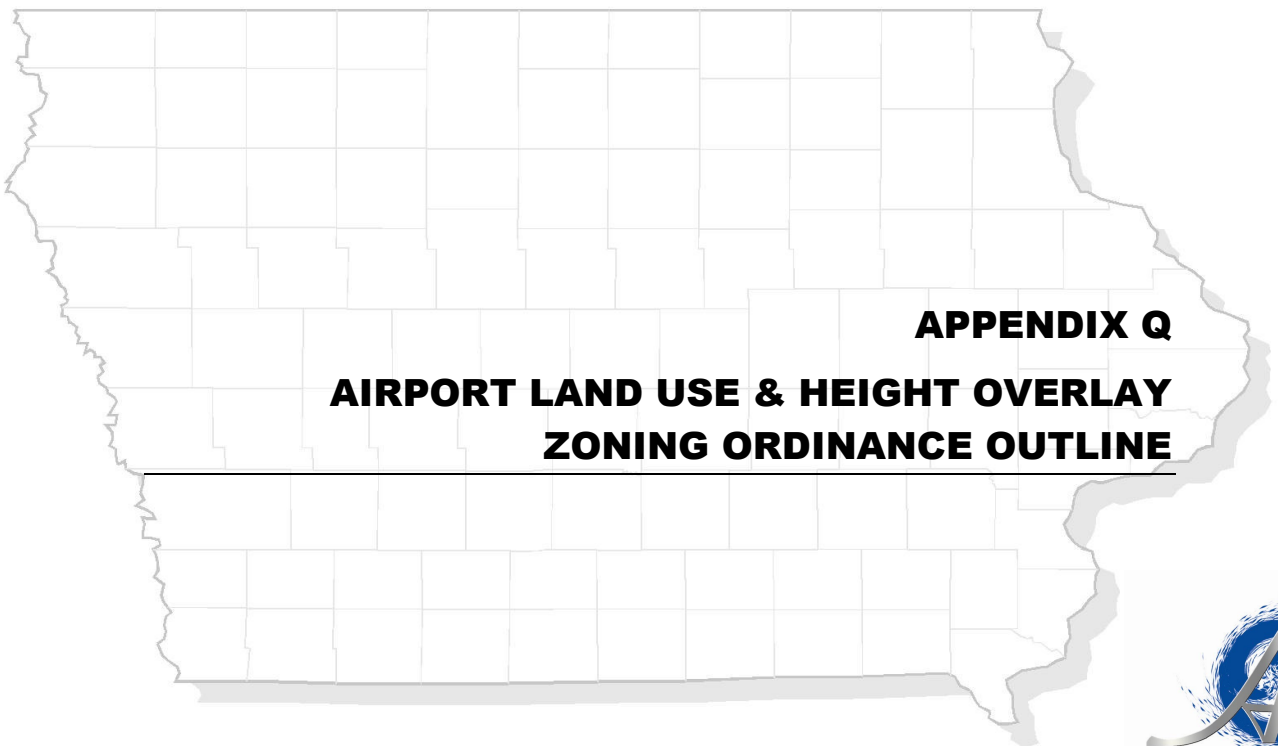




Iowa Airport Land Use Guidebook



**APPENDIX Q
AIRPORT LAND USE & HEIGHT OVERLAY
ZONING ORDINANCE OUTLINE**





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Airport Land Use & Height Overlay Zoning Ordinance Outline

The following outline is intended to provide municipalities with guidance to develop an airport land use and height overlay zoning ordinance or to update existing height limitations ordinances to include land use.

Iowa Airport Land Use Guidebook provides specific references regarding compatible land uses on and near an airport's environs and should be consulted when drafting an Airport Land Use & Height Overlay Zoning Ordinance. The following outline can be tailored to meet the specific needs and requirements of local communities.

Sample sections of an ordinance may include:

- Section 1-Introduction
- Section 2-Authority
- Section 3-Statement of Purpose and Findings
- Section 4-Short Title
- Section 5-Applicability
- Section 6-Definitions
- Section 7-Air Space Obstruction Zoning
- Section 8-Land Use Safety Zoning
- Section 9-Airport Overlay Zoning Map
- Section 10-Ordinance Administration
- Section 11-Airport Overlay Zoning Permits
- Section 12-Hazardous Markings and Lighting
- Section 13-Height Limitation
- Section 14-Variances
- Section 15-Appeals
- Section 16-Judicial Review
- Section 17-Penalties
- Section 18-Conflicting Regulations
- Section 19-Severability
- Section 20-Effective Date
- Exhibit A-Airport Overlay Zoning Map



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Each sample section contained herein includes a brief narrative that describes the purpose of the specific section, as well as sample language, which may be utilized in the development of an individual ordinance.

Section 1-Title and Introduction

This section identifies the title and provides an introduction to the Ordinance.

- **Sample Text**

_____ AIRPORT LAND USE &
HEIGHT OVERLAY ZONING ORDINANCE CREATED BY THE

This Ordinance shall regulate and restrict the height of structures, objects, and growth of natural vegetation, as well as land uses; otherwise regulating the use of property, within the vicinity of the _____ Airport. Creation of appropriate zones and establishing the boundaries thereof, as well as providing for changes in the restrictions and boundaries of such zones is vested in this Ordinance. _____ Airport Land Use & Height Zoning Maps, are incorporated into and made part of this Ordinance. The Ordinance also provides for the enforcement of the Ordinance, the establishment of a Board of Adjustment; and imposition of penalties related to the implementation of the Ordinance.

Section 2-Authority

This section identifies the specific legislation that allows municipalities the right to zone airport jurisdictional boundaries.

- **Sample Text**

Iowa Code Section 329.3 *Airport Zoning* empowers local municipalities to zone airports including height restrictions and land uses.



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Section 3-Statement of Purpose and Findings

This section establishes the importance of the airport to the community while acknowledging hazards posed to public health, safety, and quality of life to individuals impacted by airport operations. For detailed descriptions of potential airport hazards, refer to the *Iowa Airport Land Use Guidebook* Chapter 3 *Compatibility Concerns*.

- **Sample Text**

The _____ Airport is acknowledged as an essential public facility to the State of Iowa and the local community.

The creation or establishment of an airport hazard is a public nuisance and poses a potential concern to the surrounding communities served by _____ Airport.

