Day-night average sound level (expressed in dBA)
DOT	Department of Transportation
EA	Environmental Assessment
EDMS	Emissions and Dispersion Modeling System
EIR	Environmental Impact Report (state)
EIS	Environmental Impact Statement (federal)
EPA	Environmental Protection Agency
FAA	Federal Aviation Administration
FAR	Federal Aviation Regulation
FBO	Fixed base operator
FEIS	Final Environmental Impact Statement
FEMA	Federal Emergency Management Agency
FFY	Federal Fiscal Year
FHA	Federal Housing Administration
FHWA	Federal Highway Administration
FICAN	Federal Interagency Committee on Aircraft Noise
FICON	Federal Interagency Committee on Noise
FICUN	Federal Interagency Committee on Urban Noise
FIDS	Flight Information Display System
FIP	Federal Implementation Plan
FIRM	Flood Insurance Rate Map
FIS	Federal Inspection Services
FONSI	Finding of No Significant Impact
FSS	Flight service station
FTZ	Foreign trade zone
FY	Fiscal Year
GA	General aviation
GAO	Government Accounting Office
GARB	General Airport Revenue Bonds
GDP	Gross domestic product
GDS	Global distribution system
GIS	Geographic Information System

GPO	Government Printing Office
GPS	Global positioning system
GSE	Ground support equipment
GTC	Ground Transportation Center
HIRL	High-intensity runway lights
HOV	High occupancy vehicle
HUD	U.S. Department of Housing and Urban Development
IAB	International Arrivals Building
IATA	International Air Transport Association
ICAO	International Civil Aviation Organization
IFR	Instrument flight rules
ILS	Instrument landing system
IMC	Instrument meteorological conditions
INM	Integrated Noise Model
INS	Immigration and Naturalization Service
ISTEA	Intermodal Surface Transportation Efficiency Act (1991)
IT	Information technology
ITB	International Terminal Building
LBE	Local Business Enterprise
LDA	Localizer-type directional aid
LLWAS	Low Level Windshear Advisory System
LOI	Letter of Intent
LOS	Level of service
MALS	Medium intensity approach lighting system
MALSF	Medium-intensity approach lighting system with sequenced flashers
MALSR	Medium-intensity approach lighting system with runway alignment indicator lights
MBE	Minority-owned Business Enterprise
mgd	Million gallons per day
MGTW	Maximum gross takeoff weight
MIRL	Medium-intensity runway lights
MLS	Microwave landing system
MOA	Memorandum of Agreement
MOU	Memorandum of Understandign
mph	Miles per hour
MPO	Metropolitan Planning Organization
MSA	Metropolitan Statistical Area
MSL	Mean sea level
MTOW	Maximum takeoff weight
NAAQS	National Ambient Air Quality Standards
NAS	Naval Air Station

NAS	National Airspace System
NCDC	National Climatic Data Center
NCP	Noise Compatibility Program
NDB	Nondirectional radio beacon
NEPA	National Environmental Policy Act
NLA	New Large Aircraft
NLR	Noise level reduction
NO	Nitrogen oxides
NOAA	National Oceanic and Atmospheric Administration
NOI	Notice of Intent
NOP	Notice of Preparation
NPA	National Planning Association
NPDES	National Pollutant Discharge Elimination System
NPIAS	National Plan of Integrated Airport Systems
NTSB	National Transportation Safety Board
NWS	National Weather Service
O&D	Origin and destination
O&M	Operation and maintenance
OAG	Official Airline Guide (a registered trademark of Official Airline Guides, Inc.)
ODALS	Omnidirectional Approach Lighting System
OFA	Object free area
OFZ	Obstacle free zone
OSHA	Occupational Safety and Health Administration
PAL	Planning activity level
PAPI	Precision approach path indicator
PAR	Precision approach radar
PCB	Polychlorinated biphenyls
PFC	Passenger facility charge
PL	Public Law
PM	Particulate matter
PMSA	Primary Metropolitan Statistical Area
PRM	Precision runway monitor
R&D	Research and development
RAIL	Runway alignment indicator lights
RAPCON	Radar approach control
RDSIM	Runway Delay Simulation Model (FAA)
REIL	Runway end identifier lights
RIMS	Regional Input-Output Modeling System
ROD	Record of Decision
RPM	Revenue passenger miles
RPZ	Runway protection zone (formerly clear zone)
RSA	Runway safety area
RVR	Runway visual range

SEL	Sound exposure level
SHPO	State Historic Preservation Officer
SIMMOD	Airport and Airspace Simulation Model (FAA)
SIP	State Implementation Plan
SLUCM	Standard Land Use Coding Manual
STAR	Standard Terminal Arrival Route
SWAP	Severe Weather Avoidance Plan
TACAN	Tactical area navigational aid
TCA	Terminal Control Area (now, Class B airspace)
TCAS	Terminal Collision Avoidance System
TDM	Transportation Demand Management
TEA 21	Transportation Equity Act for the 21st Century (1998)
TERPS	U.S. Standard for Terminal Instrument Procedures (FAA Handbook 8260.3B)
TODA	Takeoff distance available
TORA	Takeoff run available
TRACON	Terminal Radar Approach Control
TRB	Transportation Research Board
USC	United States Code
USGS	United States Geological Survey
USPS	United States Postal Service
UST	Underground storage tank
VASI	Visual approach slope indicator
VMC	Visual meteorological conditions
VMT	Vehicle miles traveled
VOC	Volatile organic compounds
VOR	Very-high frequency omnidirectional range station
VORTAC	Very-high frequency omnidirectional range tactical air navigation
VFR	Visual flight rules
WAAS	Wide Area Augmentation System
WBE	Woman-owned Business Enterprise
WVAS	Wake Vortex Advisory System

GLOSSARY OF TERMS

A-WEIGHTED SOUND LEVEL (dBA);—The ear does not respond equally to sound frequencies. It is less efficient at low and high frequencies than it is at medium or speech-range frequencies. Thus, to obtain a single number representing the sound level of a noise having a wide range of frequencies in a manner representative of the ear's response, it is necessary to reduce the effects of the low and high frequencies with respect to the medium frequencies. The resultant sound level is said to be A-weighted, and the units are decibels (dB); hence, the abbreviation is dBA. The A-weighted sound level is also called the noise level. Sound level meters have an A-weighting network for measuring A-weighted sound level.

ACCEPTABLE (DNL not exceeding 65 decibels)—The noise exposure may be of some concern but common building constructions will make the indoor environment acceptable and the outdoor environment will be reasonably pleasant for recreation and play.

AIP—See AIRPORT IMPROVEMENT PROGRAM.

AIR CARRIER, CERTIFICATED ROUTE—An air carrier holding a Certificate of Public Convenience and Necessity, issued by the Federal Aviation Administration (FAA), to conduct sched-uled services over specified routes and a limited amount of nonscheduled operations.

AIR CARRIER, COMMUTER—An air taxi operator who (1) performs at least five round trips per week between two or more points and publishes flight schedules that specify the times, days of the week, and places between which such flights are performed; or (2) transports mail by air pursuant to a contract with the U.S. Postal Service.

AIRCRAFT DELAY—The additional travel time, caused by aircraft congestion, taken by an aircraft to move from point A to point B.

AIRCRAFT OPERATION—An aircraft arrival (landing) or an aircraft departure (takeoff) represents one aircraft operation. A low approach below traffic pattern altitudes or a touch-and-go operation is counted as both a landing and a takeoff, that is, as two operations. Aircraft operations are recorded by the FAA in four categories: air carrier, air taxi, general aviation, and military.

AIR CARRIER—Operations performed in revenue service by certificated route air carriers.

AIR TAXI/COMMUTER—Operations performed by operators of aircraft holding an air taxi certificate under Part 298 of the FAA regulations. This category includes commuter airline operations (excluding certificated commuter airlines), mail carriers under contract with the U.S. Postal Service, and operators of nonscheduled air taxi service.

GENERAL AVIATION—All civil aircraft operations not classified as air carrier or air taxi operations.

MILITARY—Operations performed by military groups, such as the Air National Guard, the U.S. Air Force, or the U.S. Marine Corps. Aircraft operations may also be described as local or itinerant:

LOCAL—Local operations are performed by aircraft that (1) operate in the local traffic pattern or within sight of the airport, (2) are known to be departing for, or arriving from, flight in local practice areas within a 20-mile radius of the airport, and (3) execute simulated instrument approaches or low passes at the airport.

ITINERANT—All aircraft operations other than local operations.

AIRCRAFT PARKING APRON—See APRON.

AIRCRAFT PARKING POSITION—The area on the ramp where aircraft park for servicing and preparation for flight.

AIRFIELD CAPACITY (HOURLY)—The maximum number of aircraft operations (landings or takeoffs) that can take place on an airfield in one hour under specific conditions.

AIR NAVIGATION FACILITY (NAVAID)—A facility designed for use as an aid to air navigation, including landing areas, lights, any apparatus or equipment for disseminating weather information, for signaling, for radio direction-finding, or for radio or other electronic communication, and any other structure or mechanism having a similar purpose for guiding and controlling flight in the air or the landing or takeoff of aircraft.

AIRPORT ACCESS AND PARKING PLAN—A plan that indicates the proposed routing of airport access facilities to central business districts and to points of connection with existing or planned arteries and based on airport access studies that take into account traffic demands, existing and potential access problems, highway and rapid rail facilities, and in-town terminal facilities. The plan also incorporates on- and off-airport parking facilities for passengers, employees, and visitors and is a required element of an airport master plan.

AIRPORT APPROACH AND RUNWAY PROTECTION ZONE LAYOUT PLAN—A plan map showing the imaginary surfaces that specify the maximum height of structures, trees, and other phenomena around an airport and which is prepared in accordance with FAR Part 77, "Objects Affecting Navigable Airspace." The plan is required as part of an airport master plan.

AIRPORT ELEVATION—The highest point of an airport's usable runways measured in feet above mean sea level (msl).

AIRPORT ENVIRONS—The area surrounding an airport that is considered to be directly affected by the presence and operation of the airport.

AIRPORT IMAGINARY SURFACES—Imaginary surfaces established at an airport for obstruction determination purposes, and consisting of primary, approach-departure, horizontal, vertical, conical, and transition surfaces.

AIRPORT IMPROVEMENT PROGRAM (AIP)—A program administered by the Federal Aviation Administration to provide financial grants-in-aid for airport planning, airport development projects, and noise compatibility programs. The program was established through the Airport and Airway Improvement Act of 1982, which was incorporated as Title V of the Tax Equity and Fiscal Responsibility Act of 1982 (P.L. 97-248).

