

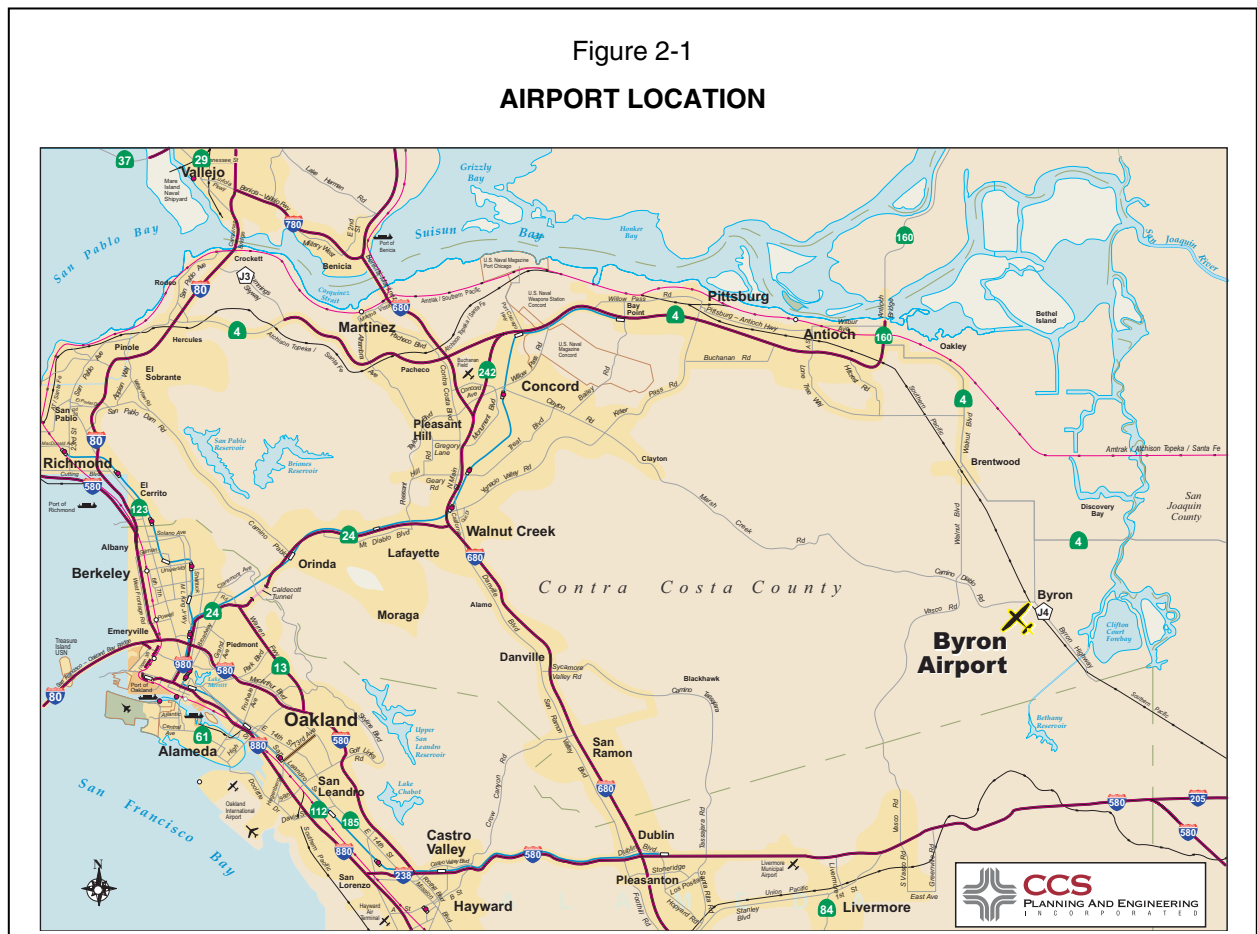
Chapter 2

INVENTORY OF EXISTING FACILITIES

This chapter provides a description of the existing facilities at Byron Airport (the Airport) as of November 2003, and includes pertinent data to be used in the development of the master plan.

OVERVIEW OF BYRON AIRPORT

As illustrated on Figure 2-1, Byron Airport is located in the southeast part of Contra Costa County, midway between the town of Byron and the Alameda County line. The site is in a rural area on the eastern edge of the Diablo Range, consisting of low rolling hills, leveling out into flat pastures and the San Joaquin River Delta.



Byron's climate is generally characterized as Mediterranean with a rainy season November through March. Mild thunderstorms occur mainly in the spring. Heavy fogs occur in the winter, and may last for several days. Light and moderate fogs are

more frequent, and usually occur in the early morning hours. Prevailing winds at Byron are from the northwest.