There shall be no creation or establishment of a hazard that endangers public health, safety, welfare, and impacts an individuals quality of life nor prevents the safe movement of aircraft at the _____ Airport.

For the protection of the public health, safety, and general welfare, and for the promotion of the most appropriate use of land, it is necessary to prevent the creation or establishment of airport hazards.

The prevention of airport hazards shall be accomplished, to the extent legally possible, by proper exercise of the police power.

The prevention of new airport hazards, and the elimination, removal, alteration, mitigation, or marking and lighting of existing airport hazards, are considered to be a public purpose for which _____ (City/County) may raise and expend public funds, as an incident to the operation of airports, to acquire or property interest therein.



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Section 4-Short Title

The intent of this section is to establish the short title of the Ordinance.

- **Sample Text**

This Ordinance shall be known and may be cited as _____, and it is referred to as “the Ordinance” within the following sections.

Section 5-Applicability

This section identifies the jurisdictional boundaries and those properties encompassed within the airport overlay zones. In addition, the official Airport Land Use & Height Overlay Zoning Maps should be attached to the Ordinance in an appendix or as an exhibit. In some instances, runway dimensions and approach types may be specified for each runway at the airport. A more general description of the vicinity of the airport may be used.

- **Sample Text**

This ordinance encompasses a general area around the _____ Airport including a _____ mile boundary. Specific dimensions associated with the zoning boundary are shown in the Airport Land Use & Height Overlay Zoning Maps.

Section 6-Definitions

This section defines terms contained within the Airport Land Use & Height Overlay Zoning Ordinance. Use of these definitions in whole or part is at the discretion of the local community as an ordinance is developed. Additional definitions may need to be included to accurately define text contained in the ordinance for each municipality.

- **Sample Text**

The following definitions shall be utilized for terms as appropriate to the Ordinance.



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Air Traffic. *(FAA FAR Sec. 1.1)*

Aircraft operating in the air or on an airport surface, exclusive of loading ramps and parking areas.

Airport. *(FAA FAR Sec. 152.3)*

Any areas of land or water that is used, or intended for use, for the landing and takeoff of aircraft. Any appurtenant areas that are used, or intended for use, for airport buildings, other airport facilities, or rights-of-way; and all airport buildings and facilities located on the areas specified in this definition. The _____
Airport owned by the _____ (City/County)

Airport Elevation. *(FAA AC 150/5190-4A)*

The highest point on an airport's usable landing area measured in feet from sea level.

Airport Environs.

The land use and people in the areas surrounding an airport which can be directly affected by the operation of the airport.

Airport Hazard. *(FAA FAR Sec. 152.3)*

Any structure or object of natural growth located on or in the vicinity of a public airport, or any use of land near a public airport that obstruct the airspace required for the flight of aircraft landing or taking off at the airport; or is otherwise hazardous to aircraft landing or taking off at the airport.

Airport Layout Plan (ALP). *(FAA FAR Sec. 152.3)*

The plan of an airport showing the layout of existing and proposed airport facilities.

Airport Overlay Zones.

A zone intended to place additional land use conditions on land impacted by the airport while retaining the existing underlying zone. The FAR Part 77 Surfaces and RPZs have been combined to create five airport overlay zones. The five specific zones create a comprehensive area focused on maintaining compatible land use around airports.



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- **Zone A-** is intended to provide a clear area that is free of above ground obstructions and structures. This zone is closest to the individual runway ends.
- **Zone B-** is a critical overlay surface that reflects the approach and departure areas for each runway at an airport. The size of Zone B is predicated upon the type of approach (visual, non-precision, or precision) that a specific runway has and the type/size of aircraft utilizing the runway.
- **Zone C-** includes those areas that are parallel to the runway pavement and extend 1,050' from the edge of the primary surface.
- **Zone D-** is typically elliptical in shape, depending upon the runway types and configurations at an individual airport.
- **Zone E-** is the outermost zone of the overlay areas and has the least number of land use restriction considerations. The zone begins at the edge of the horizontal surface and is 4,000 feet in width paralleling the horizontal surface.

Airport Reference Code (ARC). *(FAA Web site)*

The ARC is an FAA coding system used to relate airport design criteria to the operational and physical characteristics of the airplanes intended to operate at the airport.

Airport Reference Point (ARP). *(FAA AC 150/5300-13)*

The latitude and longitude of the approximate center of the airport.

Airport Zoning Permit.

Airport zoning permit allowing new development or alteration or expansion of a nonconforming use.

Airside. *(FAA Web site)*

That portion of the airport facility where aircraft movements take place, airline operations areas, and areas that directly serve the aircraft, such as taxiway, runway, maintenance and fueling areas.



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Airspace. *(FAA Web site)*

The space lying above the earth or above a certain area of land or water that is necessary to conduct aviation operations.

Approach and Runway Protection Zone Map.

The approach and Runway Protection Zone Map is compiled from the criteria in FAR Part 77, "Objects Affecting Navigable Airspace." It shows the area affected by the Airport Overlay Zoning Ordinance, and includes the layout of runways, airport boundaries, elevations, and area topography. Applicable height limitation areas are shown in detail.

Approach Slopes. *(FAR Part 77)*

The ratios of horizontal to vertical distance indicating the degree of inclination of the Approach Surface. The various ratios include:

- **20:1.** For all utility and visual runways extended from the primary surface a distance of 5,000 feet.
- **34:1.** For all non-precision instrument runways extended from the primary surface for a distance of 10,000 feet.
- **50:1/40:1.** For all precision instrument runways extending from the primary surface for a distance of 10,000 feet at an approach slope of 50:1 and an additional 40,000 feet beyond this at a 40:1 Approach Slope.

Approach Surface. *(FAA AC 150/5190-4A)*

A surface longitudinally centered on the extended runway centerline, extending outward and upward from the end of the primary surface and at the same slope as the approach zone height limitation slope set forth in this Ordinance. In plan the perimeter of the approach surface coincides with the perimeter of the approach zone.

Avigation Easement. *(FAA Web site)*

A grant of a property interest in land over which a right of unobstructed flight in the airspace is established.



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Building Codes. *(The Practice of Local Government Planning)*

Codes, either local or state, that control the functional and structural aspects of buildings and/or structures. Local ordinances typically require proposed buildings to comply with zoning requirements before building permits can be issued under the building codes.

