Title 11
DEPARTMENT OF TRANSPORTATION

Subtitle 03 MARYLAND AVIATION ADMINISTRATION

Chapter 05 Obstructions to Air Navigation

Authority: Transportation Article, §§5-204(d), 5-208, and 5-702, Annotated Code of Maryland

.01 Definitions.

A. As used in these regulations, the following terms have the meanings indicated unless the context requires otherwise. Words not specifically defined that relate to aeronautical practices, processes, and equipment shall be construed according to their general usage in the aviation industry.

B. Terms Defined.

(1) "Administration" means the Maryland Aviation Administration of the Maryland Department of Transportation, established pursuant to Transportation Article, §2-102(b)(2), Annotated Code of Maryland.

(2) Repealed.

(3) "Airport" means a public use airport licensed by the Administration or owned or operated, or both, by a public entity of Maryland and used by fixed wing aircraft.

(4) "Airport obstruction zone" means all land within a 3 nautical mile radius of the established reference point of an airport.

(5) "Established airport elevation" means the highest point of an airport's usable runways measured in feet from mean sea level.

(6) "Established reference point" means the center of the longest runway existing or planned at the time of the initial adoption of an airport obstruction program, and if changed at a later date, means the center of the longest runway existing as a result of the change.

(7) "Hazard" means any object which affects the area available for landing, take-off, and maneuvering of aircraft, thus tending to impair or destroy the utility of an airport and present a potential danger to users of the airport and residents of the area.

(8) "Imaginary surfaces" means a series of planes or curved surfaces placed at various angles or arcs in relation to an airport's runways and based on a runway's classification and most precise available or planned aircraft approach path, more fully described in Regulation .04D of this chapter.

(9) "Nautical mile" means a distance of 6,076 consecutive linear feet.

(10) "Non-conforming use" means any preexisting object or use of land which is inconsistent with the provisions of the airport's obstruction standards described in Regulation .04 of this chapter.

(11) "Non-precision instrument approach" means an instrument approach procedure using air navigation facilities with horizontal guidance only.

(12) "Object" means tangible personal property or real property, including vegetation and terrain features.

(13) "Obstruction" means an object that penetrates any imaginary surface taking precedence as defined in these regulations.

(14) "Personalty" means any personal property.

(15) "Precision instrument approach" means an instrument approach procedure using an instrument landing system or a precision approach radar system which provides horizontal and vertical guidance for landing on a runway.

(16) "Public-use airport" means any airport, whether publicly or privately owned, at which the owner or persons having a right of access and control invite, encourage, or allow flight operations by the public without the need for prior permission.

(17) "Runway" means any existing or planned hard surface or turf covered area of an airport which is specifically designated and used or planned to be used for takeoff or landing of aircraft.

18) "Slope" means an incline from the horizontal expressed in an

arithmetic ratio or horizontal distance to vertical distance.

For example:

Slope = 4:1

4 feet horizontal for each vertical foot distance.

(19) "Statute mile" means a distance of 5,280 consecutive linear feet.

(20) "Substantial alteration" means any change in an object which results in a modification of the dimensions of that object.

(21) "Utility runway" means a runway constructed for or intended to be used by propeller-driven aircraft of 12,500 pounds or less (maximum gross weight).

(22) "Visual runway" means a runway intended solely for the operation of aircraft using visual approach procedures, as indicated on an airport layout plan (ALP).

.02 Purpose.

These regulations govern the erection and maintenance of any obstruction to air navigation that:

A. Interferes with the public right of freedom of transit in air commerce;

B. Endangers the lives and property of those using the air space for transportation; or

C. Endangers the lives and property of the occupants of land in this State. (Reference: Transportation Article, §§5-701 and 5-702, Annotated Code of Maryland)

.03 Prohibited Activity.

A. Except as permitted by Regulation .06 of this chapter, a person may not build any structure, permit any structure to be built, maintain any personalty, or permit any object to grow to a height that, in violation of any regulation adopted in this chapter, constitutes a hazard to air navigation at or near any airport.

B. As to any vegetation, a person may not:

(1) Plant, replant, or allow any vegetation to grow to such a height as to be an airport hazard; or

(2) Allow any vegetation that is an existing airport hazard to grow any higher.

.04 Obstruction Standards.

A. An obstruction is a hazard to air navigation if it:

(1) Is greater than 200 feet above ground level and within 3 nautical miles of the established reference point of any public-use airport licensed by the Administration; or

(2) Penetrates any imaginary surface specified in this regulation as applied to any airport.

