



## CHAPTER 4. FACILITY REQUIREMENTS

### 4.1 FACILITY REQUIREMENTS

The Facility Requirements chapter provides analysis that quantifies the needed facilities over the 20-year planning period. In general, facilities are classified according to their function. Runways, taxiways, navigational equipment, lighting, etc. are classified as airside facilities. Hangars, aprons, smaller taxiways, vehicle parking, and access roadways are classified as landside facilities. Other necessary facilities include utilities, stormwater drainage, aircraft fueling systems, airport-owned equipment, and the like are classified as support facilities.

Facility requirements are derived from several sources. Some facility requirements are identified through comparison of existing conditions to the FAA or state design criteria for the existing traffic. Other facility requirements are needed to accommodate future demand levels or aircraft types as determined from the forecasts prepared in the previous chapter. Normal lifecycle replacement, rehabilitation or maintenance of facilities also drive requirements as does ensuring the compatibility of the airport with the surrounding land uses. The airport sponsor, through this master plan, can also plan other facilities that are intended to fulfill a vision for how the airport should develop and generate economic activity, regardless of whether they are needed for aviation purposes or funded through agency grants. The result of these analyses is a determination as to what facilities will be needed and in what quantities. The location and/or orientation of each of these required facility types will be the subject of the Alternatives chapter.

Airport planning and development criteria are often defined by both federal and state agencies. The FAA provides specific guidance concerning dimensional standards and many state agencies provide generalized guidance based on facilities offered and aircraft activity levels. Both sets of planning criteria are discussed below.

#### 4.1.1 FAA Design Standards

The FAA specifies design standards by Airport Reference Code (ARC) and instrument approach visibility minimums. Based on forecasts described in the previous chapter, it was determined that the ARC for the Airport is B-I (small) and will remain at B-I (small) beyond the 20-year planning period.

As discussed in Chapter 3, an airport's design is based on the characteristics of the critical design aircraft. The Beechcraft Baron 58 was identified as an appropriate design aircraft for the Airport. The Baron is a twin-engine piston driven aircraft with a wing span of 42' 8", an approach speed of 94 kt, and a gross weight of 8,700 lbs.

#### 4.1.2 Oregon Aviation Plan (OAP)

The Oregon Department of Aviation (ODA) has created general guidelines in the Oregon Aviation Plan (OAP) for airport planning and development based on the roles, or categories, of airports within the statewide system. The OAP identified five airport categories, each with its own set of performance criteria. The categories are based on factors such as the airport's function, the type and level of activity at the airport, and the facilities and services available. The categories are:

Category I – Commercial Service Airports

Category II – Urban General Aviation Airports

Category III – Regional General Aviation Airports

**Category IV – Local General Aviation Airports**

Category V – RAES (Remote Access/Emergency Service) Airports

Cottage Grove State Airport is classified as Category IV – Local General Aviation Airport. The function of this category is to support primarily single engine aircraft, but airports in this category are capable of accommodating smaller multi-engine general aviation (GA) aircraft.

In addition to defining the categories listed above, the ODA has identified airports within each category that have the potential to maintain or quickly restore operational functions after a major earthquake and arranged them into a 3-Tier system to indicate priorities for future investment. The tiers are:

Tier 1 – Essential Airports that will allow access to major population center and vital areas

Tier 2 – Larger network of airports that provide access to most rural areas

**Tier 3 – Airports that will provide economic and commercial restoration**

Cottage Grove State Airport is designated as Tier 3 and will provide economic and commercial restoration to the entire region in the event of a major disaster such as a Cascadia subduction zone earthquake

The OAP Facilities Summary indicates that the Cottage Grove State Airport meets the objectives for NPIAS, Based Aircraft, 95% wind coverage, and primary runway length. (OAP Table 5-35)

## 4.2 LANDSIDE REQUIREMENTS

Landside facilities are those facilities necessary for handling aircraft on the ground, and those facilities that provide an interface between the air and ground transportation modes. Landside requirements are addressed for the following subjects:

- Hangars/Airport Buildings
- Hangar and Airport Access
- Vehicle Parking
- Aviation Services/Support Facilities
- Airport Fencing
- Utilities

### 4.2.1 Hangars/Airport Buildings

Cottage Grove State Airport has 28 buildings and/or structures on the property, including 25 hangars buildings, a fueling station and pilot lounge/terminal building, and the Oregon Aviation History Center.

