



POTOMAC AIRFIELD REPORT - JUNE 1999
THE MARYLAND-NATIONAL CAPITAL PARK & PLANNING COMMISSION



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Chapter I. Executive Summary

In Prince George's County, as elsewhere across the nation, land use in the developing areas surrounding general aviation airports has become an important compatibility issue. At present, there is a deficiency of zoning rules that address development adjacent to airports or that specifically take into account exposure of adjacent land uses to potential aircraft accidents or noise. There are also no regulations that ensure disclosure of these particular impacts to prospective property owners. In the context of this regulatory environment, residential development occurred on Featherstone Drive, which is located along the extended runway centerline of Potomac Airfield, in Fort Washington, Maryland.

This project was initiated in the Planning Department's FY 97-98 work program under the title "Airport Regulations." It was originally intended to be the planning process used to draft airport regulations that ensure compatible development surrounding the County's four general aviation airports. However, after three aircraft from Potomac Airfield crashed in or near the adjacent community within the past four years, the community's concerns regarding safety, annoyance and noise from this specific airport alerted District Council member M. H. "Jim" Estep, and he directed the Planning Department to focus the initial efforts in this project toward eliminating the residential area overflights from Potomac Airfield. This report includes discussions of the background, history, aviation regulations, regional airspace, safety and accident probabilities, noise, various alternatives for ultimately solving this planning dilemma and recommendations.

Chapter II, "Background," and Chapter III, "Zoning History of Potomac Airfield and Neighboring Subdivisions," provide the backdrop for understanding the current situation. The regional context of the airfield within the Fort Washington area is defined. General information on the airport's operations, layout, zoning and master plan is provided. In Chapter III there is a detailed discussion of the myriad zoning events at Potomac Airfield and in the adjoining Old Fort Hills community that have transpired to date. A detailed chronological listing of these events is included in the Appendix.

Chapter IV, "Aviation Regulations," lays the foundation for understanding aviation regulations at three levels of government: Federal, State and County. The chapter begins with a general discussion of the pertinent regulations and concludes with how they are applied at Potomac Airfield. The actual regulations or indexes are provided in the appendices to this chapter.

Regional airspace considerations are discussed in Chapter V, "Regional Airspace." The Washington-Baltimore Metropolitan Area experiences more than 3,000 overflights daily. How this is accomplished safely is the subject of this chapter. According to a local air traffic controller, the extensive "controlled airspace" is daunting to pilots unaccustomed to flying in this region.

The relative safety of Potomac Airfield was analyzed in Chapter VI, "Risk Factors and Safety Considerations." Data from the National Transportation Safety Board were used to generate tables of reported accidents. These were translated into average annual accident rates in

one- and five-year increments and compared to accident rates at the other three general aviation airports in the County and to national averages. With this as background, the first phase of a risk analysis could be performed: that of determining the probability of an accident occurring. An explanation of the methodologies used in calculating the probabilities is included.

In Chapter VII, "Noise Analysis," staff addresses concerns expressed at a community meeting that minimal nighttime operations from Potomac Airfield were included in the noise analysis prepared by the Michael Baker Corporation and did not reflect the residents perception of noise levels, especially at night. However, recalculation of average noise levels with increased nighttime flights, resulted in a negligible change. To reduce the aircraft noise from Potomac Airfield experienced in the community, a number of long-term regulatory or operational changes appear as recommendations in the final chapter.

Following a serious crash in 1995, the community held a round-table discussion involving Federal, State and local officials to address the relationship between the airport, the residential community and the perceived safety concerns. In structuring the solutions section of this project, as reported in Chapter VIII, "Alternative Solutions," the concerns and ideas expressed at the 1995 community round table were first to be examined. The options discussed at that time for solving the problem of overflights above Featherstone Drive were:

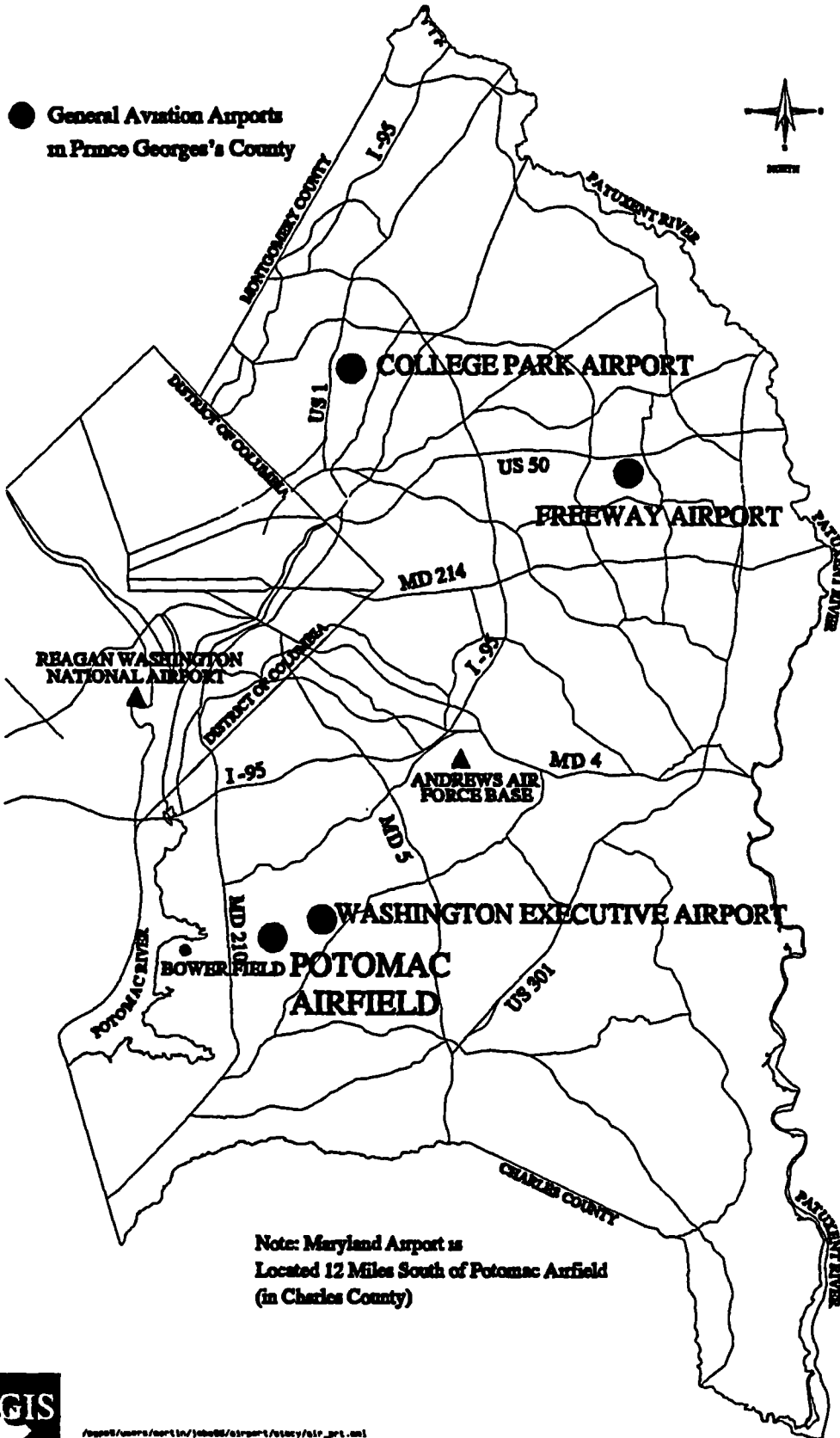
- Realign the runway
- Close the airfield
- Purchase the homes under the runway approach

To address the first of these options, the Planning Department hired the Michael Baker Corporation, an internationally recognized engineering firm with aviation expertise, to perform an in-depth analysis of the feasibility of realigning the runway at Potomac Airfield. Second, to understand the potential costs involved in purchasing the airport to close it, an independent appraiser was hired to appraise Potomac Airfield. Last, to evaluate the alternative to purchase homes beneath the runway approach, the market value of the homes was estimated from State Department of Assessments and Taxation data. Summaries and analyses of these and other alternatives, such as consolidating operations at Washington Executive Airport and revising air traffic patterns, are also presented in Chapter VIII.

Throughout the evaluation of alternatives planners sought ideas from active community participants. Airport Team planners attended regular meetings of the Old Fort Hills Homeowners Association (HOA). The Board of Directors of this group, together with planning staff, sponsored a community forum that was widely publicized in the media and in the local community through flyer distributions and a mailing to over 3,000 area residents. In collaboration with the HOA President, Jacqueline Ray-Morris, a survey of the most adversely affected homeowners on Featherstone Drive was conducted to assess their concerns and desires for resolution of this land use compatibility problem (Appendix 1). At the conclusion of the work performed by the Michael Baker Corporation, a well publicized briefing for interested citizens was sponsored by the HOA and planning staff, the transcript of which is in Appendix 2.

Chapter IX, "Conclusions and Recommendations," encapsulates findings made throughout the report. A primary recommendation, that the airfield be purchased and closed, is followed by a secondary recommendation that the runway be realigned. Interim recommendations to more quickly address the adverse effect of having an airport as a neighbor are also set forth.

Whereas the first phase of this project focuses on the unique set of circumstances at Potomac Airfield, the next phase of this project addresses three additional general aviation airports in Prince George's County that may face similar challenges. In the next phase, the aviation regulatory environment will be addressed. The objective is to ensure future compatible development of the land surrounding the County's general aviation airports. Technical information acquired in the first phase of this project will be used to propose draft regulations. New stakeholders will be consulted, such as the other airport owners, affected residents and property owners. It is anticipated that by the conclusion of this project the overall goal, to enhance safety protections for existing and future communities in the vicinity of all of the general aviation airports in Prince George's County, will be accomplished.



Chapter II. Background

- General Aviation
- Airport Location and Surroundings
- Regional Context Map
- Potomac Airfield Facilities and Operations
- Airport Layout and General Information
- Master Plan
- Land Use and Zoning Map

General Aviation

General aviation encompasses all facets of the civil aviation industry other than scheduled commercial air services or military. According to the Aircraft Owners and Pilots Association (AOPA), the general aviation industry contributes \$47 billion a year to the national economy. It does so by enabling 36 million flights and carrying 89 million passengers over 3 billion miles. Nationwide, more than 5,000 public use airports connect 19,000 cities, towns and suburbs. In 1995, Maryland's 31 public use general aviation airports generated 1,071,197 flight operations and based 2,341 aircraft. That same year, Potomac Airfield reported 45,600 operations and based 103 aircraft. The Statewide economic activity was \$358,794,000 and 3,757 jobs. Potomac Airfield generated \$1,645,000 in economic activity and 17 jobs during that same period, as reported in the "Maryland Airport Economic Impact Study," Maryland Aviation Administration, 1997.

Airport Location and Surroundings

Potomac Airfield is a small general aviation airport located in southwestern Prince George's County between the Indian Head Highway and Branch Avenue corridors approximately five miles south of the Capital Beltway in the community of Fort Washington. It is built on the low lands of, and adjacent to, the Tinkers Creek stream valley. The airport property is essentially long and narrow with an average width of 800 feet and 4,400 feet in length. It has no street frontage; access is from Allentown Road through a residential neighborhood and ultimately a steep, winding private drive.

A significant portion of the airport property and over one-half of the runway is within the 100-year floodplain. The topography northwest of the airport rises from 115 feet elevation along the runway on the valley floor up to 240 feet at the ridgeline along Old Fort Road and up to 256 feet along Allentown Road. Steep terrain and mature trees are located in the stream valley and on the hillsides, encroaching on airport airspace. To the east, the terrain slopes up somewhat more gradually to a plateau cresting at about 250 feet where another small general aviation airport, Washington Executive Airport, is located approximately one mile away.

To the west, between Potomac Airfield and Old Fort and Allentown Roads, there has been clearing and construction of several residential subdivisions dating from the 1960s to the present: Rose Valley (294 homes built in the 1960s), Old Fort Hills (345 homes built from the

1970s to 1990s) and Steed's Grant (60 homes built in the 1990s). The newest section of the Old Fort Hills subdivision was completed in the early 1990s. One section of this subdivision is along Featherstone Drive where homes were built close to and along the extended runway centerline of Potomac Airfield. Besides homes, there are a number of public entities in this area: Friendly High School, Rose Valley Elementary School, Providence United Methodist Church, and a number of public park facilities. A small neighborhood shopping area is located on Allentown Road at Rose Valley Drive.

To the east, adjacent to the airfield, the land use character is predominantly rural with woodlands and clearings on large undeveloped properties. Past and present sand and gravel mining activity account for a large part of the woodland clearings. Farther east, beyond one mile, scattered residential subdivisions are located along Piscataway Road, as is Washington Executive Airport.

Finally, Potomac Airfield shares airspace in this part of the metropolitan area with several other airports (see Figure II-1):

- Washington Executive Airport is one mile east
- Andrews Air Force Base is five miles northeast
- National Airport is eight miles northwest
- Bower Field, a little used private air strip, is four miles west, in Fort Washington

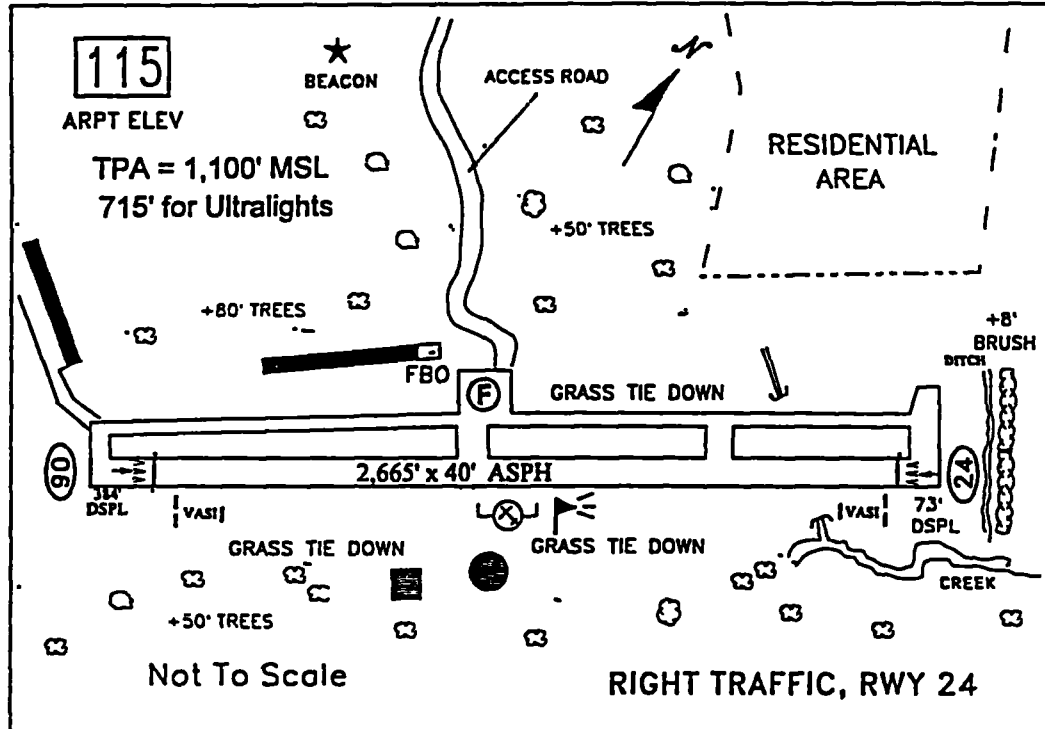
Potomac Airfield Facilities and Operations

Potomac Airfield consists of a single 2,665-foot-long utility runway and taxiway. A utility runway is defined as a runway for propeller-driven aircraft of 12,500 pounds or less. Additional airport facilities include three hangars for 31 aircraft, 70 aircraft tie down spaces, a service facility, four fuel pumps, two 8,000 gallon underground fuel storage tanks, parking lot, an office, lounge, an avionics showroom and classroom. The runway is equipped with a rotating beacon, wind cone, segmented circle, runway lights and landing aids such as runway end identifier lights (REIL) and visual approach slope indicators (VASI). The airfield has four flight training schools and sells airplane fuel. There are presently 110 aircraft based at the airfield, mostly single-engine fixed-wing aircraft.

Potomac Airfield is an uncontrolled airport, meaning it does not have a control tower providing air traffic sequencing or separation. Pilots provide their own separations from other aircraft and give their own radio advisories to other aircraft over the UNICOM frequency. UNICOM is typically a radio station at the airfield manned by airport personnel who provide pilots with airport advisory services, such as wind, weather, or ground traffic information. Potomac Airfield has an automated UNICOM, which is an automated system that listens to pilots on the airport UNICOM frequency and reliably provides even more complete advisory services. The UNICOM frequency used at Potomac Airfield is the same as used at neighboring Washington Executive Airport. Thus, pilots at each airport are aware of the others flight activities. It is noted that although it is not mandatory, many pilots operating from Potomac Airfield, if not most, use the air traffic control towers at either National Airport or Andrews Air Force Base. Chapter V, "Regional Airspace," provides a detailed discussion of airspace issues.

Airport runways are identified by an abbreviation of their magnetic heading, e.g., the last digit of the three-digit compass heading is dropped. When a pilot is headed northeast, either taking-off or landing, and is using the Potomac Airfield runway oriented to the northeast on a compass heading of approximately 060 degrees, the runway being utilized is thus identified as Runway 06 , or RWY 06. When using the runway on a compass heading of 240 degrees to the southwest (towards Featherstone Drive and the Old Fort Hills subdivision), the SAME runway is identified as Runway 24, or RWY 24.

On the following pages, Figure II-2 illustrates the layout of the airport; Figure II-3 summarizes the physical improvements and flight operations; Figure II-4 describes the type of aircraft that are based at Potomac Airfield and Figure II-5 identifies the numbers of operations reported annually to the MAA between 1986 and 1998.



Source: The Maryland Airport Directory, Office of Regional Aviation Assistance, Maryland Aviation Administration, Maryland Department of Transportation, October 1996

POTOMAC AIRFIELD STUDY	TABLES OF INFORMATION (previously known as P.G. Airpark and Rose Valley Airport)	FIGURE II-3
General Information		
<u>Classification:</u>	Private Ownership/Public & Commercial Use	
<u>Date Established:</u>	1960	
<u>Acreage:</u>	50	
<u>Airport Manager:</u>	David Wartofsky	
<u>Airport Address:</u>	10300 Glen Way Fort Washington, MD 20744 301-248-5720 (FAX 301-248-3997)	
<u>Airport Owners, Addresses:</u>	P.G. Airpark Assoc. LP c/o Copley Investments 10 Newbury Street Boston, MA 02116	
<u>MAA/COMAR Waivers for License:</u>	Waiver for obstruction free approach to Runway 24 (Section 11.03.04.07F(4)(b)).	
<u>Restrictions:</u>	displaced thresholds	
<u>Hours of Operation:</u>	8:00 am to 10:00 p.m. for office and flight school, everyday Fuel available at all times to fuel club members (self-serve); runway lighted at all times. Takeoffs discouraged between 10:30 p.m. and 7:00 a.m. Practice patterns allowed for tenant airplanes, no restrictions.	
<u>Distance to Populated Areas:</u>	Airport exists in suburban area in Fort Washington; residential areas built adjacent to airport property; one mile west of Washington Executive Airport.	
<u>Fuel Tanks:</u>	Yes; Potomac Airfield Fuel Club, self-service 24 hours; 7 days a week.	
<u>Other Services:</u>	Fixed Base Operators, repair services, paved and turf tie downs, hangars, aircraft rentals and charters.	

POTOMAC AIRFIELD STUDY	TABLES OF INFORMATION (previously known as P.G. Airpark and Rose Valley Airport)	FIGURE II-3 Continued
Flight and Operations Information		
<p><u>Runway</u></p> <ul style="list-style-type: none"> • Elevation: 115' MSL • 2,665' by 40', asphalt, graded width is 250' (125' each side) • Displaced thresholds: 376' on Runway 06, 73' on Runway 24 <p><u>Approach Slopes:</u> FAA approved Vertical Approach Slope Indicators (VASI) 12:1 for Runway 24 for obstruction clearance and 17:1 for Runway 06 to thresholds; also stated as 20:1 on Runways 06 and 24, using displaced thresholds.</p> <p><u>Approach Angles:</u> 3 degrees on Runway 06, 4.5 degrees on Runway 24 using visual VASI guidance.</p> <p><u>Prevailing Winds:</u> from the NW</p> <p><u>Typical Flight Patterns (routes and altitudes of 90% of the flights):</u></p> <ul style="list-style-type: none"> • Left traffic pattern Runway 06, right pattern Runway 24 • Take off to NE (departure 06) and left 20% of the time • Take off to SW (departure 24) and turn right 80% of the time • Land from the NE (arrival 24) 80% of the time • Land from the SW (arrival 06) 20% of the time • Daylight flights 95%, night flights 5%*, Instrument Flight Rules (IFR) flights 3% • Upon reaching altitude of 600-700 feet, planes begin to turn into traffic pattern • Same UNICOM frequency as Washington Executive, thus pilots make position reports and can monitor traffic flow at both airports • NDB navigation on field <p>* Note: The night flights statistic is based on when the sun goes down. In the noise study for Potomac Airfield (see Chapter VII) night flights are defined as occurring between 10 p.m. and 7 a.m. and are estimated to be only 1%).</p> <p><u>Fleet Mix:</u></p> <ul style="list-style-type: none"> • Actual models and numbers of planes unavailable • 101 single engine and 5 multiengine, 4 ultralights, 4 "other" <p><u>Flight Frequency and Trip Distribution for 24-hours: (MAA data)</u></p> <ul style="list-style-type: none"> • 45,524 operations/yr (45,000 local, 500 itinerant, 24 military) • 24-hour distribution: flight distribution heavier on Fri-Sun. • Seasonal differences: not much difference, a little less in winter <p><u>Flight Schools:</u></p> <ul style="list-style-type: none"> • Number of schools: Four • Number of flights generated: unavailable • Hours of operation: 24 hours • Restrictions: None 		

POTOMAC AIRFIELD STUDY	TABLES OF INFORMATION (previously known as P.G. Airpark and Rose Valley Airport)	FIGURE II-3 Continued
Constraints and Safety		
<p><u>Significant Features That Impact Flights and/or Safety:</u></p> <ul style="list-style-type: none"> • Trees off ends of both runways • Power lines to west and north of runway, marked and lighted, not especially relevant to Potomac Airfield • Cut scrub bushes (+/- 10') 130 feet from north end of runway • 80-foot trees at 180 feet to the right and 150 feet to the left from Runway 24 • 50-80 feet trees south of runway along stream valley • Tinkers Creek and associated floodplain and wetlands parallel runway to the south <p><u>Safety Features:</u> Rotating beacon, lighted wind cone, wind tee, VASI and REILs, runway landing lights dusk to dawn, strobe on central building, nondirectional beacon, IFR approaches and automated UNICOM.</p>		

Miscellaneous
<p><u>Noise Issues:</u> Contours available (see Chapter VII, "Noise Analysis"). According to MAA/FAA studies, traffic increased by 121% from 1991-1994, with significant increase in flights over residential neighborhood days and evenings. However, >65 Ldn noise level does not occur outside airport property</p> <p><u>Noise Abatement procedures:</u> Avoid take-offs 10:30 p.m. to 6:30 a.m.</p> <p><u>Airport Plan and/or Rules and Regulations Book:</u> See FAA <i>Facilities Directory</i></p> <p><u>Water Quality and/or Quality Issues:</u> Designated waste oil disposal system.</p> <p><u>Capacity for Growth and Expansion:</u> Current operation under a special exception with no restrictions on operation; additional buildings permitted in accordance with approved site plan.</p> <p><u>Miscellaneous:</u> The preferred calm wind runway is Runway 06 (when weather conditions do not require taking off over Featherstone Drive). When weather conditions permit, the automated UNICOM suggests pilots use the calm wind Runway 06 specifically to encourage flight operations that minimize impacts on Featherstone Drive. The applicable manuals have been revised to advise pilots how to minimize impacts on Featherstone Drive.</p>

POTOMAC AIRFIELD STUDY		FLEET MIX DESCRIPTION		FIGURE II-4
<u>Aircraft Category</u>	<u>Single Engine</u>	<u>High Perf./Single</u>	<u>Light Twin/Med. Twin</u>	
% Operations	72 %	14%	14%	
<u>Typical Aircraft Specifications</u>				
<u>Category Example:</u>	<u>Cessna 182</u>	<u>Cessna 210</u>	<u>Cessna 310/Cmndr. 500</u>	
Gross Weight (Lbs.) Weight (Lbs.)	2,550	4,100.0	4,990/6,000	
Length (Feet)	26	28.4	29.5/35.1	
Wingspan (Feet)	36	38.1	36.9/49	
Fuel Capacity (US Gal)	55	85-115.0	102-133/156	
Take Off Ground Roll (Ft) Over 50 Ft. Obstacle @Sea Level @Gross Weight	1,020	1,270.0	1,395/1,250	
Landing Ground Roll (Ft) Over 50 Ft. Obstacle @Sea Level @Gross Weight	1,290	1,600.0	1,720/1,350	
<hr/> <p>Note: This description of aircraft operating at Potomac Airfield is based on information contained in the Michael Baker Corporation, <i>Potomac Airfield Runway Realignment Study</i> (1998) noise analysis and from the airport operator. All aircraft at Potomac Airfield are fixed-wing piston-engine airplanes. The source of the aircraft specifications is from a summary of <i>Pilots Operating Handbook</i> information available on the Internet.</p>				

POTOMAC AIRFIELD STUDY	FLIGHT OPERATIONS AND BASED AIRCRAFT (As reported to MAA by operator for annual license inspection)		FIGURE II-5
<u>Year</u>	<u>Number of Operations</u>	<u>Number of Based Aircraft</u>	
1998	52,020	110	
1997	45,524*	110	
1996	45,524	110	
1995	NR 107		
1994	45,600	103	
1993	25,250	101	
1992	25,250	75	
1991	20,000	56	
1990	22,000	69	
1989	NR 71		
1988	NR NR		
1987	800/wk (41,600/yr.)	66	
1986	130/wk (6,760/yr.)	NR	

*MAA has recently begun a program of validating airport operations by placing counters along airport runways for two weeks during each season of the year on a triennial basis. Annual operations are then estimated on the on basis of the measured counts. The first statistical sample was conducted at Potomac Airfield in 1997 and estimated only 32,726 operations, substantially less than were reported by the operator (45,524). The actual number of operations is probably some where between the two figures.