AIRPORT LAND USE PLAN—A generalized plan depicting proposed land uses within the airport boundary. The land use plan is a required element of an airport master plan.

AIRPORT LAYOUT PLAN (ALP)—A plan for an airport showing boundaries and proposed additions to all areas owned or controlled by the sponsor for airport purposes, the location and nature of existing and proposed airport facilities and structures, and the location on the airport of existing and proposed nonaviation areas and improvements thereon. The ALP is a required element of an airport master plan.

AIRPORT MASTER PLAN—An assembly of appropriate documents and drawings covering the development of a specific airport from a physical, economic, social, and political jurisdictional perspective. The airport master plan includes an airport land use plan, airport layout plan, airport approach and runway protection zone layout plan, terminal area plan, airport access and parking plan, staging plan, and financial plan.

AIRPORT NOISE AND CAPACITY ACT OF 1990—Public Law 101-508, enacted November 5, 1990. Two important provisions of the law were the establishment of a national aviation noise policy (Sections 9308 and 9309) and the creation of a passenger facility charge (Sections 9110 and 9111), which enables airport sponsors to impose fees on the tickets issued to enplaning passengers. An amendment to FAR Part 91, "Transition to an All Stage 3 Fleet Operating in the 48 Contiguous United States and the District of Columbia," and new FAR Part 161, "Notice and Approval of Airport Noise and Access Restrictions," implement the national noise policy. New FAR Part 158, "Passenger Facility Charges," implements that portion of the Act authorizing the imposition of such charges.

AIRPORT SPONSOR—A public agency or tax-supported organization, such as an airport authority, that is authorized to own and operate an airport, to obtain property interests, to obtain funds, and to be legally, financially, and otherwise able to meet all applicable requirements of current laws and regulations.

AIRPORT SURVEILLANCE RADAR (ASR)—Radar providing position of aircraft by azimuth and range data. It does not provide elevation data. ASR is designed for range coverage up to 60 nautical miles and is used by terminal area air traffic control.

AIRPORT TRAFFIC CONTROL TOWER (ATCT)—A central operations facility in the terminal air traffic control system, consisting of a tower cab structure, including an associated instrument flight rule (IFR) room if radar equipped, using air/ground communications and/or radar, visual signaling and other devices, to provide safe and expeditious movement of terminal air traffic.

AIRSPACE—Space in the air above the surface of the earth or a particular portion of such space, usually defined by the boundaries of an area on the surface projected upward.

AIRSPEED—The speed of an aircraft relative to its surrounding air mass. See: calibrated airspeed; indicated airspeed; true airspeed.

AIR TRAFFIC CONTROL (ATC)—A service operated by appropriate authority (the FAA) to promote the safe, orderly, and expeditious flow of air traffic.

AMBIENT NOISE—The total of all noise in a system or situation, independent of the presence of the specific sound to be measured. In acoustical measurements, strictly speaking, ambient noise means electrical noise in the measurement system. However, in popular usage, ambient noise is also used to mean "background noise" or "residual noise."

APPROACH SPEED —The recommended speed contained in aircraft manuals used by pilots when making an approach to landing. This speed will vary for different segments of an approach as well as for aircraft weight and configuration.

APRON—A paved area that provides the connection between the terminal buildings and the airfield. The apron includes aircraft parking areas, called ramps, and aircraft circulation and taxiing areas for access to these ramps. On the ramp, aircraft park in locations typically designated as gate positions or gates.

ATC—See AIR TRAFFIC CONTROL.

AUTOMATED RADAR TERMINAL SYSTEM (ARTS)—Computer-aided radar display subsystems capable of associating alphanumeric data with radar returns.

AVERAGE DAILY TRAFFIC (ADT)—The average traffic flow on a spe-cific street, road, or highway segment. ADT can be either total average flow or the average traffic in each direction.

AVIATION SAFETY AND NOISE ABATEMENT ACT OF 1979—Public Law 96-193, enacted February 18, 1980. The purpose of the Act is to provide assistance to airports in preparing and carrying out noise compatibility programs and in assuring continued safety for aviation. The Act also contains provisions that extend until January 1, 1988, the requirement for certain types of aircraft to comply with Part 36 of the Federal Aviation Regulations (see also FAR Part 36).

BACKGROUND NOISE—See AMBIENT NOISE.

BENEFICIAL OCCUPANCY—See DATE OF BENEFICIAL OCCUPANCY.

BUILDING CODE—A legal document that sets forth requirements to protect the public health, safety, and general welfare as they relate to the construction and occupancy of buildings and structures. The code establishes the minimum acceptable conditions for matters found to be in need of regulation. Topics generally covered are exits, fire protection, structural design, sanitary facilities, light, and ventilation. Sound insulation may also be included.

BUILDING PERMIT—A permit issued by a local political jurisdiction (village, town, city, or county) to erect or modify a structure.

BUILDING RESTRICTION LINE (BRL)—The BRL should be located on an airport layout plan to identify suitable locations for building areas on airports. It is recommended that the BRL encompass the runway protection zones, the runway visibility zone, areas required for airport traffic control tower clear line of sight, and all airport areas with less than 35-foot clearance under the FAR Part 77 surfaces.

CAPITAL IMPROVEMENT PROGRAM (CIP)—A multiyear (sometimes a single year) schedule of capital expenditures for construction or equipment at an airport.

CEQ (COUNCIL ON ENVIRONMENTAL QUALITY) REGULATIONS—CEQ Regulations implementing the National Environmental Policy Act of 1969 (NEPA) were published in the Federal Register on November 29, 1978. References to the 4 Regulations in FAA Order 5050.4A (Airport Environmental Handbook) identify a given section, e.g., CEQ 1500 or CEQ 1508.8. (See also IMPACT.)

CONTOUR—See NOISE CONTOUR.

CONTRAFLOW- The FAA approved a procedure called "contraflow" as part of our current Noise Compatibility Program. Weather permitting, this procedure calls for all operations between the hours of 10:00 p.m. and 7:00 a.m. to be conducted south of the airport, where extensive mitigation programs have been implemented with Federal, state, and local resources. Specifically, this procedure sets aside the first few overnight hours to accommodate arrivals from the south, and the last few for departures to the south, with some room for transition before and after each block.

DATE OF BENEFICIAL OCCUPANCY (DBO)—The date on which the replacement terminal facilities are as substantially complete that they are usable by Airport tenants and the public without hazard or undue inconvenience.

DAY-NIGHT AVERAGE SOUND LEVEL (DNL)—A method for predicting, by a single number rating, cumulative aircraft noise that affects communities in airport environs. The DNL value represents decibels of noise as measured by an A-weighted sound-level meter (see also). In the DNL procedure, the noise exposure from each aircraft takeoff or landing at ground level around an airport is calculated, and these noise exposures are accumulated for a typical 24-hour period. (The 24-hour period often used is the average day of the peak month for aircraft operations during the year being analyzed.) Daytime and nighttime noise exposures are considered separately. A weighting factor equivalent to a penalty of 10 decibels is applied to operations between 10 p.m. and 7 a.m. to account for the increased sensitivity of people to nighttime noise. The DNL values can be expressed graphically on maps using either contours or grid cells. DNL may also be used for measuring other noise sources, such as automobile traffic, to determine combined noise effects.

dBA—See A-WEIGHTED SOUND LEVEL.

DECIBEL (dB)—A unit for measuring the volume of a sound, equal to the logarithm of the ratio of the intensity of the sound to the intensity of an arbitrarily chosen standard sound.

DEPLANED PASSENGERS—The volume of passengers inbound to an airport. The annual passenger volume of an airport is the total of deplaned and enplaned passengers (see also).

DEREGULATION ACT—Airline regulatory reform act of 1978. Designed, among other things, to encourage competition among domestic airlines, the Act allows an airline greater freedom to enter and leave any given market.

DEVELOPMENT PLAN—A detailed land use plan for all or specific areas on an airport. The plan usually includes a plot map depicting parcel size and configuration, access, land use categories, utilities, and performance standards for each parcel and use category.

DISPLACED THRESHOLD—A runway threshold that is located at a point other than the designated beginning of the runway.

DIVERT —To change from a scheduled landing base to an alternate airfield.

DNL—See DAY-NIGHT AVERAGE SOUND LEVEL.

EFFECTS—See IMPACT.

ENGINE RUNUP AREA—An area on an airport where aircraft engines are serviced or tested. The noise from such servicing or testing can affect neighborhoods adjacent to the airport.
ENPLANED PASSENGERS—The volume of passengers outbound from an airport. The annual passenger volume of an airport is the total of enplaned and deplaned passengers (see also).

ENVIRONMENTAL IMPACT STATEMENT (EIS)—A statement prepared under the requirements of the National Environmental Policy Act of 1969 (NEPA), Section 102(2)(c). The EIS represents a federal agency's evaluation of the effects of a proposed action on the environment. Regulations relating to the preparation of an EIS are published in FAA Order 5050.4A.

FAA—See FEDERAL AVIATION ADMINISTRATION.

FAA ADVISORY CIRCULAR 150/5300-13—This document, titled "Airport Design," contains airport design standards, including descriptions of various subdivisions of FAR Part 77 (see also) such as obstacle free zones (OFZs), object free areas (OFAs), and runway protection zones (RPZs)—formerly referred to as "clear zones"—on airports. According to Paragraph 211, "Safe and efficient operations at an airport require that certain areas on and near the airport be clear of objects or restricted to objects with a certain function, composition, and/or height." To achieve this requirement, object clearing criteria contained in the handbook describe the type of objects tolerated within various subdivisions of FAR Part 77. Aircraft are controlled by aircraft operating rules and not by these criteria. However, objects not in conformance with these criteria may result in aircraft operating restrictions.

FAA HANDBOOK 7400.2—This document, titled "Procedures for Handling Airspace Matters," contains procedures and guide-lines for conducting aeronautical studies and determining effects of existing or proposed objects that exceed FAR Part 77 (see also) standards. Objects that exceed FAR Part 77 standards are subject to an aeronautical study and are presumed to be hazards to air navigation unless an aeronautical study determines otherwise. However, once an aeronautical study has been initiated, Part 77 standards are not the basis for determining whether or not an object would be a hazard. Other standards, including operational, proce-dural, and electronic requirements, are used to determine if the object being studied would actually be a hazard to air navigation. The outcome of an FAA aeronautical study is either a "Determination of No Hazard" or "Determination of Hazard to Air Navigation."

FAA HANDBOOK 8260.3B—This document, titled "TERPS," contains obstruction clearance criteria for instrument procedures. Imaginary surfaces for each particular type of instrument procedure are described. If an object would penetrate the imaginary surfaces for a particular procedure and could not be relocated or sufficiently reduced in height, one of the following actions would be necessary: (1) alteration of the procedure, to minimize or eliminate effects; (2) increase in the minimum cloud ceiling and/or visibility requirements for conducting the procedure; (3) some combination of (1) and (2); or (4) preclusion of the affected procedure.