Of the 25 hangars, 23 are traditional box hangars and 2 are T-hangars. There is one single-unit T-hangar and one 7-unit T-hangar. The Preferred Aeronautical Activity Forecast for Cottage Grove State Airport, as detailed in Chapter 3, estimates an increase of 6 based aircraft over the 20 year planning period, for a total of 32 based aircraft. It is normally the preference of owners to store

their aircraft in hangars. In order to accommodate 32 aircraft, one additional hangar will need to be constructed. There is adequate space along the Hangar Row taxiway and apron to accommodate the anticipated construction. So, further property acquisitions are not necessary.

**FACILITY REQUIREMENT:** It is recommended that the Airport plan for 1 additional hangar to be constructed over the planning period.

### 4.2.2 Hangar and Airport Access

The Airport is typically accessed via East Palmer Ave which also provides access to the terminal building/pilot lounge. Hangars are accessible via the taxiway to hangar row. Generally, access to the existing airport facilities is adequate. The current airport and hangar access configuration is appropriate and should be maintained through the planning period.

### 4.2.3 Vehicle Parking

Public surface parking at the Airport is available at two lots. Approximately 10 spaces are available to airport users and visitors in the paved lot located off of East Palmer Ave next to the terminal building and pilot lounge. An additional 20 spaces are available at the Oregon Aviation History Center, located off of Jim Wright Way. This lot is primarily used by visitors to the museum. It is also common for users to park their vehicles near or inside of their leased hangar spaces while they are using their aircraft.

**FACILITY REQUIREMENT:** The current parking configuration is sufficient for the Airport and should be maintained through the planning period. However, addition parking facilities should be considered with any future development.

### 4.2.4 Aviation Services/Support Facilities

Currently there isn't an FBO located on the Airport. However, a pilot lounge, restrooms and a self-serve fuel facility are located at the terminal building. The terminal building and pilot lounge area are maintained by the local pilot community. No flight training or aircraft maintenance services are offered on site .

The fuel station is comprised of 2, 10,000-gallon underground fuel tanks. Only one of those is presently in operation. The state has approved a plan to replace the inoperable tank with a new above-ground 10,000-gallon tank. Comments during the first PAC meeting indicated that there was interest in offering MoGas in addition

to Avgas at the fueling station. It was suggested that doing so could be a draw for both pilots and community citizens.

**FACILITY GOAL:** Further inquiry into the interest and feasibility of offering MoGas at the Airport is recommended.

#### 4.2.5 Airport Fencing

The Airport is partially fenced on the west side of the property and unfenced on the east side where it abuts the Row River. The Oregon System Plan lists fencing around the terminal area as a desired criteria. At present time the Airport meets this requirement. However, in PAC #1 to topic of additional perimeter fencing was discussed as a way to address issues concerning public safety, wildlife encroachment and vagrancy issues that have been observed near unfenced areas. City zoning requirements limit the ability to construct security fence (i.e. chain link) in the Row River floodway. However, it was suggested in PAC #1 that fence may be permitted in the floodplain. This could allow for approximately 1,500 feet of addition fencing along the west side of the Airport.

**FACILITY REQUIREMENT:** It is recommended that the Airport construct additional chain-link fencing along its west boundary. The Airport should work with the City of Cottage Grove to assure that any additional fence constructed meets city code requirements.

#### 4.2.6 Utilities

The Airport has electric, sanitary sewer and water services on site. Only the terminal building and Welcome Center have sanitary sewer access. Currently there is not a dedicated fire suppression system in place.

**FACILITY GOAL:** In addition to the existing domestic water system, a dedicated fire suppression water supply should be considered. The Airport will likely need additional capacity from the City's water system to supply a dedicated system.