Commercial Uses.

Commercial uses means a use category including land uses or activities involving the production, processing, manufacturing, or sale of goods or services for financial gain, including uses that provide merchandise to the general public. Accessory uses may include offices, storage, food service, or other amenities primarily for the use of employees and parking.

Compatibility.

The degree to which land uses or types of development can coexist or integrate.

Easement. *(FAA AC 5020-1)*

The legal right of one party to use a portion of the total rights in real estate owned by another party. This may include the right of passage over, on, or below property; certain air rights above the property, including view rights; and the rights to any specified from of development or activity, as well as any other legal rights in the property that may be specified in the easement document.

Federal Aviation Administration (FAA). *(FAA Web site)*

A federal agency charged with regulating air commerce to promote its safety and development; encourage and develop civil aviation, air traffic control, air navigation; and promoting the development of a national system of airports.

Federal Aviation Regulations (FAR). *(FAA FAR)*

Regulations established and administered by the FAA that govern civil aviation and aviation-related activities.

- **FAR Part 36.** *(FAA FAR Sec. 36.1)*
Regulation establishing noise standards for the civil aviation fleet.



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- **FAR Part 91.** (*FAA FAR Sec. 91.1*)
Regulation pertaining to air traffic and general operating rules, including operating noise limits.
- **FAR Part 150.** (*FAA FAR Sec. 150.1*)
Regulation pertaining to airport noise compatibility planning.
- **FAR Part 161.** (*FAA FAR Sec. 161.1*)
Regulation pertaining to notice and approval of airport noise and access restrictions.
- **FAR Part 77.** (*FAA FAR Sec. 77.1*)
Objects Affecting Navigable Airspace - Part 77 (a) establishes standards for determining obstructions in navigable airspace; (b) defines the requirements for notice to the FAA Administrator of certain proposed construction or alteration; (c) provides for aeronautical studies of obstructions to air navigation to determine their effect on the safe and efficient use of airspace; (d) provides for public hearings on the hazardous effect of proposed construction or alteration on air navigation; and (e) provides for establishing antenna farm areas.

General Aviation Airport.

Any airport that is not an air carrier airport or a military facility.

Height.

Height is utilized for the purpose of determining the height limits in all zones set forth in this Ordinance and shown on the Official Height Zoning Map; height shall be measured as the highest point of a structure, tree, or other object of natural growth, measured from the mean sea level elevation unless otherwise specified.

Hold Harmless Agreement.

An agreement which holds airport sponsors or jurisdictions harmless for alleged damages resulting from airport operations. Such agreements are recorded in deeds or permits as a condition of approval of a regulatory land use decision.



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Industrial, Wholesale Trade, and Storage Uses.

A use category including the following use types:

(a) Industrial development or uses involved in the research, design, manufacturing, processing, fabrication, packaging, or assembly of goods. Natural, man-made, raw, secondary, or partially completed materials may be used. Products may be finished or semi-finished and are generally made for the wholesale market, for transfer to other plants, or to order for firms or customers. Goods are generally not displayed or sold on site, but if so, they are a subordinate part of sales (typically 10% or less of the total gross floor area). Relatively few customers come to the site.

(b) Industrial, manufacturing, wholesale trade, and warehouse/storage uses including uses that produce goods from raw or finished materials, uses that distribute goods in large quantities to primarily wholesale customers, or provide for storage or warehousing of goods, either in enclosed buildings or outdoors. Few customers, especially the general public, come to the site. Accessory activities may include sales, offices, parking, and storage.

Imaginary Surfaces. *(FAA FAR Part 77.25)*

Those areas established in relation to the airport and to each runway consistent with FAR Part 77 in which any object extending above these imaginary surfaces, by definition, is an obstruction.

- **Transitional surface.**

The transitional surface extends outward and upward at right angles to the runway centerline and extend at a slope of seven feet horizontally for each one foot vertically (7:1) from the sides of the primary and approach surfaces. The transitional surfaces extend to the point at which they intercept the horizontal surface at a height of 150 feet above the established airport elevation.



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- **Horizontal surface.**

The horizontal surface is a horizontal plane located 150 feet above the established airport elevation and encompasses an area from the transitional surface to the conical surface. The perimeter is constructed by generating arcs from the center of each end of the primary surface and connecting the adjacent arcs by lines tangent to those arcs.
- **Conical surface.**

The conical surface extends upward and outward from the periphery of the horizontal surface at a slope of 20 feet horizontally for every one foot vertically (20:1) for a horizontal distance of 4,000 feet.
- **Approach surface.**

The approach surface is longitudinally centered on the extended runway centerline and extends outward and upward from the end of the runway primary surface. The approach slope of a runway is a ratio of 20:1, 34:1, or 50:1, depending on the approach type. The length of the approach surface varies from 5,000 to 50,000 feet and also depends upon the approach type.

Incompatible Land Use. *(FAA FAR Sec. 150.7)*

The use of land which is normally incompatible with the aircraft and airport operations (such as, but not limited to, homes, schools, nursing homes, hospitals, and libraries).

Instrument Approach Procedure. *(FAA Pilot/Controller Glossary)*

A series of predetermined maneuvers for the orderly transfer of an aircraft under instrument flight conditions from the beginning of the initial approach to a landing or to a point from which a landing may be made visually. It is prescribed and approved for a specific airport by competent authority.

Instrument Flight Rules (IFR). *(FAA Pilot/Controller Glossary)*

Rules governing the procedure for conducting instrument flight. In addition, it is a term used by pilots and controllers to indicate a type of flight plan.



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Instrument Landing System (ILS). *(FAA Pilot/Controller Glossary)*

A precision instrument approach system which normally consists of the following electronic components and visual aids: localizer, glideslope, outer marker, middle marker, and approach lights.

Itinerant Operation. *(FAA AC 150/5325-4B)*

Takeoff or landing operations of airplanes going from one airport to another airport that involves a trip of at least 20 miles. Local operations are excluded.

Land Use Compatibility. *(FAA Web site)*

The coexistence of land uses surrounding the airport with airport-related activities.

Lighting and Marking of Hazards to Air Navigation.

