



**pennsylvania**  
DEPARTMENT OF TRANSPORTATION

# Airport Zoning Ordinance Workshop



## Why are we here?

- To present Pennsylvania's Airport Hazard Zoning law, Act 1984-164 in a simple manner
- To encourage a collaborative, joint and partnered effort for airport zoning with:
  - Impacted Municipalities
  - Airports
  - Counties
  - MPO's / RPO's
- To provide guidance on the development of airport zoning ordinances
- To identify resources available for joint development of airport zoning ordinances
- Lay the foundation for statewide compliance with Act 164 by all impacted Municipalities



# Why are you here?

- Impacted Municipalities
  - Responsible for local land use planning, zoning and the administration of ordinances
  - Directly impacted by Airport Zoning Act
  - Per Act 164, required to adopt, administer and enforce an Airport Zoning ordinance
- Airports
  - Responsible for providing a safe airport operating environment
  - Knowledgeable about airport and aircraft operations
  - Directly impacted by Act 164 non-compliance



## Why are you here? (2)

- **Counties**
  - Power to enact zoning ordinances for land in those municipalities in county which have no zoning ordinance in effect
  - Required to review ordinances submitted by municipalities and at times mediate on their behalf.
  - Zoning impacts County Comprehensive Plans
  - Zoning impacts vitality of airports in county
- **Metropolitan and Rural Planning Organizations (MPOs and RPOs)**
  - Coordinates Transportation Long Range Planning
  - Coordinates Transportation Improvement Programs
  - Provides a forum for urban / rural transportation planning and decision-making



## PA Airport Statistics

- Over 120 public use airports
- About 680 municipalities required to enact Airport Hazard Zoning
- About 159 municipalities have Airport Hazard Zoning in effect





## Educational Goals of Workshop

- ❑ Increase Awareness and Understanding of Airport Hazard Zoning and PA Act 164
- ❑ Explain the Part 77 Surface Concept
- ❑ Identify the Part 77 Surface Areas in your Region
- ❑ Discuss the Airport District Overlay Ordinance Components
- ❑ Discuss Administration and Enforcement Areas of the Ordinance
- ❑ Discuss Liability Concerns
- ❑ Discuss Availability of Assistance for Adoption and Administration of Ordinance



# Workshop Materials Review





# Airport Hazard Zoning and PA Act 164

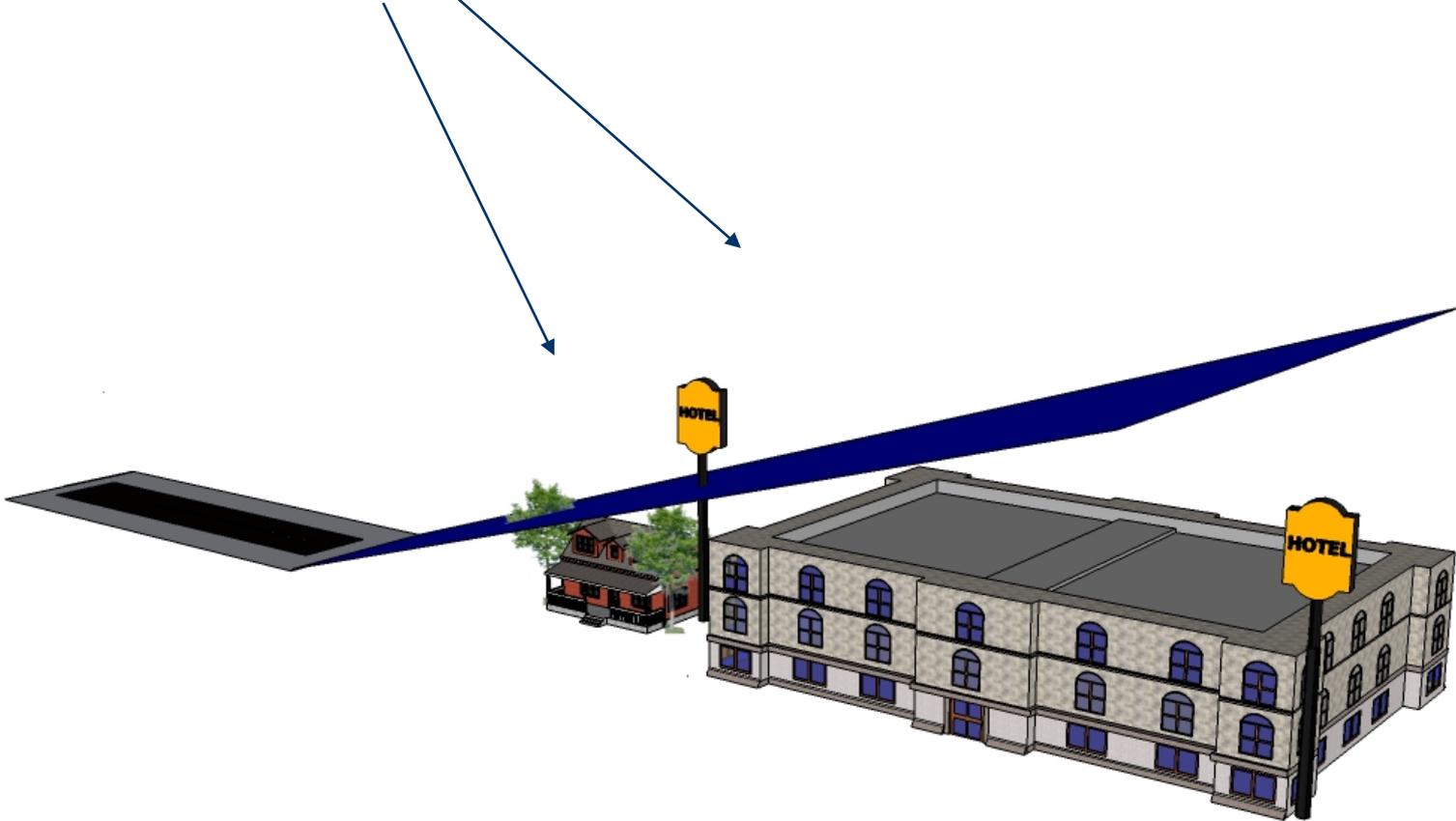




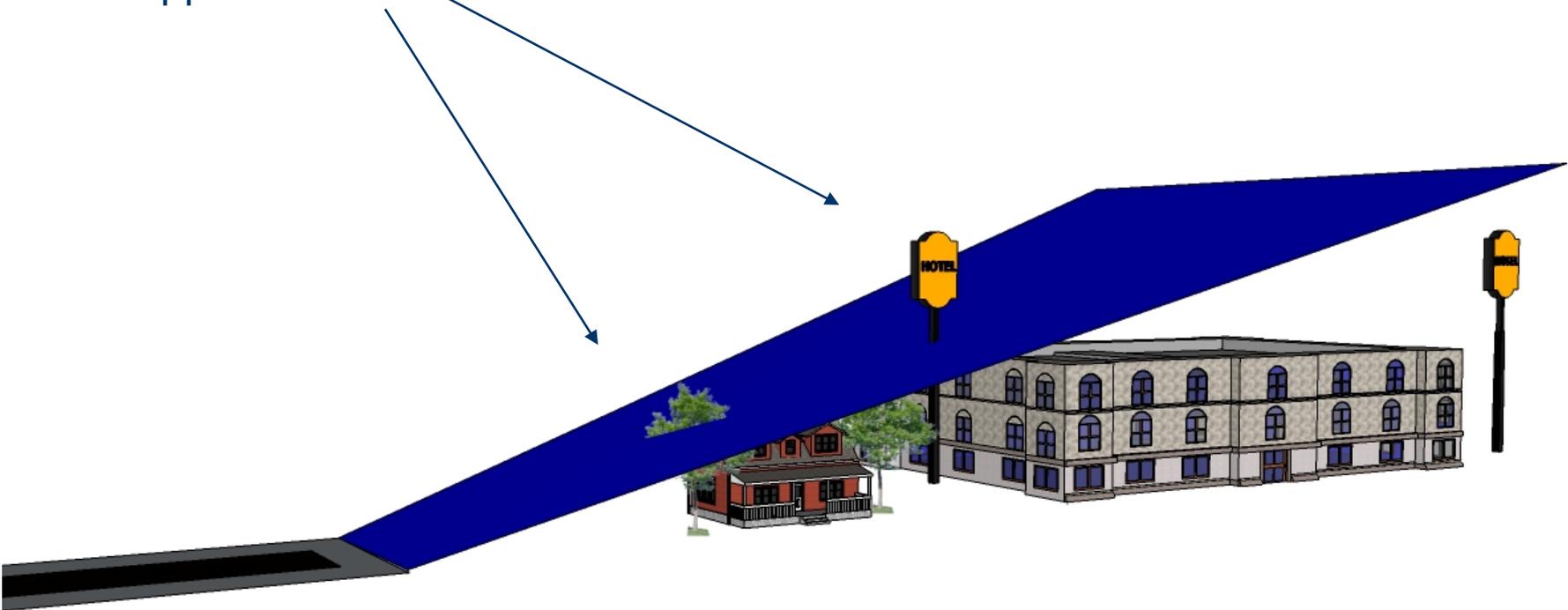
# Airport Hazard Zoning: Purpose?

- Restricts heights of objects around airport areas to provide for safe aircraft flight paths.

Obstructions to  
Approach Surface



Obstructions to  
Approach Surface





## Airport Hazard Zoning: Why is it needed? *Safety*

- Safety – Protecting Pilots, Passengers, People and Property
  - Identifies possible obstructions before they occur
  - Restricts heights of objects in and around airports so they will not interfere with aircraft operations
  - Provides a link to existing federal and state processes that evaluate airspace for objects, existing or proposed, to prevent and/or mitigate hazards
  - Reduces the possibility of accidents that could injure both passengers and people on the ground
  - Protects against liability



## **Airport Hazard Zoning: Why is it needed?** ***Economic Development***

### Economic Development

- Airports are an economic asset to both the community and the Commonwealth. Height obstructions can reduce access and the corresponding economic contribution of these airports.
- Important uses of airports include:
  - General Business Use (nearly 70% of use)
  - Goods Movement
  - Recreation
  - Flight Training
  - Air Patrol (Police, Traffic Reporting)
  - Medical Evacuation / Air Ambulance
  - Disaster Recovery Operations
  - General Aviation Reliever functions for Commercial Airports



## **Airport Hazard Zoning: Why is it needed?** ***State Law and Federal Regulations***

Obstruction free airspace is critical to air traffic and commerce within this Commonwealth and throughout the Nation. That is why it is.....

- Mandated by Pennsylvania Law
  - Act 1984-164, Airport Zoning Act
- Regulated by Federal Aviation Regulations
  - 14 CFR Part 77 Part 77, Objects Affecting Navigable Airspace (Part 77)



# Airport Hazard Zoning: Requirements of PA Act 164

- Summary - municipalities having airport hazard areas shall adopt, administer and enforce an ordinance to restrict the height of objects in the area.
- 5912. “Power to adopt airport zoning regulations. (a) General rule.—In order to prevent the creation or establishment of airport hazards, every municipality having an airport hazard area within its territorial limits **shall adopt, administer and enforce, under the police power and in the manner and upon the conditions prescribed in this subchapter and in applicable zoning law unless clearly inconsistent with this subchapter, airport zoning regulations for such airport hazard area.** The regulations may divide the area into zones and, within the zones, specify the land uses permitted and regulate and restrict the height to which structures may be erected or objects of natural growth may be allowed to grow. A municipality which includes an airport hazard area created by the location of a public airport is required to adopt, administer and enforce zoning ordinances pursuant to this subchapter if the existing comprehensive zoning ordinance for the municipality does not provide for the land uses permitted and regulate and restrict the height to which structures may be erected or objects of natural growth may be allowed to grow in an airport hazard area.”
- 5915(c) “**A municipality shall adopt, either in full or by reference, any provision of any model zoning ordinance or other similar guidelines** suggested or published by the Federal Aviation Administration of the United States Department of Transportation regarding airport hazard areas.”



# Airport Hazard Zoning: Models Based on FAR Part 77

- According to PA Act 164, municipalities within the Federal Aviation Administration (FAA) Federal Regulation 14 CFR Part 77 (i.e., "Part 77") areas around an airport are required to have ordinances that restrict the height of objects that could interfere with airport operations.
- These height restrictions gradually change from 0 feet directly at the airport up to about 1920 feet above the airport runway surface, depending upon the distance from the airport and type of runways in use.
- The height restrictions are broken into 5 Surface Zones, which are defined by FAA and are a function of the airport's physical and runway features.



# Airport Hazard Zoning: Model Ordinances

- Comprehensive Airport Zoning Model
  - Traditional “detailed” model ordinance
  - Used in its entirety by some municipalities to comply with Act 164; others incorporated into their existing zoning
- (New) Airport District Overlay Model
  - Streamlined model with focus on a simple “**Overlay**” District. Recommended to be developed collaboratively by multiple municipalities around a given airport.

**Objective of both Models is to overlay existing zoned areas where it exists (defer to county if Municipality not zoned). Neither require a change to the primary function of existing zones.**



# Airport Hazard Zoning: Ordinance Administration

Municipalities are responsible for implementing and enforcing zoning, however, evaluations conducted by FAA and PennDOT / Bureau of Aviation (BOA) may be of use in this effort.

Specifically,

- BOA conducts annual airport inspections that include a limited evaluation of the approach area just off the end of the runway to identify possible obstructions.
- BOA works with airports and provides funding to study, remove, replace and/or otherwise mitigate obstructions.
- Both FAA and PennDOT require prior notification and form submission with proposed construction details so that possible height and hazard issues can be identified.



# Airport Hazard Zoning: Definitions

- Act 164
  - Pennsylvania's Airport Hazard Zoning law
  - Signed October 10, 1984 to establish a number of laws relating to Aviation, including Airport Zoning.
- "Part 77"
  - Federal Aviation Regulation (FAR) Part 77
  - “Federal Regulation 14 CFR Part 77 establishes standards and notification requirements for objects affecting navigable airspace.”
  - Text version available in Section E of workbook.



## Airport Hazard Zoning: Definitions (2)

- Airport Hazard
  - Any structure or object, natural or manmade, or use of land which obstructs the airspace required for flight or aircraft in landing or taking off at an airport or is otherwise hazardous as defined by “Airport Hazard” in 74 Pa. Cons. Stat. §5102.
  - Examples:
    - Trees
    - Signs
    - Buildings
    - Other Structures
- Airport Hazard Area
  - Any area of land or water upon which an airport hazard might be established if not prevented as provided for in this Ordinance and the Act 164 of 1984 (Pennsylvania Laws Relating to Aviation).

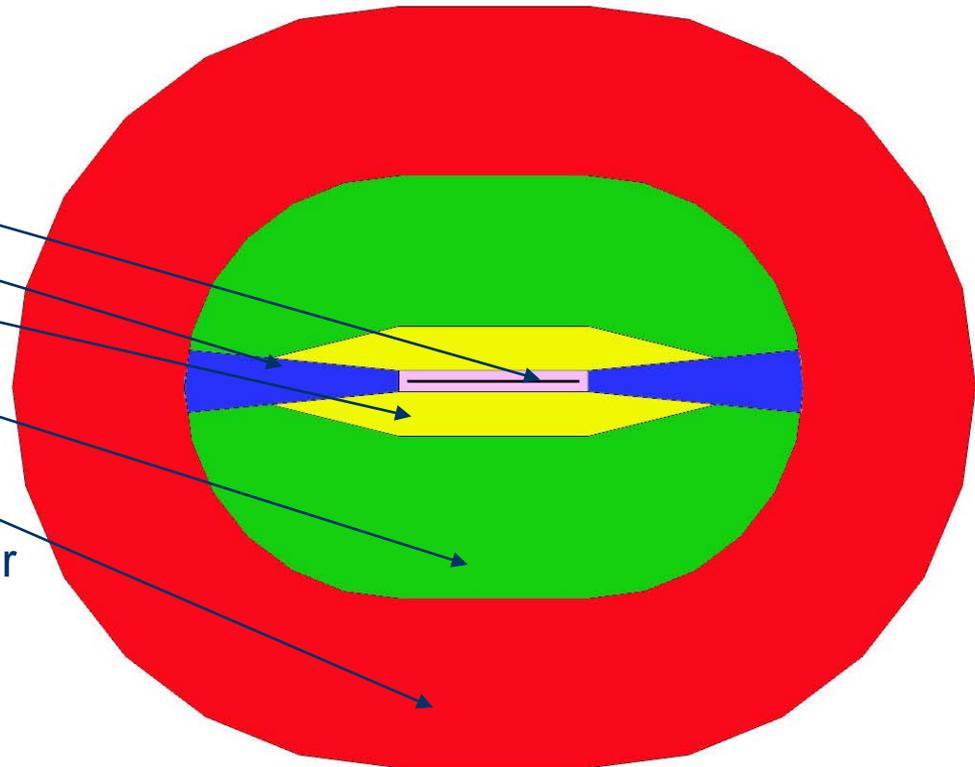


# Airport Hazard Zoning: Hazard Areas

- Part 77 Surface Zones used to define Hazard Areas

- Primary
- Approach
- Transitional
- Horizontal
- Conical

(to be covered in further detail)





# Airport Hazard Zoning: Hazard Areas (2)

## **Hazard Area dimensions also impacted by the type of runway and primary approach as defined below**

- **RUNWAY** – A defined area on an airport prepared for landing and takeoff of aircraft along its length.
- **UTILITY RUNWAY** – A runway that is constructed for and intended to be used by propeller driven aircraft of 12,500 pounds maximum gross weight or less.
- **VISUAL RUNWAY** – A runway intended solely for the operation of aircraft using visual approach procedures.
- **NON-PRECISION INSTRUMENT RUNWAY** – 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.
- **PRECISION INSTRUMENT RUNWAY** – A runway having an existing instrument approach procedure utilizing an Instrument Landing System (ILS) or a Precision Approach Radar (PAR). It also means a runway for which a precision approach system is planned and is so indicated on an approved airport layout plan or any other planning document.