The area most directly affected by the presence and operation of the airport is referred to as the Airport environs. As illustrated on Figure 2-2, the Airport environs is generally bounded on the north by Armstrong Road, on the east by Byron Hot Springs Road and on the west by Vasco Road.

Byron Airport occupies approximately 1,307 acres at an airport reference elevation of 76 feet above Mean Sea Level (MSL). Figure 2-3 illustrates land uses within the Airport boundary and identifies key airfield facilities. The Airport has two non-intersecting runways each with a parallel taxiway and several connector taxiways. General aviation facilities are generally concentrated in "V" formed by the two runways with approximately 10 acres of aircraft storage area, 4 acres of apron, 125,000 square feet of hangars, and 2,400 square feet of office space. The majority of these facilities were constructed when the airport was built. Approximately 814 acres of Airport property to the south and west of the airfield are set aside as a wild life preserve.

AIRFIELD FACILITIES

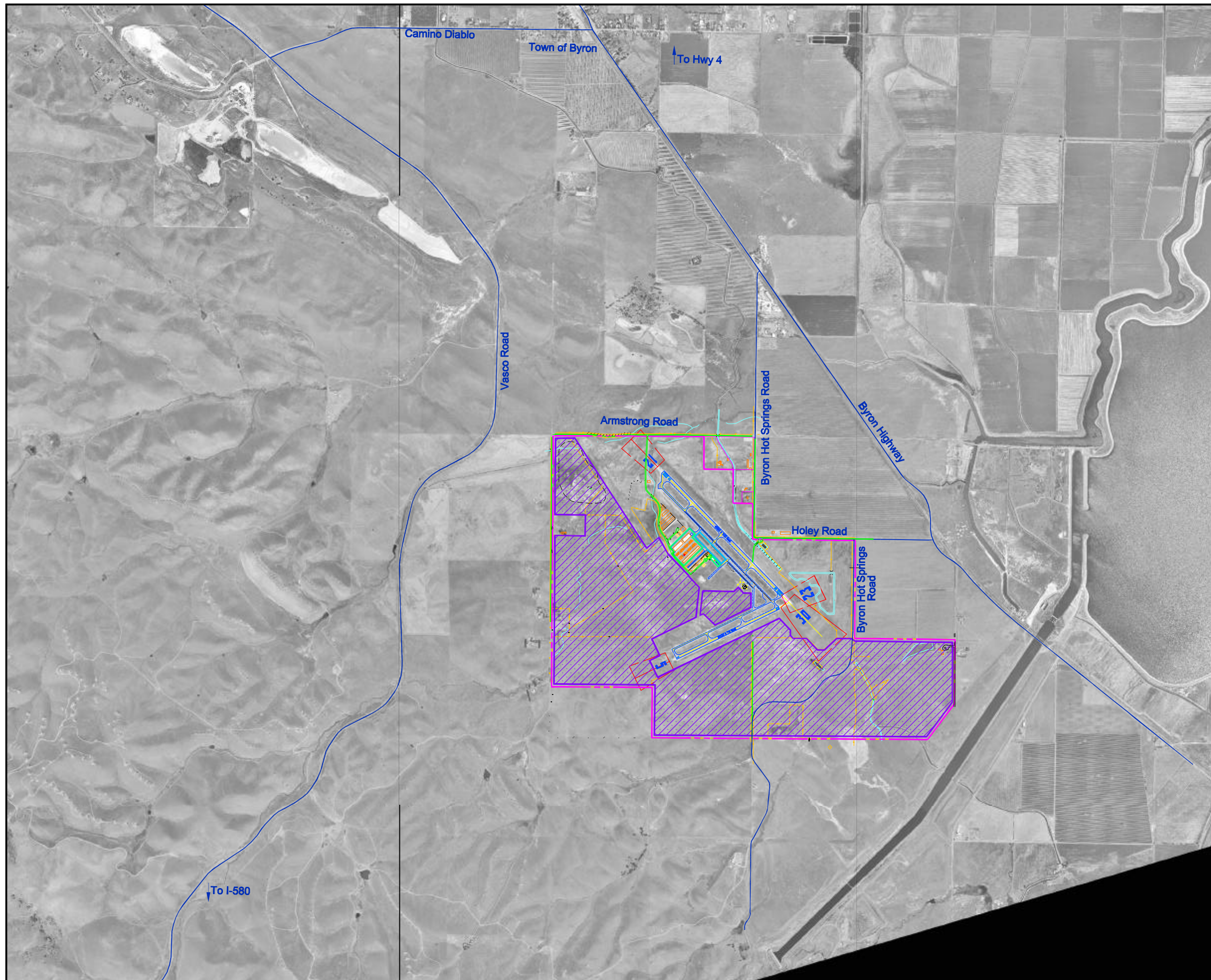
Runways

As shown on Figure 2-3, the airfield includes two runways. The primary runway, Runway 12-30 (northwest-southeast), is 4,500 feet long and 100 feet wide. The crosswind runway, Runway 5-23 is 3,000 feet long and 75 feet wide. Both runways have 20 feet unpaved shoulders. Table 2-1 summarizes runway data.

