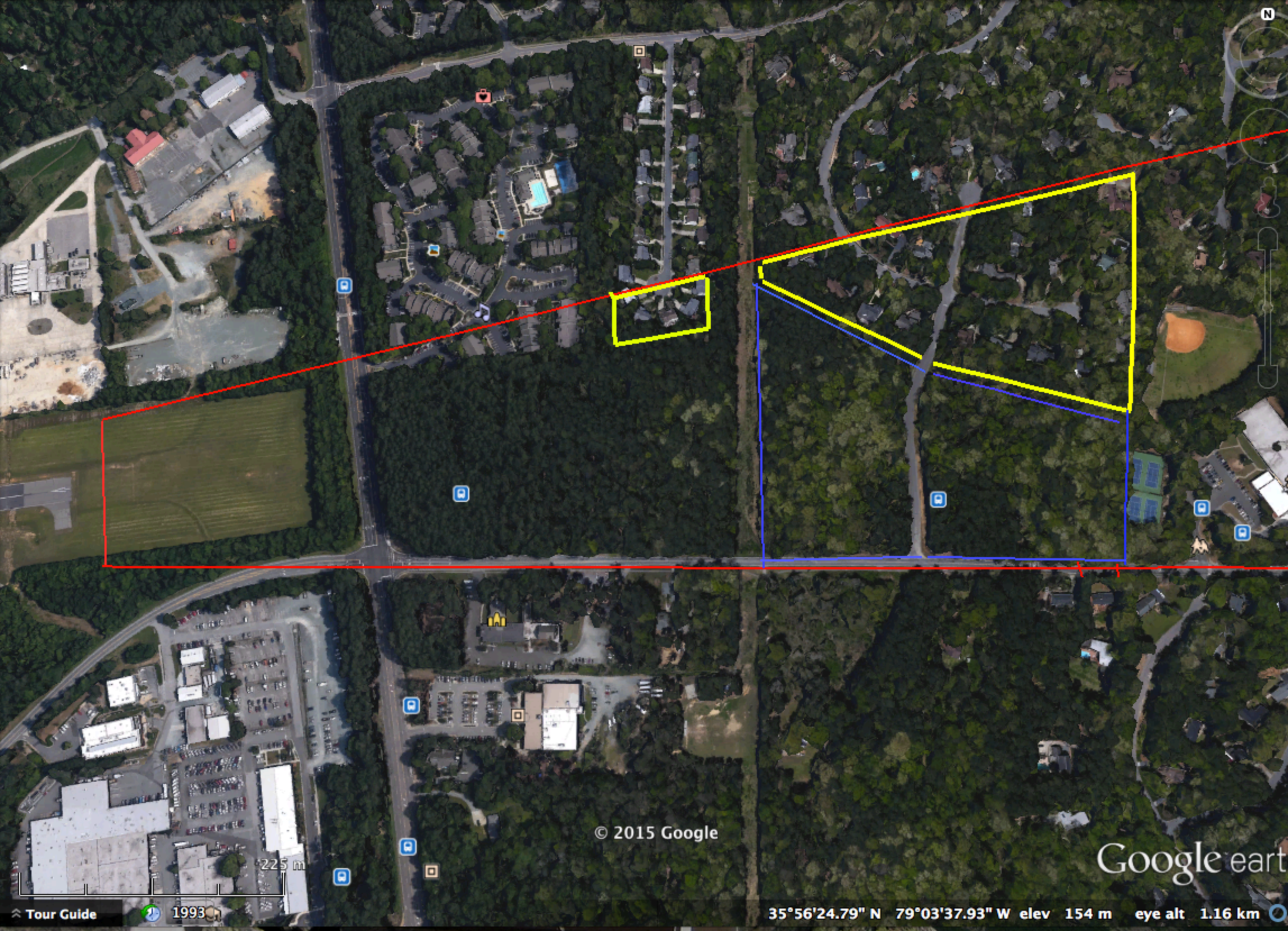
ATTACHMENT 8

Information Received From Petitioner


225 m
© 2015 Google
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Tour Guide
1993
35°56'24.79" N 79°03'37.93" W elev 154 m eye alt 1.16 km

FAR Part 77 - Obstructions to Navigation

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Associate Professor of Civil Engineering
Virginia Tech

CEE 4674
Airport Planning and Design

Outline of this Presentation

- Obstructions to navigation around airports
- Discussion of FAR Part 77
- Examples
- Status of airports in NAS

FAR Part 77 Basics

- Objects affecting navigable airspace
- Federal Aviation Regulation Part 77
- “Federal Regulation 49 CFR Part 77 establishes standards and notification requirements for objects affecting navigable airspace.”
- Available on the web at:
  - http://www.mopilots.org/legislation/Part77.htm

What is the Issue?

- Evaluates the effect of the construction or alteration on operating procedures
- Determines the potential hazardous effect of the proposed construction or alterations on air navigation
- Identifies mitigating measures to enhance safe air navigation
- Charts new man-made or natural objects.

FAR Part 77 allows the "FAA to identify potential aeronautical hazards in advance thus preventing or minimizing the adverse impacts to the safe and efficient use of navigable airspace"

FAA Reponses

Once the FAA as completed an aeronautical study, a determination is made regarding the impact to air navigation. One of three responses is typically issued:

No Objection - "The subject construction did not exceed obstruction standards and marking/lighting is not required. "

Conditional Determination - "The proposed construction/ alteration would be acceptable contingent upon implementing mitigating measures (marking and lighting, etc.) "

Objectionable - "The proposed construction/alteration is determined to be a hazard and is thus objectionable. The reasons for this determination are outlined to the proponent."

Source: FAA Part 77

Obstructions to Navigation

An object constitutes an abstruction to navigation if:

- If 200 ft. above ground level or 200 ft. above the airport elevation (whichever is greater) up to 3 miles (for runway lengths > 3200 ft.) from the airport.

  - Increase 100 ft. every mile up to 500 ft. at 6 miles from the ARP (airport refrence point)

- Is 500 ft. or more above ground level at the object site
- If penetrates an imaginary surface (a function of the precision of the runway)
- If penetrates the terminal obstacle clearance area (includes initial approach segment)

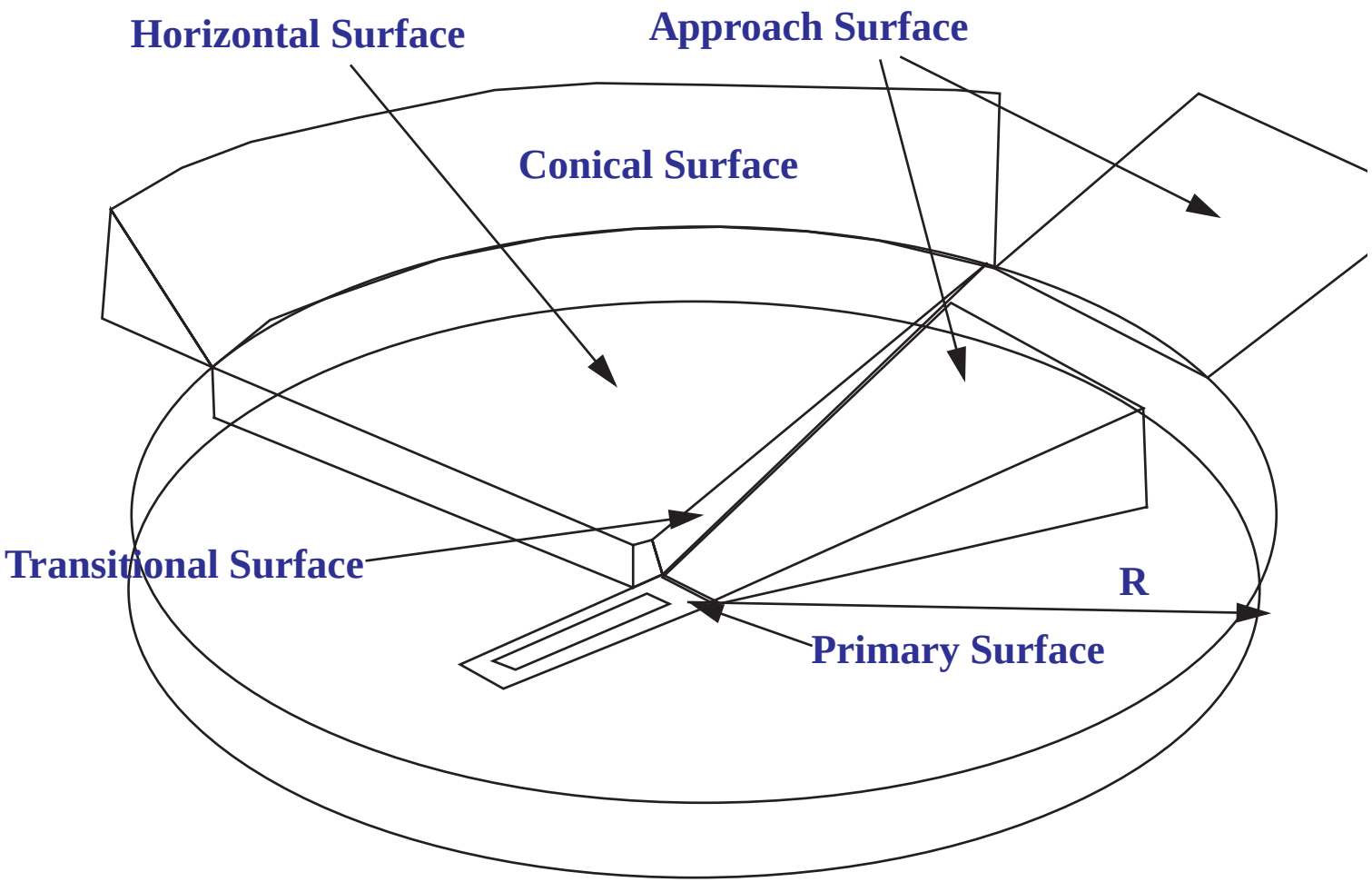
Obstructions to Navigation

- If penetrates the enroute obstacle clearance area (includes turn and termination areas of federal airways)

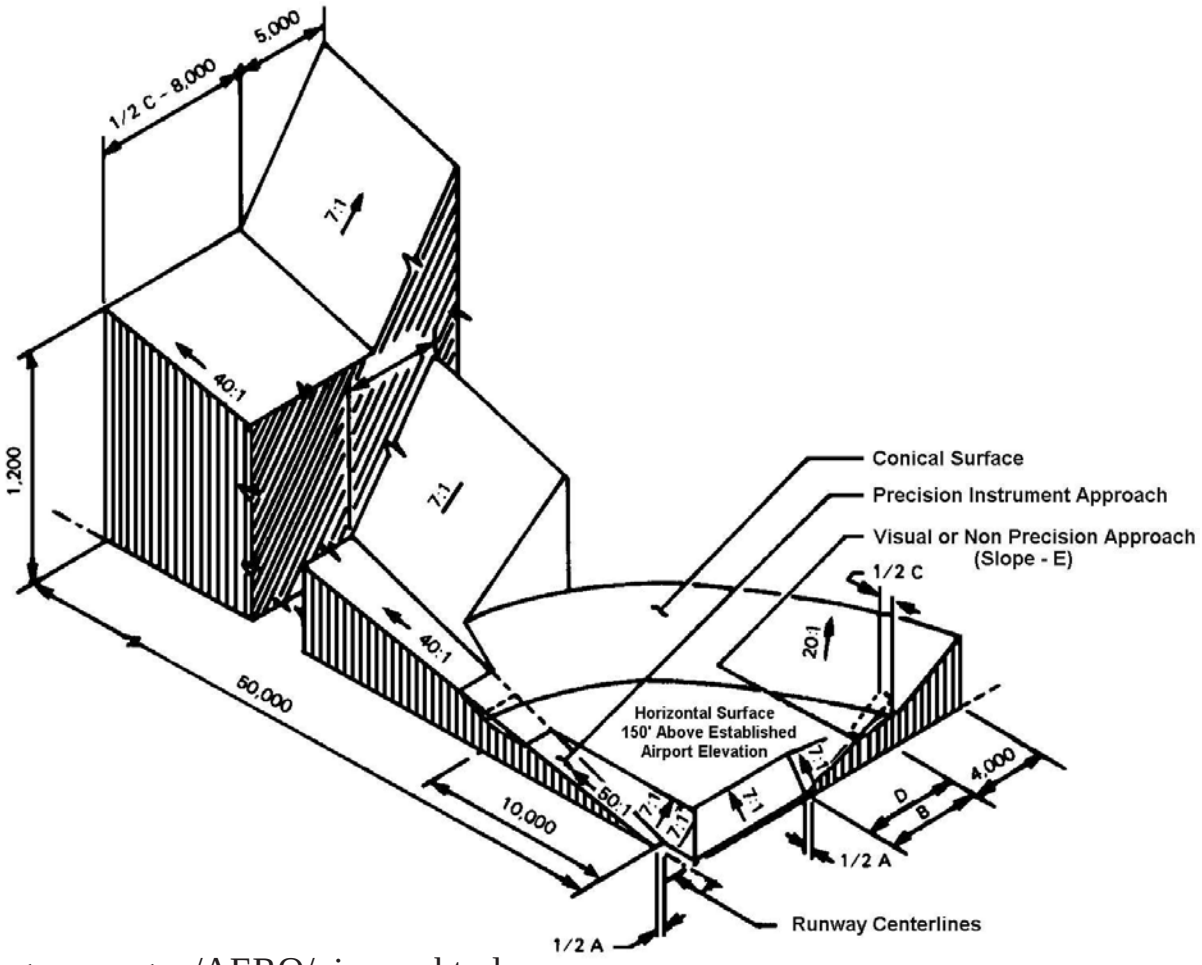
FAR Part 77 Imaginary Surfaces

- **Primary** = aligned (longitudinally) with each runway and extends 200 ft. from each runway end
- **Approach** = longitudinally centered with the runway and extends beyond the primary surface
- **Horizontal** = horizontal plane 150 ft. above the established airport elevation. Constructed by swinging arcs around the end of the primary surface
- **Conical** = 20:1 slope surface extending beyond the horizontal surface
- **Transitional** = constructed to join approach and horizontal or approach and transitional surfaces

Graphical Depiction

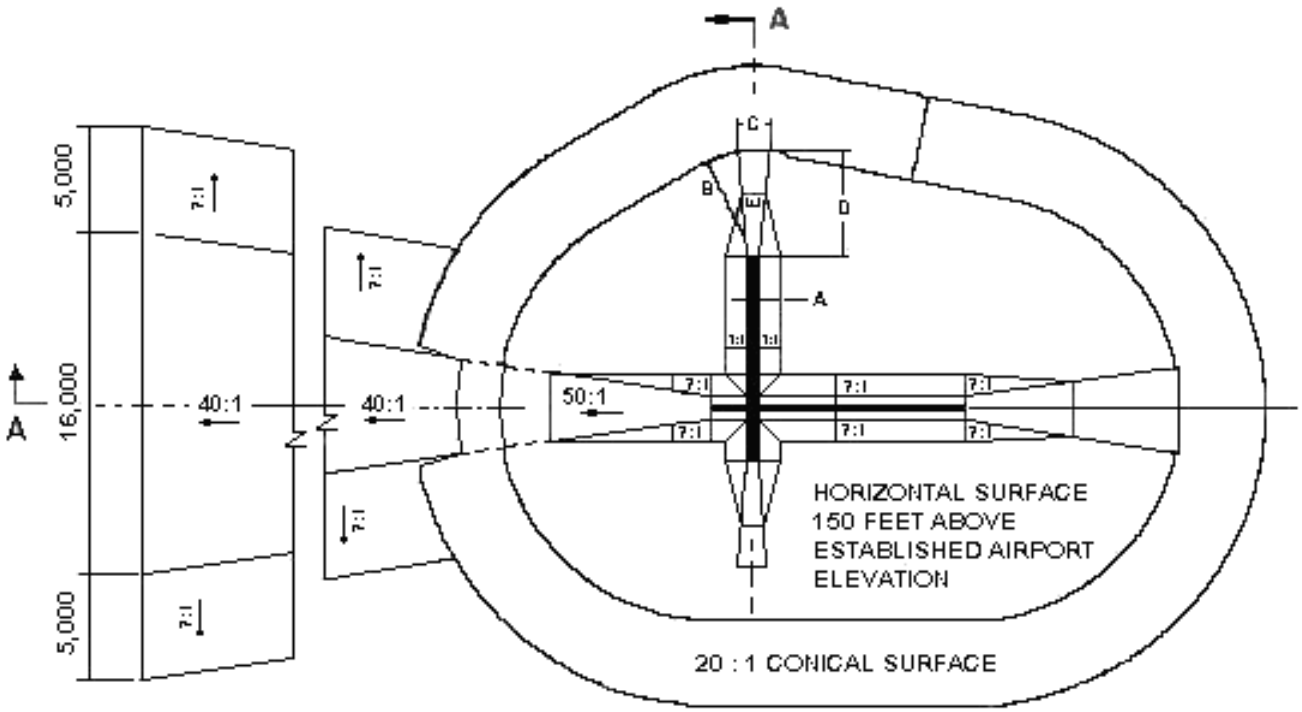


Imaginary Surfaces



Source: http://www.ngs.noaa.gov/AERO/oisspec.html

Two-Dimensional Graphical Depiction



Source: http://www.ngs.noaa.gov/AERO/yplanfar77.gif

Table with FAR 77 Dimensions

OBSTRUCTION IDENTIFICATION SURFACES
FEDERAL AVIATION REGULATIONS PART 77

DIM	ITEM	DIMENSIONAL STANDARDS (FEET)					
		VISUAL RUNWAY		NON - PRECISION INSTRUMENT RUNWAY			PRECISION INSTRUMENT RUNWAY
		A	B	A	B		
					C	D	
A	WIDTH OF PRIMARY SURFACE AND APPROACH SURFACE WIDTH AT INNER END	250	500	500	500	1,000	1,000
B	RADIUS OF HORIZONTAL SURFACE	5,000	5,000	5,000	10,000	10,000	10,000
		VISUAL APPROACH		NON - PRECISION INSTRUMENT APPROACH			PRECISION INSTRUMENT APPROACH
				A	B		
		A	B		C	D	
C	APPROACH SURFACE WIDTH AT END	1,250	1,500	2,000	3,500	4,000	16,000
D	APPROACH SURFACE LENGTH	5,000	5,000	5,000	10,000	10,000	*
E	APPROACH SLOPE	20:1	20:1	20:1	34:1	34:1	*

- A - UTILITY RUNWAYS
- B - RUNWAYS LARGER THAN UTILITY
- C - VISIBILITY MINIMUMS GREATER THAN 3/4 MILE
- D - VISIBILITY MINIMUMS AS LOW AS 3/4 MILE
- * - PRECISION INSTRUMENT APPROACH SLOPE IS 50:1 FOR INNER 10,000 FEET AND 40:1 FOR AN ADDITIONAL 40,000 FEET

Source: http://www.ngs.noaa.gov/AERO/oisspec.html

FAR Part 77 Imaginary Surfaces

Surface	Visual		Non-Precision Instrument Runway			Precision Instrument Runway
				B		
	A	B	A	C	D	All
Width of Primary Surf. and inner App. Surface	250	500	500	500	1,000	1,000
Radius of Horizontal Surface	5,000	5,000	5,000	10,000	10,000	10,000
Approach Surface at Outer End	1,250	1,500	2,000	3,500	4,000	16,000
Approach Surface Length	5,000	5,000	5,000	10,000	10,000	50,000
Approach Slope	20:1	20:1	20:1	34:1	34:1	50:1[a]

a. First 10,000 feet the slope is 40:1

A = Utility runways

B = Runway larger than utility

C = Visibility minimums > 3/4 of a mile

D = Visibility minimums =< 3/4 of a mile

Runway Displaced Thresholds

- Sometimes is not possible to comply with all FAR 77 criteria (specially the five imaginary surfaces)
- Runway displaced thresholds have to be defined to meet the criteria
- NOTE: highways and railroads are considered obstructions that need adjustments as follows:
  - 10 ft. or the height of the tallest vehicle using the road
  - 15 ft. for public roads
  - 17 ft. for interstate highways
  - 23 ft. for railroads (or the highest railroad vehicle)

Example Problem

The end of a precision runway at San Bernardo Airport is located 3,000 ft. from a newly contructed elevated Light Rail Transit (LRT) line as shown in the Figure.

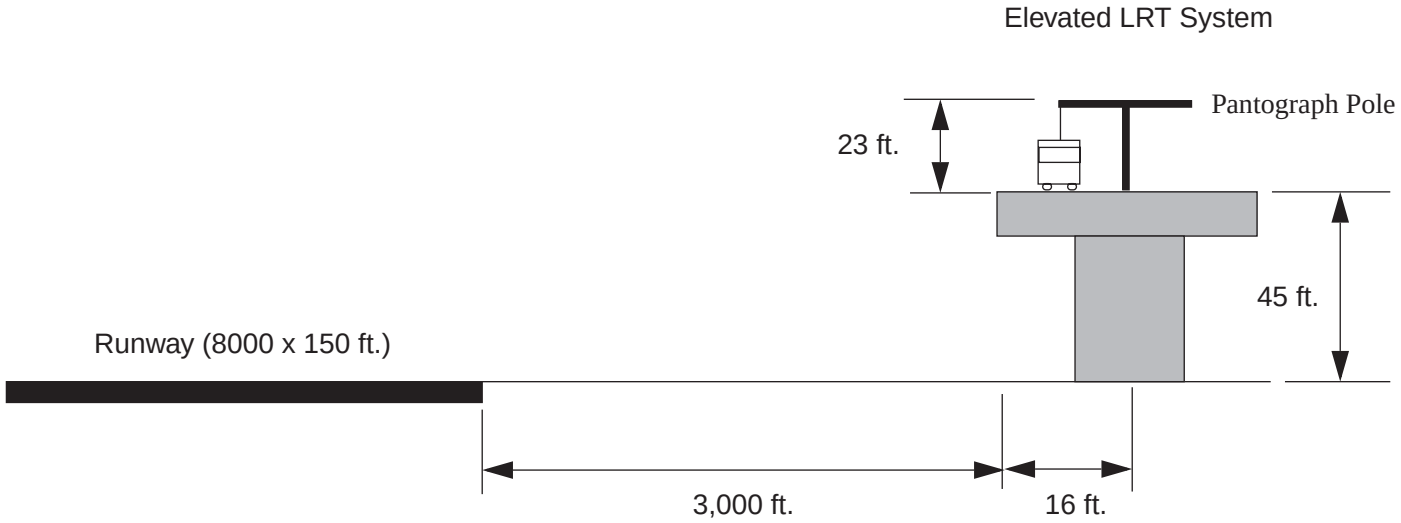
a) Is the pantograph pole an obstruction to navigation? Explain.

b) Suggest alternatives to use Runway 34 if this one cannot be relocated. Explain the runway length limitations for departures and arrivals to comply with FAR Part 77.

Elevated Freeway Section at San Bernardo Runway 34.

Sample View of the Problem

Try it in class!