FAA ORDER 5050.4A—This document, entitled "Airport Environ-mental Handbook," was published by the FAA on October 8, 1985. It contains all of the essential information an airport sponsor needs to meet both procedural and substantive environmental requirements.

FAR PART 36—Federal Aviation Regulations Part 36, "Noise Standards: Aircraft Type and Airworthiness Certification." Establishes noise standards for the civil aviation fleet. Some extensions for compliance are included in the Aviation Safety and Noise Abatement Act of 1979 (see also).

FAR PART 77—Federal Aviation Regulations Part 77, "Objects Affecting Navigable Airspace." Establishes standards for determining obstructions and conducting aeronautical studies to determine the potential effects of obstructions on aircraft operations. Objects are considered to be obstructions to air navigation according to FAR Part 77 if they would exceed certain heights or penetrate certain imaginary surfaces established in relation to airports. Objects classified as obstructions are subject to an aeronautical study by FAA to determine their potential effects on aircraft operations.

FAR PART 91—Federal Aviation Regulations Part 91, "General Operating and Flight Rules." On September 25, 1991, the FAA issued an amendment to FAR Part 91 (14 CFR Part 91) in conformance with requirements of the Airport Noise and Capacity Act of 1990 (see also). The amendment to the aircraft operating rules requires a phased transition to an all Stage 3 fleet operating in the 48 contiguous United States and the District of Columbia by December 31, 1999. The amendment places a cap on the

number of Stage 2 aircraft allowed to operate in the United States and provides for a continuing reduction in the population exposed to noise from Stage 2 aircraft.

FAR PART 150—Federal Aviation Regulations Part 150, "Airport Noise Compatibility Planning." An FAR Part 150 Program is an FAA-assisted study designed to increase the compatibility of land and facilities in the areas surrounding an airport that are most directly affected by the operation of the air-port. The specific purpose is to reduce the adverse effects of noise as much as possible by implementing both on-airport noise abatement measures and off-airport noise mitigation programs. The basic products of an FAR Part 150 program typically include (1) noise exposure maps for the existing condition and for five years in the future; (2) workable on-airport noise abatement measures, such as preferential run-way use programs, new or preferential flight tracks, curfews; (3) off-airport noise mitigation measures (land use control programs and regulations), such as land acquisition, soundproofing, or special zoning; (4) an analysis of the costs and the financial feasibility of the recommended measures; and (5) policies and procedures related to the implementation of on- and off-airport programs. A community involvement program is carried on throughout all phases of development of the program.

FAR PART 158—Federal Aviation Regulations Part 158, "Passenger Facility Charges." Adopts new regulations to establish a passenger facility charge (PFC) program. The rule implements Sections 9110 and 9111 of the Airport Noise and Capacity Act of 1990 (see also), which requires the Department of Transportation to issue regulations under which a public agency may be authorized to impose a PFC of $1, $2, or $3 per enplaned passenger at a commercial service airport it controls. The proceeds from such PFCs are to be used to finance eligible airport-related projects that pre-serve or enhance safety, capacity, or security of the national air transportation system, reduce noise from an airport that is part of such system, or furnish opportunities for enhanced competition between or among air carriers. The rule sets forth procedures for public agency applications for authority to impose PFCs, for FAA processing of such applications; for collection, handling, and remittance of PFCs by air carriers; for recordkeeping and auditing by air carriers and public agencies; for terminating PFC authority; and for reducing federal grant funds apportioned to large and medium hub airports imposing a PFC.

FAR PART 161—Federal Aviation Regulations Part 161, "Notice and Approval of Airport Noise and Access Restrictions." Establishes a program for reviewing airport noise and access restrictions on the operations of Stage 2 and Stage 3 aircraft. This rule is in response to specific provisions in the Airport Noise and Capacity Act of 1990 (see also) and is a major element of the national aviation noise policy required by that statute.

FBO (FIXED BASE OPERATOR) —The small but important building near the ramp and runways of a small airport, from which airfield activity is coordinated.

FEDERAL AVIATION ADMINISTRATION (FAA)—The FAA is the agency of the U.S. Department of Transportation that is charged with (1) regulating air commerce to promote its safety and development; (2) achieving the efficient use of navigable airspace of the United States; (3) promoting, encouraging, and developing civil aviation; (4) developing and operating a common system of air traffic control and air navigation for both civilian and military aircraft; and (5) promoting the development of a national system of airports.

FINDING OF NO SIGNIFICANT IMPACT (FONSI)—A finding by the FAA that a proposed action by an airport sponsor will have no significant impact (on the environment). Specific guide-lines for the preparation of a FONSI report are included in FAA Order 5050.4A.

FLIGHT TRACK—The average flight path flown by aircraft within specific corridors. Deviation from these tracks occurs because of weather, pilot technique, air traffic control, and aircraft weight. Individual

flight tracks within a corridor are "averaged" for purposes of modeling noise exposure using the Integrated Noise Model (see also).

FONSI—See FINDING OF NO SIGNIFICANT IMPACT.

GATE—The designated location in a terminal building that contains an airline podium area where ticketed passengers check in for a specific flight. (See also APRON.)

GENERAL AVIATION (GA)—All civil aviation except that classified as air carrier or air taxi. The types of aircraft typically used in GA activities vary from multiengine jet aircraft to single-engine piston aircraft.

GENERAL PLAN (sometimes referred to as a comprehensive plan or community plan)—An overall plan of a political jurisdiction setting forth the goals and objectives of the jurisdiction, policies for development and redevelopment, and maps showing the spatial arrangement of land uses, circulation routes, and community facilities.

GPS (Global Positioning System)- A satellite navigation system designed to provide instantaneous position, velocity and time information almost anywhere on the globe at any time, and in any weather.

IFR—See INSTRUMENT FLIGHT RULES.

IFR AIRPORT—An airport with an authorized instrument approach procedure.

IFR CONDITIONS—Weather conditions that require aircraft to be operated in accordance with instrument flight rules.

IFR MINIMUMS AND DEPARTURE PROCEDURES (FAR PART 91)—Prescribed takeoff rules. For some airports, obstructions or other factors require the establishment of nonstandard takeoff minimums or departure procedures, or both, to assist pilots in avoiding obstacles during climb to the minimum en route altitude.

ILS—See INSTRUMENT LANDING SYSTEM.

IMPACT—In environmental studies, the word "impact" is used to express the extent or severity of an environmental problem, e.g., the number of persons exposed to a given noise environment. As indicated in CEQ 1500 (Section 1508.8), impacts and effects are considered to be synonymous. Effects or impacts may be ecological, aesthetic, historic, cultural, economic, social, or health related, and they may be direct, indirect, or cumulative.

INM—See INTEGRATED NOISE MODEL.

INSTRUMENT APPROACH—An approach to an airport, with intent to land, by an aircraft flying in accordance with an IFR flight plan, when the visibility is less than 3 miles and/or when the ceiling is at or below the minimum initial altitude.

INSTRUMENT APPROACH RUNWAY—A runway served by an electronic aid providing at least directional guidance adequate for a straight-in approach.

INSTRUMENT FLIGHT RULES (IFR)—Rules specified by the FAA for flight under weather conditions in which visual reference cannot be made to the ground and the pilot must rely on instruments to fly and navigate.

INSTRUMENT LANDING SYSTEM (ILS)—A system that provides in the aircraft the lateral, longitudinal, and vertical electronic guidance necessary for an instrument landing.

INSTRUMENT OPERATION—An aircraft operation in accordance with an IFR flight plan or an operation where IFR separation between aircraft is provided by a terminal control facility or air route traffic control center.

INSTRUMENT RUNWAY—A runway equipped with electronic and visual navigation aids and for which a straight-in (precision or nonprecision) approach procedure has been approved or is planned.

INTEGRATED NOISE MODEL (INM)—A computer model developed by the FAA and required by the FAA for use in environmental assessments, environmental impact statements, and FAR Part 150 studies for developing existing and future aircraft noise exposure maps.

LAND USE COMPATIBILITY—The compatibility of land uses surrounding an airport with airport activities and particularly with the noise from aircraft operations.

LAND USE COMPATIBILITY ASSURANCE—Documentation provided by an airport sponsor to the FAA. The documentation is related to an application for an airport development grant. Its pur-pose is to assure that a reasonably appropriate action, including the adoption of zoning laws, has been taken or will be taken to restrict the use of land adjacent to the airport or in the immediate vicinity of the airport. Such uses are limited to activities and purposes compatible with normal airport operations, including the landing and takeoff of aircraft.

LAND USE CONTROLS--Controls established by local or state governments to carry out land use planning. The controls include zoning, subdivision regulations, land acquisition (in fee simple, lease-back, or easements), building codes, building permits, and capital improvement programs (to pro-vide sewer, water, utilities, or other service facilities).

LAND USE PLANNING—Comprehensive planning carried out by units of local government, for all areas under their jurisdiction, to identify the optimum uses of land and to serve as a basis for the adoption of zoning or other land use controls.

LOUDNESS—The judgment of the intensity of a sound by a person. Loudness depends primarily on the sound pressure of the stimulus. Over much of the loudness range, it takes about a threefold increase in sound pressure (approximately 10 decibels) to produce a doubling of loudness.

MITIGATION MEASURE—An action that can be planned or taken to alleviate (mitigate) an adverse environmental impact. Mitigation includes:

1. Avoiding the impact altogether by not taking a certain action or parts of an action.
2. Minimizing the impact by limiting the degree or magnitude of the action and its implementation.
3. Rectifying the impact by repairing, rehabilitating, or restoring the affected environment.
4. Reducing or eliminating the impact over time by preservation and maintenance operations during the life of the action.
5. Compensating for the impact by replacing or providing substitute resources or environments. A proposed airport development project, or alternatives to that project, may constitute a mitigation measure.

NAVAID—See AIR NAVIGATION FACILITY.

NOISE—Any sound that is considered to be undesirable because it interferes with speech and hearing, or is intense enough to damage hearing, or is otherwise annoying.

NOISE ABATEMENT PROCEDURES—Changes in runway use, flight approach and departure routes and procedures, and other air traffic procedures that are made to shift adverse aviation effects away from noise-sensitive areas (such as residential neighborhoods).

NOISE ATTENUATION OF BUILDINGS—The use of building materials to reduce noise through absorption, transmission loss, and reflection of sound energy.

