

# Chapter 1 - Inventory

LAKE COUNTY AIRPORT MASTER PLAN UPDATE



This update to the 2001 Airport Master Plan was undertaken to assess the role of the Lake County Airport (Airport), evaluate the Airport's capabilities, forecast future aeronautical activity for the next 20 years, and plan for the timely development of any new or expanded Airport facilities needed to accommodate future aviation activity.

The owner and operator of the Airport, Lake County (County), obtained and matched a grant from the Federal Aviation Administration (FAA) to fund this study. The County has organized a Planning Advisory Committee (PAC), representing Airport users and neighbors, to participate in the planning process. In addition to four PAC meetings, public involvement in the master plan update includes four open houses for the general public.

An initial step in the preparation of this Master Plan (Plan) is to collect data pertaining to the Airport and the area it serves. An inventory of the Airport was accomplished through physical observation of existing facilities, interviews with Airport users and business owners, County staff, and a review of previous Airport studies and records.

This chapter summarizes the Airport's background, existing airfield and landside facilities, airspace, land use and zoning, environmental considerations, and historical aviation activity and financial data. The information gathered as part of this initial step is the foundation for various analyses completed in the subsequent chapters of



this Plan. An accurate inventory helps produce an aviation demand forecast that is reasonable and aids in identifying future facility development needs.

## BACKGROUND DATA

### Airport Location and Access

The Airport is situated in southern Lake County, which is located in south central Oregon. The County is bordered by Klamath County to the west, Deschutes County to the north, Harney County to the east, and California and Nevada to the south. The Airport is located 11 miles north of the California border. The town of Lakeview is located approximately 3 miles northeast of the Airport. **Exhibit 1A** shows a map of the region and Airport vicinity.

The County is rural with agriculture, timber, and government as the largest economic contributors. Known as Oregon's Outback, the County is home to vast lakes and high desert vistas, which has increased tourism.

Access to the Airport is provided by US Route 395 and Oregon Route 140. US Route 395 offers access north to Burns and south to Alturas, California. Route 140 provides travel west towards Klamath Falls. Local access from the Airport to the highways is provided by Airport Road (co-listed as County Highway 1-10A).

The only other transportation mode available near the Airport is rental car services offered by local car dealerships in Lakeview. No public transportation services are available. Lake Railway, LLC operates the rail system; however, no passenger services are offered.

### Area Topography

A rural county, Lake encompasses agricultural, timber, and recreational lands (*i.e.*, Goose Lake State Park, Hart Mountain National Antelope Refuge, Fremont and Deschutes National Forests, Abert Rim, and many others). Lake County is located in Oregon's High Plateau Region, a region bordered by the Cascades on the west and several minor mountain ranges on the south and east. The County consists of desert, lakes, mountain forests, and rangeland. Lakeview boasts itself as Oregon's tallest town, sitting at 4,800 feet above mean sea level. The County's elevation ranges from 4,100 feet MSL to a high of 8,446 feet MSL.

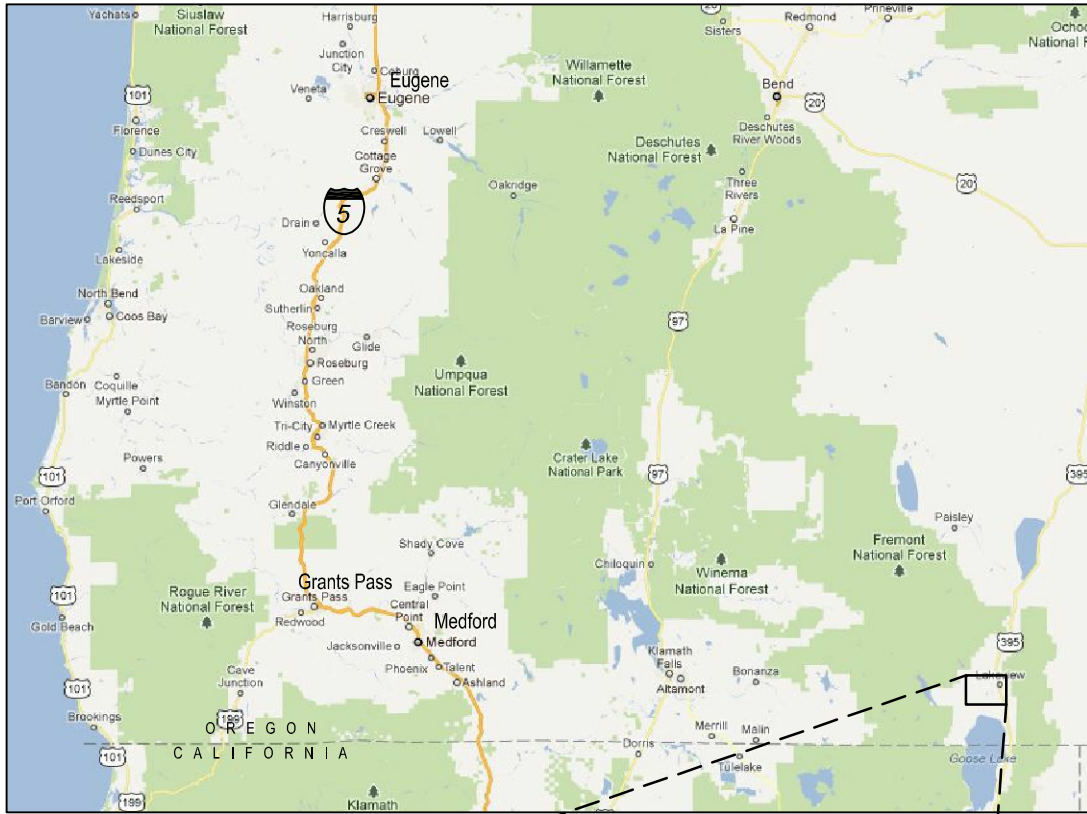
### Climate

Lake County has cold winters and warm, dry summers. Winter temperatures generally range from highs of 37 to 49 degrees Fahrenheit, and summer temperatures generally range from highs of 74 to 85 degrees Fahrenheit. The mean maximum temperature in the hottest month (July) is 84 degrees. Due to generally high elevations, the High Plateau Region has cool temperatures and receives a significant amount of snow. Its distance from the coast, along with its location downwind of the Cascade Mountain Range, causes its low annual precipitation. The annual rainfall average for Lakeview is 15.46 inches, whereas the annual snowfall average is 67.70 inches per year<sup>1</sup>.

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<sup>1</sup> Data per Oregon Climate Service from: [http://www.ocs.oregonstate.edu/county\\_climate/Lake\\_files/Lake.html](http://www.ocs.oregonstate.edu/county_climate/Lake_files/Lake.html).





# Exhibit 1A ~ Vicinity Map

## Lake County Airport Master Plan

Lake County, OR.

Jan. 17, 2012

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## Community and Airport History

The Lake County Airport has been in existence since 1943 and consists of 1,000 acres. It was initially constructed by the U.S. Navy and used as a training base through the end of World War II. The U.S. Navy transferred the Airport's ownership to the Town of Lakeview in 1945. The following decade was dominated by an economic surge caused by resource extraction and processing. During this time the airport expenses were shared by the Town of Lakeview and Lake County. Today the Airport is solely owned and operated by Lake County.

Air service was first introduced at the Airport in 1954 by West Coast Airlines operating DC-3 aircraft; the service was maintained until the mid-1960s. In 1975 Air Oregon began service that lasted until 1979. No scheduled air service has operated at the Airport since then.

At least four fixed base operators (FBO) have been based at the Airport since it was built, providing a range of services such as fuel sales, aircraft maintenance, aircraft charter, flight instruction, and so on. Past operators include Buswell Flying Service, Rent-A-Plane, and Goose Lake Aviation. The current FBO is Oregon Sunstone Aviation.

The U.S. Forest Service (USFS) entered a ground lease in 1961 to locate a permanent facility for fire control operations. While the heavy air tankers no longer operate from the Airport, Single Engine Air Tankers (SEATs) and helicopters regularly use the Airport as an operations based during the fire season. The Interagency Air Tanker Base is operated in cooperation with the Oregon Department of Forestry, US Fish and Wildlife Service, Fremont/Modoc National Forests, and Bureau of Land Management.