NR = information not reported on application or in MAA records.

Master Plan

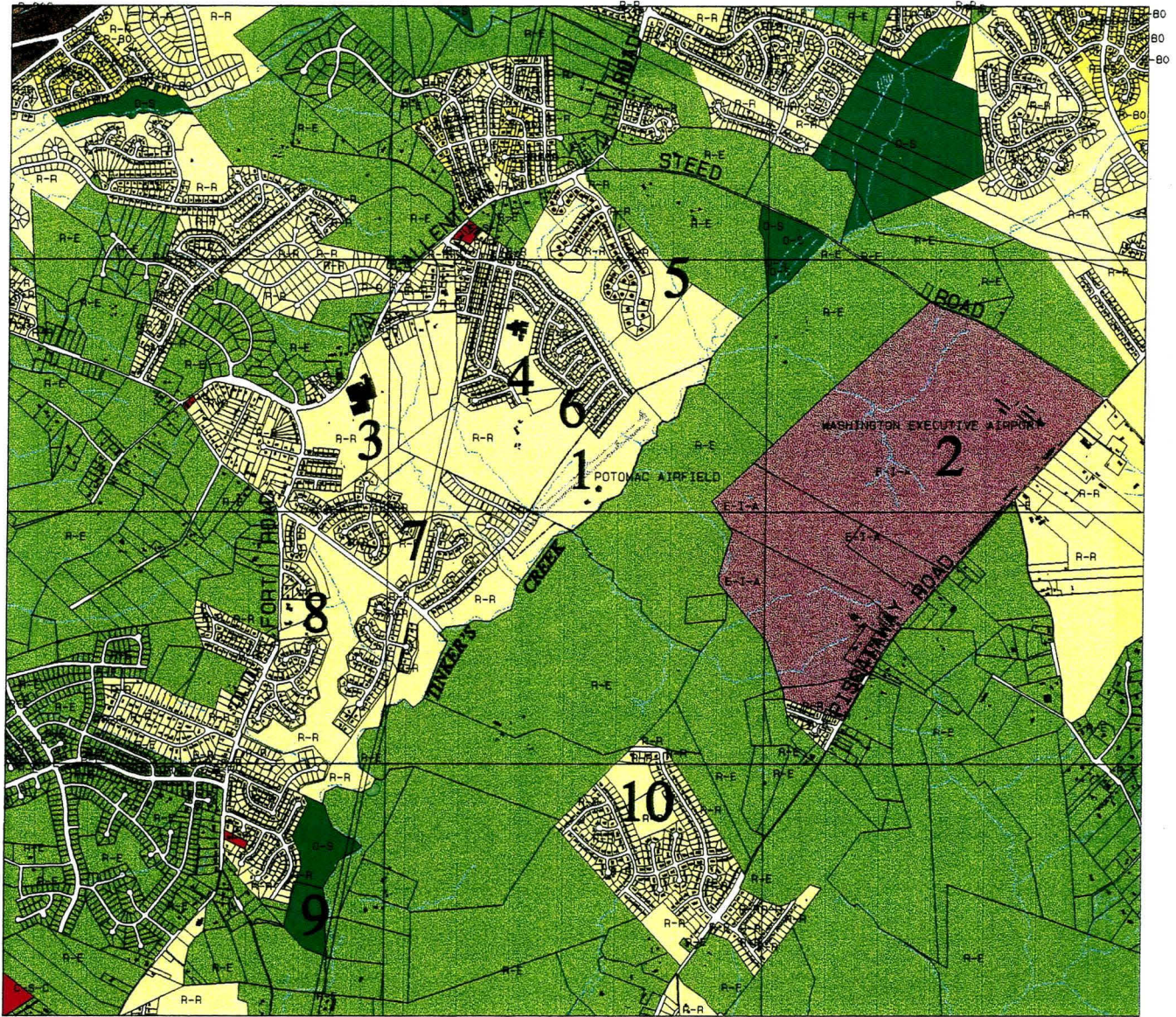
The 1993 Master Plan for Subregion V recommends predominately low-density suburban or estate residential land use for the area including and surrounding Potomac Airfield. A stream valley park is recommended along Tinkers Creek which forms the eastern boundary of Potomac Airfield and flows through the area from northeast to southwest. Other public uses in the area are recognized or recommended in the Master Plan, including Friendly High School, Rose Valley Elementary School, Friendly Neighborhood Park, Valley View Park, and homeowners association open space in various developed subdivisions. A major employment area is designated around Washington Executive Airport located a mile to the east along Piscataway Road at the intersection with Steed Road. Finally, the Subregion V Master Plan calls for road improvements such as the upgrading of Steed Road to a four-lane, 80-foot R/W (right-of-way); Old Fort Road and Old Fort Road Extended to a 4- to 6-lane, 120-foot R/W; and Piscataway Road to a 4- to 6-lane, 120-150-foot R/W

The master plan recognizes the existence of both Potomac Airfield and Washington Executive Airport, including a proposal to redevelop the latter. Low residential densities and clustering/transfer of future residential construction in the areas around airports are encouraged by plan policies to enhance compatibility with airport operations. Disclosure of airport activities to future purchasers of land in airport environments is strongly encouraged.

Zoning

The zoning pattern in the vicinity of Potomac Airfield is illustrated on Figure II-6. To the west of Tinkers Creek, where most of the residential development is located, the R-R Zone predominates, allowing home construction on one-quarter to one-half acre lots. Potomac Airfield, built in this area prior to establishment of zoning authority is recognized by Special Exception SE-1135, approved in 1965. In the largely undeveloped area to the east of Tinkers Creek, the R-E (Residential Estate) Zone predominates. This zone allows large-lot residential development on lots of three-quarter to one acre in size. Further east, along Piscataway Road, there are several isolated residential subdivisions developed in the R-R Zone, notably Mary Catherine Estates and Rolee Estates.

The major exception to the dominant residential zoning pattern is a large proposed employment area surrounding Washington Executive Airport, approximately 458 acres, which is classified in the E-I-A (Employment and Institutional Area) Zone. In addition to relocation, expansion and reconstruction of this airport facility, between three and four million square feet of commercial and industrial development could be built in this area. However, there are substantial financial obstacles regarding funding for airport reconstruction and for the requisite improvements to the off-site transportation network. Unless these can be overcome, it is unlikely that this development will be realized anytime soon. At present, the primary land uses in the undeveloped residential and E-I-A zoned areas are sand and gravel mining and agricultural activities.



LAND USE

- 1 POTOMAC AIRFIELD
- 2 WASHINGTON EXECUTIVE AIRPORT
- 3 FRIENDLY HIGH SCHOOL
- 4 ROSE VALLEY ELEMENTARY
- 5 STEED'S GRANT
- 6 ROSE VALLEY ESTATES
- 7 OLD FORT HILLS
- 8 PROVIDENCE UNITED METHODIST CHURCH
- 9 VALLEY VIEW NEIGHBORHOOD PARK
- 10 MARY CATHERINE ESTATES

ZONING

- O-S
- R-E
- R-R
- R-80
- R-55
- R-30C
- R-18
- C-S-C
- C-M
- E-I-A



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April 09, 1999

Finally, master plan policies recognize potential for rezoning to somewhat higher residential densities on the large undeveloped properties in the area east of Tinkers Creek. Applications for comprehensive design zones, specifically the R-L (Residential-Low Density) Zone, could yield combinations of open-space and residential development at up to 1.5 dwelling units per acre under these techniques. Thus, there is some potential for future residential development around both Potomac Airfield and Washington Executive Airports.

Chapter III. History of Potomac Airfield and Neighboring Subdivisions

- Special Exception SE-1130
- Runway Length Reduction and Relicensing
- Special Exception SE-3954
- Runway Extension and Displaced Threshold
- Old Fort Hills Subdivision
- Rose Valley Cluster Subdivision
- Property Ownership Map
- Summary

Potomac Airfield was originally built in 1957 as Rose Valley Airport. In 1964, when zoning authority was extended to this part of the County, the area including the airport was primarily rural and was classified in the R-R, Rural Residential Zone. An airport was not recognized as a *permitted use* in the R-R Zone. Approval of a *Special Exception* pursuant to specific requirements of the zoning ordinance was required. This remains true today. However, as a legally established use existing prior to authorization of land use control through zoning, Potomac Airfield would have been considered a *nonconforming use* and indefinitely allowed to continue operations on the then existing improvements. The intensity of the nonconforming use or business could be expanded utilizing the existing improvements, but additional improvements could not be made without approval of a special exception.

Special Exception SE-1130

An application for Special Exception SE-1130 was filed by the owner, Martin Shaw, in 1964 for continued use of a commercial airport with a site plan showing planned future improvements. A neighboring owner of more than 300 acres, Curtis Brothers Real Estate, Inc., upon whose property 870 feet of the airport runway was then built, signed the Special Exception application as a consenting party, but did not include the property in the application. According to the staff report, the application did not conform with Zoning Ordinance requirements at the time, particularly Sections 28.313 (a) and (d), 28.314 and 27.251 (see Appendix 2). Briefly, these required:

- The applicants' ownership of at least 500 feet under the approach surface between the end of the landing strip and the property boundary (up to 250 feet could be via easement on adjacent property).
- A Detailed Site Plan showing all proposed improvements, existing structures, trees and overhead wires and their elevations on the airport and within the airport approach zones.

According to the staff report and review of the application records, neither of these criteria were met. Since the airport already existed, it may have been considered a moot point. Regardless, application SE-1130 was approved for a commercial airport on the Shaw property by the Board of County Commissioners (predecessors to the County Council) on March 30, 1965.

The Site Plan approved with SE-1130 shows the runway/taxiway on the Curtis property (see Appendix 3). On the Shaw property, the Site Plan shows the existing runway and taxiway as well as proposed widening and extension to the northeast, existing and proposed hangars, an office building, parking areas and recreation facilities. Approval of this Special Exception changed the status of the airport on the Shaw property from nonconforming to a permitted Special Exception use.

Runway Length Reduction and Relicensing

Rose Valley Airport operated on the Shaw (later Gordon) and the Curtis Properties until 1987. Then Curtis Properties, who had been in the process of developing the Old Fort Hills residential subdivision for more than a decade, reached the last sections for construction, i.e., Sections 7 and 8 along Featherstone Drive. These sections included lots recorded on the southern 870 feet of the airport runway. In the summer of 1987, Curtis gave notice to the airport owner and operator, as well as the pilots based at the field, the Maryland State Aviation Administration (SAA) (now called the Maryland Aviation Administration or MAA) and Federal Aviation Administration, that the lease to use the runway and hangar on the Curtis property would expire, effective October 1, 1987. Shortly thereafter, the Curtis portion of the runway paving was demolished, leaving approximately 1,730 feet of paved runway remaining on the airport property. It is thought that Curtis believed the airport would be closed as a result of these actions.

On August 25, 1987, SAA officials conducted an on-site inspection to evaluate the impending change to airport facilities. They determined that the proposed relocation (removal of 870 feet of runway) and runway displacements required to attain required 20:1 landing approach slopes reduced the combined paved and turf runway area to only about 1,330 feet. The minimum runway length required for a public/commercial use facility was 2,000 feet; for a private/commercial use facility was 1,500 feet. The airport operator was advised that due to the impending reduction in runway length that Airport Operating Certificate No. 170 would be revoked and further, that unless the obstructions (trees) requiring displacement of thresholds could be removed to allow at least 1,500 feet of runway with 20:1 approach slopes, the airport would be deactivated.

During this same time period, the airport was in the process of being sold from the estate of owner, Bryan Gordon, Jr., to a new investor/operator, P. G. Airpark Associates, LP (David Wartofsky and Gary Simon); the sale was finalized on October 8, 1987. A controversial sequence of airport reconstruction, off-site tree clearing, airport licensing evaluation, re-approvals, SAA administrative hearings, and court suits among the affected parties followed. The end result was a determination that the reconfigured airport was still in conformance with the site plan for Special Exception SE-1130, complied with State SAA/COMAR criteria for license as a public use/commercial use airport, and met Federal FAA criteria for approach surfaces and airspace. Disputes between Curtis Properties and the new airport owners, P. G. Airpark Associates, LP, were eventually settled to the extent that a joint development proposal combining undeveloped portions of both parties' property was prepared. It was later submitted as preliminary subdivision application 4-94129, Rose Valley Cluster (see discussion below).

Special Exception SE-3954

Subsequent to acquiring the airport and the controversies revolving around it, the new owners filed a new Special Exception application for improvement and expansion: SE-3954, filed on September 29, 1989. The proposed improvements included relocation and an increase in hangars for aircraft; a new administrative building; an access drive; parking areas and, eventually, widening of the runway and taxiway. The applicant anticipated up to 250 aircraft would be based at the field, a significant increase above the 75 aircraft reported at that time. The application was reviewed according to updated Special Exception requirements for an airport in Section 27-233 of the Zoning Ordinance which, in turn, referenced Federal Aviation Administration (FAA) requirements for the class of facility proposed. It was determined that the improvement proposals did not comply with FAA design requirements (AC 150/5300-13), particularly with respect to requirements for ownership or easements on property at the ends of the runway within areas defined as runway protection zones. Application SE-3954 was recommended for denial by staff, the Planning Board, the Zoning Hearing Examiner, and ultimately was denied by the District Council in March 1991. Arguing that FAA criteria should not be applied to Potomac Airfield because the privately-owned, non-Federally-funded status exempted it from Federal jurisdiction and criteria, the applicant appealed to the Circuit Court and Court of Special Appeals, but the Council's decision was finally upheld in September 1992.

Runway Extension and Displaced Threshold

Between 1994 and 1995 paving for the airport runway was re-extended to the south, approximately 384 feet, as a "displaced threshold" for RWY 06. It does not appear that a permit was issued for repaving this area; whether there was a violation of County regulations is now being evaluated. The primary function of the displaced threshold is to provide more runway surface length for flight operations to and from the north, thus enhancing safety of operations in that direction. According to flight regulations, the displaced threshold part of the runway is not available for landings from the south, over Featherstone Drive. Additionally, since landing operations over Featherstone Drive cannot utilize any of the displaced threshold runway for their operations, the practical effect of this runway extension appears somewhat negligible for property southwest of the airport.

Old Fort Hills Subdivision

The Curtis property, which became the Old Fort Hills Subdivision, consisted of over 300 acres in several parcels extending from Old Fort Road downhill to Tinkers Creek when Potomac Airfield was originally built. A portion of the airport runway was located on a small part of the Curtis property near Tinkers Creek. In 1976, 1979 and 1984, three preliminary subdivision applications were processed on these tracts for the Old Fort Hills subdivision. The first application (4-76032) was for 395 lots on 328 acres in Curtis ownership. Subsequent subdivisions (4-79018 and 4-84113) were for smaller portions of the original application that had not been recorded prior to expiration of the preliminary subdivision approvals. The latest application (4-84113) was for Sections 7 and 8 only and proposed a minor reconfiguration with somewhat fewer lots in addition to re-approval. At the time, there was hardly any controversy about these subdivision proposals. Years later, in one of the lawsuits concerning the airport, a question was

raised about a Planning Board action that waived rules to allow late consideration of a request for extension of preliminary plat 4-84113 prior to approval of the final plats for recordation of the subdivision. These suits were all dropped or settled prior to trial.

The paved airport runway, taxiway and one hangar are shown as existing features of the landscape on each of the submitted Old Fort Hills preliminary subdivision applications. However, there is virtually no other mention of the existence of the airport or the issues it might have presented in any of the staff reports, correspondence, files or transcripts of public hearing testimony for any of these three subdivision applications. It is speculated that since the subdivision applicant owned the property subject to the applications and was showing residential lots in place of the airport runway, it may have been thought that the airport would be closed when these lots were built. Thus, the airport may simply not have been considered an issue at that time.

In March 1987, lots in Sections 7 and 8 of the Old Fort Hills subdivision were recorded for construction of homes in the same location as part of the original airport runway. In May 1987 most of the open space required for dedication was transferred to M-NCPPC. In late 1987, the southern 870 feet of the airport runway was removed from use and later demolished. In 1988 and 1989, disputes between the landowners, the Maryland Aviation Administration and M-NCPPC resulted in a series of court suits. In early 1990, Curtis filed several FAA Forms 7460-1, Notice of Proposed Construction or Alteration, for development of the lots along proposed Featherstone Drive. Proposals for construction in Section 8 and for the six northern lots in Section 7 were determined to pose a hazard to air navigation or were located in an area corresponding to the FAA's Runway Protection Zone (RPZ)/Controlled Activity Area (see discussion in Chapter IV). In these areas close to the airport, the FAA strongly discouraged construction of homes. Even so, construction began at the southern end of Featherstone Drive and extended north to within a quarter mile of the remaining and still operating airport runway. Between 1990 and 1992, 29 homes were built and sold in Section 7. These residential structures are approximately 35 feet high. All utility services are underground, including natural gas service which is provided to most of these homes. At the time of purchase, the home buyers signed affidavits acknowledging the existence of Potomac Airfield on the adjacent property and releasing the seller from any future related liabilities (see Appendix 4).

During the home construction process a dirt storage mound or earth berm was constructed across Featherstone Drive between Sections 7 and 8. A survey on December 12, 1990, identified the top elevation of the mound at 124.5 feet, roughly 12 feet higher than the elevation at the end of the airport runway. The FAA review of the structure (berm) determined that it would not pose an obstruction to airspace unless it exceeded an elevation of 130 feet. The 1994 extension of the runway does not appear to affect this finding since it is a displaced threshold. The earth berm has remained and is now vegetated with small trees that have grown toward and may encroach on the approach slope for the landing area on RWY 06. According to MAA officials, the berm provides extra protection for the homes from aircraft that might run off the end of RWY 24 on takeoff or landing roll. It also provides a visual and noise barrier between the residential area and the airport.

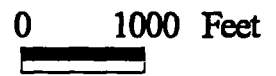
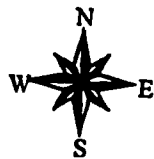
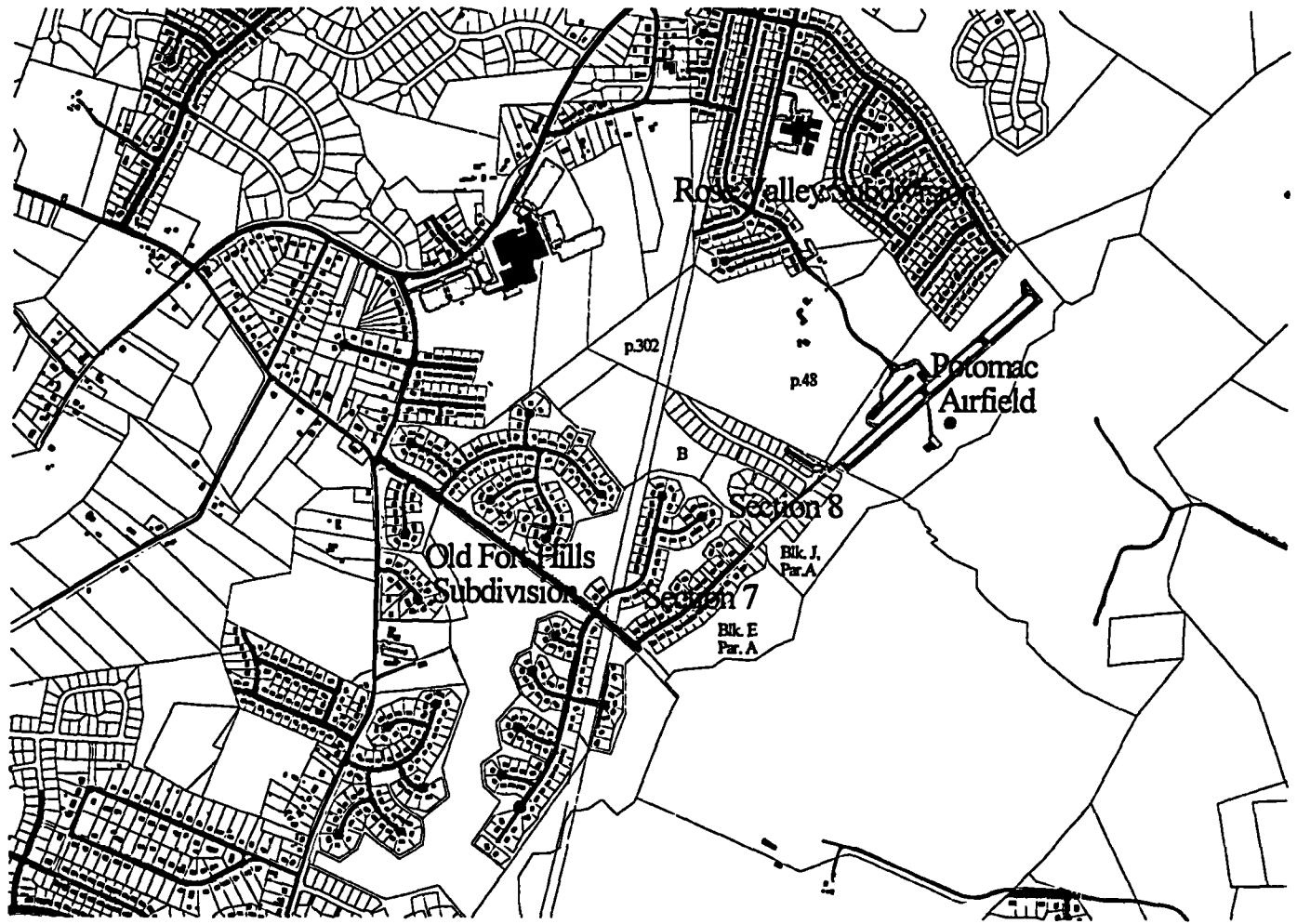
Nineteen recorded residential subdivision lots remain to be built along Featherstone Drive in the area formerly occupied by the airport runway, mostly in Section 8. An even greater

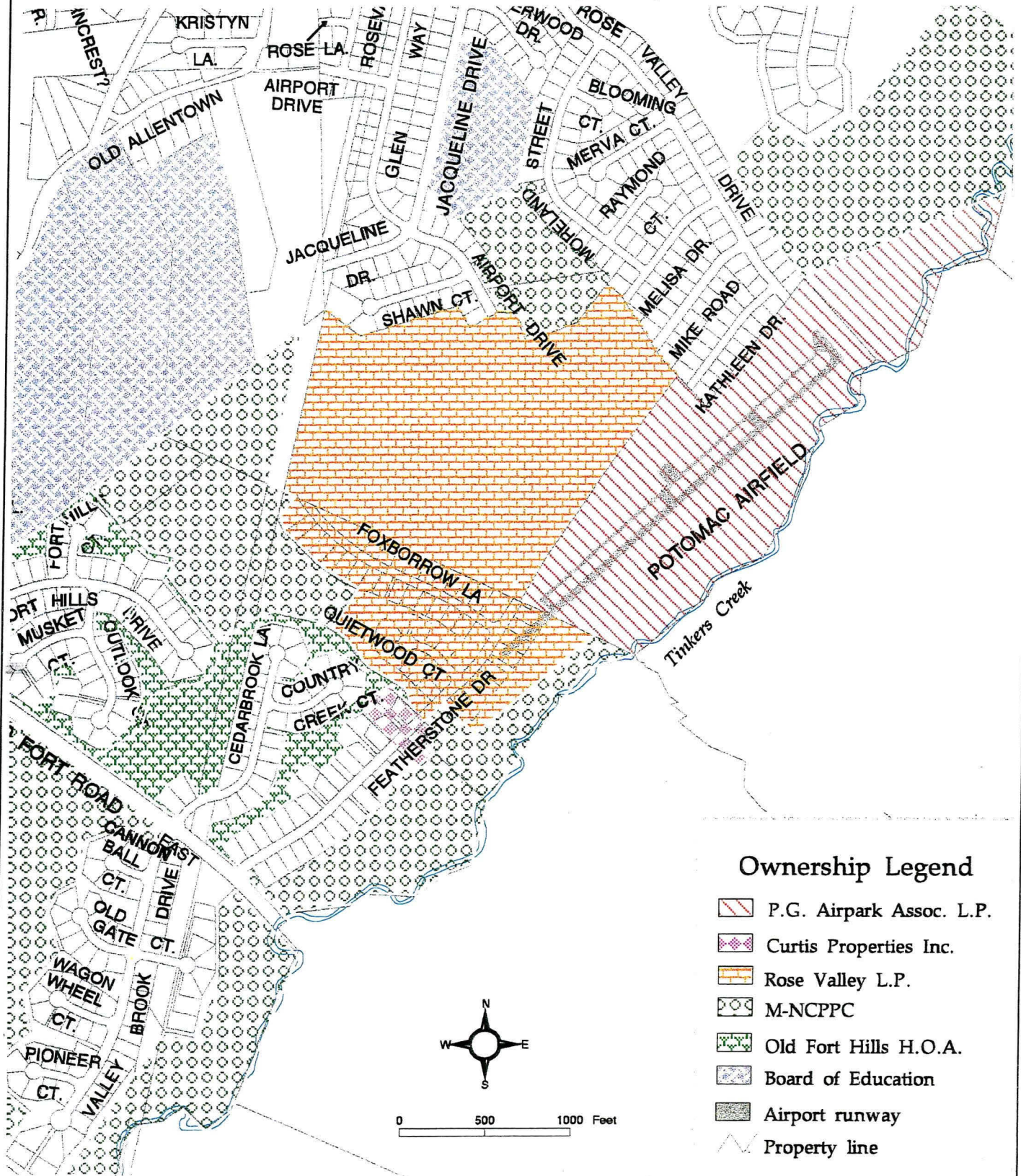
number of lots in Section 8 remain to be built along proposed streets extending to the west from the unbuilt section of Featherstone Drive. It is doubtful that these lots could be built as long as the airport operates in the current configuration without raising serious airspace concerns (see Figure III-1).