NOISE CONTOURS—Lines drawn on a map that connect points of equivalent Ldn or CNEL values. They are usually drawn in 5-Ldn intervals, such as connections of Ldn 75 values, Ldn 70 values, Ldn 65 values, and so forth.

NOISE CONTROL PLANS—Documentation by an airport sponsor of actions to be taken by the sponsor to reduce the effect of aviation noise. These actions are to be taken by the sponsor either alone or in cooperation with the FAA, airport users, and affected units of local government, with appropriate comments from affected citizens. Alternative actions should be considered, particularly where proprietary use restrictions (see also) on aircraft operations are involved.

NOISE LEVEL REDUCTION (NLR)—The noise reduction between two areas or rooms is the numerical difference, in decibels, of the average sound pressure levels in those areas or rooms. A measurement of noise reduction combines the effect of the transmission loss performance of structures separating the two areas or rooms and the effect of acoustic absorption present in the receiving room.

NOISE-SENSITIVE LAND USE—Land uses that can be adversely affected by high levels of aircraft noise. Residences, schools, hospitals, religious facilities, libraries, and other similar uses are often considered to be sensitive to noise.

NORMALLY UNACCEPTABLE (DNL above 65 but not exceeding 75 decibels)—The noise exposure is significantly more severe; barriers may be necessary between the site and prominent noise sources to make the outdoor environment acceptable; special building constructions may be necessary to ensure that people indoors are sufficiently protected from outdoor noise.

OBSTACLE FREE ZONE (OFZ)—The OFZ is a three-dimensional volume of airspace that supports the transition of ground-to-airborne-aircraft operations (and vice versa). The OFZ clearing standard precludes taxiing and parked airplanes and object penetrations, except for frangible navaids whose location is fixed by function. The runway OFZ and, when applicable, the inner-approach OFZ, and the inner-transitional OFZ compose the obstacle free zone.

OBSTRUCTION—An object that exceeds a limiting height or penetrates an imaginary surface described by current Federal Aviation Regulations (Part 77).

PATTERN—The configuration or form of a flight path flown by an aircraft, or prescribed to be flown, as in making an approach to a landing.

PRECISION APPROACH PROCEDURE—A standard instrument procedure for an aircraft to approach an airport in which an electronic glide scope is provided—for example, an instrument landing system and precision approach radar.

PREFERENTIAL RUNWAY USE (PROGRAM)—A noise abatement action whereby the FAA Air Traffic Division, in conjunction with the FAA Airports Division, assists the airport sponsor in developing a program that gives preference to the use of a specific runway(s) to reduce overflights of noise-sensitive areas.

PRIORITY ACTION PROGRAM—See STAGING PLAN.

PROPRIETARY USE RESTRICTIONS—Restrictions by an airport sponsor on the number, type, class, manner, or time of aircraft operations at the airport.

RAMP—See APRON.

RELEASE POINT - A point on approach where aircraft are free to start their maneuver to centerline as needed.

RETROFIT—The retroactive modification of existing jet aircraft engines for noise abatement purposes.

RUNWAY OBJECT FREE AREA—The runway object free area (OFA) is a two-dimensional ground area surrounding the runway. The runway OFA clearing standard precludes parked airplanes and objects, except objects whose location is fixed by function.

RUNWAY PROTECTION ZONE (RPZ)—The RPZ (formerly the runway clear zone) is trapezoidal in shape and centered about the extended runway centerline. It begins 200 feet beyond the end of the area usable for takeoff or landing. Displacing the threshold does not change the beginning point of the RPZ. The RPZ dimensions are functions of the design aircraft, type of operation, and visibility minimums.
RUNWAY THRESHOLD—The beginning of that portion of a runway usable for landing.

RUNWAY USE PROGRAM—See PREFERENTIAL RUNWAY USE PROGRAM.

SEVERE NOISE EXPOSURE—Exposure to aircraft noise that is likely to interfere with human activity in noise-sensitive areas; repeated vigorous complaints can be expected and group action is probable. This exposure may be specified by a cumulative noise descriptor as a level of noise exposure, such as DNL 75. (See also SIGNIFICANT NOISE EXPOSURE.)

SIGNIFICANT EFFECT ON THE ENVIRONMENT—A substantial, or potentially substantial, adverse change in any of the physical conditions within the area affected by the project, including land, air, water, minerals, flora, fauna, ambient noise, and objects of historic or aesthetic significance. An economic or social change by itself is not considered a significant effect on the environment. A social or economic change related to a physical change may be considered in determining whether the physical change is significant.

SIGNIFICANT NOISE EXPOSURE—Exposure to aircraft noise that is likely to interfere with human activity in noise-sensitive areas; individual complaints may be expected and group action is possible. This exposure may be specified by a cumulative noise description as a level of noise exposure, such as DNL 65. (See also SEVERE NOISE EXPOSURE.)

SOUND INSULATION—(1) The use of structures and materials designed to reduce the transmission of sound from one room or area to another, or from the exterior to the interior of a building. (2) The degree of reduction in sound transmission by means of sound insulating structures and materials.

SOUND LEVEL (NOISE LEVEL)—The weighted sound pressure level obtained by the use of a sound level meter having a standard frequency filter for attenuating part of the sound spectrum.

SOUND LEVEL METER—An instrument, consisting of a microphone, an amplifier, an output meter, and frequency-weighting networks, that is used to measure noise and sound levels in a specified manner.

STAGE 3 AIRCRAFT - Aircraft Flying in the US and Europe must be certified as Stage 3 compliant after December 31, 1999. Stage 3 is the standard that defines allowable noise emissions and is defined in Part 36 of Title 14 Code of Federal Regulations.

TAXI —The movement of an airplane under its own power on the surface of an airport.

TAXIWAY—A road leading from the airplane parking area to the runway; always marked with yellow lines.

TERPS—Certain airspace needs to be cleared for aircraft operations. This airspace is determined by the application of operating rules and terminal instrument procedures (TERPS). Removing obstructions to air navigation, except those which an FAA aeronautical study determined need not be removed, satisfies these requirements. Subpart C of FAR Part 77 defines obstructions to air navigation. (Also see FAA HANDBOOK 8260.3B.)

TOWER—See AIRPORT TRAFFIC CONTROL TOWER (ATCT).

UNACCEPTABLE (DNL above 75 decibels)—The noise exposure at the site is so severe that the construction cost to make the indoor noise environment acceptable may be prohibitive and the outdoor environment would still be unacceptable.

VFR AIRPORT—An airport without an authorized or planned instrument approach procedure.

VFR CONDITIONS—Weather conditions that permit aircraft to be operated in accordance with visual flight rules.

VHF OMNIDIRECTIONAL RANGE (VOR)—A radio transmitter facility in the navigation system radiating a VHF radio wave modulated by two signals, the relative phases of which are compared, resolved, and displayed by a compatible airborne receiver to give the pilot a direct indication of bearing relative to the facility.

VISUAL APPROACH—An approach to an airport wherein an aircraft on an IFR flight plan, operating in VFR conditions under the control of a radar facility and having air traffic control authorization, may deviate from the prescribed instrument approach procedure and proceed to the airport of destination, served by an operational control tower, by visual reference to the surface.

VISUAL APPROACH SLOPE INDICATOR (VASI)—An airport lighting facility in the terminal area navigation system used primarily under VFR conditions. It provides vertical visual guidance to aircraft during approach and landing by radiating a directional pattern of high-intensity, red- and white-focused light beams, which indicate to the pilot that he is "on path" if he sees red/white, "above path" if white/white, and "below path" if red/red.

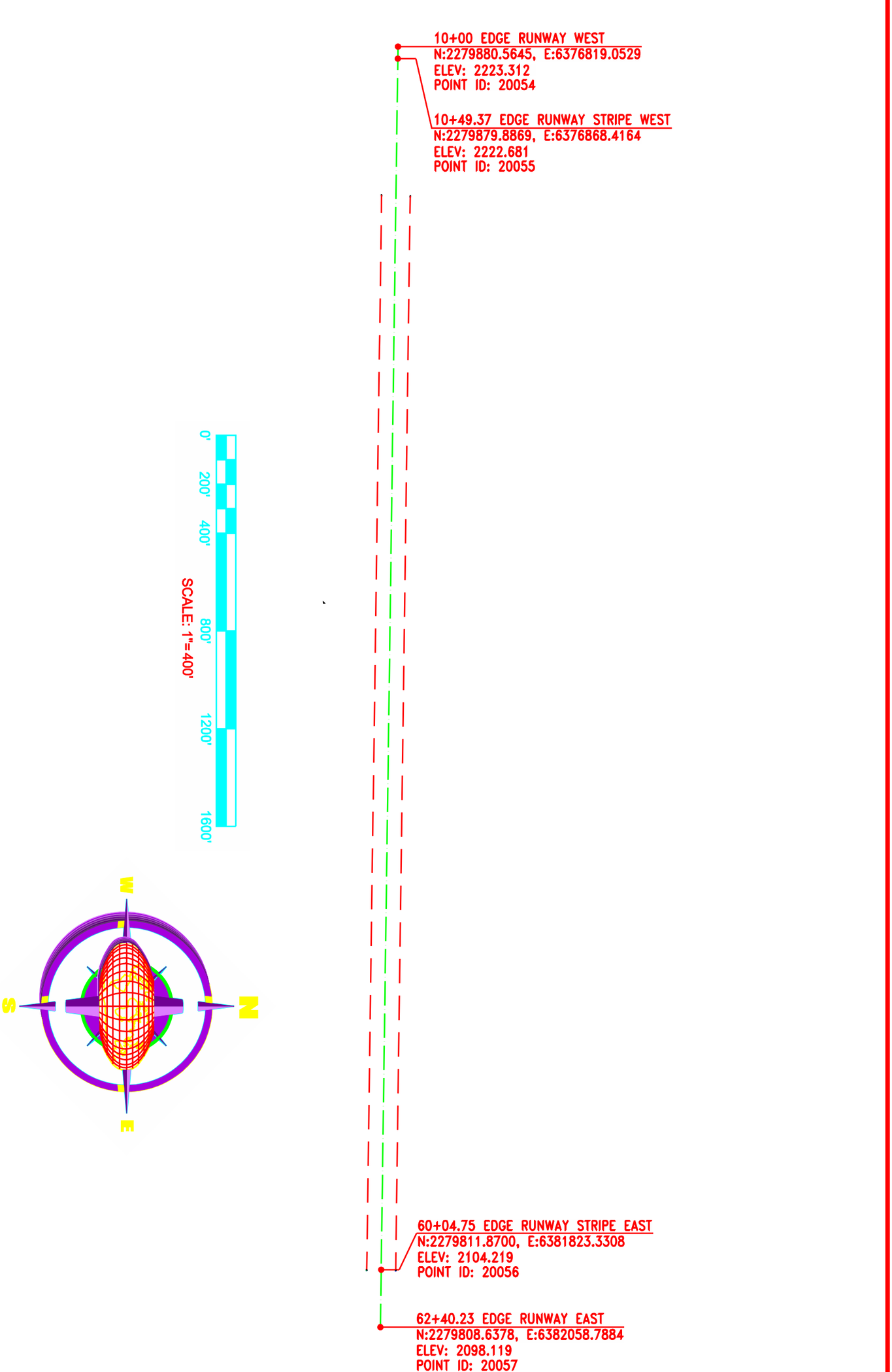
VISUAL FLIGHT RULES (VFR)—Rules that govern the procedures for conducting flight under visual conditions (Federal Aviation Regulations Part 91).