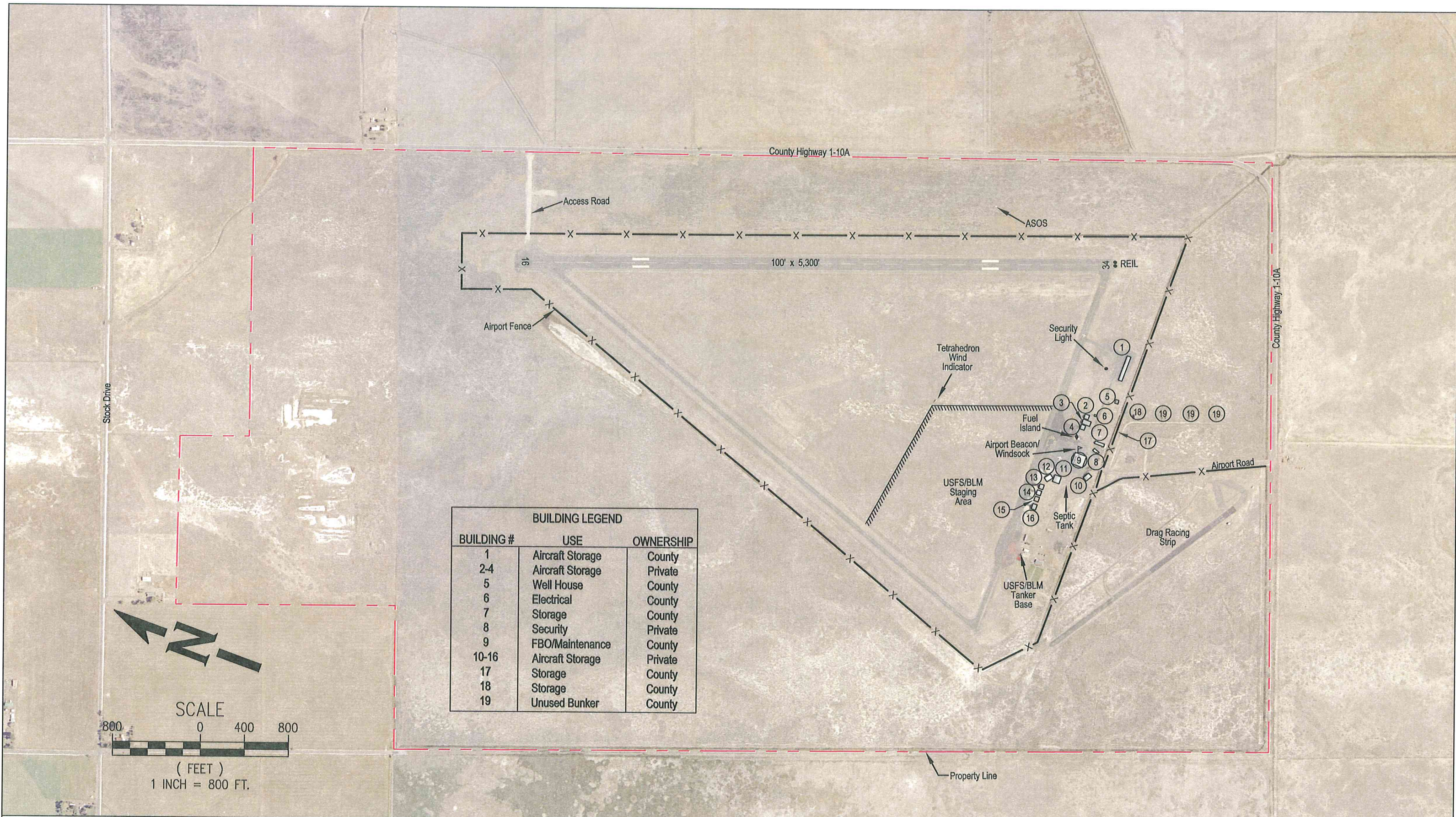
## EXISTING FACILITIES

Existing facilities at the Airport are divided into three categories: airfield, landside, and support facilities. Airfield facilities include areas such as runways, taxiways, and aprons. Landside facilities include areas such as hangars, airport buildings, and auto parking. Support facilities include emergency services, utilities, and miscellaneous facilities that do not logically fall into either airfield or landside facilities. **Exhibit 1B** shows the existing facilities at the Airport.

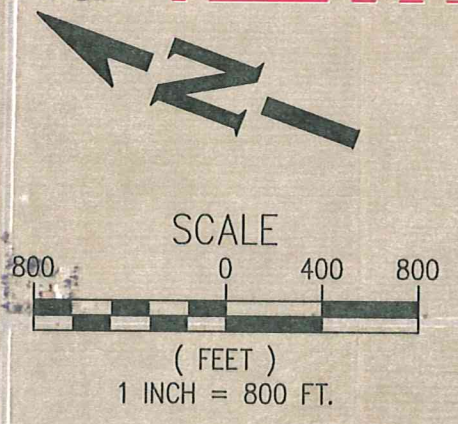
### Airfield Facilities

Airfield facilities include pavements used for the movement of aircraft (*i.e.*, runways, taxiways, taxilanes, and aprons). In March 2009, as part of a three-year rotation, the Airport's Pavement Condition Index (PCI) was updated for those pavements located on Airport Property. The condition of the airport pavements were rated on a scale of 0-100 with 0 being an unusable paved surface and 100 reflecting a just-constructed paved surface. Generally, ratings with a PCI above 70 require only preventative maintenance in the short term, while ratings between 40 and 70 require major rehabilitation and ratings less than 40 typically require reconstruction. **Exhibit 1C** depicts the pavement condition map for the Airport. At the time the PCI was updated, pavement sections were documented. Pavement sections describe how individual sections of pavement were constructed. In general, most pavements at the Airport consist of two inches of asphalt on top of 5-15 inches of a crushed aggregate base. **Exhibit 1D** provides a detailed graphic of the existing pavement sections at the Airport.





BUILDING LEGEND		
BUILDING #	USE	OWNERSHIP
1	Aircraft Storage	County
2-4	Aircraft Storage	Private
5	Well House	County
6	Electrical	County
7	Storage	County
8	Security	Private
9	FBO/Maintenance	County
10-16	Aircraft Storage	Private
17	Storage	County
18	Storage	County
19	Unused Bunker	County



# Exhibit 1B ~ Existing Facilities

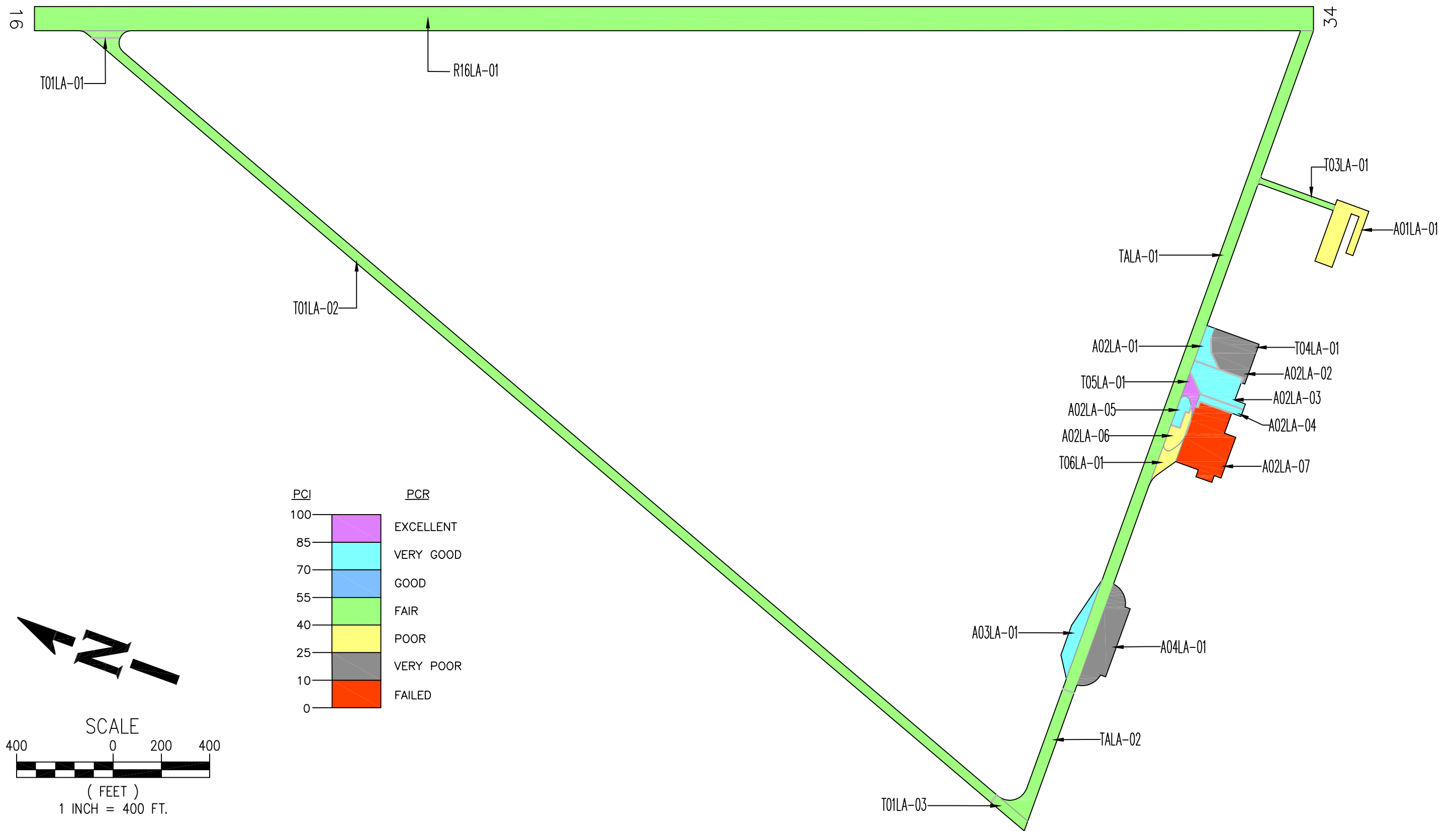
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# Exhibit 1C ~ Pavement Condition