## Educational Goals of Workshop

- ☑ Increase Awareness and Understanding of Airport Hazard Zoning and PA Act 164
- ☐ Explain the Part 77 Surface Concept
- ☐ Identify the Part 77 Surface Areas in your Region
- ☐ Discuss the Airport District Overlay Ordinance Components
- ☐ Discuss Administration and Enforcement Areas of the Ordinance
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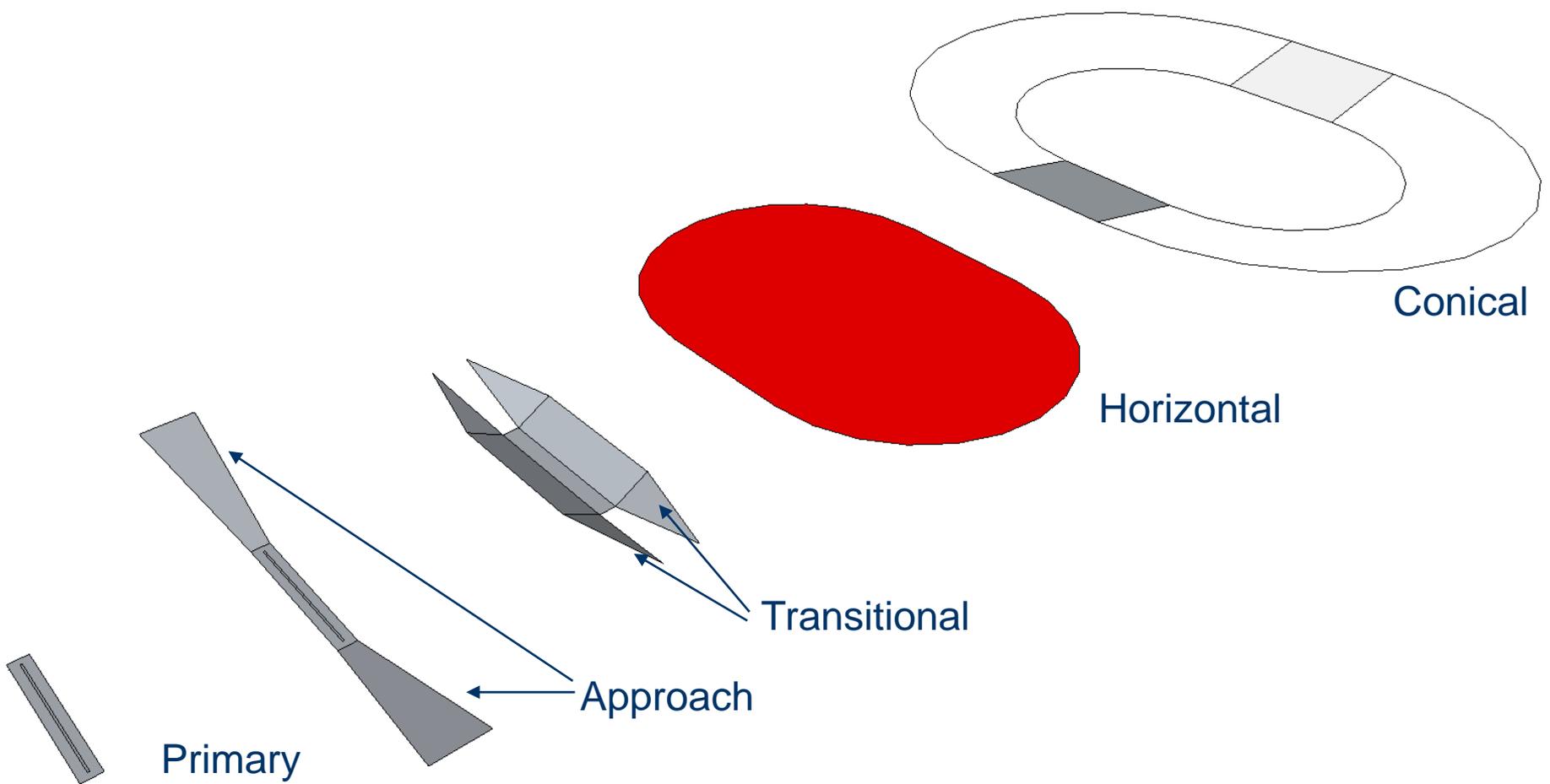
# Part 77 Surface Concept

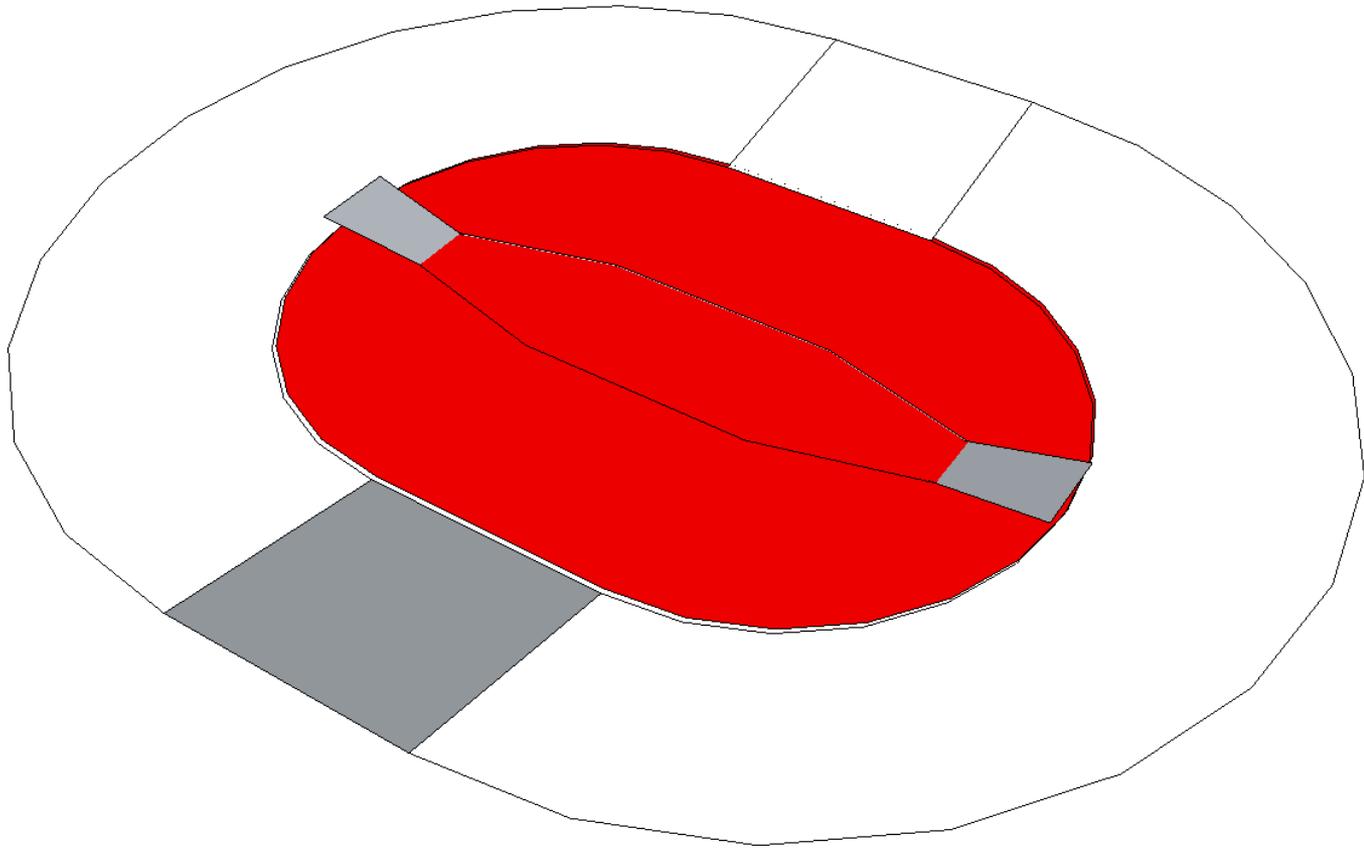




## Part 77 Surface Areas









# Part 77 Video





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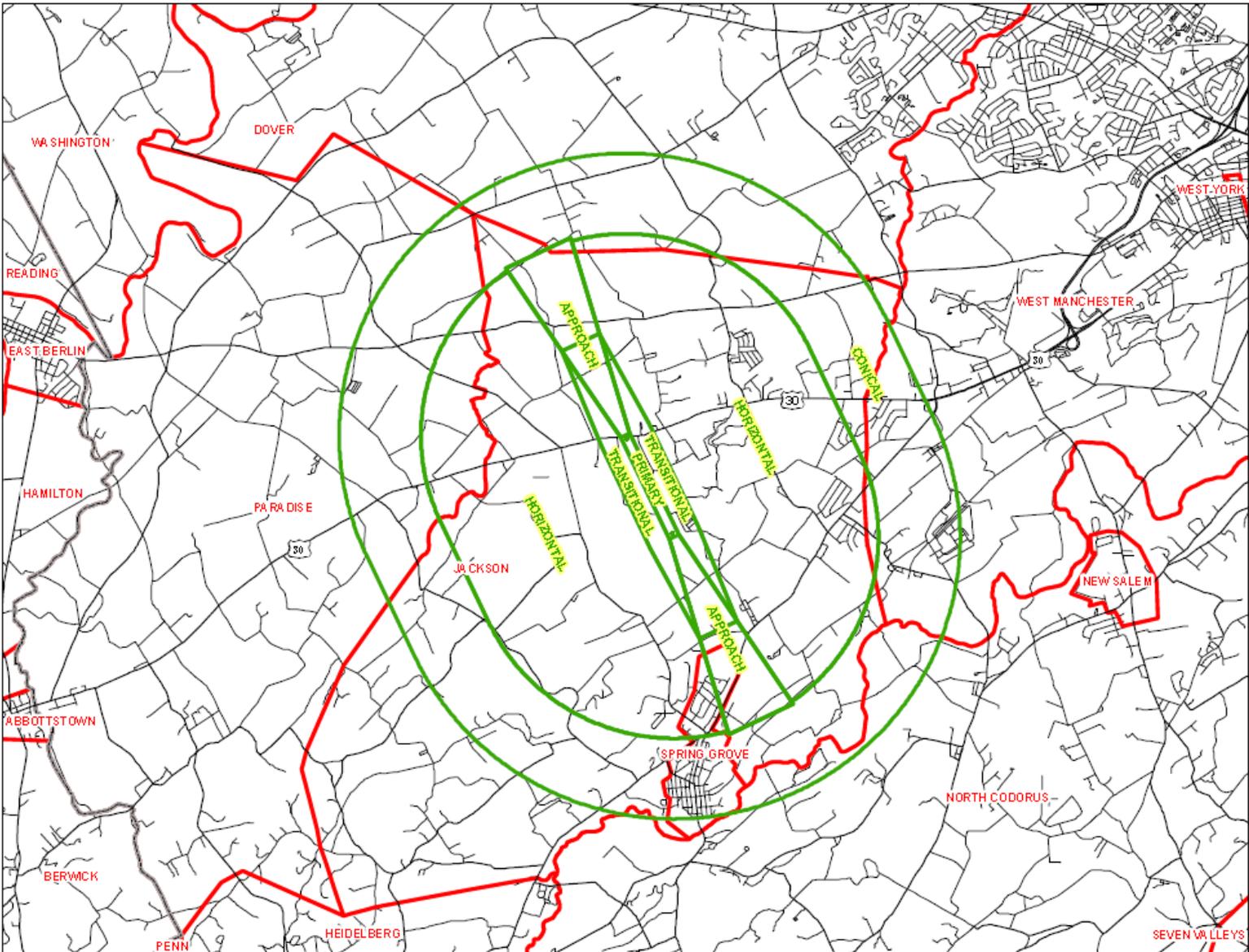
# Examples of Part 77 Surface Areas

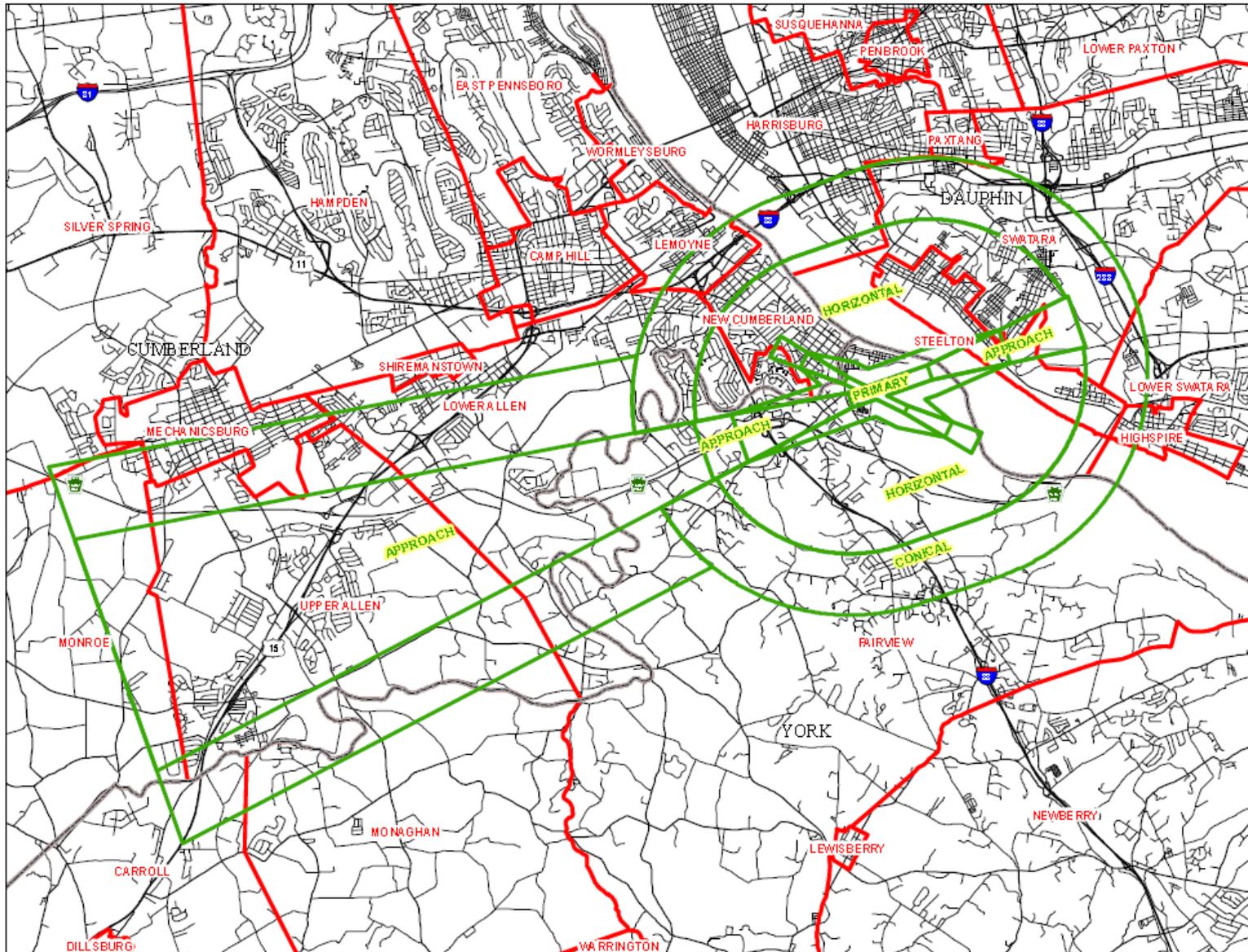


# York



- Legend**
- Part 77 Surfaces
  - Road
  - County Boundary
  - Municipal Boundary

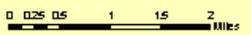




### Capital City



- Legend**
- ▭ Part 77 Surfaces
  - County Boundary
  - Municipal Boundary
  - Road