### 4.3 AIRSIDE REQUIREMENTS

Airside facilities are those necessary for the arrival, departure and ground movement of aircraft. In addition to these ground facilities, the airspace and imaginary surfaces surrounding the Airport and facilities is also included in the airside discussion. Airside facility requirements are addressed for the following topics:

- Pavement Condition Index
- Runway 15-33

- Taxiways and Taxilanes
- Aprons and Aircraft Parking
- Airfield Lighting and Signage
- Airport Navigational Aids (NAVAIDs)
- Automated Weather Observing System (AWOS)
- FAA Airfield Design Standards
- Airspace
- Protection of Airport Airspace

#### 4.3.1 Pavement Condition Index

In 2016, the Airport's Pavement Condition Index (PCI) was updated for those pavements on the property as part of a three-year pavement assessment rotation. Generally, PCI ratings above 70 require only preventative maintenance in the short term, while ratings between 40 and 70 require major rehabilitation. Ratings below 40 typically require reconstruction. According to the 2016 study, Cottage Grove Airport's PCI values ranged from 71 ("Satisfactory") to 100 ("Good"). The area-weighted average for all pavement was 90 ("Good").

**FACILITY REQUIREMENT:** As these PCI values are nearing the end of the planned three-year assessment cycle, it is recommended that a new pavement assessment be performed in 2019. Any pavement found to have PCI values less than 70 should be rehabilitated and any with values less than 40 should be considered for reconstruction. All remaining pavement should receive preventative maintenance in accordance with the Airport's pavement management plan.

#### 4.3.2 Runway 15-33

##### Runway Orientation

For the operational safety and efficiency of an airport, it is desirable for the primary runway to be oriented as close as possible to the direction of the prevailing wind. This reduces the impact of crosswind components during landing or takeoff.

The FAA recommends providing a crosswind runway when the primary runway configuration provides less than 95 percent wind coverage at specific crosswind components. The 95 percent wind coverage is computed on the basis of crosswinds not exceeding 10.5 knots for aircraft in ADG I.

A runway wind analysis was completed for Runway 15-33 using data and tools provided by the FAA and NOAA. The results show that the runway in its current orientation has appropriate wind coverage 95.36% of the time. The

current runway orientation is appropriate for the Airport and should be maintained through the planning period.

### Runway Length and Width

A runway should be long enough to support takeoffs, and landings of the design aircraft, a Beechcraft Baron 58. Accelerated stop distance and obstacle clearance also need to be accounted for when determining the runway length. According to runway distance curves published in AC 150/5325-4C, Runway Length Recommendations for Airport Design, runway lengths of 3,188 feet and 3,550 feet will accommodate 95% and 100%, respectively, of the Airport's anticipated fleet. In order to realize the 100% length recommendation, the runway would need to be extended by 362 feet. The Airport's surrounding terrain make extending the runway to that length impractical. The current runway length meets the 95% requirement and should be maintained through the planning period.

It should also be noted that, as stated in the 4C, manufacturers of small aircraft have noted that the runway length curves within the AC are not necessarily accurate for all small aircraft at higher temperatures and at higher elevations. The FAA instead recommends determining required runway lengths based on aircraft manufacturers' specifications if the fleet mix is known.

The current width of Runway 15-33 is 60 feet. This width meets the FAA design standard of 60 feet for B-I (Small) aircraft with visual approaches. It is recommended that the 60 foot runway width be maintained through the planning period.

### 4.3.3 Taxiways and Taxilanes

Runway 15-33 at Cottage Grove State Airport has a full-length taxiway (Taxiway A) on the west side with four connector taxiways and a run-up area paved at the Runway 33 threshold. The FAA recommends a parallel taxiway for non-precision instrument approaches with visibility minimums of one mile or greater and requires a parallel taxiway for instrument approaches with visibility minimums lower than one mile.

Recommended taxiway widths are based on the Taxiway Design Group (TDG) of the design aircraft. The Beechcraft Baron 58 is classified as TDG 1A and requires a 25 foot wide taxiway. The parallel taxiway and connectors at the Airport meet that standard at 25 feet wide. However, the Hangar Row Taxiway is 20 feet wide, 5 feet below the standard.

**FACILITY REQUIREMENT: The Hangar Row Taxiway width should be increased to 25 feet.**

Runway centerline to parallel taxiway centerline separation distance is another important consideration. According to the Runway Design Standards Matrix, the minimum distance from runway centerline to parallel taxiway for minimums lower than ¾ mile is 150 feet. The current separation distance at Cottage Grove is 150 feet which satisfies FAA standards for minimums of not lower than ¾ mile. This should be maintained through the planning period.

### 4.3.4 Aprons and Aircraft Parking

Currently, there are 30 tiedown positions at the Airport. As it is the preference of aircraft owners to store their aircraft in hangars, it is assumed that no based aircraft will be stored at tiedowns throughout the planning period. Transient aircraft typically use tiedowns during the short time they visit an airport.