VISUAL RUNWAY—A runway intended solely for the operation of aircraft using visual approach procedures, with no straight-in instrument approach procedure and no instrument designation indicated on an FAA-approved airport layout plan, or by any planning document submitted to the FAA by competent authority.

ZONING AND ZONING ORDINANCES—Ordinances that divide a community into zones or districts according to the present and potential use of properties for the purpose of controlling and directing the use and development of those properties. Zoning is concerned primarily with the use of land and buildings, the height and bulk of buildings, the proportion of a lot that buildings may cover, and the density of population of a given area. As an instrument of plan implementation, zoning deals principally with the use and development of privately owned land and buildings. The objective of zoning legislation is to establish regulations that provide locations for all essential uses of land and buildings and to ensure that each use is located in the most appropriate place. In noise compatibility planning, zoning can be used to achieve two major aims: (1) to reinforce existing compatible land uses and promote the location of future compatible uses in vacant or underdeveloped land, and (2) to convert existing incompatible uses to compatible uses over time.

APPENDIX B

RUNWAY MONUMENTATION



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CITY OF BANNING
BANNING MUNICIPAL AIRPORT
MONUMENTATION MAP & COORDINATE DATA
(STATE PLANE COORDINATES)

JULY 2006 K:\00 JOBS\TCI-06\06021-Banning Airport Runway End Survey\DATA\06021-RUNWAY MON-SP.DWG

8/23/2006

Input
  Horizontal: NAD 83, California 6 - 0406, U.S. Survey Feet
  Vertical: NAVD 88, U.S. Survey Feet
Output
  Horizontal: NAD 83 Geographic
  Vertical: NAVD 88, U.S. Survey Feet

Name	Input	Output
20054	2279880.56450 N	33 55 21.39157 N
	6376819.05290 E	116 51 33.50164 W
Elevation	2223.31200	2223.31200
Convergence	-00 20 05.36771	
Scale Factor	1.000006799	
Combined Factor	0.999900462	

Input
  Horizontal: NAD 83, California 6 - 0406, U.S. Survey Feet
  Vertical: NAVD 88, U.S. Survey Feet
Output
  Horizontal: NAD 83 Geographic
  Vertical: NAVD 88, U.S. Survey Feet

Name	Input	Output
20055	2279879.88690 N	33 55 21.38772 N
	6376868.41640 E	116 51 32.91584 W
Elevation	2222.68100	2222.68100
Convergence	-00 20 05.04579	
Scale Factor	1.000006799	
Combined Factor	0.999900492	

Input
  Horizontal: NAD 83, California 6 - 0406, U.S. Survey Feet
  Vertical: NAVD 88, U.S. Survey Feet
Output
  Horizontal: NAD 83 Geographic
  Vertical: NAVD 88, U.S. Survey Feet

Name	Input	Output
20056	2279811.87000 N	33 55 20.99740 N
	6381823.33080 E	116 50 34.11484 W
Elevation	2104.21900	2104.21900
Convergence	-00 19 32.73361	
Scale Factor	1.000006780	
Combined Factor	0.999906138	

8/23/2006

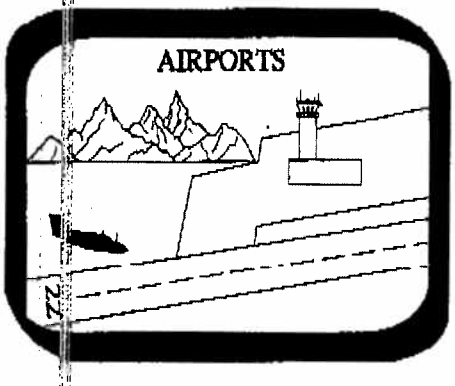
Input
  Horizontal: NAD 83, California 6 - 0406, U.S. Survey Feet
  Vertical: NAVD 88, U.S. Survey Feet
Output
  Horizontal: NAD 83 Geographic
  Vertical: NAVD 88, U.S. Survey Feet

Name	Input	Output
20057	2279808.63780 N	33 55 20.97866 N
	6382058.78840 E	116 50 31.32062 W
Elevation	2098.11900	2098.11900
Convergence	-00 19 31.19814	
Scale Factor	1.000006779	
Combined Factor	0.999906428	

APPENDIX C

FAA EASEMENT LETTER

WESTERN-PACIFIC



U.S. Department of Transportation
FEDERAL AVIATION ADMINISTRATION
WESTERN-PACIFIC REGION
Airports Division
Safety and Standards Branch

P.O. Box 92007
Los Angeles, California 90009-2007

FAX: (310) 725-6849
Voice: (310) 725-3628

DATE MESSAGE SENT: 6/12/06

DESTINATION FAX NO.: 619-296-5683

DELIVER THE FOLLOWING PAGES TO:

NAME: Marla Deck

NO. OF PAGES INCLUDING THIS ONE: 2

FROM: **MARGIE DRILLING**

ROUTING NUMBER: AWP-621.3

REMARKS: January 27, 1978 letter

PLEASE CALL IF ALL PAGES ARE NOT RECEIVED

RECEIVED
JUN 12 2006
C&S ENGINEERS INC.

Airports District Office, LAX-600
5985 West Imperial Highway
Los Angeles, CA 90045

January 27, 1978

Mr. Robert E. Odle
City Manager
City of Banning
161 West Ramsey Street
Banning, CA 92220

Compliance

Re: Banning Municipal Airport,
Banning, CA; FAAP Project
No. 9-04-051-C502
ADAP 5-06-0018-01

Dear Mr. Odle:

Special Condition No. 11 of the subject Grant Agreement obligated the city to acquire the east clear zone for Runway 8-26 within three years. During our Airport Master Record inspection at the subject airport, we noted that you have completed the 500' displacement of Runway 26. We also understand that the land is still Indian Reservation land.

On the basis of the above, we are waiving the requirement of Special Condition No. 11 to subject project.

On your next submittal of a Project Map (Exhibit A to a Project Application), please annotate this waiver to clear zone requirement.

Sincerely,
Original signed by:
Gerald M. Dallas

GERALD M. DALLAS, Chief
Airports District Office

cc: AWE-600

LAX-660:HSYoshioka/jl:1/27/78

APPENDIX D

CITY OF BANNING PARCEL MAPS

City of Banning

Date 8/17/06

TO:	Marla Deck
	C&S Engineers
Phone	
Fax	619-276-5683

FROM:	Jeff Benson
	City of Banning
	99 E. Ramsey St.
	Banning, CA 92220
Phone	(951) 922-3130
Fax	(951) 922-3141

TRANSMITTAL LETTER

REMARKS: ☐ Urgent ☐ For your review ☐ Reply ASAP ☐ Please Comment

Marla,

Attached is the APN map and detail for the NW corner of Hathaway Street and Lincoln Street. Even though there is a dotted line running north to south, Lot "9" is all City property and is considered one large parcel, from Juarez Street east to Hathaway Street. Please note that the lots had been separate once upon a time, were merged, and the line shows where the property line used to be. I asked Jerome how we'd be able to tell when they merged and he said they may have record of that through the County of Riverside (they have to record all lot mergers and lot line adjustments), but unfortunately we don't have any record here.

Hope that helps!

Jeff Benson
Engineering Services Assistant
City of Banning
(951) 922-3130
jbenson@ci.banning.ca.us

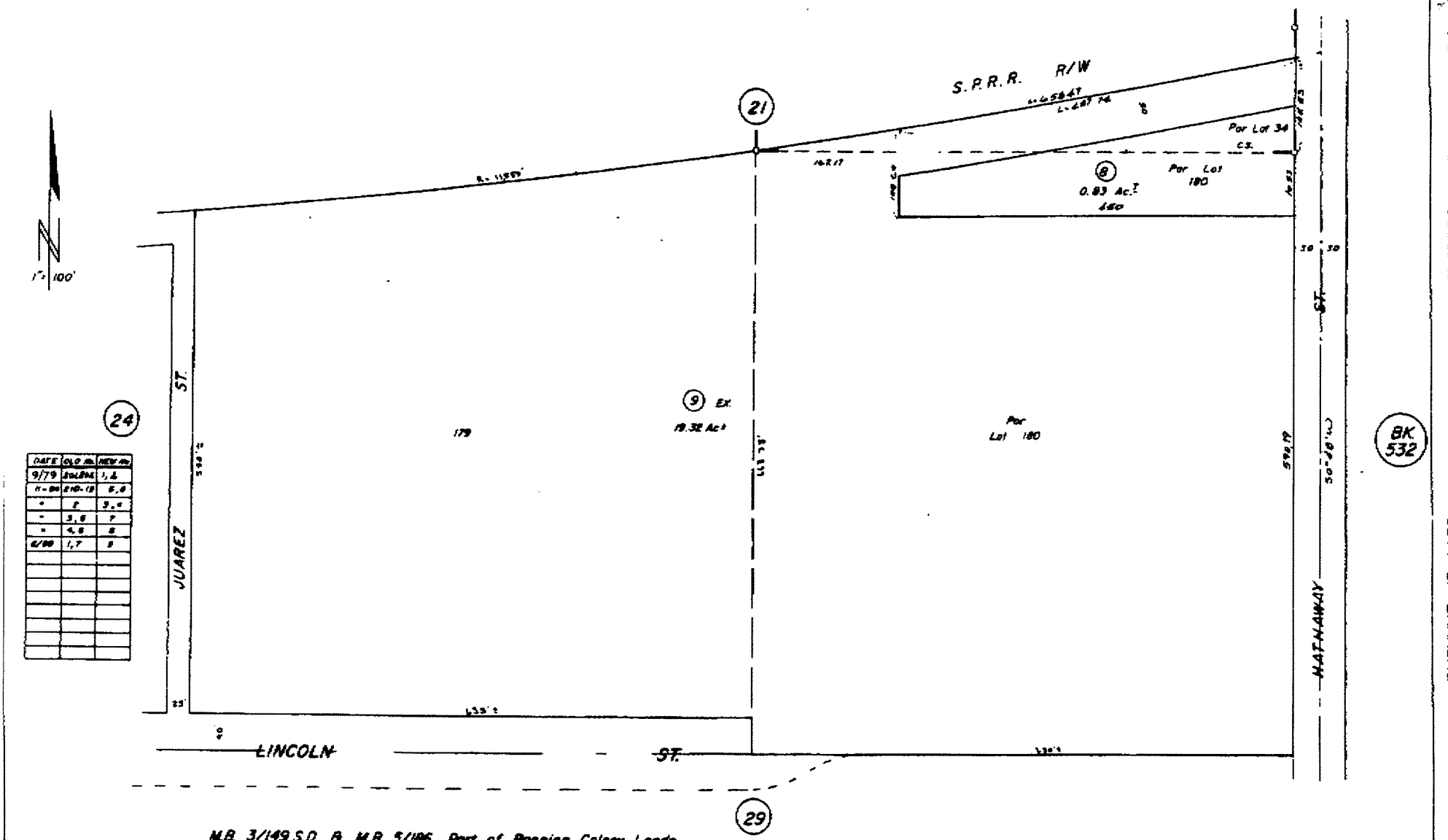
24-6

541-25

T.C.A. 104

POR. N.1/2 S.E. 1/4 SEC. 10, T.3 S, R.1E.