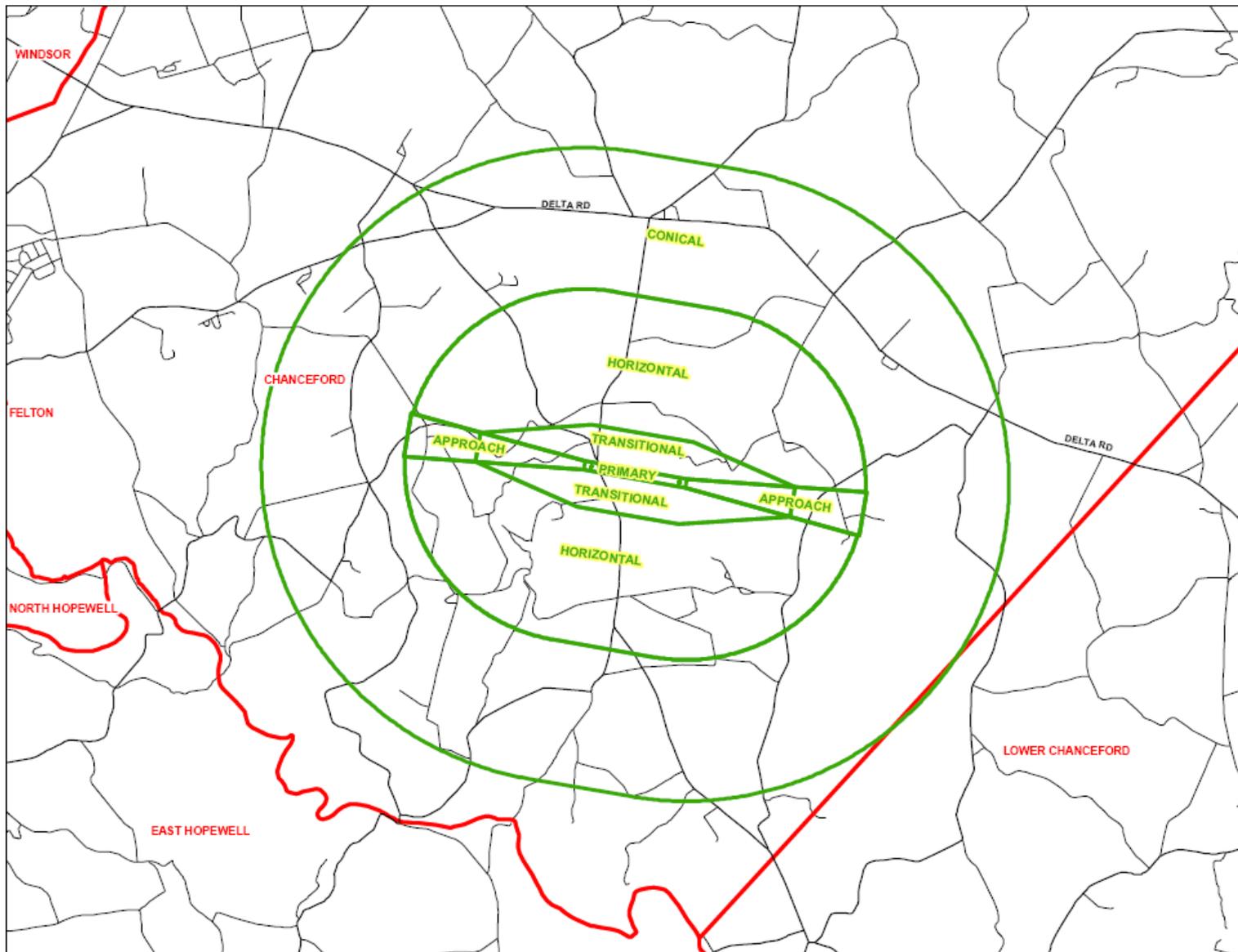
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## Legend

-  Part 77 Surfaces
-  Road
-  Municipal Boundary
-  County Boundary

0 0.125 0.25 0.5 0.75 1 Miles





## Availability of Part 77 Surface Maps

- On PennDOT BOA Website
- Updated if runway modifications or approach to airport changes.



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**(Break)**





# Ordinance





## Ordinance Options

- Develop own ordinance (municipal)
- County ordinance (for areas w/o zoning)
- Airport Zoning Model Ordinance
  - Comprehensive
  - **Airport District Overlay Model (Workshop focus)**



## Ordinances

- Model ordinances are Overlay Ordinances
  - A mapped zone that imposes a set of requirements in addition to those laid out by the underlying zoning regulations
  - Overlay zones typically address special features in addition to existing zoning
  - Does not change function of existing zoning (e.g., Residential, Commercial, Agricultural, etc.,)



# The Airport District Overlay Model

- Section 1: Purpose
- Section 2: Relation to Other Zone Districts
- Section 3: Definitions
- Section 4: Establishment of Airport Zones and Height Limitations
- Section 5: Permit Applications
- Section 6: Variance
- Section 7: Use Restrictions
- Section 8: Pre-existing Non-Conforming Uses
- Section 9: Obstruction Marking and Lighting
- Section 10: Violations and Penalties
- Section 11: Appeals
- Section 12: Conflicting Regulations
- Section 13: Severability

\*See Workbook –Section F

## AIRPORT DISTRICT OVERLAY ORDINANCE

AN ORDINANCE OF *MUNICIPALITY* SETTING FORTH ITS AUTHORITY TO ESTABLISH AN "AIRPORT DISTRICT OVERLAY" TO INCLUDE: PURPOSES OF THE DISTRICT, DEFINITIONS, AIRPORT ZONES, AIRPORT ZONE HEIGHT LIMITATIONS; PERMITS REQUIRED; USE RESTRICTIONS; NONCONFORMING USES; VARIANCES; CONFLICTING REGULATIONS; AND AMENDING THE OFFICIAL ZONING MAP BY THE ADOPTION OF AN OFFICIAL SUPPLEMENTARY AIRPORT OVERLAY ZONING MAP.

**WHEREAS**, certain airport hazards, as defined, in effect reduce the size of the area available for landing, takeoff, and maneuvering of aircraft, thus tending to destroy or impair the utility of *Airport* and the public investment therein; and

**WHEREAS**, the creation or establishment of an airport hazard, as defined, is a public nuisance and may injure the region served by the *Airport*; and

**WHEREAS**, it is necessary in the interest of public health, public safety and general welfare that the creation or establishment of airport hazards, as defined, be prevented; and

**WHEREAS**, the prevention of these airport hazards, as defined, should be accomplished, to the extent legally possible, by the exercise of police power without compensation; and

**WHEREAS**, both the prevention of the creation or establishment of airport hazards, as defined, and the elimination, removal, alteration, mitigation or marking and lighting of existing airport hazards, as defined, are public purposes for which political subdivisions may raise and expend public funds and acquire land or interests in land; and

**WHEREAS**, The *Municipal Elected Body* did hold public hearing on *Date*;

**NOW, THEREFORE BE IT ORDAINED** by the *Municipal Elected Body*, pursuant to the authority conferred by 1984 Pa. Laws 164 codified at 74 Pa. Cons. Stat. §§5912 et. Seq. the following be and is hereby adopted as an ordinance of *Municipality*:

**Airport District Overlay Ordinance**

- Section 1: Purpose
- Section 2: Relation to Other Zone Districts
- Section 3: Definitions
- Section 4: Establishment of Airport Zones and Height Limitations
- Section 5: Permit Applications
- Section 6: Variance
- Section 7: Use Restrictions
- Section 8: Pre-existing Non-conforming Uses
- Section 9: Obstruction Marking and Lighting
- Section 10: Violations and Penalties
- Section 11: Appeals
- Section 12: Conflicting Regulations
- Section 13: Severability

**Section 1: Purpose.** The purpose of this ordinance is to create an airport district overlay that considers safety issues around the *Airport*, regulates and restricts the heights of constructed structures and objects of natural growth, creates appropriate zones, establishing the boundaries thereof and providing for changes in the restrictions and boundaries of such zones, creates the permitting process for use within said zones and provides for enforcement, assessment of violation penalties, an appeals process, and judicial review.

**Section 2: Relation to Other Zone Districts.** The Airport District Overlay shall not modify the boundaries of any underlying zoning district. Where identified, the Airport District Overlay shall impose certain requirements on land use and construction in addition to those contained in the underlying zoning district.

**Section 3: Definitions.** The following words and phrases when used in this ordinance shall have the meaning given to them in this section unless the context clearly indicates otherwise.

**Airport Elevation:** The highest point of an airport's useable landing area measured in feet above sea level. The airport elevation of the *Airport* is **(insert airport elevation here)**.

**Airport Hazard:** Any structure or object, natural or man made, or use of land which obstructs the airspace required for flight or aircraft in landing or taking off at an airport or is otherwise hazardous as defined in 14 CFR Part 77 and 74 Pa. Cons. Stat. §5102.

**Airport Hazard Area:** Any area of land or water upon which an airport hazard might be established if not prevented as provided for in this Ordinance and the Act 164 of 1984 (Pennsylvania Laws Relating to Aviation).

**Approach Surface (Zone):** An imaginary surface longitudinally centered on the extended runway centerline and extending outward and upward from each end of the primary surface. An approach surface is applied to each end of the runway based on the planned approach. The inner edge of the approach surface is the same width as the primary surface and expands uniformly depending on the planned approach. The approach surface zone, as shown on Figure 1, is derived from the approach surface.

**Conical Surface (Zone):** An imaginary surface extending outward and upward from the periphery of the horizontal surface at a slope of twenty (20) feet horizontally to one (1) foot vertically for a horizontal distance of 4,000 feet. The conical surface zone, as shown on Figure 1, is based on the conical surface.

**Department:** Pennsylvania Department of Transportation.

**FAA:** Federal Aviation Administration of the United States Department of Transportation.

**Height:** For the purpose of determining the height limits in all zones set forth in this Ordinance and shown on the zoning map, the datum shall be mean sea level elevation unless otherwise specified.

**Horizontal Surface (Zone):** An imaginary plane 150 feet above the established airport elevation that is constructed by swinging arcs of various radii from the center of the end of the primary surface and then connecting the adjacent arc by tangent lines. The radius of each arc is based on the planned approach. The horizontal surface zone, as shown on Figure 1, is derived from the horizontal surface.

**Larger Than Utility Runway:** A runway that is constructed for and intended to be used by propeller driven aircraft of greater than 12,500 pounds maximum gross weight and jet powered aircraft.

**Nonconforming Use:** Any pre-existing structure, object of natural growth, or use of land which is inconsistent with the provisions of this Ordinance or an amendment thereto.

**Non-Precision Instrument Runway:** 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.

**Obstruction:** Any structure, growth, or other object, including a mobile object, which exceeds a limiting height set forth by this Ordinance.

**Precision Instrument Runway:** A runway having an existing instrument approach procedure utilizing an Instrument Landing System (ILS) or a Precision Approach Radar (PAR). It also means a runway for which a precision approach system is

planned and is so indicated on an approved airport layout plan or any other planning document.

**Primary Surface (Zone):** An imaginary surface longitudinally centered on the runway, extending 200 feet beyond the end of paved runways or ending at each end of turf runways. The elevation of any point on the primary surface is the same as the elevation of the nearest point on the runway centerline. The primary surface zone, as shown on Figure 1, is derived from the primary surface.

**Runway:** A defined area of an airport prepared for landing and takeoff of aircraft along its length.

**Structure:** An object, including a mobile object, constructed or installed by man, including but without limitation, buildings, towers, cranes, smokestacks, earth formation and overhead transmission lines.

**Transitional Surface (Zone):** An imaginary surface that extends outward and upward from the edge of the primary surface to the horizontal surface at a slope of seven (7) feet horizontally to one (1) foot vertically (7:1). The transitional surface zone, as shown on Figure 1, is derived from the transitional surface.

**Tree:** Any object of natural growth.

**Utility Runway:** A runway that is constructed for and intended to be used by propeller driven aircraft of 12,500 pounds maximum gross weight or less.

**Visual Runway:** A runway intended solely for the operation of aircraft using visual approach procedures.

**Section 4: Establishment of Airport Zones:** There are hereby created and established certain zones within the Airport District Overlay ordinance, defined in Section 3 and depicted on Figure 1 and illustrated on *Airport* Hazard Area Map, hereby adopted as part of this ordinance, which include:

1. Approach Surface Zone
2. Conical Surface Zone
3. Horizontal Surface Zone
4. Primary Surface Zone
5. Transitional Surface Zone

**Section 5: Permit Applications.** As regulated by Act 164 and defined by 14 Code of Federal Regulations Part 77.13(a) (as amended or replaced), any person who plans to erect a new structure, to add to an existing structure, or to erect and maintain any object (natural or manmade), in the vicinity of the airport, *shall first notify the Department's Bureau of Aviation (BOA) by submitting PENNDOT Form AV-57 to obtain an obstruction review of the proposal at least 30 days prior to commencement thereof.* The Department's BOA response must be included with this permit application for it to be considered complete. If the Department's BOA returns a determination of no penetration of airspace, the permit request should be considered in compliance with the intent of this Overlay Ordinance. If the Department's BOA returns a determination of a penetration of airspace, the permit shall be denied, and the project sponsor may seek a variance from such regulations as outlined in Section 6.

No permit is required to make maintenance repairs to or to replace parts of existing structures which do not enlarge or increase the height of an existing structure.

**Section 6: Variance.** Any request for a variance shall include documentation in compliance with 14 Code of Federal Regulations Part 77 Subpart B (FAA Form 7460-1 as amended or replaced). Determinations of whether to grant a variance will depend on the determinations made by the FAA and the Department's BOA as to the effect of the proposal on the operation of air navigation facilities and the safe, efficient use of navigable air space. In particular, the request for a variance shall consider which of the following categories the FAA has placed the proposed construction in:

1. No Objection - The subject construction is determined not exceed obstruction standards and marking/lighting is not required to mitigate potential hazard. Under this determination a variance shall be granted.
2. Conditional Determination - The proposed construction/alteration is determined to create some level of encroachment into an airport hazard area which can be effectively mitigated. Under this determination, a variance shall be granted contingent upon implementation of mitigating measures as described in Section 9 - Obstruction Marking and Lighting.
3. Objectionable - The proposed construction/alteration is determined to be a hazard and is thus objectionable. A variance shall be denied and the reasons for this determination shall be outlined to the applicant.

Such requests for variances shall be granted where it is duly found that a literal application or enforcement of the regulations will result in unnecessary hardship and that relief granted will not be contrary to the public interest, will not create a hazard to air navigation, will do substantial justice, and will be in accordance with the intent of this ordinance.

**Section 7: Use Restrictions.** Notwithstanding any other provisions of this Ordinance, no use shall be made of land or water within the Airport District Overlay in such a manner as to create electrical interference with navigational signals or radio communications between the airport and aircraft, make it difficult for pilots to distinguish between airport lights and others, impair visibility in the vicinity of the airport, create bird strike hazards

or otherwise endanger or interfere with the landing, takeoff or maneuvering of aircraft utilizing the *Airport*.

**Section 8: Pre-Existing Non-Conforming Uses:** The regulations prescribed by this Ordinance shall not be construed to require the removal, lowering, or other change or alteration of any structure or tree not conforming to the regulations as of the effective date of this Ordinance, or otherwise interfere with the continuance of a non-conforming use. No non-conforming use shall be structurally altered or permitted to grow higher, so as to increase the non-conformity, and a non-conforming use, once substantially abated (subject to the underlying zoning ordinance,) may only be reestablished consistent with the provisions herein.

**Section 9: Obstruction Marking and Lighting.** Any permit or variance granted pursuant to the provisions of this ordinance may be conditioned according to the process described in Section 6 to require the owner of the structure or object of natural growth in question to permit the municipality, at its own expense, or require the person requesting the permit or variance, to install, operate, and maintain such marking or lighting as deemed necessary to assure both ground and air safety.

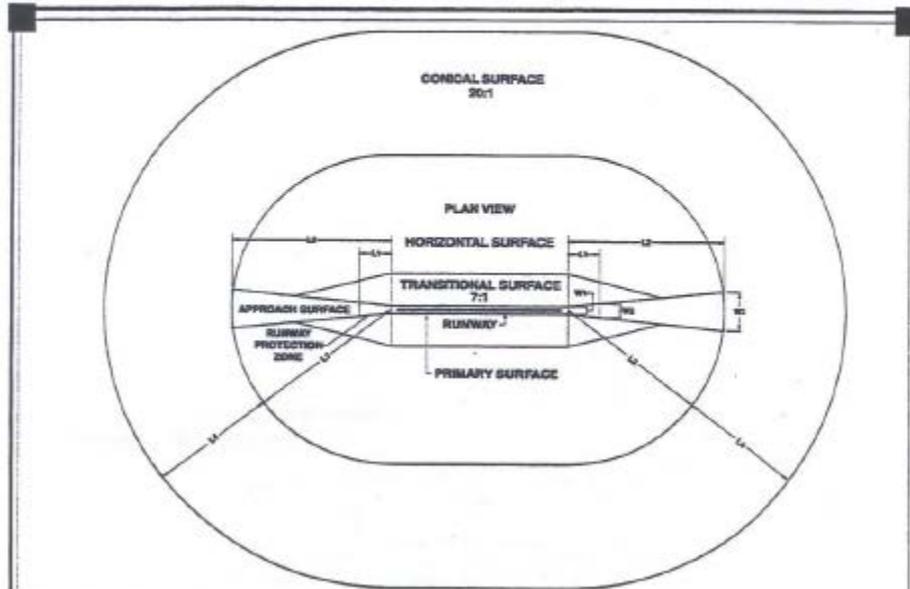
**Section 10: Violations and Penalties.** *Subject to that in the underlying Zoning Ordinance*

**Section 11: Appeals.** *Subject to the process in the underlying Zoning Ordinance.*

**Section 12: Conflicting Regulations.** Where there exists a conflict between any of the regulations or limitations prescribed in this ordinance and any other regulation applicable to the same area, the more stringent limitation or requirement shall govern and prevail.

**Section 13: Severability.** If any of the provisions of this Ordinance or the application thereof to any person or circumstance are 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.