Installation of appropriate lighting fixtures, painted markings or other devices to such objects or structures that constitute hazards to air navigation.

Mitigation. *(FAA Web site)*

The avoidance, minimization, reduction, elimination or compensation for adverse environmental effects of a proposed action.

Navigation Aids (NAVAID). *(FAA Web site)*

Any facility used by an aircraft for guiding or controlling flight in the air or the landing or take-off of an aircraft.

Navigable Airspace.

The airspace above minimum altitude for safe flight, and includes the airspace needed to ensure safety in take-off and landing of aircraft.

Noise Exposure Contours. *(FAA Web site)*

Lines drawn around a noise source indicating constant energy levels of noise exposure. DNL is the measure used to describe community exposure to noise.

Noise Impact.

A condition that exists when the noise levels that occur in an area exceed a level identified as appropriate for the activities in that area.



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Noise Sensitive Area. *(FAA AC 91-36D)*

Defined as an area where noise interferes with normal activities associated with the area's use. Examples of noise-sensitive areas include residential, educational, health, and religious structures and sites, and parks, recreational areas (including areas with wilderness characteristics), wildlife refuges, and cultural and historical sites where a quiet setting is a generally recognized feature or attribute..

Non-Conforming Use. *(FAA Web site)*

Any pre-existing structure, tree, or use of land that is inconsistent with the provisions of the local land use or airport master plans.

Non-Precision Instrument Runway. *(FAA AC 150/5190-4A)*

A runway having an existing instrument approach procedure utilizing air navigation facilities with only horizontal guidance, or area type navigation equipment, for which a straight-in non precision instrument approach procedure has been approved or planned.

Object. *(FAA AC 150/5300-13)*

Includes, but is not limited to above ground structures, NAVAIDSs, people, equipment, vehicles, natural growth, terrain, and parked aircraft.

Obstacle Free Zone (OFZ). *(FAA 150/5300-13)*

The OFZ is the airspace below 150 feet (45 m) above the established airport elevation and along the runway and extended runway centerline that is required to be clear of all objects, except for the frangible visual NAVAID's that need to be located in the OFZ because of their function, in order to provide clearance protection for the aircraft landing or taking off from the runway, and for missed approaches.

Obstruction. *(FAA AC 150/5190-4A)*

Any structure, growth, or other object, including a mobile object, which exceeds a limiting height, specific to its geographic location relative to the runway/airport.

Off-Airport Property. *(FAA Web site)*

Property that is beyond the boundary of land owned by the airport sponsor.



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On-Airport Property. *(FAA Web site)*

Property that is within the boundary of land owned by the airport sponsor.

Overlay Zone. *(FAA Web site)*

A mapped zone that imposes a set of requirements in addition to those of the underlying zoning district.

Part 150 Study. *(FAA Web site)*

Part 150 is the abbreviated name for the airport noise compatibility planning process outlined in Part 150 of the Federal Aviation Regulation (FAR) that allows airport owners to voluntarily submit noise exposure maps and noise compatibility programs to the FAA for review and approval. See "Noise Compatibility Plan."

Primary Surface. *(FAA AC 150/5190-4A)*

A surface longitudinally centered on a runway. When the runway has a specially prepared hard surface, the primary surface extends 200 feet beyond each end of that runway; for military runways or when the runway has no specially prepared hard surface, or planned hard surface, the primary surface ends at each end of that runway. The width of the primary surface is set forth in FAR Part 77. The elevation of any point on the primary surface is the same as the elevation of the nearest point on the runway centerline.

Primary Runway. *(FAA AC 150/5325-4B General Definition)*

The runway used for the majority of airport operations. Large, high-activity airports may operate two or more parallel primary runways.

Public Assembly Use.

Means a structure or outdoor facility where concentrations of people gather for purposes such as deliberation, education, shopping, business, entertainment, amusement, sporting events, or similar activities, but excluding air shows. "Public assembly use" does not include places where people congregate for relatively short periods of time, such as parking lots and bus stops, or uses approved by the FAA in an adopted airport master plan.



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Public Use Airport. *(FAA AC 150/5190-6)*

Means either a publicly owned airport or a privately owned airport open for public use.

Residential and Accommodation Uses.

Mean a use category that includes the following use types:

(a) Residential uses that provide living accommodations, including sleeping, eating, cooking and sanitary facilities, to one or more persons, and where tenancies typically last longer than 30 days.

(b) Accommodation uses characterized by visitor-serving facilities that provide temporary lodging in guest rooms or guest units, for compensation, and with an average length of stay of less than 30 days. Accessory uses may include pools and other recreational facilities for the exclusive use of guests, limited storage, restaurants, bars, meeting facilities, and offices.

Runway Protection Zone (RPZ). *(FAA AC 150/5300-13)*

An area off the runway end designed to enhance the protection of people and property on the ground.

Runway Safety Area. *(FAA AC 150/5300-13)*

A defined surface surrounding the runway prepared or suitable for reducing the risk of damage to airplanes in the event of an overshoot, or excursion from the runway.

Structure.

Any object constructed or installed by humans, including, but without limitation, buildings, towers, smokestacks, and overhead transmission lines, including the poles or other structures supporting the same.

Utility Runway.

A utility runway constructed for and intended to be used by propeller driven aircraft of 12,500 pounds gross weight or less.



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Variance. *(FAA Web site)*

An authorization for the construction or maintenance of a building or structure, or for the establishment or maintenance of a use of land that is prohibited by a zoning ordinance. A lawful exception from specific zoning ordinance standards and regulations predicated on the practical difficulties and/or unnecessary hardships on the petitioner being required to comply with those regulations and standards from which an exemption or exception is sought.

Visual Approach. *(FAA Web site)*

An approach to an airport conducted with visual reference to the terrain.

Visual Runway. *(FAA AC 150/5300-13)*

A runway without an existing or planned straight-in instrument approach procedure.

Visual Flight Rules (VFR). *(FAA FAR Sec. 170.3)*

Rules that govern the procedures for conducting flight under visual conditions. The term "VFR" is also used in the United States to indicate weather conditions that are equal to or greater than minimum VFR requirements. In addition, "VFR" is used by pilots and controllers to indicate the type of flight plan.

Wetland.