Rose Valley Cluster Subdivision








In September 1992, the undeveloped portion of the Old Fort Hills Subdivision in Section 8, owned by Curtis Properties, and an undeveloped parcel (Parcel 48) adjoining the west side of Potomac Airfield, owned by P. G. Airpark Associates LP, were combined as the Rose Valley Limited Partnership (8461/809, 8461/816). Figure III-2 illustrates the ownership pattern around Potomac Airfield. On October 26, 1994, preliminary subdivision application 4-94129, Rose Valley Cluster, was filed by Curtis Regency Service Corporation for the Rose Valley LP properties. It proposed 123 residential lots on 119 acres with access from the northwest, through the existing Rose Valley subdivision, instead of from Featherstone Drive. Lots located along the airport boundary featured on-site airplane hangars and direct access to the airport. Existing residents in the developed portions of Old Fort Hills along Featherstone Drive expressed concerns about the potential for increasing airport operations as a result of this proposal.

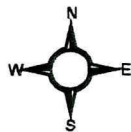
During preparation of the Rose Valley Cluster proposal, the applicant and the Parks Department transferred (8846/356, 6/24/93) a portion of the previously dedicated stream valley park property behind proposed lots along unbuilt Featherstone Drive (part of Parcel A, Block J, 131-069) for a tract (8846/352) further uphill adjoining the Rose Valley Subdivision as an addition to the Friendly Community Park. The portion of park property that was traded corresponded to the area previously referenced as the RPZ (Controlled Activity Area) along the north part of Featherstone Drive. Thus, the area underneath the flight path close to the south end of the runway is now under the control of a development partnership that includes the airport owners. The Rose Valley Cluster subdivision proposal indicates that this area would remain undeveloped as a Controlled Activity Area beyond the end of the runway. The Department of Parks and Recreation retained ownership of dedicated property outside the Controlled Activity Area in the Tinkers Creek Stream Valley Park.





Ownership Legend

-  P.G. Airpark Assoc. L.P.
-  Curtis Properties Inc.
-  Rose Valley L.P.
-  M-NCPPC
-  Old Fort Hills H.O.A.
-  Board of Education
-  Airport runway
-  Property line



0 500 1000 Feet

In January 1995, the Planning Board denied the Rose Valley Cluster subdivision application on the basis of inadequate transportation facilities. The applicant requested reconsideration, which was granted, and subsequent to new information presented at a second public hearing in June 1995, the Planning Board found that transportation facilities were adequate and approved the subdivision. Their decision was appealed to the District Council, who denied the application in December 1995. The applicant appealed to the Circuit Court, who reversed the District Council decision and upheld the Planning Board's approval. In turn, the County appealed to the Court of Special Appeals, who found no reason for review and remanded the case in April 1998. In June 1998 the County filed a writ of certiorari with the Court of Appeals to review the case; no decision has been made as of this writing. If the Planning Board approval of this subdivision application is upheld, it could replace the recorded pattern of lots for Section 8 in Old Fort Hills, removing most of the unbuilt residential lots from under the extended runway centerline of Potomac Airfield.

Summary

The development review history between the competing residential and airport land uses spans more than three decades and has involved four preliminary subdivision applications, two Special Exception applications, at least three Circuit Court suits, two Court of Special Appeals reviews and one Court of Appeals review, one Maryland Aviation Administration administrative appeal of the airport operating license, numerous permit reviews, property transfers, and countless letters. Records pertaining to the voluminous and often contentious review of these applications have been researched and many events are presented in chronological order in Appendix 5. Complete files for some of the records could not be located either due to the age of the records, lack of record keeping, or record/file destruction policies in some agencies. In some cases, there are references in one document to events, files or actions that cannot be located; these are included in the chronology and the source is cited.

Chapter IV. Aviation Regulations

- **Overview**
- **Federal Regulations Regarding General Aviation Airports**
 - FAR Part 77, Objects Affecting Navigable Airspace**
 - FAR Part 77, Imaginary Surfaces at Potomac Airfield**
 - FAR Part 91, General Operating and Flight Rules**
 - Nonprecision IFR Approach**
 - FAA Advisory Circular 150/5300-13, Airport Design, Runway Protection Zones**
- **State Regulations Regarding General Aviation Airports**
 - National Standards; Minimum Standards; Airport License**
 - Airspace Obstruction Regulations**
 - State Approvals Regarding Potomac Airfield**
- **Prince George's County Airport Regulations**
 - Zoning and Special Exception**
 - Nonconforming Use**
 - Building Permits, Use and Occupancy Permits**
 - Airport Zoning Commission; Airport Overlay Zones**
 - County Approvals Regarding Potomac Airfield**
- **Conclusion**

Overview

Three governmental entities may exert regulatory authority over airport facilities, operations and the surrounding area:

- **Federal Aviation Administration (FAA) via:**
 - Federal Aviation Regulations (FARs) and**
 - Advisory Circulars (ACs).**
- **Maryland Aviation Administration (MAA) via:**
 - Code of Maryland Regulations (COMAR)**
- **Prince George's County District Council via:**
 - County Zoning Ordinance, Subtitle 27 of County Code**

At Potomac Airfield, these entities exert varying levels of authority over the three major elements of the airport environment as categorized below. No single entity exerts authority over all aspects of airport improvements and operations.

Airport Ground Facilities

FAA	No authority, because Potomac Airfield is a small, nonobligated airport.
MAA	Airport must be licensed and meet defined standards in COMAR 11.03.04.
County	Authority per Zoning Ordinance regulations, but only to the extent of approved Special Exception or as limited by nonconforming use status for existing airports. Any NEW or REVISED special exception application must comply with certain FAA airport design criteria.

Land Around Airport

FAA	No jurisdiction, except for identification of airspace obstructions via FAR Part 77
MAA	No jurisdiction, except for airspace obstructions via COMAR 11.03.05 (a complement to FAR Part 77).
County	Zoning Ordinance regulations control land use in all parts of the County. Current regulations do not specifically address off-site impacts of airport operations except as consideration in approval of airport special exception.

Airspace, Aircraft and Flight Operations

FAA	Authority over all aspects of aircraft operation and airspace approval.
MAA	Limited authority regarding airspace obstructions per COMAR 11.03.05 as complement to FAA in FAR Part 77
County	No authority, except as might be stated in a condition of approval of a Special Exception for an airport. There are no conditions of approval for Potomac Airfield in SE-1130.

The following parts of this chapter describe the major elements of Federal, State and County regulations that are pertinent to this review of Potomac Airfield.

Federal Regulations Regarding General Aviation Airports

Under Title 14 of the U. S. Code of Federal Regulations, the Federal Aviation Administration (FAA), as an agency of the U.S. Department of Transportation, administers the Federal Aviation Regulations (FAR). In general, all airports are subject to FAA regulations and review on issues involving airspace and air travel. However, only certain classes of airports are subject to FAA regulations regarding ground issues. If an airport is an air carrier facility or a public use airport obligated under the Grant Assurances, it is subject to FAA airport design regulations. These Grant Assurances are conditions to which the airport sponsor is obligated for a 20-year period

after receiving funds through an Airport Improvement Grant (AIP). A summary of the 198 parts of Title 14 are attached for reference purposes in Appendix 6. Federal Aviation Regulations particularly relevant to this examination of Potomac Airfield are discussed below and include: FAR Part 71, "Designation of Class A, Class B, Class C, Class D, and Class E Airspace Areas" (discussed separately in Chapter V); FAR Part 77, "Objects Affecting Navigable Airspace"; and FAR Part 91, "General Operating and Flight Rules."

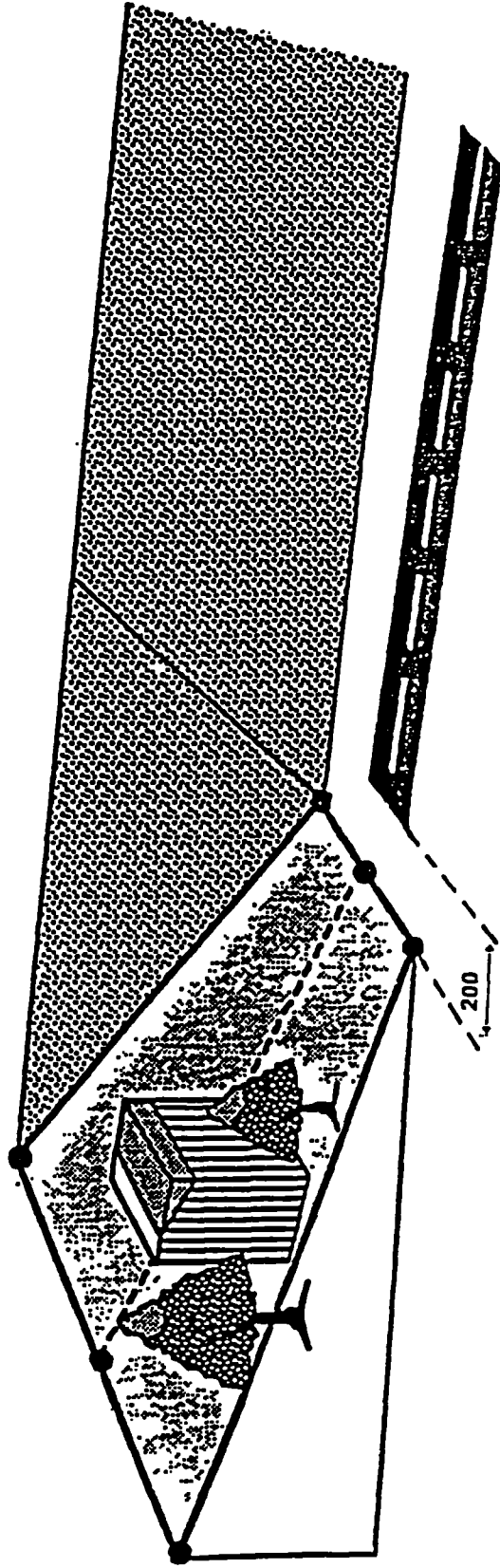
The FAA also publishes a large number of Advisory Circulars that cover everything from airport design to sound insulation of residences near airports. In general, the advisories are recommendations, not regulations, based on data and information collected and analyzed by the FAA. If Federal funds are used in an airport construction project; however, the airport becomes "obligated" and compliance with Advisory Circulars is mandatory. Federal funds have not been used at Potomac Airfield, thus compliance with Advisory Circulars is not required. Regardless, Advisory Circular 150/5300-13, "Airport Design" has some relevance to examination of issues at Potomac Airfield and is discussed below

FAR Part 77, Objects Affecting Navigable Airspace

As explained in the June 1998 Baker, Inc., consultant report on Potomac Airfield (p. 6), FAR Part 77 "contains standards for determining obstructions to navigable airspace and provides for aeronautical studies to be conducted by the FAA to determine whether existing or proposed obstructions represent a hazard to air navigation. This regulation does not, however, define design standards for airport development. The imaginary surfaces defined in FAR Part 77 define desired obstruction limitation surfaces which should be cleared to the extent practical depending on local conditions. These imaginary surfaces are conservative and exceed the airspace and object removal requirements for aircraft operations. The minimum obstruction clearance requirements to meet aircraft operational requirements are contained in Appendix 2 of FAA Advisory Circular 150/5300-13 and are considerably less restrictive than FAR Part 77 requirements."

The FAR Part 77 obstruction standards define a set of imaginary surfaces in airspace that together somewhat resemble the shape of a giant football stadium surrounding the airport. The slope and size of the surfaces is based on the category of airport runway(s) and the type of landing approach allowed (or planned). Figure IV-1 illustrates obstructions to the approach surface.

The regulations also require notification of the FAA by anyone proposing to build or alter structures within a defined area around an airport so that the FAA can evaluate the effect of the proposal on air traffic, determine any hazardous effects on air navigation, recommend marking or lighting of an obstruction, chart the obstruction and notify pilots of its location. According to conversations with FAA personnel, most airports have some penetrations of Part 77 surfaces because the FAA does not have jurisdiction to regulate what is built on the ground around airports, stop construction or deny building permits for proposals determined to violate protected airspace. However, issuance of a "Determination of Hazard to Air Navigation" is reported to effectively transfer the liability for any subsequent consequences to the applicant, and thus is some deterrent.



FAR Part 77, Imaginary Surfaces at Potomac Airfield

The Michael Baker Corporation study (June 1998) examined Potomac Airfield and surroundings with respect to the imaginary surfaces defined by FAR Part 77 as part of the runway realignment alternatives analysis jointly contracted by the Planning Department and MAA. Their report indicates that the FAR Part 77 imaginary surfaces that are pertinent to the analysis are the primary surface, transitional surface and approach surface. Currently, the airport does not meet the obstruction clearance requirements for these three surfaces. Figures IV-2 and IV-3 illustrate these imaginary surfaces, as defined in FAR Part 77

The *primary surface* is a flat area that extends a variable distance outward from the runway centerline, and for 200 feet beyond the end of hard surface runways. *“For Potomac Airfield, the primary surface has effectively increased from 250 feet in width (visual approaches) to 500 feet in width (non-precision approaches) with the introduction in 1997 of a non-precision approach.”* [Baker report] (See discussion in subsequent part of this chapter.)

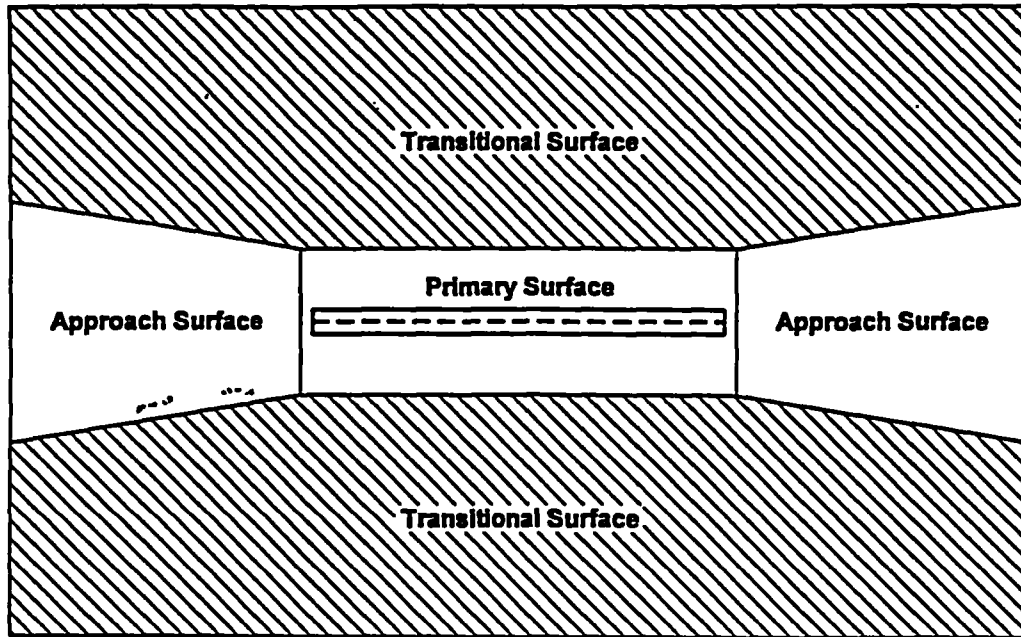
- At Potomac Airfield, buildings (and aircraft tie-downs) are located within the newly defined primary surface.

The *transitional surface* slopes at 7:1 from the edges of the primary surface and approach surface.

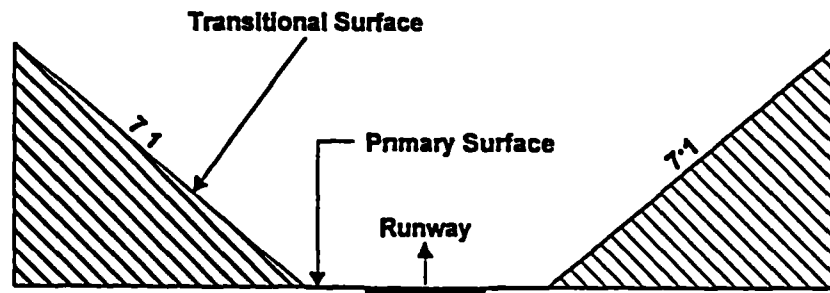
- At Potomac Airfield, clearing the transitional surface *“would require clearing about 100 acres of trees on both sides of Tinkers Creek and on the hillsides to the north and west of the existing runway. Since clearing the 7:1 transitional surface is not mandatory, the limited benefits of clearing this surface would not be worth the significant cost and environmental impacts. In many cases FAA aeronautical studies show that as long as the minimum clearance criteria contained in Advisory Circular 150/5300-13 (Appendix 2) are met, the FAA finding is that other obstacles do not represent a hazard to air navigation.”* [Baker report]

The *approach surface* is a three-dimensional surface which slopes upwards from the edge of the primary surface at a slope of 20:1 and begins 200 feet from the runway end.

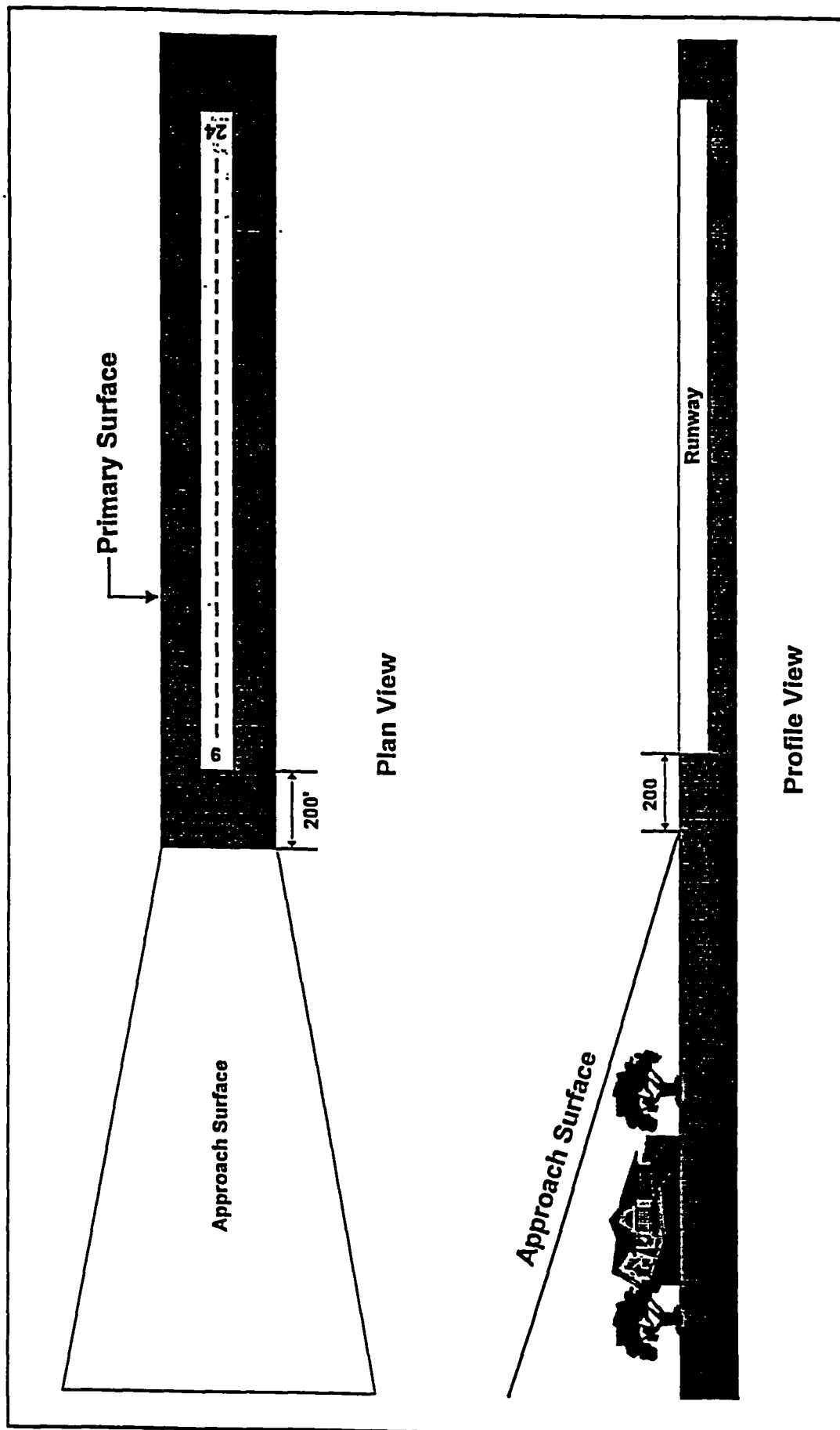
- At Potomac Airfield, the existing airport license (issued by MAA) includes a waiver to the approach surface for Runway 06.



Plan View



Section View



Finally with respect to the FAR, Part 77, surfaces and the potential alternative runway alignments (which vary only slightly from the existing alignment), the consultant concludes that *“based on existing site conditions, the relatively small aircraft types operating at Potomac Airfield (primarily small single-engine and twin-engine aircraft), and the predominance of Visual Flight Rules (VFR) operations, clearance of the primary surface and approach surfaces would be acceptable for the proposed runway relocation. Indeed, clearance of these two imaginary surfaces would represent a safety improvement for the airfield, since these criteria are not met. As an added safety feature, obstruction lighting (steady burning red obstruction lights) can be installed along the edges of the transitional surface or in locations with tall trees to light the edge of the tree line for pilots using the airfield.”* If the existing situation continues, it would seem that these measures should be taken as well, but apparently, they cannot be required.

FAR, Part 91, General Operating and Flight Rules

There are two sets of rules governing the operation of aircraft in flight: Visual Flight Rules (VFR) and Instrument Flight Rules (IFR). VFR pertain to flight free of clouds and in areas of adequate visibility IFR pertain to aircraft operating in weather conditions below VFR minimums. IFR operations are only permitted by pilots with appropriate ratings in aircraft with required equipment. There are two types of IFR landing approach operations: nonprecision and precision. *Nonprecision approaches* provide only horizontal directional guidance for the aircraft approach to the runway and the landing is completed only if the airport runway is visible at a specified minimum distance and altitude prior to final descent for landing. *Precision approaches* provide both horizontal and vertical approach guidance and, with primary reliance on instruments, can bring an aircraft closer to the airport before the runway is visible. In the Class B Airspace surrounding the metropolitan area ALL IFR FLIGHTS are under control of an air traffic control tower.