The FAA has developed an approach for determining the number of tiedowns needed for transient aircraft operating at an airport. The following general methodology was taken from Airport Design, Appendix 5, and Change 10 is based on peak operations calculations:

Peak Day Operations (from Chapter Three)

Divide by 2 (50% of operations are departures)

Multiply by 50% (assumes 50% of the transient airplanes will be on the apron during the peak day)

$$73 \div 2 \times .5 = 18.25$$

Using this methodology, it is evident that the Airport will require 19 tiedown locations to accommodate the forecasted demand through 2037. The existing 30 spots currently available at the Airport are sufficient for the planning period.

At this time, the Airport has 12,300 square yards of apron pavement. The existing apron configuration has 30 tiedown spaces which, as discussed above, meets the forecasted need. As such, no additional apron surface is required to account for anticipated parking needs over the planning period.

### 4.3.5 Airfield Lighting and Signage

Runway 15-33 has medium intensity runway edge lighting (MIRL) installed. Cottage Grove State Airport meets the OAP objective for Category IV Taxiway Lighting: Low Intensity Taxiway Lighting (LITL) or Taxiway Reflectors. (OAP Taxiway Lighting)

**FACILITY REQUIREMENT:** It is recommended that the existing reflectors be replaced with either LITL or MITL on the parallel taxiway.

Lighted signage is installed on the connector taxiway at the hold positions. This system is adequate for the Airport's configuration and should be maintained throughout the planning period.

### 4.3.6 Airfield Navigational Aids (NAVAIDS)

#### Visual Approach Aids

As discussed in chapter 2, Runway 15-33 is classified as a visual approach runway. It has a rotating beacon, segmented circle with a lighted wind indicator, and a four-light PAPI in place at each runway end. The OAP recommends a visual approach aid at one end of the runway. The PAPI system installed at both ends of the runway exceed the recommendation. No additional visual aids are required for the duration of this plan.

#### Instrument Approach Aids

There are no instrument approach aids located on the Airport, nor are there any instrument approach procedures published for the Airport at this time. Instrument Approach Aids are not required for Cottage Grove State Airport.

### 4.3.7 Weather Observation System (AWOS)

Currently automated weather monitoring is not available at Cottage Grove. An Automatic Weather Observation System (AWOS) is appropriate for an airport of the type and size of Cottage Grove State Airport. An AWOS reports significant weather changes in near-real time, up to the minute. The system reports cloud ceiling, visibility, temperature, dew point, wind direction, wind speed, altimeter setting and density altitude. This system was recommended in the Oregon System Plan.

**FACILITY REQUIREMENT:** It is recommended that the Airport install an AWOS on the property.

### 4.3.8 Airfield Design Standards

FAA AC 150/5300-13, Airport Design, defines the FAA's recommended standards for airport design. A few of the more critical design standards are those for runways and the areas surrounding runways, including:

- Runway Safety Area (RSA)
- Object Free Area (OFA)
- Obstacle Free Zone (OFZ)
- Runway Protection Zone (RPZ)

The RSA is a defined surface surrounding the runway that is prepared or suitable for reducing the risk of damage to airplanes in the event of an airplane undershoot, overshoot, or an excursion from the runway.

The OFA is an area on the ground centered on the runway or taxiway centerline that is provided to enhance the safety of aircraft operations. No above ground objects are allowed except for those that need to be located in the OFA for air navigation or aircraft ground maneuvering purposes.

The OFZ is a volume of airspace that is required to be clear of obstacles, except for frangible items required for the navigation of aircraft. It is centered along the runway and extended runway centerline.

The RPZ is defined a trapezoidal area off each runway end intended to enhance the protection of people and property on the ground. The dimensions of an RPZ are a function of the runway ARC and approach visibility minimums. The FAA recommends that RPZs be clear of all residences and places of public assembly (churches, schools, hospitals, etc.) and that airports own the land within the RPZs.

Generally, the Airport meets all of the standards discussed above, with one exception. Both runway RPZs extend off of Airport property and past the City's Urban Growth Boundary (UGB). The FAA recommends that an airport have control of all land use within its RPZs either through ownership in fee or through aviation easements.

**FACILITY REQUIREMENT:** It is recommended that the Airport either acquire all property under the RPZ or work with city and county officials to create aviation easements in order to properly control all land use in those areas.

### 4.3.9 Airspace

As previously mentioned, (FAR) Part 77, defines three-dimensional imaginary airspace surfaces used to identify obstacles and obstructions to air traffic in the vicinity of an airport. A detailed discussion of the Part 77 surfaces and procedures is available in Chapter 2.

A cursory review of the Part 77 surfaces compared to LiDAR-based Digital Surface Model (DSM) was performed. This exercise showed that Cottage Grove has a significant number of obstacles due to both vegetation (trees) and topography (surrounding hills). As part of the planning process, a comprehensive Part 77 Airspace analysis will be completed using data collected through

the FAA's Airports Geographic Information System (AGIS) survey program. The AGIS survey will provide precise and current data for airspace and obstruction modeling.

**FACILITY REQUIREMENT:** At the completion of the Part 77 analysis, all reasonable efforts should be taken to clear or mitigate any and all obstructions identified.

#### 4.3.10 Protection of Airport Airspace

The FAA requires that airport sponsors restrict zoning on land within the immediate vicinity of airport property. Lane County and the City of Cottage Grove have established Airport Overlay Zones to protect the Airport and its airspace from hazards to air navigation. The City's Airport Overlay Zones prohibit the following uses:

- New residential development
- Public assembly uses
- Building or expanding industrial uses that emit smoke, dust or steam that would obscure visibility within an airport approach corridors.
- Building or expanding outdoor lighting that would project directly onto an existing runway or taxiway or into an existing airport approach corridor.
- Building structures that exceed height limitations specific to each underlying zone.

**FACILITY REQUIREMENT:** It is recommended that the Airport continue to work with the City and County to protect the Airport and airspace through enforcement of the Airport Overlay Zoning.

### 4.4 ADMINISTRATIVE

Cottage Grove State Airport is managed by the ODA. As the owner, operator and sponsor of the Airport, ODA State Airports Division is responsible for the management of all aspects of the Airport, including hangar lease agreements, access/egress, financial record keeping, and the continuing maintenance of facilities. Below are several general administrative topics/goals for ODA to consider throughout the planning period.

#### 4.4.1 Airport Administration and Maintenance

As part of its charge as airport sponsor, ODA must manage the maintenance of the Airport in accordance with standards and regulations set forth by Oregon Revised Statutes (ORS), Oregon Administrative Rules (OAR), and FAA. Failure to comply with federal grant assurances and regulatory standards may compromise the Airport's eligibility to receive grant funding.

**FACILITY REQUIREMENT:** It is recommended that ODA continue to work with FAA officials to assure that all federal grant assurances and regulatory standards are met.

An important aspect of FAA compliance is record keeping. The ODA must keep all project accounts and records relative to the project in accordance with the Single Audit Act of 1984. Additionally, ODA must make all records available for the purpose of audit and examination.

**FACILITY REQUIREMENT:** It is recommended the ODA continue to keep financial records and logs of activity at the Airport. In addition, it is recommended the ODA continue to comply with Oregon Revised Statutes and implement the Oregon Aviation Plan.

#### 4.4.2 Airport Financials

Cottage Grove State Airport has historically operated at a loss and requires supplemental support from ODA. However, the Airport provides jobs and services to the region and as such, is a good investment for the community.

**FACILITY REQUIREMENT:** The Airport should continue to make every effort increase efficiencies and operate in a manner to reduce or eliminate annual losses.

### 4.5 ENVIRONMENTAL

The Environmental Inventory narrative found in section 2.6 details the current environmental setting of the Airport, identifies potential environmental constraints, and makes several recommendations based on current conditions. The purpose of this section is to build upon those findings and identify related facility requirements and goals for the Airport through the forecasted period.

#### 4.5.1 Human Environment

Human factors that can potentially constrain airports operation and development may include existing settlements and incompatible land use; noise issues; social or socioeconomic conditions; and light and glare. The general controversy that often exists between an airport and surrounding community can also a concern.

##### Noise

Airports are commonly a major generator of noise in the community. Noise levels are assessed through noise studies that determine Day-Night Noise Level (DNL) contours surrounding a facility. The federal threshold of concern for noise is when a 65 DNL contour extends

over noise-sensitive land use areas. The State of Oregon has established a threshold of 55 DNL in noise-sensitive areas.

FAA Order 5010.1F states that noise analysis is not needed for projects involving Design Group I and II aircraft in Approach Categories A through D as long as the total annual adjusted propeller operations of the facility are less than 90,000. Cottage Grove State Airport (B-I small) is forecasted to accommodate 15,000 annual operations in 2037. The forecasted operations falls below the federal threshold and hence the need for a noise study is not anticipated for the planning period.

**FACILITY GOAL:** Noise impacts should be considered for any future development at the Airport.

#### **Social Impact/Induced Socioeconomic Issues**

Social impacts should be considered for all airport development projects. These could include health and safety risks, socioeconomic impacts such as relocation of businesses, the alteration of established patterns of life, or disproportionate burdens on disadvantaged populations in the community. Specific issues are discussed at length in section 2.6.1.

Currently there are no specific requirements related to the Social Impacts and Socioeconomic issues at the Airport, nor are any requirements anticipated through the planning period.

**FACILITY GOAL:** Future development projects should consider how the construction activities and implementation of those projects will potentially impact health, safety, and socioeconomic issues of the community.

#### **Historic Properties and Cultural Resources (Section 106 Resources)**

Section 106 of the National Historic Preservation Act of 1966 (NHPA) requires Federal agencies to take into account the effects of their undertakings on historic properties, and afford the Advisory Council on Historic Preservation a reasonable opportunity to comment. A formal review for Section 106 resources has not been prepared for Cottage Grove State Airport.

**FACILITY REQUIREMENT:** A formal cultural resources determination will need to be prepared, with a Section 106 consultation with applicable Native American tribes, local governments, and interested organizations or individuals for any future development projects.

#### **Recreational Lands – Section 4(f) Resources**

Section 4(f) of the U.S. Department of Transportation (USDOT) Act of 1966 requires that transportation projects limit their impacts on public recreation. As previously stated in the Environmental Inventory, recreational land use in the area is limited to a few municipal parks in Cottage Grove, the Row River to the east of the Airport, and Row River Nature Park south of the Airport. The nature park is located in the approach of Runway 33. However, current operations on the Airport do not affect the usage of any of these areas and they are unlikely to be affected in the future.

#### **Wild and Scenic Rivers**

The National Wild and Scenic Rivers System was created by Congress in 1968 to preserve certain rivers with outstanding natural, cultural, and recreational values in a free-flowing condition for the enjoyment of present and future generations. The Row River is not designated as a wild and scenic river. Furthermore, no other area rivers or streams are designated as such. As such, neither the Airport in its current state, nor any anticipated future development at the Airport is expected to impact any designated wild and scenic rivers.

#### **Farmland Preservation**

The USDA classifies certain soil types as “Prime Farmland” due to drainage, mineral content, and other characteristics. The majority (60%) of the soils mapped within the Airport property are designated as a version of Prime Farmland. Approximately half of these soils are designated as “All Areas are Prime Farmland” and half are “Farmland of Statewide Importance”. The remaining soils mapped within the Airport property are designated as “Not Prime Farmland”.

While “Prime Farmland” soils are present at the Airport, FAA guidelines state that Farmland Protection Policy Act (FPPA) is not applicable if, among other criteria, the impacted land was purchased prior to August 6th, 1984 for the purpose of being converted. The current airport property was purchased in 1964 and therefore the FPPA does not apply for the Airport in its current configuration.

**FACILITY REQUIREMENT:** Any future property acquisitions should be evaluated for prime farmland soil types. FAA guidance should be consulted for exemption criteria if protected soils are located within the acquired properties.

**Light and Glare**

Cottage Grove State Airport accommodates both day and nighttime operations. The runway is equipped with edge lighting, and runway end identifier lights (REIL). Airfield lighting is pilot-activated. Currently the taxiways are not lit, but instead have blue edge reflectors. Overhead lighting is present in the hangar/apron area and other landside areas.

**FACILITY REQUIREMENT:** Any additional facilities will need to consider the impact of light or glare, including the use of windows or roofing material, on aviation. With the proximity of residential uses, additional lighting or structures will need to be focused such that light or glare is not projected into the community.

**Air Quality**

The EPA has developed the National Air Quality Standards (NAAQS) for seven major pollutants, including two sizes particulate matter. Currently Cottage Grove State Airport is located in an area that is classified as “in attainment” for air quality.