Land on which water covers the soil or is present either at or near the surface of the soil or within the root zone, all year or for varying periods of time during the year, including during the growing season. *(FAA AC 150/5200-33A)* Wetlands provide a variety of functions and can be regulated by local, state, and Federal laws. Normally, wetlands are attractive to many types of wildlife, including many, which rank high on the list of hazardous wildlife species



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Wildlife Attractants.

Means any human-made structure, land-use practice, or human-made or natural geographic feature that can attract or sustain hazardous wildlife within the landing or departure airspace or the airport's air operations area. These attractants include, but are not limited to, architectural features, landscaping, waste disposal sites, wastewater treatment facilities, agricultural or aquaculture activities, surface mining, or wetlands.

Wildlife Hazards.

Means species of wildlife (birds, mammals, reptiles), including feral animals and domesticated animals not under the control, that are associated with aircraft strike problems, are capable of causing structural damage to airport facilities, or act as attractants to other wildlife that pose a strike hazard.

Section 7-Air Space Obstruction Zones

This section establishes the standards related to height restrictions that are included in the Ordinance. Chapter 2 *Importance of Land Use Compatibility* and Chapter 4 *Airport Land Use Compatibility Zones* of the *Iowa Airport Land Use Guidebook* may be used for guidance in establishing specific standards.

Local communities may have already adopted an Airport Height Ordinance in accordance with Iowa Code. If so, then the height component should be integrated into a revised Ordinance including the Official Height Map to address both height and land use concerns. If a community has not established an Airport Height Ordinance, this component should be addressed as part of the new Ordinance.



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- **Sample text**

The Airport Height Overlay Zoning Districts established by an Ordinance adopted on ____ day of _____, 20 ____ is illustrated on the official _____ Airport Height Overlay Zoning Map consisting of ____ sheets, prepared by _____, and dated _____, attached as Exhibit ____ to this Ordinance. Such Official Height Overlay Zoning Map, may be amended, and all notations, references, elevations, data, zone boundaries, and other information thereon, is hereby adopted as part of this Ordinance.

Section 8-Land Use Safety Zones

This section identifies specific airport overlay zoning districts. Chapter 3 *Compatibility Concerns* and Chapter 4 *Airport Land Use Compatibility Zones* of the *Iowa Airport Land Use Guidebook* provide recommendations regarding the creation of specific characteristics, which may be used in the development of the Ordinance.

- **Sample text**

FAR Part 77 Surfaces and RPZs have been combined to create five airport overlay zones. These five zones are designed to maintain compatible land uses around _____ Airport. The zones shall be evaluated for compatible land uses.

8.A. Definition of Zones

Five airport overlay zoning districts are prescribed within this Ordinance. Specific dimensions for the individual zones for each runway end are noted in the following tables and text.

The Airport Land Use & Height Overlay Zoning Maps should be evaluated to determine the specific area of impact associated with each zone.



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Zone A – Runway Protection Zone (RPZ)

Zone A is intended to provide a clear area that is free of above-ground obstructions and structures. This zone is closest to the individual runway ends. The dimensional standards for this zone are the same as those described in the *Airport Design AC (AC 150/5300-13 Change 11)* and are shown in the following table.

Table Zone A Dimensional Requirements

Runway Ends	Approach Visibility Minimums ¹	Dimensions			
		Length L feet	Inner Width W ₁ feet	Outer Width W ₂ feet	RPZ acres
Runway A	X	X	X	X	X.XXX
Runway B	X	X	X	X	X.XXX
Runway C	X	X	X	X	X.XXX
Runway D	X	X	X	X	X.XXX

- ¹ The RPZ dimensional standards are for the runway end with the specified approach visibility minimums. The departure RPZ dimensional standards are equal to or less than the approach RPZ dimensional standards. When an RPZ begins other than 200 feet (60m) beyond the runway end, separate approach and departure RPZs should be provided. Refer to FAA AC 150/5300-13, Change 11, Appendix 14 for approach and departure RPZs.

Source: *FAA AC 150/5300-13, Change 11, Airport Design Standards*

Zone B – Approach Surface

Zone B is a critical airport overlay zoning surface that reflects the approach and departure areas for each runway at an airport. The size of Zone B is predicated upon the type of approach (visual, non-precision, or precision) that a specific runway has and the type/size of aircraft utilizing the runway. The following table illustrates the various sizes of Zone B based upon the specific runway criteria. A portion of Zone B is overlain by Zone A because the approach surface and RPZ overlap the entire length of the RPZ. Consequently, the length of Zone B begins at the inner edge of the RPZ.



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Table Airport Overlay Zones B-D Dimensional Standards

Item	Runway Dimensional Standards (Feet)			
	Runway A	Runway B	Runway C	Runway D
Primary surface width and Zone B inner width	X	X	X	X
Zone B end width	X	X	X	X
Zone B length	X	X	X	X
Zone C width	X	X	X	X
Zone D radius	X	X	X	X
Zone E width	X	X	X	X

Zone C – Transitional Surface

Zone C includes those areas that are parallel to the runway pavement and extend 1,050' from the edge of the primary surface paralleling the runway and extended runway centerline until they reach the end of Zone A at a 90 degree angle. The specific dimensions for Zone C are based upon various options for the primary surface that is predicated upon the type of approach and critical aircraft.

Zone D – Horizontal Surface

Zone D is typically elliptical in shape, depending upon the runway types and configurations at individual airports.

Zone E – Conical Surface

Zone E is the outermost zone of the airport overlay zoning areas and has the least number of land use restriction considerations. The zone begins at the edge of the horizontal surface and is 4,000 feet in width paralleling the horizontal surface.



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8.B. Zone Compatibility

The following tables shall be utilized to evaluate land use compatibility for various land use classifications.

- Uses identified as compatible shall not require additional review, however, consideration should be given to the following five areas of concerns:
 - Noise sensitive related issues
 - High concentrations of people
 - Tall structures
 - Visual obstructions
 - Wildlife and bird attractants
- Uses found to be NOT compatible shall be precluded from development within the specific zones.
- Uses found to require additional review shall be evaluated for general compatibility utilizing the *Compatible Land Use Planning Checklist* and the five primary areas of concern noted above.