- **Nonprecision IFR Approach at Potomac Airfield**

In 1997, the FAA approved a “nonprecision instrument approach” for Runway 06 at Potomac Airfield. Runway 06 is the runway with the landing approach from the southwest over Featherstone Drive (20 percent of landings). Previously, RWY 06 was classified as a “visual approach utility runway” which is a runway intended solely for the operation of aircraft using visual approach procedures. RWY 24 remains classified as a “visual approach utility runway”

Actually, two nonprecision approach procedures were approved for RWY 06, one using a VOR/DME navigation aid, the other for GPS (Global Positioning System) navigation systems. Both approaches are under control of the tower at National Airport and begin at an elevation of 2,500 feet at least six miles southwest of Potomac Airfield. The pilot must be able to see the runway at least one mile away before the aircraft can descend below 640 feet or 680 feet mean sea level (MSL) elevation, depending on which approach system is used. Otherwise, the pilot will execute a missed approach and the control tower will direct the aircraft elsewhere.

Approval of the nonprecision approach was granted by the FAA Flight Procedures Office in Jamaica, New York, on the basis of landing approach criteria in the Standard for Terminal

Instrument Procedures known as TERPS. Prior to granting approval of the nonprecision approach procedure, the Flight Procedures Office circulates the proposed procedure to a number of divisions in the FAA, including the air traffic control tower (ATC) at National Airport who control all of the airspace in this area. The FAA Washington District Office, which normally conducts FAR Part 77 reviews, was not consulted for this procedure since Potomac Airfield is a *non-obligated* airport and not subject to these regulations. Nor was the MAA consulted, who has jurisdiction over airport ground facilities.

The change from visual to nonprecision instrument approach procedures for Runway 06 increases the dimensions of some of the imaginary surfaces described in FAR, Part 77. Although Potomac Airfield is not subject to review under FAR Part 77 criteria, the applicable TERPS approach surfaces are always higher, according to FAA sources. At Potomac Airfield, the minimum descent altitude (MDA) for the IFR approach established by TERPS is over 600 feet one mile from the runway, several hundred feet higher than the FAR Part 77 approach surface. Thus, the FAA has adjusted flight procedures (which are completely under its jurisdiction) to accommodate the site specific surroundings at Potomac Airfield in order to protect both pilots and people on the ground.

A significant aspect of the change from a visual to nonprecision runway approach for RWY 06 is the corresponding increase in FAA dimension criteria for the primary surface and the approach surfaces established by FAR, Part 77.25. A significantly broader plane is encompassed by the nonprecision instrument approach surfaces than for visual approach surfaces. At Potomac Airfield, the wider primary surface area begins to include buildings and aircraft tie downs. Moreover, because Potomac Airfield is small and is located in a valley, there are other inconsistencies with the imaginary surfaces defined by FAR, Part 77. As noted above, the 7:1 transitional surface extending outward and upward from the side edge of the now larger primary surface will include more hangars and buildings as well as about 100 acres of trees. According to Bruce Mundie of the MAA, "Because of transition surface penetrations and primary surface penetration, the approach minima are raised to compensate."

FAA Advisory Circular AC 150/5300-13, Airport Design

The standards and recommendations contained in this Advisory Circular are recommended by the FAA for use in the design of civil airports. For airport projects receiving Federal grant assistance, the use of these standards is mandatory. It describes regulatory requirements and defines terms, recommended airport geometry standards, runway design, surface gradient and line of sight standards, and navigation aids. The standards or recommendations vary significantly depending on the size of the airport, the aircraft approach category, the airplane design group, and the type of landing approach procedures approved or planned.

Potomac Airfield is at the lower end of the scale for comparison to these standards because of the small size of its facilities and the small aircraft it serves (maximum takeoff weight of 12,550 pounds). It needs to be reiterated that Potomac Airfield is NOT subject to Federal regulations or Advisory Circulars. Nonetheless, this Advisory Circular is pertinent in two ways:

1. First, it describes recommended airport design standards for comparison to what exists at Potomac Airfield.
2. These criteria may need to be met for any substantial alterations to or realignment of the existing airport facilities via requirements of the County Zoning Ordinance.

Sections of particular interest include separation standards between runways, taxiways, aircraft parking areas and buildings, grading criteria, and minimum obstructions clearances for runway approach surfaces. The Michael Baker Corporation report states: *“Based on the mapping provided by M-NCPPC, aerial photography, and site visits, the existing conditions shown in Figure IV-4 have been identified as non-standard at Potomac Airfield.”*

POTOMAC AIRFIELD STUDY	NONSTANDARD CONDITIONS AT POTOMAC AIRFIELD		FIGURE IV-4
	<u>Existing Conditions</u>	<u>Current Design Standard</u>	
Runway Width	40 feet	60 feet (FAA) 50 feet (MAA)*	
Runway-taxiway separation	103 feet	150 feet (FAA) 100 feet (MAA)	
FAR Part 77 Surfaces			
Primary surface width	350 feet	500 feet	
Approach surface slope	(a)	20:1	
Transitional surface slope	(b)	7:1	
Runway safety area — length beyond runway end	125 feet	240 feet (FAA)	
(a) Existing approach surface not met at either runway end due to terrain and/or trees which penetrate the 20:1 approach surface.			
(b) Existing transitional surface not met due to terrain and trees on both sides of runway			
* MAA standard identified by M-NCPPC staff			

- Runway Protection Zone (RPZ)

Runway Protection Zones (RPZ) are described in Advisory Circular AC150/5300-13 (see Appendix 7) and have been the subject of much discussion at Potomac Airfield. An RPZ is a trapezoidal shaped area located at ground level beyond the end of each runway. It is intended to enhance the safety of people and property on the ground. The dimensions of an RPZ are:

Inner width 200 feet from runway end	250 feet
Outer width 1,200 feet from runway end	450 feet
Length	1,000 feet

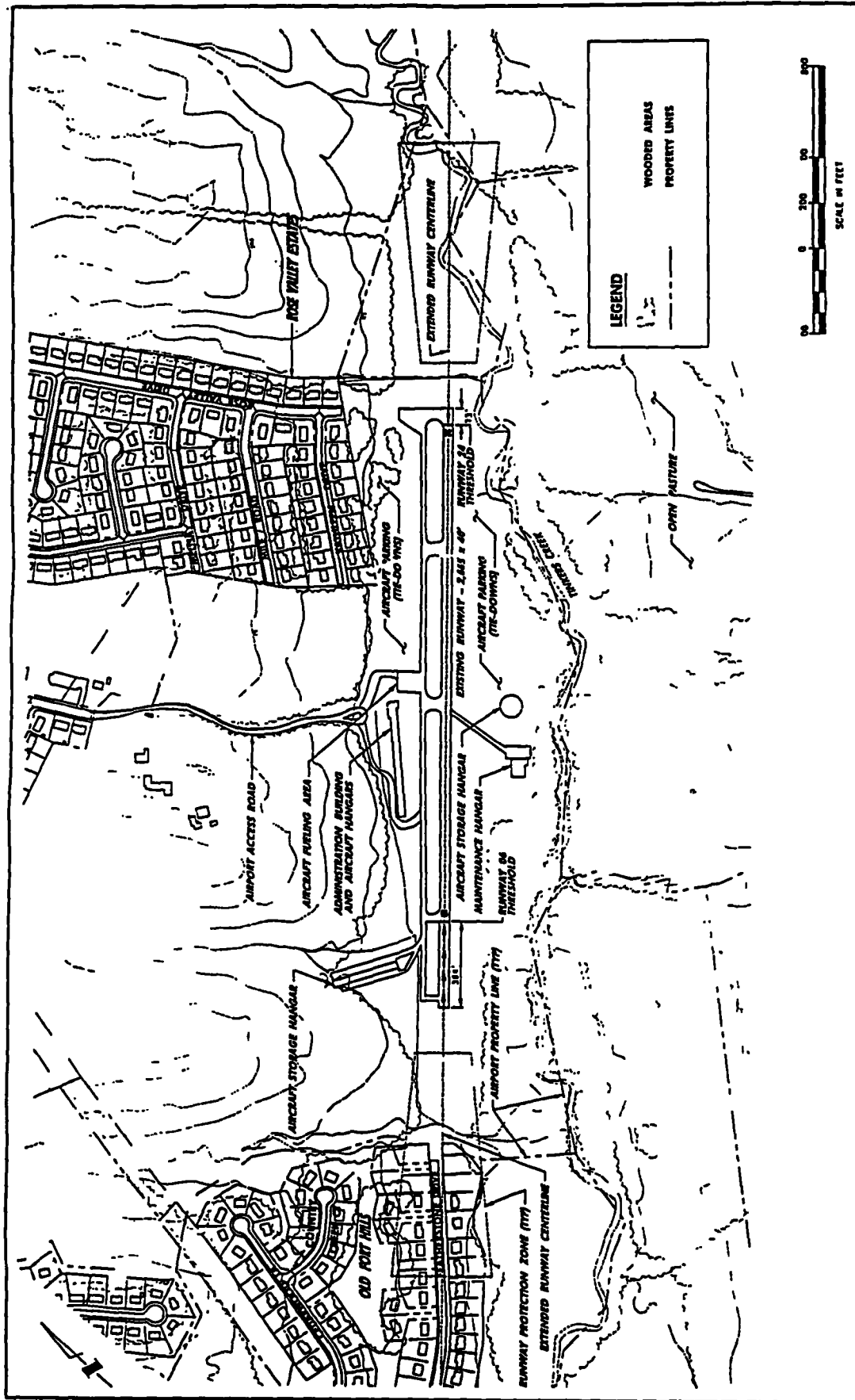
The Michael Baker Corporation report states that: *"...the existing Runway Protection Zone (RPZ) at the Runway 06 end encompasses eight homes on Featherstone Drive. These homes do not penetrate the 20:1 approach surface and are located outside the extended runway object free area; therefore, they do not violate any mandatory design criteria. The FAA recommends, however, that no residences or places of public assembly be located within the runway protection zone in order to protect both people and property. While the existing RPZ is adequate for current operations, it is not desirable in terms of safety of residents and pilots using the airport."* The Airport Layout illustrated in Figure IV-5 graphically illustrates where the RPZs would be located if they were applicable to the existing situation at Potomac Airfield.

Finally, Maryland Aviation Administration staff had the following comments about Federal Aviation Administration design standards for airports as contained in Advisory Circular AC 150/5300-13. *"This AC is the universal suggested design standard for airports from Los Angeles International to the smallest in the national airport system. Since the standard is contained in an Advisory Circular, it is not a mandatory requirement as if it were in a Federal aviation regulation. Also, much of the AC would be considered over design for an airport such as those privately owned airports in Prince George's County. Therefore, the MAA does not require airports to comply with all portions of AC 150/5300-13. Those airports receiving federal funds for improvements are required, through agreement with the FAA, to comply with the AC."*

"When defining a Runway Protection Zone, consider what an RPZ does. It is an area off the end of the runway to 'enhance the protection of people and property on the ground' (FAA AC150/5300-13). The minimum dimensions for an RPZ that would suffice for airports such as in your county are 1,000 feet long, and have an inner width of 250 feet and an outer width of 450 feet. These dimensions are obviously too small to contain an aircraft that might abort flight while already airborne. It is designed to provide adequate stopping distance for an aircraft on take-off or landing roll. In the case of Potomac Airfield, protection of non-airport property is provided by the earthen berm off the end of the runway. It will stop or sap the kinetic energy of any aircraft running off that end of the runway. Any further mitigating measures, such as an RPZ would be redundant and considered totally unnecessary." (Source: letter from Mundie, MAA to Irringer, M-NCPPC, dated August 5, 1998.)

State Regulations Regarding General Aviation Airports

The Annotated Code of Maryland (Title 5) provides, among other things, for the creation of the Maryland Aviation Administration (MAA), and allows that agency to create and administer the aviation regulations found under COMAR, Title 11, Subtitle 03. The contents of Title 5 and Title 11 are summarized in Appendix 8.



Public Safety

COMAR 11.03.04.06A states: “ *the Administration may not issue or renew an airport license or registration if operations conducted at the airport seriously impair public safety.*” The regulations contained in COMAR serve as the primary standards upon which public safety of airport operations are evaluated. COMAR 11.03.04 contains the design criteria for a license to operate an airport (see Appendix 9).

National Standards; Minimum Standards; Airport License

Every licensed airport with a runway over 3,200 feet is required to be in substantial compliance with National Standards, specifically FAA Advisory Circular No. 150/5300-13, Airport Design (9/29/89) which is incorporated into COMAR by reference. For airports with runways less than 3,200 feet, such as Potomac Airfield, COMAR 11.03.04 contains varying minimum standards for four classes and types of airports: public use, private use, commercial use and non-commercial use. Some of the COMAR criteria are less strict than Federal design guidelines in AC 150/5300-13. Among the more significant differences are requirements for control of lands beyond the ends of airport runways. National standards recommend airport control of at least 1,200 feet of land beyond the end of a runway (the RPZ); COMAR standards for small airports have no requirement. In addition, COMAR 11.03.04.07B(8) states:

“The Administration shall waive any portion of these regulations for every existing airport licensed as of the effective date of these regulations if the application of the regulation would be an undue burden on the licensee and is not required in the interest of public safety. ”

This provision allows the MAA to further adjust application of regulations for small airports (i.e., with runways less than 3,200 feet) like Potomac Airfield that were built before the regulations were defined, so long as they feel public safety is preserved. The MAA inspects each airport annually for compliance with the requirements of COMAR 11.03.04 prior to renewal of an airport license.

Airport Operations

According to testimony of an MAA official (Mundie) at the Zoning Hearing Examiner hearing on SE-3954 (ZHE transcript June 5, 1990, pp.173-178), there are no regulations limiting the number of flight operations at an airport. Instead, the level of operations are a function of the number of planes based at an airfield and the services offered, such as gasoline sales, repair facilities, or flight schools. However, the physical restraints of just getting aircraft on and off the runway would pose some practical limits. From this perspective, the official felt it would be very difficult to safely exceed 200,000 operations per year without a control tower. Thus, that figure might be considered an upper limit for safe operations at Potomac Airfield. The official was quick to add that he would never expect to see anything close to that level of operations because Potomac Airfield was too small for the number of based aircraft (350+) that would be required to achieve it.

Flight Schools

The Annotated Code of Maryland, Transportation Article, Title 5, Subtitle 9 defines air school and authorizes the MAA to adopt rules and regulations providing for licensing. According to the Code, *“Air school means. any person who, whether or not for compensation, gives or offers to give instruction in flying or in ground subjects relating to aeronautics.”* Subtitle 5-903 (b) of the Annotated Code requires any person giving flight instruction for compensation to be authorized as a flight instructor under federal law

No regulations pertaining to air schools have been adopted in COMAR for the MAA to administer. Thus, at present, there is no mechanism for issuance of an air school license and there is no State oversight or control of air schools at general aviation airports. Decisions regarding the location and number of air schools or flight training operations at any particular airport rest with the airport operator.

Airspace Obstruction Regulations

The MAA also administers regulations in COMAR 11.03.05 which are similar to FAR Part 77 regarding airspace. Unlike the Federal government, however, COMAR 11.03.05.10 contains language stating: *“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.”* The regulation goes on to state: *“The Administration reserves the right to waive any portion of these regulations.”* However, this section does not give the State authority to substantially interfere with local land use decision making or to deny building permits in the areas immediately surrounding airports. The MAA does not regulate the use of land adjacent to airports, only the airport itself, and to some extent, the associated airspace (which may be over adjoining property). The power of off-site land use regulation, in these cases, is left to the County. The State’s enforcement capabilities appear to be a last resort option for serious airspace penetrations. At public meetings, State officials have stated that with respect to influencing development decisions on property around airports, *“the FAA has no teeth, and the MAA has teeth of rubber.”*

State Approvals Regarding Potomac Airfield

Airport License 170 is issued to Potomac Airfield with displaced thresholds at either end of the runway to meet approach slope requirements of COMAR. The license is renewed annually. Displaced thresholds are portions of paved runway ends that cannot be used for aircraft landings (see full definition in Glossary). There is one waiver granted to requirements of COMAR 11.03.04.07F(4)(b) regarding the obstruction free surface on the approach for Runway 24 (for trees). The waiver was originally granted in 1989; however, it does not now appear to be necessary due to the displaced thresholds. Nonetheless, the waivers are still maintained on the license.

With the exception of the approach obstruction waiver for Runway 24 noted above, Potomac Airfield complies with standards of COMAR 11.03.04 for visual flight rules (VFR) traffic. With respect to standards for runway pavement width for other than VFR traffic

(50 feet), Potomac Airfield does not comply at 40 feet. To rectify this discrepancy, a waiver should be requested from MAA or the runway should be widened.

During the late 1980s and early 1990s the airport license for Potomac Airfield was the subject of much controversy, as recounted in Chapter III of this report. A third of the airport runway was removed in 1987 for the purpose of residential subdivision construction by one of the airport property owners. This reduced the size of the airport runway below MAA standards and put the license and airport operation in jeopardy. Pursuant to the 1965 site plan for SE-1130, the other airport owner was able to partially replace the demolished runway at the opposite end of the field and reapplied for a public use license in 1988. Unfortunately, the MAA did not take into account the reason the runway was removed, the intended reuse of this former airport property, nor the likely consequences in their decision to re-issue the public use airport license, even when the proposed subdivision lots were recorded on top of the former runway pavement and abutted the end of the remaining runway proposed for use. As noted in the background section of this report, an administrative appeal of the license was filed with the MAA and hearings were conducted, but the license was upheld for a commercial use/public use airport. It appears that as long as the applicant met the stated requirements of COMAR for the type facility proposed, the MAA felt obliged to issue the license. Existing or proposed land uses around the airport were not a consideration in this license evaluation. Instead, as MAA staff have clearly stated at public meetings, it is the responsibility of local jurisdictions to control the land around an airport.

Prince George's County Regulations

Zoning and Special Exception

The State of Maryland has delegated the power to regulate the use of land in Prince George's County to the elected County Council, sitting as the District Council, via the Regional District Act, Article 28. This authority is administered through the Prince George's County Zoning Ordinance and the Subdivision Regulations, which are defined in Subtitle 27 and 24 of the County Code, respectively. Potomac Airfield was built in 1957, before this part of the County was subject to land use regulation through zoning. Zoning authority was extended to this part of the County in 1964. The Zoning Ordinance in effect at that time classified an airport as a Special Exception use and included specific requirements for airports (see Appendix 10.) Once granted, a Special Exception continues in perpetuity. There is no mechanism to remove a Special Exception so long as the use is in compliance with its provisions.

The regulations of the Zoning Ordinance have been recodified several times since 1964, and the language for airport Special Exceptions has been revised somewhat. The most recent codification in 1995 contains Special Exception requirements for an airport in Section 27-333 (See Appendix 11). The earlier ordinance required the airport owner to control the land at the ends of runways and made reference to identifying elevations of land uses around the airport. Later ordinances make reference to FAA requirements for the class of airport proposed. The Zoning Hearing Examiner's opinion in SE-3954 (a 1989 application for improvements at Potomac Airfield) was that the Special Exception regulations required conformance with

standards in FAA Advisory Circular AC 150/5300-13, Airport Design. The ZHE's interpretation on this point was upheld on appeal by both the District Court and the Court of Special Appeals.

Nonconforming Use

A land use legally existing prior to the establishment of zoning or prior to a change in regulations is considered a *nonconforming use*, pursuant to Zoning Ordinance Section 27-107.1 and Sections 27-240 through 27-247. Briefly, a nonconforming use is considered to be a legal use that can continue despite its nonconformity with current regulations, so long as it is not discontinued for more than 180 days; certification is required according to the procedures. Buildings and structures may be maintained and repaired, but not enlarged or extended without approval of a Special Exception for that purpose. This does not limit the extent or intensity to which the existing structures can be utilized.

Building Permits, Use and Occupancy Permits

Building Permits and Use and Occupancy Permits are issued upon compliance with the Building Code and Zoning Ordinance regulations. With respect to ongoing airport operations, there are no other County requirements or licenses.

Airport Zoning Commission; Airport Overlay Zones

In 1987, legislation was proposed to amend the Prince George's County Code to create an Airport Zoning Commission and an Airport District Overlay Zone. On the basis of correspondence in the County Council's Planning and Zoning Committee administrative files, it appears that the motivation for these bills was the proposed redevelopment of Washington Executive Airport (Hyde Field), which included relocation and expansion of its runway, then a priority economic development project in the County. The primary purpose seems to be as a means to assure compliance with Federal requirements for protection of property beyond the ends of the proposed airport runways (which at that time was not under the control of the airport owner) in order to secure Federal and State funding for the project.

Early versions of the proposed legislation appear to have been drafted in late 1986 by attorneys for the owner of the airport, Mr. William Albright. The proposals were subsequently reviewed and revised by staff from a number of public sector agencies including the County Office of Law, District Council Planning and Zoning Committee staff, the State Aviation Administration (SAA), the Federal Aviation Administration (FAA), and M-NCPPC. The earliest known version was a single draft bill proposing Airport Zoning Districts and regulations, including an Airport Zoning Commission appointed by the Council, under Subtitle 27 of the County Code, Zoning. Over time, it evolved into two bills:

- CB-60-1987, proposing amendments to the Zoning Ordinance providing authority, definitions and procedures necessary to initiate an Airport District Overlay Zone and Sectional Map Amendment.

- CB-61-1987, designating the Planning Board as the Airport Zoning Commission under Subtitle 2 of the County Code, Administration, and charging it with the responsibility to further define and recommend Airport District Overlay Zones to the District Council.

As the bill(s) evolved, responsibility for public notices and for compliance with State overlay zone directives was increasingly transferred to the airport operator(s) via their purchase of aviation easements. Eventually, even the SAA staff who had worked extensively with drafters of these bills withdrew support for the overlay zone. According to the legislative history for CB-61-1987:

"At the request of the sponsor, CB-60-1987 was held and CB-61-1987 amended to create the Airport Zoning Commission and to authorize the Commission to make surveys and studies concerning airports, air navigation, land use policy, conditions and problems and recommend to the Council changes in existing law

"Subsequent to Council enacting such legislation and procedures, the Commission is empowered to administer and enforce airport zoning regulations, which may also include receiving permit applications and authorizing the issuance of permits.

"Language was also added that requires that the regulation shall include a requirement that the owner of the property, upon which the airport is located, own or obtain aviation easements for all property within clear areas."

Further, according to July 20, 1987, correspondence records explaining the Council's committee actions to Mr. William Albright, owner of Washington Executive Airport (Hyde Field), Mr. Henderson Brown, Esq., County Attorney's Office, indicated the following:

"On March 12, 1987, two bills were presented to the Council by Councilman Wineland. One, CB-60-1987, was designed to amend the Zoning Ordinance to provide for an Airport District Overlay Zone. The other, CB-61-1987, designated the Prince George's Planning Board as the Airport Zoning Commission and made the Board, acting as the Commission, the primary airport regulatory body.

"Worksessions on both bills were held on June 10, 1987 in the Council's Planning and Zoning Committee. The Committee determined that additional staff work was required, and held the legislation. Both bills were redrafted and returned to the Committee on July 1, 1987

"CB-61-1987 received a favorable report. It requires the Airport Zoning Commission to recommend to the Council legislation that will effect the intents expressed in CB-60-1987 and has been scheduled for public hearing and final action on July 28, 1987

"Since the task of comprehensively regulating land uses in and around airport property should involve prudent and detailed study, it is not unreasonable to assume that legislation similar to CB-60-1987 will not be considered again until calendar year 1988.

"The dilemma presented by your plans for the development of Hyde Field is the resulting need to regulate property not a part of the airport. The Committee was not inclined to support the regulation of uses on adjacent property so as to effect an indirect condemnation of that adjacent property.

"Comments by the Committee members on June 10th made this clear. Moreover, Councilman Wineland, the sponsor of each bill, has consistently expressed his desire not to so restrict the uses of adjacent properties as to indirectly condemn those properties..."

CB-61-1987 was approved on July 28, 1987, as Sections 2-447 through 2-449 of the County Code. However, it does not appear that any projects specifically aimed at creating Airport District Overlay Zones have been approved by the District Council for the Planning Department work program until the current project was begun in the mid-1990s. The subsequent phase of this ongoing airport planning project will evaluate the need for and may propose new regulations regarding compatible land use in airport environments. It should also evaluate whether an Airport Zoning Commission is required to administer such land use controls, or whether the Planning Board and District Council can administer these controls more simply within the Zoning Ordinance and Subdivision Regulations.

County Approvals Regarding Potomac Airfield

In 1965, the Prince George's County Commissioners (the predecessors to the County Council), sitting as the District Council, approved Special Exception SE-1130 and a site plan for an airport at Potomac Airfield (then called Rose Valley Airport). The Special Exception site plan did not conform with then existing Special Exception requirements for an airport regarding area or distance between the end of the landing strip and the property boundary, nor does it appear to meet current requirements. Nonetheless, this 1965 site plan has served as the controlling document for all subsequent permit review purposes because it was approved by the District Council. More detailed information about this Special Exception application and its review is contained in Chapter III of this report.

Conclusion

The FAA is the primary regulator of aircraft and aircraft operations in the United States. They define the standards and design guidelines for virtually every aspect of the aviation industry. Unless an airport is obligated via Federal grant programs, these standards are not mandatory for airport ground facilities. In Maryland, the Maryland Aviation Administration administers the primary level of regulation with respect to safety of airport ground facilities. With respect to smaller, older general aviation airports, the MAA airport design standards are less stringent than Federal regulations, and waivers may be granted at the discretion of the MAA. The MAA does not have permit authority over the airport facilities or its surroundings, nor does it control the intensity of operations conducted on the premises. Instead, airports are required to meet minimum standards established by COMAR in order to obtain a license to operate.