Figure 1: Part 77 Surface Areas



**FAR PART 77 "IMAGINARY SURFACES" DIMENSION REQUIREMENTS**

Runway Type	Runway End		Conical Surface (L1)	Horizontal Surface (L2)	Approach Surface			Approach Slope	Primary Surface Width	Transitional Surface
	Approach	Other			Length (L3)	Inner Width (W1)	Outer Width (W2)			
Small Airplanes <sup>1</sup>	V	V	4,000	5,000	5,000	250	1,250	20:1	250	7:1
		NP	4,000	5,000	5,000	800	1,250	20:1	900	7:1
		NP 3A	4,500	5,000	5,000	1,000	1,250	20:1	1,000	7:1
		P	4,500	5,000	5,000	1,000	1,250	20:1	1,000	7:1
		V	4,500	5,000	5,000	800	2,000	20:1	900	7:1
		NP	4,500	5,000	5,000	800	2,000	20:1	900	7:1
Large Airplanes <sup>2</sup>	V	V	4,300	5,000	5,000	500	1,500	20:1	800	7:1
		NP	4,900	10,000	5,000	800	1,500	20:1	800	7:1
		NP 3A	4,900	10,000	5,000	1,000	1,500	20:1	1,000	7:1
		P	4,900	10,000	5,000	1,000	1,500	20:1	1,000	7:1
		V	4,300	10,000	10,000	500	3,500	20:1	1,000	7:1
		NP	4,900	10,000	10,000	800	3,500	20:1	900	7:1
Large and Small Airplanes <sup>3</sup>	V	V	4,300	10,000	10,000	1,000	4,000	20:1	1,000	7:1
		NP	4,900	10,000	10,000	1,000	4,000	20:1	1,000	7:1
		NP 3A	4,900	10,000	10,000	1,000	4,000	20:1	1,000	7:1
		P	4,900	10,000	10,000	1,000	4,000	20:1	1,000	7:1
		V	4,300	10,000	10,000/40,000	1,500	4,000/16,000	50:1/40:1	1,000	7:1
		NP	4,900	10,000	10,000/40,000	1,500	4,000/16,000	50:1/40:1	1,000	7:1
	NP 3A	4,900	10,000	10,000/40,000	1,500	4,000/16,000	50:1/40:1	1,000	7:1	
	P	4,900	10,000	10,000/40,000	1,500	4,000/16,000	50:1/40:1	1,000	7:1	

1 - in Feet  
 2 - Less than 12,500 lbs maximum certified takeoff weight  
 3 - Greater than 12,500 lbs maximum certified takeoff weight

V = Visual approach 20:1  
 NP = Nonprecision approach 34:1  
 NP 3A = Nonprecision approach with visibility minimums as low as 34 statute miles 34:1  
 P = Precision approach 30:1

Note: L1 is the length of the RPZ and W2 is the outer width of the RPZ as defined by approach visibility minimums

Source: Federal Aviation Administration





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# Administration and Enforcement





## Administration: Overview

- Board of Adjustment
- Joint Airport Zoning Board option
- Variances / Appeals



## Administration: Board of Adjustment

- Function – to hear and decide appeals pertaining to ordinance
  - Five (5) members
  - Three (3) year term
- Existing zoning board of appeals or adjustments may be appointed to serve this function



# Administration: Joint Airport Zoning Board Option

- Optional
- Where multiple municipalities are affected by the hazard area
- One Board to have function of Board of Adjustment
- Two (2) members from each municipality
- Chairman elected by members



## Administration: Variances / Appeals

- Variance Requests - Recommend request include an airspace determination by the FAA
- Airport Notification – Recommend Airport Manager be notified if variance application/request is filed



## Enforcement: General

- Pre-Existing Conditions / Grandfather Clause
- New or Additional Construction or Objects
- Tree Growth



# Enforcement: Pre-Existing Conditions / Grandfather Clause

## **General: Ordinance does not apply to pre-existing conditions**

- § 5915. Airport zoning requirements.(b) Nonconforming uses.—No airport zoning regulations adopted under this subchapter may require the removal, lowering or other change or alteration of any structure or any object of natural growth not conforming to the regulations when adopted or amended or otherwise interfere with the continuance of any nonconforming use, except as provided in section 5916 (relating to permits and variances).



# Enforcement: New Construction / Alterations

- A person who seeks to erect a new structure, to add to an existing structure or to erect or maintain an object, natural or manmade, shall first obtain approval from the FAA and PennDOT. The following forms (included in Section G) must be submitted:
  - FAA Form 7460-1
  - PennDOT Form AV-57
- Submit forms at least 30 days prior to commencement of project
- PennDOT will determine if the structure will penetrate the surface area
- FAA will determine if the construction will result in a penetration to Part 77. If so, they will set conditions for approval or recommend further study



# Enforcement: New Construction/Alterations When Forms Need Filing

- Any construction or alteration exceeding 200 ft above ground level
- Any construction or alteration
  - Within 20,000 ft of a public use or military airport which exceeds a 100:1 surface from any point on the runway of each airport with at least one runway more than 3,200 ft.
  - Within 10,000 ft of a public use or military airport which exceeds a 50:1 surface from any point on the runway of each airport with its longest runway no more than 3,200 ft.
  - Within 5,000 ft of a public use heliport which exceeds a 25:1 surface
- Any highway, railroad or other traverse way whose prescribed adjusted height would exceed that above noted standards
- When requested by the FAA
- Any construction or alteration located on a public use airport regardless of height or location





## NOTICE OF PROPOSED CONSTRUCTION OR ALTERATION

1. Nature of Proposal			2. Complete Description of Structure
A. Type <input type="checkbox"/> New Construction <input type="checkbox"/> Alteration	B. Class <input type="checkbox"/> Permanent <input type="checkbox"/> Temporary (Duration _____ months)	C. Work Schedule Dates Beginning _____ End _____	A. Include size and configuration of power transmission lines and their supporting towers in the vicinity of public airports.  B. Include information showing site orientation dimensions, and construction materials of the proposed structure.
3. Name and address of individual company, corporation, etc. proposing the construction or alteration. <i>(Number, Street, City, State and Zip Code)</i> <div style="text-align: center; margin-top: 10px;">             (     ) _____              Phone Number           </div> <div style="border: 1px solid black; width: 100%; height: 100px; margin-top: 20px; position: relative;"> <span style="position: absolute; top: 0; left: 0; border-right: 1px solid black; border-bottom: 1px solid black; width: 20px; height: 20px;"></span> <span style="position: absolute; top: 0; right: 0; border-left: 1px solid black; border-bottom: 1px solid black; width: 20px; height: 20px;"></span> <span style="position: absolute; bottom: 0; left: 0; border-right: 1px solid black; border-top: 1px solid black; width: 20px; height: 20px;"></span> <span style="position: absolute; bottom: 0; right: 0; border-left: 1px solid black; border-top: 1px solid black; width: 20px; height: 20px;"></span> </div>			<i>(if more space is required, continue on a separate sheet)</i>
3A. Name, address and telephone number of proponent's representative if different than above.			

			<i>(if more space is required, continue on a separate sheet)</i>	
4. Location of Structure			5. Height and Elevation <i>(Complete to the nearest foot)</i>	
A. Coordinates <i>(To nearest second)</i>	B. Nearest City or Town, and State	C. Name of nearest airport, heliport, flight park, or seaplane base	A. Elevation of site above mean sea level.	
°   '   '' Latitude	Distance from B  Miles	(1) Distance from structure to nearest point of nearest runway	B. Height of Structure including all appurtenances and lighting <i>(if any)</i> above ground or water is so situated.	
°   '   '' Longitude	Distance from B	(2) Direction from structure to airport	C. Overall height above mean sea level $(A + B)$ .	
D. Description of location of site with respect to highways, streets, airports, prominent terrain features, existing structures, etc. <i>Attach a U.S. Geological Survey quadrangle map or equivalent showing the relationship of construction site to nearest airport(s). (if more space is required, continue on a separate sheet of paper and attach to this notice.)</i>				
Notice is required by the Aviation Code, Act of October 10, 1984, P.L.937 No. 164 and Title 67 PA Code Chapter 479, Section 479.4.				
I HEREBY CERTIFY that all of the above statements made by me are true, complete, and correct to the best of my knowledge. In addition, I agree to obstruction mark and/or light the structure in accordance with established marking and lighting standards if necessary.				
Date	Typed Name/Title of Person Filing Notice		Signature	



## Enforcement: New Construction/Alterations FAA Form 7460 Determinations

1. **No Objection**- The proposed construction does not exceed airspace height restrictions.
2. **Conditional No Objection** – FAA has no objection to the proposal as long as certain conditions are met. Conditions are outlined in the FAA Determination letter.
3. **Objection** - The proposed construction/alteration is determined to be a hazard and is thus objectionable. The reasons for this determination are outlined to the proponent.



# Enforcement: New Construction/Alterations Examples

- Dairy Queen Sign
  - Never filed proper forms when putting up sign
  - Municipality had owner lower sign
  - No cost to municipality
  - No court issues
- Holiday Inn Sign
  - Sign erected and it was reported
  - Holiday Inn didn't realize the issue - moved the sign



## Enforcement: Tree Growth

- Aviation grants to airports can be used to mitigate natural growth within Part 77 surfaces. Mitigation may include:
  - Trimming, Removal, or Replacement of Trees or other natural growth; and/or
  - Property easements to maintain
- Aviation Inspections, Approach Surveys, FAA Airspace Analysis, and Obstruction Studies can identify trees/natural growth that grow above the height restriction.



# Enforcement: Height Restriction Exceeded by Tree Growth

When aviation analysis or study identifies a penetration to the Part 77 surface the airport owner is notified. The airport will initiate resolution by:

- Trying to obtain permission from the homeowner to top, trim, replace, or remove tree as appropriate or negotiated
- Evaluating obstruction and request an FAA Hazard Determination to identify if obstruction can be mitigated (mark/light) or if it is a hazard
- Last resort - owner will not cooperate - municipality step in (just like any ordinance)
- Conclusion: Not a taking without compensation



## Educational Goals of Workshop

- Increase Awareness and Understanding of Airport Hazard Zoning and PA Act 164
- Explain the Part 77 Surface Concept
- Identify the Part 77 Surface Areas in your Region
- Discuss the Airport District Overlay Ordinance Components
- Discuss Administration and Enforcement Areas of the Ordinance
- Discuss Liability Concerns
- Discuss Availability of Assistance for Adoption and Administration of Ordinance



# Liability Concerns





# Liability Concerns

- General
  - Municipalities have more liability if ordinance is NOT in place
  - With ordinance, liability occurs only if the municipality knowingly allows obstruction to occur
  - A person who fails to obtain approval from the Department prior to erecting or maintaining an approach area obstruction commits a summary offense under section 5701(a) of the Aviation Code
  
- State Supreme Court Ruling on Airport Hazard
  - Baublitz Airport v Chanceford Township
    - Is township required to enact an Airport Hazard Ordinance?
    - Ruling in May 2007.



## Educational Goals of Workshop

- Increase Awareness and Understanding of Airport Hazard Zoning and PA Act 164
- Explain the Part 77 Surface Concept
- Identify the Part 77 Surface Areas in your Region
- Discuss the Airport District Overlay Ordinance Components
- Discuss Administration and Enforcement Areas of the Ordinance
- Discuss Liability Concerns
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# Assistance for Adoption and Administration





# Assistance for Adoption and Administration

- DCED funding
  - Funding available for ordinance adoption via LUPTAP Grants
- Airport Grants
  - Funding available to airport for Multi-municipal Ordinance Overlay development/adoption.
  - Funding available to airport for Part 77 obstruction mitigation
- Technical Assistance
  - BOA works with airports to resolve zoning issues and provide technical assistance on Part 77.



## Educational Goals of Workshop

- ✓ Increase Awareness and Understanding of Airport Hazard Zoning and PA Act 164
- ✓ Explain the Part 77 Surface Concept
- ✓ Identify the Part 77 Surface Areas in your Region
- ✓ Discuss the Airport District Overlay Ordinance Components
- ✓ Discuss Administration and Enforcement Areas of the Ordinance
- ✓ Discuss Liability Concerns
- ✓ Discuss Availability of Assistance for Adoption and Administration of Ordinance



## What Happens after Today? (Discussion)

- Municipalities/Counties – Contact your airport to express interest in participating in a Airport Overlay District Ordinance project.
- Airports – Meet with municipalities/counties to secure commitment to participate in an Ordinance project. Work out scope of project and submit to BOA as a funding request.
- Who can help coordinate the effort? MPO/RPO and County Planning Commissions



## **PennDOT Bureau of Aviation Website**

**<http://www.dot.state.pa.us/Internet/Bureaus/pdBOA.nsf/AviationHomepage?openframeset>**



# Questions



SUBCHAPTER B  
AIRPORT ZONING

Sec.

- 5911. Short title of subchapter.
- 5912. Power to adopt airport zoning regulations.
- 5913. Relation to other zoning regulations.
- 5914. Procedure for adoption of zoning regulations.
- 5915. Airport zoning requirements
- 5916. Permits and variances.
- 5917. Administrative appeals.
- 5918. Judicial review.
- 5919. Notice to department.
- 5920. Acquisition of air rights.

§ 5911. Short title of subchapter.

This subchapter shall be known and may be cited as the Airport Zoning Act.

§ 5912. Power to adopt airport zoning regulations.

(a) General rule.—In order to prevent the creation or establishment of airport hazards, every municipality having an airport hazard area within its territorial limits shall adopt, administer and enforce, under the police power and in the manner and upon the conditions prescribed in this subchapter and in applicable zoning law unless clearly inconsistent with this subchapter, airport zoning regulations for such airport hazard area. The regulations may divide the area into zones and, within the zones, specify the land uses permitted and regulate and restrict the height to which structures may be erected or objects of natural growth may be allowed to grow. A municipality which includes an airport hazard area created by the location of a public airport is required to adopt, administer and enforce zoning ordinances pursuant to this subchapter if the existing comprehensive zoning ordinance for the municipality does not provide for the land uses permitted and regulate and restrict the height to which structures may be erected or objects of natural growth may be allowed to grow in an airport hazard area.

(b) Joint airport zoning board.—Where any airport hazard area appertaining to an airport is located outside the territorial limits of the municipality encompassing the airport, all of the municipalities involved may, by ordinance or resolution, create a joint airport zoning board which shall have the same power to adopt, administer and enforce airport zoning regulations applicable to the airport hazard area in question as that vested by subsection (a) in the municipality within which the area is located. Each joint airport zoning board shall have as members two representatives appointed by each municipality participating in its creating and, in addition, a chairman elected by a majority of the members so appointed.

(c) Definition.—As used in this section the word “airport” does not include facilities designated as heliports and which can be

used only by rotary wing aircraft, nor airports which are private airports.

§ 5913. Relation to other zoning regulations.

(a) Incorporation.—In the event that a municipality has adopted or hereafter adopts a comprehensive zoning ordinance regulating, among other things, the height of buildings, any airport zoning regulations applicable to the same area or portion thereof may be incorporated in and made a part of the comprehensive zoning regulations and be administered and enforced in connection therewith.

(b) Conflict.—In the event of conflict between any airport zoning regulations adopted under this subchapter and any other regulations applicable to the same area, whether the conflict be with respect to the height of structures or trees, the use of land or any other matter, and whether the other regulations were adopted by the municipality which adopted the airport zoning regulations or by some other municipality under this subchapter or otherwise, the more stringent limitation or requirement shall prevail.

§ 5914. Procedure for adoption of zoning regulations.

(a) Notice and hearing.—No airport zoning regulations shall be adopted, amended or changed except by action of the municipality or the joint airport zoning board after a public hearing in relation thereto at which parties in interest and citizens shall have an opportunity to be heard. The notice shall be published once each week for two successive weeks in a newspaper of general circulation in the municipality or municipalities affected. The notice shall state the time and place of the hearing and the particular nature of the matter to be considered at the hearing. The first publication shall not be more than 30 days or less than 14 days from the date of the hearing.

(b) Airport Zoning Planning Agency.—Prior to the initial zoning of any airport hazard area, the municipality or joint airport zoning board which is to adopt the regulations shall appoint a planning agency, to be known as the Airport Zoning Planning Agency, to recommend the boundaries of the various zones to be established and the regulations to be adopted therefor. The planning agency shall make a preliminary report and, after notice given in the same manner as is provided in subsection (a), shall hold public hearings thereon before submitting its final report. The municipality or the joint airport zoning board shall not hold its public hearings or take other action until it has received the final report of the planning agency. Where a planning agency already exists, it may be appointed as the Airport Zoning Planning Agency.

§ 5915. Airport zoning requirements.

(a) Reasonableness.—All airport zoning regulations adopted under this subchapter shall be reasonable; none shall impose any requirement or restriction unless it is reasonably necessary to effectuate the purpose of this sub-chapter. In determining what regulations it may adopt, each municipality and joint airport zoning board shall consider, among other factors, the character of the flying operations expected to be conducted at the airport, the nature of the terrain within the airport hazard area, the character of the neighborhood and the uses to which the property to be zoned is put and adaptable.

(b) Nonconforming uses.—No airport zoning regulations adopted under this subchapter may require the removal, lowering or other change or alteration of any structure or any object of natural growth not conforming to the regulations when adopted or amended or otherwise interfere with the continuance of any nonconforming use, except as provided in section 5916 (relating to permits and variances).

(c) Model ordinance.—A municipality shall adopt, either in full or by reference, any provision of any model zoning ordinance or other similar guidelines suggested or published by the Federal Aviation Administration of the United States Department of Transportation regarding airport hazard areas.

§ 5916. Permits and variances.

(a) Permits.—Any airport zoning regulations shall require that a permit be obtained before any new use or structure may be established or constructed and before any existing use or structure may be substantially changed, but no permit may be required to make maintenance repairs to or to replace parts of existing structure. However, all regulations shall provide that before any nonconforming structure may be replaced, substantially altered or rebuilt or tree allowed to grow higher or replanted, a permit must be secured from the municipality authorizing the replacement or change. Applications for permits shall only be granted unless to do so would allow the establishment or creation of an airport hazard or permit a nonconforming structure or object of natural growth or nonconforming use to be made or become higher or become a greater hazard to air navigation than it was when the applicable regulation was adopted, or than it is when the application for a permit is made.