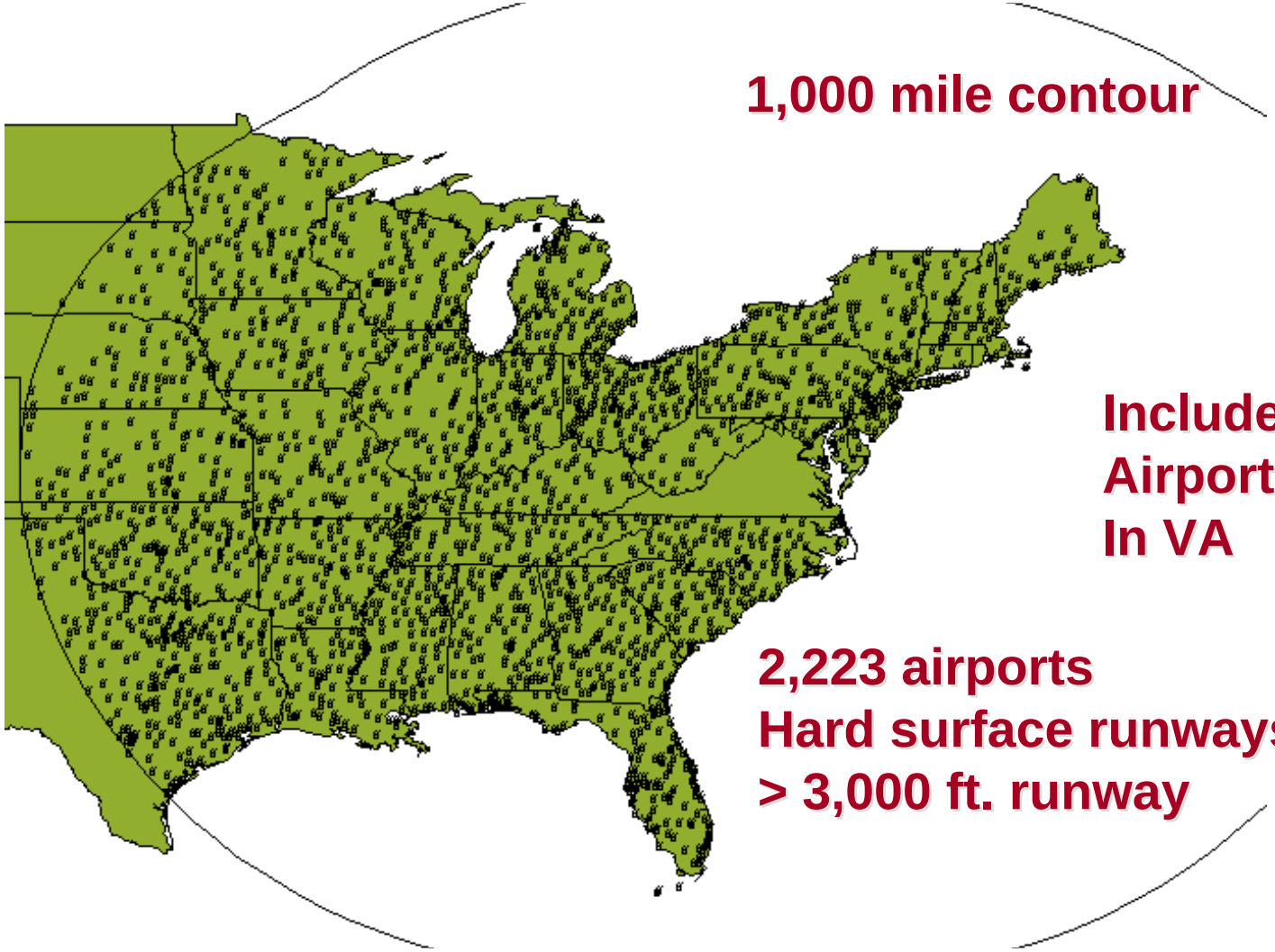


NOT TO SCALE

Studied 2,223 airports in the Eastern United States

- Studied 2,223 airports in the US.
- Analyzed controlling object for each runway end
- Studied many other characteristics of each runway including their Wide Area Augmentation System qualification surfaces