In Maryland, the primary authority for land use control around an airport rests with the local jurisdictions, but many, like Prince George's County, do not have airport oriented regulations in their codes. Thus, there are no specific regulations to enforce. This is one of the reasons why there has been Federal and State efforts to persuade local governments to adopt regulations mirroring FAR Part 77 or COMAR. However, these regulations would not have prevented the situation that has developed between Potomac Airfield and the residential construction on Featherstone Drive.

If the Potomac Airfield runway is realigned (see Chapter VIII), some FAA airport design criteria will need to be met because the County will have to approve a new Special Exception and Site Plan pursuant to Section 27-333 of the Zoning Ordinance which, in turn, makes reference to FAA requirements. That is one reason the engineering consultant was directed to utilize FAA design criteria for the runway realignment study

It needs to be reiterated that the existing Potomac Airfield facilities do not have to comply with FAA airport design criteria because it is a pre-existing, privately owned general aviation airport that has never been the recipient of funding from Federal sources. Instead, the existing airport facilities do have to comply with State of Maryland airport design criteria contained in COMAR 11.03.04 and the Special Exception SE-1130 site plan approved by the County in 1965.

Potomac Airfield Study	Summary of Potomac Airfield Approvals	Figure IV-6
Local	State	Federal
SE-1130 (approved 1965)	License 170, issued annually	Recognition of airspace on published aeronautical charts and maps
Use and Occupancy Permits		Nonprecision Instrument Approach: RWY 06

Chapter V Regional Airspace Considerations

- Air Traffic in the Washington-Baltimore Metropolitan Area
- Controlled Airspace: Class B and Class E
- Description of Airport Traffic Patterns
- Illustration of Standard Traffic Pattern
- Traffic Patterns Map for Potomac Airfield and Washington Executive Airport

Air Traffic in the Washington-Baltimore Metropolitan Area

According to the “Flight Operations and Aircraft Noise Quarterly Report for Washington Dulles International Airport and Ronald Reagan Washington National Airport” (September 1998) over 3,000 airplanes fly the skies of the metropolitan region each day (see Figure V-1). Layers of regulations control every movement of these aircraft through the regulated airspace.

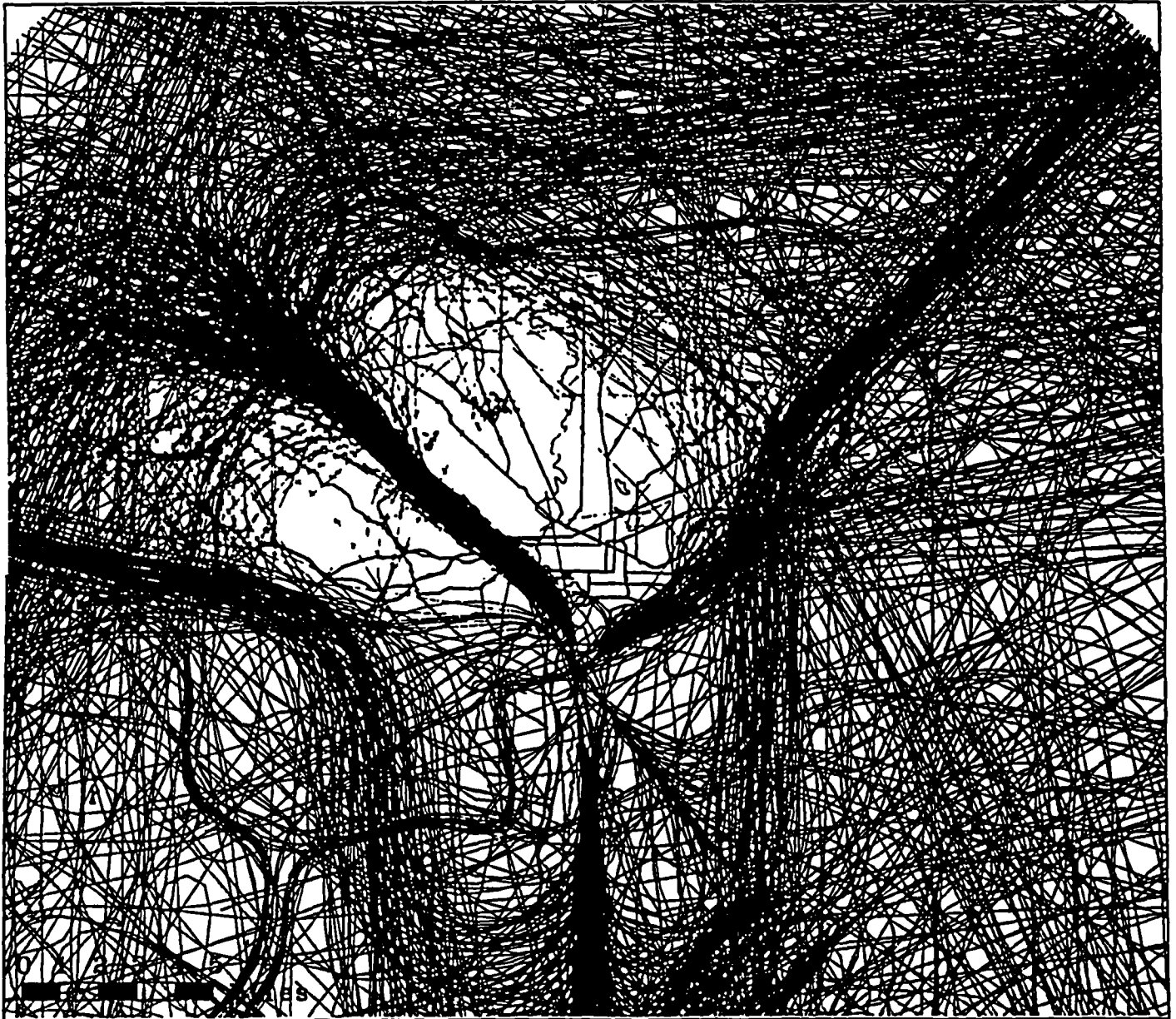
A section of the 1998 Maryland Aeronautical Chart that includes the Washington/Baltimore Metropolitan Area is shown as Figure V-2. Prince George’s County, with its four general aviation airports and two landing strips, are noted on the figure. There are four major airports that have a controlled airspace in the metropolitan region, namely:

- Andrews Air Force Base — “Andrews”
- Ronald Reagan Washington National Airport — “National”
- Baltimore-Washington International Airport — “BWI”
- Washington Dulles International Airport — “Dulles”

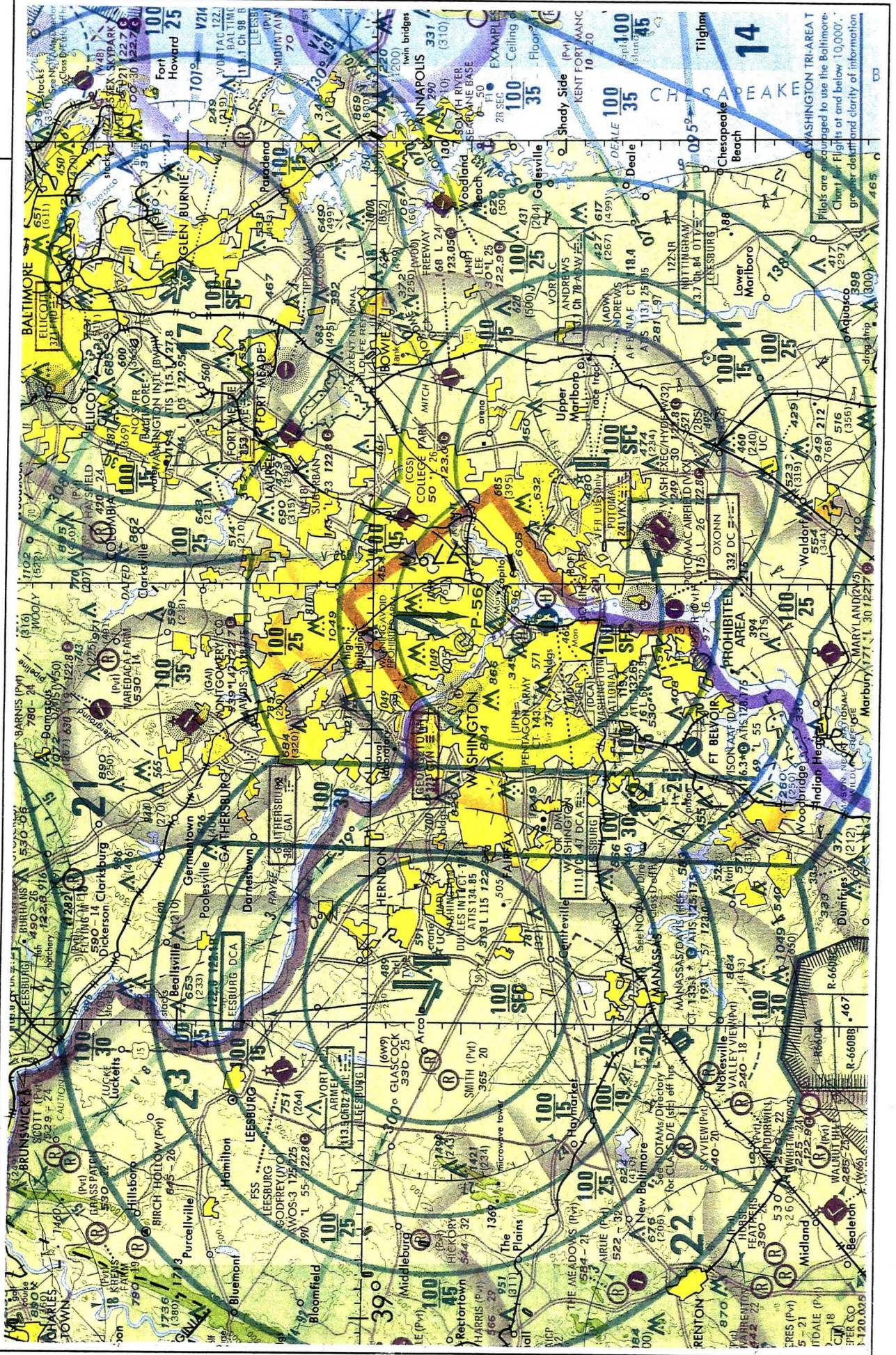
Controlled Airspace: Class B and Class E

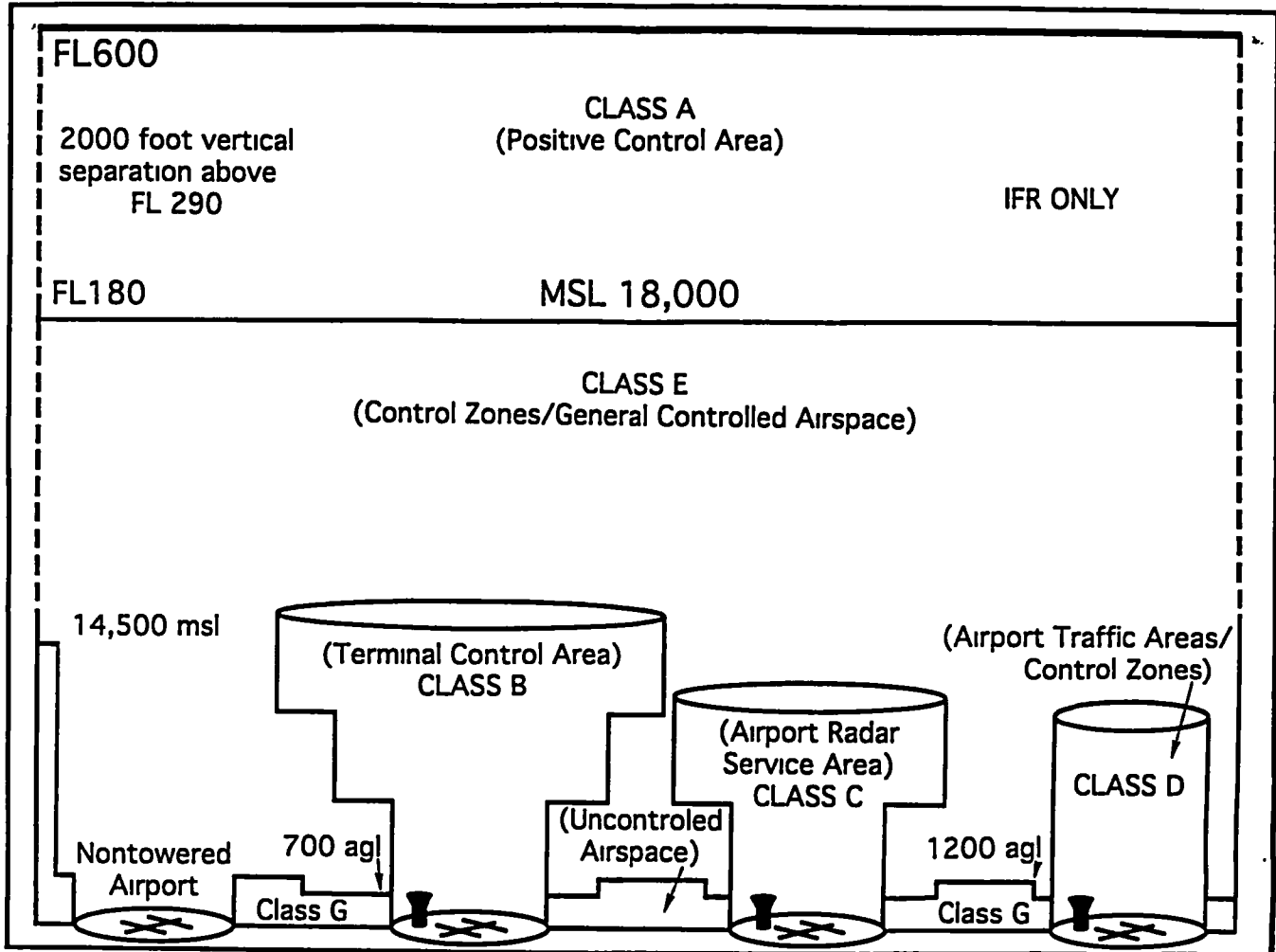
The controlled airspace for high-density operations surrounding commercial and military airports is called *Class B Airspace*. The greater utilization of airspace at these large airports is what characterizes it as Class B. The concentration of flights necessitates control towers. Class B Airspace is shown on the aeronautical chart as concentric blue rings that emanate from the center of each airport.

Class B Airspace is actually three dimensional in nature, as illustrated in Figure V-3. The concentric rings relate to the ceiling and floor altitudes of stacked layers of controlled airspace that look much like an inverted wedding cake. Vertical limits of each layer are noted as a fraction, with the top number being the ceiling, or maximum cruising altitude above mean sea level (MSL) for operations, and the bottom number being the floor, or lowest altitude, that operations, or flights, should occur. The numbers are expressed in 100s of feet MSL. For example, the smallest tier of airspace for Andrews and National is closest to the airports, and the floor is shown as “SFC” meaning “runway surface,” and the ceiling shown as 100, representing 10,000 feet MSL. Aircraft operations inside Class B Airspace are under the control of an air traffic controller below 10,000 feet MSL.



This flight track map depicts all civilian aircraft operating below 19 000 feet (altitude) within 10 miles of Reagan Washington National Airport. It depicts 2,056 flight operations on a typical day in the airspace surrounding this major commercial airport. "On an average day more than 800 flights will occur at National and over 1,000 at Dulles." The flight tracks from operations at Potomac Airfield and neighboring Washington Executive Airport are also visible on this map, eight miles southeast of National Airport. North direction is oriented to the top of this map. [Source: Metropolitan Washington Airports Authority, Flight Operations and Aircraft Noise Quarterly Report for Washington Dulles International Airport and Ronald Reagan Washington National Airport' (September 1998)] These flight track maps do not include military flight operations.





msl - mean sea level

agl - above ground level

FL - flight level

	A	B	C	D	E	G
Former Airspace Equivalent	Positive Control Airspace (PCA)	Terminal Control Area (TCA)	Airport Radar Service Area (ARSA)	Airport Traffic Area (ATA) and Control Zone (CZ)	General Controlled Airspace	Uncontrolled Airspace
Operations Permitted	IFR	IFR and VFR	IFR and VFR	IFR and VFR	IFR and VFR	IFR and VFR
Entry Requirements	ATC Clearance	ATC Clearance	ATC Clearance for IFR All require radio contact	ATC Clearance for IFR All require radio contact	ATC Clearance for IFR All require radio contact	None
Minimum Pilot Qualifications	Instrument Rating	Private or student certificate	Student certificate	Student certificate	Student certificate	Student certificate
Two-way Radio Communications	Yes	Yes	Yes	Yes	Yes for IFR	Yes for IFR
VFR Minimum Visibility	N/A	3 statute miles	3 statute miles	3 statute miles	3 statute miles ¹	1 statute mile ²
VFR Minimum Distance from Clouds	N/A	Clear of Clouds	500' below, 1000' above, and 2000' horizontal	500' below, 1000' above, and 2000' horizontal	500' below, 1000' above, and 2000' horizontal ³	Clear of Clouds ⁴
Aircraft Separation	All	All	IFR, SVFR and runway operations	IFR, SVFR and runway operations	IFR and SVFR	None
Traffic Advisories	N/A	N/A	Yes	Workload permitting	Workload permitting	Workload permitting
Safety Alerts	Yes	Yes	Yes	Yes	Yes	Yes
Differs from ICAO	No	Yes ⁵	Yes ⁶	Yes for VFR ⁷	No	Yes for VFR ⁸

1. Operations at or above 10,000' MSL -5 Statute miles.

2. Night operations below 10,000' MSL -3 Statute miles; day or night operations at or above 10,000' MSL-5 Statute miles.

3. Operations at or above 10,000' MSL -1,000' below, 1,000' above and 1 statute mile horizontal.

4. Operations more than 1,200' AGL, but less than 10,000' MSL -500' below, 1,000' above, 2,000' horizontal.

Operations at or above 10,000' MSL -1,000' below, 1,000' above, 1 statute mile horizontal.

5. ICAO does not have speed restrictions in this class (FAR 91.117).

6. ICAO does not have speed restrictions in this class (FAR 91.117); ICAO requires clearance.

7. ICAO requires ATC clearance.

8. ICAO requires 3 statute miles visibility.

The aeronautical chart (Figure V-2) also shows that most of the airspace between 7 and 10 nautical miles from National and Andrews has a floor of 2,500 feet MSL and a ceiling of 10,000 feet MSL. However, this airspace is interrupted to accommodate Potomac Airfield and Washington Executive Airport. The chart shows a cutout in the airspace so as to provide a 100/15 layer of airspace over these two smaller airports. This means that the general aviation traffic from Potomac Airfield and Washington Executive Airport must fly below 1,500 feet MSL to stay safely out of that particular Class B controlled airspace layer surrounding National and Andrews. Additionally, the larger numbers on the aeronautical chart indicate the minimum cruising altitude for each map grid, and are generally based on a certain amount of clearance from the tallest ground object within that grid. In the grid that contains Potomac Airfield, this minimum cruising altitude is 1,100 feet.

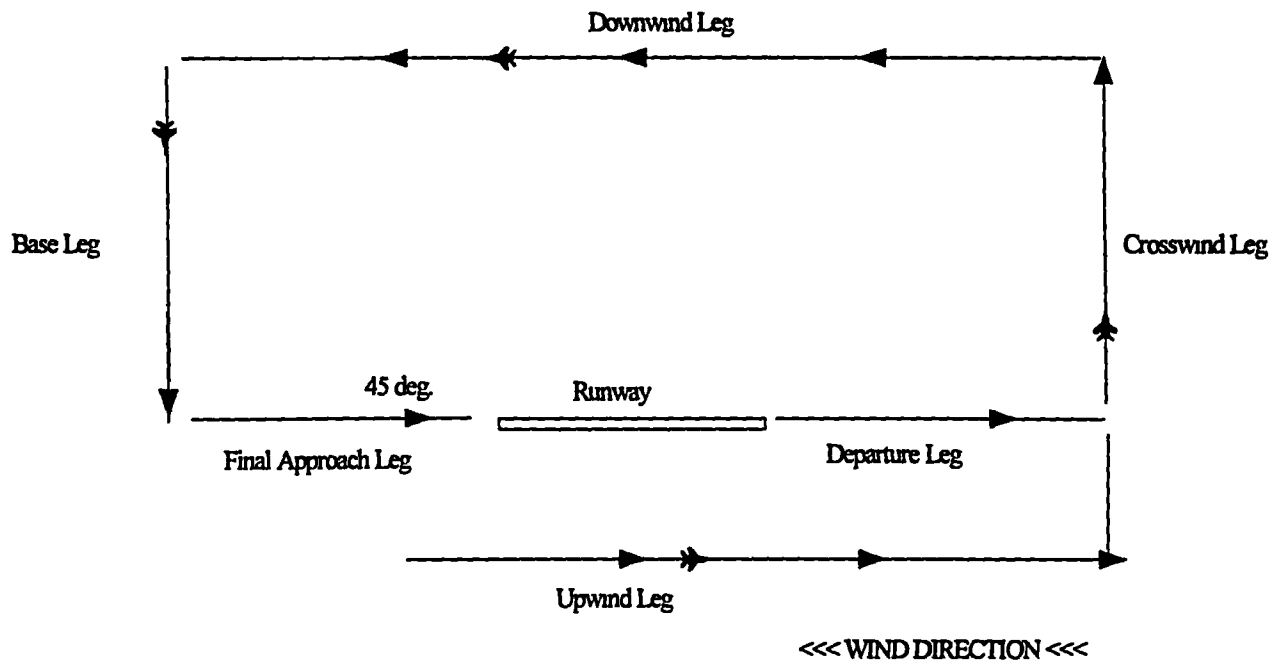
The aeronautical chart also shows the Class E Airspace that covers the general aviation airports in Prince George's County as rings (magenta). The floor for Class E Airspace is 700 feet MSL, and the ceiling for Prince George's County airports is 1,500 feet MSL. This corresponds to the floor of the Class B Airspace from the larger regional airports. The Class E Airspace lies under the Class B Airspace at all airports in this County. Airports within the Class E Airspace do not generally have a control tower, but use airport radar service instead. Although radar coverage and flight assistance are always available to local pilots in these areas, they are not required to use radar or radio communications unless they enter the Class B Airspace at 1,500 feet MSL.

For pilots using the Class E Airspace, such as for Potomac Airfield, airport traffic control clearance is required for instrument flight rules (IFR), and radio contact is required for all IFR flights. Pilots operating under visual flight rules (VFR) must operate with at least three miles of visibility, and be at least 500 feet below clouds, 1,000 feet above clouds, and 2,000 feet horizontally from clouds. Aircraft must be equipped with two-way radios in both Class B and E Airspace.

Transponders are instruments within aircraft that send a signal which can be captured on air traffic control radar. All aircraft operating within 30 nautical miles of Class B Airspace are required to be equipped with transponders. If a pilot is within the Class B Airspace, a four-digit code is assigned to identify individual aircraft by an air traffic controller. This is different from the standard code of 1,200 used for VFR operations outside the Class B Airspace.

Description of Airport Traffic Patterns

At general aviation airports, a rectangular air traffic circulation pattern is used to standardize air traffic movement to, from and around airports. The airport traffic pattern is the recommended route an airplane will use to depart from or land at an airport. Upon departure an aircraft is in the airport traffic pattern until it has achieved pattern altitude, when it can proceed toward its destination. An aircraft landing at an airport will enter the traffic pattern at a certain altitude and remain in the pattern until it is on the ground. Figure V-4 describes the various "legs" of the air traffic pattern.



The traffic pattern consists of six distinct parts or “legs” that form a rectangular shape on each side of an airport. The Aircraft Owners and Pilots Association (AOPA) describes the legs as:

- The *upwind leg* is a flight path parallel to the landing runway, into the wind, on the opposite side of the pattern of the downwind leg.
- The *departure leg* is a flight path aligned with and leading from the takeoff runway. The departure leg begins at the point the airplane leaves the ground and continues straight out climbing along the extended runway centerline to within 300 feet of pattern altitude or until the 90 degree turn onto the crosswind leg.
- The *crosswind leg* is a flight path at right angles to the landing runway off its takeoff end. It is opposite the base leg. Aircraft should complete climb to pattern altitude on this leg.
- The *downwind leg* is a flight path parallel to the landing runway in the opposite direction of landing. Because landings are made into the wind, the downwind leg is flown with the wind. AOPA recommends small aircraft fly downwind legs about one-half mile from the runway.
- The *base leg* is a flight path at right angles to the landing runway off its approach end and extending from the downwind leg to the intersection of the extended runway centerline.
- The *final approach* is a flight path in the direction of landing along the extended runway centerline from the base leg to the runway. AOPA recommends turning to final approach one-half to three-fourths mile from end of the runway.