(b) Variance.—Any person desiring to erect and structure or increase the height of any structure or permit the growth of any object of natural growth or otherwise use his property in violation of airport zoning regulations may apply to the board for a variance from the zoning regulations in question. A variance shall only be granted after the requirements of section 5919 (relating to notice to department) are satisfied. A variance may be allowed where a literal application or enforcement of the regulations would result in practical difficulty or unnecessary hardship and the relief granted would not be contrary to the public interest but would do substantial justice and would be in accordance with the spirit of the regulations and this subchapter. Any variance may be granted subject to any reasonable conditions that the board may deem necessary to effectuate the purposes of this subchapter.

(c) Hazard marking and lighting.—In granting any permit or variance under this section, the board shall, if it deems the action advisable to effectuate the purpose of this subchapter and reasonable in the circumstances, so condition the permit or variance as to require the owner of the structure or object of natural growth in question to permit the municipality, at its own expense, or require the person or persons requesting the permit or variance, to install, operate and maintain thereon such markers and lights as may be required by guidelines or regulations adopted by the Federal Aviation Administration of the United States Department of Transportation.

#### § 5917. Administrative appeals.

(a) Right of appeal.—Any person aggrieved or taxpayer affected by any decision of the municipality or joint zoning hearing board may appeal to the board as provided by law.

(b) Stay of proceedings.—An appeal shall stay all proceedings in furtherance of the action appealed from unless the municipality or joint zoning hearing board certifies to the board, after the notice of appeal has been filed with it, that, by reason of the facts stated in the certificate, a stay would in its opinion cause imminent peril to life or property. In such cases proceedings shall not be stayed otherwise than by order of the board or notice to the municipality or joint zoning appeal board.

(c) Board of appeals.—All airport zoning regulations shall provide for a board to hear and decide appeals, special exceptions and requests for variances. Where a zoning board of appeals or adjustment already exists, it may be appointed as the board. Otherwise, the board shall consist of five members, each to be appointed for a term of three years by the authority adopting the regulations and to be removable by the appointing authority, for cause, upon written charges and after public hearing.

#### § 5918 Judicial review.

Any person aggrieved or taxpayer affected by any decision of a board may appeal to the court of common pleas as provided by law. In cases where applicable law does not provide an appeal from a municipality to a board, a person or taxpayer may appeal from a decision of a municipality or joint airport zoning board, as provided by law for similar zoning proceedings.

#### § 5919 Notice to department.

Notwithstanding any other provision of law, a municipality or board which decides to grant a permit or variance under this subchapter shall notify the department of its decision. This notice shall be in writing and shall be sent so as to reach the department at least ten days before the date upon which the decision is to issue. Nothing in this section shall be construed as impairing the rights of any person under section 5918 (relating to judicial review).

§ 5920. Acquisition of rights.

In any case in which it is desired to remove, lower or otherwise terminate a nonconforming structure or use, or the approach protection necessary cannot, because of constitutional limitations, be provided by airport zoning regulations, or it appears advisable that the necessary approach protection be provided by acquisition of property rights, rather than by airport zoning regulations, the municipality within which the property or nonconforming use is located, or the municipality or municipal authority owning the airport or served by it, may acquire by purchase, grant or condemnation, in the manner provided by the law under which municipalities are authorized to acquire real property for public purposes, such air right, aviation easement or other estate or interest in the property or nonconforming structure or use in question as may be necessary to effectuate the purpose of this subchapter. In the case of the purchase of any property or any easement or estate, or interest therein, or the acquisition thereof by the power of eminent domain, the municipality making the purchase or exercising the power shall, in addition to the damages for the taking, injury or destruction of property, also pay the cost of the removal and relocation of any structure or any public utility which is required to be moved to a new location.

*The following Frequently Asked Questions (FAQ) on Airport Hazard Zoning were developed to address Act based legal questions for the 2010 Airport Zoning Ordinance Workshops.*

### **Airport Hazard Zoning (Act 164) FAQ's**

1. Does a municipality have a choice in implementing aviation zoning regulations?
  - A. No. Section 5912 of the Aviation Code, 74 Pa. C.S. §5912, states that every municipality having an airport hazard area within its territorial limits shall adopt, administer and enforce airport zoning regulations for such airport hazard area. As a result, every municipality is required to provide some form of airport zoning regulation.
2. Does a municipality need to have airport hazard zoning even if it is not located near an airport?
  - A. If there is no airport hazard area within the municipality's jurisdiction then no airport hazard zoning regulation is required. Depending on where an airport is located within a municipality, an airport hazard area may extend into adjoining municipalities even if the physical airport itself does not.
3. Is there a draft model ordinance?
  - A. Yes. Copies of draft model ordinances are available from the Bureau of Aviation.
4. Is enforcement of zoning regulations civil or criminal?
  - A. Enforcement of zoning regulations is civil. However, if a court has ordered a property owner to comply with an airport zoning code, but said owner continues to fail to do so, then contempt proceedings might result, which may be civil or criminal in nature.
5. Are enforcement provisions required as part of the airport hazard zoning ordinance?
  - A. Enforcement provisions could be included in the zoning ordinance, or the municipality could rely on enforcement provisions in the Municipal Planning Code.
6. How does implementation of a new hazard zoning ordinance impact existing structures, trees, etc.? Must they comply or are they "grandfathered"?
  - A. Section 5915(b) of the Aviation Code, 74 Pa. C.S. §5915(b), states that no airport zoning regulation may require the removal, lowering or other alteration of any structure or object of natural growth that is already in existence at the time airport zoning regulations are adopted. As a result,

such items would be grandfathered. However, changes to existing Part 77 penetrations, including tree growth, may trigger compliance requirements with both local airport zoning requirements and Chapter 57 of the Aviation Code.

7. If grandfathered, what is the best course of action to address existing penetrations if identified?

A. If there are already existing structures that currently penetrate the safety zones around airports, it is most likely that the airport, the Bureau of Aviation, and or the FAA have already taken steps to mitigate any impact they may have on the airport, by way of lighting, markings, and adjustments to the permissible landing surface and/or types of airplanes permitted to use the airport. If such mitigation efforts are not already in place, then the airport and the municipality can work with the property owner to negotiate such efforts and/or the municipality can acquire by purchase, grant or condemnation necessary air rights.

8. Can Chapter 57 be applied if penetrating object is deemed to be an obstruction and/or hazard and the owner will not cooperate?

A. Chapter 57 precludes the erection of new structures or additions to existing structures or natural growth in approach areas or in close proximity of an airport, regardless of underlying local zoning regulations. See 74 Pa. C.S. §5701. Any person who does so, without first obtaining approval from the Department, commits a summary offense. If the hazard is not new or a new addition, then Section 5701 does not apply and pre-existing penetrations will be addressed through hazard mitigation efforts.

9. What about condemnation; when it used?

A. Pursuant to Section 5920 of the Aviation Code, a municipality may acquire by purchase, grant or condemnation, air rights, aviation easements or other estate or interest in the property or nonconforming structure or land use where protection of the approach area cannot be protected through zoning alone. Any condemnation proceeding pursued under this authority would follow the procedural requirements set forth in the Eminent Domain Code.

Condemnation or other acquisition methods could also be used to eliminate hazards that were otherwise permitted as grandfathered obstructions under Section 5915(b), if a municipality had the interest and financial wherewithal to do so. Such proceedings would also follow the procedures in the Eminent Domain Code.

10. Please explain why airport zoning is not considered to be a “taking”. What if the full use of the land is diminished as a result of Act 164 compliance?

- A. Where government authorizes physical occupation of property, it will generally be considered a taking that requires compensation. Where, however, government merely regulates use of property, a taking is found and compensation is required only if either (1) the purpose of the regulation or (2) the extent to which it deprives the owner of use of the property, suggests that the regulation has unfairly singled out the property owner to bear a burden that should be borne by the public as a whole.

As per federal law and Section 5501 of the Aviation Code, ownership of land, while it extends into the space above said land, extends only so far as is necessary to the enjoyment of use of the surface without interference and is subject to the right of passage or flight of aircraft. See 74 Pa. C.S. §5501. The passage of airport zoning regulations is similar to the passage of other zoning regulations involving height restrictions and/or land use. As a result, mere passage of such regulations is not generally in itself a taking as long as the property owner can still make reasonable use of the property. Airport hazard zoning is only a particular category of height restriction, which, generally, are found acceptable (think of limits on the height of buildings in Philadelphia or D.C.).

Application of a zoning regulation to a particular property may constitute a taking if reasonable use of the property has been impeded. A property owner who believes their use of the property has been affected could bring a lawsuit under the Eminent Domain Code; the success of such an action will depend on the particular factors at play between the property and the regulation and involve other case-by-case factors.

11. Can a Municipality legally shift their responsibility regarding implementation and enforcement (and associated costs) to the airport as a condition of the Ordinance?

- A. No. Airport hazard zoning is the responsibility of the municipality, as are other zoning regulations.

12. Does the new "Airport District Overlay Ordinance" model meet the intent of Act 164?

- A. Yes. In the Department's view, the intent of Act 164 is to protect the operational area of an airport by preventing obstructions or hazards to air navigation.

Compatible land uses can be addressed in Municipal and/or County Land use and Comprehensive Plans.

13. How do the zoning requirements of the Aviation Code interact with the Municipal Planning Code, which states that if any zoning is begun the entire Municipality must also be zoned?

A. The language of Chapter 59 of the Aviation Code requires municipalities to adopt airport zoning laws. Further, in Section 5912(a) it provides that a municipality that already has a comprehensive zoning ordinance must adopt airport zoning regulations if the plan does not already address land use and height restrictions. In Section 5913, it provides that a municipality can incorporate its airport hazard regulations into a comprehensive plan that exists, or if such plan is later enacted. The provisions of Section 5913 suggest that passing airport zoning pursuant to Chapter 59 of the Aviation Code do not necessarily trigger the requirement set forth in Section 10605 of the Municipal Planning Code, 53 P.S. §10605, that creation of any zone will require the entirety of the municipality to be zoned. However, a municipality that does not currently have a comprehensive plan should consult with its solicitor.

# Airport Hazard Zoning Workshop Tab E

## **FEDERAL AVIATION REGULATIONS**

### **Part 77 Objections Affecting Navigable Airspace**

This edition replaces the existing loose-leaf  
Part 77 and its changes.

This FAA publication of the basic Part 77, effective May 1, 1965,  
incorporates Amendments 77-1 through 77-11 with preambles.

**Full Regulation available at:**

<http://ecfr.gpoaccess.gov/cgi/t/text/text-idx?c=ecfr&sid=7c31e5ce0d3df1e47bc1f0478e281228&rgn=div5&view=text&node=14:2.0.1.2.9&idno=14>

### **Model Zoning Ordinance Language for an Airport District Overlay**

The attached model zoning ordinance is provided as a tool to help impacted municipalities meet their obligation to enact airport hazard zoning as required by PA Act 164. The model is an overlay zone whereby a set of zoning requirements are superimposed upon a base zone(s) and development of land subject to overlay zoning requires compliance with the regulations of both the base and overlay zones. The overlay ordinance is a streamlined version of a model ordinance also available through PennDOT's Bureau of Aviation.

This model ordinance is intended to provide guidance for local government development and adoption of an airport overlay district. The local ordinance should be developed by the municipal planning board and/or municipal zoning officer in consultation with the municipality's solicitor.

## AIRPORT DISTRICT OVERLAY ORDINANCE

AN ORDINANCE OF *MUNICIPALITY* SETTING FORTH ITS AUTHORITY TO ESTABLISH AN “AIRPORT DISTRICT OVERLAY” TO INCLUDE: PURPOSES OF THE DISTRICT, DEFINITIONS, AIRPORT ZONES, AIRPORT ZONE HEIGHT LIMITATIONS; PERMITS REQUIRED; USE RESTRICTIONS; NONCONFORMING USES; VARIANCES; CONFLICTING REGULATIONS; AND AMENDING THE OFFICIAL ZONING MAP BY THE ADOPTION OF AN OFFICIAL SUPPLEMENTARY AIRPORT OVERLAY ZONING MAP.

**WHEREAS**, certain airport hazards, as defined, in effect reduce the size of the area available for landing, takeoff, and maneuvering of aircraft, thus tending to destroy or impair the utility of *Airport* and the public investment therein; and

**WHEREAS**, the creation or establishment of an airport hazard, as defined, is a public nuisance and may injure the region served by the *Airport*; and

**WHEREAS**, it is necessary in the interest of public health, public safety and general welfare that the creation or establishment of airport hazards, as defined, be prevented; and

**WHEREAS**, the prevention of these airport hazards, as defined, should be accomplished, to the extent legally possible, by the exercise of police power without compensation; and

**WHEREAS**, both the prevention of the creation or establishment of airport hazards, as defined, and the elimination, removal, alteration, mitigation or marking and lighting of existing airport hazards, as defined, are public purposes for which political subdivisions may raise and expend public funds and acquire land or interests in land; and

**WHEREAS**, The *Municipal Elected Body* did hold public hearing on *Date*;

**NOW, THEREFORE BE IT ORDAINED** by the *Municipal Elected Body*, pursuant to the authority conferred by 1984 Pa. Laws 164 codified at 74 Pa. Cons. Stat. §§5912 et. Seq., the following be and is hereby adopted as an ordinance of *Municipality*:

## **Airport District Overlay Ordinance**

- Section 1: Purpose
- Section 2: Relation to Other Zone Districts
- Section 3: Definitions
- Section 4: Establishment of Airport Zones and Height Limitations
- Section 5: Permit Applications
- Section 6: Variance
- Section 7: Use Restrictions
- Section 8: Pre-existing Non-conforming Uses
- Section 9: Obstruction Marking and Lighting
- Section 10: Violations and Penalties
- Section 11: Appeals
- Section 12: Conflicting Regulations
- Section 13: Severability

**Section 1: Purpose.** The purpose of this ordinance is to create an airport district overlay that considers safety issues around the *Airport*, regulates and restricts the heights of constructed structures and objects of natural growth, creates appropriate zones, establishing the boundaries thereof and providing for changes in the restrictions and boundaries of such zones, creates the permitting process for use within said zones and provides for enforcement, assessment of violation penalties, an appeals process, and judicial review.

**Section 2: Relation to Other Zone Districts.** The Airport District Overlay shall not modify the boundaries of any underlying zoning district. Where identified, the Airport District Overlay shall impose certain requirements on land use and construction in addition to those contained in the underlying zoning district.

**Section 3: Definitions.** The following words and phrases when used in this ordinance shall have the meaning given to them in this section unless the context clearly indicates otherwise.

**Airport Elevation:** The highest point of an airport's useable landing area measured in feet above sea level. The airport elevation of the *Airport* is (insert airport elevation here).

**Airport Hazard:** Any structure or object, natural or manmade, or use of land which obstructs the airspace required for flight or aircraft in landing or taking off at an airport or is otherwise hazardous as defined in 14 CFR Part 77 and 74 Pa. Cons. Stat. §5102.

**Airport Hazard Area:** Any area of land or water upon which an airport hazard might be established if not prevented as provided for in this Ordinance and the Act 164 of 1984 (Pennsylvania Laws Relating to Aviation).

**Approach Surface (Zone):** An imaginary surface longitudinally centered on the extended runway centerline and extending outward and upward from each end of the primary surface. An approach surface is applied to each end of the runway based on the planned approach. The inner edge of the approach surface is the same width as the primary surface and expands uniformly depending on the planned approach. The approach surface zone, as shown on Figure 1, is derived from the approach surface.

**Conical Surface (Zone):** An imaginary surface extending outward and upward from the periphery of the horizontal surface at a slope of twenty (20) feet horizontally to one (1) foot vertically for a horizontal distance of 4,000 feet. The conical surface zone, as shown on Figure 1, is based on the conical surface.

**Department:** Pennsylvania Department of Transportation.

**FAA:** Federal Aviation Administration of the United States Department of Transportation.

**Height:** For the purpose of determining the height limits in all zones set forth in this Ordinance and shown on the zoning map, the datum shall be mean sea level elevation unless otherwise specified.

**Horizontal Surface (Zone):** An imaginary plane 150 feet above the established airport elevation that is constructed by swinging arcs of various radii from the center of the end of the primary surface and then connecting the adjacent arc by tangent lines. The radius of each arc is based on the planned approach. The horizontal surface zone, as shown on Figure 1, is derived from the horizontal surface.

**Larger Than Utility Runway:** A runway that is constructed for and intended to be used by propeller driven aircraft of greater than 12,500 pounds maximum gross weight and jet powered aircraft.

**Nonconforming Use:** Any pre-existing structure, object of natural growth, or use of land which is inconsistent with the provisions of this Ordinance or an amendment thereto.

**Non-Precision Instrument Runway:** 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.

**Obstruction:** Any structure, growth, or other object, including a mobile object, which exceeds a limiting height set forth by this Ordinance.

**Precision Instrument Runway:** A runway having an existing instrument approach procedure utilizing an Instrument Landing System (ILS) or a Precision Approach Radar (PAR). It also means a runway for which a precision approach system is

planned and is so indicated on an approved airport layout plan or any other planning document.

**Primary Surface (Zone):** An imaginary surface longitudinally centered on the runway, extending 200 feet beyond the end of paved runways or ending at each end of turf runways. The elevation of any point on the primary surface is the same as the elevation of the nearest point on the runway centerline. The primary surface zone, as shown on Figure 1, is derived from the primary surface.

**Runway:** A defined area of an airport prepared for landing and takeoff of aircraft along its length.

**Structure:** An object, including a mobile object, constructed or installed by man, including but without limitation, buildings, towers, cranes, smokestacks, earth formation and overhead transmission lines.