Case Study Region

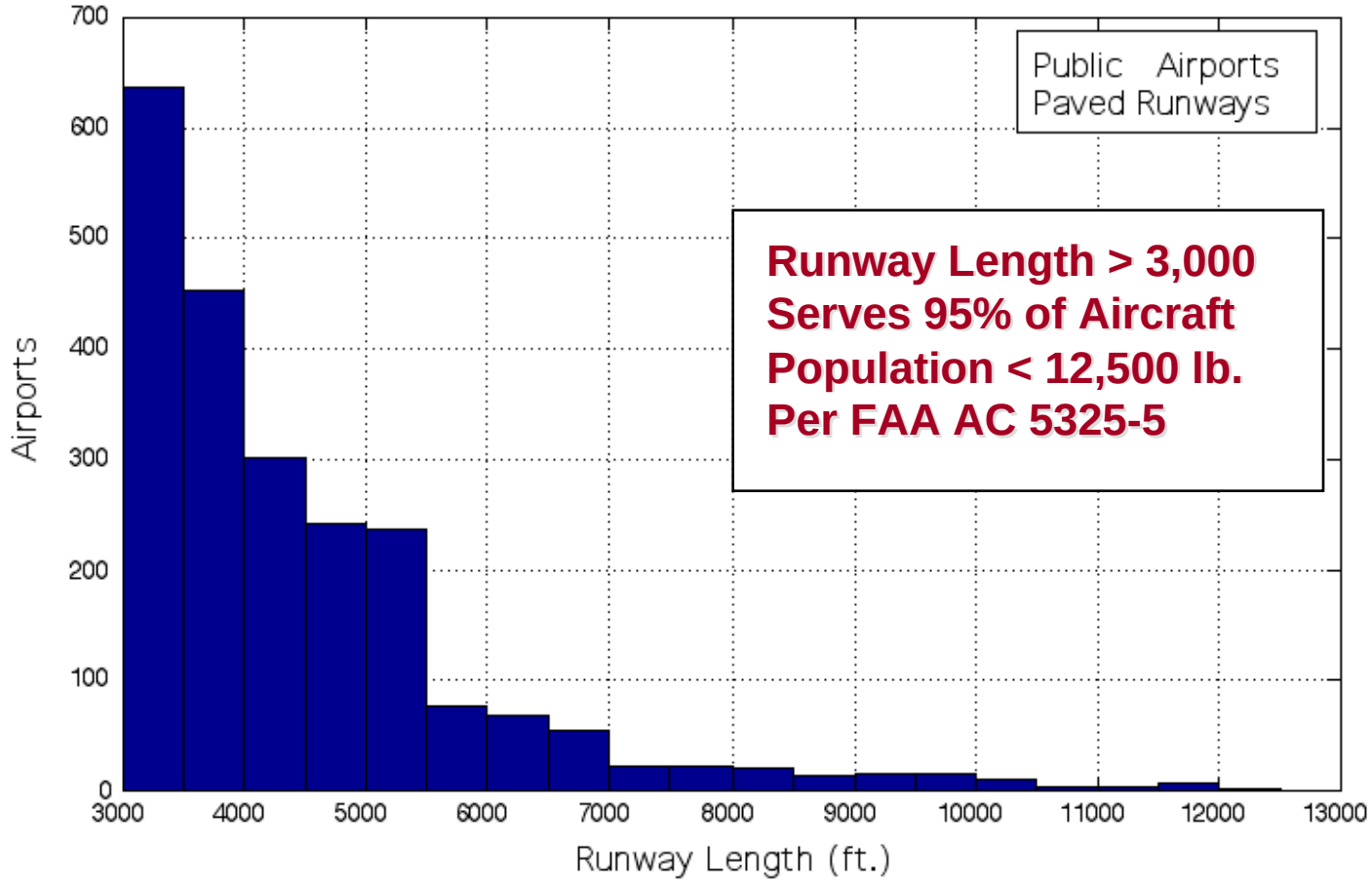


1,000 mile contour

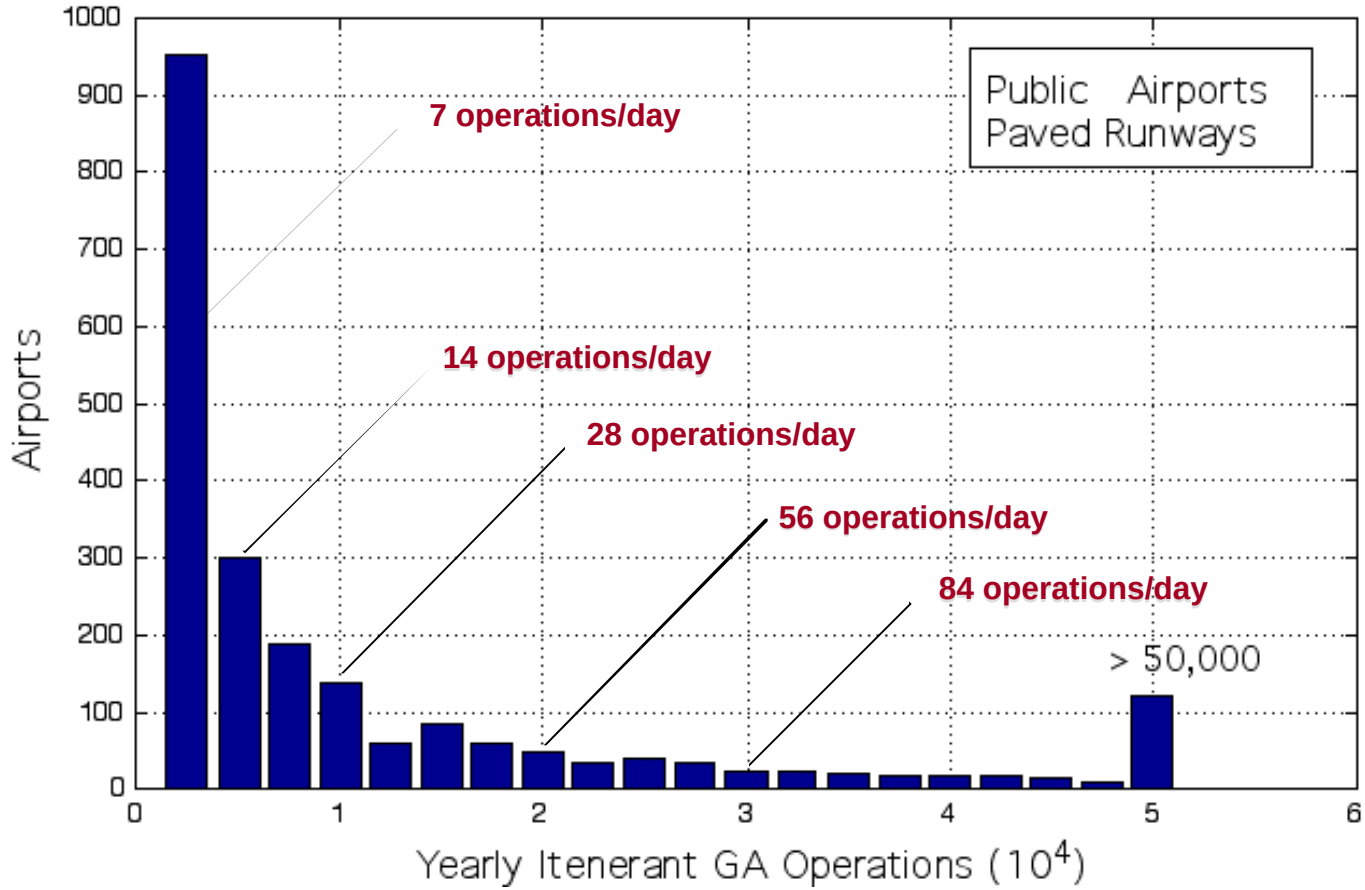
Includes Airports In VA

2,223 airports
Hard surface runways
> 3,000 ft. runway

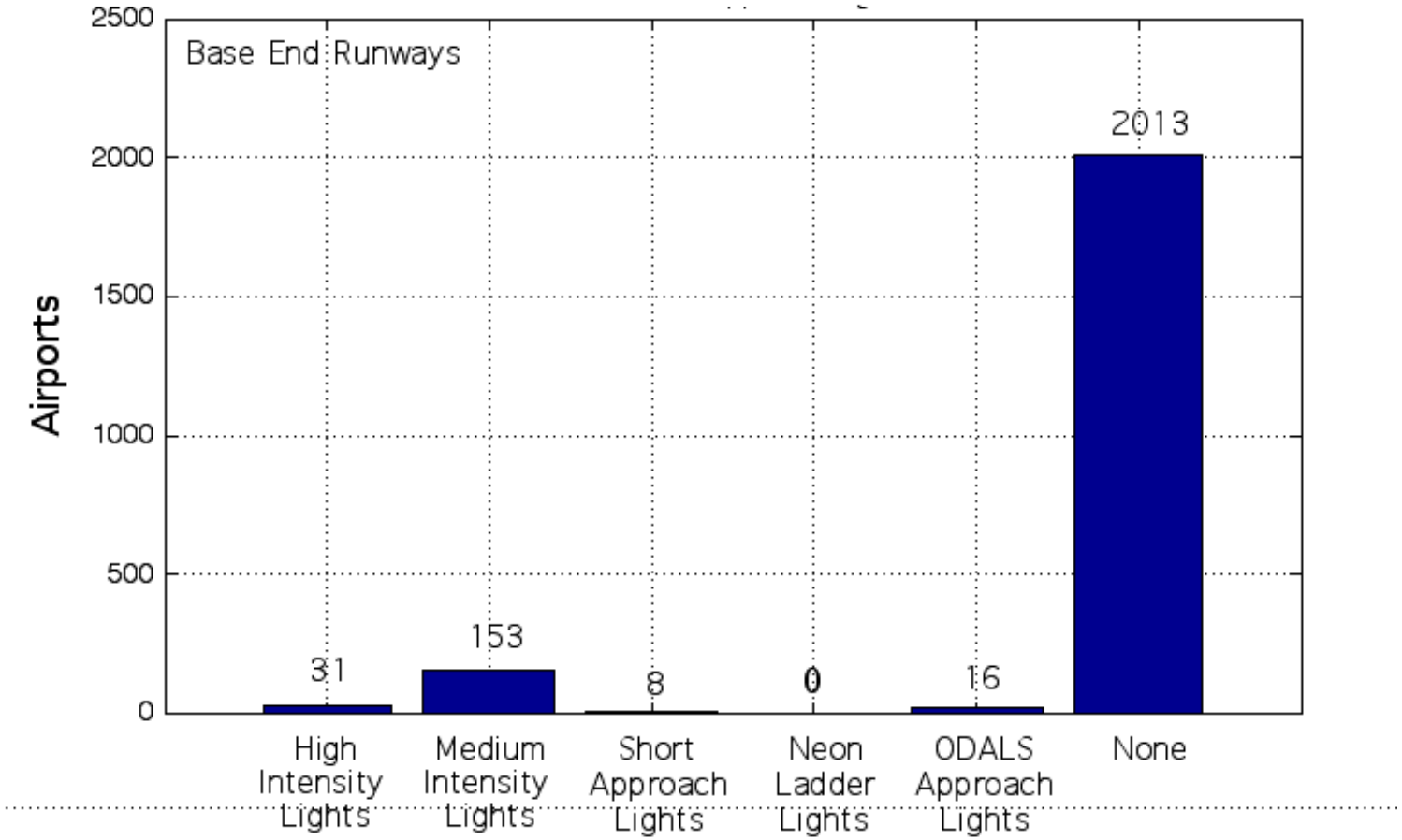
State of Runway Lengths



Runway Operations

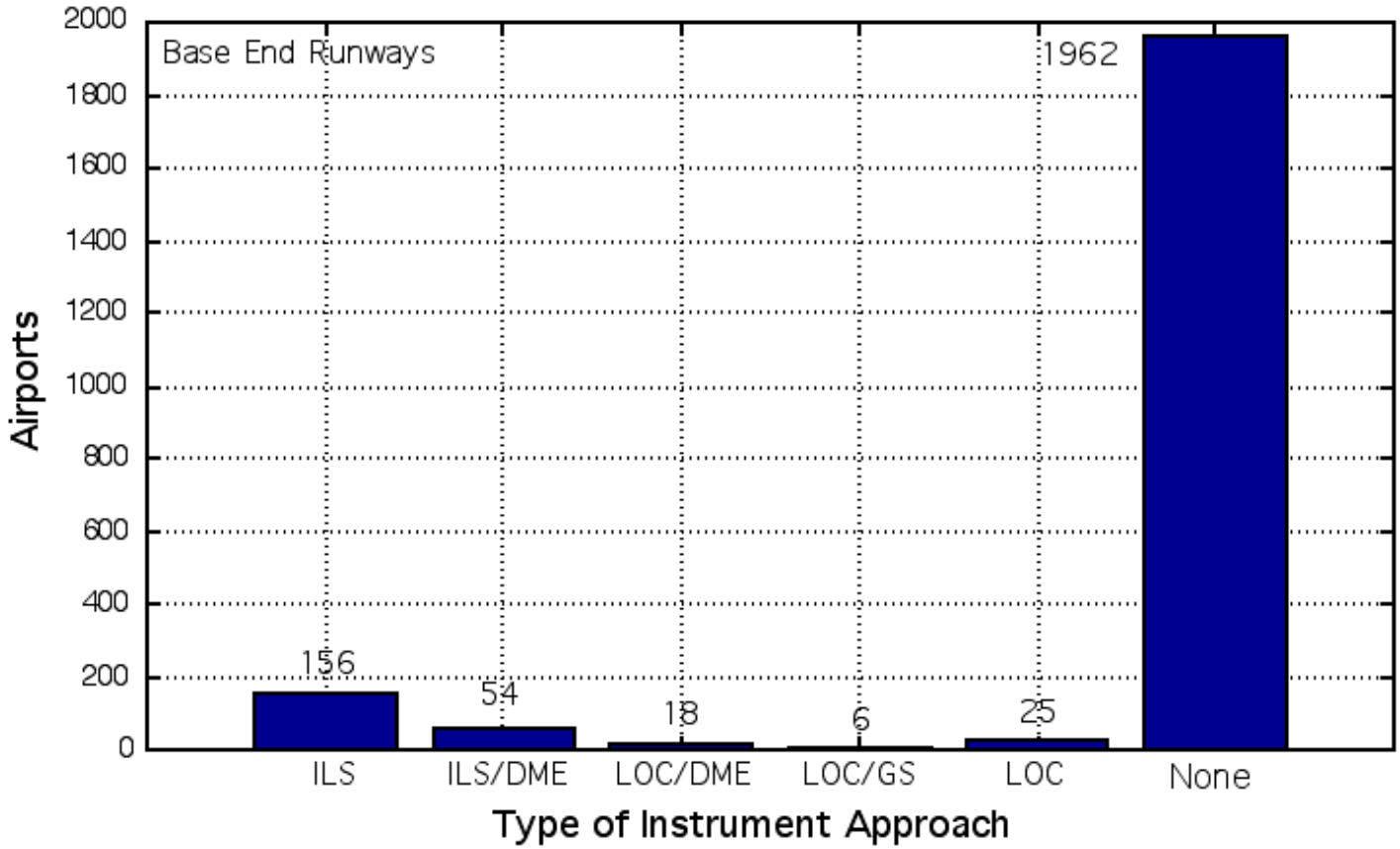


State of Runway Approach Lights

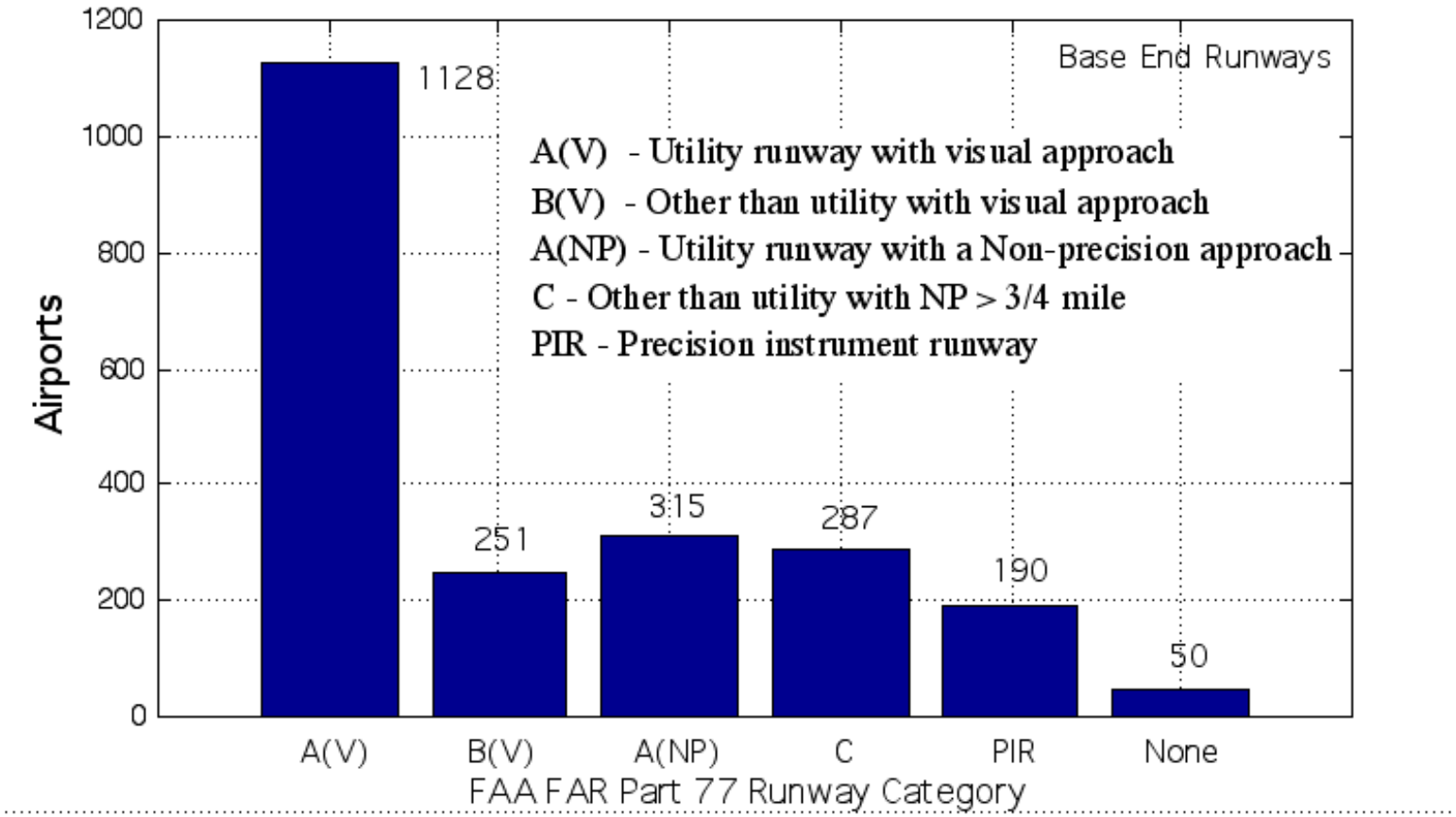


Type of Approaches Available

Data on GPS approaches is being collected



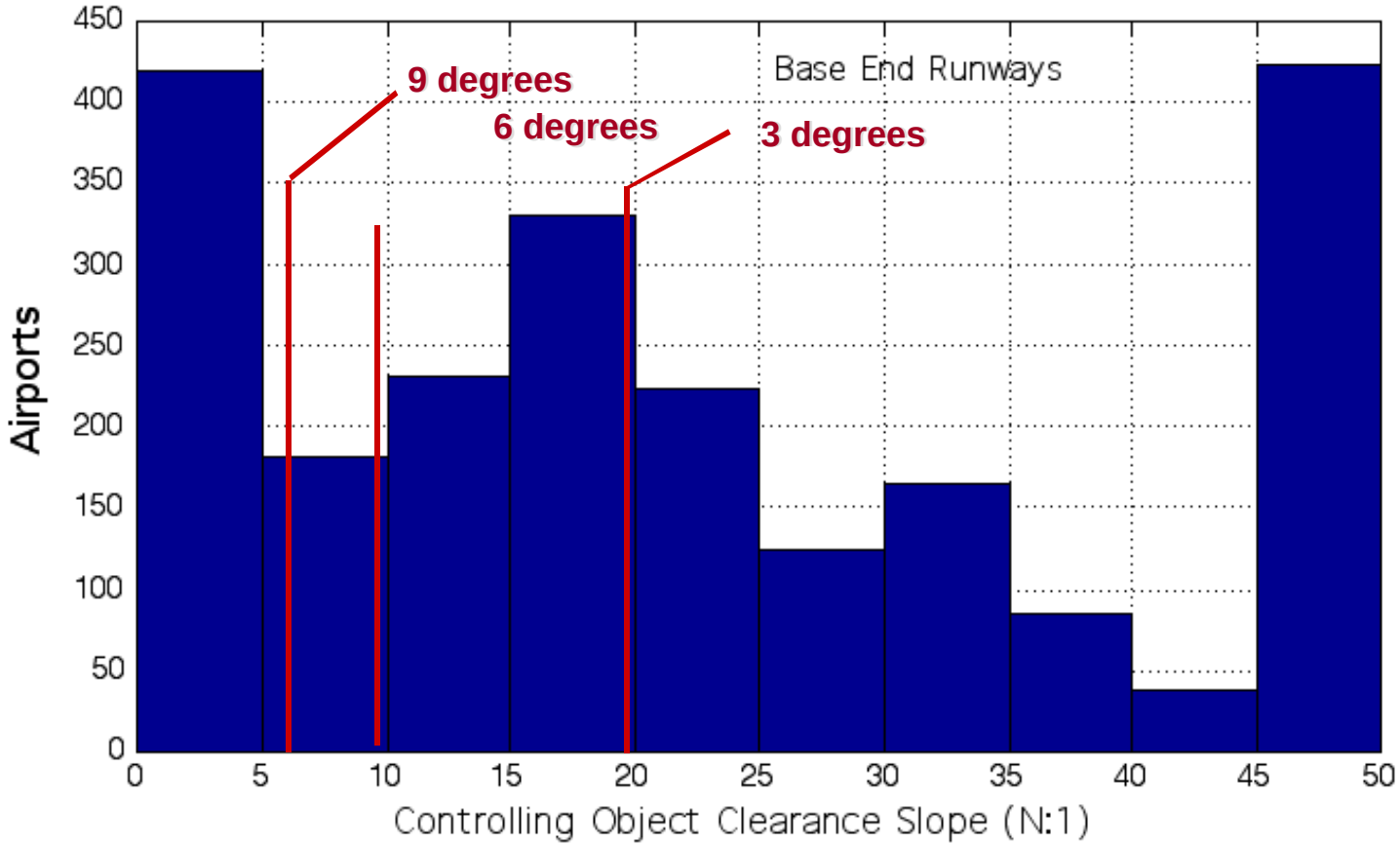
FAR Part 77 Design Criteria



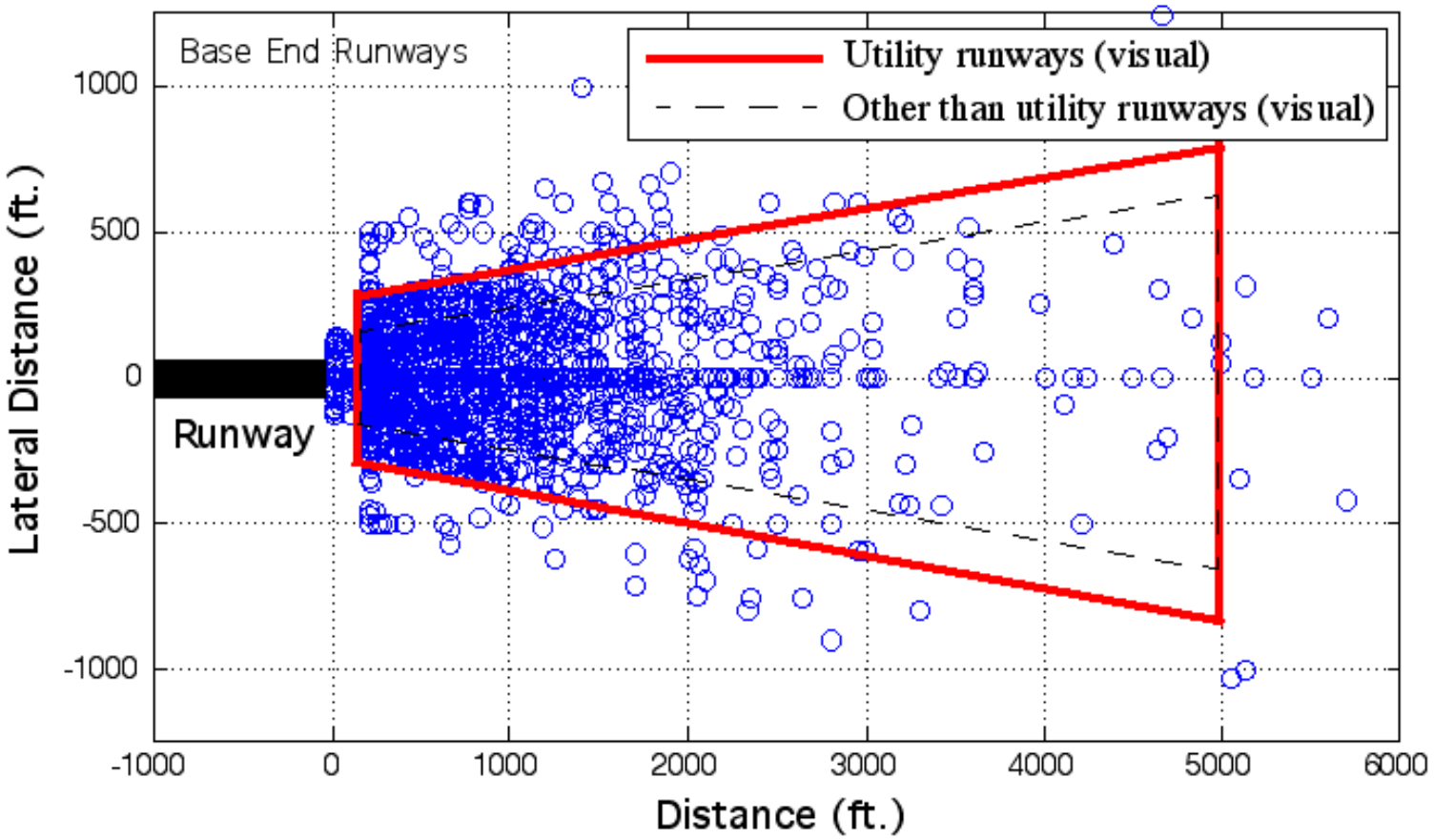
Remarks

- About 9% of the runways surveyed (at 2,221 airports) has an approach lighting system today
- Today, 11% of the runways have some type of instrument approach (not all precision approaches though)
- The percent of Precision Instrument Runways (PIR) - about 8.5% of all runways surveyed - the number is consistent with the 9% of runways having approach lighting systems (9%)

Slope of Controlling Objects



Location of Controlling Objects



Remarks About Controlling Objects

- More than 62% of the base runway configurations examined (2,221 base runways) have controlling object clearance slopes below 20:1 (quite bad even if off-set or curved approaches are used)
- Under current FAA rules only 19% of the airports surveyed in the FAA database could be candidates for upgrade to Precision Instrument Runway (PIR) criteria given the state of controlling object locations
- Other precision instrument equipment site location considerations would probably reduce this number further

U.S. Department of Transportation
Federal Aviation Administration

Advisory Circular

Subject:	Date:	AC No:
A MODEL ZONING ORDINANCE TO LIMIT HEIGHT OF OBJECTS AROUND AIRPORTS	12/14/87	150/5190-4A
	Initiated by: AAS-100	Change:

1. PURPOSE.

a. This advisory circular provides a model zoning ordinance to be used as a guide to control the height of objects around airports.

b. This advisory circular has been editorially updated for reprint/stock purposes only. There were no changes made to the content of the advisory circular except to update the format and renumber the document to AC 150/5190-4A.

2. CANCELLATION. AC 150/5190-4, A Model Zoning Ordinance to Limit Height of Objects Around Airports, dated August 23, 1977.

3. FOCUS.

a. Aviation safety requires a minimum clear space (or buffer) between operating aircraft and other objects. When these other objects are structures (such as buildings), the buffer may be achieved by limiting aircraft operations, by limiting the location and height of these objects, or, by a combination of these factors. This advisory circular concerns itself with developing zoning ordinances to control the height of objects, based on the obstruction surfaces described in Subpart C of Federal Aviation Regulations (FAR) Part 77, Objects Affecting Navigable Airspace, current edition. It should be recognized, however, that not all obstructions (objects whose height exceeds an obstruction surface) are a hazard to air navigation.

b. The Federal Aviation Administration (FAA) conducts aeronautical studies on obstructions which examine their effect on such factors as: aircraft operational capabilities; electronic and procedural requirements; and, airport hazard standards. If an aeronautical study shows that an obstruction, when evaluated against these factors, has no substantial adverse effect upon the safe and efficient use of navigable airspace, then the obstruction is considered not to be a hazard to air navigation. Advisory Circular 150/5300-4, Utility Airports--Air Access to National Transportation, current edition, presents additional discussion on hazards to air navigation.

c. Airport zoning ordinances developed for height limitations do not in themselves ensure compatible land use surrounding the airport. Land use zoning, incorporating height limiting criteria, is an appropriate means for achieving this objective. Advisory Circular 150/5050-6, Airport-Land Use Compatibility Planning, current edition, presents generalized guidance for compatible land use planning in the vicinity of airports.

4. BACKGROUND.

a. The purpose of zoning to limit the height of objects in the vicinity of airports is to prevent their interference with the safe and efficient operations of the airport.

b. Section 511 of the Airport and Airway Improvement Act of 1982, states, in part, the following: ". . . Sec. 511(a) SPONSORSHIP. As a condition precedent to approval of an airport development project contained in a project grant application submittted under this title, the Secretary shall receive assurances in writing, satisfactory to the Secretary that . . . (4) the aerial approaches to the airport will be adequately cleared and protected by removing, lowering, relocating, marking, or lighting or mitigating existing airport hazards and by preventing the establishment or creation of future airport hazards; (5) appropriate action, including the adoption of zoning laws has been or will be taken, to the extent reasonable, to restrict the use of land adjacent to or in the immediate vicinity of the airport to activities and purposes compatible with normal airport operations, including landing and takeoff aircraft; . . . ." Conformity with this advisory circular will assist the responsible local government in complying with the Section 511 assurances with respect to the height of objects. However, this advisory circular does not address other land use compatibility criteria, such as noise compatibility, which may be required under Section 511.

c. This advisory circular is based on the obstruction surfaces described in Subpart C of FAR Part 77. Examples of zoning ordinances for a utility airport and for a larger than utility airport have been included in appendices 2 and 3.

5. USE OF MODEL ZONING ORDINANCE.

a. Those responsible for drafting an airport zoning ordinance to limit height of objects are aware, of course, that it must conform to the prescribed authority of that particular airport zoning enabling act. Only terminology applicable to the airport named in the ordinance should be used.

b. The model ordinance included in this advisory circular defines and provides for the establishment of various zones and prescribes height limitations for each zone as required to prevent the creation or establishment of objects which would interfere with the operation of the airport. These zones will vary depending on the type, size, and layout of the runways. The model ordinance, therefore, leaves the specific zone measurements to be inserted by the political subdivision adopting the ordinance as appropriate for its particular airport.

c. The appendices also include examples of how the model ordinance may be used for various types of airports. Since much of the technical terminology and definitions are derived from Federal Aviation Regulations, technical procedural handbooks, and advisory circulars, care should be taken to ensure that language used in the ordinance drafted is consistent with terms used in the model ordinance.

d. Any height limitations imposed by a zoning ordinance must be "reasonable," meaning that the height limitations prescribed should not be so low at any point as to constitute a taking of property without compensations under local law. Therefore, the zoning ordinance should not purport to impose height limitations in any area so close to the ground that the application of criteria prescribed would result in unreasonable or unduly restrictive height limitations. This is provided for by provision 12, Excepted Height Limitations, of Section IV, Airport Zone Height Limitations, in the Model Zoning Ordinance.

e. The decision as to the excepted height limits should be made on the basis of local conditions and circumstances, including the uses being made of property in the vicinity of the airport. In making such a decision, the political subdivision should use the same procedures generally recognized as desirable in preparing comprehensive zoning ordinances, including necessary coordination with recognized state, regional, and local planning offices, where applicable.

f. Areas in the various zones where the height limitation is below the excepted height limit prescribed in the ordinance should be acquired to ensure the required protection. In the approach area, the minimum acquisition begins at the end of the primary surface defined in FAR Part 77, Section 77.25, and extends outward with the width of the approach surface defined in that section, to a point where the approach surface slope reaches a height of 50 feet above the ground elevation of the runway or terrain, whichever distance is the shorter. If easements are acquired, they should include the right of passage over the property by aircraft as well as the right to prevent creation of future obstructions.

g. Drafters of airport zoning ordinances should consult with Federal Aviation Administration (FAA) Airports personnel in regional or district offices when developing airport zoning regulations.

h. The standards contained in FAR Part 77, Subpart C, make it possible to determine, for any location on or adjacent to an airport, the height at which any structure or object of natural growth would constitute an obstruction. Section 77.13 of FAR Part 77, Subpart C sets forth the requirements for filing notice of proposed construction or alteration.

i. If the object exceeds a height or surface defined in Subpart C of FAR Part 77, it would be an obstruction and would be the subject of an aeronautical study by the FAA to determine its effect on navigable airspace. If the object is concluded to have a substantial adverse effect upon the safe and efficient utilization of such airspace, it would be determined to be a hazard to air navigation. The FAA cannot prevent its erection without local assistance. The enactment of this proposed model zoning ordinance will permit the local authorities to control the erection of hazards to air navigation and thus protect the community's investment in the airport.

j. The FAA aeronautical study will be made available to the local zoning authorities and will set forth the effects on aviation of any proposed object that would constitute an obstruction under Subpart C of FAR Part 77. This information can then be considered by the Board of Adjustment when processing applications for variances.

6. AIRPORT ZONING ORDINANCE MAP.

a. Attached to the airport zoning ordinance and made a part thereof is the airport zoning map. The airport zoning map is similar for all types of airports and heliports, and must be compiled from the criteria in Subpart C of FAR Part 77 as reflected in the Ordinance. A typical example of this zoning map was reduced in size for printing in this publication (see appendix 4).

b. The airport zoning map is of the area affected by the airport zoning ordinance and shows the layout of the runways, the airport boundaries, the airport elevation, and the area topography. The map should also set forth the various zones with the applicable height limitations for each as described in the body of the ordinance. The zoning map should contain a method of land identification, as typical in different areas of the country, such as section, township and range, block and lot, or metes and bounds. This map should also depict other identifying geographic objects such as streams, rivers, railroads, roads, and streets. By using a map with this amount of detail, in conjunction with the text of an ordinance, a property owner should, without undue difficulty, be able to determine not only the location of his property, but also the height limitations imposed thereon by the ordinance.

c. Adequate topographic maps may be available from local government sources. Standard topographic maps (quadrangle maps) are available from the U. S. Geological Survey. Maps should be ordered from the Distribution Branch, U. S. Geological Survey, P. O. Box 25286, Federal Center, Denver, Colorado 80225.

d. Many state agencies also make topographic maps available. In the absence of contour topographic data, land evaluation source data may be available from bench marks, railroads, highways, or local project surveys. Contour data on zoning maps should be shown to the extent reasonably available or required locally to support the ordinance.

7. BOARD OF ADJUSTMENT. The model ordinance provides for the creation of a Board of Adjustment to hear appeals, to hear and decide special exemptions, and to hear and decide special variances. Provision is also made for judicial review of decisions of the Board of Adjustment. Such review and appeal procedures are intended to conform to applicable constitutional requirements.

8. GENERAL INSTRUCTIONS FOR USING THE MODEL ZONING ORDINANCE.

a. The model zoning ordinance may be used as a guide for developing airport zoning ordinances to limit the height of objects that may interfere with the operation of a civil airport or heliport. The blank spaces should be filled in with appropriate data as noted.

b. It is not necessary that all material set forth in the model ordinance be used for all airport zoning ordinances. For example, if the airport to be zoned is a utility airport with no precision or nonprecision instrument runways existing or planned, those definitions and paragraphs referring to precision or nonprecision instrument runways or larger than utility runways may be omitted, (see appendix 2). However, if the airport changes to a larger than utility airport or receives instrument approach procedures, the ordinance should be amended to provide for the changes.

c. Section III should only include the airport zones applicable to the airport being zoned. An approach zone is applied to each end of each runway based upon the type of approach available or planned for that runway end. The most precise type of approach, existing or planned, for either end of the runway determines the primary surface width. Heliports do not have horizontal or conical zones. Other zones to accommodate the areas covered in FAR Par 77.23(a)(2) and (3) may be added.

d. Examples of several airport-type ordinances are included in the appendices for guidance.

Leonard E. Mudd

LEONARD E. MUDD
Director, Office of Airport Standards

APPENDIX 1. MODEL ZONING ORDINANCE TO LIMIT HEIGHT OF OBJECTS AROUND AN AIRPORT 1/

AN ORDINANCE REGULATING AND RESTRICTING THE HEIGHT OF STRUCTURES AND OBJECTS OF NATURAL GROWTH, AND OTHERWISE REGULATING THE USE OF PROPERTY, IN THE VICINITY OF THE _____ 2/ BY CREATING THE APPROPRIATE ZONES AND ESTABLISHING THE BOUNDARIES THEREOF; PROVIDING FOR CHANGES IN THE RESTRICTIONS AND BOUNDARIES OF SUCH ZONES; DEFINING CERTAIN TERMS USED HEREIN; REFERRING TO THE _____ 2/ ZONING MAP WHICH IS INCORPORATED IN AND MADE A PART OF THIS ORDINANCE; PROVIDING FOR ENFORCEMENT; ESTABLISHING A BOARD OF ADJUSTMENT; AND IMPOSING PENALTIES. 1/.

This Ordinance is adopted pursuant to the authority conferred by ____ 3/. It is hereby found that an obstruction has the potential for endangering the lives and property of users of ___ 2/, and property or occupants of land in its vicinity; that an obstruction may affect existing and future instrument approach minimums of ____ 2/; and that an obstruction may reduce the size of areas available for the landing, takeoff, and maneuvering of aircraft, thus tending to destroy or impair the utility of ___ 2/ and the public investment therein. Accordingly, it is declared:

(1) that the creation or establishment of an obstruction has the potential of being a public nuisance and may injure the region served by _____ 2/;

(2) that it is necessary in the interest of the public health, public safety, and general welfare _____ 4/ that the creation or establishment of obstructions that are a hazard to air navigation be prevented; and

(3) that the prevention of these obstructions should be accomplished, to the extent legally possible, by the exercise of the police power without compensation.

1/ This title should be written to meet the usages and legal requirements of your state, and the political subdivision.

2/ Insert the name of the airport being zoned by the Ordinance.

3/ This citation should be made to conform to the usual method of citing your state laws.

4/ If other terms are commonly used by the courts of your state in defining the limits of police power, such as "convenience" or "prosperity," they should be added here.

It is further declared that the prevention of the creation or establishment of hazards to air navigation, the elimination, removal, alteration or mitigation of hazards to air navigation, or the marking and lighting of obstructions are public purposes for which a political subdivision may raise and expend public funds and acquire land or interests in land.

IT IS HEREBY ORDAINED BY _____ 5/ as follows:

SECTION I: SHORT TITLE

This Ordinance shall be known and may be cited as ___ 2/ Zoning Ordinance.

SECTION II: DEFINITIONS

As used in this Ordinance, unless the context otherwise requires:

1. AIRPORT - _____ 2/.

2. AIRPORT ELEVATION - The highest point of an airport's usable landing area measured in feet from sea level.

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

4. APPROACH, TRANSITIONAL, HORIZONTAL, AND CONICAL ZONES - These zones are set forth in Section III of this Ordinance.

5. BOARD OF ADJUSTMENT - A Board consisting of _____ 6/ members appointed by the _____ 6/ as provided in _____ 6/.

6. CONICAL SURFACE - A surface extending outward and upward from the periphery of the horizontal surface at a slope of 20 to 1 for a horizontal distance of 4,000 feet.

7. HAZARD TO AIR NAVIGATION - An obstruction determined to have a substantial adverse effect on the safe and efficient utilization of the navigable airspace.

5/ A form of enacting clause commonly used by the political subdivision in adopting ordinances should be followed.

6/ Insert the number of members appointed to the Board of Adjustment, the appointing body, and the enabling legislation authorizing same.

8. 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.

9. HELIPORT PRIMARY SURFACE - The area of the primary surface coincides in size and shape with the designated takeoff and landing area of a heliport. This surface is a horizontal plane at the elevation of the established heliport elevation.

10. HORIZONTAL SURFACE - A horizontal plane 150 feet above the established airport elevation, the perimeter of which in plan coincides with the perimeter of the horizontal zone.

11. 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.

12. 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.

13. NONPRECISION 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 nonprecision instrument approach procedure has been approved or planned.

14. OBSTRUCTION - Any structure, growth, or other object, including a mobile object, which exceeds a limiting height set forth in Section IV of this Ordinance.

15. PERSON - An individual, firm, partnership, corporation, company, association, joint stock association, or governmental entity; includes a trustee, a receiver, an assignee, or a similar representative of any of them.

16. 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.

17. PRIMARY SURFACE - A surface longitudinally centered on a runway. When the runway has a specially prepared hard surface, the primary surface extends 200 feet beyond each end of that runway; for military runways or when the runway has no specially prepared hard surface, or planned hard surface, the primary surface ends at each end of that runway. The width of the primary surface is set forth in Section III of this Ordinance. The elevation of any point on the primary surface

is the same as the elevation of the nearest point on the runway centerline.

18. RUNWAY - A defined area on an airport prepared for landing and take-off of aircraft along its length.

19. 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.

20. TRANSITIONAL SURFACES - These surfaces extend outward at 90 degree angles to the runway centerline and the runway centerline extended at a slope of seven (7) feet horizontally for each foot vertically from the sides of the primary and approach surfaces to where they intersect the horizontal and conical surfaces. Transitional surfaces for those portions of the precision approach surfaces, which project through and beyond the limits of the conical surface, extend a distance of 5,000 feet measured horizontally from the edge of the approach surface and at 90 degree angles to the extended runway centerline.

21. TREE - Any object of natural growth.

22. UTILITY RUNWAY - A runway that is constructed for and intended to be used by propeller driven aircraft of 12,500 pounds maximum gross weight and less.

23. VISUAL RUNWAY - A runway intended solely for the operation of aircraft using visual approach procedures.

SECTION III: AIRPORT ZONES

In order to carry out the provisions of this Ordinance, there are hereby created and established certain zones which include all of the land lying beneath the approach surfaces, transitional surfaces, horizontal surfaces, and concical surfaces as they apply to ____ 2/. Such zones are shown on ____ 2/ Zoning map consisting of __ sheets, prepared by __, and dated __19__, which is attached to this Ordinance and made a part hereof. An area located in more than one (1) of the following zones is considered to be only in the zone with the more restrictive height limitation. The various zones are hereby established and defined as follows:

1. Utility Runway Visual Approach Zone - The inner edge of this approach zone coincides with the width of the primary surface and is ___ 7/ feet wide. The approach zone expands outward uniformly to a width of 1,250 feet at a horizontal distance of 5,000 feet from the primary surface. Its centerline is the continuation of the centerline of the runway.

7/ Insert dimension as set forth in FAR Part 77. Where more than one dimension is applicable, insert dimension identified to the appropriate runway involved.

2. Utility Runway Nonprecision Instrument Approach Zone - The inner edge of this approach zone coincides with the width of the primary surface and is 500 feet wide. The approach zone expands outward uniformly to a width of 2,000 feet at a horizontal distance 5,000 feet from the primary surface. Its centerline is the continuation of the centerline of the runway.

3. Runway Larger Than Utility Visual Approach Zone - The inner edge of this approach zone coincides with the width of the primary surface and is _____ 7/ feet wide. The approach zone expands outward uniformly to a width of 1,500 feet at a horizontal distance of 5,000 feet from the primary surface. Its centerline is the continuation of the centerline of the runway.

4. Runway Larger Than Utility With A Visibility Minimum Greater Than 3/4 Mile Nonprecision Instrument Approach Zone - The inner edge of this approach zone coincides with the width of the primary surface and is _____ 7/ feet wide. The approach zone expands outward uniformly to a width of 3,500 feet at a horizontal distance of 10,000 feet from the primary surface. Its centerline is the continuation of the centerline of the runway.

5. Runway Larger Than Utility With A Visibility Minimum As Low As 3/4 Mile Nonprecision Instrument Approach Zone - The inner edge of this approach zone coincides with the width of the primary surface and is 1,000 feet wide. The approach zone expands outward uniformly to a width of 4,000 feet at a horizontal distance of 10,000 feet from the primary surface. Its centerline is the continuation of the centerline of the runway.