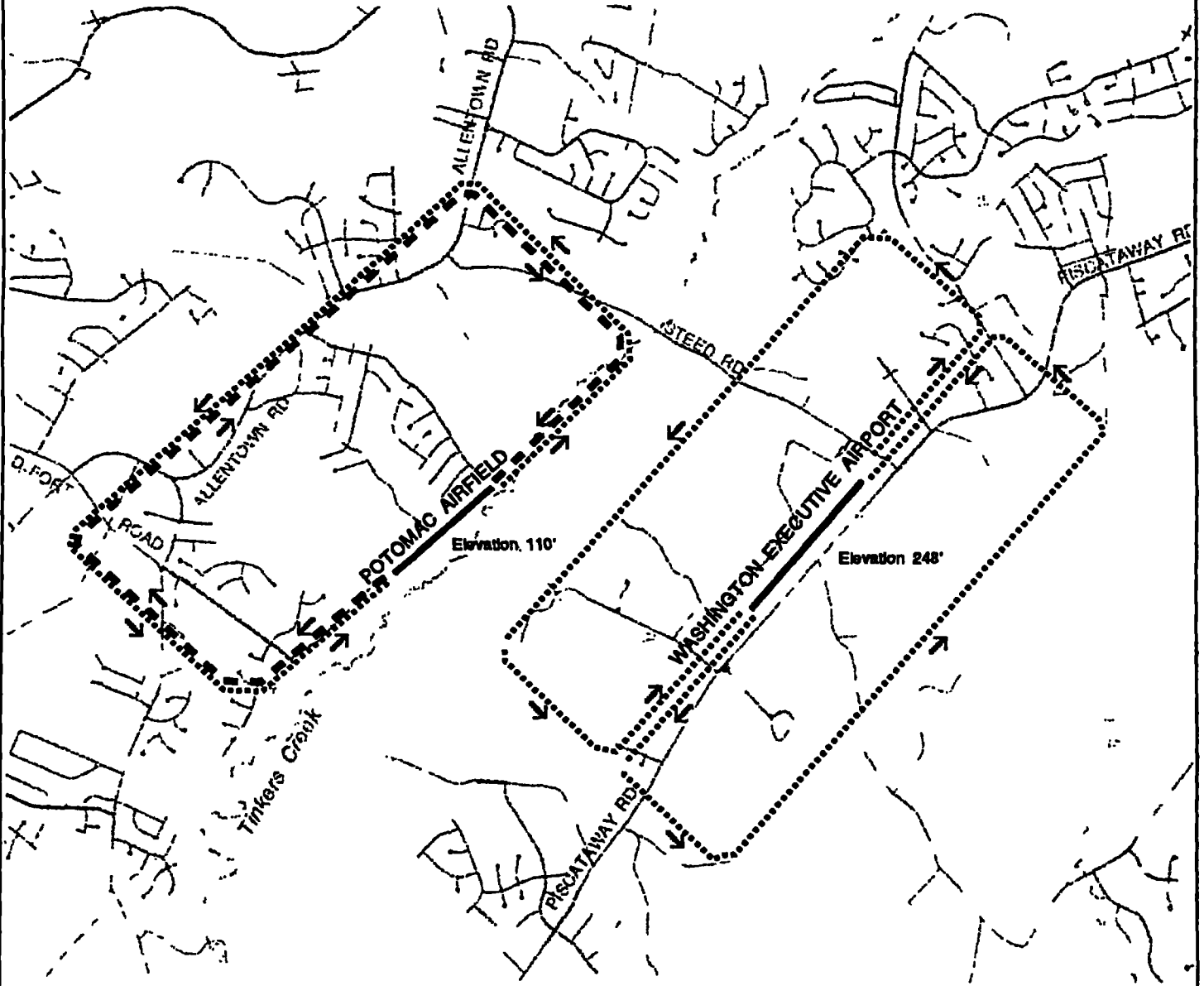
The FAA airspace manager (in the case of Potomac Airfield, Dulles ATCT manager) establishes the traffic pattern for the airport, it is approved by the FAA and published in airport directories. Pattern altitude at Potomac Airfield is 1,100 feet MSL. Because virtually all the aircraft served by Potomac Airfield are of the same category with respect to landing and departure speeds, as many as five or six aircraft could be in various segments of the traffic pattern at one time. However, most of the time there are no aircraft, or only one aircraft, in the pattern.

Generally, all turns in the airport traffic pattern are made to the left. Reasons for traffic patterns with turns to the right include terrain, physical features of the landscape, noise abatement procedures, or conflicts with air traffic patterns at other nearby airports. Modified traffic patterns have been established at Potomac Airfield because of its proximity to Washington Executive Airport (Hyde Field). Under normal left turning procedures for RWY 24 at Potomac Airfield and for RWY 05 at Washington Executive Airport, traffic patterns would overlap, bringing aircraft into the same airspace with potential for mid-air collisions. Washington Executive Airport, the older of the two airports, has retained the standard left turn traffic patterns for its runway in both directions. The traffic pattern at Potomac Airfield has been modified to require a right turn traffic pattern for RWY 24 (see Figure V-5). Aeronautical directories used by pilots during flight and visual markings on the airfield itself notify pilots of the non-standard traffic pattern at this airport. Unfortunately, this combination of left and right turn traffic patterns puts virtually all of the air traffic utilizing Potomac Airfield on the west side of the airport, over the Old Fort Hills, Steed's Grant, Potomac Knolls and Old Fort Road communities.

Aircraft leaving the traffic pattern normally exit by turning 45 degrees after completing the upwind leg. Aircraft entering the traffic pattern normally do so by entering on the downwind leg at a 45 degree angle from the outside. Because of airspace restrictions associated with the Class B Airspace for Andrews and National Airport, the majority of traffic for Potomac Airfield arrives from or departs to the south. Straight in approaches to RWY 06 or over RWY 06 to the crosswind leg may be utilized. Approaches or departures through Class B Airspace also occur, but only under the control of Washington or Andrews Approach Control.

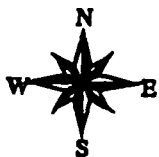
The MAA addressed the relationship between the various air traffic patterns near and including Potomac Airfield as follows:

"The traffic patterns at the two airports are close together and this proximity does increase pilot vigilance, but the procedures used by pilots when operating in the traffic patterns assist in separating traffic. The patterns are rectangular flight paths that keep Potomac Airfield traffic to the northwest side ... while the Washington Executive traffic remains southeast of Potomac's traffic. Additionally, pilots at both airports remain on the same radio frequency and announce their intentions to other aircraft in proximity to the airports thus assisting in keeping aircraft separated."



..... Standard left turn

- - - Non-standard right turn



0 2000 Feet

"The density of traffic in the metropolitan Washington area affects flight operations from the two airports, but separation procedures imposed by the Federal Aviation Administration keep general aviation traffic separated from commercial and military traffic using Reagan (National) Airport and Andrews Air Force Base. The FAA has designed high-density restrictions for use of the airspace surrounding the Washington-Baltimore area. The FAA requires special procedures, sophisticated equipment to identify aircraft on radar and severe restrictions to access into the area. All of this keeps aircraft separated and makes for an orderly flow of aircraft in an area approximately 30 miles around the four major metropolitan airports. "

"The airspace was designed with special recognition of the two general aviation airports. The larger, faster aircraft are kept in the highly controlled environment above and away from the traffic patterns at Potomac and Hyde (Washington Executive) Airports." [Letter dated December 21, 1998, from Mundie, MAA, to Rovelstad, M-NCPPC]

In the Old Fort Hills and Steed's Grant neighborhoods the terrain rises sharply from Potomac Airfield, from a runway elevation of 115 feet up to an elevation of approximately 240 feet on Old Fort Hill Road, southwest of the airfield. Aircraft in the pattern altitude for Potomac Airfield are in fact closer to the ground than they would be were the topography flat. The residents' perception that planes are close is true: an aircraft departing over Steed's Grant may be only 500 to 700 feet above the ground. Notwithstanding that this proximity of aircraft to the ground is due to this rise of the topography and not pilot error, aircraft flying close increases residents anxieties about aircraft flying overhead. From the pilot's perspective, the location of the runway on a valley floor with steep, parallel terrain poses another problem: the entire length of the runway may not be seen from the downwind leg at pattern altitude.

On the basis of prevailing wind conditions, about 80 percent of operations should be on Runway 24 toward Featherstone Drive. To avoid takeoff operations over developed residential areas, the airfield operator encourages pilots to takeoff on Runway 06, to the northeast, when weather conditions permit or whenever there is a choice. This may somewhat reduce operations on Runway 24. Regardless, the existing flight patterns direct air traffic over the developed subdivision areas west of the airport.

Wake Turbulence

Some concern has been expressed that wake turbulence may be a problem in the airspace around Potomac Airfield, Washington Executive Airport, Andrews Air Force Base and National Airport because of the concentration of a high number of flights in a relatively small area and a mix of heavy and light aircraft. Comments on this issue by the Maryland Aviation Administration state:

"The issue of wake turbulence from either military jets or commercial aircraft affecting the light aircraft using the two airports should not be a concern. Wake turbulence is a natural phenomenon caused when lift is generated by aircraft

wings. It is a rolling of two cylinders of air emanating behind and slightly down from the wingtips of aircraft in flight. The phenomenon dissipates rapidly and its effects are localized in a narrow band behind and slightly below an aircraft. Also, atmospheric turbulence of air such as experienced on warm, sunny days hastens breakup of wake turbulence. The separation of the general aviation aircraft and their larger jet counterparts is more than sufficient to remove any fear of jet wake turbulence affecting aircraft in proximity of the two airports (Washington Executive/Hyde Airport and Potomac Airfield). If air traffic controllers have to intermingle large and small aircraft, sufficient time and distance are given to prevent any wake turbulence upsets. If wake turbulence were to be an issue at either of the two airports, the offending aircraft would have to be violating the prescribed rules pertaining to traffic patterns. There is little chance that air traffic controllers would permit such a flagrant violation without immediate remedial action to remove the offending aircraft. Aircraft operating in the Andrews Air Force Base airspace are much too far away to generate any wake turbulence that could affect the two smaller airports. Aircraft flying into or from Washington National Airport are much too high to have any effect upon aircraft in Hyde s (Washington Executive Airpark) or Potomac s traffic pattern." [Letter dated December 21, 1998, from Mundie, MAA, to Rovelstad, M-NCPPC]

Summary of Airspace Considerations from Pilot Perspective

- Pilots must adhere to restrictions for visibility and cloud clearance for all airspace in the County
- Radar coverage and flight assistance is available.
- Distinct and separate airspace is assigned to general aviation versus the commercial and military aircraft.
- Transponders are required to be on board and operational for all aircraft within 30 nautical miles of the major airports in the area.
- Potomac Airfield has the following navigation and safety features:
 - Rotating airport beacon
 - Non-directional radio beacon (NDB)
 - Pilot controlled runway lighting
 - Four possible approach procedures: visual, Andrews approach procedures, GPS and NDB.

Chapter VI. Risk Factors and Safety Considerations

- Reported Accidents/Incidents
- Average Annual Accident Rates and Risk Factors
 - Discussion of Accident Data
- Probability and Location of Serious Accidents/Incidents at Potomac Airfield
 - Methodology
 - Accident Probability Calculations for Potomac Airfield
 - Discussion of Accident Probabilities and Locations
- Fire Hazard and Emergency Response
- Conclusion

Reported Accidents/Incidents

Any aircraft accident or incident in which the safety of airport operations was affected is reported to the National Transportation Safety Board (NTSB) and the Federal Aviation Administration (FAA). These agencies have been keeping records of general aviation airplane accidents and incidents since 1973. The accidents and incidents for Potomac Airfield have been extracted from the FAA and NTSB databases and are summarized below in Figure VI-1. As evident in the table, the accidents and incidents range in severity from minor mishaps to serious injury, destruction or death. If an incident was minor, with minimal circumstance, it is noted as a “mishap” in the figure.

For the purposes of this report, the focus is on the *serious accidents/incidents* that posed the greatest risk to the health, safety and welfare of the adjacent residents, their property, as well as to the pilots. *Serious accidents/incidents* were defined as those that involved death, serious injury and controlled or uncontrolled emergency landings. Incidents that occurred on airport property with little or no damage or injury were categorized as a *non-serious incident or mishap*. Examples from this category include runway overruns, or a diversion off the side of the runway with little consequence.

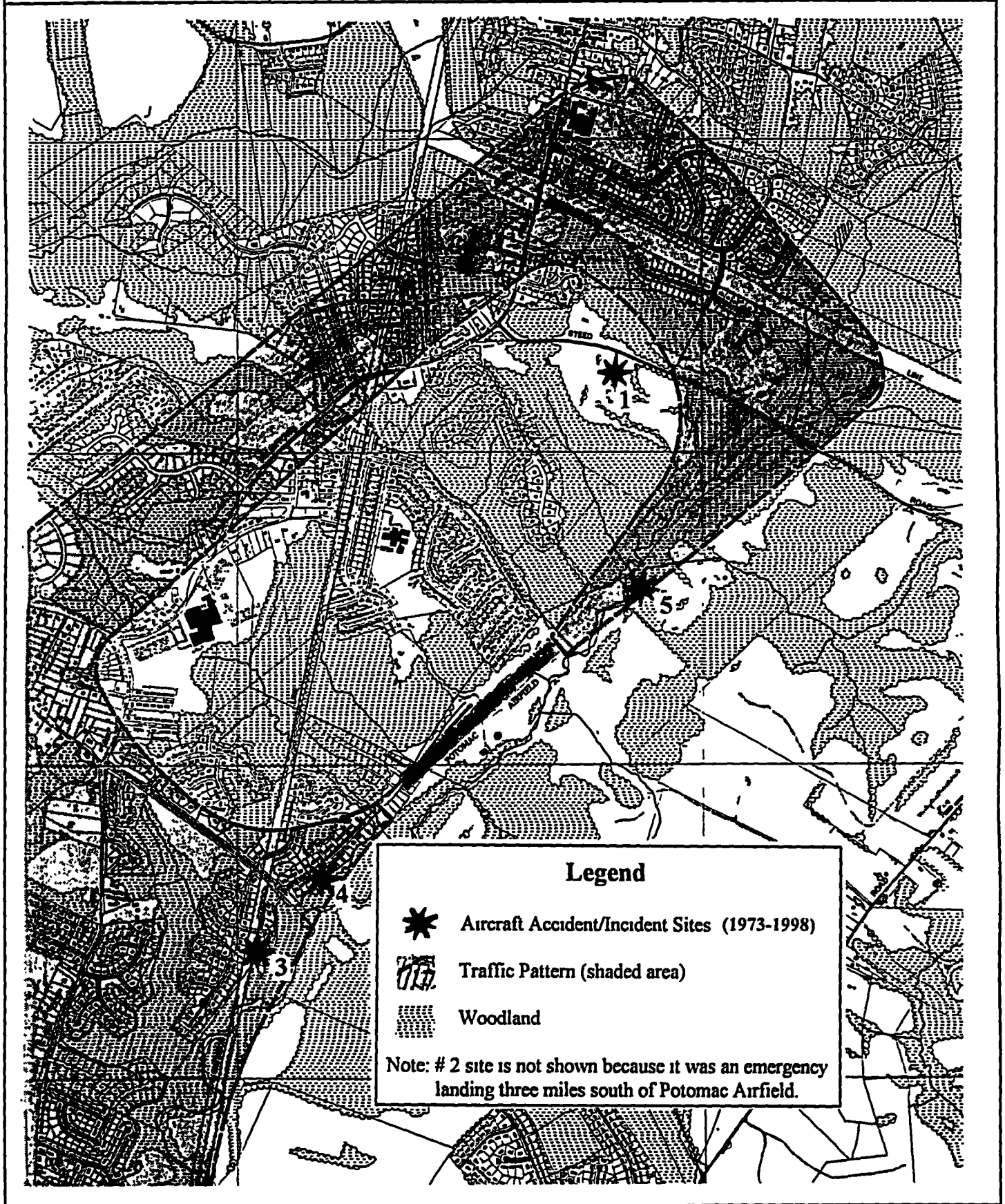
Figure VI-2 shows the serious accidents and incidents for Potomac Airfield summarized by year and location on or off the airport property. Also listed are the number of operations and the number of aircraft based at Potomac Airfield for each year. In the second part of Figure VI-2, the serious accidents/incidents are lumped by six-year periods, in order to compare the most recent years to the past. For comparison, similar data were reviewed for the other three general aviation airports in Prince George’s County.

From 1973-1998, there were eight serious accidents/incidents and two non-serious incidents or mishaps at Potomac Airfield. Three of the serious accidents were located on the airport property. The other five accidents were off the airport property and are identified in Figure VI-3. During the same time period, the other three general aviation airports reported the following ratios of serious to non-serious events: 14:6, 14:15, 15:14. The most recent six-year period included the greatest number of serious events (three) at Potomac Airfield as opposed to previous six year periods (two, one, two). However, there were also more operations during the

most recent six-year period, which may account for the increase in serious accidents/incidents. The other three general aviation airports reported greater total numbers of accidents/incidents, but seemed to experience less accidents in the most recent six-year period. The other airports also reported fewer total operations per year, indicating that the operations at Potomac Airfield are relatively safer.

Potomac Airfield Study	Accident/Incident Data (1973-1998)	FIGURE VI-1
DATE	FATALITIES/INJURIES	EVENT
12/11/76	2 injuries	Forced precision landing; carburetor problem, collision of some sort VFR daytime; substantial damage to aircraft
2/04/78	None (#1 on map)	Controlled collision with ground during initial climb after takeoff; icing on wings; VFR daytime
7/16/83	2 injuries	Aircraft overshot runway on landing, skidded and crashed into parked planes in tie down area; poorly maintained brakes and pilot error; VFR night
5/03/83	None (mishap)	Controlled collision with ground on takeoff; engine quit due to improper maintenance and nonstandard installation of fuel line; VFR daytime
7/02/88	Non-fatal (#2 on map)	Emergency landing in field three miles south of airfield
10/15/89	1 minor injury	Upon approach to runway 24, pilot initiated a go-around, during which an engine lost power; landed in field 180 feet past departure end of runway out of fuel; substantial damage to aircraft; VFR daytime
2/25/89	1 serious injury (mishap)	Passenger walked into idling prop; VFR night
6/11/95	2 minor injuries (#3 on map)	Pilot collided with trees to avoid residential area; was having problems with landing gear during flight and passed over runway to get visual verification that gear was down; when adding power for go-around, engine did not respond; aircraft destroyed; VFR daytime; came down behind home on Featherstone Drive.
11/29/96	1 serious injury (#4 on map)	Aircraft lost engine power during initial climb at takeoff; airplane destroyed upon impact with a house; house also received substantial damage; VFR daytime.
5/17/98	1 fatality, 1 serious injury, 1 minor injury (#5 on map)	Plane crashed and burned about one mile from the end of runway 06 during takeoff; in the preliminary report the survivors said that the plane did not seem to gain altitude fast enough, and the other said that everything seemed fine and the plane suddenly dropped; investigation not complete, but no apparent mechanical failures; VFR daytime, air temperature hot that day
<p>Source: National Transportation Safety Board data. Note: All mishaps or minor incidents in which an aircraft receives damage are supposed to be reported, but the reporting varies from airport to airport.</p>		

Potomac Airfield Study	Summary of Serious Accidents and Incidents		Figure VI-2
Year	# Operations Per Year	# Serious Accidents or Incidents per Year (off/on airport)	# Aircraft based at airport
1993	25,250	0	101
1994	45,600	0	103
1995	45,600	1/0	107
1996	45,524	1/0	110
1997	45,524 (32,726 MAA)	0	110
1998	52,020	1/0	108
Serious Accidents/Incidents by Six-Year Periods (Off/On Airport)			
1993-1998		3/0	
1987-1992		1/1	
1981-1986		0/1	
1975-1980		1/1	
Notes:			
Operations per year	Data for # operations/year is supplied by the airport manager on the inspection date for license renewal, usually in September. MAA performs a traffic count every three years based on eight weeks of automated data collection spread throughout the four seasons. This figure is in parentheses.		
Operation	An operation is a takeoff or landing.		
Serious Accidents/ Incidents	Accidents or incidents that involved serious injuries, fatalities, crashes and emergency landings that involved substantial damage to aircraft. This category does not include the on-airport mishaps or minor incidents.		
Aircraft based at airport	This is the number of aircraft actually based at the airport, and does not include transient aircraft.		



Average Annual Accident Rates and Risk Factors

The relative risk of airport operations from Potomac Airfield is discussed below, as it relates to the other three general aviation airports in the County. The overall number of accidents/incidents at the four County airports for the years 1973-1998, the average annual accident rates, and the outcomes of all accidents/incidents are summarized in the following two tables. In Figure VI-4, average annual rates of accidents/incidents were calculated for Potomac Airfield as well as the other three County airports. To do so, the number of accidents and incidents were divided into the total number of years of data collection 1973-1998, or 26 years inclusive. For Potomac Airfield:

Potomac Airfield Study	Number of Accidents/Incidents and Average Annual Rates (1973-1998)		Figure VI-4	
Serious Accidents/Incidents	8			
Non-serious incidents (mishaps on airport property)	2			

TOTAL REPORTED INCIDENTS/ACCIDENTS	10			
<u>Average annual accident/incident rates:</u>				
serious	0.3 events per year	1.5 events per 5-year period		
non-serious	0.08 events per year	0.4 events per 5-year period		
<u>Average annual accident/incident rates at three other general aviation airports:</u>				
	Serious		Non-Serious	
	for 1 year	for 5 years	for 1 year	for 5 years
Washington Executive	0.6	2.9	0.5	2.7
Freeway	0.5	2.7	0.6	2.9
College Park	0.5	2.7	0.3	1.5

In Figure VI-5, the accidents/incidents have been categorized by these factors:

- Controlled emergency landing vs. uncontrolled landing or "crash"
- Occurrence on the airport property vs. off the airport property
- Whether the event occurred on takeoff or landing
- Whether or not serious injury or death resulted

Potomac Airfield Study	Reported Accidents and Incidents at Prince George's County Airports (1973-1998)			Figure VI-5
Type of Event	College Park Airport I.	Freeway Airport II.	Potomac Airfield III.	Washington Executive Airport IV
CONTROLLED EMERGENCY LANDING				
On airport property resulting in death or injury			2	1
On airport property resulting in no death or injury	1			2
Off airport property resulting in death or injury		1		1
Off airport property resulting in no death or injury			2	3
CRASH OR COLLISION — UNCONTROLLED				
On airport property resulting in death or injury	3 landings	2 landings 1 takeoff	1 landing	2 landings
On airport property resulting in no death or injury	3 landings	1 landing		1 landing
Off airport property resulting in death or injury	2 landings 2 takeoff 1 in-flight	2 landings 3 takeoffs	3 takeoffs	1 landing 2 takeoffs
Off airport property resulting in no death or injury	1 landing 1 in-flight	3 landings 1 takeoff		2 takeoffs
NON-SERIOUS INCIDENTS/MISHAPS ON AIRPORT GROUNDS				
Mishaps	6	15	2	14
Serious Accidents/Incidents	14	14	8	15
TOTALS	20	29	10	29
<p>Notes: Most emergency landings followed a takeoff, although a few were from in-flight aircraft. Takeoff includes the go around from a bad landing.</p> <p>SOURCES. National Transportation Safety Board Database for 1983-98 and FAA Accident Incident Database for 1973-82.</p>				

Discussion of Accident Data:

Analysis of the accident/incident data (1973-1998) for the County's four general aviation airports revealed the following facts and trends for Potomac Airfield.

- The *total number of accidents/incidents* was less at Potomac Airfield than the other three airports, while it generally reported the highest number of annual operations. On occasion, Washington Executive Airport has reported a greater number of flights.
- The *average annual accident rates* for all types of accidents are lower for Potomac Airfield than for the other three airports.
- There were fewer *serious accidents/incidents* and far fewer *non-serious incidents/mishaps* at Potomac Airfield than at the other airports.
- Of the *serious accidents/incidents* at Potomac Airfield, more occurred off the airport property (five) than on the property (three). The same is true for Freeway Airport. College Park Airport has an equal number of events on and off the property. At Washington Executive Airport a greater number of serious accidents/incidents occurred on the airport property.
- Of the *serious accidents/incidents*, more resulted in serious injury or death at Potomac, College Park and Freeway Airports. The reverse was true for Washington Executive Airport where fewer of the serious accidents/incidents resulted in serious injury or death. (Note: All fatalities and serious injuries have involved pilots or passengers and not other persons on the ground.)
- Equal numbers of *controlled emergency landings and uncontrolled crashes* occurred at Potomac Airfield and Washington Executive Airport; there were more crashes at Freeway and College Park Airports than controlled emergency landings. Overall, however, Washington Executive Airport had the greatest number of *controlled emergency landings*.
- There were far fewer *uncontrolled crashes and collisions* at Potomac Airfield both on and off the airport property than at the other airports. More of these occurred on takeoff than on landing. The other three airports had more crashes related to landing than takeoff.