B. For the purpose of this chapter, airport runways are classified

as follows:

Table 1: Runway Classifications

Type of Runway	*Classification*
Utility Runway:	
Visual approaches only	I
With nonprecision instrument approach	II
Runway with greater than utility capacity—visual approaches only	III
Runway with greater than utility capacity and a nonprecision instrument approach with visibility minimum greater than 3/4 statute mile	IV
Precision instrument approach or nonprecision approach and visibility minimum of 3/4 statute mile or less	V
Precision instrument runway using an Instrument Landing System (ILS) or a Precision Approach Radar (PAR)	VI

C. Imaginary Surfaces.

(1) Imaginary surfaces are various planes or curved surfaces constructed at specified angles or arcs in relation to an airport runway. They shall be determined separately for each airport and for each runway at that airport, depending on the classification of the runway and the most precise type of aircraft instrument approach available or planned for the runway.

(2) Because of the interrelationship of the imaginary surfaces, they shall be determined in the following sequence:

(a) Primary surface;

(b) Horizontal surface;

(c) Conical surface;

(d) Approach surface; and

(e) Transitional surface.

(3) When two surfaces overlap, the following apply:

(a) The primary surface takes precedence over any other surface;

(b) The approach surface takes precedence over the horizontal and conical surfaces to the extent the approach surface imposes a lower height limitation; and

(c) The transitional surface takes precedence over the horizontal surface.

D. Each imaginary surface shall be determined in the following manner:

(1) Primary Surface.

(a) The primary surface shall be longitudinally centered on the runway, at the runway elevation, and extend 200 feet beyond each end of the runway when the runway has a specifically prepared hard surface. In the absence of a hard surface, the ends of the primary surface shall coincide with the ends of the runway.

(b) The width of the primary surface shall be:

Runway Classification	*Width*
I	250 feet
II, III, IV	500 feet
V, VI	1,000 feet

(c) The width of the primary surface shall be that width prescribed in this subsection for the most precise approach existing or planned for either end of the runway.

(2) Horizontal Surface.

(a) The horizontal surface is a horizontal plane 150 feet above the established airport elevation, the perimeter of which is determined by arcs of specified radius centered at each end of the primary surface connected by lines tangent to those arcs.

(b) The perimeter of the horizontal surface shall be determined by the

following radii:

Runway Classification	*Radius*
I, II, III	5,000 feet
IV, V, VI	10,000 feet

(c) When a 5,000-foot arc is encompassed by tangents connecting two adjacent 10,000-foot arcs, the 5,000-foot arc shall be disregarded in the construction of the perimeter of the horizontal surface.

(3) Conical Surface. The conical surface for all runway classifications extends outward and upward from the periphery of the horizontal surface at a slope of 20:1 for a horizontal distance of 4,000 feet.

(4) Approach Surface.

(a) The approach surface is longitudinally centered on the extended runway centerline and extends outward and upward from each end of the primary surface. The approach surfaces pass through and take precedence over the horizontal and conical surfaces.

(b) The length, width, and slope angle of the approach surface is specified in Table 2 for each runway classification.

(c) The approach surface is applied to each end of each runway at an airport based upon the type of approach available or planned for that runway end.

(5) Transitional Surface.

(a) The transitional surface extends outward and upward at right angles to the runway centerline and 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, to an elevation of 150 feet above the established airport elevation.

(b) For those portions of a precision approach surface that extend through the conical surface, the transitional surface extends at right angles to the runway centerline extended for a horizontal distance of 5,000 feet, measured from the edge of the approach surface.

E. To provide clearance for mobile objects operating on traverse ways on or near a public-use airport that does not have an operative ground traffic control service coordinated with the air traffic control service, the actual height of the traverse way shall be adjusted upwards by the following amounts:

Type of Traverse Way	*Increase in Height*
Interstate highway	17 feet
Other public roadways	15 feet
Private roadways	The greater of 10 feet or the height of the highest mobile object that would normally use the roadway
Railroads	23 feet
Other traverse ways, including waterways	The height of the highest mobile object that would normally use the traverse way

Table 2: Dimensions of Approach Surface*

Runway Class	*Description*	*Width of Inner Edge*	*Width of Outer Edge*	*Horizontal Length*	*Slope Angle*
I	Utility runway; visual approaches only	250 ft.	1,250 ft.	5,000 ft.	20 to 1
II	Utility runway; nonprecision approach	500 ft.	2,000 ft.	5,000 ft.	20 to 1
III	Runway with greater than utility capacity; visual approaches only	500 ft.	1,500 ft.	5,000 ft.	20 to 1
IV	Runway with greater than utility capacity; nonprecision approach with visibility minimums greater than 3/4 statute mile	500 ft.	3,500 ft.	10,000 ft.	34 to 1
V	Runway with greater than utility capacity; nonprecision approach with visibility minimums as low as 3/4 statute mile	1,000 ft.	4,000 ft.	10,000 ft.	34 to 1
VI	Precision instrument runway using either an Instrument Landing System	1,000 ft.	16,000 ft.	10,000 ft. plus 40,000 ft.	50 to 1
	(ILS) or Precision Radar Approach (PAR)				40 to 1

* The inner edge of the approach surface is equal to, and abuts, the primary surface

.05 Notice of Construction or Alteration.