## Lake County Airport Master Plan

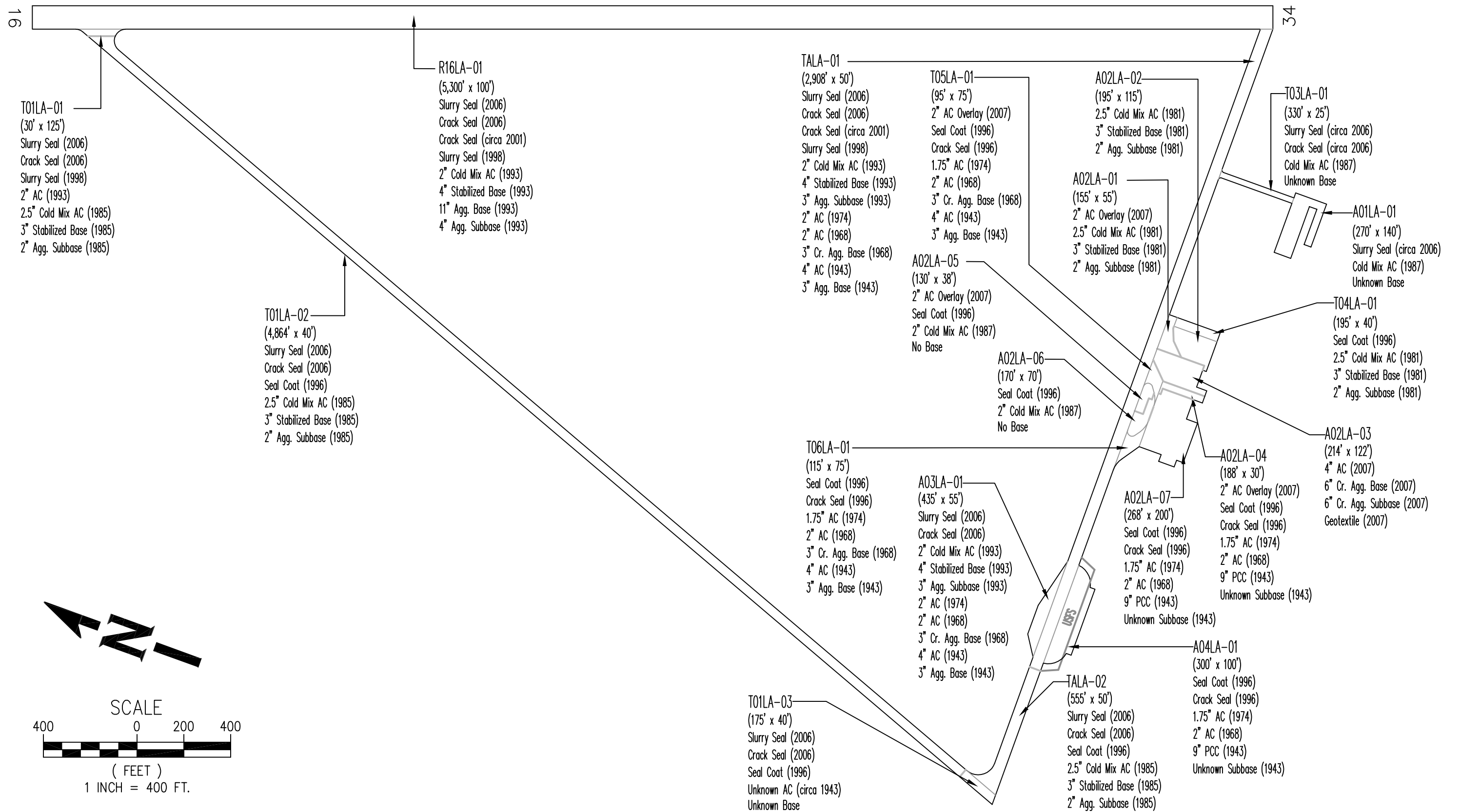
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# Exhibit 1D ~ Pavement Section

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**Runway.** The Airport has one paved runway, 16/34, with the dimensions of 5,318 feet by 100 feet. The runway pavement surface is asphalt and in March 2009 was given a PCI rating of fair. The pavement strength of the runway is rated as 74,000 pounds for Single Wheel Gear (SWG)<sup>2</sup> aircraft and 86,000 pounds for Dual Wheel Gear (DWG). The runway supports general aviation aircraft, which includes private and business operators but does not include commercial (airline) operators.

An unofficial grass landing area is located adjacent to the runway, with an alignment of approximately 14/32. The strip is not designated as a landing area on the Airport; however, it does get used occasionally by local pilots.

**Taxiways and Taxilanes.** Taxiways are constructed primarily to facilitate aircraft movements to and from the runway. Some taxiways are necessary simply to provide access between aprons and the runway, and other taxiways are necessary to provide safe and efficient use of the airfield.

Access to Runway 16/34 is provided by two taxiways. Taxiway A provides direct access from the aircraft parking and hangar area, roughly on an east to west alignment, to the southern runway end (34). All airport facilities and services are located along Taxiway A. Taxiway B is the remnants of an abandoned runway, which provides access from the west end of Taxiway A to the northern runway end (16). The Airport's geometry resembles a triangle consisting of the runway and two taxiways.

One taxilane, stemmed from Taxiway A, provides access to a row of T-hangars owned by the County. All other hangars are access from Taxiway A or the parking apron.

The taxiways and taxilanes are constructed of asphalt and have PCI ratings between 40 and 55, which is representative of pavements in fair condition.

**Aprons and Aircraft Parking.** There are 6 designated tiedown positions in front of the FBO. Previously, there were more designated tiedown positions; however, the installation of a fueling station removed a large portion of the tiedown area available. Aircraft parking is allowed in the grass areas nearby the FBO when overflow parking is required. There are two helipads located at the Interagency Air Tanker Base.

**Airfield Lighting.** Airfield edge lighting systems are categorized as low, medium, or high intensity. The color of the lights is also important as it indicates to pilots where they are in the airport environment. For example, runway edge lights are white and taxiway edge lights are blue.

At the Airport, the lighting system is a medium intensity system, which is pilot controlled by keying the microphone inside of the aircraft. Edge lighting is located on the runway. Runway end identifier lights (REILs) are located at the end of Runway 34. The taxiways, apron, and taxilanes are lined with edge reflectors.

**Airport Navigational Aids.** Airport Navigational Aids, or NAVAIDS, provide navigational assistance to aircraft for approaches to an airport. NAVAIDS are classified as visual approach aids or instrument approach aids; the former providing a visual navigational tool and the latter being an instrument-based navigational tool. The types of approaches available at an airport are based on the NAVAIDS provided. The following sections describe existing NAVAIDS at the Airport.

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<sup>2</sup> Single Wheel Gear is the term used to describe aircraft with one wheel per strut, while Dual Wheel Gear is for aircraft with more than one wheel per strut. An aircraft's landing gear configuration and gross weight are critical components in airfield pavement design and are used to characterize pavement strength.



**Visual Approach Aids.** The Airport has two forms of visual approach aids. A four-box Visual Approach Slope Indicator (VASI) is located at each runway end. VASIs give glide slope information to pilots on final approach by displaying sequences of different colored lights to maintain a safe glide slope for landing. As mentioned above, Runway 34 has REILs to provide rapid and positive identification of the runway end.

**Instrument Approach Aids.** Both Runway 16 and 34 have instrument approach procedures, which can be used when the visibility and cloud ceiling are below minimums for Visual Flight Rules (VFR) conditions. **Table 1A** details the approaches available at the Airport.