Probability and Location of Serious Accidents/Incidents at Potomac Airfield

A document known as *The McElroy Report* is recognized and referenced internationally as the standard for predicting probability and location for airport accidents. According to this document, the probability of accidents occurring within a one-mile radius of an airport over a given period of time can be determined mathematically. The probability of having no accidents at any given airport would drop to a lower percentage if and when the operations are doubled. According to *The McElroy Report* and the Aircraft Owners and Pilots Association (AOPA) Air Safety Foundation study on Accidents/Emergencies Occurrence Phases, there are 10 significant areas of risk in operating an aircraft which govern the probable location of an accident: 1) Static, 2) Taxi, 3) Takeoff, 4) Climb, 5) Cruise, 6) Descent, 7) Approach, 8) Maneuvering, 9) Landing, and 10) Unknown/Others.

Additional studies of aircraft accident patterns and profiles at civil airports in the United States show that most accidents occur on or near the extended runway centerline, and occur more often on landing than on takeoff. Reference is made to Figure VI-6 which are plots of data for aircraft accident sites at or near airports as reported to the International Civil Aviation Association (ICAO) for the years 1970-1989. A similar scatter diagram was plotted for all the off-airport accidents and incidents in Prince George's County for the years 1973-1998 (Figure VI-7). This diagram supports the theory that accidents and incidents occur most often off the extended runway centerline. In addition, Figure VI-5, supports the theory that more events occur on landing than on takeoff. Figure VI-5 shows that nearly twice as many accidents/incidents occurred on landing than on takeoff, although, as mentioned earlier, the reverse is true at Potomac Airfield.

Methodology

According to the McElroy theory, aircraft accident probabilities can be based on the "airport activity level." To develop accident probability values, the airport activity levels, either existing or forecast, can be applied to the following formula provided in *The McElroy Report*, as follows:

$$rt = (1.38) \times (\text{Annual Operations in Millions, based on 1998 data}) \text{ where}$$

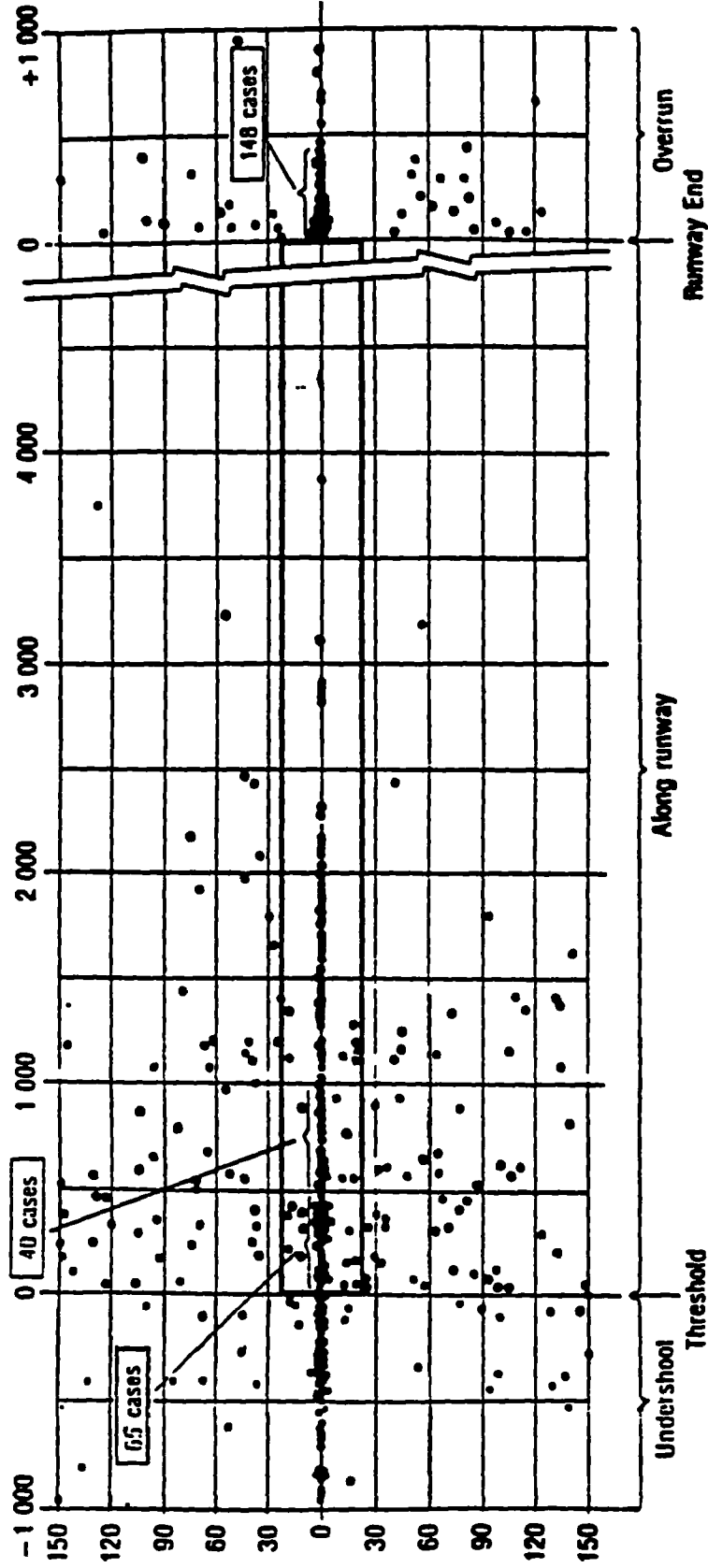
$r =$ near airport accident rates (1.38 accidents within one mile of an airport per million operations — based on 1970 accident data)

$t =$ number of operations (takeoffs and landings) in a year in millions

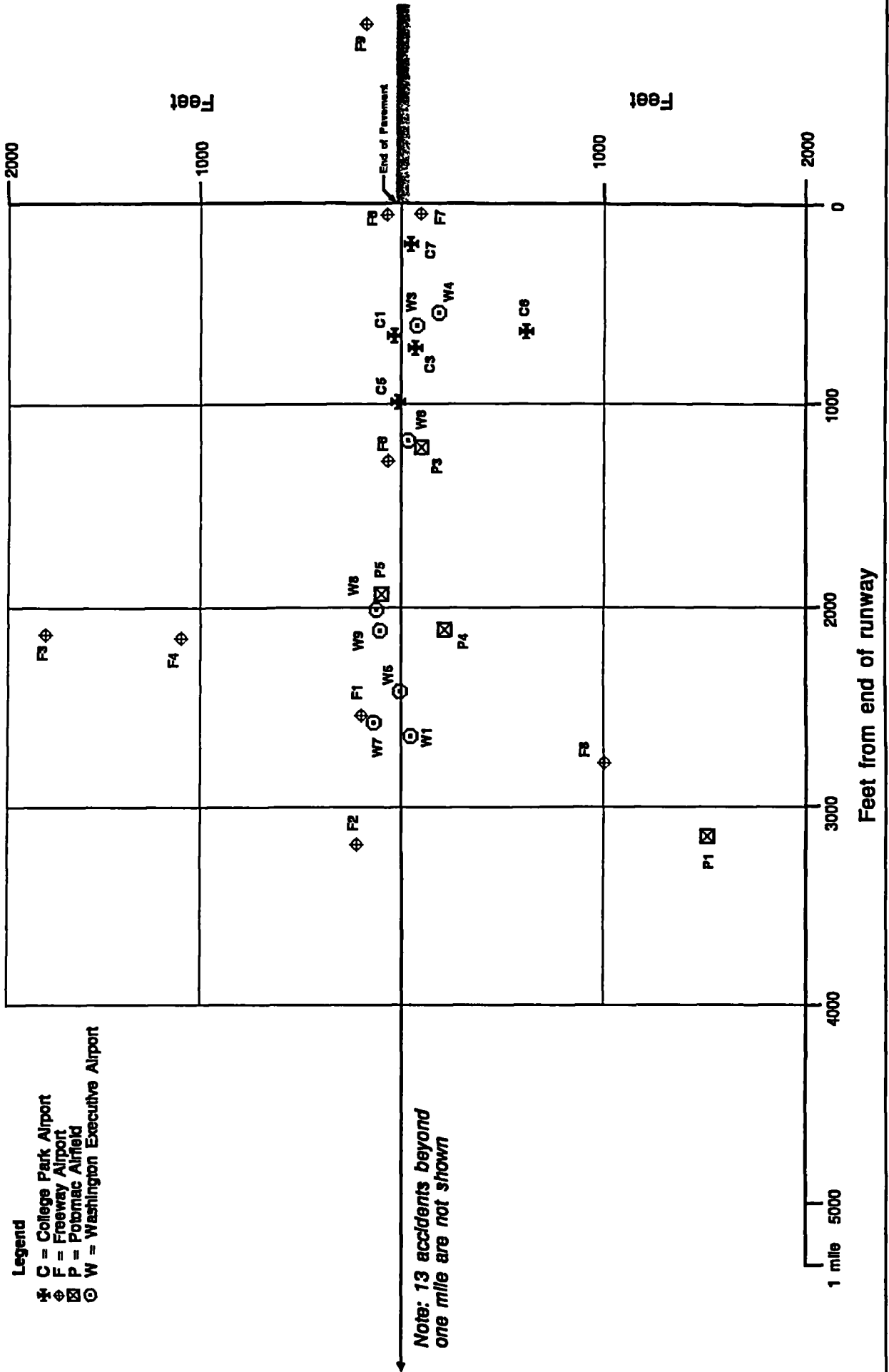
Once "rt" is known, which is an expression of the near airport accident rate and number of operations, that value can be used to determine the probability of zero, one, two, etc., accidents occurring in one year in the vicinity of an airport based on the "Near Airport Accident Probability Curves," attached as Figure VI-8. These values can be multiplied to provide multiple year probabilities, such as for 5- or 10-year intervals.

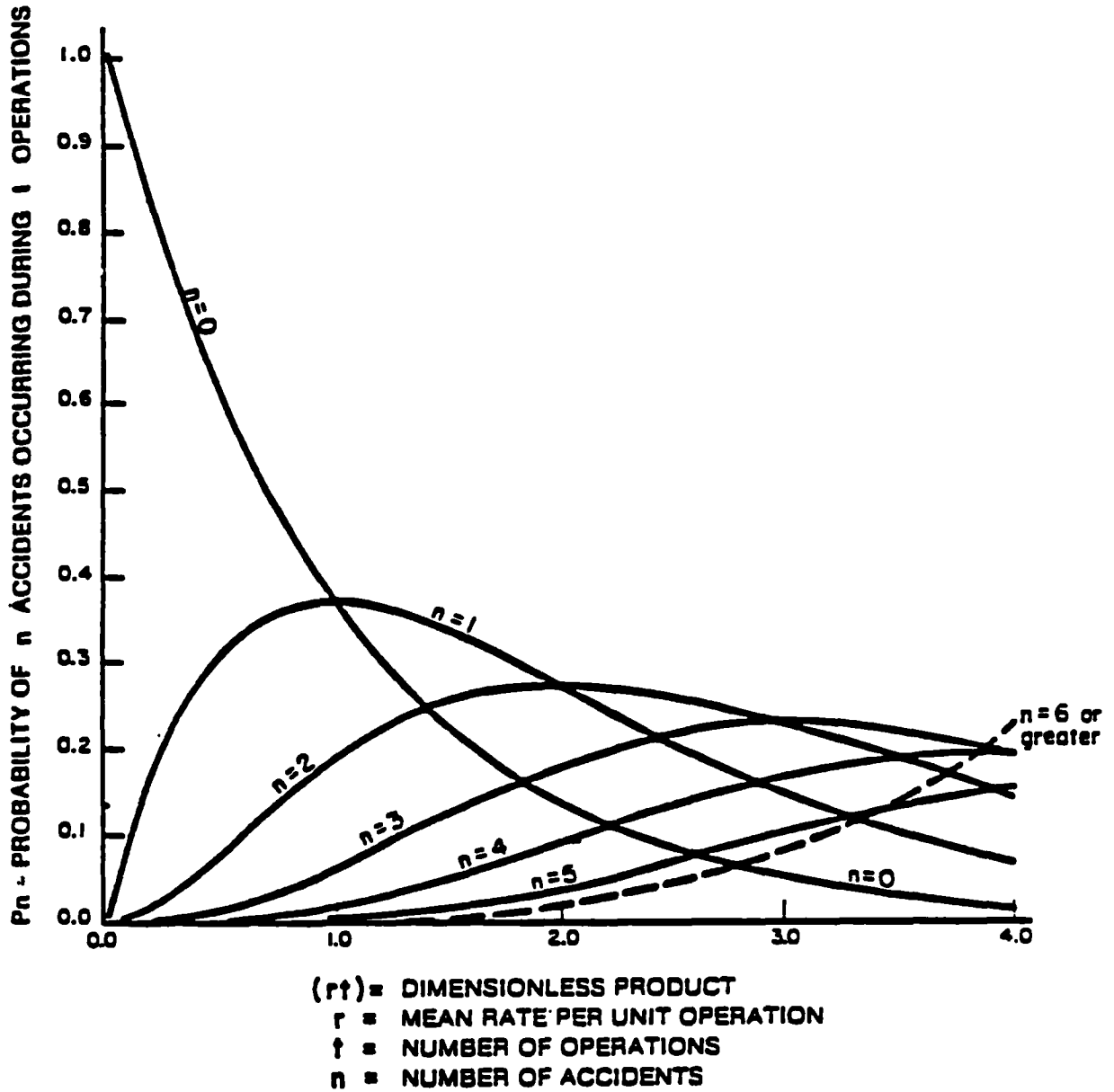
(1970-1989) -- INTERNATIONAL

The graph shows the location where the aircraft came to rest and is based on 576 landing and takeoff accidents reported to the ICAO and ADREP system for the years 1970 to 1989. Undershoot and along-the runway accidents are plotted with respect to the threshold while overrun accidents are plotted with respect to the runway end. All distances are in metres.



- Legend**
- * C = College Park Airport
 - ◇ F = Freeway Airport
 - ⊠ P = Potomac Airfield
 - W = Washington Executive Airport





Source: *Airport Land Use Planning Handbook — A Guide for Local Agencies*; prepared for the California Department of Transportation, Division of Aeronautics, July 1983

Probability Calculations for Potomac Airfield

The probability of near airport accidents at Potomac Airfield is based on the number of annual operations reported in 1997 to the Maryland Aviation Administration (MAA) of 45,524 operational flights per year. This includes 45,500 local, 500 itinerant and 24 military operations. The probability of 0, 1, 2 and 6 accidents occurring in a year period at Potomac Airfield using rt value and the Near Airport Accident Probability Curve (Figure VI-8) is as follows:

$rt = (1.38/1 \text{ mil}) \times 45,524$	=	0.0628
Probability of having no accident	=	94% probability of having no accident
Probability of having 1 accident	=	5% probability of having 1 accident
Probability of having 2 accidents	=	1% probability of having 2 accidents
Probability of having 6 accidents	=	Negligible

Similar calculations were performed for a 5-year and 10-year period, assuming the level of operations:

rt value for any 5-year period = 0.3140
probability of having no accidents in 5 years = 72%
rt value for any 10-year period = 0.6280
probability of having no accidents in 10 years = 35%

For comparison, rt values and accident probabilities were calculated for the three other County airports. These are summarized in Figure VI-9. This figure indicates that there is a greater probability of having an accident at Potomac Airfield in a 1-, 5-, and 10-year period than at the other three airports, based on the number of operations and nationwide statistics. However, as discussed previously, actual accident data does not support this prediction.

Potomac Airfield Study		Near Airport Accident Probabilities For Prince George's County Airports				FIGURE VI-9
Names of Airfield		College Park Airport	Freeway Airport	Washington Executive/ Hyde Field	Potomac Airfield	
Operations per year		12,140	20,298	36,980	45,524	
Accident Probabilities for 1-year period	rt value	0 0168	0 039	0 051	0 0628	
	No accidents	97%	95%	93%	91%	
	One accident	2%	3%	4%	5%	
	Two accidents	negligible	2%	3%	4%	
	Six accidents	negligible	negligible	negligible	negligible	
	rt value	0 0840	0 195	255	0 314	
Accident Probabilities for 5-year period	No accidents	95%	80%	75%	70%	
	One accident	5%	20%	25%	25%	
	Two accidents	negligible	negligible	negligible	5%	
Accident Probability for 10-year period	rt value	0 168	0 390	0 510	0 628	
	No accidents	85%	65%	60%	50%	
	One accident	15%	28%	30%	35%	
	Two accidents	negligible	7%	10%	15%	

Discussion of Accident Probability and Location

Based solely on the number of annual operations and nationwide accident statistics, the probability of having an accident should be greater at Potomac Airfield than at the other airports. The probability is a predicted 9% for an accident at Potomac Airfield in any one-year period, as opposed to 3 percent, 5 percent and 7 percent for the other airports. The probability of having an accident increases to 30 percent for 5-year period, and 50 percent for a 10-year period at Potomac. It is interesting to note, however, that the actual accident data for the four airports do not support these predicted probabilities. Historically, there have been fewer serious and non-serious accidents/incidents at Potomac Airfield than the other three general aviation airports in the County Potomac Airfield, with the most operations per year, has the lowest accident rate, followed by Freeway, College Park and Washington Executive. The predicted probabilities indicate that College Park would have the lowest rate, followed by Freeway, Washington Executive, and Potomac.

In reality, there are factors particular to each airport that effect the overall safety and annual accident rate at that airport. One can assume that the safety features and flight rules in place at Potomac Airfield and the general proficiency of pilots utilizing the airport compensate for the airfield's constraints and account for its lower accident rate. These are summarized for Potomac Airfield in Figure VI-10.

Potomac Airfield Study	Safety Factors and Procedures at Potomac Airfield	FIGURE VI-10
<p>(A) <u>Safety Features Based on Surrounding Airspace and Operations</u></p>		
<p>The complexity of the airspace around Potomac Airfield, including topography (located in a stream valley with a hill to the north and west), woodland, nearby residences, proximity to Washington Executive Airport and the Class B airspace from Andrews and National Airport, preclude it from being a popular transient stopover. According to the airport manager, the pilots that use Potomac Airfield are based there, in a flight school, or have planned it as a destination and less experienced pilots tend to divert to less constrained airports.</p>		
<p>Because of the proximity to Washington Executive Airport and the density of air traffic in the general area, pilots using Potomac Airfield always use full radio procedures on the airfield's UNICOM frequency to monitor traffic and relay their position and intentions.</p>		
<p>The established traffic pattern lets pilots know where other VFR (Visual Flight Rules) air traffic will be transiting. IFR (Instrument Flight Rules) arrivals and departures have "Published Instrument Approach Procedures", which define required courses and altitudes to provide safe traffic separation from other aircraft.</p>		
<p>All aircraft within 30 miles of National/Andrews are required by FAA regulations to have Mode C Transponders (termed "30 Mile Mode-C Veil"). These make all aircraft highly-visible radar targets for the integrated radars of Washington Center (en route), National and Andrews.</p>		
<p>National and Andrews have radar coverage almost all the way to the ground at Potomac Airfield, which is uncommon for general aviation airports. Thus, all departing aircraft can utilize nearly immediate communication and radar coverage for guidance and traffic separation.</p>		
<p>B) <u>Safety Features at the Airfield:</u> Potomac Airfield has an Automated UNICOM system which consistently provides pilots with 100% reliable information about weather and traffic at the airfield.</p>		
<p>Potomac Airfield has an illuminated VASI (Vertical Approach Slope Indicators) to guide inbound aircraft along a defined approach path that guarantees a safe distance from obstructions all the way to the runway threshold.</p>		
<p>Runway 06 has a "Displaced Approach Threshold" that raises the path of arriving aircraft to a higher level over nearby residential areas.</p>		
<p>Potomac Airfield employs REIL (runway edge indicator lighting) and other specialized lighting to maximize the visibility and landmarks to airborne aircraft.</p>		
<p>(C) <u>Safety Features Related to the Aircraft</u> Because of the federal airspace requirements, aircraft based at Potomac Airfield are better equipped for communications.</p>		
<p>All aircraft are highly controlled and regularly inspected. Training aircraft are fully inspected every 100 hours of flight.</p>		
<p>(D) <u>Safety Features Related to Pilots</u> All students are immediately introduced to, and are therefore required to be capable of, the positive control and radio aspects of operating adjacent to the Class B Airspace.</p>		
<p>Potomac Airfield has a very high percentage of IFR-rated and current pilots, meaning that the overall level of pilot proficiency is very high. The pilots at Potomac Airfield are generally in their 30s or older and tend to share safety tips and information on local flying conditions regularly</p>		

Fire Hazard and Emergency Response Resources

To evaluate the ability of the County to respond to an emergency situation in the vicinity of Potomac Airfield, the Prince George’s County Fire Department and the Department of Environmental Resources (DER) were consulted. Their response (letter dated February 12, 1999, from Lippincott, DER, to Rovelstad, M-NCPPC) indicates that the Fire Department would dispatch the following for a downed aircraft at or near Potomac Airfield, depending upon availability:

- Engines 32, 47 and 42 (9 personnel)
- Trucks 21 and 25 (8 personnel)
- Squad 40 (4 personnel)
- Ambulance 329 (2 EMS personnel)
- Medic 9 (2 EMS personnel)
- Foam Unit 25 (4 personnel)
- Battalion Chiefs 5 and 7 (2 personnel)
- Command Unit 22 (1 personnel)

The closest unit is Allentown Road, Engine #32, which is approximately 2.1 miles from the airport. The closest Foam Unit is from Station #25, Clinton, located approximately 5.5 miles from the airport. The Foam Unit carries 400 gallons of water as well as 400 gallons of fire-fighting foam (AFFF) which is used to extinguish flammable liquid fires.

To estimate the County’s ability to respond to an emergency situation in the Old Fort Hills subdivision area, M-NCPPC staff calculated response times for emergency equipment to the middle of Featherstone Drive according to adequate public facilities standards utilized in the subdivision review process as follows:

<u>Response Unit</u>	<u>Estimated Response Time</u>	<u>Response Time Guideline</u>
Engine @ Co. #32, Allentown Rd.	5.22 minutes	< 5.25 minutes
Ambulance @ Co. #32 Allentown Rd.	5.22 minutes	< 6.25 minutes
Paramedic @ Co. #47 Ft. Wash. Rd.	4.98 minutes	< 7.25 minutes
Foam Unit #25, Woodyard Rd.	10.47 minutes	No guidelines

The Rose Valley Estates development is provided with hydrant coverage, as is the Old Fort Hills subdivision. The airport property is not provided with hydrants. A pre-plan is in place to provide a water supply for fire department operations on airport property

With respect to evaluating the possible consequences of an airplane accident in the residential area beyond the end of the runway at Potomac Airfield, DER staff who advise the Fire Department provided the following comments (letter dated February 12, 1999, from Lippincott,

DER, to Rovelstad, M-NCPPC). *“Aircraft operating from the airport are light single engine and light twin engine types and constructed of metal (mostly aluminum). The maximum weight of the light twin engine aircraft may be as high as 8500 lbs. The fuel load of such aircraft would range between 60 and 150 gallons. All of the aircraft use either 80 or 100 octane low lead aviation fuel. Aviation fuel has fire hazard characteristics similar to ordinary grades of automotive gasoline. The flash point may be as low as -50 degrees F and the auto ignition temperature is approximately 840 degrees F*

Estimating the potential damage from a downed aircraft striking a structure is difficult due to the many possible scenarios. In general, the greatest hazard is probably for the fuel carried aboard the aircraft as fuel fed fires are usually very fast growing. Other than the fuel hazard, the aircraft striking the structure is also a consideration due to the high speeds involved.”

Conclusion

Unfortunately, the low accident rate at Potomac Airfield cannot erase the concern that two of the accidents directly affected the health, safety and welfare of citizens by occurring on residential lots just off the end of the runway. In one accident the aircraft actually struck a home. There have been similar experiences at other airfield locations in the County.

Both national statistics and the plotting of actual accidents in the County (Figure VI-6) substantiate the fact that the areas directly off the runway ends are most susceptible to airplane crashes. The scatter diagram of aircraft accidents/incidents within Prince George's County shows the greatest concentration within 3,000 feet of the end of pavement. These statistics, as well as common sense, would indicate that homes should be located outside this area, or at least be at very low density and integrated with open space areas. At Potomac Airfield, there are homes at a high density directly under the flight path and within the 3,000-foot high risk area. This scenario is not as prevalent at the other airports, where there is currently more open space or lower-density development off the ends of the runways to accommodate controlled emergency landings or uncontrolled crashes. In the crash that struck a home near Potomac Airfield, the pilot was struggling to land the plane in an open space nearby.

In addition to these main conclusions, there are smaller trends within the accident/incident data that merit further evaluation.

1. There has been an increase in the accident rate at Potomac Airfield in recent years. This is probably due to the increased number of operations; this trend should be monitored to see if the accident rate remains lower than the accident rates at the other airports, even though the total number of operations continues to be larger.
2. More of the uncontrolled emergency landings or crashes occurred on takeoff than on landing at Potomac Airfield and the reverse was true for the other three airports. These trends are related to the particular constraints at each airport and the comfort level and proficiency of pilots using the facilities. At Potomac Airfield, the proximity of trees, homes and topography may be more of a constraint during takeoff than during landing.