A. A person who proposes any of the following acts of construction, alteration, or placement of personalty, shall give written notice to the Administration at least 30 days before the start of construction, alteration, or placement. The notice shall be delivered or mailed to the Maryland Aviation Administration, Third Floor, Terminal Building, Box 8766, Baltimore/Washington International Thurgood Marshall Airport, Maryland 21240. The acts include the following:

(1) Any construction or alteration of more than 200 feet above the ground level, or the placement of any personalty at this height, at any site within a 3 nautical mile radius of the center of the longest runway existing at any public-use airport licensed by the Administration;

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

(a) 100 to 1 for a horizontal distance of 20,000 feet from the nearest point of the nearest runway of any airport with at least one runway more than 3,200 feet in actual length, or

(b) 50 to 1 for a horizontal distance of 10,000 feet from the nearest point of the nearest runway of any airport with its longest runway no more than 3,200 feet in actual length.

B. Notice of the proposed construction, alteration, or placement can be given to the Administration by providing a copy of the completed FAA Form 7460-1 required by Part 77 of the Federal Air Regulations, delivered or mailed as specified in §A, above.

.06 Variances.

A. Power of Political Subdivisions. Except as to the land area subject to jurisdiction of the Board of Airport Zoning Appeals, as established under the Transportation Article, Title 5, Subtitle 5, a political subdivision or a joint board established under the Transportation Article, Title 5, Subtitle 6, may grant a variance to any regulation adopted in this chapter if the variance does not endanger the public health, safety, and welfare.

B. Unless the legislative body of the political subdivision or the joint board provides otherwise, a person who desires a variance may apply for it in accordance with the local procedure for requesting a variance to the comprehensive zoning regulations of the political subdivision.

C. If an application for a variance is made, the political subdivision or joint board shall notify the Administration of the application at least 30 days before any hearing is held on it. The notice shall be delivered or mailed to Maryland Aviation Administration, Third Floor, Terminal Building, Box 8766, Baltimore/Washington International Thurgood Marshall Airport, Maryland 21240.

.07 Obstruction Lighting and Marking.

The Administration, political subdivision, or joint board may require the owner of any structure or other object that is deemed a hazard to air navigation by the standards contained in this chapter to install, operate, and maintain at the owner's expense the markers and lights necessary to indicate to aircraft the presence of an obstruction.

.08 Conflict of Regulations.

If there is a conflict between any regulation adopted under this chapter and any other federal, State, or local regulation applicable to the same subject, the more stringent limitation or requirement shall govern.

.09 Existing Nonconforming Uses.

This chapter does not require any change in the height or location of any man-made structure in existence or under construction before the effective date of this chapter.

.10 Enforcement.

A. The Administration or appropriate local authorities, or both, may institute judicial action to restrain, prevent, correct, or abate any actions taken by persons in violation of these regulations.

B. The Administration reserves the right to waive any portion of these regulations.

.11 Penalties.

A. A person violating these regulations is guilty of a misdemeanor, and on conviction is subject to a fine of not more than $500 or imprisonment not exceeding 90 days, pursuant to the Transportation Article, §5-1105, Annotated Code of Maryland.

B. A person violating the airport obstruction regulations of any political subdivision is subject to such fine or imprisonment, or both, as provided for by the political subdivision. If a penalty is not specified, then the penalties of §A of this regulation shall apply.

Administrative History

Effective date:
COMAR 11.03.05 Registration of Aircraft adopted effective December 29, 1978 (5:26 Md. R. 1927); repealed effective March 20, 1981 (8:6 Md. R. 561)

COMAR 11.03.05 Obstructions to Air Navigation adopted effective July 1, 1985 (12:13 Md. R. 1280)
Regulation .01B amended effective December 15, 1986 (13:25 Md. R. 2662); November 13, 1989 (16:22 Md. R. 2365); October 16, 2000 (27:20 Md. R. 1840)
Regulation .05A amended effective November 13, 1989 (16:22 Md. R. 2365); January 12, 2009 (36:1 Md. R. 22)
Regulation .06C amended effective November 13, 1989 (16:22 Md. R. 2365); January 12, 2009 (36:1 Md. R. 22)
Regulation .07B amended effective October 16, 2000 (27:20 Md. R. 1840)
Regulation .10 amended effective December 15, 1986 (13:25 Md. R. 2662)