6. Precision Instrument Runway Approach Zone - The inner edge of this approach zone coincides with the width of the primary surface and is 1,000 feet wide. The approach zone expands outward uniformly to a width of 16,000 feet at a horizontal distance of 50,000 feet from the primary surface. Its centerline is the continuation of the centerline of the runway.

7. Heliport Approach Zone - The inner edge of this approach zone coincides with the width of the primary surface and is ____ 8/ feet wide. The approach zone expands outward uniformly to a width of 500 feet at a horizontal distance of 4,000 feet from the primary surface.

8. Transitional Zones - The transitional zones are the areas beneath the transitional surfaces.

8/ The size of the heliport primary surface must be based on present and future heliport operations.

9. Heliport Transitional Zones - These zones extend outward from the sides of the primary surface and the heliport approach zones a horizontal distance of 250 feet from the primary surface centerline and the heliport approach zone centerline.

10. Horizontal Zone - The horizontal zone is established by swinging arcs of _____ 9/ feet radii from the center of each end of the primary surface of each runway and connecting the adjacent arcs by drawing lines tangent to those arcs. The horizontal zone does not include the approach and transitional zones.

11. Conical Zone - The conical zone is established as the area that commences at the periphery of the horizontal zone and extends outward therefrom a horizontal distance of 4,000 feet.

SECTION IV: AIRPORT ZONE HEIGHT LIMITATIONS

Except as otherwise provided in this Ordinance, no structure shall be erected, altered, or maintained, and no tree shall be allowed to grow in any zone created by this Ordinance to a height in excess of the applicable height limit herein established for such zone. Such applicable height limitations are hereby established for each of the zones in question as follows:

1. Utility Runway Visual Approach Zone - Slopes twenty (20) feet outward for each foot upward beginning at the end of and at the same elevation as the primary surface and extending to a horizontal distance of 5,000 feet along the extended runway centerline.

2. Utility Runway Nonprecision Instrument Approach Zone - Slopes twenty (20) feet outward for each foot upward beginning at the end of and at the same elevation as the primary surface and extending to a horizontal distance of 5,000 feet along the extended runway centerline.

3. Runway Larger Than Utility Visual Approach Zone - Slopes twenty (20) feet outward for each foot upward beginning at the end of and at the same elevation as the primary surface and extending to a horizontal distance of 5,000 feet along the extended runway centerline.

4. Runway Larger Than Utility With A Visibility Minimum Greater Than 3/4 Mile Nonprecision Instrument Approach Zone - Slopes thirty-four (34) feet outward for each foot upward beginning at the end of and at the same elevation as the primary surface and extending to a horizontal distance of 10,000 feet along the extended runway centerline.

9/ The radius of arc is:
   a) 5,000 feet for all runways designated utility or visual,
   b) 10,000 feet for all others.
The radius of the arcs for each end of the runway shall be the same. The radius used shall be the longest determined for either end.

5. Runway Larger Than Utility With A Visibility Minimum As Low As 3/4 Mile Nonprecision Instrument Approach Zone - Slopes thirty-four (34) feet outward for each foot upward beginning at the end of and at the same elevation as the primary surface and extending to a horizontal distance of 10,000 feet along the extended runway centerline.

6. Precision Instrument Runway Approach Zone - Slopes fifty (50) feet outward for each foot upward beginning at the end of and at the same elevation as the primary surface and extending to a horizontal distance of 10,000 feet along the extended runway centerline; thence slopes upward forty (40) feet horizontally for each foot vertically to an additional horizontal distance of 40,000 feet along the extended runway centerline.

7. Heliport Approach Zone - Slopes eight (8) feet outward for each foot upward beginning at the end of and at the same elevation as the primary surface and extending to a distance of 4,000 feet along the heliport approach zone centerline.

8. Transitional Zones - Slope seven (7) feet outward for each foot upward beginning at the sides of and at the same elevation as the primary surface and the approach surface, and extending to a height of 150 feet above the airport elevation which is ___ feet above mean sea level. In addition to the foregoing, there are established height limits sloping seven (7) feet outward for each foot upward beginning at the sides of and at the same elevation as the approach surface, and extending to where they intersect the conical surface. Where the precision instrument runway approach zone projects beyond the conical zone, there are established height limits sloping seven (7) feet outward for each foot upward beginning at the sides of and at the same elevation as the approach surface, and extending a horizontal distance of 5,000 feet measured at 90 degree angles to the extended runway centerline.

9. Heliport Transitional Zones - Slope two (2) feet outward for each foot upward beginning at the sides of and at the same elevation as the primary surface and the heliport approach zones and extending a distance of 250 feet measured horizontally from and at 90 degree angles to the primary surface centerline and heliport approach zones centerline.

10. Horizontal Zone - Established at 150 feet above the airport elevation or at a height of ___ feet above mean sea level.

11. Conical Zone - Slopes twenty (20) feet outward for each foot upward beginning at the periphery of the horizontal zone and at 150 feet above the airport elevation and extending to a height of 350 feet above the airport elevation.

12. Excepted Height Limitations - Nothing in this Ordinance shall be construed as prohibiting the construction or maintenance of any structure, or growth of any tree to a height up to _____ 10/ feet above the surface of the land.

SECTION V: USE RESTRICTIONS

Notwithstanding any other provisions of this Ordinance, no use may be made of land or water within any zone established by this Ordinance in such a manner as to create electrical interference with navigational signals or radio communication between the airport and aircraft, make it difficult for pilots to distinguish between airport lights and others, result in glare in the eyes of pilots using the airport, impair visibility in the vicinity of the airport, create bird strike hazards, or otherwise in any way endanger or interfere with the landing, takeoff, or maneuvering of aircraft intending to use the airport.

SECTION VI: NONCONFORMING USES

1. Regulations Not Retroactive - 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 nonconforming use. Nothing contained herein shall require any change in the construction, alteration, or intended use of any structure, the construction or alteration of which was begun prior to the effective date of this Ordinance, and is diligently prosecuted.

2. Marking and Lighting - Notwithstanding the preceding provision of this Section, the owner of any existing nonconforming structure or tree is hereby required to permit the installation, operation, and maintenance thereon of such markers and lights as shall be deemed necessary by the ___ 11/ to indicate to the operators of aircraft in the vicinity of the airport the presence of such airport obstruction. Such markers and lights shall be installed, operated, and maintained at the expense of the ____ 12/.

10/ The adoption of height limits should be reasonable and based on land use considerations in the vicinity of the airport and the nature of the area to be zoned. The adoption of height limits should not be so low as to constitute a taking of private property without due process of law.

11/ Insert the title of the appropriate official who has been charged with the responsibility for determining the necessity for marking and lighting.

12/ Insert the name of the appropriate political body or subdivision.

SECTION VII: PERMITS

1. Future Uses - Except as specifically provided in a, b, and c hereunder, no material change shall be made in the use of land, no structure shall be erected or otherwise established, and no tree shall be planted in any zone hereby created unless a permit therefor shall have been applied for and granted. Each application for a permit shall indicate the purpose for which the permit is desired, with sufficient particularity to permit it to be determined whether the resulting use, structure, or tree would conform to the regulations herein prescribed. If such determination is in the affirmative, the permit shall be granted. No permit for a use inconsistent with the provisions of this Ordinance shall be granted unless a variance has been approved in accordance with Section VII, 4.

   a. In the area lying within the limits of the horizontal zone and conical zone, no permit shall be required for any tree or structure less than seventy-five feet of vertical height above the ground, except when, because of terrain, land contour, or topographic features, such tree or structure would extend above the height limits prescribed for such zones.

   b. In areas lying within the limits of the approach zones, but at a horizontal distance of not less than 4,200 feet from each end of the runway, no permit shall be required for any tree or structure less than seventy-five feet of vertical height above the ground, except when such tree or structure would extend above the height limit prescribed for such approach zones.

   c. In the areas lying within the limits of the transition zones beyond the perimeter of the horizontal zone, no permit shall be required for any tree or structure less than seventy-five feet of vertical height above the ground, except when such tree or structure, because of terrain, land contour, or topographic features, would extend above the height limit prescribed for such transition zones.

   Nothing contained in any of the foregoing exceptions shall be construed as permitting or intending to permit any construction, or alteration of any structure, or growth of any tree in excess of any of the height limits established by this Ordinance except as set forth in Section IV, 12.

2. Existing Uses - No permit shall be granted that would allow the establishment or creation of an obstruction or permit a nonconforming use, structure, or tree to become a greater hazard to air navigation than it was on the effective date of this Ordinance or any amendments thereto or than it is when the application for a permit is made. Except as indicated, all applications for such a permit shall be granted.

3. Nonconforming Uses Abandoned or Destroyed - Whenever the ___ 13/ determines that a nonconforming tree or structure has been abandoned or more than 80 percent torn down, physically deteriorated, or decayed, no permit shall be granted that would allow such structure or tree to exceed the applicable height limit or otherwise deviate from the zoning regulations.

4. Variances - Any person desiring to erect or increase the height of any structure, or permit the growth of any tree, or use property, not in accordance with the regulations prescribed in this Ordinance, may apply to the Board of Adjustment for a variance from such regulations. The application for variance shall be accompanied by a determination from the Federal Aviation Administration as to the effect of the proposal on the operation of air navigation facilities and the safe, efficient use of navigable airspace. Such variances shall be allowed where it is duly found that a literal application or enforcement of the regulations will result in unnecessary hardship and 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 spirit of this Ordinance. Additionally, no application for variance to the requirements of this Ordinance may be considered by the Board of Adjustment unless a copy of the application has been furnished to the ____ 14/ for advice as to the aeronautical effects of the variance. If the ____ 14/ does not respond to the application within fifteen (15) days after receipt, the Board of Adjustment may act on its own to grant or deny said application.

5. Obstruction Marking and Lighting - Any permit or variance granted may, if such action is deemed advisable to effectuate the purpose of this Ordinance and be reasonable in the circumstances, be so conditioned as to require the owner of the structure or tree in question to install, operate, and maintain, at the owner's expense, such markings and lights as may be necessary. If deemed proper by the Board of Adjustment, this condition may be modified to require the owner to permit the ____ 12/ at its own expense, to install, operate, and maintain the necessary markings and lights.

13/ Insert here the title of the appropriate official charged with making this determination.

14/ Insert here the official or body responsible for operation and maintenance of the airport to be zoned.

SECTION VIII: ENFORCEMENT

It shall be the duty of the ___ 15/ to administer and enforce the regulations prescribed herein. Applications for permits and variances shall be made to the ___ 15/ upon a form published for that purpose. Applications required by this Ordinance to be submitted to the ___ 15/ shall be promptly considered and granted or denied. Application for action by the Board of Adjustment shall be forthwith transmitted by the ___ 15/.

SECTION IX: BOARD OF ADJUSTMENT

1. There is hereby created a Board of Adjustment to have and exercise the following powers: (1) to hear and decide appeals from any order, requirement, decision, or determination made by the ___ 15/ in the enforcement of this Ordinance; (2) to hear and decide special exceptions to the terms of this Ordinance upon which such Board of Adjustment under such regulations may be required to pass; and (3) to hear and decide specific variances.

2. The Board of Adjustment shall consist of ___ members appointed by the ___ 12/ and each shall serve for a term of ___ years until a successor is duly appointed and qualified. Of the members first appointed, one shall be appointed for a term of ___ year, ___ for a term of ___ years, and ___ for a term of ___ years. Members shall be removable by the appointing authority for cause, upon written charges, after a public hearing.

3. The Board of Adjustment shall adopt rules for its governance and in harmony with the provisions of this Ordinance. Meetings of the Board of Adjustment shall be held at the call of the Chairperson and at such other times as the Board of Adjustment may determine. The Chairperson or, in the absence of the Chairperson, the Acting Chairperson may administer oaths and compel the attendance of witnesses. All hearings of the Board of Adjustment shall be public. The Board of Adjustment shall keep minutes of its proceedings showing the vote of each member upon each question; or if absent or failing to vote, indicating such fact, and shall keep records of its examinations and other official actions, all of which shall immediately be filed in the office of ___ 15/ and on due cause shown.

4. The Board of Adjustment shall make written findings of facts and conclusions of law giving the facts upon which it acted and its legal conclusions from such facts in reversing, affirming, or modifying any order, requirement, decision, or determination which comes before it under the provisions of this Ordinance.

15/ Insert here the title of the appropriate official, such as Director, Department of Public Works, etc.

5. The concurring vote of a majority of the members of the Board of Adjustment shall be sufficient to reverse any order, requirement, decision, or determination of the ___ 15/ or decide in favor of the applicant on any matter upon which it is required to pass under this Ordinance, or to effect variation to this Ordinance.

SECTION X: APPEALS

1. Any person aggrieved, or any taxpayer affected, by any decision of the ___ 15/ made in the administration of the Ordinance, may appeal to the Board of Adjustment.

2. All appeals hereunder must be taken within a reasonable time as provided by the rules of the Board of Adjustment, by filing with the ___ 15/ a notice of appeal specifying the grounds thereof. The _____ 15/ shall forthwith transmit to the Board of Adjustment all the papers constituting the record upon which the action appealed from was taken.

3. An appeal shall stay all proceedings in furtherance of the action appealed from unless the ___ 15/ certifies to the Board of Adjustment, after the notice of appeal has been filed with it, that by reason of the facts stated in the certificate a stay would in the opinion of _____ 15/ cause imminent peril to life or property. In such case, proceedings shall not be stayed except by the order of the Board of Adjustment on notice to the ___ 15/ and on due cause shown.

4. The Board of Adjustment shall fix a reasonable time for hearing appeals, give public notice and due notice to the parties in interest, and decide the same within a reasonable time. Upon the hearing, any party may appear in person or by agent or by attorney.

5. The Board of Adjustment may, in conformity with the provisions of this Ordinance, reverse or affirm, in whole or in part, or modify the order, requirement, decision, or determination appealed from and may make such order, requirement, decision, or determination as may be appropriate under the circumstances.

SECTION XI: JUDICIAL REVIEW

Any person aggrieved, or any taxpayer affected, by any decision of the Board of Adjustment, may appeal to the Court of ___ as provided in Section ____ of Chapter _____ of the Public Laws of ___ 16/.

16/ Insert the jurisdiction. Consideration should be given the desirability of setting forth this procedure here, or as an alternative attaching to all copies of this Ordinance, a copy of excerpts from the statute cited.

SECTION XII: PENALTIES

Each violation of this Ordinance or of any regulation, order, or ruling promulgated hereunder shall constitute a misdemeanor and shall be punishable by a fine of not more than ____ dollars or imprisonment for not more than ____ days or both; and each day a violation continues to exist shall constitute a separate offense.

SECTION XIII: CONFLICTING REGULATIONS

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

SECTION XIV: SEVERABILITY

If any of the provisions of this Ordinance or the application thereof to any person or circumstances 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.

SECTION XV: EFFECTIVE DATE

WHEREAS, the immediate operation of the provisions of this Ordinance is necessary for the preservation of the public health, public safety, and general welfare, an EMERGENCY is hereby declared to exist, and this Ordinance shall be in full force and effect from and after its passage by the ___ and publication and posting as required by law.
Adopted by the _____ this _____ day of _____, 19__.

APPENDIX 2. SAMPLE ORDINANCE FOR UTILITY-TYPE AIRPORT WITHOUT INSTRUMENT PROCEDURES

ZONING ORDINANCE TO LIMIT HEIGHT OF OBJECTS AROUND AIRVILLE AIRPORT

AN ORDINANCE REGULATING AND RESTRICTING THE HEIGHT OF STRUCTURES AND OBJECTS OF NATURAL GROWTH, AND OTHERWISE REGULATING THE USE OF PROPERTY, IN THE VICINITY OF THE AIRVILLE AIRPORT BY CREATING THE APPROPRIATE ZONES AND ESTABLISHING THE BOUNDARIES THEREOF; PROVIDING FOR CHANGES IN THE RESTRICTIONS AND BOUNDARIES OF SUCH ZONES; DEFINING CERTAIN TERMS USED HEREIN; REFERRING TO THE AIRVILLE AIRPORT ZONING MAP WHICH IS INCORPORATED IN AND MADE A PART OF THIS ORDINANCE; PROVIDING FOR ENFORCEMENT; ESTABLISHING A BOARD OF ADJUSTMENT; AND IMPOSING PENALTIES.

This Ordinance is adopted pursuant to the authority conferred by Chapter 333 of the Laws of the State of xxxxx. It is hereby found that an obstruction has the potential for endangering the lives and property of users of Airville Airport, and property or occupants of land in its vicinity; that an obstruction may affect existing and future instrument approach minimums of Airville Airport; and that an obstruction may reduce the size of areas available for the landing, takeoff, and maneuvering of aircraft, thus tending to destroy or impair the utility of Airville Airport and the public investment therein. Accordingly, it is declared:

(1) that the creation or establishment of an obstruction has the potential of being a public nuisance and may injure the region served by Airville Airport;

(2) that it is necessary in the interest of the public health, public safety, and general welfare that the creation or establishment of obstructions that are a hazard to air navigation be prevented; and

(3) that the prevention of these obstructions should be accomplished, to the extent legally possible, by the exercise of the police power without compensation.

It is further declared that the prevention of the creation or establishment of hazards to air navigation, the elimination, removal, alteration or mitigation of hazards to air navigation, or marking and lighting of obstructions are public purposes for which a political subdivision may raise and expend public funds and acquire land or interests in land.

IT IS HEREBY ORDAINED BY THE BOARD OF COUNTY COMMISSIONERS OF INDIAN COUNTY, XXXX, AS FOLLOWS:

SECTION I: SHORT TITLE

This Ordinance shall be known and may be cited as Airville Airport Zoning Ordinance.

SECTION II: DEFINITIONS

As used in this Ordinance, unless the context otherwise requires:

1. AIRPORT - Means Airville Airport.

2. AIRPORT ELEVATION - 100 feet above mean sea level.

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

4. APPROACH, TRANSITIONAL, HORIZONTAL, AND CONICAL ZONES - These zones are set forth in Section III of this Ordinance.

5. BOARD OF ADJUSTMENT - A board consisting of 3 members appointed by the Board of County Commissioners of Indian County as provided for in Chapter 33 of the Laws of the State of xxxxx.

6. CONICAL SURFACE - A surface extending outward and upward from the periphery of the horizontal surface at a slope of 20 to 1 for a horizontal distance of 4,000 feet.

7. HAZARD TO AIR NAVIGATION - An obstruction determined to have a substantial adverse effect on the safe and efficient utilization of the navigable airspace.

8. 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.

9. HORIZONTAL SURFACE - A horizontal plane 150 feet above the established airport elevation, the perimeter of which in plan coincides with the perimeter of the horizontal zone.

10. 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.

11. OBSTRUCTION - Any structure, growth, or other object, including a mobile object, which exceeds a limiting height set forth in Section IV of this Ordinance.

12. PERSON - An individual, firm, partnership, corporation, company, association, joint stock association, or governmental entity; includes a trustee, a receiver, an assignee, or a similar representative of any of them.

13. PRIMARY SURFACE - A surface longitudinally centered on a runway. When the runway has a specially prepared hard surface, the primary surface extends 200 feet beyond each end of that runway; when the runway has no specially prepared hard surface, or planned hard surface, the primary surface ends at each end of that runway. The width of the primary surface is set forth in Section III of this Ordinance. The elevation of any point on the primary surface is the same as the elevation of the nearest point on the runway centerline.

14. RUNWAY - A defined area on an airport prepared for landing and take-off of aircraft along its length.

15. 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.

16. TRANSITIONAL SURFACES - These surfaces extend outward at 90 degree angles to the runway centerline and the runway centerline extended at a slope of seven (7) feet horizontally for each foot vertically from the sides of the primary and approach surfaces to where they intersect the horizontal and conical surfaces

17. TREE - Any object of natural growth.

18. UTILITY RUNWAY - A runway that is constructed for and intended to be used by propeller driven aircraft of 12,500 pounds maximum gross weight and less.

19. VISUAL RUNWAY - A runway intended solely for the operation of aircraft using visual approach procedures.

SECTION III: AIRPORT ZONES

In order to carry out the provisions of this Ordinance, there are hereby created and established certain zones which include all of the land lying beneath the approach surfaces, transitional surfaces, horizontal surfaces, and conical surfaces as they apply to the Airville Airport. Such zones are shown on the Airville Airport Zoning Map consisting of one sheet, prepared by the Department of Public Works and dated August 1, 1975, which

is attached to this Ordinance and made a part hereof. An area located in more than one (1) of the following zones is considered to be only in the zone with the more restrictive height limitation. The various zones are hereby established and defined as follows:

1. Utility Runway Visual Approach Zone - The inner edge of this approach zone coincides with the width of the primary surface and is 250 feet wide. The approach zone expands outward uniformly to a width of 1,250 feet at a horizontal distance of 5,000 feet from the primary surface. Its centerline is the continuation of the centerline of the runway.

2. Transitional Zones - The transitional zones are the areas beneath the transitional surfaces.

3. Horizontal Zone - The horizontal zone is established by swinging arcs of 5,000 feet radii from the center of each end of the primary surface of each runway and connecting the adjacent arcs by drawing lines tangent to those arcs. The horizontal zone does not include the approach and transitional zones.

4. Conical Zone - The conical zone is established as the area that commences at the periphery of the horizontal zone and extends outward therefrom a horizontal distance of 4,000 feet.

SECTION IV: AIRPORT ZONE HEIGHT LIMITATIONS

Except as otherwise provided in this Ordinance, no structure shall be erected, altered, or maintained, and no tree shall be allowed to grow in any zone created by this Ordinance to a height in excess of the applicable height limit herein established for such zone. Such applicable height limitations are hereby established for each of the zones in question as follows:

1. Utility Runway Visual Approach Zone - Slopes twenty (20) feet outward for each foot upward beginning at the end of and at the same elevation as the primary surface and extending to a horizontal distance of 5,000 feet along the extended runway centerline.

2. Transitional Zones - Slope seven (7) feet outward for each foot upward beginning at the sides of and at the same elevation as the primary surface and the approach surface, and extending to a height of 150 feet above the airport elevation which is 100 feet above mean sea level. In addition to the foregoing, there are established height limits sloping seven (7) feet outward for each foot upward beginning at the sides of and at the same elevation as the approach surface, and extending to where they intersect the conical surface.

3. Horizontal Zone - Established at 150 feet above the airport elevation or at a height of 250 feet above mean sea level.

4. Conical Zone - Slopes 20 feet outward for each foot upward beginning at the periphery of the horizontal zone and at 150 feet above the airport elevation and extending to a height of 350 feet above the airport elevation.

5. Excepted Height Limitations - Nothing in this Ordinance shall be construed as prohibiting the construction or maintenance of any structure, or growth of any tree to a height up to 50 feet above the surface of the land.

SECTION V: USE RESTRICTIONS

Notwithstanding any other provisions of this Ordinance, no use may be made of land or water within any zone established by this Ordinance in such a manner as to create electrical interference with navigational signals or radio communication between the airport and aircraft, make it difficult for pilots to distinguish between airport lights and others, result in glare in the eyes of pilots using the airport, impair visibility in the vicinity of the airport, create bird strike hazards, or otherwise in any way endanger or interfere with the landing, takeoff, or maneuvering of aircraft intending to use the airport.

SECTION VI: NONCONFORMING USES

1. Regulations Not Retroactive - 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 nonconforming use. Nothing contained herein shall require any change in the construction, alteration, or intended use of any structure, the construction or alteration of which was begun prior to the effective date of this Ordinance, and is diligently prosecuted.

2. Marking and Lighting - Notwithstanding the preceding provision of this Section, the owner of any existing nonconforming structure or tree is hereby required to permit the installation, operation, and maintenance thereon of such markers and lights as shall be deemed necessary by the Director, Department of Public Works, to indicate to the operators of aircraft in the vicinity of the airport the presence of such airport obstruction. Such markers and lights shall be installed, operated, and maintained at the expense of the Indian County Department of Public Works.