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Airport					
Zone Chart					
<i>C = Compatible</i>		<i>AR = Additional Review Required</i>		<i>NC = Not Compatible</i>	
Land Uses	Zone A	Zone B	Zone C	Zone D	Zone E
Residential Activities					
Single-Family Uses (1 dwelling per lot)					
<i>Detached Single Family Dwelling</i> (i.e. farm dwelling, detached single family house, manufactured/modular/mobile homes if converted to real property and taxed)	NC	AR	NC	AR	C
<i>Detached Zero Lot Line Dwelling</i> (i.e. condominium)	NC	AR	NC	AR	C
<i>Attached Single Family Dwelling</i> (i.e. townhouses)	NC	AR	NC	AR	C
Two Family Uses (i.e. two principal dwelling units within one building on the same parcel)	NC	AR	NC	AR	C
Multi-Family Uses (i.e. three or more principal dwelling units within a single building on the same parcel, apartments such as condominium, elder, assisted living, townhouse-style)					
<i>Low-Rise</i> (1-3 Levels)	NC	NC	NC	AR	C
<i>Mid-Rise</i> (4-12 Levels)	NC	NC	NC	AR	C
<i>High-Rise</i> (13+ Levels)	NC	NC	NC	AR	C
Group Living Uses (i.e. assisted living, group care facilities, nursing and convalescent homes, independent group living)	NC	NC	NC	AR	C
Manufactured Housing Parks	NC	NC	NC	AR	C



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Airport					
Zone Chart					
<i>C = Compatible</i>		<i>AR = Additional Review Required</i>		<i>NC = Not Compatible</i>	
Land Uses	Zone A	Zone B	Zone C	Zone D	Zone E
Commercial Activities					
Eating and Drinking Establishments (i.e. restaurants, cafes, coffee shops, fast food restaurants, bars, nightclubs, taverns, cocktail lounges)	NC	AR	AR	C	C
Quick Vehicle Servicing Uses (i.e. full-serve and mini-serve gas station, unattended card key service stations, car washes)	NC	AR	AR	C	C
Office Uses (i.e. business, government, professional, medical, or financial)					
<i>General Office</i> (i.e. professional offices, financial businesses, government offices)	NC	AR	AR	AR	C
<i>Low-Rise</i> (1-3 Levels)	NC	AR	AR	AR	C
<i>Mid-Rise</i> (4-12 Levels)	NC	NC	NC	AR	C
<i>High-Rise</i> (13+ Levels)	NC	NC	NC	AR	C
<i>Medical/Dental Office</i> (i.e. medical and dental clinics, chiropractic clinics, physical therapy clinics)	NC	AR	AR	AR	C
<i>Low-Rise</i> (1-3 Levels)	NC	AR	AR	AR	C
<i>Mid-Rise</i> (4-12 Levels)	NC	NC	NC	AR	C
<i>High-Rise</i> (13+ Levels)	NC	NC	NC	AR	C



Iowa Airport Land Use Guidebook

Airport					
Zone Chart					
<i>C = Compatible</i>		<i>AR = Additional Review Required</i>		<i>NC = Not Compatible</i>	
Land Uses	Zone A	Zone B	Zone C	Zone D	Zone E
Commercial Activities (Continued)					
Retail Uses (i.e. sale, lease, or rent of new or used products)					
<i>Sales-Oriented</i> (i.e. appliances, convenience stores, bakeries, electronics, furniture, garden supplies, gas stations, groceries, hardware, malls, strip malls, videos)	NC	AR	AR	AR	C
<i>Personal Service-Oriented</i> (i.e. retail service-banking establishments, laundromats/dry cleaning, quick printing services, beauty/tanning salons, funeral homes)	NC	AR	AR	AR	C
<i>Repair-Oriented</i> (i.e. consumer goods-electronics, office equipment, appliances)	NC	AR	AR	AR	C
<i>Hospitality-Oriented</i> (hotels, motels, convention centers, meeting halls, event facilities)	NC	NC	NC	AR	C
<i>Low-Rise</i> (1-3 Levels)	NC	AR	AR	AR	C
<i>Mid-Rise</i> (4-12 Levels)	NC	NC	NC	AR	C
<i>High-Rise</i> (13+ Levels)	NC	NC	NC	AR	C
<i>Outdoor Storage and Display-Oriented</i> (i.e. outdoor storage-lumber yards, vehicles sales, landscape material and nursery product sales, farm supply and equipment sales)	NC	AR	AR	AR	C
Surface Passenger Services (i.e. passenger terminals for buses, rail services, local taxi and limousine services)	NC	AR	AR	C	C
Vehicle Repair Uses (i.e. vehicle repair or service shops, alignment shops, tire sales)	NC	AR	AR	C	C



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Land Uses	Zone A	Zone B	Zone C	Zone D	Zone E
Industrial/Manufacturing Activities					
Industrial Service Uses (i.e. machine shops, tool repair, towing and vehicle storage, building supply yards, heating/plumbing/electrical contractors, exterminators, janitorial services, fuel oil distributors, solid fuel yards)	NC	AR	AR	AR	C
Manufacturing and Production Uses (i.e. manufacturing, processing, fabrication, packaging or assembly of goods)					
<i>Technical/Light Manufacturing</i> (i.e. electrical components, engineering, scientific and research, office, computer hardware/software, optical, pharmaceuticals, printing/photo facilities, publishing)	NC	AR	AR	AR	C
<i>General Manufacturing</i> (i.e. manufacturing, compounding, assembling or treatment of most articles, materials, or merchandise)	NC	AR	AR	AR	C
<i>* Heavy Manufacturing</i> (i.e. concrete and asphalt plants, meat packing plants, wet corn milling, manufacturing of animal feed, paper/paperboard mills, ethanol plants)	NC	NC	NC	AR	C
Mining and Extraction Uses	NC	NC	NC	AR	C
Salvage Operations (i.e. firms that collect, store, and dismantle damaged or discarded vehicles, machinery, appliances, and building material)	NC	C	NC	C	C

* Heavy Manufacturing typically has excessive smoke, dust, or hazardous waste.