Generally, surface traffic is considered to be a significant generator of airborne particulate material. The Airport does not currently generate a significant amount of surface traffic and that is anticipated to continue through the planning period.

**FACILITY REQUIREMENT:** Any future development projects will need to consider the impacts of particulate material and the local environment, including air quality, water quality, as well as other resources.

**Water Quality**

The Airport is on an upland plain near the Row River. Drainage over the site is generally from the west towards the river. Flooding driven by the Row River overflowing into adjacent low-lying areas is a periodic issue and primarily affects the northern end of the runway.

However, flooding related to insufficient drainage on the Airport has not been an issue.

**FACILITY REQUIREMENT:** Due to the proximity to the Row River, it would be difficult to add additional water filtration or impoundment measures between the paved surfaces and the river. However, any further development on the Airport should consider the effects of impervious surface runoff on the water quality of nearby waterways and reasonable efforts to mitigate any issues should be made.

Historically, stabilization of the Row River bank at the north end of the runway has been a recurring issue at the Airport. Previous attempts to address the problem through slowing the flow of the river in that area with large off-bank boulders have proven unsuccessful.

**FACILITY GOAL:** The bank stabilization issue at the north end of the Airport should be investigated and addressed in order to prevent erosion from encroaching further onto the airfield.

**Endangered and Threatened Species**

The Federal Government has classified several species of plants and animals as threatened and endangered through legislation such as Endangered Species Act, Migratory Bird Act, and the Lacey Act among others. Under these acts, these species and their habitats are provided special protections. A detailed breakdown of species classified as threatened and endangered that are potentially present in the area of the Airport can be found in Section 2.6.2. Table 4A below summarizes the species, their status and the likelihood of their impacting the operations of the Airport.

**FACILITY REQUIREMENT:** Any activity on the Airport, including future development, will need to consider impacts to these species under the Endangered Species Act as well as other legislation and policies that provide protection to endangered and threatened flora and fauna.

Table 4A: Endangered and Threatened Species				
Species	Federal Status	State Status	Potential Habitat Area	Probability of Impact
Streaked Horned Lark	Threatened	None	Runway & taxiway areas	Low-Moderate
Western Pond Turtle	Species of Concern	Sensitive-Critical	All Airport property, especially forested riparian area east of the runway	Moderate
Townsend’s Big-eared Bat	Species of Concern	Sensitive-Critical	Forested riparian areas east of runway	Low-Moderate

### **Wetland and Floodplains**

Based on the National Wetland Inventory (NWI) and local wetland inventories, there are wetlands on the east side of the Airport, along the west bank of the Row River. It should also be noted that drainage areas are not mapped waters of the US, but they may be considered jurisdictional waters under review of the US Army Corps of Engineers.

**FACILITY REQUIREMENT:** A formal wetland determination will need to be prepared to identify any changes in wetland condition or regulatory status prior to any future development.

Approximately half of the northerly existing runway falls within the 100-year floodzone. Additionally, the northernmost 700 feet of the runway is located in Row River floodway. Historically, that end of the Airport has been prone to flooding.

**FACILITY REQUIREMENT:** Prior to future development, the project sites should be checked to identify any changes in flood zone classification or regulatory status.

### **Energy Supply and Natural Resources**

Airport operations and development, especially construction activities, can have an impact on the availability of energy and natural resources available in the area. In general, construction materials are not in short supply, fuel is readily available and the site has adequate electrical supply to power the site. It is not anticipated that the current conditions will change significantly over the course of the planning period.

### **Solid Waste**

Typically, GA airports do not produce significant quantities of solid waste. There are no dump sites or areas of potential aggregation on the property or in the immediate vicinity. These conditions are not anticipated to change over the course of the planning period.

### **Hazardous Materials**

The Airport has one commercial fueling site. There is potential for additional contamination anywhere maintenance or fueling takes place, as a result of accidental spills. In addition to fueling, aircraft maintenance activities may also have contributed to spills. No detailed exploration of spill or contamination history has occurred on the Airport.

**FACILITY REQUIREMENT:** Any areas where construction is proposed will need to undergo some

level of due diligence, such as a Phase I 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.

**FACILITY REQUIREMENT:** Once construction activities are identified, construction timing, phasing and mitigation measures need to be considered.