THIS MAP IS FOR ASSESSMENT PURPOSES ONLY



DATE	OLD No.	NEW No.
9/79	24-6	1, 4
11-80	24-6	5, 6
"	2	3, 4
"	3, 5	7
"	4, 8	8
6/88	1, 7	8

M.B. 3/149 S.D. B, M.B. 5/195 Port of Rancho Colony Lands

[illegible] COUNTY SURVEYOR

OCT 1980

ASSESSOR'S MAP BK 541 PG 25
RIVERSIDE COUNTY, CALIF

MetroScan / Riverside

Parcel	:541 250 008	Pos Int :		Ref APN	:000 00[illegible] 000
Owner	:Heale James F			Land	:$183,7[illegible]2
CoOwner	:			Struct	:$138,6[illegible]8
Site	:1500 E John St Banning 92220			Other	:
Mail	:PO Box 984 Banning Ca 92220			Total	:$322,3[illegible]0
Xfered	:04/16/2004	Doc # :280249 Multi-parcel		Exempt	:
Price	:$450,000 Full	Deed :Grant Deed		Type	:
LoanAmt	:	Loan :		% Imprvd	:43
Lender	:	IntTyp:		% Owned	:100
VestTyp	:Sole And Separ			Tax Area	:01-004
Use	:C08 Ind,Manufacturing And Processing			05-06Tax	:$3,981.42
Plat	:14			Map Grid	:
Census	:Tract:	Block:		OwnerPh	:
S:	T: R:	Q:		TenantPh	:

Bedrms	:	Stories	:	Acres	:.83	Year Built	:
BthFull	:	Fireplace	:No	LotSqFt	:36,154	Street Type	:Paved
Bth3Qtr	:	Pool	:No	Bldg SF	:	Waterfront	:
BthHalf	:	RmAddtns	:No	AddOnSF	:	Gas Service	:Developed
CntlHt	:No	AddPkgTyp	:	GarSqFt	:	Water Source	:Developed
CntlA/C	:No	Roof Type	:	GarType	:	Sewer Type	:Developed
						AgriPreserve	:

MetroScan / Riverside

Parcel	:541 250 009	Pos Int :		Ref APN	:000 00[illegible] 000
Owner	:City Of Banning			Land	:
CoOwner	:			Struct	:
Site	:*no Site Address*			Other	:
Mail	:161 W Ramsey St Banning Ca 92220			Total	:
Xfered	:06/01/1989	Doc # :9911245		Exempt	:
Price	:	Deed :Misc		Type	:
LoanAmt	:	Loan :		% Imprvd	:
Lender	:	IntTyp:		% Owned	:
VestTyp	:			Tax Area	:01-004
Use	:*unknown Use Code*			05-06Tax	:
Plat	:14			Map Grid	:
Census	:Tract:	Block:		OwnerPh	:
S:	T: R:	Q:		TenantPh	:

Bedrms	:	Stories	:	Acres	:19.32	Year Built	:
BthFull	:	Fireplace	:No	LotSqFt	:841,579	Street Type	:
Bth3Qtr	:	Pool	:No	Bldg SF	:	Waterfront	:
BthHalf	:	RmAddtns	:No	AddOnSF	:	Gas Service	:
CntlHt	:No	AddPkgTyp	:	GarSqFt	:	Water Source	:
CntlA/C	:No	Roof Type	:	GarType	:	Sewer Type	:
						AgriPreserve	:

CITY OF BANNING
Fleet Maintenance
176 E. Lincoln Street
Banning, CA 92220
PH: (951) 922-3291
FAX: (951) 849-3891

FROM: Owen Carder

Date: 08-17-06

Number of Pages Faxed including this page - _____

TO: Marla ATT:	Phone: Fax:

TRANSMITTAL LETTER

Remarks: ☐ Urgent ☐ Reply ASAP ☐ Action ☐ Please Comment ☒ For your review

☐ For Your Information

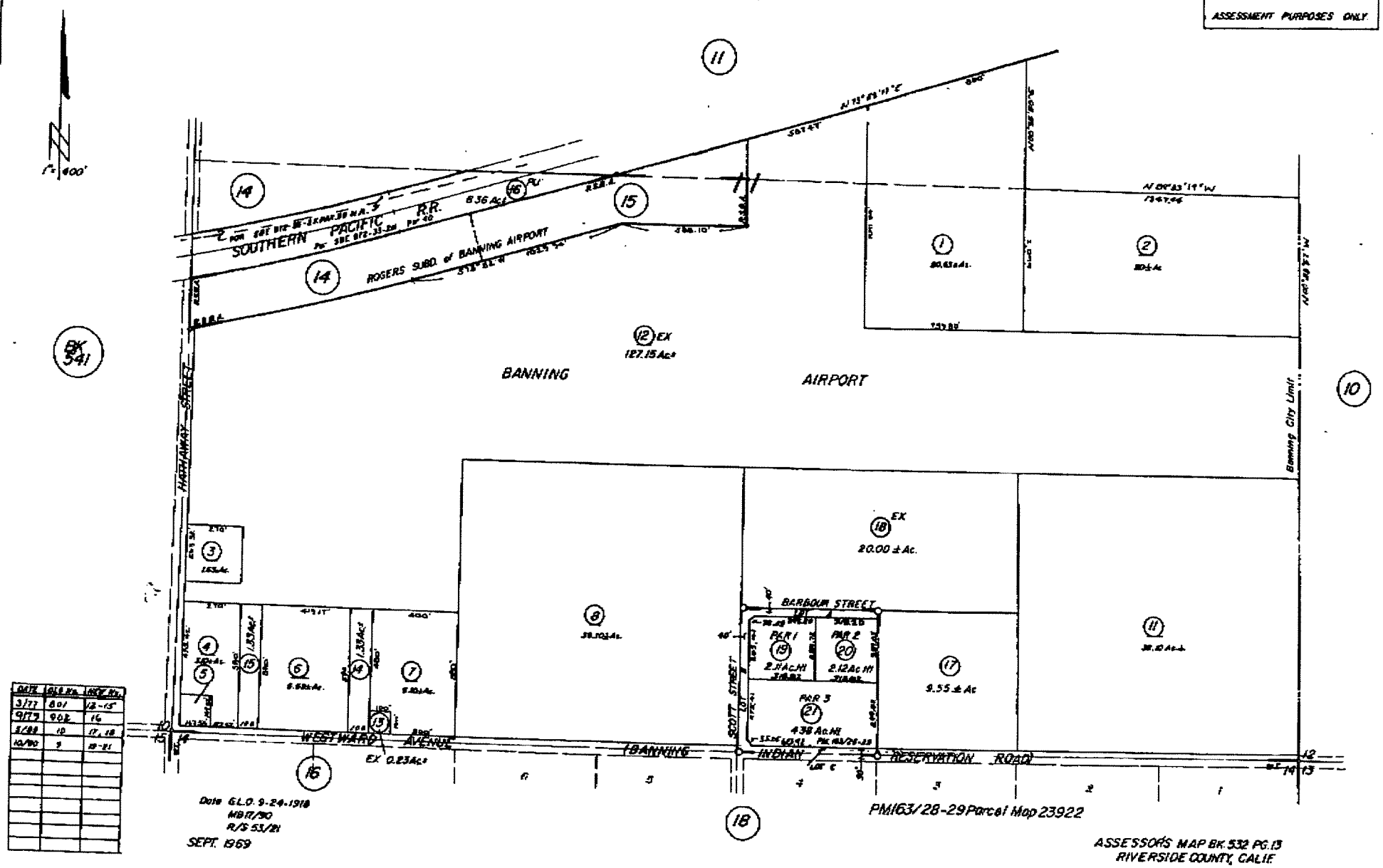
Fleet Maint.

532-13
24-27-1

T.C.A. 104

S1/2SEC.11 T.3S.,R.1E.