**Transitional Surface (Zone):** An imaginary surface that extends outward and upward from the edge of the primary surface to the horizontal surface at a slope of seven (7) feet horizontally to one (1) foot vertically (7:1). The transitional surface zone, as shown on Figure 1, is derived from the transitional surface.

**Tree:** Any object of natural growth.

**Utility Runway:** A runway that is constructed for and intended to be used by propeller driven aircraft of 12,500 pounds maximum gross weight or less.

**Visual Runway:** A runway intended solely for the operation of aircraft using visual approach procedures.

**Section 4: Establishment of Airport Zones:** There are hereby created and established certain zones within the Airport District Overlay ordinance, defined in Section 3 and depicted on Figure 1 and illustrated on *Airport* Hazard Area Map, hereby adopted as part of this ordinance, which include:

1. **Approach Surface Zone**
2. **Conical Surface Zone**
3. **Horizontal Surface Zone**
4. **Primary Surface Zone**
5. **Transitional Surface Zone**

**Section 5: Permit Applications.** As regulated by Act 164 and defined by 14 Code of Federal Regulations Part 77.13(a) (as amended or replaced), any person who plans to erect a new structure, to add to an existing structure, or to erect and maintain any object (natural or manmade), in the vicinity of the airport, *shall first notify the Department's Bureau of Aviation (BOA) by submitting PENNDOT Form AV-57 to obtain an obstruction review of the proposal at least 30 days prior to commencement thereof.* The Department's BOA response must be included with this permit application for it to be considered complete. If the Department's BOA returns a determination of no penetration of airspace, the permit request should be considered in compliance with the intent of this Overlay Ordinance. If the Department's BOA returns a determination of a penetration of airspace, the permit shall be denied, and the project sponsor may seek a variance from such regulations as outlined in Section 6.

No permit is required to make maintenance repairs to or to replace parts of existing structures which do not enlarge or increase the height of an existing structure.

**Section 6: Variance.** Any request for a variance shall include documentation in compliance with 14 Code of Federal Regulations Part 77 Subpart B (FAA Form 7460-1 as amended or replaced). Determinations of whether to grant a variance will depend on the determinations made by the FAA and the Department's BOA as to the effect of the proposal on the operation of air navigation facilities and the safe, efficient use of navigable air space. In particular, the request for a variance shall consider which of the following categories the FAA has placed the proposed construction in:

1. No Objection - The subject construction is determined not exceed obstruction standards and marking/lighting is not required to mitigate potential hazard. Under this determination a variance shall be granted.
2. Conditional Determination - The proposed construction/alteration is determined to create some level of encroachment into an airport hazard area which can be effectively mitigated. Under this determination, a variance shall be granted contingent upon implementation of mitigating measures as described in Section 9 - Obstruction Marking and Lighting.
3. Objectionable - The proposed construction/alteration is determined to be a hazard and is thus objectionable. A variance shall be denied and the reasons for this determination shall be outlined to the applicant.

Such requests for variances shall be granted where it is duly found that a literal application or enforcement of the regulations will result in unnecessary hardship and that relief granted will not be contrary to the public interest, will not create a hazard to air navigation, will do substantial justice, and will be in accordance with the intent of this ordinance.

**Section 7: Use Restrictions.** Notwithstanding any other provisions of this Ordinance, no use shall be made of land or water within the Airport District Overlay in such a manner as to create electrical interference with navigational signals or radio communications between the airport and aircraft, make it difficult for pilots to distinguish between airport lights and others, impair visibility in the vicinity of the airport, create bird strike hazards

or otherwise endanger or interfere with the landing, takeoff or maneuvering of aircraft utilizing the *Airport*.

**Section 8: Pre-Existing Non-Conforming Uses:** The regulations prescribed by this Ordinance shall not be construed to require the removal, lowering, or other change or alteration of any structure or tree not conforming to the regulations as of the effective date of this Ordinance, or otherwise interfere with the continuance of a non-conforming use. No non-conforming use shall be structurally altered or permitted to grow higher, so as to increase the non-conformity, and a non-conforming use, once substantially abated (subject to the underlying zoning ordinance,) may only be reestablished consistent with the provisions herein.

**Section 9: Obstruction Marking and Lighting.** Any permit or variance granted pursuant to the provisions of this ordinance may be conditioned according to the process described in Section 6 to require the owner of the structure or object of natural growth in question to permit the municipality, at its own expense, or require the person requesting the permit or variance, to install, operate, and maintain such marking or lighting as deemed necessary to assure both ground and air safety.

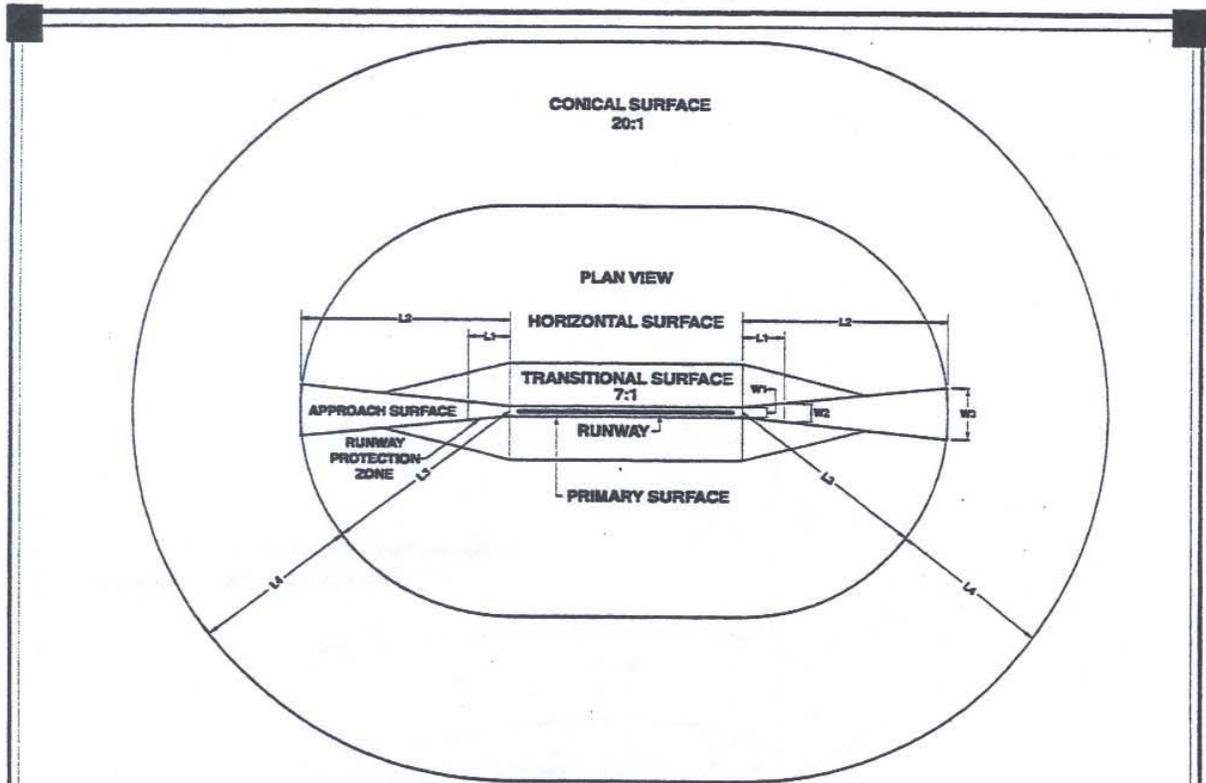
**Section 10: Violations and Penalties.** *Subject to that in the underlying Zoning Ordinance.*

**Section 11: Appeals.** *Subject to the process in the underlying Zoning Ordinance.*

**Section 12: Conflicting Regulations.** Where there exists a conflict between any of the regulations or limitations prescribed in this ordinance and any other regulation applicable to the same area, the more stringent limitation or requirement shall govern and prevail.

**Section 13: Severability.** If any of the provisions of this Ordinance or the application thereof to any person or circumstance are 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.

Figure 1: Part 77 Surface Areas



**FAR PART 77 "IMAGINARY SURFACES" DIMENSION REQUIREMENTS**

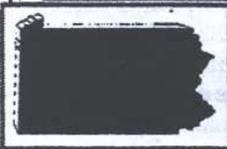
Runway Type	Runway End		Conical Surface (L4)	Horizontal Surface (L3)	Approach Surface			Approach Slope	Primary Surface Width	Transitional Surface
	Approach	Other			Length (L2)	Inner Width (W1)	Other Width (W3)			
Small Airplanes <sup>2</sup>	V	V	4,000	5,000	5,000	250	1,250	20:1	250	7:1
		NP	4,000	5,000	5,000	500	1,250	20:1	500	7:1
		NP 3/4	4,000	5,000	5,000	1,000	1,250	20:1	1,000	7:1
		P	4,000	5,000	5,000	1,000	1,250	20:1	1,000	7:1
	NP	V	4,000	5,000	5,000	500	2,000	20:1	500	7:1
		NP	4,000	5,000	5,000	500	2,000	20:1	500	7:1
		NP 3/4	4,000	5,000	5,000	1,000	2,000	20:1	1,000	7:1
		P	4,000	5,000	5,000	1,000	2,000	20:1	1,000	7:1
Large Airplanes <sup>3</sup>	V	V	4,000	5,000	5,000	500	1,500	20:1	500	7:1
		NP	4,000	10,000	5,000	500	1,500	20:1	500	7:1
		NP 3/4	4,000	10,000	5,000	1,000	1,500	20:1	1,000	7:1
		P	4,000	10,000	5,000	1,000	1,500	20:1	1,000	7:1
	NP	V	4,000	10,000	10,000	500	3,500	34:1	500	7:1
		NP	4,000	10,000	10,000	500	3,500	34:1	500	7:1
		NP 3/4	4,000	10,000	10,000	1,000	3,500	34:1	1,000	7:1
		P	4,000	10,000	10,000	1,000	3,500	34:1	1,000	7:1
Large and Small Airplanes	NP 3/4	V	4,000	10,000	10,000	1,000	4,000	34:1	1,000	7:1
		NP	4,000	10,000	10,000	1,000	4,000	34:1	1,000	7:1
		NP 3/4	4,000	10,000	10,000	1,000	4,000	34:1	1,000	7:1
		P	4,000	10,000	10,000	1,000	4,000	34:1	1,000	7:1
	P	V	4,000	10,000	10,000/40,000	1,000	4,000/16,000	50:1/40:1	1,000	7:1
		NP	4,000	10,000	10,000/40,000	1,000	4,000/16,000	50:1/40:1	1,000	7:1
		NP 3/4	4,000	10,000	10,000/40,000	1,000	4,000/16,000	50:1/40:1	1,000	7:1
		P	4,000	10,000	10,000/40,000	1,000	4,000/16,000	50:1/40:1	1,000	7:1

1 - In Feet  
 2 - Less than 12,500 lbs maximum certified takeoff weight  
 3 - Greater than 12,500 lbs maximum certified takeoff weight

V = Visual approach 20:1  
 NP = Nonprecision approach 34:1  
 NP 3/4 = Nonprecision approach with visibility minimums as low as 3/4 statute miles 34:1  
 P = Precision approach 50:1

Note: L1 is the length of the RPZ and W2 is the outer width of the RPZ as defined by approach visibility minimums

Source: Federal Aviation Administration





# NOTICE OF PROPOSED CONSTRUCTION OR ALTERATION

<b>1. Nature of Proposal</b>			<b>2. Complete Description of Structure</b>		
A. Type <input type="checkbox"/> New Construction <input type="checkbox"/> Alteration	B. Class <input type="checkbox"/> Permanent <input type="checkbox"/> Temporary (Duration _____ months)	C. Work Schedule Dates Beginning _____ End _____	A. Include size and configuration of power transmission lines and their supporting towers in the vicinity of public airports.  B. Include information showing site orientation dimensions, and construction materials of the proposed structure.		
<b>3A. Name and address of individual company, corporation, etc. proposing the construction or alteration.</b> (Number, Street, City, State and Zip Code)  ( _____ ) Telephone Number _____			(if more space is required, continue on a separate sheet)		
<b>3B. Name, address and telephone number of proponent's representative if different than 3 above.</b>					
<b>4. Location of Structure</b>			<b>5. Height and Elevation</b> <small>(Complete to the nearest foot)</small>		
A. Coordinates <i>(To nearest second)</i>	B. Nearest City or Town, and State	C. Name of nearest airport, heliport, flight park, or seaplane base	A. Elevation of site above mean seal level.		
Latitude °   '   "	Distance from B Miles	(1) Distance from structure to nearest point of nearest runway	B. Height of Structure including all appurtenances and lighting <i>(if any)</i> above ground or water is so situated.		
Longitude °   '   "	Distance from B	(2) Direction from structure to airport	C. Overall height above mean sea level (A + B).		
D. Description of location of site with respect to highways, streets, airports, prominent terrain features, existing structures, etc. Attach a U.S. Geological Survey quadrangle map or equivalent showing the relationship of construction site to nearest airport(s). <i>(If more space is required, continue on a separate sheet of paper and attach to this notice.)</i>					
Notice is required by the Aviation Code, Act of October 10, 1984, P.L.837 No. 164 and Title 67 PA Code Chapter 479, Section 479.4.					
I HEREBY CERTIFY that all of the above statements made by me are true, complete, and correct to the best of my knowledge. In addition, I agree to obstruction mark and/or light the structure in accordance with established marking and lighting standards if necessary.					
Date	Typed Name/Title of Person Filing Notice	Signature			
<b>FOR BUREAU OF AVIATION USE ONLY: The Bureau will either return this form or issue a separate acknowledgment.</b>					
<b>THE PROPOSAL:</b> <input type="checkbox"/> Is not identified as an obstruction under any standard or FAR, Part 77, Subpart C and PA Aviation Code, Act 1984-164. <input type="checkbox"/> Is identified as an obstruction under the standards of FAR, Part 77, Subpart C and PA Aviation Code, Act 1984-164. <input type="checkbox"/> Should be obstruction <input type="checkbox"/> marked, <input type="checkbox"/> lighted per FAA advisory Circular 70/7460-1. Chapter(s) _____ <input type="checkbox"/> Obstruction marking and lighting are not necessary. <input type="checkbox"/> A notice is required anytime the project is abandoned and when construction is completed.			<b>REMARKS:</b>		
SIGNATURE: _____ DATE: _____					

Please review this section of the Aviation Code:

## AVIATION CODE

Act of October 10, 1984, P.L. 837, No. 164

(Amending Title 74 [Transportation] of the Pennsylvania Consolidated Statistics)

### CHAPTER 57

#### OBSTRUCTIONS TO AIRCRAFT OPERATION

##### SEC. 5701. DEPARTMENT APPROVAL

- (a) Obstructions to aircraft within approach area. A person who erects and maintains any smokestack, flag pole, elevated tank, radio station tower, antenna, building, structure, any object of natural growth or other obstruction to the operation of aircraft within an approach area that extends above an inclined plane without first obtaining prior approval thereof from the Department commits a summary offense. Each day a violation of this subsection continues constitutes a separate offense.
- (b) Structures in close proximity to airport. A person who erects a new structure or adds to an existing structure in violation of guidelines or regulations adopted by the Federal Aviation Administration of the United States Department of Transportation, or who erects the structure with respect to the airport without, in either event, first obtaining prior approval from the Department, commits a summary offense.
- (c) Definition. As used in this section the term "approach area" includes all that area lying within and above an inclined plane, starting at each end of each runway or landing strip of a public-use airport, as described by guidelines or regulations adopted by the Federal Aviation Administration of the United States Department of Transportation.

## TITLE 67 PENNSYLVANIA CODE

### CHAPTER 479

##### SEC. 479.4. AIRPORT OBSTRUCTIONS

A person who plans to erect a new structure, to add to an existing structure, or to erect or maintain any object (natural or man-made), as defined in 14 Code of Federal Regulations Part 77.13(a) (as amended or replaced), shall first obtain approval from the Department by submitting a written notice (Form AV-57) to the Department at least thirty (30) days prior to commencement thereof.

##### **Federal Aviation Regulation, Part 77**

##### **§77.13 Construction or Alteration Requiring Notice**

- (a) Except as provided in §77.15, each sponsor who proposes any of the following construction or alteration shall notify the Administrator in the form and manner prescribed in §77.17;
  - (1) Any construction or alteration of more than 200 feet in height above the ground level at its site.
  - (2) Any construction or alteration of greater height than an imaginary surface extending outward and upward at one of the following slopes:
    - (i) 100 to 1 for a horizontal distance of 20,000 feet from the nearest point of the nearest runway of each airport specified in subparagraph (5) of this paragraph with at least one runway more than 3,200 feet in actual length, excluding heliports.
    - (ii) 50 to 1 for a horizontal distance of 10,000 feet from the nearest point of the nearest runway of each airport specified in subparagraph (5) of this paragraph with its longest runway no more than 3,200 feet in actual length, excluding heliports.
    - (iii) 25 to 1 for a horizontal distance of 5,000 feet from the nearest point of the nearest landing and takeoff area of each heliport specified in subparagraph (5) of this paragraph.
  - (3) Any highway, railroad, or other traverse way for mobile objects, of a height which, if adjusted upward 17 feet for an interstate Highway that is part of the National System of Military and Interstate Highways where overcrossings are designed for a minimum of 17 feet vertical distance, 15 feet for any other public roadway, 10 feet or the height of the highest mobile object that would normally traverse the road, whichever is greater, for a private road, 23 feet for a railroad, and for a waterway or any other traverse way not previously mentioned, an amount equal to the height of the highest mobile object that would normally traverse it, would exceed a standard of subparagraph (1) or (2) of this paragraph.
  - (4) When requested by the FAA, any construction or alteration that would be in an instrument approach area (defined in the FAA standards governing instrument approach procedures and available information indicates it might exceed a standard of Subpart C of this part.
  - (5) Any construction or alteration on any of the following airports (including heliports):
    - (i) An airport that is available for public use and is listed in the Airport Directory of the current Airman's Information Manual or in either the Alaska or Pacific Airman's Guide and Chart Supplement.
    - (ii) An airport under construction, that is the subject of a notice or proposal on file with the Federal Aviation Administration, and except for military airports, it is clearly indicated that that airport will be available for public use.
    - (iii) An airport that is operated by an armed force of the United States.

Please mail the completed application to: PA Department of Transportation  
Bureau of Aviation  
P.O. Box 3457  
Harrisburg, PA 17105

## NOTICE OF PROPOSED CONSTRUCTION OR ALTERATION

### §77.13 Construction or alteration requiring notice.

(a) Except as provided in §77.15, each sponsor who proposes any of the following construction or alteration shall notify the Administrator in the form and manner prescribed in §77.17:

(1) Any construction or alteration of more than 200 feet in height above the ground level at its site.

(2) Any construction or alteration of greater height than an imaginary surface extending outward and upward at one of the following slopes:

(i) 100 to 1 for a horizontal distance of 20,000 feet from the nearest point of the nearest runway of each airport specified in paragraph (a) (5) of this section with at least one runway more than 3,200 feet in actual length, excluding heliports.

(ii) 50 to 1 for a horizontal distance of 10,000 feet from the nearest point of the nearest runway of each airport specified in paragraph (a) (5) of this section with its longest runway no more than 3,200 feet in actual length, excluding heliports.

(iii) 25 to 1 for a horizontal distance of 5,000 feet from the nearest point of the nearest landing and takeoff area of each heliport specified in paragraph (a) (5) of this section.

(3) Any highway, railroad, or other traverse way for mobile objects, of a height which, if adjusted upward 17 feet for an Interstate Highway that is part of the National System of Military and Interstate Highways where overcrossings are designed for a minimum of 17 feet vertical distance, 15 feet for any other public roadway, 10 feet or the height of the highest mobile object that would normally traverse the road, whichever is greater, for a private road, 23 feet for a railroad, and for a waterway or any other traverse way not previously mentioned, an amount equal to the height of the highest mobile object that would normally traverse it, would exceed a standard of paragraph (a) (1) or (2) of this section.

(4) When requested by the FAA, any construction or alteration that would be in an instrument approach area (defined in the FAA standards governing instrument approach procedures) and available information indicates it might exceed a standard of Subpart C of this part.

(5) Any construction or alteration on any of the following airports (including heliports):

(i) An airport that is available for public use and is listed in the Airport Directory of the current Airman's Information Manual or in either the Alaska or Pacific Airman's Guide and Chart Supplement.

(ii) An airport under construction, that is the subject of a notice or proposal on file with the Federal Aviation Administration, and except for military airports, it is clearly indicated that that airport will be available for public use.

(iii) An airport that is operated by an armed force of the United States.

(b) Each sponsor who proposes construction or alteration that is the subject of a notice under paragraph (a) of this section and is advised by an FAA regional office that a supplemental notice is required shall submit that notice on a prescribed form to be received by the FAA regional office at least 48 hours before the start of construction or alteration.

(c) Each sponsor who undertakes construction or alteration that is the subject of a notice under paragraph (a) of this section shall, within 5 days after that construction or alteration reaches its greatest height, submit a supplemental notice on a prescribed form to the FAA regional office having jurisdiction over the region involved, if —

(1) The construction or alteration is more than 200 feet above the surface level of its site; or

(2) An FAA regional office advises him that submission of the form is required.

### §77.15 Construction or alteration not requiring notice.

No person is required to notify the Administrator for any of the following construction or alteration:

(a) Any object that would be shielded by existing structures of a permanent and substantial character or by natural terrain or topographic features of equal or greater height; and would be located in the congested area of a city, town, or settlement where it is evident beyond all reasonable doubt that the structure so shielded will not adversely affect safety in air navigation.

(b) Any antenna structure of 20 feet or less in height except one that would increase the height of another antenna structure.

(c) Any air navigation facility, airport visual approach or landing aid, aircraft arresting device, or meteorological device, of a type approved by the Administrator, or an appropriate military service on military airports, the location and height of which is fixed by its functional purpose.

(d) Any construction or alteration for which notice is required by any other FAA regulation.

### §77.17 Form and time of notice.

(a) Each person who is required to notify the Administrator under §77.13 (a) shall send one executed form set of FAA Form 7460-1, Notice of Proposed Construction or Alteration, to the Manager, Air Traffic Division, FAA Regional Office having jurisdiction over the area within which the construction or alteration will be located. Copies of FAA Form 7460-1 may be obtained from the headquarters of the Federal Aviation Administration and the regional offices.

(b) The notice required under §77.13 (a) (1) through (4) must be submitted at least 30 days before the earlier of the following dates —

(1) The date the proposed construction or alteration is to begin.

(2) The date an application for a construction permit is to be filed.

However, a notice relating to proposed construction or alteration that is subject to the licensing requirements of the Federal Communications Act may be sent to the FAA at the same time the application for construction is filed with the Federal Communications Commission, or at any time before that filing.

(c) A proposed structure or an alteration to an existing structure that exceeds 2,000 feet in height above the ground will be presumed to be a hazard to air navigation and to result in an inefficient utilization of airspace and the applicant has the burden of overcoming that presumption. Each notice submitted under the pertinent provisions of this part 77 proposing a structure in excess of 2,000 feet above ground, or an alteration that will make an existing structure exceed that height, must contain a detailed showing, directed to meeting this burden. Only in exceptional cases, where the FAA concludes that a clear and compelling showing has been made that it would not result in an inefficient utilization of the airspace and would not result in a hazard to air navigation, will a determination of no hazard be issued.

(d) In the case of an emergency involving essential public services, public health, or public safety that requires immediate construction or alteration, the 30 day requirement in paragraph (b) of this section does not apply and the notice may be sent by telephone, telegraph, or other expeditious means, with an executed FAA Form 7460-1 submitted within five (5) days thereafter. Outside normal business hours, emergency notices by telephone or telegraph may be submitted to the nearest FAA Flight Service Station.

(e) Each person who is required to notify the Administrator by paragraph (b) or (c) of §77.13, or both, shall send an executed copy of FAA Form 7460-2, Notice of Actual Construction or Alteration, to the Manager, Air Traffic Division, FAA Regional Office having jurisdiction over the area involved.



## Announcement

Please send all future FAA form 7460-1 notices to the FAA's new...

### EXPRESS PROCESSING CENTER

Federal Aviation Administration  
Southwest Regional Office  
Air Traffic Airspace Branch, ASW-520  
2601 Meacham Blvd.  
Fort Worth, TX 76137-4298  
Phone: (817) 838-1990

## INSTRUCTIONS FOR COMPLETING FAA FORM 7460-1

### *PLEASE TYPE or PRINT*

**ITEM #1.** Please include the name, address, and phone number of a personal contact point as well as the company name.

**ITEM #2.** Please include the name, address, and phone number of a personal contact point as well as the company name.

**ITEM #3.** New Construction would be a structure that has not yet been built.

Alteration is a change to an existing structure such as the addition of a side mounted antenna, a change to the marking and lighting, a change to power and/or frequency, or a change to the height. The nature of the alternation shall be included in **ITEM #21** "Complete Description of Proposal". Existing would be a correction to the latitude and/or longitude, a correction to the height, or if filing on an existing structure which has never been studied by the FAA. The reason for the notice shall be included in **ITEM #21** "Complete Description of Proposal".

**ITEM #4.** If Permanent, so indicate. If Temporary, such as a crane or drilling derrick, enter the estimated length of time the temporary structure will be up.

**ITEM #5.** Enter the date that construction is expected to start and the date that construction should be completed.

**ITEM #6.** Please indicate the type of structure. **DO NOT LEAVE BLANK.**

**ITEM #7.** In the event that obstruction marking and lighting is required, please indicate type desired. If no preference, check "other" and indicate "no preference". **DO NOT LEAVE BLANK.** *NOTE: High intensity lighting shall be used only for structures over 500' AGL.* In the absence of high intensity lighting for structures over 500' AGL, marking is also required.

**ITEM #8.** If this is an existing tower that has been registered with the FCC, enter the FCC Antenna Structure Registration number here.

**ITEM #9.** and **#10.** Latitude and longitude must be geographic coordinates, accurate to within the nearest second or to the nearest hundredth of a second if known. Latitude and longitude derived solely from a **hand-held GPS instrument is acceptable.** This data, when plotted, should match the site depiction submitted under **ITEM #20.**

**ITEM #11.** NAD 83 is preferred; however, latitude/longitude may be submitted in NAD 27. Also, in some geographic areas where NAD 27 and NAD 83 are not available other datums may be used. It is important to know which datum is used. **DO NOT LEAVE BLANK.**

**ITEM #12.** Enter the name of the nearest city/state to the site. If the structure is or will be in a city, enter the name of that city/state.

**ITEM #13.** Enter the full name of the nearest public-use (not private-use) airport (or heliport) or military airport (or heliport) to the site.

**ITEM #14.** Enter the distance **from** the airport or heliport listed in **#13 to the structure.**

**ITEM #15.** Enter the direction **from** the airport or heliport listed in **#13 to the structure.**

**ITEM #16.** Enter the site elevation above mean sea level and expressed in **whole feet** rounded to the nearest foot (e.g. 17' 3" rounds to 17, 176" rounds to 18'). This data should match the ground contour elevations for site depiction submitted under **ITEM #20.**

**ITEM #17.** Enter the total structure height **above ground level in whole feet** rounded to the **next highest foot** (e.g. 173" rounds to 18'). **The total structure height shall include anything mounted on top of the structure, such as antennas, obstruction lights, lightning rods, etc.**

**ITEM #18.** Enter the overall height above mean sea level and expressed in **whole feet.** This will be the total of **ITEM #16 + ITEM #17.**

**ITEM #19.** If an FAA aeronautical study was previously conducted, enter the previous study number.

**ITEM #20.** Enter the relationship of the structure to roads, airports, prominent terrain, existing structures, etc. Attach an 8-1/2" X 11" non-reduced copy of the appropriate 7.5 minute U.S. Geological Survey (USGS) Quadrangle Map MARKED WITH A PRECISE INDICATION OF THE SITE LOCATION. To obtain maps, Contact USGS at 1-888-275-8747 or via Internet at <http://store.usgs.gov/>. If available, attach a copy of a documented site survey with the surveyor's certification stating the amount of vertical and horizontal accuracy in feet.

**ITEM #21.**

- For transmitting stations, include maximum effective radiated power (ERP) and all frequencies.
- For antennas, include the type of antenna and center of radiation (*Attach the antenna pattern, if available*).
- For microwave, include azimuth relative to true north.
- For overhead wires or transmission lines, include size and configuration of wires and their supporting structures (*Attach depiction*).
- For **each** pole/support, include coordinates, site elevation, and structure height above ground level or water.
- For buildings, include site orientation, coordinates of **each** corner, dimensions, and construction materials,
- For alterations, explain the alteration thoroughly,
- For existing structures, thoroughly explain the reason for notifying the FAA (*e.g. corrections, no record of previous study, etc.*).

**Filing this information with the FAA does not relieve the sponsor of this construction or alteration from complying with any other federal state or local rules or regulations. If you are not sure what other rules or regulations apply to your proposal, contact local/state aviation and zoning authorities.**

**Paperwork Reduction Work Act Statement:** This information is collected to evaluate the effect of proposed construction or alteration on air navigation and is not confidential. Providing this information is mandatory for anyone proposing construction or alteration that meets or exceeds the criteria contained in 14 CFR , part 77. We estimate that the burden of this collection is an average 19 minutes per response. An agency may not conduct or sponsor, and a person is not required to respond to a collection of information unless R displays a currently valid OMB control number. The OMB control number for this collection is 2120-0001.

**FAA Form 7460-1** (2-99) Supersedes Previous Edition  
0008

NSN: 0052-00-012-



## **Steps for Development near an Airport**

### **Step 1**

Property owner (proponent) near airport wants to erect a new structure, add to an existing structure, or erect and maintain an object of natural growth.

### **Step 2**

Project proponent visits local municipality to apply for a permit for the proposed project.

### **Step 3**

Municipal staff determines if proposed project is located in an airport hazard zone (approach, conical, horizontal, primary, or transitional surface areas). If proposed project is located in an airport hazard zone, municipal staff instructs proponent to complete and submit PennDOT Form AV-57 to PennDOT Bureau of Aviation at least 30 days prior to commencement of project.

### **Step 4**

Project proponent completes and submits PennDOT Form AV-57.

### **Step 5**

PennDOT Bureau of Aviation evaluates proposal to identify any FAR Part 77 surface penetrations.

### **Step 6**

PennDOT responds to AV-57 proponent with one of the following two determinations.

- A. No Penetration: If it is determined that there is “no penetration of airspace,” the permit request is in compliance with the Airport District Overlay Ordinance. If the project meets all other municipal requirements, permit is issued.
- B. Penetration to FAR Part 77: If PennDOT returns a determination of “penetration of airspace” the permit request is not in compliance with the Airport District Overlay Ordinance. The permit request shall be denied.

### **Step 7**

If the project proponent is denied a permit due to a Part 77 penetration (see Step 6B), they may apply for a variance from airport district overlay ordinance regulations.

### **Step 8**

If a proponent requests a variance, the Municipality instructs proponent to submit FAA Form 7460-1 (as amended or replaced). The FAA will use the 7460-1 data to determine the proposal’s effect on the operation of air navigation facilities and the safe, efficient use of navigable air space.

**Step 9**

Project proponent submits FAA Form 7460-1 (as amended or replaced).

**Step 10**

FAA returns one of the determinations listed below to the proponent. The proponent must forward this determination to the Municipality before a variance application decision can be made.

1. No Objection: The subject construction is determined not exceed obstruction standards and marking/lighting is not required. Under this determination, a variance shall be granted.
2. Conditional Determination: The proposed construction/alteration is determined to create some level of encroachment into an airport hazard area which can be effectively mitigated. Under this determination, a variance shall be granted contingent upon proponent implementing mitigation measures.
3. Objectionable: The proposed construction/alteration is determined to be a hazard and is thus objectionable. A variance shall be denied and the reasons for this determination shall be outlined to the applicant.



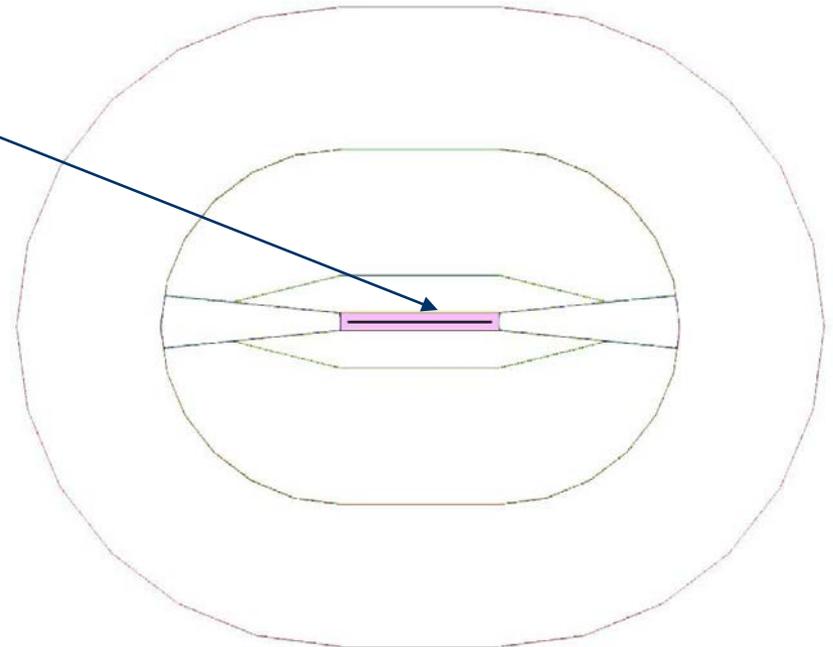
# Part 77 Surface Areas Defined





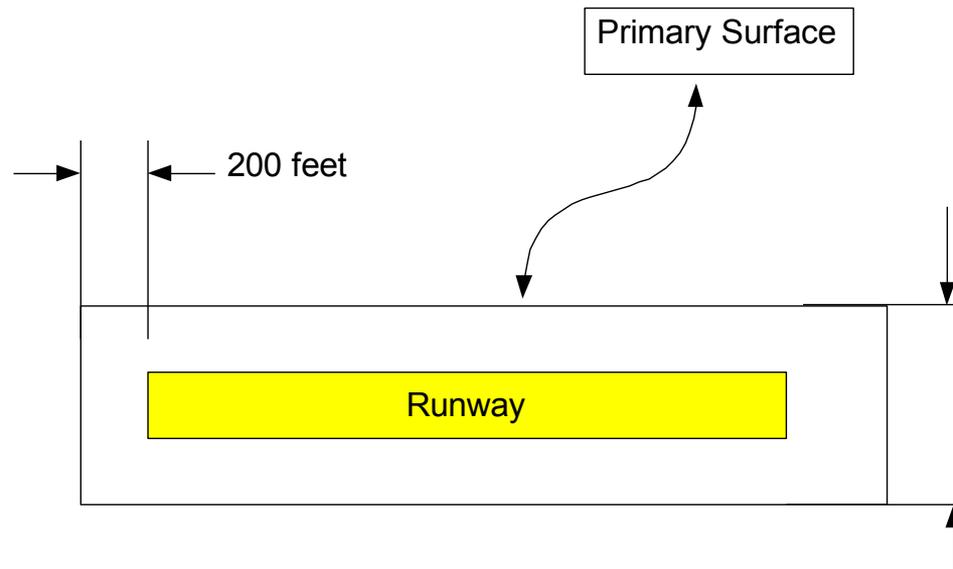
# Primary Surface Zone

- Part 77 Surface Zones
  - Primary
  - Approach
  - Transitional
  - Horizontal
  - Conical