Special departure procedures apply for aircraft departing the Airport during instrument conditions, as a result of the high terrain surrounding the valley. Additionally, higher alternative minimums are required for aircraft flying to the Airport under Instrument Flight Rules (IFR) conditions.

TABLE 1A. INSTRUMENT APPROACH PROCEDURES

Approach Name <sup>3</sup>	Runway End Served	Approach Minimums	
		Ceiling (feet)	Visibility (statute miles)
GPS	34	400	1
VOR/DME-A	16 and 34	900	1 ¼

**Other NAVAIDS.** There is a lighted wind sock and rotating beacon located atop the FBO building. A lighted tetrahedron is located west of the runway at the midfield point; however, the lighting is inoperative. An Automated Weather Observation System (AWOS) provides real-time weather information, located east of the runway, approximately 1,000 feet north of the Runway 34 threshold.

## Landside Facilities

**Hangars and Other Buildings.** There are 22 buildings on the Airport property. **Table 1B** details the function of those buildings and their ownership.

**Aviation Services.** A fixed based operator (FBO) is an individual or a business that offers aviation-related services such as flight instruction, aircraft rental, aircraft maintenance, hangar/tiedown storage, and aircraft fueling to Airport users. Oregon Sunstone Aviation provides FBO services at the Airport. The owner of Oregon Sunstone Aviation, Bert Young, is under contract with Lake County to provide day-to-day airport management services, in addition to providing FBO services.

**Airport Access and Vehicle Parking.** There are three access points to the Airport. Exhibit 1B depicts these locations. Access to the Runway 16 end is provided by a recently constructed access road intended to service future development. The other two access points are located at the end of Airport Road. One point provides public access to the Airport and FBO, while the other provides access to the Interagency Air Tanker Base.

Individual tenants park adjacent to or in their hangars while flying; some parking lots are available for use south of the FBO building and at the Interagency Air Tanker Base.

<sup>3</sup> GPS (Global Positioning System) is a space-based global navigation satellite system. VOR/DME (very high frequency omnidirectional radio range / distance measuring equipment) is a type of radio navigation system.

TABLE 1B. BUILDING OWNERSHIP AND USE

Number (per Exhibit 1B) <sup>4</sup>	Description	Ownership
1	T-Hangar	County
2	Hangar	Private, with ground lease
3	Hangar	Private, with ground lease
4	Hangar	Private, with ground lease
5	Well House	County
6	Electrical	County
7	Storage	County
8	Security	Private, with ground lease
9	FBO	County
10	Hangar	Private, with ground lease
11	Hangar	Private, with ground lease
12	Hangar	Private, with ground lease
13	Hangar	Private, with ground lease
14	Hangar	Private, with ground lease
15	Hangar	Private, with ground lease
16	Hangar	Private, with ground lease
17	Storage	County
18	Storage	County
19	Unused Bunker	County
20	Tanker Base Building	USFS, with ground lease
21	Tanker Base Building	USFS, with ground lease
22	Tanker Base Building	USFS, with ground lease
23	Electrical	USFS, with ground lease

**Other.** A drag racing strip is located south of the airport, along Airport Road. While located on County property, it is fenced from the airport operations area. The race track was approved via a written 20-year lease for 60 acres. Terms of the lease are that the racing association pays no rent; however, they are responsible for property taxes. No improvements of the racing strip are allowed without written permission from the County.

## Airport Support Facilities

**Emergency Services.** The Thomas Creek / Westside Rural Fire Protection District provides fire protection. The Lake County Sherriff Department provides emergency services.

During busy fire operations, the USFS has leased a staging area from the County, as depicted in Exhibit 1B to accommodate additional aircraft and support vehicles.

**Airport Maintenance.** Airport maintenance is provided by Lake County. Some maintenance equipment is stored onsite in the County’s storage buildings. Snow removal is undertaken by the owner of Oregon Sunstone Aviation, as part of the management contract, as well as many of the day-to-day maintenance activities required to keep the Airport operating.

<sup>4</sup> Buildings 20-23 not shown on Exhibit 1B and are part of the Interagency Air Tanker Base.



**Airport Fencing.** Fencing surrounds the perimeter of the immediate airport environment. The type of fencing varies from chain-link security fencing to livestock fencing. Chain-link fencing is limited to containment of the Interagency Fire Center. All access points are gated. The gates located at the end of Airport Road typically remain open during normal business hours.

**Utilities.** Utilities and public services provided at the Airport include:

- Water – Individual well system, dated to original airport construction in 1943
  - The Interagency Air Tanker Base has a separate well and a 500-gallon storage tank
- Sanitary Sewer – Individual drain field / septic tank system
- Telephone – Local franchise companies
- Electricity – Surprise Valley Electrification Corporation

Overhead power lines provide much of the electrical power to structures on the airport. Electricity to airfield elements to conducted through a buried connection

**Airport Signage.** Guidance signs to the Airport are located on County Highway 1-10A, Highway 140, and Highway 395 and are maintained by ODOT.

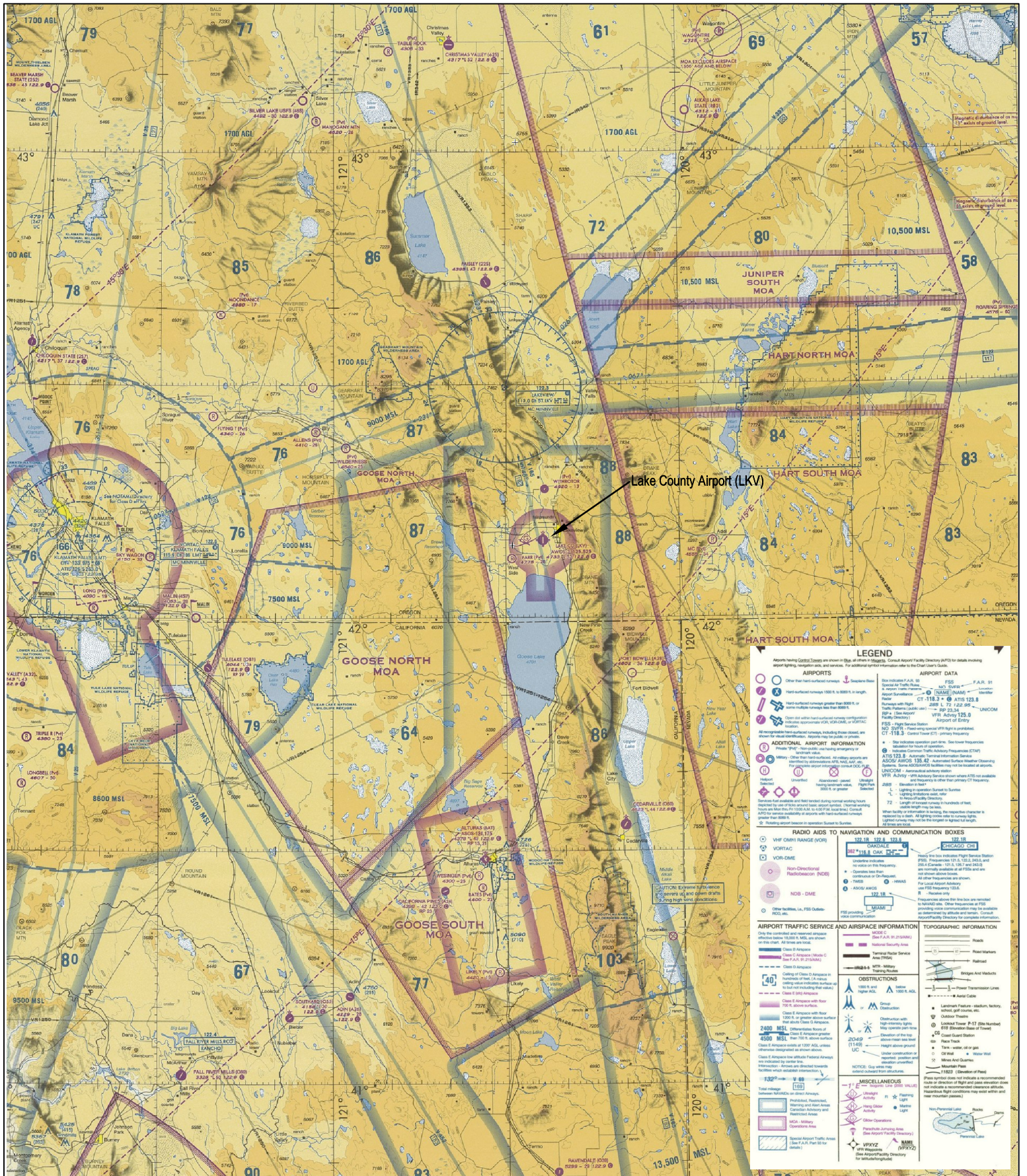
**Other Support Facilities.** Rental cars are available from companies in the Town of Lakeview.