THIS MAP IS FOR ASSESSMENT PURPOSES ONLY



DATE	G.L.B. No.	LINDEX No.
3/77	801	12-15
9/79	902	16
5/88	10	17, 18
10/90	3	19-21

MetroScan / Riverside

Parcel	:532 130 001	Pos Int :				Ref APN	:000 000 000
Owner	:Mic Holdings Llc					Land	:$712,412
CoOwner	:					Struct	:
Site	:*no Site Address*					Other	:
Mail	:250 Newport Center Dr #200 Newport Beach Ca 92660					Total	:$712,412
Xfered	:02/01/2005	Doc # :91795				Exempt	:
Price	:Non-disc	Deed :Grant Deed				Type	:
LoanAmt	:	Loan :				% Imprvd	:
Lender	:	IntTyp:				% Owned	:100
VestTyp	:Corporation					Tax Area	:01-004
Use	:C24 Vacant,Commercial Land					05-06Tax	:$8,672.68
Plat	:					Map Grid	:
Census	:Tract:	Block:				OwnerPh	:
S:11	T:03S R:01E	Q:SE				TenantPh	:
Bedrms	:	Stories :	Acres	:20.63		Year Built	:
BthFull	:	Fireplace:No	LotSqFt	:898,642		Street Type	:
Bth3Qtr	:	Pool :No	Bldg SF	:		Waterfront	:
BthHalf	:	RmAddtns :No	AddOnSF	:		Gas Service	:
Cntl Ht	:No	AddPkgTyp:	GarSqFt	:		Water Source	:
Cntl A/C	:No	Roof Type:	GarType	:		Sewer Type	:
						AgriPreserve	:

MetroScan / Riverside

Parcel	:532 130 002	Pos Int :				Ref APN	:000 000 000
Owner	:Mic Holdings Llc					Land	:$186,386
CoOwner	:					Struct	:
Site	:*no Site Address*					Other	:
Mail	:250 Newport Center Dr #200 Newport Beach Ca 92660					Total	:$186,386
Xfered	:02/01/2005	Doc # :91792 Multi-parcel				Exempt	:
Price	:Non-disc	Deed :Grant Deed				Type	:
LoanAmt	:	Loan :				% Imprvd	:
Lender	:	IntTyp:				% Owned	:100
VestTyp	:Corporation					Tax Area	:01-004
Use	:C24 Vacant,Commercial Land					05-06Tax	:$2,302.86
Plat	:					Map Grid	:
Census	:Tract:	Block:				OwnerPh	:
S:11	T:03S R:01E	Q:SE				TenantPh	:
Bedrms	:	Stories :	Acres	:20.00		Year Built	:
BthFull	:	Fireplace:No	LotSqFt	:871,200		Street Type	:
Bth3Qtr	:	Pool :No	Bldg SF	:		Waterfront	:
BthHalf	:	RmAddtns :No	AddOnSF	:		Gas Service	:
Cntl Ht	:No	AddPkgTyp:	GarSqFt	:		Water Source	:
Cntl A/C	:No	Roof Type:	GarType	:		Sewer Type	:
						AgriPreserve	:

MetroScan / Riverside

Parcel	:532 130 003	Pos Int :				Ref APN	:000 000 000
Owner	:Deutsch Co Electronic Components Div					Land	:$12,784
CoOwner	:					Struct	:
Site	:700 S Hathaway St Banning 92220					Other	:
Mail	:3850 Industrial Ave Hemet Ca 92545					Total	:$12,784
Xfered	:	Doc # :				Exempt	:
Price	:	Deed :				Type	:
LoanAmt	:	Loan :				% Imprvd	:
Lender	:	IntTyp:				% Owned	:
VestTyp	:					Tax Area	:01-004
Use	:C24 Vacant,Commercial Land					05-06Tax	:$197.08
Plat	:					Map Grid	:722 D4
Census	:Tract:438.06	Block:3				OwnerPh	:
S:11	T:03S R:01E	Q:SW				TenantPh	:
Bedrms	:	Stories :	Acres	:1.63		Year Built	:
BthFull	:	Fireplace:No	LotSqFt	:71,002		Street Type	:
Bth3Qtr	:	Pool :No	Bldg SF	:		Waterfront	:
BthHalf	:	RmAddtns :No	AddOnSF	:		Gas Service	:
Cntl Ht	:No	AddPkgTyp:	GarSqFt	:		Water Source	:
Cntl A/C	:No	Roof Type:	GarType	:		Sewer Type	:
						AgriPreserve	:

MetroScan / Riverside

Parcel	:532 130 004	Pos Int :	
Owner	:Deutsch Co Electronic Components Divisio		
CoOwner	:		
Site	:3850 Industrial Ave Hemet 92545		
Mail	:3850 Industrial Ave Hemet Ca 92545		
Xfered	:05/01/1989	Doc # :9999998	
Price	:	Deed :	
LoanAmt	:	Loan :	
Lender	:	IntTyp:	
VestTyp	:		
Use	:C1 Com,Miscellaneous		
Plat	:		
Census	:Tract:433.06	Block:1	
S:11	T:03S R:01E	Q:	

Bedrms	:	Stories :	Acres	:3.10	Year Built :
BthFull	:	Fireplace:No	LotSqFt	:135,036	Street Type :
Bth3Qtr	:	Pool :No	Bldg SF	:	Waterfront :
BthHalf	:	RmAddtns :No	AddOnSF	:	Gas Service :
Cntl Ht	:No	AddPkgTyp:	GarSqFt	:	Water Source :
Cntl A/C	:No	Roof Type:	GarType	:	Sewer Type :
					AgriPreserve :

Ref APN	:000 000 000
Land	:$23,702
Struct	:$923,104
Other	:
Total	:$946,806
Exempt	:
Type	:
% Imprvd	:97
% Owned	:
Tax Area	:01-004
05-06Tax	:$11,642.28
Map Grid	:840 E2
OwnerPh	:
TenantPh	:

MetroScan / Riverside

Parcel	:532 130 005	Pos Int :	
Owner	:Israels Harvey		
CoOwner	:		
Site	:770 S Hathaway St Banning 92220		
Mail	:621 N Granada Ave Alhambra Ca 91801		
Xfered	:	Doc # :	
Price	:	Deed :	
LoanAmt	:	Loan :	
Lender	:	IntTyp:	
VestTyp	:		
Use	:C1 Com,Miscellaneous		
Plat	:		
Census	:Tract:438.06	Block:3	
S:11	T:03S R:01E	Q:SW	

Bedrms	:	Stories :	Acres	:	Year Built :
BthFull	:	Fireplace:No	LotSqFt	:	Street Type :
Bth3Qtr	:	Pool :No	Bldg SF	:	Waterfront :
BthHalf	:	RmAddtns :No	AddOnSF	:	Gas Service :
Cntl Ht	:No	AddPkgTyp:	GarSqFt	:	Water Source :
Cntl A/C	:No	Roof Type:	GarType	:	Sewer Type :
					AgriPreserve :

Ref APN	:000 000 000
Land	:$5,571
Struct	:$10,954
Other	:
Total	:$16,525
Exempt	:
Type	:
% Imprvd	:66
% Owned	:
Tax Area	:01-004
05-06Tax	:$264.16
Map Grid	:722 D4
OwnerPh	:
TenantPh	:

MetroScan / Riverside

Parcel	:532 130 006	Pos Int :	
Owner	:Deutsch Co Electronic Components Divisio		
CoOwner	:		
Site	:700 S Hathaway St Banning 92220		
Mail	:3850 Industrial Ave Hemet Ca 92545		
Xfered	:	Doc # :	
Price	:	Deed :	
LoanAmt	:	Loan :	
Lender	:	IntTyp:	
VestTyp	:		
Use	:C08 Ind,Manufacturing And Processing		
Plat	:		
Census	:Tract:438.06	Block:3	
S:11	T:03S R:01E	Q:	

Bedrms	:	Stories :	Acres	:5.59	Year Built :
BthFull	:	Fireplace:No	LotSqFt	:243,500	Street Type :
Bth3Qtr	:	Pool :No	Bldg SF	:	Waterfront :
BthHalf	:	RmAddtns :No	AddOnSF	:	Gas Service :
Cntl Ht	:No	AddPkgTyp:	GarSqFt	:	Water Source :
Cntl A/C	:No	Roof Type:	GarType	:	Sewer Type :
					AgriPreserve :

Ref APN	:000 000 000
Land	:$43,041
Struct	:$989,569
Other	:
Total	:$1,032,610
Exempt	:
Type	:
% Imprvd	:96
% Owned	:
Tax Area	:01-004
05-06Tax	:$12,789.74
Map Grid	:722 D4
OwnerPh	:
TenantPh	:

MetroScan / Riverside

Parcel	:532 130 007	Pos Int :	
Owner	:Deutsch Co Electronic Components Div		
CoOwner	:		
Site	:1973 Westwrrd Ave Banning 92220		
Mail	:3850 Industrial Ave Hemet Ca 92545		
Xfered	:08/01/1980	Doc # :623	
Price	:	Deed :Misc	
LoanAmt	:	Loan :	
Lender	:	IntTyp:	
VestTyp	:		
Use	:C1 Com,Miscellaneous		
Plat	:		
Census	:Tract:	Block:	
S:11	T:03S R:01E	Q:	

Bedrms	:	Stories :	Acres	:5.10	Year Built :
BthFull	:	Fireplace:No	LotSqFt	:222,156	Street Type :
Bth3Qtr	:	Pool :No	Bldg SF	:	Waterfront :
BthHalf	:	RmAddtns :No	AddOnSF	:	Gas Service :
CntlHt	:No	AddPkgTyp:	GarSqFt	:	Water Source :
CntlA/C	:No	Roof Type:	GarType	:	Sewer Type :
					AgriPreserve :

Ref APN	:000 000 000
Land	:$38,659
Struct	:$47,268
Other	:
Total	:$85,927
Exempt	:
Type	:
% Imprvd	:55
% Owned	:
Tax Area	:01-004
05-06Tax	:$1,105.80
Map Grid	:
OwnerPh	:
TenantPh	:

MetroScan / Riverside

Parcel	:532 130 008	Pos Int :	
Owner	:2831 Bristol Llc		
CoOwner	:		
Site	:*no Site Address*		
Mail	:4525 Macarthur Blvd #A Newport Beach Ca 92660		
Xfered	:05/05/2005	Doc # :355704	
Price	:Non-disc	Deed :Grant Deed	
LoanAmt	:	Loan :	
Lender	:	IntTyp:	
VestTyp	:Corporation		
Use	:Y04 Vacant,Other		
Plat	:		
Census	:Tract:	Block:	
S:11	T:03S R:01E	Q:SW	

Bedrms	:	Stories :	Acres	:39.10	Year Built :
BthFull	:	Fireplace:No	LotSqFt	:1,703,196	Street Type :Unpaved
Bth3Qtr	:	Pool :No	Bldg SF	:	Waterfront :
BthHalf	:	RmAddtns :No	AddOnSF	:	Gas Service :Available
CntlHt	:No	AddPkgTyp:	GarSqFt	:	Water Source :Available
CntlA/C	:No	Roof Type:	GarType	:	Sewer Type :Available
					AgriPreserve :

Ref APN	:000 000 000
Land	:$223,032
Struct	:
Other	:
Total	:$223,032
Exempt	:
Type	:
% Imprvd	:
% Owned	:100
Tax Area	:01-004
05-06Tax	:$2,742.98
Map Grid	:
OwnerPh	:
TenantPh	:

MetroScan / Riverside

Parcel	:532 130 011	Pos Int :	
Owner	:Scharff Werner G Trustee;Scharff Werner		
CoOwner	:Scharff Simone		
Site	:*no Site Address*		
Mail	:8680 Hayden Pl Culver City Ca 90232		
Xfered	:02/08/1993	Doc # :49359	
Price	:$600,000 Full	Deed :Quit Claim	
LoanAmt	:	Loan :	
Lender	:	IntTyp:	
VestTyp	:Trust\trustee		
Use	:Y04 Vacant,Other		
Plat	:		
Census	:Tract:	Block:	
S:11	T:03S R:01E	Q:SE	