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Land Uses	Zone A	Zone B	Zone C	Zone D	Zone E
Industrial/Manufacturing Activities (Continued)					
Self-Service Storage Uses (i.e. mini-warehouses/storage facilities)	NC	C	AR	C	C
Warehouse and Freight Uses (i.e. major wholesale distribution centers, general freight storage, railroad switching yards, bus/rail car storage lots, parcel service, grain terminals)	NC	C	AR	C	C
Waste-Related Uses (i.e. recycling centers, sanitary landfills, waste transfer stations, composting, energy recovery plants, sanitary and water treatment facilities, sanitary collection/pumping facilities, hazardous waste collection sites)	NC	NC	NC	AR	AR
Wholesale Sales Uses (i.e. sale, lease, or rental of products to retailers for industrial, institutional, or commercial business users)	NC	AR	AR	AR	C

* Heavy Manufacturing typically has excessive smoke, dust, or hazardous waste.



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Land Uses	Zone A	Zone B	Zone C	Zone D	Zone E
Institutional Activities					
Basic Utility Uses (i.e. utility substation facilities, electrical substations, water and sewer lift stations, water towers)	NC	AR	NC	AR	C
College and Universities (i.e. public or private colleges and universities, technical colleges, seminaries)	NC	NC	NC	AR	C
Community Service Uses (i.e. public, nonprofit, or charitable nature providing a local service to the people)					
<i>General Community Service</i> (i.e. libraries, museums, transit centers, park and ride facilities, senior/community/neighborhood centers, police and fire stations)	NC	AR	AR	AR	C
<i>Community Service-Shelter</i> (i.e. transient housing)	NC	AR	AR	AR	C
Daycare Uses (i.e. childcare centers, adult daycare, preschools, after school programs)	NC	NC	NC	AR	C
Detention Facilities (i.e. prisons, jails, probation centers, juvenile detention homes, halfway houses)	NC	NC	NC	AR	C
Educational Facilities (i.e. public and private schools)					
<i>General Educational Facilities</i> (i.e. public and private elementary, middle, junior, and senior high schools including religious, boarding, military schools)	NC	NC	NC	AR	C
<i>Specialized Education Facilities</i> (i.e. specialized trade, business, or commercial courses, nondegree-granting schools)	NC	NC	NC	AR	C
Hospitals (i.e. hospitals, medical centers)	NC	NC	NC	AR	C
Religious Assembly Uses (i.e. churches, temples, synagogues, mosques, Masonic, eagles, moose, or elk lodges)	NC	NC	NC	AR	C



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Land Uses	Zone A	Zone B	Zone C	Zone D	Zone E
Infrastructure Activities					
Communication Transmission Facility Uses (i.e. broadcast, wireless, point to point, emergency towers and antennae)	NC	NC	NC	AR	AR
Parking Uses (i.e. ground lots, parking structures)	AR	C	AR	C	C
Transportation Uses (i.e. highways, interstates, local and county roads)	AR	C	C	C	C
Utility Uses (i.e. solar power generation equipment, wind generators, wind farms)	NC	NC	NC	AR	AR



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Land Uses	Zone A	Zone B	Zone C	Zone D	Zone E
Infrastructure Activities					
Agricultural Uses (i.e. commercial cultivation of plants, livestock production)					
<i>Plant-related</i> (i.e. crop farming, vegetable, fruit, and tree, wholesale plant nurseries)	AR	AR	AR	C	C
<i>Animal-related</i> (i.e. livestock operations, dairy farms, horse farms)	AR	AR	AR	C	C
<i>Resident-related</i> (i.e. single-family home, mobile home if converted to real property and taxed)	NC	AR	NC	AR	C
<i>Facility-related</i> (i.e. fuel bulk storage/pumping facility, grain elevator, livestock/seed/grain sales)	NC	NC	NC	AR	AR
Floodplains	AR	AR	AR	C	C
Water Bodies (i.e. open bodies containing water)					
<i>Man-made resources</i> (i.e. mining and extraction, water detention ponds, wetlands)	NC	AR	AR	AR	AR
<i>Naturally occurring</i> (i.e. lakes, ponds, prairie pot holes, rivers, streams, wetlands)	NC	AR	AR	C	C
Wildlife Preservation Areas (i.e. petting zoos, wildlife rehabilitation centers, zoos)	NC	NC	NC	AR	C



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Land Uses	Zone A	Zone B	Zone C	Zone D	Zone E
Parks and Recreation Activities					
Commercial Recreational Uses (i.e. facilities used for physical exercise, recreation, or culture)					
<i>Outdoor</i> (i.e. campgrounds, tennis/swimming facilities, drive-in theaters, skating rinks, pavilions, amphitheaters)	NC	NC	NC	AR	C
<i>Indoor</i> (i.e. physical fitness centers, health clubs, bowling alleys, skating rinks, billiard halls, arcades, indoor theaters)	NC	AR	NC	AR	C
<i>Golf</i> (i.e. golf driving ranges, outdoor miniature golf, 9+ hole courses)	NC	AR	NC	C	C
Utility Uses (i.e. amusement/theme parks, fairgrounds, racetracks, sports arenas)	NC	NC	NC	AR	AR
Parks (i.e. aquatic, mini, private, sports, neighborhood, school, community)	NC	AR	NC	C	C
Casino	NC	NC	NC	AR	C



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SECTION 9-Airport Overlay Zoning Maps

This section provides the official Airport Land Use & Height Overlay Zoning Maps as part of the Ordinance.

- **Sample Text**

The Airport Land Use & Height Overlay Zoning Districts established by this Ordinance are shown on the _____ Airport Land Use & Height Overlay Zoning Maps consisting of ___ sheets, prepared by _____, and dated _____, attached as Exhibit__ to this Ordinance. Such Official Airport Land Use & Height Overlay Zoning Maps, may be amended, and all notations, references, elevations, data, zone boundaries, and other information thereon, is hereby adopted as part of this Ordinance.

SECTION 10-Ordinance Administration

This section identifies the entity who will administer and enforce the regulations prescribed in the Ordinance. This section will also define the powers given to the administrator to exercise their duties and procedures within the provision of the Ordinance.

- **Sample Text**

It shall be the duty of the _____ referred to herein as the “Airport Zoning Administrator”, to administer the regulations prescribed herein. Applications for permits and variances shall be made to the Airport Zoning Administrator upon forms furnished by the Airport Zoning Administrator. Applications for action by the Board of Adjustment shall be forthwith transmitted by the Airport Zoning Administrator should an applicant request review. Permit applications shall be either granted or denied by the Airport Zoning Administrator according to the regulations prescribed herein.