## AIRSPACE

The FAA is responsible for the control and use of navigable airspace within the United States. Aircraft in flight, whether approaching or departing an airport, are subject to varying degrees of FAA control depending on location and meteorological conditions. These levels of control are called airspace classes. The alphabet characters A through G distinguish classes. Each class has its own unique shape and rules that govern such things as visibility minimums and cloud clearances.

The Airport is located in Class G airspace, with Class E starting 700 feet above the airport's surface. Class G airspace is considered uncontrolled airspace in that pilots are not required to communicate with air traffic controllers; however regulations regarding visibility minimums and cloud clearances still apply. The Airport's airspace is depicted on the Klamath Falls sectional chart (see **Exhibit 1E**). The Airport is located east of Klamath Falls Airport (LMT) and north of Alturas (AAT). The Airport's location is such that it lies underneath Victor Airway V165, which is a "highway in the sky", sourced from the Lakeview VORTAC. A Victor Airway is a corridor of protected airspace defined by radio navigational aids. The Victor Airway (depicted with semi-transparent blue lines on Exhibit 2E) makes over flying traffic a common occurrence. Adding to the number of over flight operations is the presence of several Military Operating Areas (MOAs) nearby the Airport, which include Goose South/North MOAs, Hart South/North MOAs, and Juniper South/South & Low MOAs. An MOA is a type of special use airspace where military operations regularly occur that necessitate separation from civilian aircraft. The MOAs to the east and west of the Airport create yet another corridor for aircraft flights.





# Exhibit 1E ~ Sectional

## Lake County Airport Master Plan

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Traffic flows at the Airport are standard, left-hand patterns. Pilots are to fly the patterns at 1,000 feet above ground level (5,733 feet mean sea level). Airport users report that the majority of aircraft land and takeoff from Runway 34.

## LAND USE PLANNING AND ZONING

The following land use and zoning discussion focuses on four areas:

- Airport Environs zoning and land use.
- Surrounding area zoning and land uses.
- Protection of airport airspace to prevent hazards and land uses that may interfere with the safety of aircraft operations.
- Ownership/control of Airport runway protection zones to enhance the safety of people and property on the ground.

Federal, State, Regional, County, and City land use regulations need consideration when reviewing existing land uses for airport compatibility and when planning for future development at and around an airport.

Federal regulations are also concerned with airspace protection (14 CFR Part 77) and noise levels, particularly for areas that fall within the 65-decibel (dBA) noise contour line. 14 CFR Part 77, *Objects Affecting Navigable Airspace*, establishes obstruction standards used to identify potential adverse effects to air navigation and notice standards for proposed construction. Imaginary surfaces are the basis for protecting the airspace around runways. There are five imaginary surfaces: primary, approach, transitional, horizontal, and conical. Definitions of each imaginary surface will be discussed in a later chapter. These surfaces should be kept clear of all obstructions.

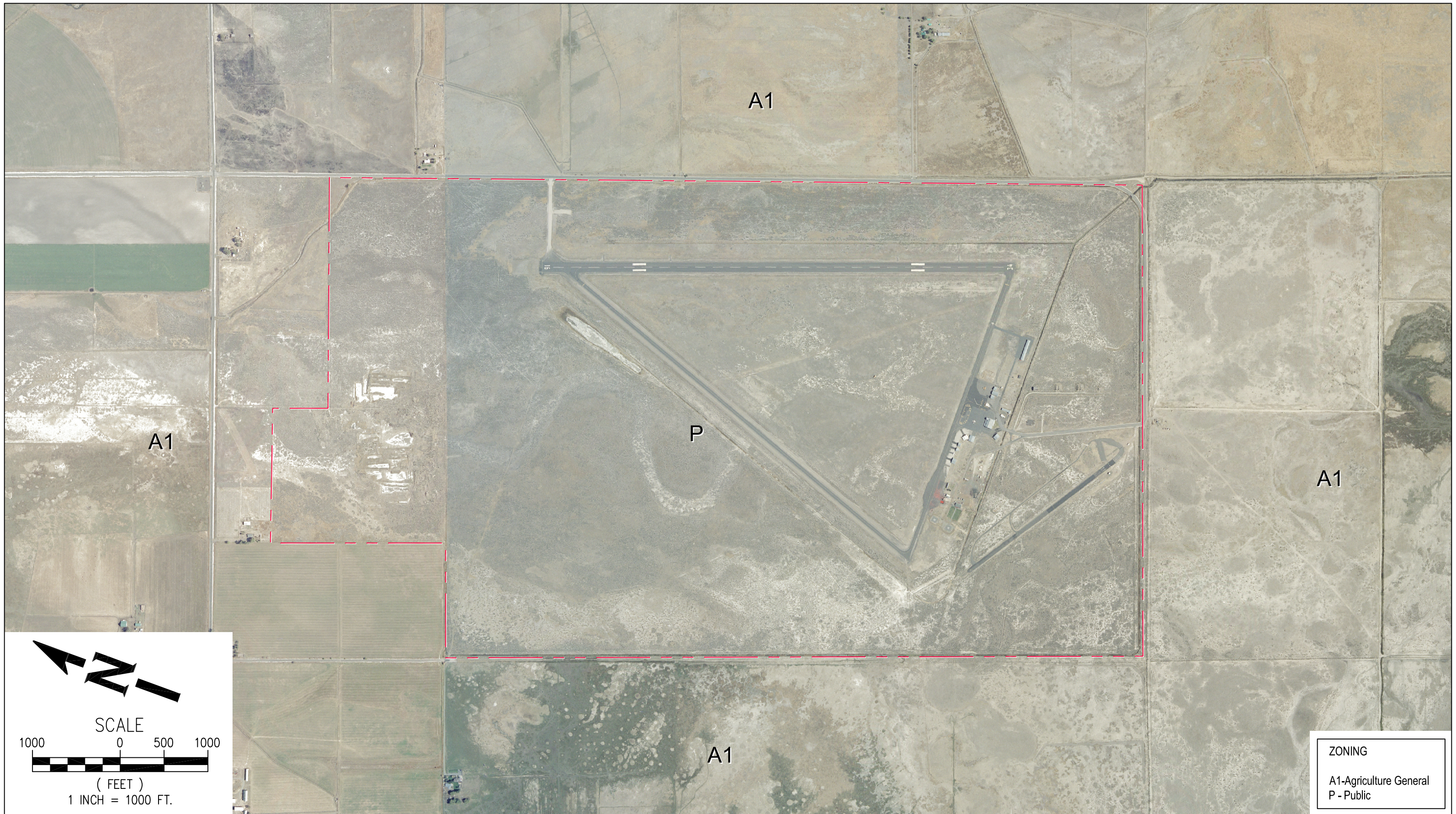
FAA guidelines state that before FAA grants can be received the Airport Sponsor must provide assurances that appropriate actions have been (or will be) taken, to the extent reasonable, to restrict the use of land adjacent to or in the immediate vicinity of the Airport to those that are compatible with normal airport operations.

### Existing Airport Environs Zoning and Land Use

The entire Airport Property is zoned as "Public" in the Lake County Zoning Code (see **Exhibit 1F**). Lake County is the planning and building permit authority for the Airport. The Airport's existing zoning classification partially complies with Oregon Revised Statutes (ORS) 836.600 through 836.630, Local Government Airport Regulation. The County has adopted airport overlay imaginary surface protection which mirrors Part 77 imaginary surfaces. However, Lake County has not adopted the standards of ORS 836.616 which authorizes certain airport uses and activities to occur at the Airport.

The County's Comprehensive Plan is currently being updated. The Airport Master Plan will be incorporated by reference in the updated County Plan. The County Commission is very supportive of the airport and is open to enacting appropriate zoning changes needed to enhance opportunities at the airport. (B.Pardee, 12/13/11)





ZONING  
 A1-Agriculture General  
 P - Public

**Exhibit 1F ~ Zoning Map**  
**Lake County Airport Master Plan**  
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## Surrounding Area Zoning and Land Use

The Airport is surrounded by agricultural land uses, with a few single family dwellings. The zoning is predominantly Agriculture General.

## Protection of Airport Airspace

The FAA requires that airport sponsors – to the extent of their ability – restrict zoning on adjacent lands and lands within an airport’s immediate vicinity to compatible land uses. Lake County has established an Airport Overlay Zone to protect the Airport and its airspace from hazards to air navigation, such as tall structures and other non-compatible land uses. An overlay zone may restrict the height of buildings and other structures or trees. Airport overlay zones also may restrict any land use that would create such hazards as electrical interference with airport radio communications, cause glare or impair visibility near the airport or would attract wildlife.

## Ownership/Control of Runway Protection Zones

Runway Protection Zones (RPZs) are designated areas off runway approaches that enhance the protection of people and property on the ground. RPZs are trapezoidal in shape and have dimensions determined by the aircraft type and runway approach visibility minimums. The FAA strongly encourages Airport Sponsors to either own or exercise land use control within the RPZs. If an airport does not own the RPZs in fee, control of obstructions to airspace can be achieved through aviation easements. Lake County owns all property within the Airport’s two RPZs.

# ENVIRONMENTAL INVENTORY

The purpose of this section is to summarize the environmental setting of the airport, and identify any potential environmental constraints.

Environmental constraints for airports typically fall into two general categories: human environment and natural environment. Human factors that can constrain airports include existing settlements and incompatible land use, noise, social or socioeconomic conditions, light and glare, and the general controversial nature of airports. Natural environmental elements include various aspects of air quality, water resources, fish and wildlife, hazardous materials, energy and other resource issues.

## Human Factors

**Noise.** The airport currently supports about 6,000 annual operations (FAA Terminal Area Forecast), mostly single engine aircraft. The typical threshold of concern is when the 65 DNL contour extends over noise sensitive land uses. Because the majority of the adjacent land is in agricultural use, the number of noise sensitive uses is minimal. Another threshold of significance is 90,000 annual adjusted propeller operations. The current usage of the airport is far from this level.

The developed area of Lakeview is several miles from the airport, and noise associated with the airport is not an issue. The area surrounding the airport is primarily in agricultural use, including grazing and cultivated cropland.



There are a few residences, however there have not been any noise issues associated with the airport in recent history (pers. communication B. Young and B. Pardee, 12/13/11).

**Land Use.** The Lake County zoning map designation for the airport property is “Public.” Airports are permitted outright in this zone. No conditional uses are defined for this zone. Airport-related industrial development is allowed in the A-A Airport Approach combining zone, which surrounds the airport. Land outside of the A-A zone zoned A-2 Agricultural Use.

**Social Impact and Induced Socioeconomic Issues.** Social impacts are typically related to relocation of businesses, residences or the alteration of established patterns of life (e.g. roadway changes, new facilities that divide a community, et cetera.) Access to the airport is somewhat convoluted and the existing structures on the airport are aging and in some level of disrepair. The County is considering future development at the northeast edge of the Airport. This would make new businesses, as well as the airport, more visible from the highway. The Airport is currently home to an FBO. The Forest Service and Bureau of Land Management (BLM) jointly operate a firefighting base at the airport during the summer and fall. Firefighters stationed temporarily at the base contribute to the local economy.

Other local businesses, including Thunder Ranch and hunting guide services, have used the airport to fly in clients. The airport also provides medical evacuation services from the local hospital to major medical centers. A private firefighting company has expressed interest in being based at the airport, if there was space to store their aircraft and other equipment.

Socioeconomic issues include the potential for the airport to provide an economic attraction to the community, including on-airport jobs, off-airport jobs that are supported by the airport, or some attraction that provides incentive to use the airport. The airport provides some positive economic benefit to the community through flight lessons, aircraft repair, and other services. The airport has a waiting list for hangar space, which could provide rental income to the County.

Environmental Justice is a specific aspect of socioeconomic impact that addresses whether a facility places a disproportionate burden on a population that is otherwise subject to perceived discrimination or other burden, for example a low-income or ethnic minority community. There do not appear to be populations meeting the definition within the immediate airport vicinity.

**Historic Properties, Cultural Resources (Section 106 Resources).** The airport was developed as a naval flight training base in 1943. After World War II ended, the County acquired the site for a public airport. The subject site has been disturbed during the construction of the initial airport as well as construction of private hangars and other structures. During excavation for these activities, it is believed that no artifacts were found.

Two ammunition bunkers, an aboveground fuel storage structure, and several original buildings remain on the site. The buildings are in a variety of conditions, from completely remodeled/modernized, to nearly falling down. (See **Exhibit 1G**) While these buildings, because of their age and history might be considered an historic resource, no action has been taken in support of preservation or registry. Historically, the land fell into the range of the Klamath Indians.

**Recreational Lands (Section 4(f)) Resources.** There do not appear to be any public recreation areas in the immediate vicinity of the airport. The Mark Clark Golf Course is approximately 2 miles northwest of the airport. It is privately owned. Much of the land east and west of Lakeview, roughly 3 miles east of, and 3 miles west of, is in public ownership, either BLM or USFS.



**Wild and Scenic Rivers.** There do not appear to be any designated or candidate Wild and Scenic Rivers in the immediate vicinity of the airport.

**Farmland Preservation.** Certain types of soils are considered prime farmland because of their drainage, mineral, and other characteristics. These soils, when in urbanized or developed areas, are not considered prime due to the compaction and other activities that degrade the potential for farm use. The Natural Resources Conservation Service on-line soil database map (Soil Survey of Lake County, Oregon) found three soil types in the Airport area.

- Unit 152A – Malin silty clay loam (0-1% slopes) – Far northeast corner, adjacent to Airport Road. This soil is considered poorly drained and slow permeability. It is moderately subject to wind erosion. It is moderately to strongly saline and sodic. The salinity presents limitations to agriculture.
- Unit 249A – Stockdrive fine sandy loam (0-1% slopes) – Northern and eastern edges. This soil has similar properties to the Malin soil.
- Unit 252A – Thunderegg fine sandy loam (0-1% slopes) – Majority of airport area, including area within and adjacent to the “triangle,” and the developed area including racetrack and area south of the access road. This soil has similar properties to the Malin soil.

All of these soils may be considered hydric, given site-specific condition. They do not have potential to be either prime farmland or farmland of statewide significance, under the NRCS classifications because of the salinity, sodic and carbonate content.

FAA Guidelines state that the Farmland Protection Policy Act (FPPA) is not applicable and no formal coordination with the Natural Resource Conservation Service (NRCS) is required if any of the following conditions apply:

- The land was purchased prior to August 6, 1984, for purposes of being converted.
- Acquisition does not directly or indirectly convert farmland (e.g., land acquired for clear zones or noise compatibility). Indirect conversion includes any use of land or operation of the facility which would prohibit the land from being farmed.
- The land is not prime farmland as defined in the FPPA.
- The land is not unique farmland.
- The soils are not considered prime farmland.
- The land has not been determined by a state or local government agency, with concurrence of the Secretary of Agriculture, to be of statewide or local importance.

Because the Airport is not presently considering acquisition of property outside of its current boundary and the current property has been in airport ownership since 1985 or prior, FPPA is not applicable.

**Light and Glare.** On-airport lighting is focused for visibility to aviators, without creating a disturbance or distraction. Current on-airport lighting is pilot-activated. Any additional facilities will need to consider the impact of light or glare, including the use of windows or roofing material, on aviation. Similarly, residences and other sensitive receptors are located some distance from the airport. Any additional lighting or structures will need to be focused such that light or glare is not projected into the community.

## Natural Factors

**Air Quality.** In 1994, the Town of Lakeview became a nonattainment area for particulate matter (PM<sub>10</sub>). The seasonal dry lakebed from Goose Lake, along with agricultural dust, combined to create much of the particulate



pollution. In 2006, efforts of the Town and Oregon Department of Environmental Quality allowed the Environmental Protection Agency to change the status from nonattainment to attainment/maintenance.

The Lakeview Air Quality Maintenance Area includes an area along Highway 395 north and south of the Town, and the Town itself. The airport is roughly 2 miles west of the boundary of the attainment area, and is non-classified.

Any construction impacts will need to consider the impact of particulate material on the local environment, including water quality and other resources. The airport does not currently generate a significant amount of surface traffic, and that is anticipated to continue in the future. There are no "air quality hot spots" for surface transportation facilities in the airport vicinity.

**Water Quality.** The Airport site lies in a former lakebed. The airport is surrounded by man-made drainage canals, which flow to Goose Lake, south of the airport. Goose Lake tributaries have been listed by the DEQ for exceeding standards for temperature, dissolved oxygen, flow modification, sediment, and algae/weeds.

The Airport works with the local irrigation district to keep the drainage around the airport free of weeds and obstructions. Airport management is interested in improving flow in order to reduce the attractiveness of the drainages to waterfowl. Any additions to impervious surfaces or changes in drainage plans for the airport must be evaluated in the context of the permit conditions.

**Plants and Animals, Including Endangered and Threatened Species and Essential Fish Habitat.** The Airport is located within the Goose Lake Valley, part of the Great Basin ecoregion. This area is primarily used for cropland, wildlife habitat and grazing. The Basin's location and presence of large lakes makes it an important area for migrating and wintering waterfowl. Geese and other waterfowl benefit from the lakes and irrigation/drainage canals. Seasonal wetlands provide some habitat for migratory species as well.