Byron Airport was planned and designed in the 1980s and constructed in the early 1990s in accordance with FAA design standards. Byron's airfield facilities meet FAA Airport Reference Code (ARC)* B-II** criteria and can accommodate aircraft with wingspans of up to (but not including) 79 feet and approach speeds of up to (but not including) 121 knots. Byron meets the ARC criteria for all aircraft currently using the Airport.

*The FAA uses a two-component coding system called Airport Reference Code (ARC) to classify airfield facilities according to the operational and physical characteristics of the aircraft intended to use them. The first component of the ARC, depicted by a letter, is the aircraft approach category and relates to approach speed; the second component, depicted by a Roman numeral, is the aircraft design group and relates to wingspan.

**In previous documents the ARC has been shown to be B-III however, the designation of B-III cannot be achieved only due to the fact that the taxiway width is 35 feet where 50 feet is required.



- LEGEND**
- Airport boundary
 - Aircraft storage facilities
 - Aircraft parking
 - Biologically sensitive habitat
 - Roads

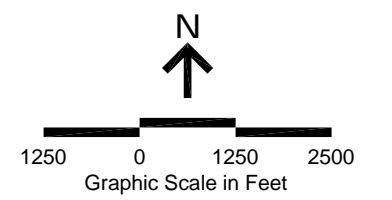
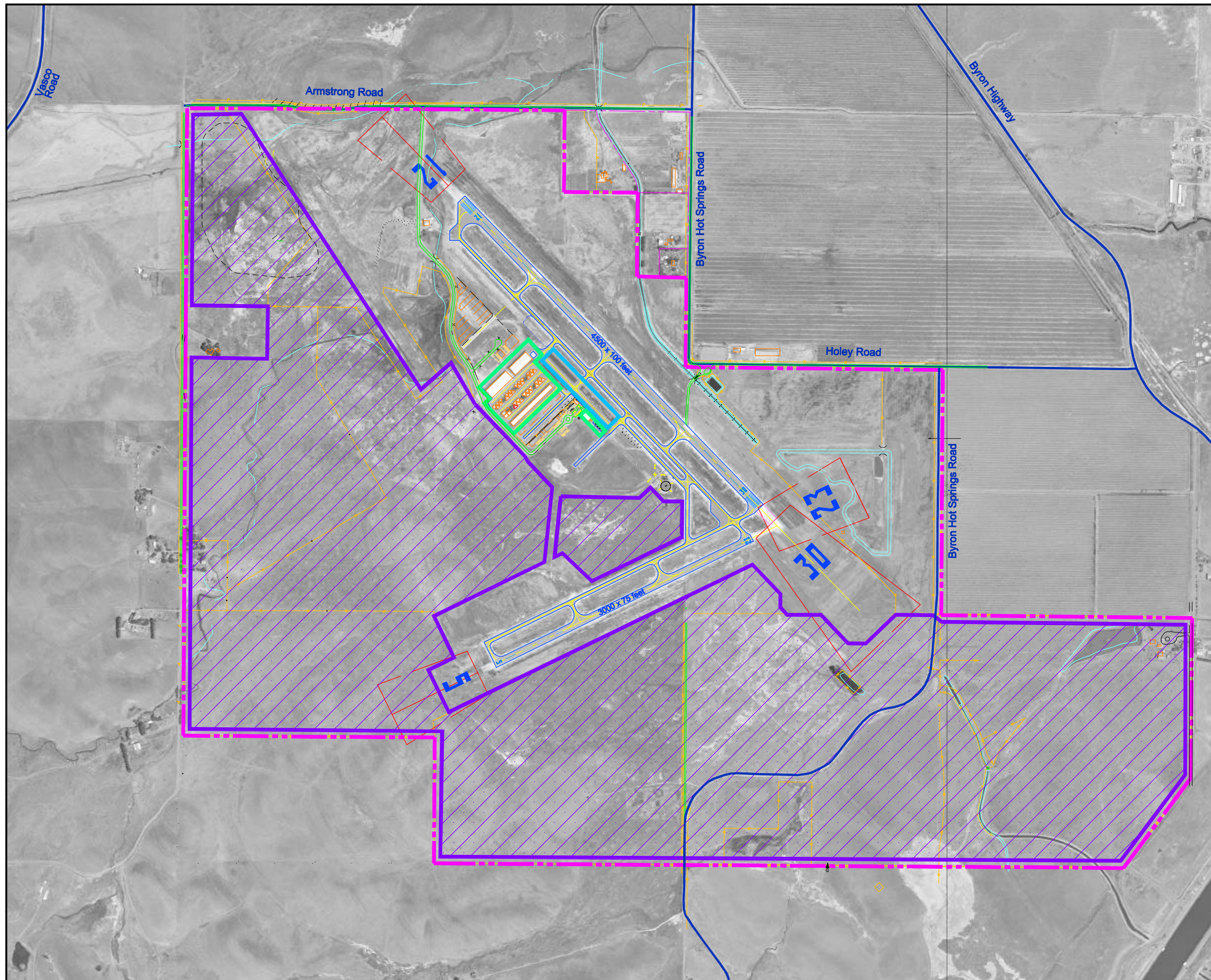


Figure 2-2
AIRPORT ENVIRONS PLAN

Byron Airport
November 2004

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- LEGEND**
- - - Airport boundary
 - Aircraft storage facilities
 - Aircraft parking
 - ▨ Biologically sensitive habitat
 - Off-airport road
 - On-airport road

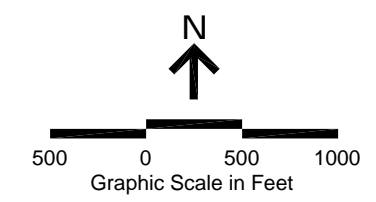


Figure 2-3
AIRPORT LAND USE PLAN

Byron Airport
November 2004

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Table 2-1
RUNWAY DATA
 Byron Airport

	Runway 12-30		Runway 5-23	
	12	30	5	23
Runway Length (ft)	4,500	4,500	3,000	3,000
Runway Width (ft)	100	100	75	75
Overrun Length (ft)	600	1,000	600	600
Runway Threshold Elevation (MSL)	62	46	76	46
Pavement Type	Asphalt concrete	Asphalt concrete	Asphalt concrete	Asphalt concrete
Pavement Strength (lbs) Single Wheel	29,500	29,500	29,500	29,500
Pavement Condition	Very Good	Very Good	Very Good	Very Good
Runway Lighting	MIRL	MIRL	MIRL	MIRL
Runway Marking	Nonprecision	Nonprecision	Visual	Visual
Visual Navigational Aid	--	REIL	--	--
Approach Aids	--	PAPI (P2L), GPS	--	PAPI (P2L)
Approach Slope	20:1	34:1	20:1	20:1

Abbreviations:

MIRL = Medium intensity runway lights

REIL = Runway end identifier lights

MSL = Mean sea level

PAPI = Precision Approach Path Indicator

Sources: Federal Aviation Administration (FAA) Airport Master Record (10/30/2003) and FAA Facilities Directory.

Taxiways

As shown on Figure 2-3, there are three taxiways serving the airport. Taxiway A, which is southwest and parallel to Runway 12-30, extends the full length of the runway and provide access to the general aviation apron. There are five connectors between Runway 12-30 and Taxiway A. Taxiway C is located north and parallel to Runway 5-23, and extends the full length of the runway. There are four connectors between Taxiway C and Runway 5-23. Taxiway B, parallel to Taxiway A most of its way, angles to the south to connect to Taxiway C. This taxiway serves as the final connection to the apron and hangar area. All taxiways and connectors are 35 feet

wide, the dimensional standard for Airplane Design Group II. Additional taxiway data are provided in Table 2-2.

Taxiway	Location/Purpose	Width (feet)	Type of construction	R/W to T/W separation	Condition
A	Full-length parallel taxiway South of Runway 12-30 (includes end connectors)	35	Asphalt Concrete	300'	Very good
B	Parallel to taxiway A and adjacent to the apron area, also connects apron area to Taxiway C	35	Asphalt Concrete	N/A	Very good
C	Full-length parallel taxiway North of Runway 5-23 (includes end connectors)	35	Asphalt Concrete	240'	Very good
A1, A2 & A3	Connects Runway 12-30 to Taxiway A	35	Asphalt Concrete	N/A	Very good
C1 & C2	Connects Runway 5-23 to Taxiway C	35	Asphalt Concrete	N/A	Very good

Aircraft Parking Apron

The general aviation apron accommodates 56 tiedowns, taxilanes and 12 other tiedowns alternated with each set of five portable hangars.

Pavement Evaluation

The airfield and roadway pavements were inspected on November 21, 2003. A review of the as-built drawings indicate the airfield pavement sections are within the guidelines identified in the FAA's pavement design Advisory Circular and are in accordance with FAA's recommended practices for the intended use of this airport. The airfield pavement, which was constructed in the early 1990's, was found to be performing well without any signs of structural or environmental failure.

AVIGATION

Avigation refers to facilities and operating procedures related to the navigation of aircraft. Procedures and conditions pertinent to aircraft operations at Byron are discussed in the following sections.

Runway Use

Approximately 80% of all aircraft operations at Byron occur on Runway 12-30. Runway 12-30 typically accommodates both multi-engine skydiving aircraft as well as general aviation touch-and-go training operations, except during the late spring and/or early summer when there are strong winds commonly from the southwest necessitating the use of Runway 5-23. According to prevailing wind patterns, the Airport typically operates in a west flow, i.e., arrivals and departures principally using Runways 30 and 23.

During visual meteorological conditions (VMC), aircraft operating under Visual Flight Rules operate on a right traffic pattern for Runway 5, a left traffic pattern for Runway 12, a left traffic pattern for Runway 23, and right traffic pattern for Runway 30. The traffic pattern altitude is 1,000 feet.

Imaginary Surfaces and Obstructions

The airspace and land in the Airport environs consist of imaginary or obstacle limitation surfaces described below:

Federal Aviation Regulations (FAR) Part 77. In order to determine whether an object is an obstruction to air navigation, several imaginary surfaces are established with relation to the Airport and to each runway. The size of the imaginary surfaces depends on the category of each runway and on the type of approach planned for that runway (e.g., visual, nonprecision, etc.). The approach surface slope for each runway end at Byron is listed in Table 2-1 (Runway Data). According to Byron's existing ALP and FAA information dated October 30, 2003, no obstructions to FAR Part 77 surfaces have been found. Even though they do not penetrate the 20:1 approach surface, some of the power generated wind mills to the west and southwest are equipped with obstruction lights.

Runway Protection Zones. A runway protection zone (RPZ) is a trapezoidal area centered about the extended runway centerline that enhances protection of people and property on the ground. RPZ dimensions vary with the type of aircraft and approach visibility minimums associated with that runway end. As shown on Figure 2-3, all land underlying the existing RPZs, is within the Airport boundary, except for very small triangle of pasture land beneath the approach to Runway 5 and a second small triangle beneath the approach to Runway 12. Portions of Armstrong Road and Falcon Way are in the RPZ area of Runway 12.

Safety and Approach-Departure Zones. The Byron Airport Land Use Compatibility Plan (ALUCP) designates safety zones to restrict incompatible land uses around the Airport. Safety zones have the same dimensions as RPZs. Approach and departure zones begin at the outer end of the safety zones, and

extend outward to a distance determined by the intersection between the approach surface and a horizontal surface located 150 feet above the established airport elevation. Existing land uses in the Airport environs are compatible with existing safety and approach-departure zones.

Obstructions. Obstruction data for each runway approach are shown on the Byron Airport Layout Plan

Air Traffic Control

The Airport is a non-towered airport lying within Class E airspace, which extends for a 5-mile radius around the Airport and from 700 feet above ground level up to 18,000 feet above mean sea level (MSL). Air traffic is controlled by the use of CTAF/UNICOM at a frequency of 123.05 MHz and an AWOS-3 system at a frequency of 123.775 MHz. Air traffic control (ATC) exercises no control over flights and no separation services are provided to aircraft operating under Visual Flight Rules (VFR) in Class E airspace. Radio communication and transponders are not required for VFR operation, however IFR flights must be capable of communicating with ATC, and must be equipped with a Mode C transponder. The Northern California Terminal Radar Approach Control (TRACON) provides radar approach and departure control and other air traffic control services at the Airport. The Airport lies outside the controlled airspace of Oakland and San Francisco international airports.

Navigation Aids

Navigational aids associated with each runway are listed in Table 2-1 and summarized below.

- **Non-Precision Approach.** Runway 30 has a GPS designated approach.
- **Precision Approach Path Indicator.** A precision approach path indicator (PAPI) is a visual slope indicator that provides, through a system of lights, the proper approach slope to a runway, similar to the glide slope of an instrument landing system (ILS). PAPI systems are intended for day and night use under visual flight conditions. Runways 30 and 23 are equipped with two-light PAPI on left (3.5 degrees glide path). Runways 5 and 12 currently do not have approach lighting systems.
- **Runway Lighting.** Runways 5, 12, 23 and 30 are equipped with medium intensity runway lighting (MIRL) and Runway 30 is also equipped with runway end identifier lights (REIL). All runway lighting is by pilot controlled by activating the local Airport radio frequency.

EXISTING BUILDINGS

As shown on Figure 2-3, most aviation facilities are centrally located southwest of Taxiway B. The Airport has approximately 125,000 square feet of indoor aircraft storage in a 4-acre area, allocated among conventional hangars, T-Hangars, portable hangars and a maintenance hangar.

Administration Building

The administration building, located at 500 Eagle Court and constructed in 1997/98, comprises approximately 2,400 square feet. It is located at the end of Falcon Way, adjacent to the general aviation apron. This 60-foot-by-40-foot double wide modular building contains an office, a storage room and basic pilot amenities including flight planning space, telephones, and a common area. There are currently no fixed base operators at the Airport. Contra Costa County Airports operates a self-serve fuel pump that dispenses 100 LL aviation fuel 24 hours a day—payment is by credit card only. There are 15 regular parking spaces and 3 handicapped spaces at the Administration Building. Tenants typically use their own leased areas to park their vehicles.

Maintenance Hangar

The 505 Eagle Court building, which was relocated from the Byron Airpark, is quite old and is zoned for maintenance. The 75-foot-by-100-foot two-bay hangar is leased by the County to Bay Area Skidiving (and sub-leased to Airshow America) for maintenance of their aircraft. The west corner of this building houses the airport's electrical vault and two bathrooms.

Fire Fighting

A pump house (a 15 by 20 ft building) located on the northeast side of Runway 12-30 (by Holey Road) together with a fire protection pond that serves as water supply for the Airport. There is also an emergency pump station located southeast of the runway intersection that provides water from an underground 96" diameter pipe to supplement the fire protection pond. A twin-agent unit is equipped with 450 pounds of Dry Chemical Agent and 50 gallons of AFFF foam. Airport personnel are available to assist from 8:00 a.m. to 6:00 p.m. The East Contra Costa County Fire District also provides protection.

6900 Falcon Way Building

This landside building is located along Falcon Way towards the north side of the Airport. It is one of the original buildings from Byron Airpark, making it one of the

oldest at the Airport. It is presently leased to Bay Area Sky Diving. Access to the airport is provided through a pedestrian gate.

Aircraft Hangars

The aircraft hangars are described by rows, starting north of the administration building. The first two rows, A and B, are vacant land reserved for future development. Existing buildings starts with Row C. Row C is a 28-unit T-Hangar constructed in 1996—presently all units are occupied. Rows D and E are portable T-Hangars that were relocated from the original Airpark in 1994. These hangars are individually owned and have ground leases with the Airport. Row F has two privately owned buildings on ground leases—a 12-unit Executive Hangar and a 10-unit Executive Hangar (which includes an owner maintenance hangar at the eastern end).

Wash Rack

The wash rack is located at the east side of the Row F buildings. Waste-water from the wash rack drains through an oil-water separator to a leach field located to the east, between the wash rack and Taxiway A.

ROADWAYS

Access Roadways

Access to the Airport is via the Byron Highway (County Route J4) and local roads that include Byron Hot Springs Road and Armstrong Road. Falcon Way is the entrance to the Airport and is accessible from Armstrong Road. The Byron Highway is a two-lane north-south county road extending from Delta Road in Knightsen to Tracy in the South.

Service Roadways

Service roads facilitate the movement of aircraft support and Airport vehicles inside the airfield. Vehicular movement within the airfield is through the utilization of taxiways and apron areas. Paved connectors to the primary Wind Cone and the Automated Weather Observing System (AWOS) are available from the taxiway. Unpaved roads (stabilized) are available to reach the detention pond and emergency pump station used for irrigation and water supply for Airport firefighting.

UTILITIES

Electrical power is supplied by Pacific Gas and Electric Company (PG&E). Service comes into the airport property at a location just north of the pump house from Holey Road. From this point it goes underground to a power transformer located near by the main entrance gate to the airfield at an island within the parking area. A 15 foot by 10 foot power room located at the west corner of the 505 Eagle Court hangar across the parking lot from the transformer then carries the distribution. The hangars have individual meters for electrical service. Apron, parking and hangar area is illuminated with ramp floodlights that are photocell-controlled.

There is currently no **gas service** serving the airport. However, there are three identified underground gas lines crossing within Airport property. One is a Pacific Gas Transmission (PGT)/PG&E High Pressure Gas Line bordering the airport boundary north-south along Byron Hot Springs Road and deviating to the southeast at a point more or less along the extended centerline of Runway 12-30 and continuing southeast past the airport property. There is no easement identified with this line. The second is a Chevron High-pressure Gas and Oil Pipeline with a 30' easement that crosses Airport property south to north in a north-northwest direction. The Chevron line crosses the Runway 5-23 almost perpendicular at a point a few feet east of taxiway 'C1'. PG&E also operates a high-pressure gas transmission line parallel to the Chevron line within the same easement.

The **water system** consists on a domestic well with a 4,000 gallon holding tank and a booster pump with a chlorinator. Water is for domestic purposes only. No drinking water is available from this system. Water is available at the hangar rest rooms.

The **sewer system** consists of a 3,000-gallon underground septic tank and lift station pumping to a leach field located southwest of the main aircraft ramp.

Telephone service for the airport is provided by SBC Communications through underground conduits and copper cables.

LAND USE

Land uses within the Byron Airport boundary are illustrated on Figure 2-3 (presented earlier), and summarized in Table 2-3. As shown, a total of 221 undeveloped areas are appropriate for development—96 acres west and 125 acres east of the airfield. The area to the west of the airfield would likely be available for a variety of aviation uses, including a fixed base operator (FBO), corporate hangars, and specialty aviation (e.g., avionics maintenance). The area to the east of the airfield would likely be available for nonaviation airport-related uses, including commercial, multimodal and industrial warehouse facilities.

Table 2-3
LAND USE DATA
Byron Airport

	Use	Size (acres)
Developed/unavailable	Aircraft storage	10
	Aircraft parking	4
	Biologically sensitive areas	814
	Airfield/other	<u>258</u>
	Subtotal	1,086
Undeveloped	Reserved for aviation use	96
	Reserved for airport-related use	<u>125</u>
	Subtotal	221
	Total	1,307

Source: Leigh Fisher Associates, 2004.

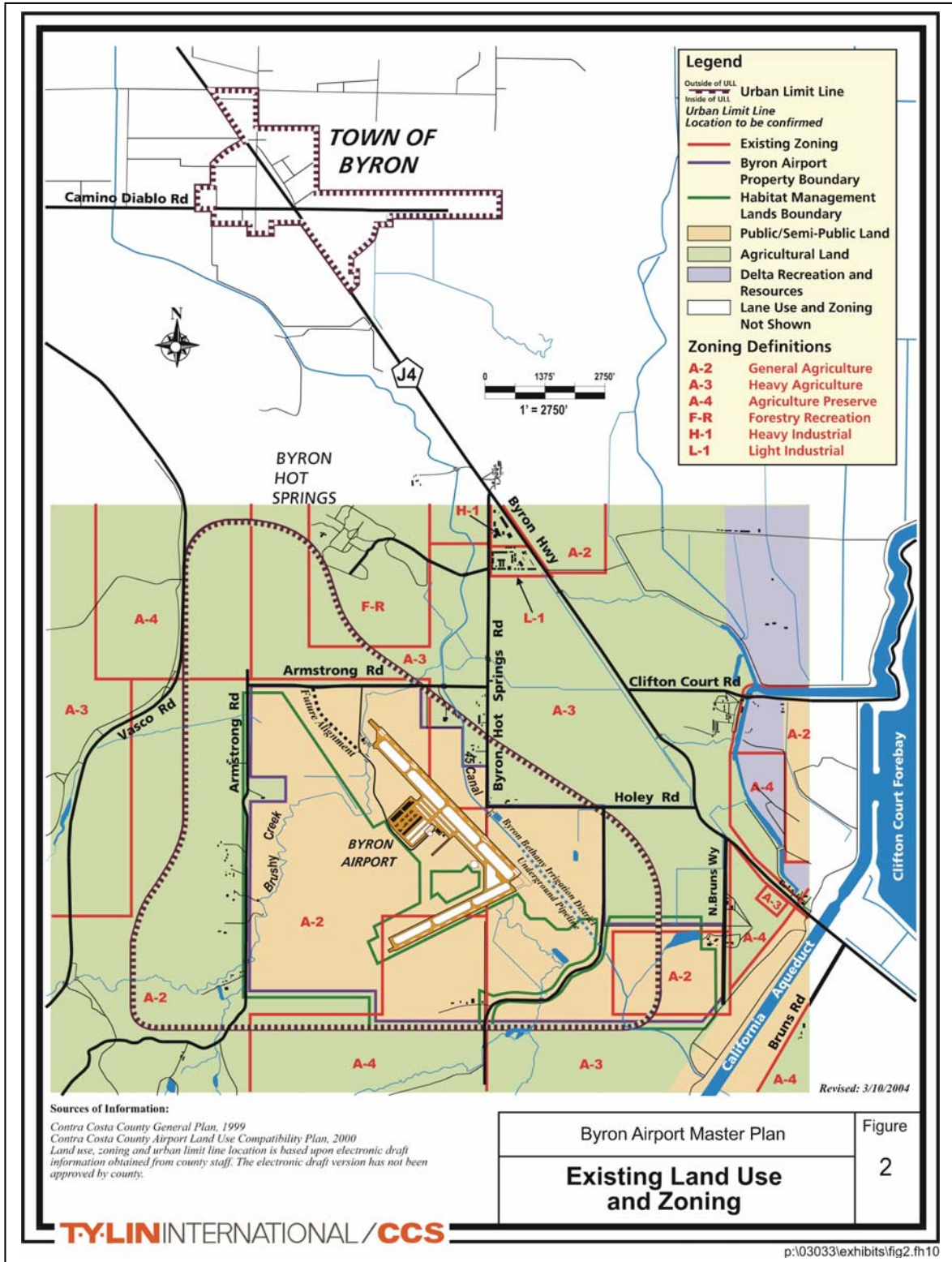
Off-Airport Land Use

The Byron Airport is situated in a rural area, and except for the town of Byron, population around the airport is widely scattered. The area has numerous windmill towers to the west and up to within a mile of the Airport. Clifton Court Forebay and other elements of the State Water Project, plus the county’s Los Vaqueros Reservoir, are both located nearby.

A substantial amount of new housing (in relatively close proximity to the Airport) is anticipated within the eastern portions of Contra Costa County, in northeastern Alameda County, and in San Joaquin County. The City of Brentwood (to the north), the recreational residential community of Discovery Bay (to the northeast) and the town of Mountain House (to the southeast in the San Joaquin County) are rapidly growing.

The generalized land uses in the Airport environs, as depicted on Figure 2-4, are based on existing land use patterns and 2005 planned land uses. The Contra Costa County Airport Land Use Compatibility (ALUC) Plan, adopted in December 2000, implements previous planning efforts in the environs by identifying a land use framework with specific requirements for private and public development; the location, intensity, and character of land uses; circulation patterns; and necessary infrastructure. As shown on Figure 2-4, the Airport lies within the County’s Urban Limit Line (ULL), an ordinance which permits changes in designated land uses, subject to County growth management policies and a 4/5 vote by the County Board of Supervisors. If land is developed, a substantial portion shall be retained for open

Figure 2-4
URBAN LIMIT LINE



space, parks and recreational uses. This ordinance is effective through 2010 and could be extended further. Additionally, all the Airport property is designated Public and Semi-Public land, and all private lands surrounding the Airport are designated Agricultural Lands.

ENVIRONMENTAL CONDITIONS

The California Environmental Quality Act (CEQA) Mitigated Negative Declaration was prepared to disclose, analyze, and provide mitigation measures for potentially significant environmental effects associated with updating the Byron Airport Master Plan. The airport master plan is a policy document that will provide the Byron Airport with growth and development direction through the year 2024. It is anticipated that there will be little change from the 1985 Byron Airport Plan; much of the development that was previously proposed has yet to be completed. Additionally, the updated Plan will not have any environmental impacts that were not previously analyzed in the 1986 EIR for the Proposed East Contra Costa County Airport (1985 EIR), with the exception of the change of circumstances in biology (some species have been listed as Threatened or Endangered since the original plan).

The Contra Costa County Community Development Department determined that the Byron Airport Master Plan Update is a project; and that there is a possibility that the project may have a significant effect on the environment. The Environmental Checklist Form prepared by the Community Development Department is provided in Appendix B. The County prepared an initial study and determined that a Mitigated Negative Declaration should be prepared. The County then prepared a Mitigated Negative Declaration on July 29, 2004; and conducted a 30-day public review (August 31, 2004 through September 30, 2004) with a Notice of Public Review and Intent to Adopt a Proposed Mitigated Negative Declaration. The County received one comment on the adequacy of the Mitigated Negative Declaration, from the Department of Transportation, Division of Aeronautics, on October 5, 2004, and responded to that comment. The Contra Costa County Board of Supervisors approved the CEQA Notice of Determination on November 2, 2004.