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SECTION 11-Airport Overlay Zoning Permits

This section is to establish requirements for application and review of Airport Land Use & Height Overlay Zoning Permits. The application requirements should include specific information such as but not limited to:

- Contact information
- Site plan review
- Building construction materials
- Building/structure height

The use of the *Compatible Land Use Planning Checklist* found in **Appendix J** of the *Iowa Airport Land Use Guidebook*, which can assist in the review of land uses as part of the permitting process. **Chapter 5** of the *Iowa Airport Land Use Guidebook* can also be utilized during the implementation processes when establishing this section of the Ordinance.

- **Sample Text**

It shall be the duty of the applicant to provide the Airport Zoning Administrator with sufficient information to evaluate the proposed action. This information shall include but not be limited to the following as noted in the *Compatible Land Use Planning Checklist*:

- Contact information
- Structure information
- Site information
- Drawing information
- Certification
- Identify current and potential compatibility concerns

The Airport Zoning Administrator shall evaluate the proposal based upon information provided by the applicant. The Airport Zoning Administrator shall approve the permit if after evaluation, the proposed project is found to be adequately compatible. Should the proposed project be found to be incompatible after review, the Airport Zoning Administrator shall deny the permit. Should the permit be denied, the applicant shall have the right to request a variance or an appeal as prescribed in this Ordinance.



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SECTION 12-Hazardous Markings and Lighting

This section provides for safe aircraft operations, as well as the health, safety, and welfare of individuals on the ground within the vicinity of the airport by identifying lighting and marking requirements.

- **Sample Text**

Lighting and marking requirements will be determined through an FAA 7460-1 airspace analysis.

The owner of any structure, object, natural vegetation, or terrain is hereby required to install, operate, and maintain such markers, lights, and other aids to navigation necessary to indicate to the aircraft operators in the vicinity of an airport the presence of an airport hazard. Hazardous markers and lights shall be installed, operated, and maintained at the expense of _____.

SECTION 13-Height Limitations

This section provides for safe aircraft operations, as well as the health, safety, and welfare of individuals on the ground within the vicinity of the airport by defining height limitations.

- **Sample Text**

No structure, object, natural vegetation, or terrain shall be erected, altered, allowed to grow or be maintained within any airport zoning district established by this Ordinance to a height in excess of the applicable height limitations set forth in the _____ Ordinance. The _____ Airport Ordinance is considered to be part of this Ordinance and is incorporated herein. The permitted height shall not exceed the difference between the grade elevation and the height limitation numbers illustrated on the "Official _____ Airport Height Overlay Map" within the various airport zoning districts encompassed by this Ordinance. The _____ Airport Height Overlay Map is located in the _____ office.



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An FAA 7460-1 airspace review shall provide a portion of the information necessary to evaluate potential height impacts. However, it shall not be the sole source of review.

SECTION 14-Variances

This section establishes criteria for the variance process, as well as identifies the entity responsible for the implementation and enforcement of variance applications. Iowa Code Chapter 329 *Airport Zoning* provides guidance when establishing airport zoning ordinances, which can be found at the following web site: www.legis.state.ia.us

- **Sample Text**

Any person desiring to erect, alter, or increase the height of any structure, object, or to permit the growth of any natural vegetation, or otherwise use his property in violation with any section of this Ordinance, may apply to the Board of Adjustment for variance from such regulation. No application for variance to the requirements of this Ordinance may be considered by the Board of Adjustment unless a copy of the application has been submitted to the _____ Airport Zoning Administrator for an opinion as to the aeronautical effects of the variance.

SECTION 15-Appeals

This section defines the appeals process. This may be similar or even identical to existing procedures outlined in an existing ordinance.

- **Sample Text**

Any person, property owner, or taxpayer impacted by any decision of this Ordinance, may appeal to the Board of Adjustment.

Insert detail regarding procedures for the appeals process already in use by the adopting governing body.



Iowa Airport Land Use Guidebook

SECTION 16-Judicial Review

This section defines the method for the judicial review process. This may be similar or even identical to existing procedures outlined in an existing Ordinance.

- **Sample Text**

Any person aggrieved, or any taxpayer affected, by any decision of the Board of Adjustment, may appeal to the Court of Record as provided in Iowa Code, Section 414.15.

SECTION 17-Penalties

This section defines the method to enforce penalties for non-compliance with the Ordinance. This may be similar or even identical to existing procedures outlined in an existing ordinance.

- **Sample Text**

Any violation of this Ordinance or of any regulation, order, or ruling promulgated hereunder shall constitute a simple misdemeanor, and shall be punishable by a fine of not more than \$_____ dollars or imprisonment for not more than _____ (year or month) or both; each day a violation continues to exist shall constitute a separate offense.

SECTION 18-Conflicting Regulations

This section defines the method to address conflicting regulations that may result due to the Ordinance. This may be similar or even identical to existing procedures outlined in an existing ordinance.

- **Sample Text**

Where there exists a conflict between any of the regulations or limitations prescribed in this Ordinance and any other regulations applicable to the same area, whether the conflict be with respect to height or structures, the use of land, or any other matter, the more stringent limitation or requirement shall govern and prevail.



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SECTION 19-Severability

This section defines the severability of the Ordinance. This may be similar or even identical to existing procedures outlined in an existing ordinance.

- **Sample Text**

If any provision of this Ordinance or the application thereof to any person or circumstances is held invalid, such invalidity shall not affect other provisions or applications of the Ordinance, which can be given effect without the invalid provision or application, and to this end the provisions of this Ordinance are declared to be severable.

SECTION 20-Effective Date

This section establishes the date of adoption and certification of the appropriate governing body. This may be similar or even identical to existing procedures outlined in an existing ordinance.

- **Sample Text**

This Ordinance shall be in effect from and after its passage by the governing body and publication and posting as required by law.

Adopted on this _____ day of _____, 20__.

Exhibit A-Airport Land Use & Height Overlay Zoning Map

The exhibit provides the Official Airport Land Use & Height Overlay Zoning Maps to be kept on file with the appropriate governmental entities. The maps must be amended when changes occur within the jurisdictional boundaries of these maps. The maps must be prepared and adopted concurrently with the Ordinance.