SECTION VII: PERMITS

1. Future Uses - Except as specifically provided in a, b, and c hereunder, no material change shall be made in the use of land, no structure shall be erected or otherwise established, and no tree shall be planted in any zone hereby created unless a permit therefor shall have been applied for

and granted. Each application for a permit shall indicate the purpose for which the permit is desired, with sufficient particularity to permit it to be determined whether the resulting use, structure, or tree would conform to the regulations herein prescribed. If such determination is in the affirmative, the permit shall be granted. No permit for a use inconsistent with the provisions of this Ordinance shall be granted unless a variance has been approved in accordance with Section VII, 4.

a. In the area lying within the limits of the horizontal zone and conical zone, no permit shall be required for any tree or structure less than seventy-five feet of vertical height above the ground, except when, because of terrain, land contour, or topographic features, such tree or structure would extend above the height limits prescribed for such zones.

b. In areas lying within the limits of the approach zones, but at a horizontal distance of not less than 4,200 feet from each end of the runway, no permit shall be required for any tree or structure less than seventy-five feet of vertical height above the ground, except when such tree or structure would extend above the height limit prescribed for such approach zones.

c. In the areas lying within the limits of the transition zones beyond the perimeter of the horizontal zone, no permit shall be required for any tree or structure less than seventy-five feet of vertical height above the ground, except when such tree or structure, because of terrain, land contour, or topographic features, would extend above.the height limit prescribed for such transition zones.

Nothing contained in any of the foregoing exceptions shall be construed as permitting or intending to permit any construction, or alteration of any structure, or growth of any tree in excess of any of the height limits established by this Ordinance except as set forth in Section IV,5.

2. Existing Uses - No permit shall be granted that would allow the establishment or creation of an obstruction or permit a nonconforming use, structure, or tree to become a greater hazard to air navigation than it was on the effective date of this Ordinance or any amendments thereto or than it is when the application for a permit is made. Except as indicated, all applications for such a permit shall be granted.

3. Nonconforming Uses Abandoned or Destroyed - Whenever the Director, Department of Public Works, determines that a nonconforming tree or structure has been abandoned or more than 80 percent torn down, physically deteriorated, or decayed, no permit shall be granted that would allow such structure or tree to exceed the applicable height limit or otherwise deviate from the zoning regulations.

4. Variances - Any person desiring to erect or increase the height of any structure, or permit the growth of any tree, or use property, not in accordance with the regulations prescribed in this Ordinance, may apply to the Board of Adjustment for a variance from such regulations. The application for variance shall be accompanied by a determination from the Federal Aviation Administration as to the effect of the proposal on the operation of air navigation facilities and the safe, efficient use of navigable airspace. Such variances shall be allowed where it is duly found that a literal application or enforcement of the regulations will result in unnecessary hardship and 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 spirit of this Ordinance. Additionally, no application for variance to the requirements of this Ordinance may be considered by the Board of Adjustment unless a copy of the application has been furnished to the Airport Manager for advice as to the aeronautical effects of the variance. If the Airport Manager does not respond to the application within 15 days after receipt, the Board of Adjustment may act on its own to grant or deny said application.

5. Obstruction Marking and Lighting - Any permit or variance granted may, if such action is deemed advisable to effectuate the purpose of this Ordinance and be reasonable in the circumstances, be so conditioned as to require the owner of the structure or tree in question to install, operate, and maintain, at the owner's expense, such markings and lights as may be necessary. If deemed proper by the Board of Adjustment, this condition may be modified to require the owner to permit the Indian County Department of Public Works, at its own expense, to install, operate, and maintain the necessary markings and lights.

SECTION VIII: ENFORCEMENT

It shall be the duty of the Director, Department of Public Works, to administer and enforce the regulations prescribed herein. Applications for permits and variances shall be made to the Director, Department of Public Works upon a form published for that purpose. Applications required by this Ordinance to be submitted to the Director, Department of Public Works, shall be promptly considered and granted or denied. Application for action by the Board of Adjustment shall be forthwith transmitted by the Director, Department of Public Works.

SECTION IX: BOARD OF ADJUSTMENT

1. There is hereby created a Board of Adjustment to have and exercise the following powers: (1) to hear and decide appeals from any order, requirement, decision, or determination made by the Director, Department of Public Works, in the enforcement of this Ordinance; (2) to hear and decide special exceptions to the terms of this Ordinance upon which such Board of Adjustment under such regulations may be required to pass; and (3) to hear and decide specific variances.

2. The Board of Adjustment shall consist of three members appointed by the Board of County Commissioners and each shall serve for a term of three years until a successor is duly appointed and qualified. Of the members first appointed, one shall be appointed for a term of one year, one for a term of two years, and one for a term of three years. Members shall be removable by the appointing authority for cause, upon written charges, after a public hearing.

3. The Board of Adjustment shall adopt rules for its governance and in harmony with the provisions of this Ordinance. Meetings of the Board of Adjustment shall be held at the call of the Chairperson and at such other times as the Board of Adjustment may determine. The Chairperson or, in the absence of the Chairperson, the Acting Chairperson may administer oaths and compel the attendance of witnesses. All hearings of the Board of Adjustment shall be public. The Board of Adjustment shall keep minutes of its proceedings showing the vote of each member upon each question; or if absent or failing to vote, indicating such fact, and shall keep records of its examinations and other official action, all of which shall immediately be filed in the office of County Clerk and on due cause shown.

4. The Board of Adjustment shall make written findings of facts and conclusions of law giving the facts upon which it acted and its legal conclusions from such facts in reversing, affirming, or modifying any order, requirement, decision, or determination which comes before it under the provisions of this Ordinance.

5. The concurring vote of a majority of the members of the Board of Adjustment shall be sufficient to reverse any order, requirement, decision, or determination of the Director, Department of Public Works, or to decide in favor of the applicant on any matter upon which it is required to pass under this Ordinance, or to effect variation to this Ordinance.

SECTION X: APPEALS

1. Any person aggrieved, or any taxpayer affected, by any decision of the Director, Department of Public Works, made in the administration of the Ordinance, may appeal to the Board of Adjustment.

2. All appeals hereunder must be taken within a reasonable time as provided by the rules of the Board of Adjustment, by filing with the Director, Department of Public Works, a notice of appeal specifying the grounds thereof. The Director, Department of Public Works, shall forthwith transmit to the Board of Adjustment all the papers constituting the record upon which the action appealed from was taken.

3. An appeal shall stay all proceedings in furtherance of the action appealed from unless the Director, Department of Public Works, certifies to the Board of Adjustment, after the notice of appeal has been filed with it, that by reason of the facts stated in the certificate a stay

would in the opinion of the Director, Department of Public Works cause imminent peril to life or property. In such case, proceedings shall not be stayed except by order of the Board of Adjustment or notice to the Director, Department of Public Works, and on due cause shown.

4. The Board of Adjustment shall fix a reasonable time for hearing appeals, give public notice and due notice to the parties in interest, and decide the same within a reasonable time. Upon the hearing, any party may appear in person or by agent or by attorney.

5. The Board of Adjustment may, in conformity with the provisions of this Ordinance, reverse or affirm, in whole or in part, or modify the order, requirement, decision, or determination appealed from and may make such order, requirement, decision, or determination as may be appropriate under the circumstances.

SECTION XI: JUDICIAL REVIEW

Any person aggrieved, or any taxpayer affected, by any decision of the Board of Adjustment, may appeal to the Circuit Court as provided in Section 333.111 of Chapter 333 of the Public Laws of the State of xxxxx.

SECTION XII: PENALTIES

Each violation of this Ordinance or of any regulation, order, or ruling promulgated hereunder shall constitute a misdemeanor and be punishable by a fine of not more than 500 dollars or imprisonment for not more than 180 days or both; and each day a violation continues to exist shall constitute a separate offense.

SECTION XIII: CONFLICTING REGULATIONS

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

SECTION XIV: SEVERABILITY

If any of the provisions of this Ordinance or the application thereof to any person or circumstances 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.

SECTION XV: EFFECTIVE DATE

WHEREAS, the immediate operation of the provisions of this Ordinance is necessary for the preservation of the public health, public safety, and general welfare, an EMERGENCY is hereby declared to exist, and this Ordinance shall be in full force and effect from and after its passage by the Indian County Board of Commissioners and publication and posting as required by law. Adopted by the Indian County Board of Commissioners this 12th day of October, 1975.

APPENDIX 3. SAMPLE ORDINANCE FOR LARGER THAN UTILITY TYPE AIRPORT WITH INSTRUMENT APPROACHES

ZONING ORDINANCE TO LIMIT HEIGHT OF OBJECTS AROUND AIRVILLE AIRPORT

AN ORDINANCE REGULATING AND RESTRICTING THE HEIGHT OF STRUCTURES AND OBJECTS OF NATURAL GROWTH, AND OTHERWISE REGULATING THE USE OF PROPERTY, IN THE VICINITY OF THE AIRVILLE AIRPORT BY CREATING THE APPROPRIATE ZONES AND ESTABLISHING THE BOUNDARIES THEREOF; PROVIDING FOR CHANGES IN THE RESTRICTIONS AND BOUNDARIES OF SUCH ZONES; DEFINING CERTAIN TERMS USED HEREIN; REFERRING TO THE AIRVILLE AIRPORT ZONING MAP WHICH IS INCORPORATED IN AND MADE A PART OF THIS ORDINANCE; PROVIDING FOR ENFORCEMENT; ESTABLISHING A BOARD OF ADJUSTMENT; AND IMPOSING PENALTIES.

This Ordinance is adopted pursuant to the authority conferred by Chapter 49 of Statutes of the State of xxxxx. It is hereby found that an obstruction has the potential for endangering the lives and property of users of Airville Airport, and property or occupants of land in its vicinity; that an obstuction may affect existing and future instrument approach minimums of Airville Airport; and that an obstruction may reduce the size of areas available for the landing, takeoff, and maneuvering of aircraft, thus tending to destroy or impair the utility of Airville Airport and the public investment therein. Accordingly, it is declared:

(1) that the creation or establishment of an obstruction has the potential of being a public nuisance and may injure the region served by Airville Airport;

(2) that it is necessary in the interest of the public health, public safety, and general welfare that the creation or establishment of obstructions that are a hazard to air navigation be prevented; and

(3) that the prevention of these obstructions should be accomplished, to the extent legally possible, by the exercise of the police power without compensation.

It is further declared that the prevention of the creation or establishment of hazards to air navigation, the elimination, removal, alteration or mitigation of hazards to air navigation, or marking and lighting of obstructions are public purposes for which a political subdivision may raise and expend public funds and acquire land or interests in land.

IT IS HEREBY ORDAINED BY THE CITY COUNCIL OR AIRVILLE, XXXXX, AS FOLLOWS:

SECTION I: SHORT TITLE

This Ordinance shall be known and may be cited as Airville Airport Zoning Ordinance.

SECTION II: DEFINITIONS

As used in this Ordinance, unless the context otherwise requires:

1. AIRPORT - Means Airville Airport.

2. AIRPORT ELEVATION - 100 feet above mean sea level.

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

4. APPROACH, TRANSITIONAL, HORIZONTAL, AND CONICAL ZONES - These zones are set forth in Section III of this Ordinance.

5. BOARD OF ADJUSTMENT - A board consisting of 3 members appointed by the City Council as provided in Chapter 12 of the Laws of the State of xxxxx.

6. CONICAL SURFACE - A surface extending outward and upward from the periphery of the horizontal surface at a slope of 20 to 1 for a horizontal distance of 4,000 feet.

7. HAZARD TO AIR NAVIGATION - An obstruction determined to have a substantial adverse effect on the safe and efficient utilization of the navigable airspace.

8. 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.

9. HORIZONTAL SURFACE - A horizontal plane 150 feet above the established airport elevation, the perimeter of which in plan coincides with the perimeter of the horizontal zone.

10. 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.

11. 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.

12. NONPRECISION 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 nonprecision instrument approach procedure has been approved or planned.

13. OBSTRUCTION - Any structure, growth, or other object, including a mobile object, which exceeds a limiting height set forth in Section IV of this Ordinance.

14. PERSON - An individual, firm, partnership, corporation, company, association, joint stock association or government entity; includes a trustee, a receiver, an assignee, or a similar representative of any of them.

15. 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.

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

17. RUNWAY - A defined area on an airport prepared for landing and take-off of aircraft along its length.

18. 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.

19. TRANSITIONAL SURFACES - These surfaces extend outward at 90 degree angles to the runway centerline and the runway centerline extended at a slope of seven (7) feet horizontally for each foot vertically from the sides of the primary and approach surfaces to where they intersect the horizontal and conical surfaces. Transitional surfaces for those portions of the precision approach surfaces, which project through and beyond the limits of the conical surface, extend a distance of 5,000 feet measured horizontally from the edge of the approach surface and at 90 degree angles to the extended runway centerline.

20. TREE - Any object of natural growth.

21. UTILITY RUNWAY - A runway that is constructed for and intended to be used by propeller driven aircraft of 12,500 pounds maximum gross weight and less.

22. VISUAL RUNWAY - A runway intended solely for the operation of aircraft using visual approach procedures.

SECTION III: AIRPORT ZONES

In order to carry out the provisions of this Ordinance, there are hereby created and established certain zones which include all of the land lying beneath the approach surfaces, transitional surfaces, horizontal surfaces, and conical surfaces as they apply to Airville Airport. Such zones are shown on Airville Airport Zoning Map consisting of one sheet, prepared by the Department of Public Works, dated September 1, 1975, which is attached to this Ordinance and made a part hereof. An area located in more than one of the following zones is considered to be only in the zone with the more restrictive height limitation. The various zones are hereby established and defined as follows:

1. Utility Runway Visual Approach Zone - The inner edge of this approach zone coincides with the width of the primary surface and is 250 feet wide. The approach zone expands outward uniformly to a width of 1,250 feet at a horizontal distance of 5,000 feet from the primary surface. Its centerline is the continuation of the centerline of the runway.

2. Utility Runway Nonprecision Instrument Approach Zone - The inner edge of this approach zone coincides with the width of the primary surface and is 500 feet wide. The approach zone expands outward uniformly to a width of 2,000 feet at a horizontal distance 5,000 feet from the primary surface. Its centerline is the continuation of the centerline of the runway.

3. Runway Larger Than Utility Visual Approach Zone - The inner edge of this approach zone coincides with the width of the primary surface and is 500 feet wide. The approach zone expands outward uniformly to a width of 1,500 feet at a horizontal distance of 5,000 feet from the primary surface. Its centerline is the continuation of the centerline of the runway.

4. Runway Larger Than Utility With A Visibility Minimum Greater Than 3/4 Mile Nonprecision Instrument Approach Zone - The inner edge of this approach zone coincides with the width of the primary surface and is 500 feet wide. The approach zone expands outward uniformly to a width of 3,500 feet at a horizontal distance of 10,000 feet from the primary surface. Its centerline is the continuation of the centerline of the runway.

5. Runway Larger Than Utility With A Visibility Minimum As Low As 3/4 Mile Nonprecision Instrument Approach Zone - The inner edge of this approach zone coincides with the width of the primary surface and is 1,000 feet wide. The approach zone expands outward uniformly to a width of 4,000 feet at a horizontal distance of 10,000 feet from the primary surface. Its centerline is the continuation of the centerline of the runway.

6. Precision Instrument Runway Approach Zone - The inner edge of this approach zone coincides with the width of the primary surface and is 1,000 feet wide. The approach zone expands outward uniformly to a width of 16,000 feet at a horizontal distance of 50,000 feet from the primary surface. Its centerline is the continuation of the centerline of the runway.

7. Transitional Zones - The transitional zones are the areas beneath the transitional surfaces.

8. Horizontal Zone - The horizontal zone is established by swinging arcs of 5,000 feet radii for all runways designated utility or visual and 10,000 feet for all others from the center of each end of the primary surface of each runway and connecting the adjacent arcs by drawing lines tangent to those arcs. The horizontal zone does not include the approach and transitional zones.

9. Conical Zone - The conical zone is established as the area that commences at the periphery of the horizontal zone and extends outward therefrom a horizontal distance of 4,000 feet.

SECTION IV: AIRPORT ZONE HEIGHT LIMITATIONS

Except as otherwise provided in this Ordinance, no structure shall be erected, altered, or maintained, and no tree shall be allowed to grow in any zone created by this Ordinance to a height in excess of the applicable height herein established for such zone. Such applicable height limitations are hereby established for each of the zones in question as follows:

1. Utility Runway Visual Approach Zone - Slopes twenty (20) feet outward for each foot upward beginning at the end of and at the same elevation as the primary surface and extending to a horizontal distance of 5,000 feet along the extended runway centerline.

2. Utility Runway Nonprecision Instrument Approach Zone - Slopes twenty (20) feet outward for each foot upward beginning at the end of and at the same elevation as the primary surface and extending to a horizontal distance of 5,000 feet along the extended runway centerline.

3. Runway Larger Than Utility Visual Approach Zone - Slopes twenty (20) feet outward for each foot upward beginning at the end of and at the same elevation as the primary surface and extending to a horizontal distance of 5,000 feet along the extended runway centerline.

4. Runway Larger Than Utility With A Visibility Minimum Greater Than 3/4 Mile Nonprecision Instrument Approach Zone - Slopes thirty-four (34) feet outward for each foot upward beginning at the end of and at the same elevation as the primary surface and extending to a horizontal distance of 10,000 feet along the extended runway centerline.

5. Runway Larger Than Utility With A Visibility Minimum As Low As 3/4 Mile Nonprecision Instrument Approach Zone - Slopes thirty-four (34) feet outward for each foot upward beginning at the end of and at the same elevation as the primary surface and extending to a horizontal distance of 10,000 feet along the extended runway centerline.

6. Precision Instrument Runway Approach Zone - Slopes fifty (50) feet outward for each foot upward beginning at the end of and at the same elevation as the primary surface and extending to a horizontal distance of 10,000 feet along the extended runway centerline; thence slopes upward forty (40) feet horizontally for each foot vertically to an additional horizontal distance of 40,000 feet along the extended runway centerline.

7. Transitional Zones - Slope seven (7) feet outward for each foot upward beginning at the sides of and at the same elevation as the primary surface and the approach surface, and extending to a height of 150 feet above the airport elevation which is 100 feet above mean sea level. In addition to the foregoing, there are established height limits sloping seven (7) feet outward for each foot upward beginning at the sides of and the same elevation as the approach surface, and extending to where they intersect the conical surface. Where the precision instrument runway approach zone projects beyond the conical zone, there are established height limits sloping seven (7) feet outward for each foot upward beginning at the sides of and the same elevation as the approach surface, and extending a horizontal distance of 5,000 feet measured at 90 degree angles to the extended runway centerline.

8. Horizontal Zone - Established at 150 feet above the airport elevation or at a height of 250 feet above mean sea level.

9. Conical Zone - Slopes twenty (20) feet outward for each foot upward beginning at the periphery of the horizontal zone and at 150 feet above the airport elevation and extending to a height of 350 feet above the airport elevation.

10. Excepted Height Limitations - Nothing in this Ordinance shall be construed as prohibiting the construction or maintenance of any structure, or growth of any tree to a height up to 50 feet above the surface of the land.

SECTION V: USE RESTRICTION

Notwithstanding any other provisions of this Ordinance, no use may be made of land or water within any zone established by this Ordinance in such a manner as to create electrical interference with navigational signals or radio communication between the airport and aircraft, make it difficult for pilots to distinguish between airport lights and others, result in glare in the eyes of pilots using the airport, impair visibility in the vicinity of the airport, create bird strike hazards, or otherwise in any way endanger or interfere with the landing, takeoff, or maneuvering of aircraft intending to use the airport.

SECTION VI: NONCONFORMING USES

1. Regulations Not Retroactive - The regulations prescribed in 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 the effective date of this Ordinance, or otherwise interfere with the continuance of a nonconforming use. Nothing contained herein shall require any change in the construction, alteration, or intended use of any structure, the construction or alteration of which was begun prior to the effective date of this Ordinance, and is diligently prosecuted.

2. Marking and Lighting - Notwithstanding the preceding provision of this Section, the owner of any existing nonconforming structure or tree is hereby required to permit the installation, operation, and maintenance thereon of such markers and lights as shall be deemed necessary by the City Manager to indicate to the operators of aircraft in the vicinity of the airport the presence of such airport obstruction. Such markers and lights shall be installed, operated, and maintained at the expense of the City of Airville.

SECTION VII: PERMITS

1. Future Uses - Except as specifically provided in a, b, and c hereunder, no material change shall be made in the use of land, no structure shall be erected or otherwise established, and no tree shall be planted in any zone hereby created unless a permit therefor shall have been applied for and granted. Each application for a permit shall indicate the purpose for which the permit is desired, with sufficient particularity to permit it to be determined whether the resulting use, structure, or tree would conform to the regulations herein prescribed. If such determination is in the affirmative, the permit shall be granted. No permit for a use inconsistent with the provisions of this ordinance shall be granted unless a variance has been approved in accordance with Section VII, 4.

a. In the area lying within the limits of the horizontal zone and conical zone, no permit shall be required for any tree or structure less than seventy-five feet of vertical height above the ground, except when, because of terrain, land contour, or topographic features, such tree or structure would extend above the height limits prescribed for such zones.

b. In areas lying within the limits of the approach zones but at a horizontal distance of not less than 4,200 feet from each end of the runway, no permit shall be required for any tree or structure less than seventy-five feet of vertical height above the ground, except when such tree or structure would extend above the height limit prescribed for such approach zones.

c. In the areas lying within the limits of the transition zones beyond the perimeter of the horizontal zone, no permit shall be required for any tree or structure less than seventy-five feet of vertical height above the ground, except when such tree or structure, because of terrain, land contour, or topographic features, would extend above the height limit prescribed for such transition zones.

Nothing contained in any of the foregoing exceptions shall be construed as permitting or intending to permit any construction, or alteration of any structure, or growth of any tree in excess of any of the height limits established by this Ordinance except as set forth in Section IV, 10.

2. Existing Uses - No permit shall be granted that would allow the establishment or creation of an obstruction or permit a nonconforming use, structure, or tree to become a greater hazard to air navigation, than it was on the effective date of this Ordinance or any amendments thereto or than it is when the application for a permit is made. Except as indicated, all applications for such a permit shall be granted.

3. Nonconforming Uses Abandoned or Destroyed - Whenever the City Manager determines that a nonconforming tree or structure has been abandoned or more than 80 percent torn down, physically deteriorated, or decayed, no permit shall be granted that would allow such structure or tree to exceed the applicable height limit or otherwise deviate from the zoning regulations.

4. Variances - Any person desiring to erect or increase the height of any structure, or permit the growth of any tree, or use property, not in accordance with the regulations prescribed in this Ordinance, may apply to the Board of Adjustment for a variance from such regulations. The application for variance shall be accompanied by a determination from the Federal Aviation Administration as to the effect of the proposal on the operation of air navigation facilities and the safe, efficient use of navigable airspace. Such variances shall be allowed where it is dully found that a literal application or enforcement of the regulations will

result in unnecessary hardship and 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 spirit of this Ordinance. Additionally, no application for variance to the requirements of this Ordinance may be considered by the Board of Adjustment unless a copy of the application has been furnished to the Airport Manager for advice as to the aeronautical effects of the variance. If the Airport Manager does not respond to the application within 15 days after receipt, the Board of Adjustment may act on its own to grant or deny said application.

5. Obstruction Marking and Lighting - Any permit or variance granted may, if such action is deemed advisable to effectuate the purpose of this Ordinance and be reasonable in the circumstances, be so conditioned as to require the owner of the structure or tree in question to install, operate, and maintain, at the owner's expense, such markings and lights as may be necessary. If deemed proper by the Board of Adjustment, this condition may be modified to require the owner to permit the City of Airville, at its own expense, to install, operate, and maintain the necessary markings and lights.

SECTION VIII: ENFORCEMENT

It shall be the duty of the City Manager to administer and enforce the regulations prescribed herein. Applications for permits and variances shall be made to the City Manager upon a form published for that purpose. Applications required by this Ordinance to be submitted to the City Manager shall be promptly considered and granted or denied. Application for action by the Board of Adjustment shall be forthwith transmitted by the City Manager.

SECTION IX: BOARD OF ADJUSTMENT

1. There is hereby created a Board of Adjustment to have and exercise the following powers: (1) to hear and decide appeals from any order, requirement, decision, or determination made by the City Manager in the enforcement of this Ordinance; (2) to hear and decide special exceptions to the terms of this Ordinance upon which such Board of Adjustment under such regulations may be required to pass; and (3) to hear and decide specific variances.

2. The Board of Adjustment shall consist of three members appointed by the City Council and each shall serve for a term of three years until a successor is duly appointed and qualified. Of the members first appointed, one shall be appointed for a term of one year, one for a term of two years, and one for a term of three years. Members shall be removable by the appointing authority for cause, upon written charges, after a public hearing.

3. The Board of Adjustment shall adopt rules for its governance and in harmony with the provisions of this Ordinance. Meetings of the Board of Adjustment shall be held at the call of the Chairperson and at such other times as the Board of Adjustment may determine. The Chairperson or, in the absence of the Chairperson, the Acting Chairperson may administer oaths and compel the attendance of witnesses. All hearings of the Board of Adjustment shall be public. The Board of Adjustment shall keep minutes of its proceedings showing the vote of each member upon each question; or if absent or failing to vote, indicating such fact, and shall keep records of its examinations and other official actions, all of which shall immediately be filed in the office of the City Clerk and on due cause shown.

4. The Board of Adjustment shall make written findings of facts and conclusions of law giving the facts upon which it acted and its legal conclusions from such facts in reversing, affirming, or modifying any order, requirement, decision, or determination which comes before it under the provisions of this Ordinance.

5. The concurring vote of a majority of the members of the Board of Adjustment shall be sufficient to reverse any order, requirement, decision, or determination of the City Manager or decide in favor of the applicant on any matter upon which it is required to pass under this Ordinance, or to effect variation to this Ordinance.

SECTION X: APPEALS

1. Any person aggrieved, or any taxpayer affected, by any decision of the City Manager, made in the administration of the Ordinance, may appeal to the Board of Adjustment.

2. All appeals hereunder must be taken within a reasonable time as provided by the rules of the Board of Adjustment, by filing with the City Manager a notice of appeal specifying the grounds thereof. The City Manager shall forthwith transmit to the Board of Adjustment all the papers constituting the record upon which the action appealed from was taken.

3. An appeal shall stay all proceedings in furtherance of the action appealed from unless the City Manager certifies to the Board of Adjustment, after the notice of appeal has been filed with it, that by reason of the facts stated in the certificate a stay would in the opinion of the City Manager cause imminent peril to life or property. In such case, proceedings shall not be stayed except by order of the Board of Adjustment or notice to the City Manager and on due cause shown.

4. The Board of Adjustment shall fix a reasonable time for hearing appeals, give public notice and due notice to the parties in interest, and decide the same within a reasonable time. Upon the hearing, any party may appear in person or by agent or by attorney.

5. The Board of Adjustment may, in conformity with the provisions of this Ordinance, reverse or affirm, in whole or in part, or modify the order, requirement, decision, or determination appealed from and may make such order, requirement, decision, or determination as may be appropriate under the circumstances.

SECTION XI: JUDICIAL REVIEW

Any person aggrieved, or any taxpayer affected, by any decision of the Board of Adjustment, may appeal to the Circuit Court as provided in Section III of Chapter 12 of the Public Laws of the State of xxxxx.

SECTION XII: PENALTIES

Each violation of this Ordinance or of any regulation, order, or ruling promulgated hereunder shall constitute a misdemeanor and be punishable by a fine of not more than 500 dollars or imprisonment for not more than 180 days or both; and each day a violation continues to exist shall constitute a separate offense.

SECTION XIII: CONFLICTING REGULATIONS

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

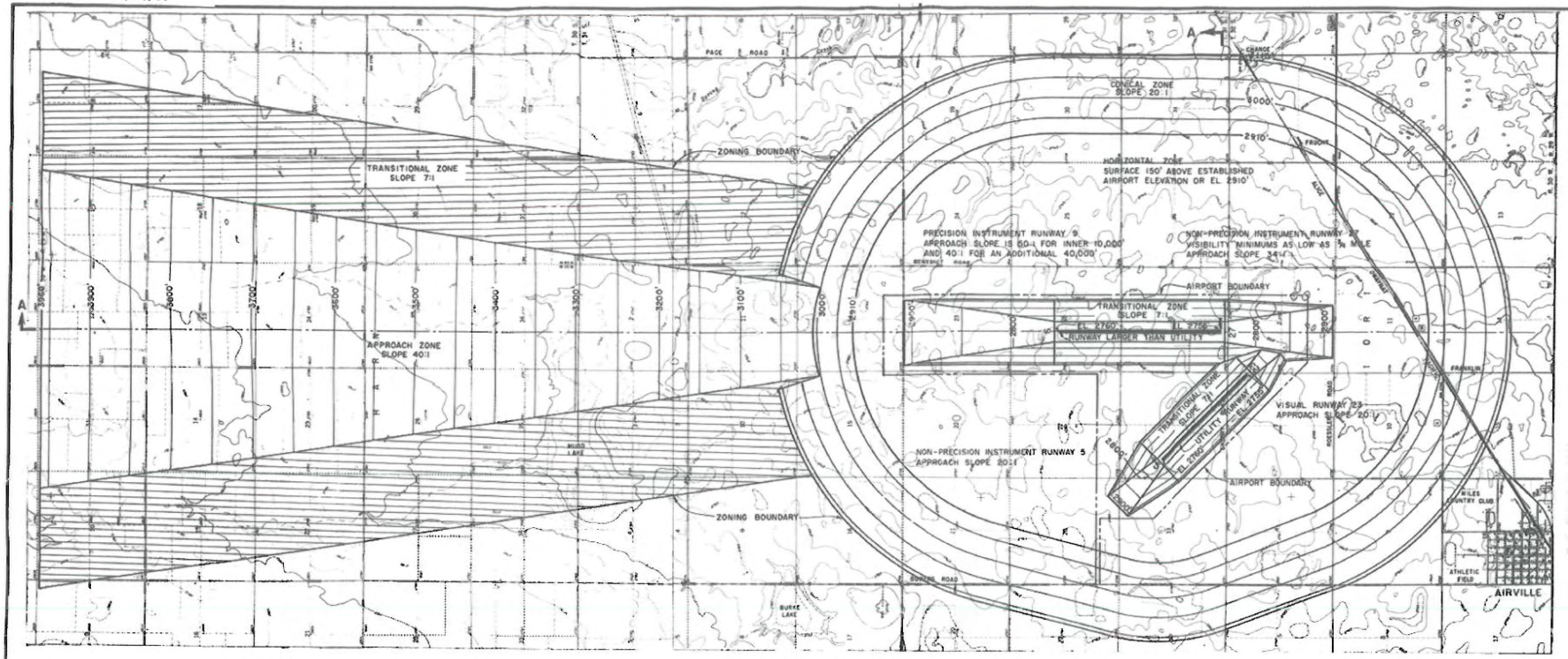
SECTION XIV: SEVERABILITY

If any of the provisions of this Ordinance or the application thereof to any person or circumstances 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.

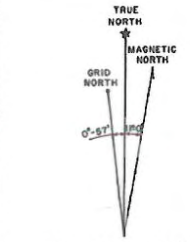
SECTION XV: EFFECTIVE DATE

WHEREAS, the immediate operation of the provisions of this Ordinance is necessary for the preservation of the public health, public safety, and general welfare, an EMERGENCY is hereby declared to exist, and this Ordinance shall be in full force and effect from and after its passage by the City Council and publication and posting as required by law. Adopted by the City Council this 12th day of October, 1975.

U.S. GOVERNMENT PRINTING OFFICE: 1990--722-568/20173



ZONING PLAN



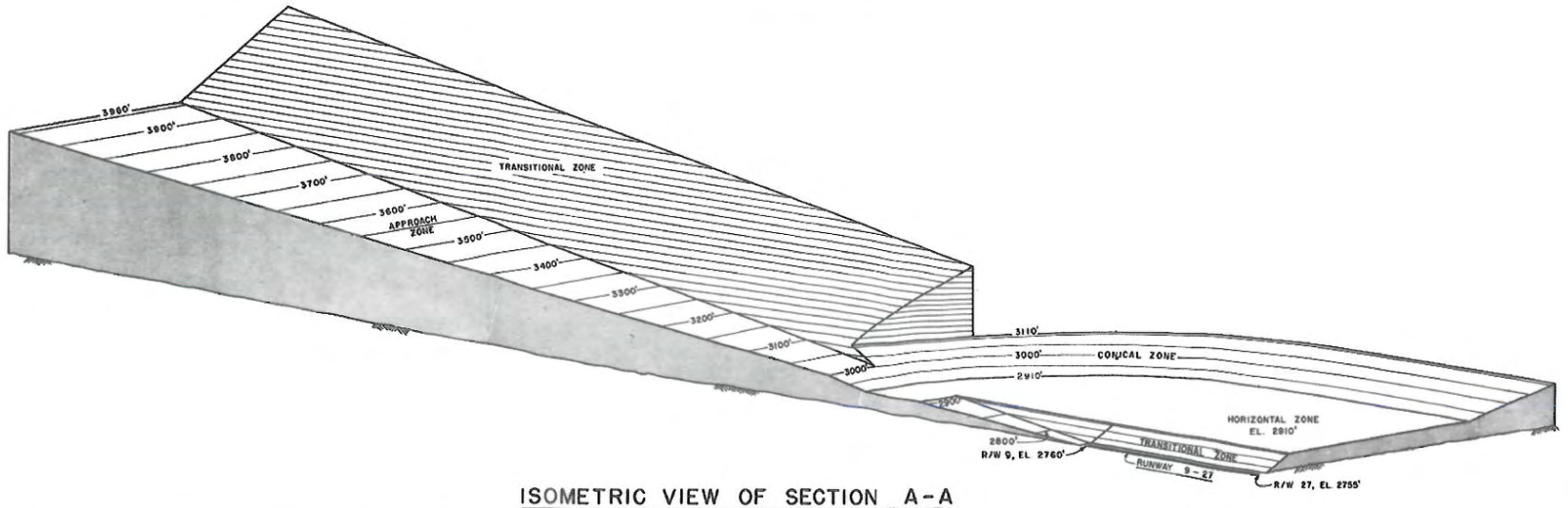
NORTH CENTRAL AIR STATE GRID
AND 1972 MAGNETIC NORTH DECLINATION

LEGEND

- ULTIMATE RUNWAY
- AIRPORT BOUNDARY
- ZONE BOUNDARIES
- TOPOGRAPHIC CONTOURS — 2710
- AERIAL CONTOURS — 2710
- MEDIUM DUTY ROAD
- LIGHT-DUTY ROAD
- UNIMPROVED DIRT ROAD

NOTES

1. THE AERIAL CONTOURS ILLUSTRATE THE HEIGHT LIMITATIONS WITHIN EACH ZONE.
2. A SLOPE, SUCH AS 20:1 EXPESSES THE HORIZONTAL DISTANCE OF 20 FEET TO THE VERTICAL DISTANCE OF 1 FOOT.
3. EXISTING TOPOGRAPHIC SYMBOLS ARE THOSE USED BY THE U.S. GEOLOGICAL SURVEY.
4. THE NORTH CENTRAL AIR STATE GRID SYSTEM IS USED.



ISOMETRIC VIEW OF SECTION A-A

SCALES

2000 0 2000 4000 6000
HORIZONTAL SCALE IN FEET

400 0 400 800 1200
VERTICAL SCALE IN FEET

CITY & COUNTY OF AIRVILLE
JOINT ZONING BOARD

AIRVILLE MUNICIPAL
AIRPORT ZONING MAP
ZONING ORDINANCE ADOPTED (DATE)

REVISION	APPROVED	
	REVIEWED	
	SUBMITTED	
	CHECKED	DWG BY:
	DATE / SHEET	DWG. NO.

Taxiway T

hand-delivered

RECEIVED
JUL 16 2003
BY:

Mr. Cal Horton
Town Manager of Chapel Hill
306 North Columbia Street
Chapel Hill, NC 27514

July 16, 2003

Dear Sir,

The following letter is in reference to two lots owned by us on Estes Drive in Chapel Hill adjacent to the Phillips Middle School site and bisected by Somerset Drive (Map Ref #'s 7.29..3D & 7.29..3C).

For the past several years, these lots have carried an Airport Hazard Zone designation imposed by the Town of Chapel Hill. However, based on the North Carolina General Statutes, the classification of Horace Williams Airport, and the Federal Aviation Administration's guidelines for airport hazard zones, it appears that such a designation is not appropriate.

Under the North Carolina General Statutes, a municipality may re-zone land around an airport to regulate the height of trees and structures to protect aerial approaches necessary for safe flying operations. The Town of Chapel Hill used such authority to place a Hazard Zone designation on property surrounding Horace Williams Airport. However, the NC General Statutes further stipulates that the municipality also adhere to safety guidelines set forth by the Federal Aviation Administration.

In a study conducted for the state by Aviation Planning Associates in 1995 (please see attached document), the relevant standards of safety for Horace Williams Airport (as a Category B, Group II facility) were fully described. Among other things, the report outlined the controlled activity area criteria of the Airport Hazard Zone as recommended by the FAA. This area was delineated to include an area extending 1900 feet from the end of the runway, including a 300 foot object-free area and an 1600 additional feet of controlled area to protect the approach for airplanes. The Duke Power lines which cross Estes Drive were erected at the approximate 1900 foot distance from the east end of the airport runway. These lines also fall directly west of the boundary of the two lots in question. Therefore, it appears that these lots are clearly outside any required hazard zone since they are well beyond the already-existing power lines.

Based on this information, we are requesting that the Town of Chapel Hill consider removing the Airport Hazard Zone designation from these two lots. Thank you for your kind consideration in this matter.

Sincerely,

Mr. and Mrs. Whit M. Rummel
201 Hillcrest Road
Chapel Hill, NC 27514

cc: Kevin Foy, Mayor
Ralph Karpinos, Town Attorney

Aviation Planning Associates, Inc.
a Parsons Brinckerhoff Company
421 Arch Street/Cincinnati, Ohio 46202

Post-it™ brand fax transmittal memo 7671 | # of pages ▸ 9

To White Rummel	From Karl Stevenson
Co.	Co. JJR
Dept.	Phone # (313)662-4457
Fax (919)967-6200	Fax #

April 3, 1995

Mr. Michael Fendrick
Parsons Brinckerhoff Quade & Douglas
4000 West Chase Boulevard, Suite 250
Raleigh, NC 27606

Subject: FAA Airport Design Criteria Review
Horace Williams Airport
Chapel Hill, North Carolina

Dear Mr. Fendrick:

The Horace Williams Airport is owned by the University of North Carolina (UNC) and serves the general aviation needs of the University, The Area Health Education Center (AHEC) medical air operations, and provides for limited public use. The University has limited the number of aircraft which can be based at Horace Williams to fifty (50) planes with no intention to increase the number of home-based aircraft. Of the fifty (50) airplanes based at the airport, forty-two (42) are single engine, eight (8) are conventional twin engine, and no turbo prop planes are based at the airport; primarily because no A-1 jet fuel is available on site. Eventually A-1 jet fuel will need to be stored on-sits as the trend toward turbo prop planes increases. No jet aircraft are or will be allowed to use Horace Williams, nor will commercial air carriers, such as a commuter airlines, be allowed. No touch-and-go flights (i.e., practice landings and take-offs) and no balloons or helicopters are allowed.

The largest planes using the airport are conventional twin engine and twin engine turbo prop planes. The airport has a single paved Runway 9/27 which is 4,005 feet by 75 feet. As shown on Exhibit 1 both the Runway 9 approach and the Runway 27 approach have published non-precision instrument approaches.

The airport design review of Horace Williams Airport includes the following three elements:

- FAA Airport Design Standards
- PAR Part 77 Airspace Obstruction Standards
- Summary

1. FAA Airport Design Standards

As shown on Exhibit 2, the Airport is classified as a Category B (aircraft approach speed less than 91 knots), Group II (aircraft wing span less than 79 feet).

The minimum distance that an object is recommended to be from a B-II airport is 250 feet from the runway centerline and 300 feet from the end of the runway. For practical planning purposes, a building restriction line located 750 feet from the runway centerline is recommended so as to allow for the development of parallel taxiways and aircraft aprons.

The critical part of FAA airport design criteria is the Runway Protection Zone (RPZ). As shown on Exhibit 3 the RPZ for a B-II runway with a non-precision approach is a trapezoid measuring 1,700 feet by 500 feet by 700 feet. If possible, this RPZ should be kept free of all obstructions.

2. FAR Part 77 Airspace Obstruction Standards

As shown on Exhibit 4, Federal Aviation Regulation (FAR) Part 77 includes five imaginary surfaces that are designed to provide standards for the control of airspace obstructions surrounding airports.

As a part of FAR Part 77 (see Exhibit 5), there are standards for the vertical clearance of objects to runway approach surfaces for highways, railroads and waterways:

- 17 feet for an Interstate highway
- 15 feet for other public roadways
- 10 feet for a private road
- 23 feet for a railroad
- highest mobile object using a waterway

3. Summary

As shown on Exhibit 6, the analysis of available data indicates that there are no major obstructions to the two non-precision approaches to Runway 9/27.

In addition, Runway 9/27 complies with FAA B-II airport design criteria.

* * * * *

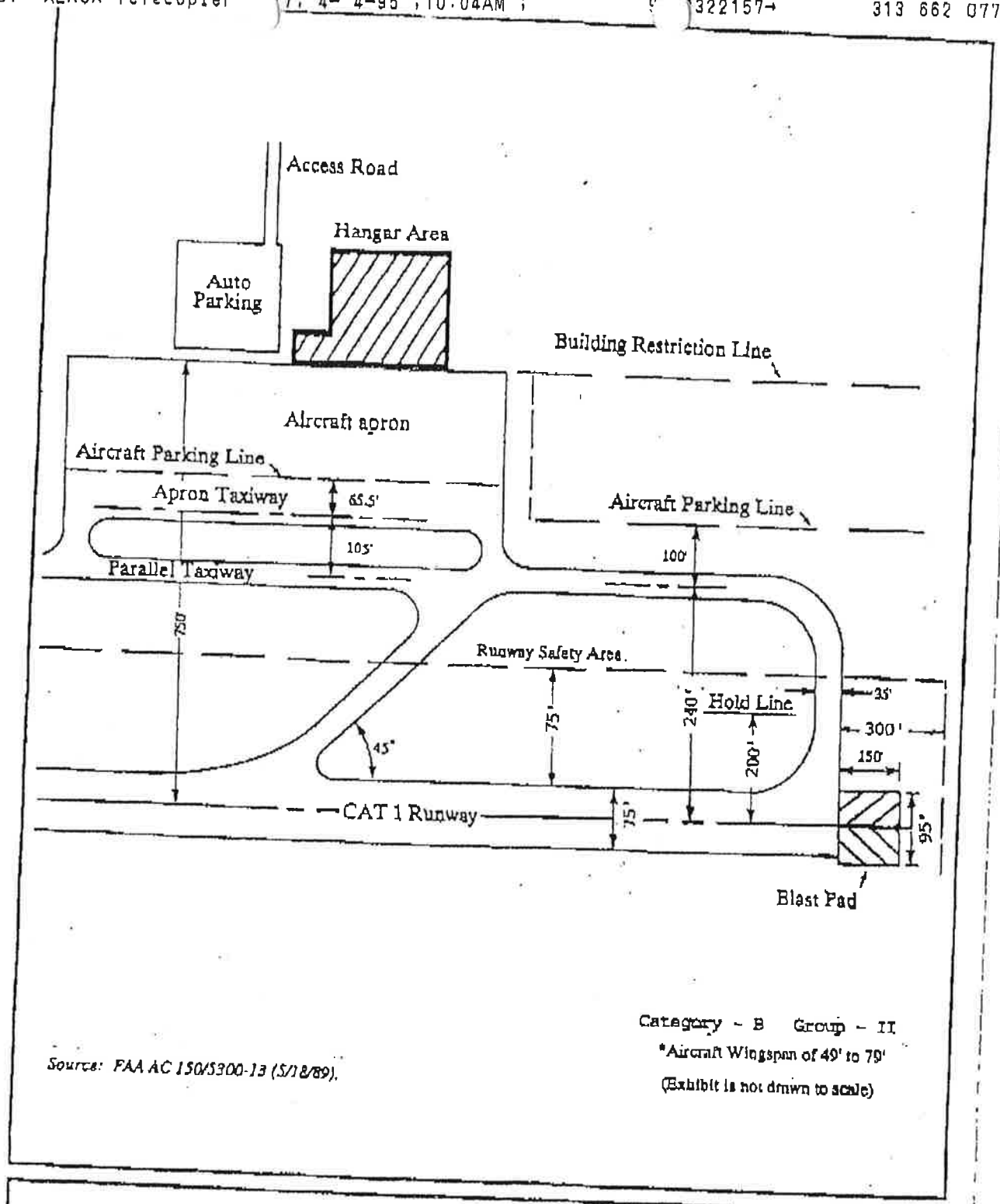
If you have questions concerning the airport design standards review of Horace Williams Airport, or require a more detailed analysis of a specific design standard, please call.

Sincerely,

AvPlan
A Parsons Brinckerhoff Company

C. Edward Cecil
Project Manager

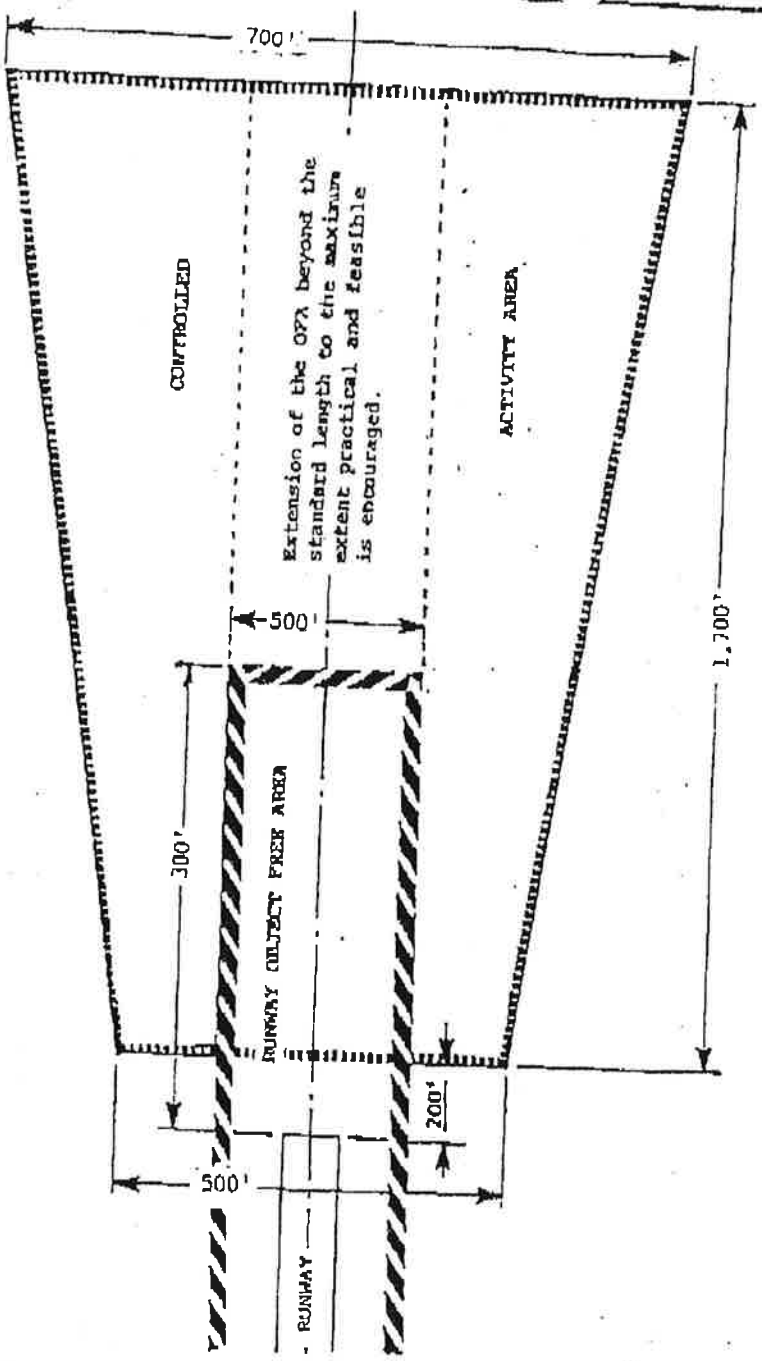
CEC/drb
HWA-01.ltr



B-II
AIRPORT DESIGN CRITERIA

EXHIBIT
2

9/29/89

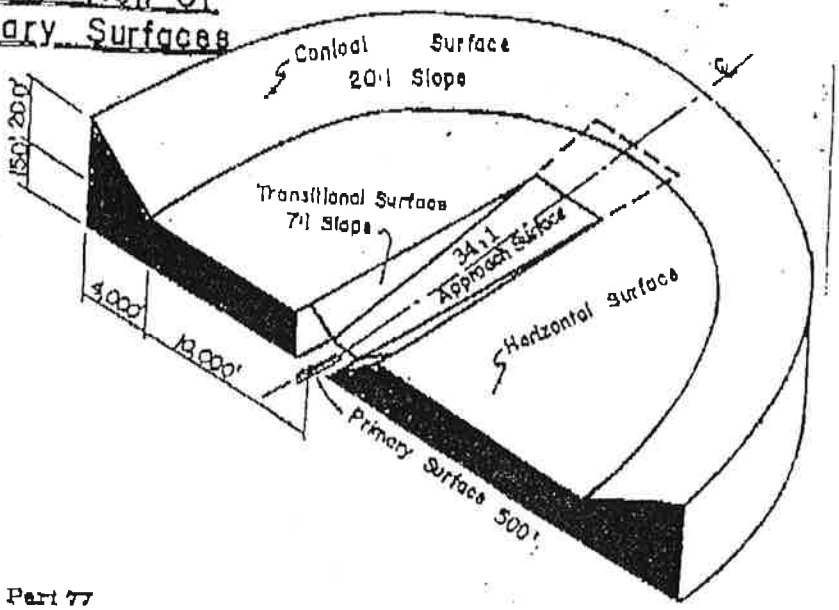


Category - B Group - II
Figure 2-2. Non-Precision RPZ shown

B-II RUNWAY PROTECTION ZONE CRITERIA

EXHIBIT 3

Isometric View Of Imaginary Surfaces



FAR Part 77

In order to determine whether an object is an obstruction to air navigation, several imaginary surfaces are established with relation to the airport and to each runway. The size of the imaginary surfaces depends on the category of each runway (e.g., utility) and on the type of approach planned for that runway (e.g., visual, nonprecision instrument, precision instrument).

The principal imaginary surfaces are described as follows:

1. Primary surface. A surface longitudinally centered on a runway is called a *primary surface*. When the runway is paved, the primary surface extends 200 ft beyond each end of the runway.

2. Horizontal surface. A *horizontal surface* is a horizontal plane 150 ft above the established airport elevation, the perimeter of which is constructed by swinging arcs of specified radii from the center of each end of the primary surface of each runway and connecting the adjacent arcs of lines tangent to those arcs.

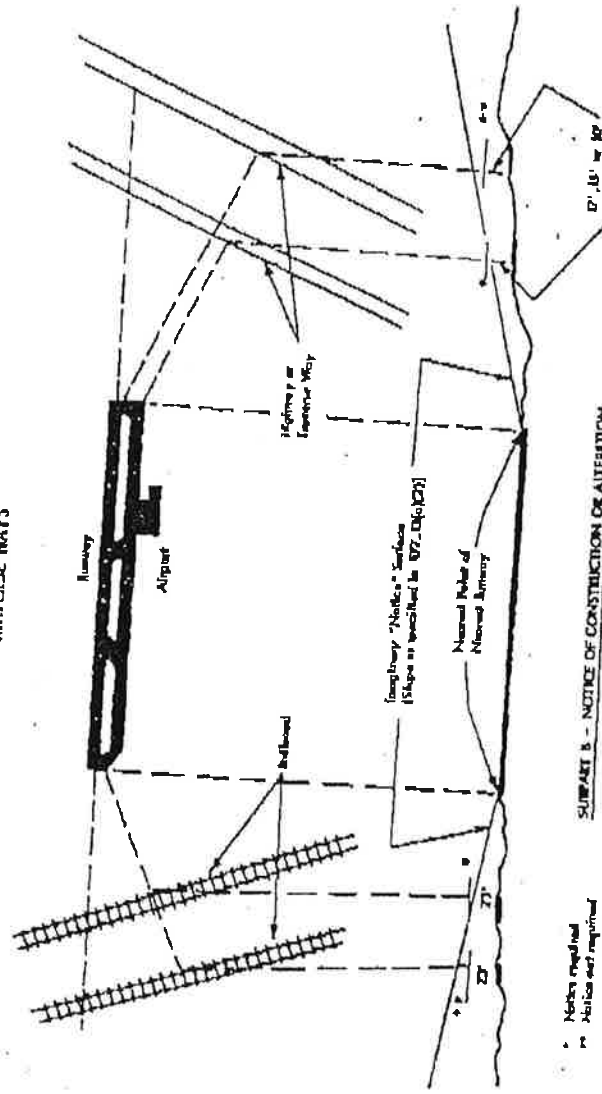
3. Conical surface. A surface extending outward and upward from the periphery of the horizontal surface at a slope of 20 to 1 for a horizontal distance of 4000 ft is known as a *conical surface*.

4. Approach surface. A surface longitudinally centered on the extended runway centerline and extending outward and upward from each end of the primary surface is called an *approach surface*. It is applied to each end of a runway based on the type of available or planned approach.

5. Transitional surfaces. These surfaces extend outward and upward at right angles to the runway centerline plus the runway centerline extended at a slope of 7 to 1 from the sides of the primary surface and from the sides of the approach surfaces.

B-II FAR PART 77 CRITERIA

EXHIBIT 4



SUBPART B – NOTICE OF CONSTIUCTION OR ALTERATION

§77.13(a)(2) – Notice is required for any proposed construction or altenation of any highway, railroad, or other traverse way for mobile objects if of greater height than the standards of §77.13(a)(1) or (2) after their height has been adjusted upward by one of the following:

17 feet for an Interstate highway that is part of the National System of Military and Interstate Highways,

15 feet for any other public roadway

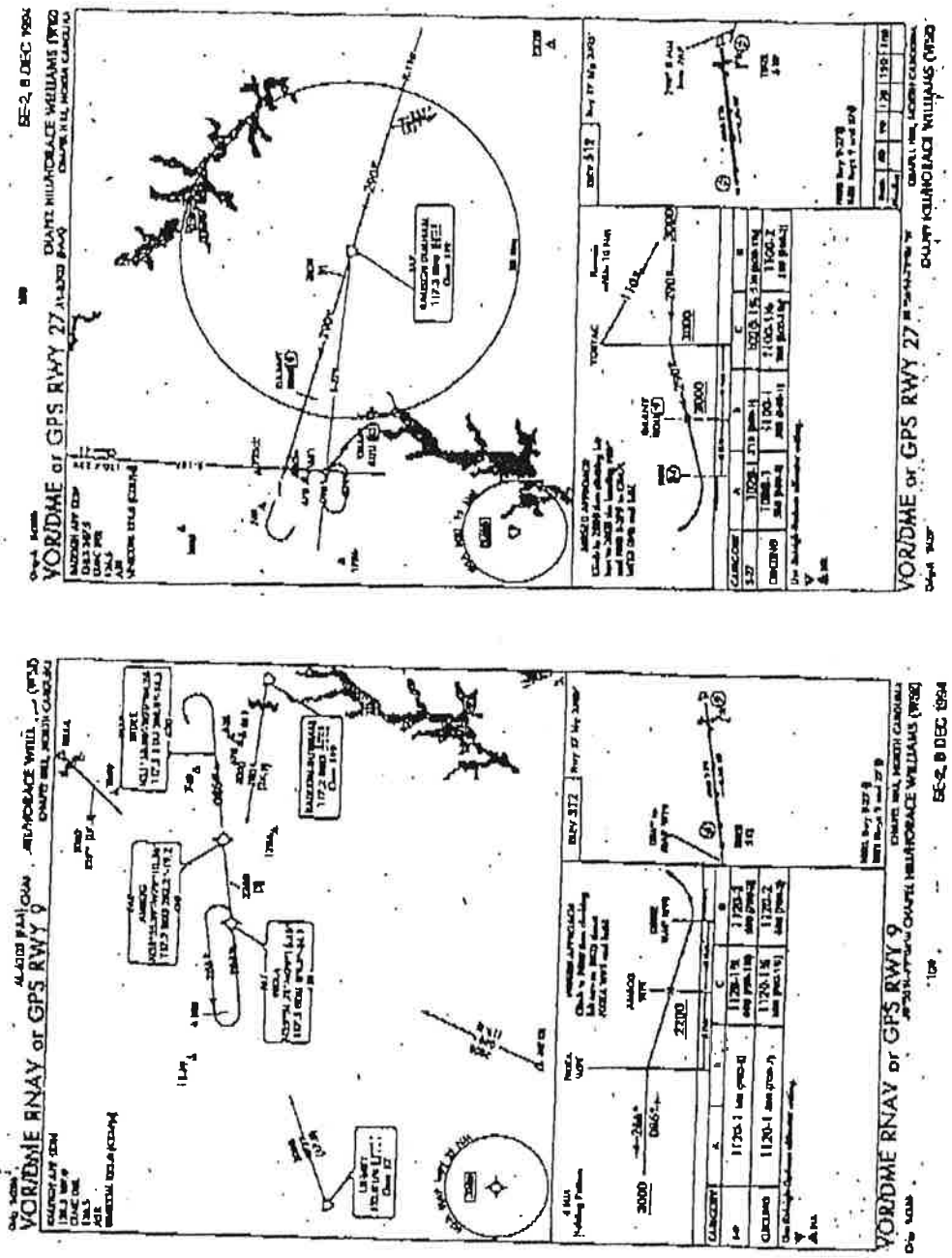
10 feet or the height of the highest mobile object that would normally traverse the road, whichever is greater, for a private road,

23 feet for a railroad

For a waterway or any other traverse way, an amount equal to the height of the highest mobile object that would normally use it.

FAR PART 77
TRAVERSE WAYS CRITERIA

EXHIBIT
5



PUBLISHED NON PRECISION
RUNWAY APPROACHES

EXHIBIT
1

29..3C,3D

TOWN OF CHAPEL HILL

August 4, 2003

Mr. and Mrs. Whit M. Rummel
201 Hillcrest Road
Chapel Hill, NC 27514

Subject: Rummel Property
(File No. 29..3C, 3D)

Dear Mr. and Mrs. Rummel:

Thank you for your letter dated July 16 regarding your property located on Somerset Drive. I understand that the property is located in the Airport Hazard District. In your letter you request that the Town consider removing the Airport Hazard District from your property. A zoning change of that nature would require consideration and action by the Town Council. A zoning change can be initiated in several ways. A zoning change can be initiated by a property owner, with application for rezoning. If you would like to learn more about the rezoning process, please contact the Planning Department at 968-2728. Another option, would be to petition the Town Council and request that the Town Council initiate a zoning change. The Town Council has the ability to initiate traditional zoning changes. However, the Town Council is accustomed to considering conditional use zoning changes. A conditional use rezoning typically involves a commitment to a specific land use and site development, with an accompanying Special Use Permit. The Town Council does not have the ability to initiate a conditional use rezoning.

I encourage you to contact our Planning Department to discuss the rezoning application process. Please ask for Ms. J.B. Culpepper, Development Coordinator. She will be able to meet with you and discuss the rezoning process (968-2728).

Sincerely,

Cal Horton

W. Calvin Horton
Town Manager

cc: J.B. Culpepper, Development Coordinator

APPENDIX A
Horace Williams Airport Study
(FAA Airport Design Criteria Review)

Aviation Planning Associates, Inc.
a Parsons Brinckerhoff Company
421 Arch Street/Cincinnati, Ohio 45202

April 3, 1995

Mr. Michael Fendrick
Parsons Brinckerhoff Quade & Douglas
4000 West Chase Boulevard, Suite 250
Raleigh, NC 27606

Subject: FAA Airport Design Criteria Review
Horace Williams Airport
Chapel Hill, North Carolina

Dear Mr. Fendrick:

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The airport design review of Horace Williams Airport includes the following three elements:

- FAA Airport Design Standards
- FAR Part 77 Airspace Obstruction Standards
- Summary

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In addition, Runway 9/27 complies with FAA B-II airport design criteria.

* * * * *

If you have questions concerning the airport design standards review of Horace Williams Airport, or require a more detailed analysis of a specific design standard, please call.

Sincerely,

AvPlan
A Parsons Brinckerhoff Company

C. Edward Cecil
Project Manager

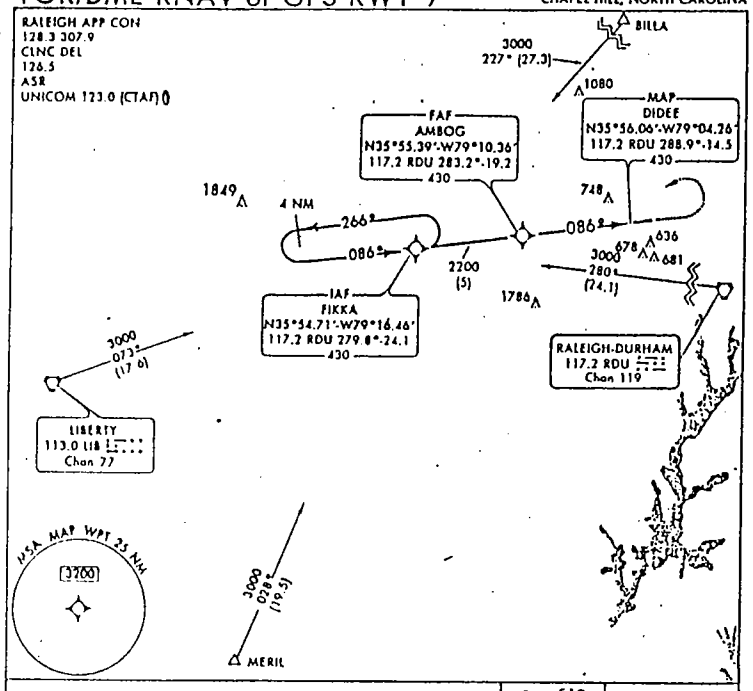
CEC/drb
HWA-01.LE

PUBLISHED NON PRECISION
RUNWAY APPROACHES

EXHIBI
1

VOR/DME RNAV or GPS RWY 9

CHAPEL HILL, NORTH CAROLINA

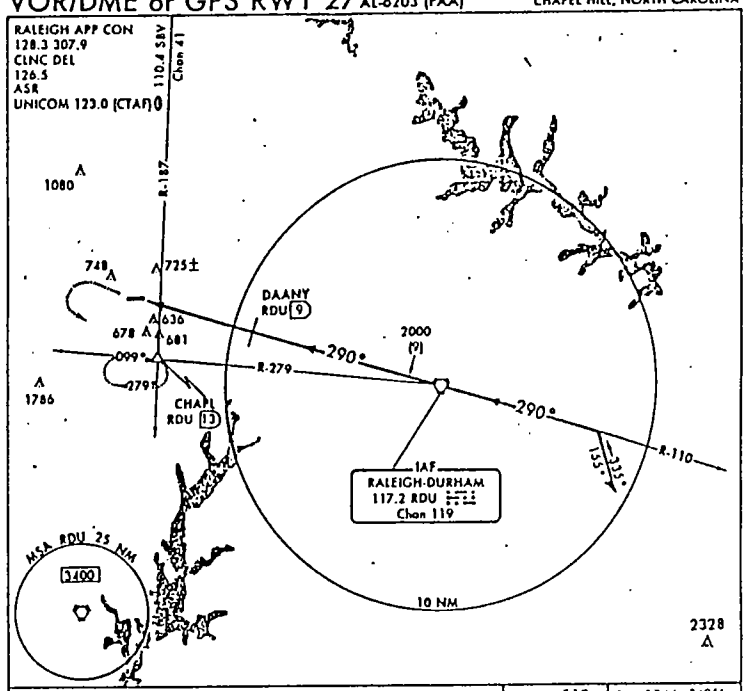


CATEGORY	A	B	C	D
S-9	1120-1 608 (700-1)		1120-1¾ 608 (700-1¾)	1120-2 608 (700-2)
CIRCLING	1120-1 608 (700-1)		1120-1¾ 608 (700-1¾)	1120-2 608 (700-2)

Use Raleigh-Durham altimeter setting.
V
△ NA

VOR/DME or GPS RWY 27

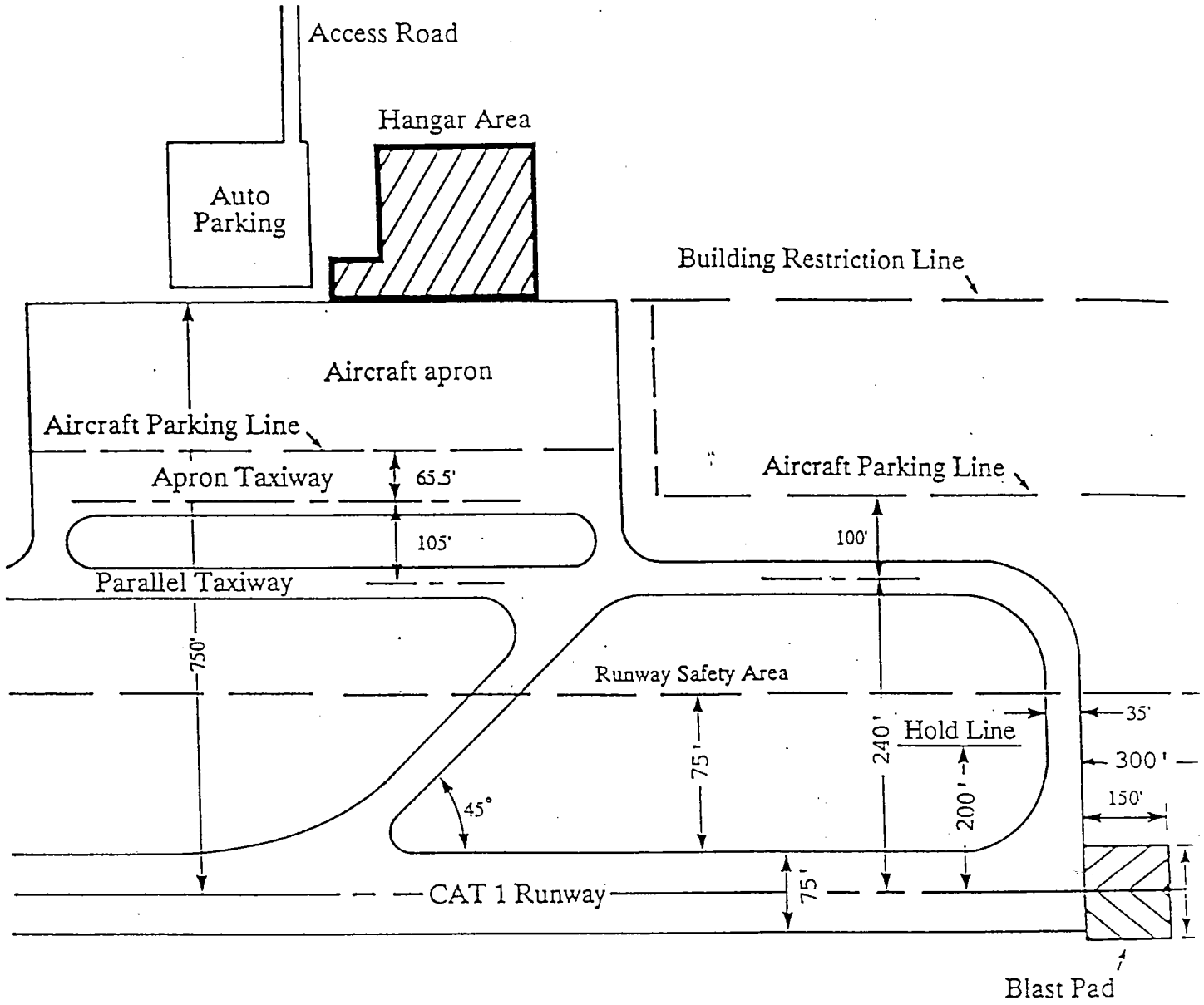
AL-6203 (FAA) CHAPEL HILL, NORTH CAROLINA



CATEGORY	A	B	C	D
S-27	1020-1 510 (600-1)		1020-1½ 510 (600-1½)	
CIRCLING	1080-1 568 (600-1)	1100-1 588 (600-1)	1100-1½ 588 (600-1½)	1100-2 588 (600-2)

Use Raleigh-Durham altimeter setting.
V
△ NA

Knots	60	90	120	150	180
Min:Sec					

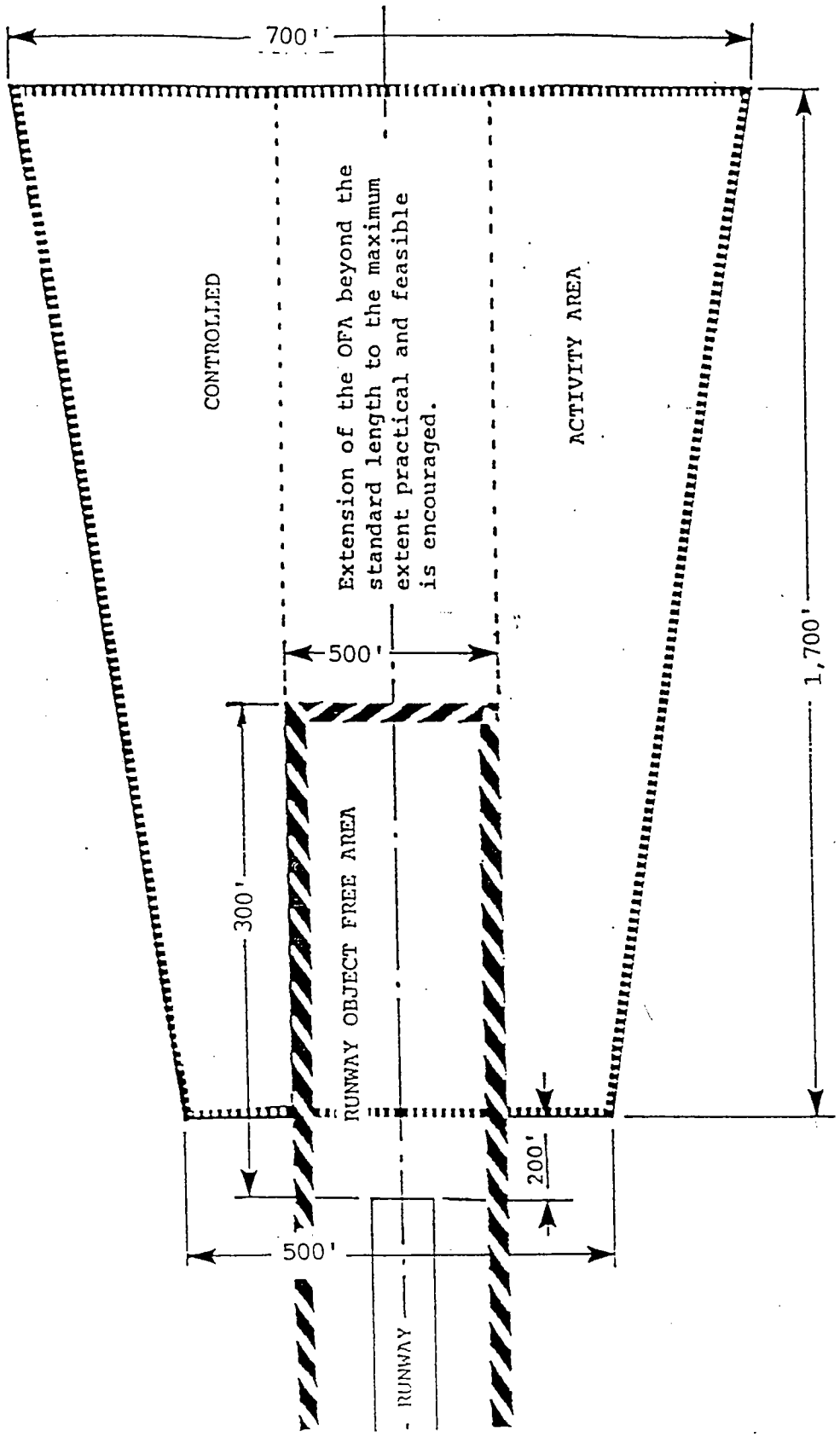


Category - B Group - II

*Aircraft Wingspan of 49' to 79'

Source: FAA AC 150/5300-13 (5/18/89).

(Exhibit is not drawn to scale)

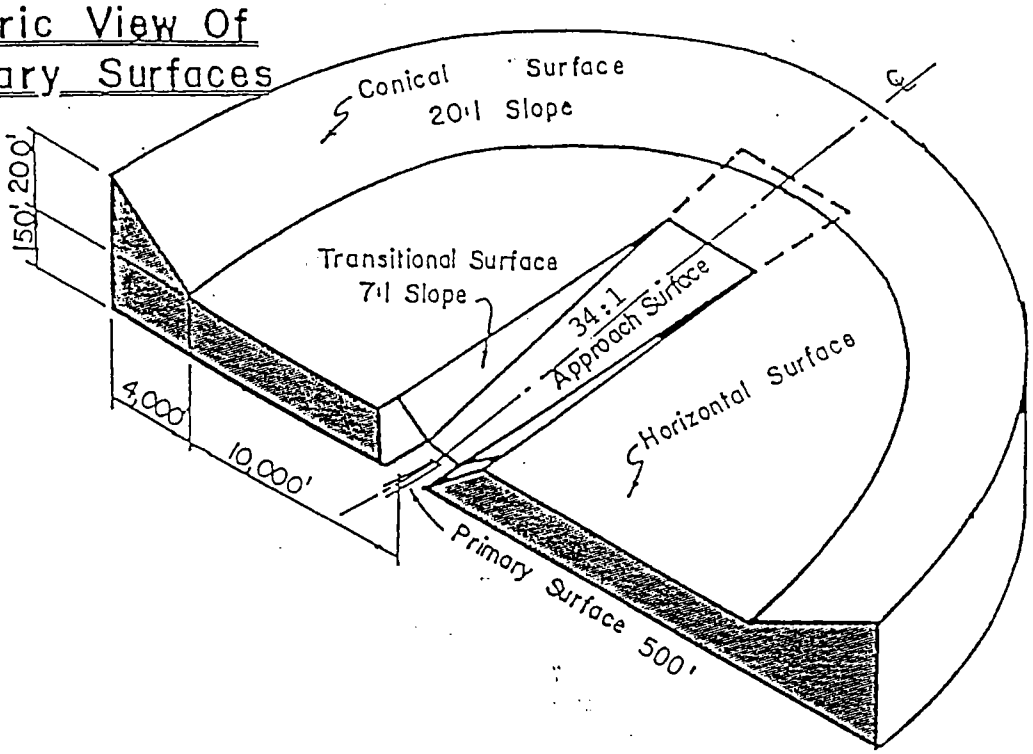


Category - B Group - II
Figure 2-2. Non-Precision RPZ shown

B-II RUNWAY PROTECTION
ZONE CRITERIA

EXHIBI
3

Isometric View Of Imaginary Surfaces



FAR Part 77

In order to determine whether an object is an obstruction to air navigation, several imaginary surfaces are established with relation to the airport and to each runway. The size of the imaginary surfaces depends on the category of each runway (e.g., utility) and on the type of approach planned for that runway (e.g., visual, nonprecision instrument, precision instrument).

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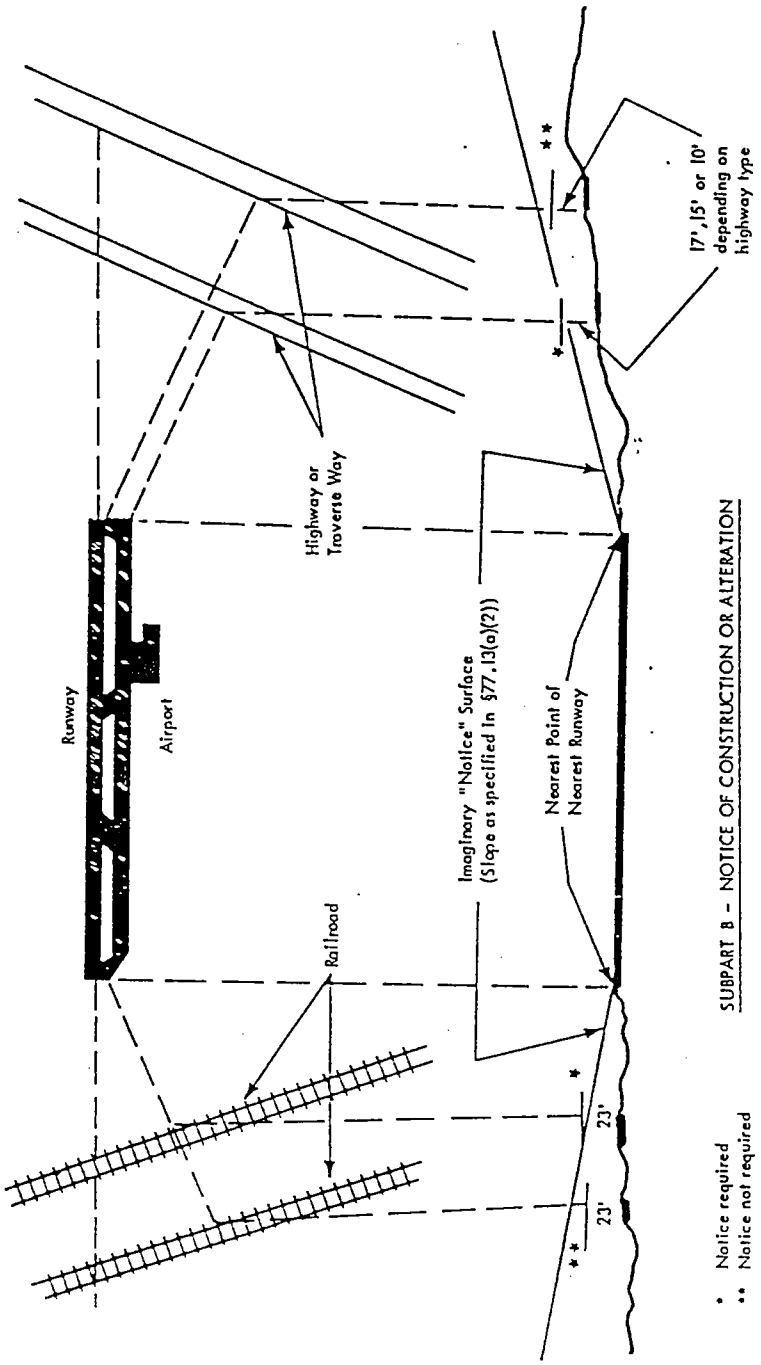
5. Transitional surfaces. These surfaces extend outward and upward at right angles to the runway centerline plus the runway centerline extended at a slope of 7 to 1 from the sides of the primary surface and from the sides of the approach surfaces.

§ 77.13(a)(3) - NOTICE REQUIREMENT RELATED TO TRAVERSE WAYS



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23 feet for a railroad

For a waterway or any other traverse way, an amount equal to the height of the highest mobile object that would normally use it.

FAR PART 77
TRAVERSE WAYS CRITERIA

EXHIBI
5

APPENDIX B
Environmental Concerns Information Summary

THE UNIVERSITY OF NC
AT
CHAPEL HI

Post-it™ brand fax transmittal memo 7671 | # of pages ▸ 5

To Karl Spooner	From T. Hogan
Co. IJR	Co.
Dept.	Phone #
Fax # 383/662-0779	Fax #

MEMORANDUM

University
Health and Safety Office
(919) 962-5507
FAX (919) 962-0227

The University of North Carolina at Chapel Hill
212 Finley Golf Course Rd.
Chapel Hill, North Carolina 27514

To: Interested Parties

From: Dr. Richard Miller, Environmental Affairs Manager RLM

Date: September 11, 1995

Subject: List of Known Waste Material Sites and Environmentally Sensitive Operations at Horace Williams and Mason Farm Properties

This memorandum provides a summary of information concerning the above referenced topic.

Seven sites involved with various waste materials and two sites involved with petroleum fuel products are located on either the Horace Williams or Mason Farm Properties. The following matrix displays the location and status of these nine sites:

	A. Active (currently in use)	B. Decommissioned (closed and available for unrestricted use)	C. Inactive (no longer in use)
Horace Williams	1. Hazardous Materials Facility 2. Horace Williams Airport Fuel Farm 3. University Service Station and Garage	1. Radioactive Material Burial Site	1. Chapel Hill Inactive Municipal Landfill 2. Airport Road Waste Disposal Area 3. Old Sanitary Landfill
Mason Farm	4. Chydaru		4. Mason Farm Low Level Radioactive Waste Disposal Site

A summary of the status of each of these nine sites, including past and present activities, how regulated, and monitoring programs, follows.

A. Active Sites

1. Hazardous Materials Facility

The Hazardous Materials Facility (HMF), a two building complex totaling 4,400 sq. ft. located south of Estes Drive adjacent to the "P" parking lot, has been in operation since 1983. In 1990, EPA issued the final permit pursuant to the Resource Conservation and Recovery Act (RCRA) to the University for the operation of a hazardous waste treatment, storage and disposal facility. Hazardous and radioactive wastes generated by the University and UNC Hospitals are picked up on campus, and transferred to HMF for storage, treatment and/or processing for off site disposal. HMF is operated by the University Health & Safety Office and is subject to the regulatory authority of EPA, NC Department of Environment, Health and Natural Resources, and the US Department of Transportation.

The HMF incorporates several safety features as a part of the EPA approved permit. These features include an automatic fire and smoke detection-alarm system, floors designed for tertiary containment, and a sprinkler overflow containment area. The facility is inspected at least annually by the Hazardous Waste Section of the North Carolina Department of Environment, Health and Natural Resources and the EPA-Region IV. Currently, HMF is in compliance with applicable regulations.

2. Horace Williams Airport Fuel Farm

The University has dispensed aviation fuel at the Horace Williams Airport since the 1970's. The aviation fuel farm was replaced during the 1994-95 fiscal year. The original fuel farm, consisting of two tanks with related piping and pumps, was removed in July 1994. Minimal gasoline contamination was found in soil around the fill pipes and beneath one dispenser. All contaminated soil (about 40 cubic yards) was removed and disposed of in accordance with state and federal regulations before the new fuel farm was installed. The new fuel farm, also consisting of two tanks (10,000 and 12,000 gallons) with related piping and pumps, features spill detection and prevention systems, including a spill alarm, spill shut-off, internal collection and monitoring systems, all of which meet or exceed current design regulations. The University Health and Safety Office and the Chapel Hill Fire Department were involved in various aspects of design, installation, and start-up of the new fuel farm as well as personnel safety training. The Chapel Hill Fire Department granted final approval for full use on May 30, 1995.

3. University Service Station and Garage

The University Service Station is located off Airport Drive, behind the Giles Horney Building. The service station has functioned as a gasoline station and garage for University and State vehicles since its construction in 1962. A new 10,000 gallon underground storage tank (UST) and dispensing system, including advanced spill detection, alarm, and monitoring features, and a new small waste oil UST will be installed in late 1995.

An existing 3,000 gallon gasoline UST and small waste oil UST have passed all tightness tests conducted by a firm certified to perform these tests. The existing 10,000 gallon gasoline UST, which had passed the tightness test in previous years, failed the most recent annual tank tightness test on December 7, 1994. The University reported this information to the State, and the tank was immediately emptied and taken out of service. Soil sampling around the 10,000 gallon tank indicates that a small amount of gasoline leaked. The University through consultant assistance is conducting a comprehensive site assessment in accordance with state regulations in order to complete any needed remediation.

4. Chydaru

This site located off the Finley Golf Course Road Extension has been operating since 1975. It originally was used to hold radioactive wastes for off site disposal and was later used to store short-lived radionuclides for decay. The State of North Carolina granted the University interim status in 1987 to operate the site as a hazardous waste treatment, storage and disposal (TSD) facility because one type of waste previously sent to Chydaru contained both hazardous and radioactive components. The University closed the site as a TSD facility and transferred these operations to the Hazardous Materials Facility (site 1, above) when an addition to the Hazardous Materials Facility was completed in 1991. The University completed the required state and federal closure procedures for the Chydaru TSD operations as of March 17, 1993.

Today, this site is used exclusively as a radioactive storage -for- decay facility. There is no radioactive or hazardous waste buried at this site. The University transfers short-lived radioactive wastes from their points of generation on campus to Chydaru for storage until the wastes are no longer radioactive. All campus facilities, including Chydaru, that receive, possess, use, handle or store radioactive materials and wastes are approved and regulated by the North Carolina Division of Radiation Protection and the UNC-CH Radiation Safety Committee. Radioactive materials are stored at Chydaru for a duration of ten half -lives or longer (a period ranging from 30 days to 4.5 years), before being repackaged as medical wastes (no longer considered radioactive) and shipped to an off-site medical waste incinerator. This facility is routinely inspected and monitored by the University Health and Safety Office and is inspected at least annually by the state regulatory agency.

Implications for Cobra decay?

B. Decommissioned Site

1. (Former) Radioactive Material Burial Site

This site is located immediately north of the western end of the airport runway on the Horace Williams tract. The University previously used this site for disposal of University and Hospital generated radioactive wastes until 1963. In 1991, the University formally closed this site by removing all radioactive material. The North Carolina Division of Radiation Protection stated on July 12, 1991 that the site is "decommissioned and released for unrestricted use."

C. Inactive Sites

1. Chapel Hill Inactive Municipal Landfill

This site is generally bounded by Airport Road, Estes Drive Extension and Airport Drive. The landfill was operated by the Town of Chapel Hill during the mid-to late 1950's. Interviews with employees of the Town of Chapel Hill indicate that this landfill primarily contains sanitary wastes and brush from Hurricane Hazel.

This site is included in this listing of nine environmentally sensitive sites for the reason that the Hazardous Materials Facility, site A.1. discussed above, was built on a portion of the Chapel Hill Inactive Municipal Landfill. The EPA permit for the Hazardous Materials Facility (site A.1) requires, in addition to what is referenced in Paragraph A.1 above, that the University investigate the soil, air and groundwater conditions of this landfill in order to "...characterize potential releases of hazardous constituents from the inactive landfill... and evaluate the need for further action..." This study has been completed and the University submitted its final report on this investigation in May, 1995 to the EPA and the State. The study found that "[c]oncentrations of constituents detected in surface emissions, soil, surface-water, sediment and groundwater samples were less than applicable standards or conservative screening levels". The University recommended that a "...formal risk assessment should not be required and additional corrective action at the site is unnecessary. The University is awaiting a response to its report from the EPA and the State.

2. Airport Road Waste Disposal Area

This site is located within a fenced area of approximately 0.2 acres north of the Chapel Hill Transit Operations and Maintenance Complex and was used from 1973 to 1979 for the burial of chemical wastes. Studies have shown that the site has contaminated soil and groundwater. As a result of the State's most recent study of this site in 1993, the North Carolina Superfund Section, Inactive Sites Branch ranked the site 85th of 158 inactive hazardous waste sites in priority, with the site ranked one having the highest priority for study and potential clean-up. The low clean-up priority reflects the fact that drinking water for residents in the area is supplied by OWASA, thus limiting the potential for human exposure to contamination. The State recommended that the University fence the site to further reduce potential exposure and

conduct additional studies to determine the extent of contamination. In compliance with these recommendations, the University has regraded and fenced the site, posted warning signs, installed monitoring wells, and retained Geraghty & Miller, an environmental consulting firm, to assist the University in determining the nature and extent of contamination. Geraghty & Miller has just completed monitoring well installation and sample collection. A report on their work is expected in the fall.

3. Old Sanitary Landfill

This thirty-five (35) acre site is located generally north of the airport runway on the Horace Williams Property. Because the potential for human exposure to contamination is limited as a result of OWASA supplied drinking water, the North Carolina Superfund Section, Inactive Sites Branch ranked the site 89th of 158 inactive hazardous waste sites for study and potential clean-up priority. This landfill was previously operated by the Town Of Chapel Hill beginning sometime prior to 1966 and ending in 1972-73 when the current solid waste landfill serving Orange County opened on Eubanks Road. Little is known about this site, other than what is reported in the investigation by the Inactive Sites Branch. The University has not received any recommendations or direction from the State concerning additional study of this site.

4. Mason Farm Low Level Radioactive Waste Disposal Site

This fenced, one-third acre site is located at the end of the Finley Golf Course Road Extension and was used from 1963 to 1970, for the burial of low level radioactive wastes, including some small animal carcasses. The North Carolina Division of Radiation Protection regulates the site. The University Health and Safety Office monitors the groundwater at the site by collecting and analyzing water from three monitoring wells twice a year in accordance with procedures approved by the North Carolina Division of Radiation Protection and the UNC-CH Radiation Safety Committee. Monitoring results are maintained by the University's Health and Safety Office and the state regulatory agency. To date, monitoring results document that no detectable quantities of radioactive materials have been found outside the disposal site boundary.

Please feel free to contact me at (919) 962-5718 if you or others have any questions.

APPENDIX C
Faculty Committee Recommendations

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To Karl Stearnsan	From Ted Hoskins
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THE UNIVERSITY (

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MEMORANDUM

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To: Wayne Jones, Chair, Facilities Planning Committee
From: Tom Clegg, Chair, Faculty Advisory Committee on Long-Range Land-Use Planning for Outlying Campus Lands Tom
Subject: Overview of the Faculty Committee's Deliberations
Date: September 7, 1995

After ten months of data gathering and wide deliberations with campus groups, the Faculty Advisory Committee developed at its last August 30 meeting both general and specific opinions about the nature of activities most appropriate for outlying campus lands. These are summarized below. Details supporting these opinions are contained in longer summaries of the Faculty Committee's meetings and deliberations distributed earlier. Ted Hoskins has asked that I prepare this written summary so he can transmit these ideas to our JJR consultants prior to their next campus visit.

General Opinions -

Several views have surfaced frequently and seem, in fact, to encompass broad campus opinion about the whole current process of land-use planning for outlying parcels at Horace Williams and Mason Farm:

- *Preserve the central campus* - Overriding campus opinion urges that the traditional central campus be preserved to the greatest extent possible for core instructional, clinical, and training activities, and for research closely tied to these. Programs not tightly related to these would then be favored for location on outlying lands. Traditional green spaces and building arrangements on the north campus should also be preserved, and new ones should of similar nature be created on central campus and on outlying lands whenever possible.

- *Favor "Up" over "Out".* - Is it better to expand the University "outward" onto remote parcels or should it grow "upward" on the central campus? A large contingent of campus faculty, on considering how in the future to preserve the overall quality of what our Chapel Hill campus does best, votes for "up" over "out". This opinion is not based solely on faculty resistance to change. Rather, it arises from sincere conviction that much of what provides the basis for real quality of our present academic and research programs depends critically on the mutual proximity of many key, central campus programs. This creates an environment for numerous, frequent, and efficient personal interactions: between students and faculty, between basic researchers and practicing clinicians, and between Health and Academic Affairs personnel. Campus need for this only grows as interdisciplinary training and research enterprises are fostered. Any decision to move a significant part of the University's core training or research activities to an outlying parcel must weigh heavily the inevitable loss which will ensue from diminished personal encounters among important affected parties.

- *"Decant" programs carefully.* - Activities which need a central campus presence must be separated from those which will not suffer from being located at an outlying site. Both types exist, and locations for many at the extremes can be chosen with confidence. But, there is an interim class of activities for which the advantages and disadvantages of remote siting must be weighed extremely carefully. In such individual cases, cautious decision making is strongly recommended.

UNIVERSITY OF NORTH CAROLINA

• *Build generic buildings* - Viewed from the perspective of decades, campus programs and their space needs will surely change. It is then essential that new campus construction, both on the central campus and on the outlying lands, be flexible and easy to retrofit for future needs. Specialized construction for individual programs, then, should only occur after serious consideration is given to designs which might later accommodated in any new space to be created.

• *Provide effective transportation systems* - Growth on outlying University lands will require substantial growth in campus and town transportation systems. Minimizing the need for frequent trips of University personnel between the central campus and outlying lands must be a serious concern for those selecting University programs to be sited remotely.

• *Provide effective communication links* - Communications technology is changing rapidly. Campus investment must insure that effective communications links are installed which minimize the intellectual separation of personnel located physically on the outlying lands, from the core activities of the central campus.

Specific Opinions -

The Faculty Committee can now also recommend with some confidence that certain activities seem more appropriate for either the Mason Farm or the Horace Williams tract:

Activities to be preferred for the Mason Farm Tract

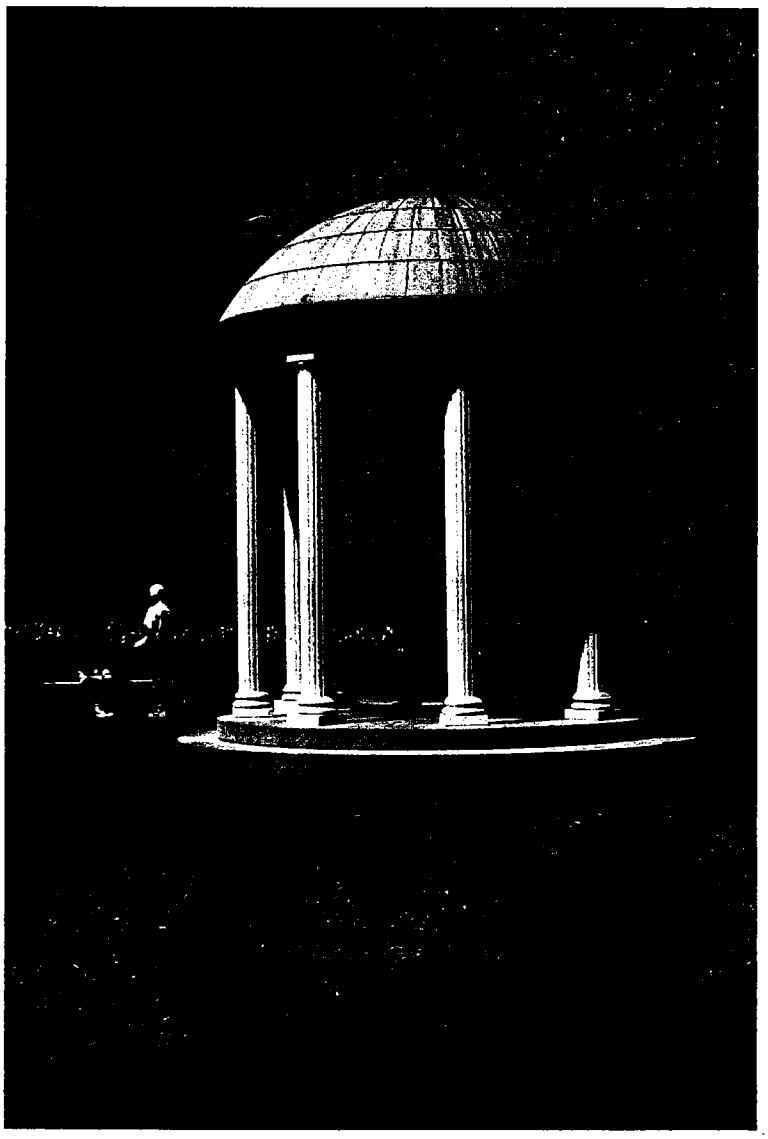
- Research, outreach, and training functions closely linked to the Botanical Garden and the Biological Reserve.
- Finley Golf Course and athletic playing fields.
- Continuing education, center, and institute activities closely linked to the Friday Center.
- Affordable housing for short-term visitors to many units on campus, with an eye to needs of programs using the Friday Center.
- Public performance space, specifically a possible new large auditorium associated with the Friday Center which could serve both for performances and for large conference groups.

Activities to be preferred for the Horace Williams Tract

- Expanded physical plant, support, and infrastructure activities.
- Space for "back room" administrative offices, and data processing, storage, and record keeping activities.
- Space for research activities which are not tightly coupled to activities on the central campus.
- Married student housing.

OUTLYING PARCELS LAND USE PLANS

TECHNICAL REPORT



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