# Primary Surface Zone

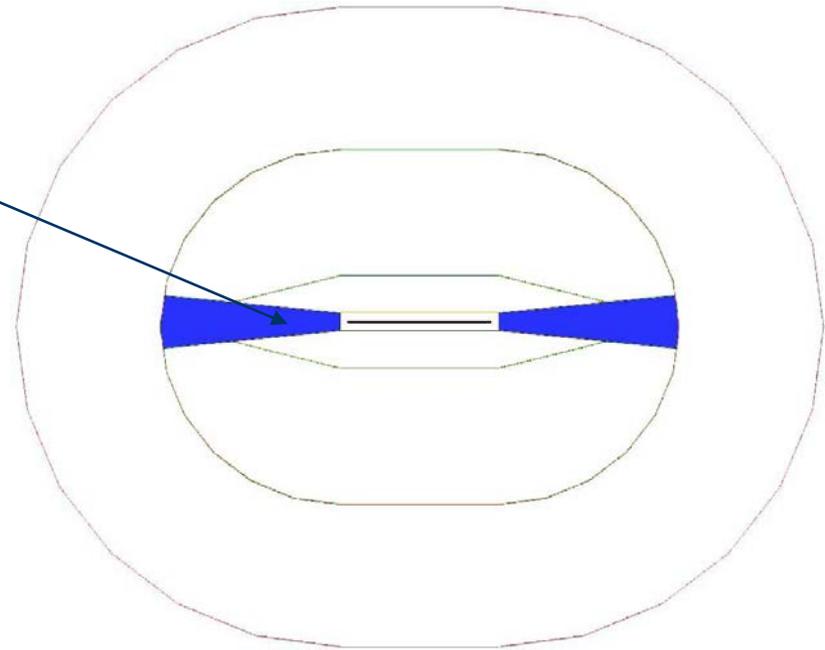


Width varies by runway type.  
Range = (250 to 1000 feet)



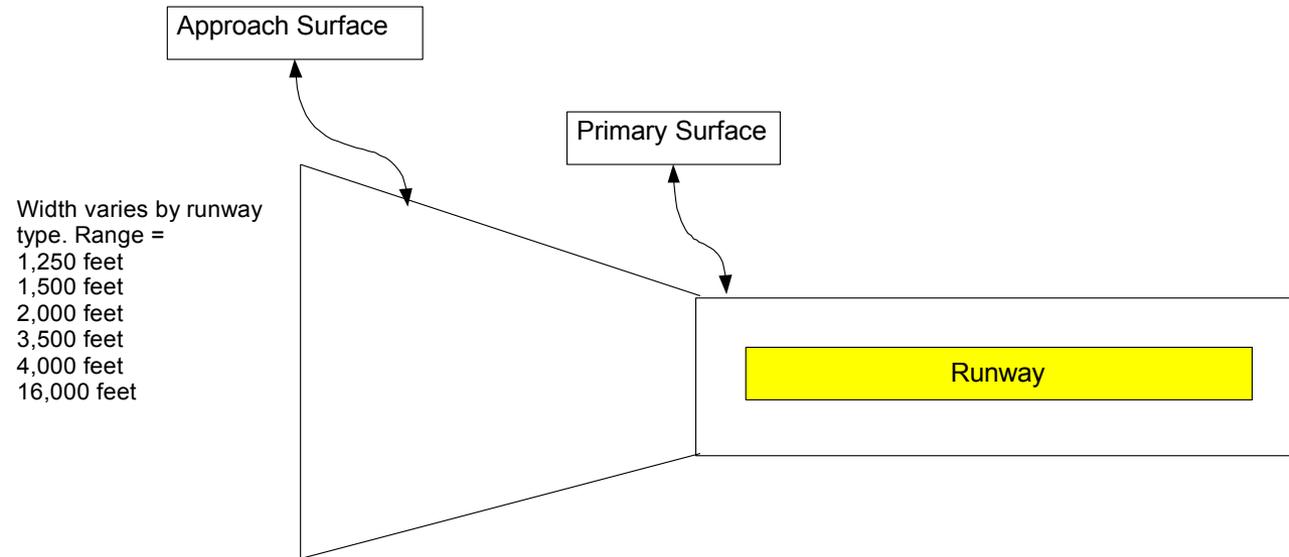
# Approach Surface Zone

- Part 77 Surface Zones
  - Primary
  - Approach
  - Transitional
  - Horizontal
  - Conical

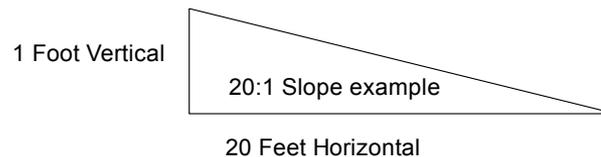




# Approach Surface Zone



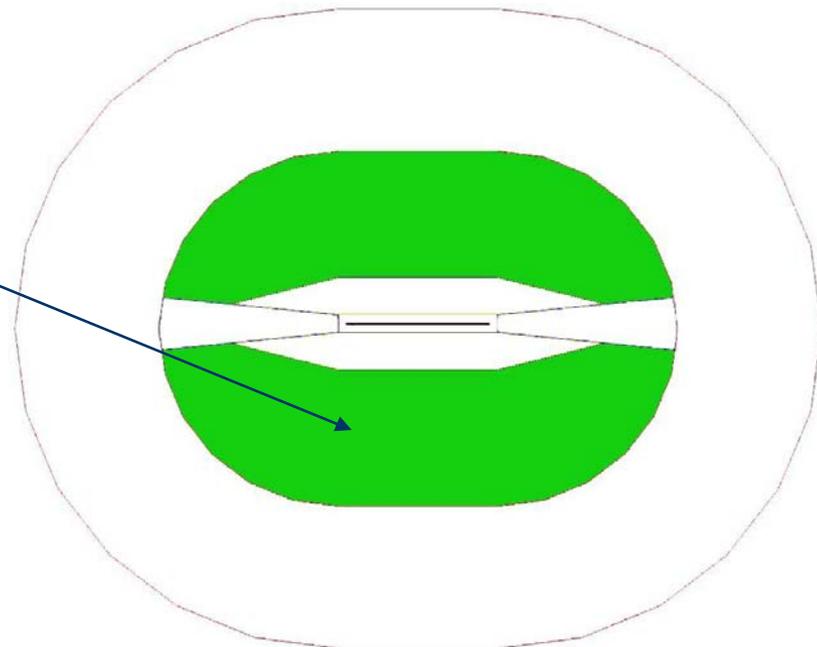
Approach Surface Slope Ranges from 20:1, 34:1, 40:1 and 50:1





# Horizontal Surface Zone

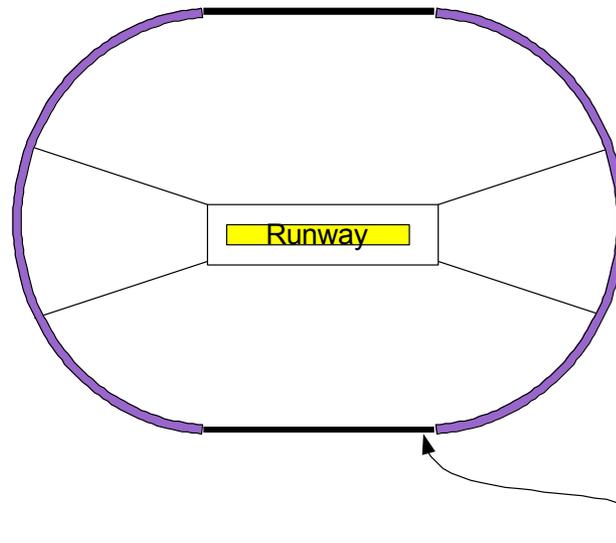
- Part 77 Surface Zones
  - Primary
  - Approach
  - Transitional
  - **Horizontal**
  - Conical





# Horizontal Surface Zone

Horizontal Surface Length = a 5,000 or 10,000 foot radius arc from the end of the Primary Surface, then tangents connecting the arcs



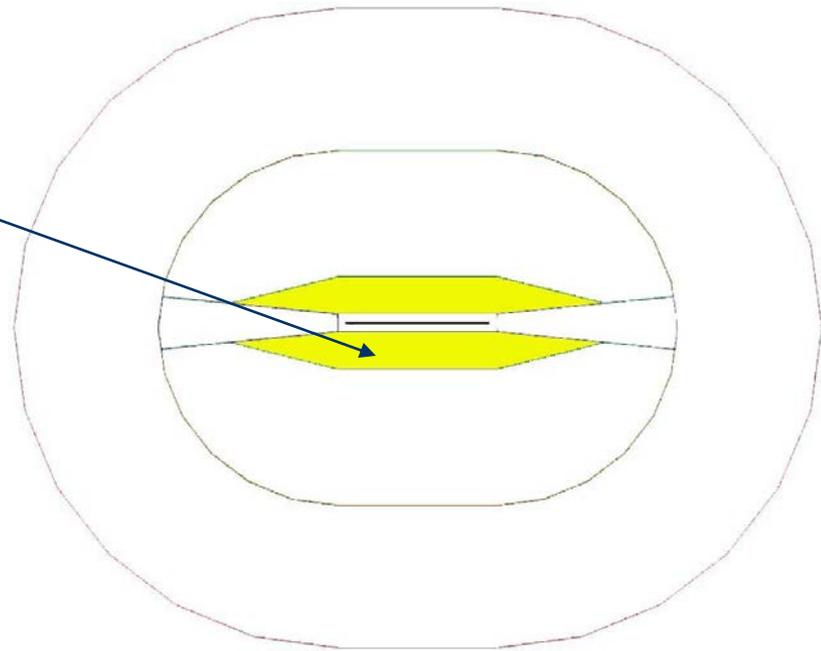
Horizontal Surface Height = 150 feet from Airport Elevation

Horizontal Surface



# Transitional Surface Zone

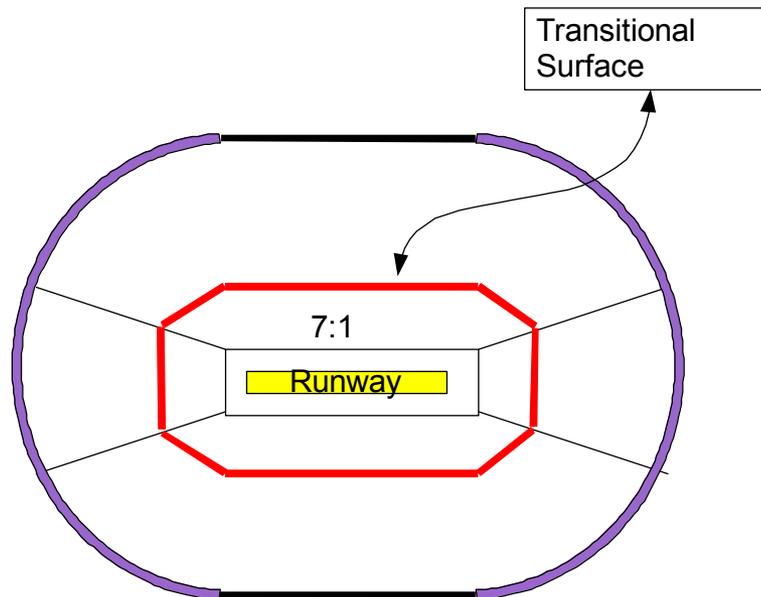
- Part 77 Surface Zones
  - Primary
  - Approach
  - **Transitional**
  - Horizontal
  - Conical





# Transitional Surface Zone

Transitional Surface Length = joins the Approach Surface Area to the Horizontal Surface Area

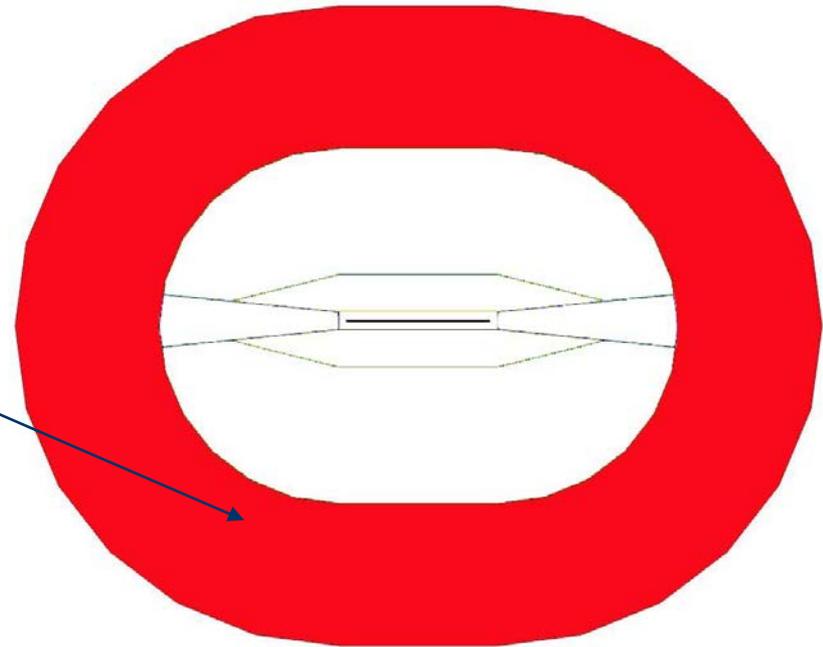


Transitional Surface Height = extend outward and upward at right angles to the runway centerline and the runway centerline extended at a slope of 7:1 from the sides of the primary surface and from the sides of the approach surfaces



# Conical Surface Zone

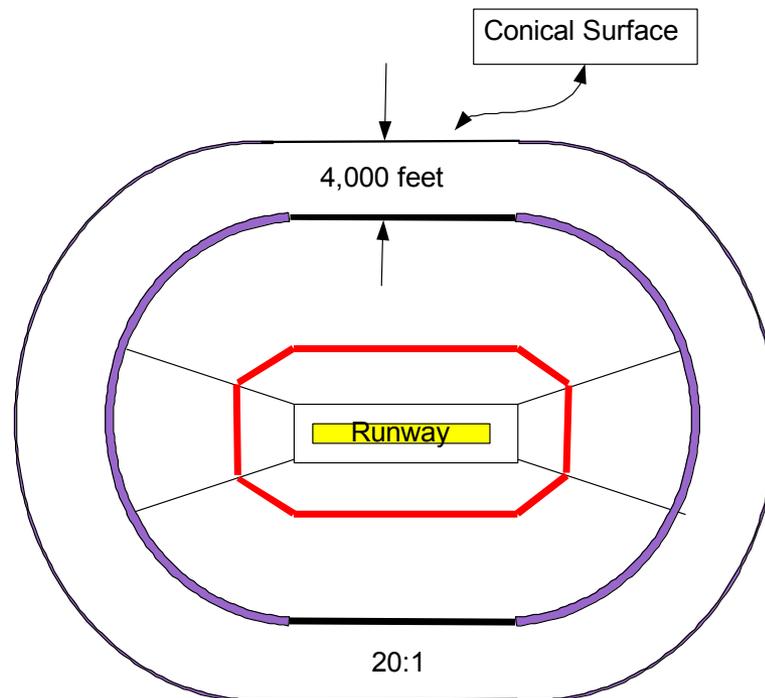
- Part 77 Surface Zones
  - Primary
  - Approach
  - Transitional
  - Horizontal
  - **Conical**





# Conical Surface Zone

Conical Surface Length extends from the Horizontal Surface 4,000 feet.



Transitional Surface Height = surface extending outward and upward from the horizontal surface at a slope of 20:1



## General Elevations for Surface Area

<b>Area</b>	<b>Vertical Height Range above <u>Airport Elevation (AE)</u></b>	<b>Note</b>
Primary	Runway Centerline Elevation (0 ft.)	
Approach	0 ft. to 250 ft. "Typical" 0 ft to 300 ft (actually 294.12 feet) 0 ft to 1200 ft 0 ft to 1920 ft (actually 1919.28 feet)	Depends on runway type
Transitional	0 ft. to 150 ft.	
Horizontal	150 ft.	
Conical	150 ft to 350 ft.	



# Approach Surface Summary

Runway Type	Slope (Horizontal to Vertical)	Length (ft.)
Utility and Visual	20 to 1	5,000
Nonprecision	34 to 1	10,000
Precision	50 to 1, then 40 to 1	10,000 (50 to 1), 40,000 (40 to 1)

## Approach Surface Maximum Widths

Runway Type	Max Width (ft.)	
Utility with Visual Approach	1,250	
Visual but not a Utility runway	1,500	
Nonprecision Utility runway	2,000	
Nonprecision, but not a Utility runway, with visibility > 3/4 mile	3,500	
Nonprecision, not Utility, with visibility minimum ≤ 3/4 mile	4,000	
Precision	16,000	