Bedrms	:	Stories :	Acres	:39.10	Year Built :
BthFull	:	Fireplace:No	LotSqFt	:1,703,196	Street Type :Unpaved
Bth3Qtr	:	Pool :No	Bldg SF	:	Waterfront :
BthHalf	:	RmAddtns :No	AddOnSF	:	Gas Service :Available
CntlHt	:No	AddPkgTyp:	GarSqFt	:	Water Source :Available
CntlA/C	:No	Roof Type:	GarType	:	Sewer Type :Available
					AgriPreserve :

Ref APN	:000 000 000
Land	:$791,931
Struct	:
Other	:
Total	:$791,931
Exempt	:
Type	:
% Imprvd	:
% Owned	:100
Tax Area	:01-004
05-06Tax	:$9,638.94
Map Grid	:
OwnerPh	:
TenantPh	:

MetroScan / Riverside

Parcel	:532 130 012	Pos Int :1+ On Prcl			Ref APN	:009 603 157	
Owner	:City Of Banning				Land	:	
CoOwner	:				Struct	:	
Site	:*no Site Address*				Other	:	
Mail	:PO Box 2667 Hemet Ca 92546				Total	:	
Xfered	:02/01/1977	Doc # :32623			Exempt	:	
Price	:	Deed :			Type	:	
LoanAmt	:	Loan :			% Imprvd	:	
Lender	:	IntTyp:			% Owned	:	
VestTyp	:				Tax Area	:01-004	
Use	:Ct *unknown Use Code*				05-06Tax	:	
Plat	:				Map Grid	:	
Census	:Tract:	Block:			OwnerPh	:	
S:11	T:03S R:01E	Q:			TenantPh	:	
Bedrms	:	Stories :	Acres	:127.15	Year Built	:	
BthFull	:	Fireplace:No	LotSqFt	:5,538,654	Street Type	:	
Bth3Qtr	:	Pool :No	Bldg SF	:	Waterfront	:	
BthHalf	:	RmAddtns :No	AddOnSF	:	Gas Service	:	
CntlHt	:No	AddPkgTyp:	GarSqFt	:	Water Source	:	
CntlA/C	:No	Roof Type:	GarType	:	Sewer Type	:	
					AgriPreserve	:	

MetroScan / Riverside

Parcel	:532 130 013	Pos Int :			Ref APN	:000 000 000	
Owner	:City Of Banning				Land	:	
CoOwner	:				Struct	:	
Site	:*no Site Address*				Other	:	
Mail	:Unknown Banning Ca 92220				Total	:	
Xfered	:02/01/1977	Doc # :32623			Exempt	:	
Price	:	Deed :			Type	:	
LoanAmt	:	Loan :			% Imprvd	:	
Lender	:	IntTyp:			% Owned	:	
VestTyp	:				Tax Area	:01-004	
Use	:*unknown Use Code*				05-06Tax	:	
Plat	:				Map Grid	:	
Census	:Tract:	Block:			OwnerPh	:	
S:11	T:03S R:01E	Q:SW			TenantPh	:	
Bedrms	:	Stories :	Acres	:.23	Year Built	:	
BthFull	:	Fireplace:No	LotSqFt	:10,018	Street Type	:	
Bth3Qtr	:	Pool :No	Bldg SF	:	Waterfront	:	
BthHalf	:	RmAddtns :No	AddOnSF	:	Gas Service	:	
CntlHt	:No	AddPkgTyp:	GarSqFt	:	Water Source	:	
CntlA/C	:No	Roof Type:	GarType	:	Sewer Type	:	
					AgriPreserve	:	

MetroScan / Riverside

Parcel	:532 130 014	Pos Int :			Ref APN	:000 000 000	
Owner	:Deutsch Co Electronic Components Divisio				Land	:$9,567	
CoOwner	:				Struct	:$13,234	
Site	:3850 Industrial Ave Hemet 92545				Other	:	
Mail	:3850 Industrial Ave Hemet Ca 92545				Total	:$22,801	
Xfered	:02/01/1977	Doc # :32623			Exempt	:	
Price	:	Deed :			Type	:	
LoanAmt	:	Loan :			% Imprvd	:58	
Lender	:	IntTyp:			% Owned	:	
VestTyp	:				Tax Area	:01-004	
Use	:C1 Com,Miscellaneous				05-06Tax	:$376.28	
Plat	:				Map Grid	:840 E2	
Census	:Tract:433.06	Block:1			OwnerPh	:	
S:11	T:03S R:01E	Q:SW			TenantPh	:	
Bedrms	:	Stories :	Acres	:1.33	Year Built	:	
BthFull	:	Fireplace:No	LotSqFt	:57,934	Street Type	:	
Bth3Qtr	:	Pool :No	Bldg SF	:	Waterfront	:	
BthHalf	:	RmAddtns :No	AddOnSF	:	Gas Service	:	
CntlHt	:No	AddPkgTyp:	GarSqFt	:	Water Source	:	
CntlA/C	:No	Roof Type:	GarType	:	Sewer Type	:	
					AgriPreserve	:	

MetroScan / Riverside

Parcel	:532 130 015	Pos Int :	
Owner	:Deutsch Co Electronic Components Divisio		
CoOwner	:		
Site	:3850 Industrial Ave Hemet 92545		
Mail	:3850 Industrial Ave Hemet Ca 92545		
Xfered	:02/01/1977	Doc # :32623	
Price	:	Deed :	
LoanAmt	:	Loan :	
Lender	:	IntTyp:	
VestTyp	:		
Use	:C1 Com,Miscellaneous		
Plat	:		
Census	:Tract:433.06	Block:1	
S:11	T:03S R:01E	Q:SW	

Bedrms	:	Stories :	Acres	:1.33	Year Built :
BthFull	:	Fireplace:No	LotSqFt	:57,934	Street Type :
Bth3Qtr	:	Pool :No	Bldg SF	:	Waterfront :
BthHalf	:	RmAddtns :No	AddOnSF	:	Gas Service :
CntlHt	:No	AddPkgTyp:	GarSqFt	:	Water Source :
CntlA/C	:No	Roof Type:	GarType	:	Sewer Type :
					AgriPreserve :

Ref APN	:000 000 000
Land	:$9,567
Struct	:$13,234
Other	:
Total	:$22,801
Exempt	:
Type	:
% Imprvd	:58
% Owned	:
Tax Area	:01-004
05-06Tax	:$376.28
Map Grid	:840 E2
OwnerPh	:
TenantPh	:

MetroScan / Riverside

Parcel	:532 130 016	Pos Int :	
Owner	:Southern Pacific Transportation Co		
CoOwner	:		
Site	:*no Site Address*		
Mail	:1700 Farnam St #S Omaha NE 68102		
Xfered	:03/01/1981	Doc # :120	
Price	:	Deed :Misc	
LoanAmt	:	Loan :	
Lender	:	IntTyp:	
VestTyp	:		
Use	:*unknown Use Code*		
Plat	:		
Census	:Tract:	Block:	
S:11	T:03S R:01E	Q:SW	

Bedrms	:	Stories :	Acres	:8.36	Year Built :
BthFull	:	Fireplace:No	LotSqFt	:364,161	Street Type :
Bth3Qtr	:	Pool :No	Bldg SF	:	Waterfront :
BthHalf	:	RmAddtns :No	AddOnSF	:	Gas Service :
CntlHt	:No	AddPkgTyp:	GarSqFt	:	Water Source :
CntlA/C	:No	Roof Type:	GarType	:	Sewer Type :
					AgriPreserve :

Ref APN	:000 000 000
Land	:
Struct	:
Other	:
Total	:
Exempt	:
Type	:
% Imprvd	:
% Owned	:
Tax Area	:01-004
05-06Tax	:
Map Grid	:
OwnerPh	:
TenantPh	:

MetroScan / Riverside

Parcel	:532 130 017	Pos Int :	
Owner	:Cole Lawrence M & Sharon Lee		
CoOwner	:		
Site	:*no Site Address*		
Mail	:PO Box 208 Bryn Mawr Ca 92318		
Xfered	:07/01/1998	Doc # :284513	
Price	:	Deed :Trust Transfer	
LoanAmt	:	Loan :	
Lender	:	IntTyp:	
VestTyp	:		
Use	:C24 Vacant,Commercial Land		
Plat	:		
Census	:Tract:	Block:	
S:11	T:03S R:01E	Q:SE	

Bedrms	:	Stories :	Acres	:9.55	Year Built :
BthFull	:	Fireplace:No	LotSqFt	:415,998	Street Type :Unpaved
Bth3Qtr	:	Pool :No	Bldg SF	:	Waterfront :
BthHalf	:	RmAddtns :No	AddOnSF	:	Gas Service :Available
CntlHt	:No	AddPkgTyp:	GarSqFt	:	Water Source :Available
CntlA/C	:No	Roof Type:	GarType	:	Sewer Type :Available
					AgriPreserve :

Ref APN	:000 000 000
Land	:$85,711
Struct	:
Other	:
Total	:$85,711
Exempt	:
Type	:
% Imprvd	:
% Owned	:100
Tax Area	:01-004
05-06Tax	:$1,081.88
Map Grid	:
OwnerPh	:
TenantPh	:

MetroScan / Riverside

Parcel	:532 130 018	Pos Int :	
Owner	:City Of Banning		
CoOwner	:		
Site	:*no Site Address*		
Mail	:PO Box 998 Banning Ca 92220		
Xfered	:10/01/1985	Doc #	:228828
Price	:$270,000 Full	Deed	:Grant Deed
LoanAmt	:	Loan	:
Lender	:	IntTyp	:
VestTyp	:		
Use	:Y04 Vacant,Other		
Plat	:		
Census	:Tract:	Block:	
S:11	T:03S R:01E	Q:SE	

Bedrms	:	Stories	:	Acres	:20.00
BthFull	:	Fireplace	:No	LotSqFt	:871,200
Bth3Qtr	:	Pool	:No	Bldg SF	:
BthHalf	:	RmAddtns	:No	AddOnSF	:
CntlHt	:No	AddPkgTyp	:	GarSqFt	:
CntlA/C	:No	Roof Type	:	GarType	:

Ref APN	:000 000 000
Land	:$153,006
Struct	:
Other	:
Total	:$153,006
Exempt	:
Type	:
% Imprvd	:
% Owned	:
Tax Area	:01-004
05-06Tax	:
Map Grid	:
OwnerPh	:
TenantPh	:

Year Built	:
Street Type	:Unpaved
Waterfront	:
Gas Service	:Available
Water Source	:Available
Sewer Type	:Available
AgriPreserve	: