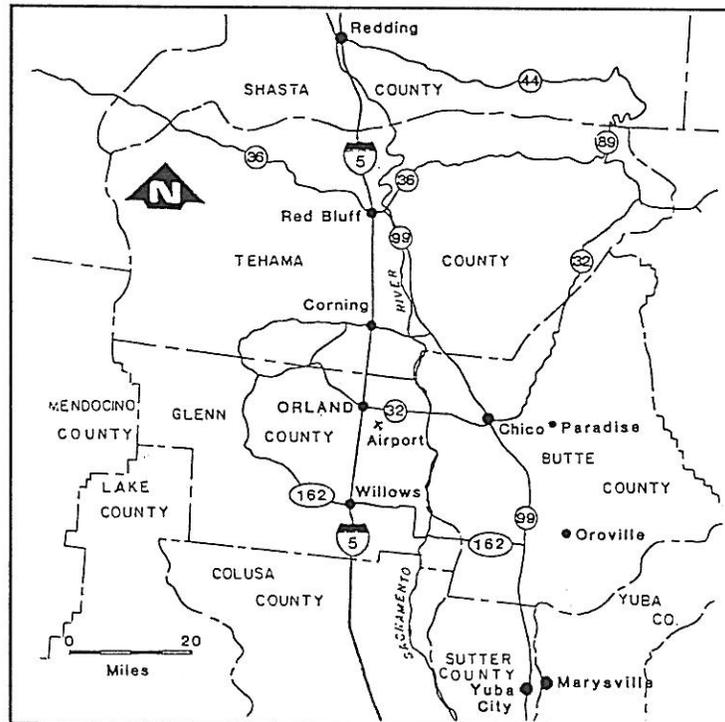


BACKGROUND AND INVENTORY

COMMUNITY PROFILE

The functioning of any airport is interrelated in two basic ways with the community in which it is located. One such interrelationship is economic – the demand for aviation facilities and services is generated by the local community and the airport in turn produces economic benefits for the community. The other is physical – airport activities have environmental effects upon the airport's surroundings and the characteristics of these surroundings also affect how an airport functions. A recognition and general understanding of the local community, as highlighted here, is thus essential to preparation of an airport master plan.

Glenn County is a predominantly agricultural county located in the central part of the Sacramento Valley, 90-plus miles north of Sacramento. The two principal population centers – and the only incorporated places – are the cities of Orland in the county's northeast corner, and Willows, which is the county seat, in the southeastern section. The total county population is approximately 23,200 of which nearly 5,000 reside in each of the two cities.



Nonagricultural economic activity in Glenn County, and especially in the Orland area, is dominated by the larger nearby city of Chico (population 35,000) in Butte County. Chico attracts much of the retail sales and other commercial business of Orland residents.

Table 2 highlights other existing characteristics and future trends of the Orland area and Glenn County.

Table 2

COMMUNITY PROFILE

City of Orland / Glenn County

GEOGRAPHY

Location

- Glenn County located in central Sacramento Valley; bordered by counties of Tehama on north, Butte on east, Colusa on south, and Mendocino and Lake on west.
- City of Orland situated in northeast corner of county; 20 miles west of Chico, 30 miles south of Red Bluff, 16 miles north of Willows (Glenn County seat), and 90 miles north of Sacramento.

Size

- 1,319 square miles within county boundary.
- 2.0 square miles within Orland city limits.

Topography

- Eastern half of county lies within wide, flat, expanse of Sacramento Valley.
- Sacramento River, forming county's eastern boundary, lies 10 miles east of Orland.
- Average elevation in city is 255 feet MSL.

SURFACE TRANSPORTATION

Major Highways

- Principal route through county is Interstate 5, a four-lane freeway running north/south the length of the Sacramento Valley and passing through both Orland and Willows.
- Other major highways include State Route 32 extending east from Orland through Chico; State Route 162, running east/west through Willows; and State Route 45, a north/south road along west bank of the Sacramento River.

Railroads

- Southern Pacific main line (freight only) parallels Interstate 5 through Orland and Willows.

Public Transportation

- Regional and interstate service by Greyhound Lines along I-5 and State Route 32.
- Shasta Skyhawk provides van service (3/day) to Sacramento Metropolitan Airport.
- Locally based taxi service provides public transportation.

POPULATION AND ECONOMY

Current Population

- Estimated populations within Glenn County and adjacent Butte County as of January 1988 (*California Dept. of Finance*).

Glenn Co.	Orland	Butte Co.	Chico
23,200	4,660	172,600	34,900

Projected Population

- The most recent state population projections for Glenn and Butte counties show a faster growth rate for Butte (*California Dept. of Finance*).

Glenn County					
1980	1985	1990	1995	2000	2005
21,413	23,196	24,881	26,491	27,953	32,005
Butte County					
1980	1985	1990	1995	2000	2005
144,704	164,005	183,233	202,574	221,868	296,135

- Projected population for City of Orland:

1985	1990	1995	2000
4,544	5,021	5,313	5,605

(source: *Orland General Plan - 1985*)

Basis of Economy

- Agriculture, food processing, some non-agricultural manufacturing
 - Principal crops include sugar beets, rice, fruit, nuts.
- Orland area increasingly becoming residential suburb of Chico.

CLIMATE

Temperatures

- City of Orland

	avg. high	avg. low
Hottest month (July)	95.9° F.	61.4° F.
Coldest month (January)	53.6° F.	35.4° F.

(*National Climatic Center data*)

Precipitation and Fog

- Average annual rainfall: 19.9 inches; mostly from October to April (*National Climatic Center*).
- Fog: dense ground fog common in winter.

Winds

- Prevailing winds from south most of year.
- Stronger northwest winds associated with frontal passage during winter.

AERONAUTICAL SETTING

Area Airports

Also of importance in an airport master plan study are the interrelationships between the subject airport and nearby airports and airspace. Such interrelationships can be significant with regard to the marketing and demand for aviation facilities and services as well as in terms of air traffic control and other technical matters.

As is common in rural agricultural areas, many small airports are scattered throughout Glenn and adjacent Tehama, Butte, and Colusa counties. Aeronautical charts show nearly two dozen airports within a 35 nautical mile radius of Orland Haigh Field (Figure 4). As the summary listing in Table 3 indicates, however, only nine of these airports are open to public use and only seven are publicly owned. The majority are private strips used primarily by agricultural aircraft. Orland Haigh Field is one of the two public-use airports located in Glenn County. Both are owned by the County.

The most significant airports in terms of planning for Orland Haigh Field are the nearby facilities which share some of Haigh's service area – primarily Chico Municipal and Ranchoero, but also to a lesser extent Corning Municipal and Willows-Glenn. None of the area airports are located close enough to Orland Haigh Field to have visual approach or departure airspace in common.

Area Airspace

Although the airspace around Orland Haigh Field is relatively uncomplicated, its components have varying degrees of influence on air traffic to and from the Airport. Figure 4 depicts the locations of most of these components.

- **Instrument Approaches** – Orland Haigh Field is one of four airports in the area with some form of instrument approach, the others being Chico, Red Bluff, and Willows-Glenn. Approaches to these airports are handled by the Federal Aviation Administration's Air Route Traffic Control Center in Oakland.
- **Transition Areas** – To accommodate aircraft on instrument approaches into each of the four airports (including Chico when the tower is closed), controlled airspace is provided down to 700 feet above the ground. Throughout most of the rest of the Sacramento Valley, the controlled airspace floor is 1,200 feet above ground level.
- **Chico Control Zone** – During the hours when the air traffic control tower at Chico Municipal Airport is operating, a control zone is in effect. Extending down to ground level, this controlled airspace reaches outward for five statute miles. It does not affect Visual Flight Rules operations at Haigh, but is a factor with regard to instrument approaches.
- **Low-Altitude Federal Airways** – These electronically defined airways radiate from VOR's in the area, especially the Red Bluff VOR located south of Red Bluff Airport. Generally, aircraft using airways are flying at least 3,000 feet above ground level and thus do not impinge upon Orland Haigh Field airspace.

Table 3
AREA AIRPORTS

Airport	Location		Direction ¹	Owner	Facilities ³						Services ⁴							
	Community	County			Based ²	Use	A/C	Rwys	Long	Surf	Lgt	Appr	Gas	Jet	Mntn	Rent	Food	CT
Haigh	Orland	Glenn	—	County	Pub	55	1	5160	Asph	L	NPC	x	-	x	x	-	-	-
Chico	Chico	Butte	14 NE	City	Pub	106	2	6724	Asph	H	Prec	x	x	x	x	-	x	x
Colusa	Colusa	Colusa	33 S	County	Pub	66	1	3000	Asph	M	Vis	x	-	x	x	-	-	-
Corning	Corning	Tehama	13 N	City	Pub	10	1	2700	Asph	M	Vis	x	-	x	x	-	-	-
Davis	Colusa	Colusa	30 S	Private	Pvt	6	1	2000	Grvl	No	Vis	-	-	x	x	-	-	-
Deer Creek	Vina	Tehama	15 NW	Private	Pvt	1	1	3000	Asph	No	Vis	-	-	-	-	-	-	-
Diamond M Ranch	Elk Creek	Glenn	23 SW	Private	Pvt	1	1	2400	Turf	No	Vis	-	-	-	-	-	-	-
Dye Creek Ranch	Red Bluff	Tehama	24 N	Private	Pvt	1	1	2500	Turf	No	Vis	-	-	-	-	-	-	-
Gunnersfield Ranch	Delevan	Colusa	22 S	Private	Pvt	1	1	2570	Asph	L	Vis	-	-	-	-	-	-	-
Jones	Biggs	Butte	26 SE	Private	Pvt	-	1	2600	Dirt	No	Vis	-	-	-	-	-	-	-
Meadow Glen	Orland	Glenn	5 W	Private	Pvt	-	1	2400	Dirt	No	Vis	-	-	-	-	-	-	-
Moller	Maxwell	Colusa	26 S	Private	Pvt	0	1	2500	Asph	No	Vis	-	-	-	-	-	-	-
Noltas	Willows	Glenn	9 S	Private	Pvt	0	1	1900	Asph	No	Vis	-	-	-	-	-	-	-
Oroville	Oroville	Butte	28 SE	City	Pub	42	2	5960	Asph	M	Vis	x	-	x	x	-	-	-
Paradise Skypark	Paradise	Butte	25 E	Private	Pub	25	1	1990	Asph	L	Vis	x	-	x	x	-	-	-
Patrick	Chico	Butte	16 E	Private	Pvt	-	1	1330	Dirt	No	Vis	-	-	-	-	-	-	-
Ranchaero	Chico	Butte	13 E	Private	Pub	46	1	2280	Asph	L	Vis	x	x	x	x	-	-	-
Rancho Tehama	Red Bluff	Tehama	21 NW	Private	Pvt	0	1	3400	Grvl	No	Vis	-	-	-	-	-	-	-
Red Bluff	Red Bluff	Tehama	26 N	City	Pub	57	1	5984	Asph	M	NPC	x	x	x	x	x	-	-
Richvale	Richvale	Butte	22 SE	Private	Pvt	22	1	2220	Asph	L	Vis	-	-	-	-	-	-	-
Williams	Williams	Colusa	33 S	Private	Pvt	2	1	2500	Asph	No	Vis	-	-	-	-	-	-	-
Willows-Glenn	Willows	Glenn	12 S	County	Pub	51	2	4506	Asph	M	NPC	x	-	x	x	x	-	-

¹ Distance (in Nautical Miles) and Direction from Orland Haigh Field.

² 1987 California Division of Aeronautics data

³ Facilities:
 Rwys = Number of Runways
 Long = Length of Longest Runway (feet)
 Surf = Runway Surface (concrete/asphalt/turf/dirt)
 Lgt = Runway Lighted (high/medium/low/none)
 Appr = Approach Type
 (precision/nonprecision/visual)

⁴ Services:
 Gas = Aviation Gasoline
 Jet = Jet Fuel
 Mntn = Aircraft Maintenance
 Rent = Aircraft Rental
 Food = Restaurant
 CT = Air Traffic Control Tower
 Psgr = Scheduled Passenger Airline Service

- **Military Training Route** – A VFR airway used by military aircraft on training missions passes just south of Orland Haigh Field. The route is designated for use by aircraft flying more than 1,500 feet AGL and the typical flight level is around 2,000 feet. It is active almost daily, except weekends. Orland pilots do not consider this activity as a significant conflict.
- **Maxwell Military Operations Area (MOA)** – The eastern edge of this special use airspace lies less than 10 nautical miles west of Orland Haigh Field. It has negligible effect on the Airport, however, in that the military aircraft operating within it are at altitudes above 11,000 feet MSL.
- **Uncontrolled Airspace** – Airspace below the 700 or 1,200-foot floor of the transition areas is considered uncontrolled airspace. FAA air traffic control services are not normally provided to aircraft operating here. Also, visibility requirements are less than in controlled airspace (1.0 versus 3.0 statute miles). The latter difference can be a factor at Orland Haigh Field in that crop duster aircraft can legally operate when visibility is very low.

ORLAND HAIGH FIELD

Location and Environs

A thorough inventory of existing airport features, including facilities, services, and surroundings, is an essential preliminary step in the Master Plan study. Key features are highlighted in the adjacent paragraphs. Additional details are provided in accompanying figures and tables.

Orland Haigh Field is located in an unincorporated section of Glenn County, approximately 3.0 miles southeast of the center of Orland and about 0.6 miles from the eastern city limits (Figure 5). County Road 200 provides direct access from town. The other principal access route, particularly for Chico area users, is via State Route 32 then south 1.8 miles on County Road P.

Surrounding lands are predominantly in agricultural use. Major crops include olive, orange, and almond orchards as well as sugar beets. Rural residences are scattered throughout the area. Most parcels, though, are a minimum of 20 acres. To the northwest, along Road 200, is a subdivision consisting of some 25 homes on mostly 1.0-acre lots. The only major nonagricultural development in the vicinity is the City of Orland wastewater treatment plant which occupies some 110 acres immediately west of the Airport.

Airport Development

The most conspicuous feature of Orland Haigh Field is the 3,000-foot-square asphalt mat on which most of the facilities are located. The mat, but little else, was constructed by the U.S. Army during World War II as an auxiliary training field for the Chico Army Airfield. After the war, the facility was transferred to Glenn County and named in honor of a County supervisor. The original runway was laid out diagonally across the mat from northwest to southeast. The present runway alignment was later established in accordance with the prevailing winds. It's extension runway beyond the edges of the mat was constructed about 1970 at private expense to accommodate a business jet then based at the Airport

Table 4

ORLAND HAIGH FIELD AIRPORT PROFILE

MAJOR FEATURES

Property

- Approx. 390 acres owned by County of Glenn.
 - Encompasses asphalt mat (3,000 feet square) plus additional land on north and east.
 - Clear zones not on airport property.

Airfield

- Runway 15-33 – 5,160 feet long, 50 feet wide; paved; lighted.
 - Threshold for Runway 15 displaced 345 feet.
 - Threshold for Runway 33 displaced 350 feet.
- Parallel taxiway runs full length of runway.
- Center portion of runway and taxiway on old 3,000-foot square asphalt landing mat.
 - West half of mat leased for drying of sugar beets.

Building Area

- All facilities on asphalt mat.
- Aircraft Parking:
 - 28 tiedowns.
 - 55 hangar spaces (including both public and private).
- Aviation-Related Buildings:
 - Airport Office/Pilots' Lounge.
 - Large FBO Hangar Building (Herfi).
 - Four T-hangar buildings.
 - Four other hangar buildings.
 - Eight portable units.
- Fuel:
 - Supplied by truck.
 - No underground storage of fuel available to public.
 - Private underground tanks for emergency use associated with U.S. Department of Energy.
- Nonaviation Development:
 - One house and one dwelling within airport building area.

AIR TRAFFIC PROCEDURES

Traffic Pattern

- Pattern Altitude – 1,000 feet above airport elevation.
- Standard left turns to both runway ends.

Instrument Approaches

- VOR-A – Utilizes Chico VOR; MDA 760 feet with Chico altimeter setting; circle to land.

MANAGEMENT AND SERVICES

On-Site Management

- One part-time County employee.

Fixed Base Operations

- Three offering limited services:
 - VFR & Associates – Flight instruction, aircraft rental.
 - Herfi – Engine and airframe repair.
 - Myers – Hangar rental.

Fuel Service

- Provided by County (80 and 100).

Communications

- UNICOM in Airport Office operated by County employee.

Emergency and Security

- On-site security by County employee residing on site.
- Police patrol by County Sheriff.
- Fire protection by Orland Rural Fire Protection District
 - Volunteer crew, good equipment.
 - Response time from central Orland approximately 5 to 7 minutes.

ENVIRONS

Topography

- Airport Elevation – 220 feet MSL.
- Elevations in Vicinity – Highest point within 5 miles is less than 100 feet above airport elevation.
- Natural drainage flow is toward southeast.

Design Temperature

- Mean maximum, hottest month – 96.0°F.

Access

- Via County Road 200 from Orland or State Route 32 and County Road P from Chico.
- Entrances to Airport from both Road 200 on north and Road P on east.

Jurisdictions

- Airport located in unincorporated area of Glenn County.
- Nearest point of Orland City boundary limits is 0.7 mile northwest of airport boundary.

Principal Land Uses

- Agricultural lands, primarily orchards, in all directions:
 - East – oranges.
 - Northeast – olives.
 - South – almonds.
- Scattered rural residences all around with denser cluster to northwest.
- City of Orland wastewater treatment ponds bordering airport on west.

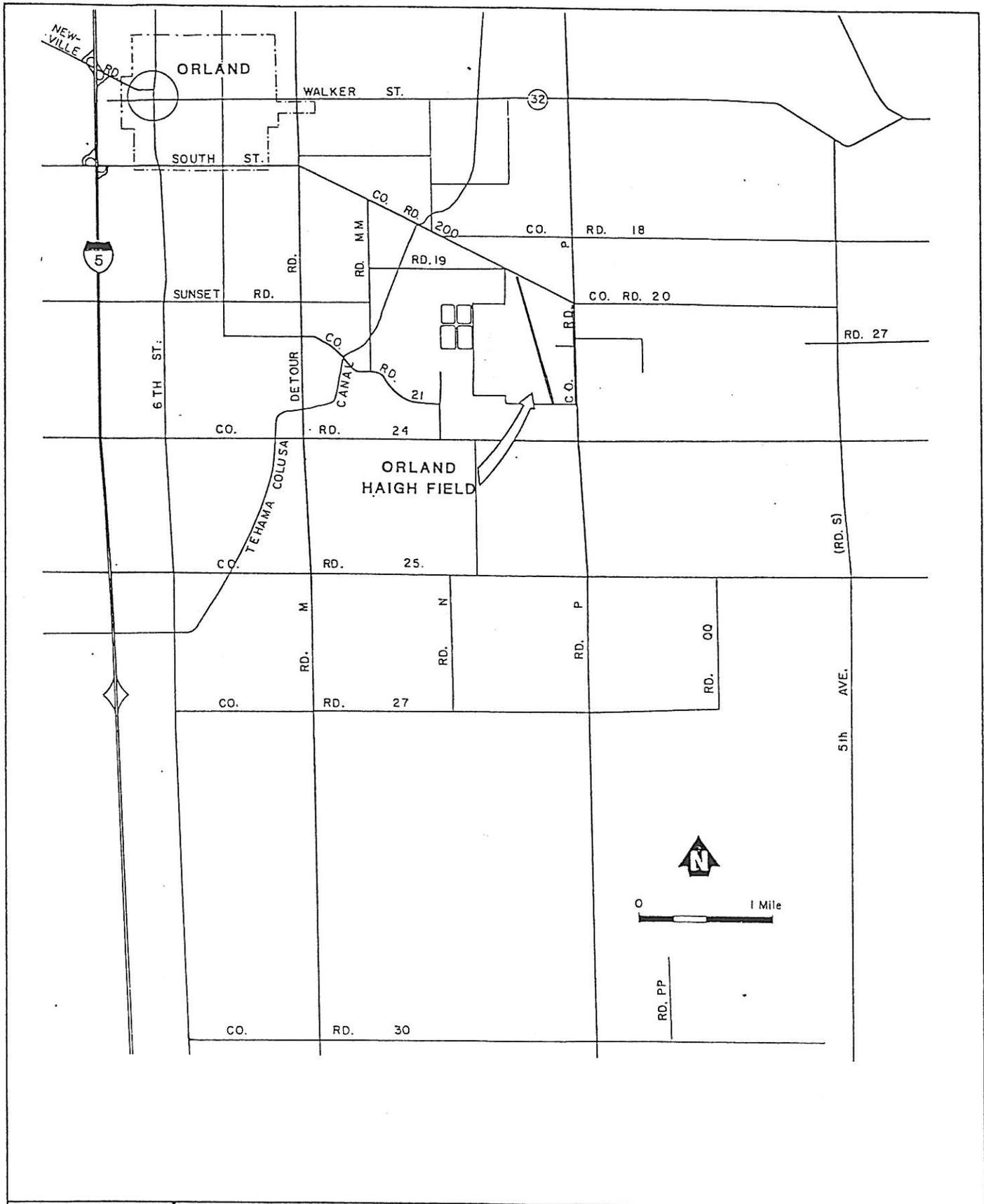


FIGURE
5

HAIGH FIELD AIRPORT VICINITY



Other facilities consist primarily of hangar buildings constructed over the years both by the County and by private parties. Most of this development took place in the 1970's.

A full listing of the existing facilities at the Airport is provided in Table 5. Appendix A documents key dates in the Airport's development history.

Management and Services

Management of Orland Haigh Field is under the authority of the Glenn County Department of Public Works. An Airport Advisory Committee meets monthly to provide guidance on important issues. Major policy decisions are the responsibility of the County Board of Supervisors.

Day-to-day on-site operation of the Airport is provided by a designated County employee. The employee pumps fuel and does routine maintenance of the facilities.

Three FBO's are located at the field – VFR & Associates, Herfi Aircraft, and Myers hangar rentals. Each provides limited, non-overlapping services which in combination give the Airport most of the basic general aviation service requirements.

PREVIOUS PLANS AND STUDIES

Two previous plans have been prepared for Orland Haigh Field, one in 1947, the other in 1981.

- **1947 Master Plan** – This early plan, prepared by Kaiser Engineers, was completed shortly after the County took over the facility from the federal government following World War II. It was intended to guide development of the Airport for public use. Except for the one T-hangar building set diagonally along the east edge of the asphalt mat, none of the plan's major proposals are apparent today. Principal recommendations included: establishing a 3,000-foot long runway running north/south across the width of the asphalt mat; construction of an approximately 3,000-square-foot administration and airline terminal building; and use of the land along the east side of the property for sports fields and a memorial park.
- **1981 Airport Layout Plan** – This plan, prepared by Landon Engineering and Surveying, consists only of a drawing without accompanying text. It largely reflects development which had occurred at the Airport over the preceding years and provides little detail regarding how future development should proceed, particularly within the building area. Several of the specific recommendations, however, are basically carried forward in the current plan: reduction of the runway length (to 4,600 feet) to provide adequate approach clearance over County Road 200; establishment of a defined parallel taxiway and its extension to both ends of the runway; declaration of the west side of the asphalt mat plus the area east of the mat as surplus to aviation requirements.

A *fixed base operation* (FBO) is a business operating at an airport that provides aircraft services to the general public, including but not limited to sale of fuel and oil; aircraft sales, rental, maintenance, and repair; parking and tiedown or storage of aircraft; flight training; air taxi/charter operations; and specialty services, such as instrument and avionics maintenance, painting, overhaul, aerial application, aerial photography, aerial hoists, or pipeline patrol.

Table 5
EXISTING AIRPORT FACILITIES

Item	Description	Condition/ Comments	Item	Description	Condition/ Comments
<u>RUNWAY/TAXIWAY SYSTEM</u>					
Runway 15-33					
Pavement	5,160' long; 50' wide; Center 3,100'± on asphalt mat; 1,460'± extension on N; 600'± extension on S Effective gradient: 0.16% Section: (presumed) Center - 2" asphalt overlay of original mat Extensions - 2" AC over native soil Strength: 8,000# (single- wheel) estimated	Fair Overlay and extensions constructed 1969 Native material equivalent to Class 2 subbase	Marking	'ORLAND' painted adjacent to runway	
			Wind Indicator	Wind cone; not lighted Wind tee; damped, free- swinging type	Marginal
			<u>Taxiways</u>		
			Parallel	Center section on asphalt mat	Poor Location not clear No hold lines No access to Runway 33
			North Extension	950'± Long; 40' Wide 200' from Rwy Centerline Section: (presumed) 2" asphalt concrete on native	Poor Severe wheel rutting No access to runway end
Shoulders	Graded, unstabilized native soil on extensions	Fair	Runway Exits	At any point along asphalt mat	
Safety Area	Length: 0' beyond Runway 15 end 0' beyond Runway 33 end Width: approx. 100' in extension areas	Fence & road at runway end Mowed field, not graded to safety area standards	Holding Pads	None	
			Marking	None	
			Signs	None	
Markings	Basic Displaced thresholds Rwy 15 - 345' Rwy 33 - 350'	Fair Nonstandard striping and location of number '33'	<u>BUILDING AREA</u>		
			<u>Apron</u>		
			Pavement	On Asphalt Mat	Same as remainder of mat
Lighting	Low-intensity edge lights	Marginal Non-standard design Scheduled for replacement	Tiedowns	North end of Apron 5 places, unmarked, rope tiedowns Mid Apron 11 places, unmarked, chain tiedowns South end of Apron 12 places (6 marked, 6 unmarked), chain tiedowns	Adequate All allow taxi-thru Transient not distinguished
Signs	None		Taxilane Marking		Faded Confusing
Landing Aids	None		Lighting	On several buildings	Minimal
Approaches	Runway 15 (visual) clear 2:1 to primary surface clear 18:1 to displaced threshold (road, fence) Runway 33 (visual) clear 33:1 to primary surface clear 55±:1 to displaced threshold (poles)	Substandard Satisfactory	<u>Hangars</u>		
			T-Hangar (County)	32' x 380'; 14 bays Corrugated metal on steel frame; Asphalt floor Connected to office/lounge	Fair/Poor Built pre-1977
Asphalt Mat			T-Hangar (County)	35' x 150'; 6 bays; no partitions Corrugated aluminum on wood frame; Steel truss roof Building set at 45° angle to edge of mat	Fair-Poor Built pre-1977
Pavement	3,000' x 3,000' Section: 2" asphalt road mix over native soil	Mostly poor condition Extensive ponding and cracking/ loose gravel Built c. 1943 Western 125 acres leased to Sun Beet for beet drying			

Table 5 Continued

Item	Description	Condition/ Comments	Item	Description	Condition/ Comments
Hangars (continued)			Miscellaneous		
T-Hangar (County)	35' x 320'; 10 bays Steel frame	Good Needs paint Doors recently installed	Rotating Beacon	Old 36" Airway Beacon On roof of 14-bay county hangar	Strong beam Expensive to operate; difficult to maintain
Hangar (Regan)	50' x 65' Corrugated metal, steel frame	Good Needs paint	Aircraft Wash Rack (Herfi)	Concrete Inside fence	
T-Hangars (Myers)	38' x 175'; 4 bays; partitioned Office attached Corrugated metal, steel frame Fibreglass doors	Very Good	Agricultural Disposal Ponds		No longer in use
Hangar (Myers)	45' x 65' Corrugated metal, steel frame; Fibreglass doors At north edge of mat	Very Good Built c. 1975	UNICOM	Common Traffic Advisory Frequency 122.7 MHz Located in airport office Hours: 8 a.m. to 5 p.m.	Operated by FBO/ manager
Maintenance Hangar (Herfi)	75' x 100' plus attached office All steel; concrete floor On NE corner of mat	Very Good Built c. 1977	Fuel Truck	1,800-gallon 4 compartments	
T-Hangars (Myers- Herfi)	36' x 335'; 10 bays Corrugated metal; Fibreglass doors Center of building area	Very Good Built c.1984	Utilities		
Portable Hangars (various owners)	8 single-bay units Various manufacturers and sizes On asphalt mat	Good to Very Good	Electricity	Supplied by PG&E	Service to northeast corner of airport property Adequate for aviation development On-airport distribution system needs upgrading
Conventional Hangar (Herfi)	Off mat edge	Good Built c.1982 Used for ultralight storage	Telephone	Supplied by Pacific Bell Pay phone outside of office/lounge	
Other Buildings			Gas	Propane	
Airport Office/Pilot's Lounge	30' x 40'; Including 2 attached restrooms Wood frame	Fair Built pre-1977	Water	Well	Good flow and quality
Residence (County)	Approx. 1,400 sq.ft. Wood frame	Good	Wastewater System	Septic systems for residence and restrooms	
Mobile Home Unit (Herfi)	15' x 70'	Very Good			
Roads and Fencing					
East Access Road	25' wide; asphalt Leads to apron	Fair-Poor Block cracking			
North Access Road	Gravel Leads to apron	Poor			
Auto Parking	Ten striped positions on asphalt mat east of office	Not separated from aircraft aprons			
Fencing	None except enclosing Herfi area (5' high chain link)	Vehicles can easily get on airfield			
Signs	None				