The Goose Lake Valley provides a variety of habitats including lake, marsh, riparian, grassland, and sage steppe. Marsh grasses are common along the lake shore. Big sagebrush, bitterbrush, bunchgrass and fescue are typical ground covers. Seasonal wildflowers include common yarrow, camas, larkspur, and crane orchids.

The valley's wildlife includes common high desert mammals including pronghorn, elk, mule deer, black bear, coyote, cougar and bobcat. Smaller mammals include rabbits, ground squirrels and chipmunks.

The Goose Lake Valley is on the western flyway from Mexico to the Arctic. During the spring, Canada geese, snow geese, Ross' geese and whistling swans stop in the valley to feed and rest before continuing north. Numerous shorebirds also migrate through the valley, including black-necked stilts, avocets, sandpipers, phalaropes, terns, grebes and teals. In the fall, these birds pass through the valley on their way south. In addition, a number of bird species nest in the areas around Goose Lake. Shorebirds such as avocets, willets, killdeer, grebe and curlew nest near the lake. The wetlands north of the lake provide breeding areas for Canada geese and sandhill cranes, as well as mallards and other ducks. The north shore wetlands are also an important breeding area for grebes, ibis, and egret. Tundra swans and American white pelicans have been seen in the area as well.

Several varieties of trout inhabit streams in the Goose Lake Valley watershed. These species include rainbow, brook and bull trout. In addition, Goose Lake redband trout are found only in Goose Lake and its tributaries. There are thirteen Oregon streams and six California streams with redband populations. The State of California has listed the Goose Lake Redband Trout as one of the state's Heritage Trout species. Oregon has not listed this species.



On-Airport, deer, coyote, antelope have been seen grazing or hunting. Airport vegetation also supports rabbits and other small mammals. The open valleys are home to a variety of raptor species, many which hunt on the airport.

Goose Lake feeds the Sacramento River, which supports Chinook salmon and other anadromous fish farther downstream. The Sacramento is heavily dammed and subject to significant irrigation withdrawals and alterations in California.

The Airport does currently have issues with occurrences of waterfowl and wildlife. However, there have not yet been incidents of incursions or bird strikes, although there have been close calls.

The Lake County Airport property includes site conditions typical of an airport facility, in regards to the maintenance of the grounds and vegetation. Existing vegetation includes a mixture of invasive and native species, predominantly made-up of grasses and sagebrush. An extensive mowing schedule maintains all vegetation for airport safety and visibility as required by FAA regulations.

Any activity on the airport would need to consider impacts to these species under the Endangered Species Act as well as habitat impacts under the Magnuson-Stevens Act.

**Wetlands and Floodplains.** As a result of the creation of the airport, on-airport wetlands appear to have been eliminated, with the exception of areas around the drainage canals. A brief review of the airport shows that some of the on-airport drainage ways are developing wetland-like characteristics. Areas to the west of the airport operation area, but possibly available for future development may include hydric soils and meet wetland criteria because of poor drainage, high water table and other conditions. At the time of any development action affecting these areas or drainage ways, a formal delineation will be prepared.

The airport and surrounding property is shown on FIRM Map 4101152015B as being in Zone AE, special flood areas, base flood elevation determined.

**Energy Supply and Natural Resources.** This category focuses on the impact of airport actions on energy and natural resources used in construction materials. In general, construction materials are not in short supply; however, the County has had difficulty in the past with obtaining materials that meet FAA standards. Fuel for construction equipment is available nearby. The site has adequate electrical supply; however, the Airport's line voltage that provides power to navigation aids and security lighting on the Airport is limited to 208v.

**Solid Waste.** Typically, general aviation airports do not generate significant amounts of solid waste. Often materials include food and beverage containers, or packaging for aircraft maintenance products. Food containers may create a bird and rodent attractant.

During construction, pavement materials are often recycled into the new pavement, reducing the need for disposal.

Plans for future activity at the airport should consider the manner in which waste is collected and removed.

**Hazardous Materials.** The airport has one commercial fueling site. In addition, the firefighting base may truck in fuel during a major event.

There is potential for additional contamination anywhere maintenance or fueling takes place, as a result of accidental spills. Historically, fueling activities have occurred on the Airport. In the area around the historic base,



monitoring well pipes have been identified; however, there is no information about their installation date or purpose.

In addition to fueling, aircraft maintenance activities may also have contributed to spills. In the past, an airport tenant provided crop spraying and may also have had spills. (see **Exhibit 1G** for locations). No exploration of this has occurred on the airport. Any such areas where construction is proposed would need to undergo some level of due diligence, such as a “Phase One Environmental Site Assessment” to identify any history of possible contamination.

**Construction Impacts.** Construction impacts typically include temporary noise, dust or traffic impacts, as well as the potential for erosion and water quality impacts associated with material spills, associated with construction. Once construction activities are identified, construction timing, phasing and mitigation measures need to be considered.

**Controversy.** Controversy is typically associated with off-airport impacts. In the case of Lake County, there appears to be minimal, if any, controversy surrounding the airport.

**Other Issues.** There do not appear to be any other environmental-related issues on or around the airport.

## Environmental Conclusion

There may be significant environmental issues on the airport or in the airport vicinity related to floodplains, wetlands and endangered species. Possible hazardous material issues may also occur in area near the former Navy base. Additional study regarding these issues should be conducted once a project is defined.

# AVIATION ACTIVITY DATA

There are two primary measures of aviation activity at a general aviation airport: based aircraft and aircraft operations. Each activity type is discussed below.

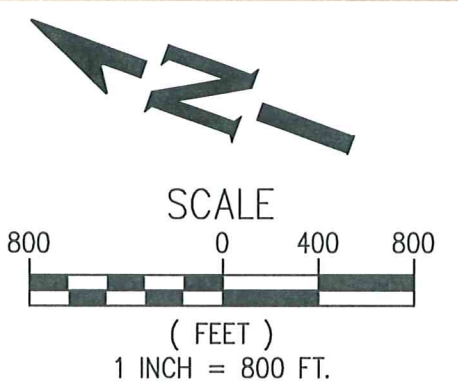
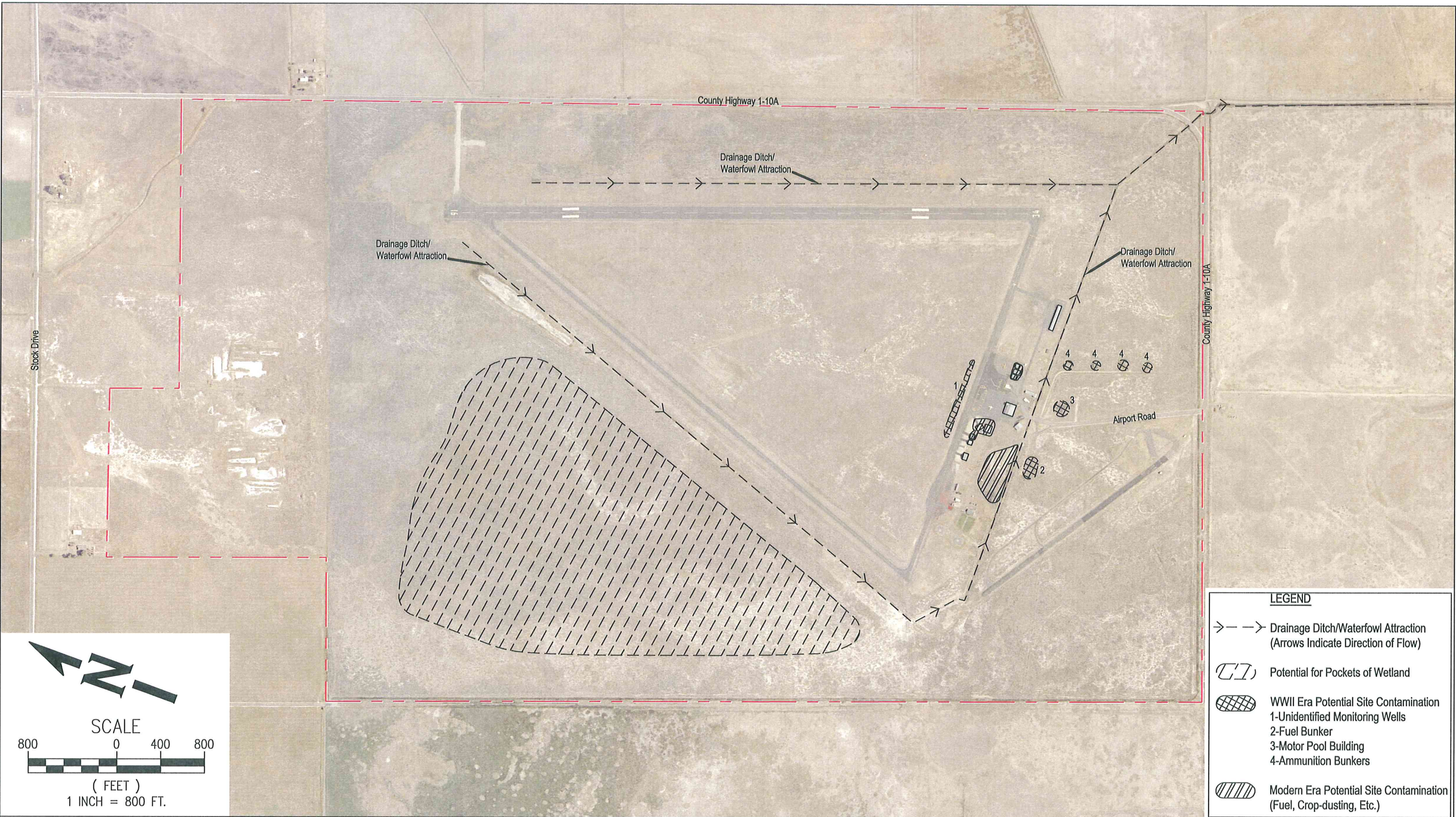
## Based Aircraft

Based aircraft are the number of aircraft that are stored at an airport in a hangar or tied down on either a paved apron surface or a grassy area designated for such a use. The County’s records indicate that there are currently 26 aircraft based at the Airport. Of the aircraft based at the Airport, they can be further broken down into the following categories:

TABLE 1C. BASED AIRCRAFT

Aircraft Category	Number Based at Lake County Airport
Single Engine	22
Jet	0
Multi-engine	1
Helicopter	1
Ultralight	2
Total	26





LEGEND	
	Drainage Ditch/Waterfowl Attraction (Arrows Indicate Direction of Flow)
	Potential for Pockets of Wetland
	WWII Era Potential Site Contamination
	1-Unidentified Monitoring Wells
	2-Fuel Bunker
	3-Motor Pool Building
	4-Ammunition Bunkers
	Modern Era Potential Site Contamination (Fuel, Crop-dusting, Etc.)

# Exhibit 1G ~ Environmental Considerations

## Lake County Airport Master Plan

Lake County, OR.

Jan. 17, 2012

**WHPacific**  
 9755 SW Barnes Rd, Suite 300  
 Portland, OR 97225  
 503-626-0455 Fax 503-526-0775  
 www.whpacific.com

037597-AIRP-EN01.DWG

## Aircraft Operations

Annual operations are the total number of aircraft takeoffs and landings occurring at the Airport in a year. A touch-and-go, which occurs during pilot training, counts as two operations. Touch-and-go operations are categorized as local, along with other operations that remain within 20 miles of the Airport. Operations not categorized as local are categorized as itinerant. Airport Management estimated annual operations data for 2010; the FAA's Terminal Area Forecast operation data was collected, as well. The operations estimates from both sources are shown in **Table 1D**.

TABLE 1D. OPERATIONS RECORDS

	Lake County Estimate (2010)	FAA Terminal Area Forecast (2010)
Air Taxi	1,200	1,200
General Aviation Local	1,250	1,500
General Aviation Itinerant	4,000	3,300
Military	0	0
Total	6,450	6,000

## AIRPORT FINANCIAL DATA

The following subsections provide a brief summary of historical financial information for the Airport.

### Airport Operating Revenues and Expenses

**Table 1E** shows the Airport's revenues and expenses for the past five years.

Federal grants from the Airport Improvement Program (AIP) are the major source of funding for airport capital expenditures. **Table 1F** depicts the AIP funding the Airport has received for airport improvement projects between the years 2003 and 2011.



TABLE 1E. REVENUES AND EXPENSES

	2007	2008	2009	2010	2011	TOTAL
<b>Revenue</b>						
Tanker Base Lease	19,589.97	20,030.04	21,576.36	20,059.99	22,543.35	103,799.71
Fuel Flowage	-	-	-	-	-	-
Fuel Sales	243,547.16	184,757.37	154,612.71	213,094.14	223,861.42	1,019,872.80
Ground/Hangar	7,113.00	7,625.12	7,844.82	6,802.09	8,527.20	37,912.23
Race Track	2,200.00	-	-	-	-	2,200.00
Ag Lease	2,650.00	-	-	-	-	2,650.00
Other (Int, Tax, etc)	3,377.13	9,364.37	1,315.75	1,983.80	898.65	16,939.70
<b>Transfer In</b>						
General Fund	-	-	-	-	8,500.00	8,500.00
USDA	-	-	-	-	-	-
Loan	-	18,000.00	-	15,500.00	13,000.00	46,500.00
Ind. Park	-	-	18,854.00	-	-	18,854.00
Fund 599	-	-	-	-	-	-
<i>Total</i>	<i>\$ 278,477.26</i>	<i>\$ 239,776.90</i>	<i>\$ 204,203.64</i>	<i>\$ 257,440.02</i>	<i>\$ 277,330.62</i>	<i>\$ 1,257,228.44</i>
<b>Expense</b>						
Mgmt Contract	22,000.00	24,000.00	24,000.00	24,000.00	24,065.58	118,065.58
Material & Service	37,797.67	41,468.00	32,116.21	18,747.10	21,315.28	151,444.26
Fuel	203,863.91	134,445.29	146,044.99	179,618.65	167,456.24	831,429.08
<b>Transfer Out</b>						
Rd. Dept.	-	23,251.62	181.76	155.05	-	23,588.43
Gen. Fund 101	-	-	-	-	-	-
Admin	5,822.00	14,614.52	6,529.32	8,008.88	6,709.09	41,683.81
Other	36.66	-	-	18,000.00	24,000.00	42,036.66
<i>Total</i>	<i>\$ 269,520.24</i>	<i>\$ 237,779.43</i>	<i>\$ 208,872.28</i>	<i>\$ 248,529.68</i>	<i>\$ 243,546.19</i>	<i>\$ 1,208,247.82</i>
<i>Net</i>	<i>\$ 8,957.02</i>	<i>\$ 1,997.47</i>	<i>\$ (4,668.64)</i>	<i>\$ 8,910.34</i>	<i>\$ 33,784.43</i>	<i>\$ 48,980.62</i>
<b>Grants (Federal &amp; State)</b>						
<b>Revenue</b>						
Enhancement	-	-	-	-	-	-
Federal	183,824.00	209,712.00	108,269.00	-	23,541.00	525,346.00
State	14,210.00	-	-	-	-	14,210.00
<i>Total</i>	<i>\$198,034.00</i>	<i>\$ 209,712.00</i>	<i>\$ 108,269.00</i>	<i>\$ -</i>	<i>\$ 23,541.00</i>	<i>\$ 539,556.00</i>
<b>Expense</b>						
Contract Service	170,613.18	3,578.32	30,093.82	-	12,671.66	216,956.98
Capital - Facility	-	217,469.73	84,059.75	-	-	301,529.48
<i>Total</i>	<i>\$ 170,613.18</i>	<i>\$221,048.05</i>	<i>\$ 114,153.57</i>	<i>\$ -</i>	<i>\$ 12,671.66</i>	<i>\$ 518,486.46</i>
<i>Cost / Match</i>	<i>\$ 27,420.82</i>	<i>\$ (11,336.05)</i>	<i>\$ (5,884.57)</i>	<i>\$ -</i>	<i>\$ 10,869.34</i>	<i>\$ 21,069.54</i>

Source: Lake County, OR.



TABLE 1F. RECENT FEDERAL GRANT PROJECTS

Year	Description	Project Amount
2003	Install Runway 16/34 MIRL and REIL; rehabilitate taxiway lighting; expand apron	\$383,600.00
2005	Install self-fueling system	\$119,319.00
2006	Rehabilitate apron (phase I); rehabilitate Runway 16/34	\$130,000.00
2007	Rehabilitate apron (phase II), revise ALP	\$413,158.00
2011	Update Master Plan	\$131,000.00
<b>2003-2011 Total</b>		<b>\$1,177,077.00</b>

Source: Federal Aviation Administration (2011, March)

## RATES AND CHARGES

The County leases hangar space to users at a rate of \$.18 per square foot. Per the current lease agreement, the rate will increase by \$.02 per square foot annually until the lease rate reaches \$.20. Once the rate of \$.20 is obtained it will remain at that rate until the County increases the rate for all ground lease holders, which can occur after a rate review in 2013, and every two years thereafter.