3. More of the serious accidents/incidents at Potomac Airfield occurred off the airport property (five) than on the property (three). This is perhaps attributable to the size of the airport property more than to other factors.
4. More of the serious accidents/incidents that occurred at Potomac Airfield (as well as College Park and Freeway Airports) resulted in serious injury or death to pilots or passengers, not to persons on the ground. These trends are probably proportional to the physical constraints at these airports. At Washington Executive Airport this trend is not true, and this is the airport with the largest property, the least constraining topography and greatest amount of nearby open space.

In conclusion, although the actual probability of an accident or incident occurring is lowest at Potomac Airfield, the chance that it will severely affect the health, safety and welfare of the nearby residents is great. In order to reduce the impact of accidents/incidents on the residential area near Potomac Airfield, one or more of these factors would need to change:

- The runway would need to be moved
- The density of homes would need to be reduced
- The homes would need to be moved away from the traffic pattern, or vice versa, or
- The number of flights would need to be reduced

In the meantime, if the safety features and procedures for Potomac Airfield remain as outlined in Figure VI-10, the risk to health, safety and welfare should remain consistent. However, this assumes consistency in the number of operations per year as well.

Chapter VII. Noise Analysis

- Background
- Noise Contours at Potomac Airfield
- Results
- Conclusions

Background

Nationwide, recreational aviation activities have increased in recent years due to growing affluence and leisure time. Potomac Airfield is no exception to this trend. The noticeable increase in operations in recent years may be due in part to the addition of several flight schools. With this increasing number of overflights, the intensity of aircraft noise is a growing concern of residents in the surrounding areas. In public meetings residents of the area have stated that the noise from nighttime flight operations at Potomac Airfield is especially disruptive. To identify methods for reducing the noise from Potomac Airfield operations, compliance with noise regulations needs to be established, consideration given to empirical data and the needs of residents, pilots and the airport operator.

Federal and State noise regulations, based on the Environmental Noise Act of 1974, establish the following table of acceptable noise standards for three use categories: Industrial, Commercial and Residential. These regulations allow local agencies to minimize noise nuisances based on the science of noise generation and the propagation of noise levels.

Potomac Airfield Study	Maximum Allowable Average Noise Levels in Decibels (dBA) by Zoning Category	
Zoning Classification	Daytime 7:00 a.m. - 10:00 p.m.	Nighttime 10:00 p.m. - 7:00 a.m.
Residential	65	55
Commercial	67	62
Industrial	75	75

As evidenced in Figure VII-1, *averaged* noise levels greater than or equal to 65 decibels during the day, or 55 decibels during the night would not be acceptable for residential areas such as those that surround Potomac Airfield.

The most common way to quantify the effects of noise is by using noise contours. Standard noise modeling software is used to generate noise contours, or lines of equal average noise value, for areas surrounding airports. The contours provide a visual interpretation of the noise levels emanating from aircraft operations. The contours generally reflect the accepted

standards for noise compatible land uses averaged during day and night periods, expressed as “DNL.” For residential areas near airports, the FAA’s *Airport Land Use Planning Handbook* (California Dept. of Transportation, Division of Aeronautics, December 1993) defines the noise contours to be mapped as the following:

- 50-60 dBA (DNL) as clearly acceptable noise levels
- 55-60 dBA (DNL) as normally acceptable noise levels
- 60-65 dBA (DNL) as marginally acceptable noise levels
- 65-70 dBA (DNL) as normally unacceptable noise levels
- 70-75 dBA (DNL) as clearly unacceptable noise levels

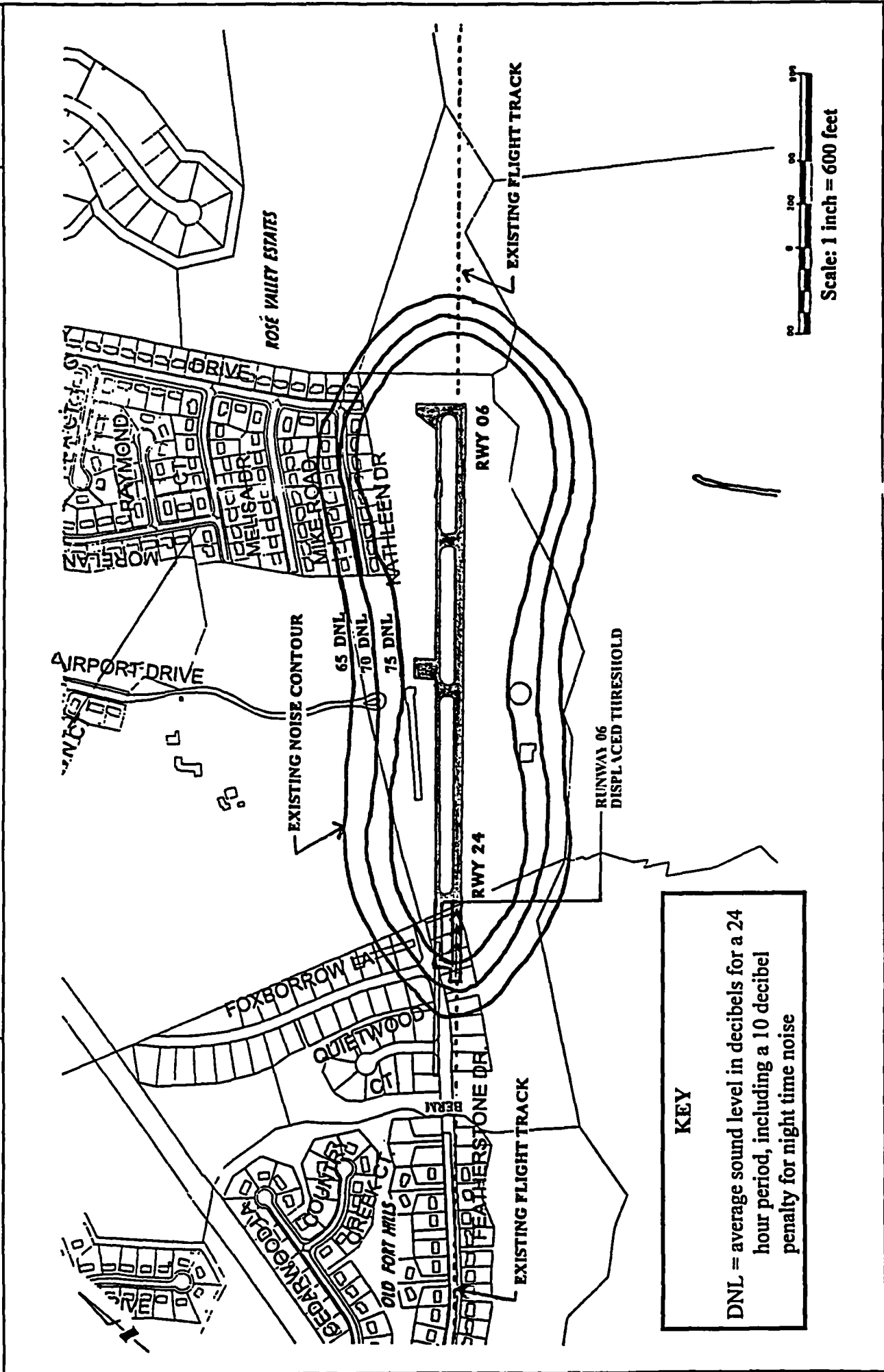
Noise Contours at Potomac Airfield

As part of the *Runway Realignment Study for Potomac Airfield*, the Michael Baker Corporation quantified and documented both the existing noise exposure and the noise exposure that would result from various realignments of the airfield runway. The analysis was performed using the standard recognized model, “Federal Aviation Administration’s Integrated Noise Exposure Model, Version 5.11.” This model was developed to provide guidance for compliance with the Aviation Safety and Noise Abatement Act of 1979. A further discussion of this noise model, as well as others, is included in Appendix 12. To illustrate the magnitude and extent of noise generated by the flights at Potomac Airfield, the model generated noise contours based on the following operational data from Potomac Airfield:

- Allocation of flights by runway (80% on Runway 24 and 20% on Runway 06)
- Time of day for operations (7:00 a.m. to 10:00 p.m. for take-offs)
- Fleet mix
- Flight tracks
- Estimated annual operations (35,000 — based on MAA traffic counts)

Specific data from Potomac Airfield that was collected and used to generate the noise contours is summarized in Table 6, “Daily Fleet Mix and Aircraft Operations” on page 15 in the *Potomac Airfield Runway Realignment Study*

The resultant noise contours for Potomac Airfield are illustrated in Figure VII-1. The contours are expressed in the dBA (DNL) noise metric. Since noise standards indicate that 65 decibels is the highest acceptable average noise level for residential areas, contours were plotted for 75, 70 and 65 dBA (DNL). Regarding the dBA (DNL) noise metric it is stated at page 17 of the *Potomac Airfield Runway Realignment Study*, “research indicates that this is an excellent indicator of airport noise exposure for purposes of assessing land use compatibility.” A detailed discussion of this metric and its use in standard noise analysis is contained in the *Potomac Airfield Runway Realignment Study*



KEY

DNL = average sound level in decibels for a 24 hour period, including a 10 decibel penalty for night time noise

The nuisance associated with this noise as reported by residents is understandable considering the relatively low *ambient* noise levels of the “quiet or normal” suburban residential area surrounding Potomac Airfield. The Environmental Protection Agency has established values for baseline *ambient* levels for neighborhoods as shown below:

	<u>Ambient Noise</u> <u>(in decibels)</u>
Quiet suburb:	40 dBA (DNL)
Normal suburb:	55 dBA (DNL)
Urban:	60 dBA (DNL)
Noisy urban:	65 dBA (DNL)

This table is considered highly trustworthy and helpful when addressing shortcomings of using the “Ldn” community noise criteria method, which is a 24-hour average (leq) measurement plus a weighting of 10 decibels for operations occurring between 10:00 p.m. and 7:00 a.m. Noise exposure levels above the established ambient standards are what often generate annoyance and complaints. Naturally, the quieter the neighborhood the more bothersome the noise. This does not mean that the noise exceeds existing standards or regulations.

Results

The 65 DNL noise contour for the existing runway at Potomac Airfield falls 150 feet past the end of Runway 06 and 600 feet past the end of Runway 24, and extends to the sides of the runway at a width that ranges from 500 to 700 feet (see Figure VII-2). Approximately 20 homes along Kathleen Drive and Rose Valley Drive in the Rose Valley Estates subdivision fall within the 65 DNL contour. None of the homes along Featherstone Drive are within the 65 DNL contour.

As a single event, flights may exceed 65 decibels. Flights that occur in the nighttime are especially bothersome as a single event, but their overall impact is minimized when included in the 24-hour averaged noise level. The 24-hour average noise contour for Potomac Airfield was based on an assumption that 1 percent¹ of arrivals and no departures occur at night (between 10:00 p.m. and 7:00 a.m.). Nearby residents questioned this assumption, and inferred that the number of night flights was greater than reported. To address this concern, staff hypothetically doubled the overall number of annual operations used in the consultant’s report from 35,000 to 70,000. The resultant noise levels and contours would increase by three decibels. Doubling the number of operations (day and night) would move the noise contours as follows:

- 65 DNL contour would expand outward by 150 feet
- 70 DNL contour would expand outward by 100 feet
- 75 DNL contour would expand outward by 50 feet

¹ The Baker Report, page 14, contained a typographical error erroneously stating 1 percent arrivals occurred at night.

These hypothetical expansions of the noise contours would encompass more homes in Rose Valley Estates, but would still not incorporate homes along Featherstone Drive.

Conclusions

The actual noise levels surrounding Potomac Airfield that are not acceptable for residential areas only affect Rose Valley Estates. In light of the fact that no noise complaints have been received from Rose Valley Estates but that complaints have been received from areas beneath the flight patterns from Potomac Airfield, it is concluded that the visual and emotional impact of low-flying aircraft in combination with their noise causes the greatest annoyance. The single event of an overflight that may exceed the 65 decibel level is especially bothersome at night when the ambient noise level is low

At the current time, noise levels from Potomac Airfield comply with acceptable State noise standards except for a small area in Rose Valley Estates. Solutions for the noise nuisance in the community surrounding Potomac Airfield could involve planning strategies and noise mitigation measures discussed in Chapter IX, "Conclusions and Recommendations." Some of these measures could be implemented now, and others could only be applied to new development. For example, future increased setbacks and buffers from the airfield, residential density limitations, and imminent restrictions on the timing and frequency of flights could mitigate some of the annoyance generated from aircraft operations.

Chapter VIII. Alternative Solutions

- Realign Runway: Baker Report
- Purchase Airport: Appraisal
- Purchase Homes: Estimation
- Other Options

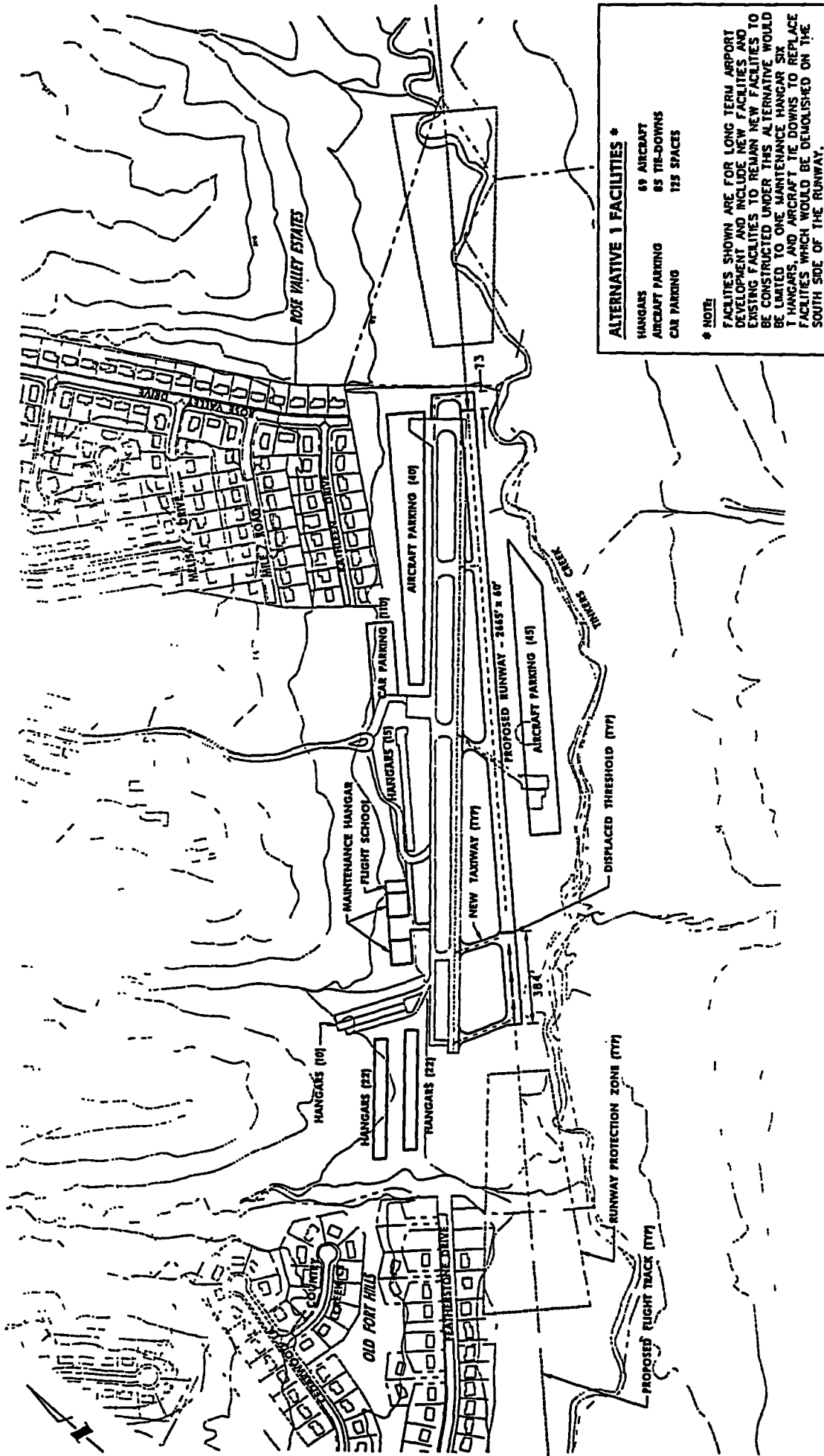
There are several alternatives for solving the Featherstone Drive overflight problem. These potential solutions include: the realignment of the runway to redirect the flight paths to the rear or east of the homes on Featherstone Drive; the purchase of the airport, either public or private, with the intent of closing it; and the purchase of homes on Featherstone Drive with the intent of demolishing them. Other solutions, or combinations thereof, include: posting "Airport District" signs along major roadways to provide notice of the airport's existence within the community and moving the operations at Potomac Airfield to nearby Washington Executive Airport. Summaries of each evaluated alternative are presented in this chapter. While the cost of implementing any of the alternatives is a very real challenge and funding is addressed, this discussion does not go beyond estimating how much each alternative might cost to implement.

Realign Runway: Baker Corporation "Runway Realignment Study"

Can the runway be realigned? What is involved? How much will it cost?

The Michael Baker Corporation, an internationally recognized engineering firm with expertise in airport planning and design, was hired to evaluate the feasibility of realigning the runway at Potomac Airfield. The consultant understood that any runway realignment should meet FAA guidelines for airport design and operation and that airport facilities could be replaced in-kind if a runway realignment necessitated rebuilding. The consultant was asked to identify environmental conditions (e.g., noise, soils, wetlands, hydrology, flora, fauna and wind) and to estimate the cost of constructing a new runway

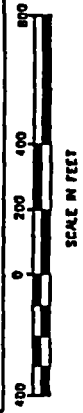
The Michael Baker Corporation reported that, from the point of view of engineering, three slightly different runway alignments were feasible. The realignment with the greatest improvement for Featherstone Drive residents would rotate the existing runway by five degrees, shifting flight tracks 250 to 400 feet south of the homes on Featherstone Drive (see Figure VIII-1). This runway alignment disturbs more vegetation than the others and has the biggest adverse impact on adjacent Tinkers Creek. This alignment also has the highest price tag because it necessitates more environmental mitigation and higher engineering costs than would the other alignments. A second realignment rotates the current runway four degrees (see Figure VIII-2). This alternative shifts the flight tracks 200 to 300 feet south of the homes on Featherstone Drive, and requires substantially less tree removal along Tinkers Creek than the first alternative. The least invasive realignment rotates the runway three and a half degrees, shifting flight tracks 150 to 250 feet south of the homes on Featherstone Drive (see Figure VIII-3). Each of the latter two alignments would reduce noise slightly more than would the first alternative. This is due to

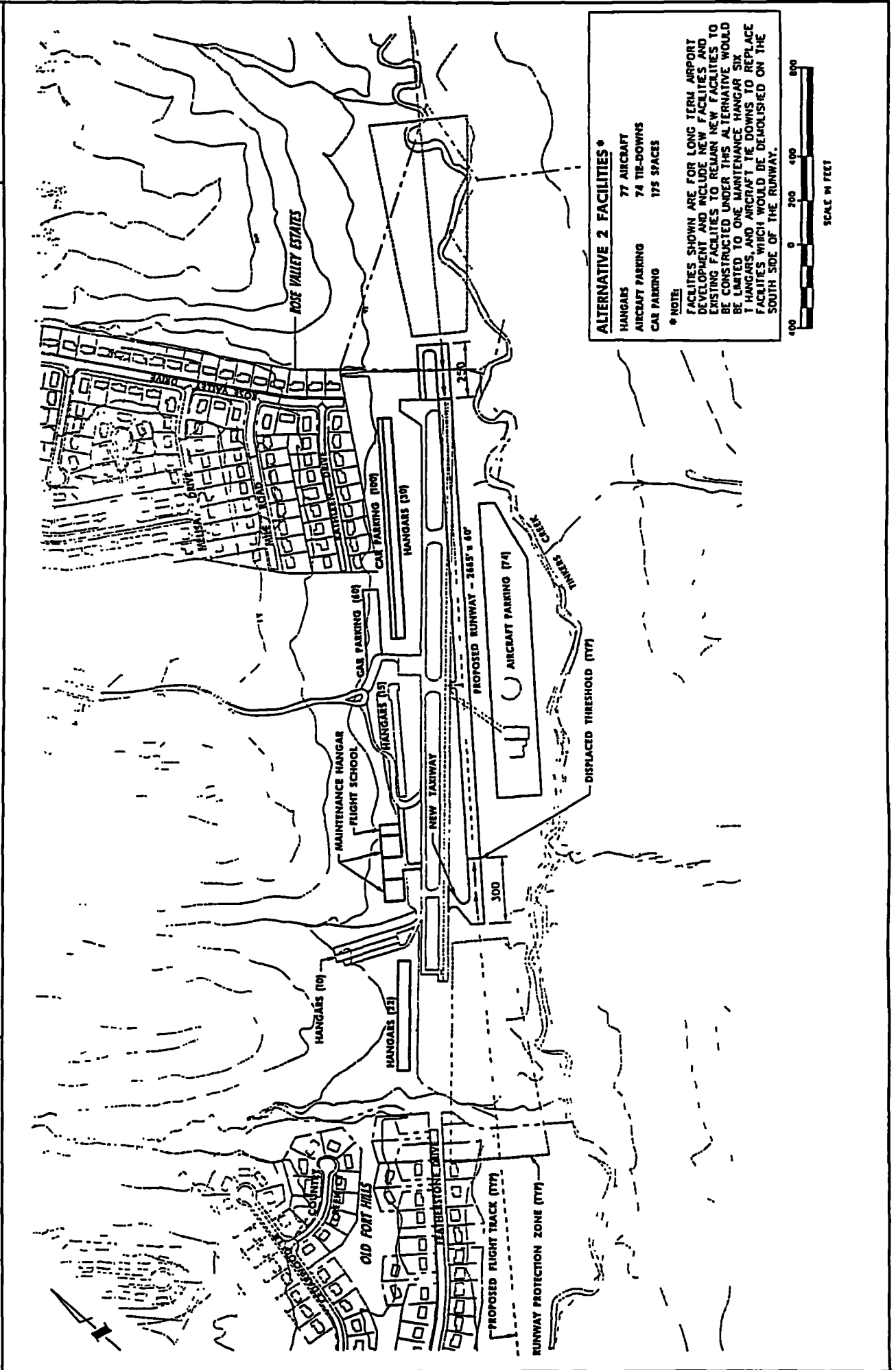


ALTERNATIVE 1 FACILITIES *

HANGARS	69 AIRCRAFT
AIRCRAFT PARKING	85 TIE-DOWNS
CAR PARKING	125 SPACES

* NOTE:
 FACILITIES SHOWN ARE FOR LONG TERM AIRPORT DEVELOPMENT AND INCLUDE NEW FACILITIES AND EXISTING FACILITIES TO REMAIN. NEW FACILITIES TO BE CONSTRUCTED UNDER THIS ALTERNATIVE WOULD BE LIMITED TO ONE MAINTENANCE HANGAR SIX T HANGARS, AND AIRCRAFT TIE DOWNS TO REPLACE FACILITIES WHICH WOULD BE DEMOLISHED ON THE SOUTH SIDE OF THE RUNWAY.





ALTERNATIVE 2 FACILITIES *

- HANGARS 77 AIRCRAFT
- AIRCRAFT PARKING 74 TIE-DOWNS
- CAR PARKING 175 SPACES

* NOTE:

FACILITIES SHOWN ARE FOR LONG TERM AIRPORT DEVELOPMENT AND INCLUDE NEW FACILITIES AND EXISTING FACILITIES TO REMAIN. NEW FACILITIES TO BE CONSTRUCTED UNDER THIS ALTERNATIVE WOULD BE LIMITED TO ONE MAINTENANCE HANGAR SIX T HANGARS, AND AIRCRAFT TIE-DOWNS TO REPLACE FACILITIES WHICH WOULD BE DEMOLISHED ON THE SOUTH SIDE OF THE RUNWAY.



SCALE IN FEET

higher flight tracks above the residential areas resulting from shifting the runway threshold to the northeast. The first alternative decreases the perception of noise annoyance since the aircraft would not be flying directly overhead. Actual noise levels would drop off slightly

Realigning the runway at Potomac Airfield involves substantial mitigation to minimize adverse environmental impacts of constructing a new runway in an environmentally sensitive area. In each case, the impact on the 100-year floodplain, Tinkers Creek stream system, woodland, wetlands, unstable slopes and stormwater (quality and quantity) needs to be mitigated.

Preliminary cost estimates are provided for each runway realignment alternative in Appendix B of the *Potomac Airfield Runway Realignment Study*. They range from \$3,439,950 to \$3,691,350. These cost estimates are based on construction of a 2,665 foot long runway, associated taxiways, and six T-hangars and one maintenance hangar to replace the facilities which would be demolished.

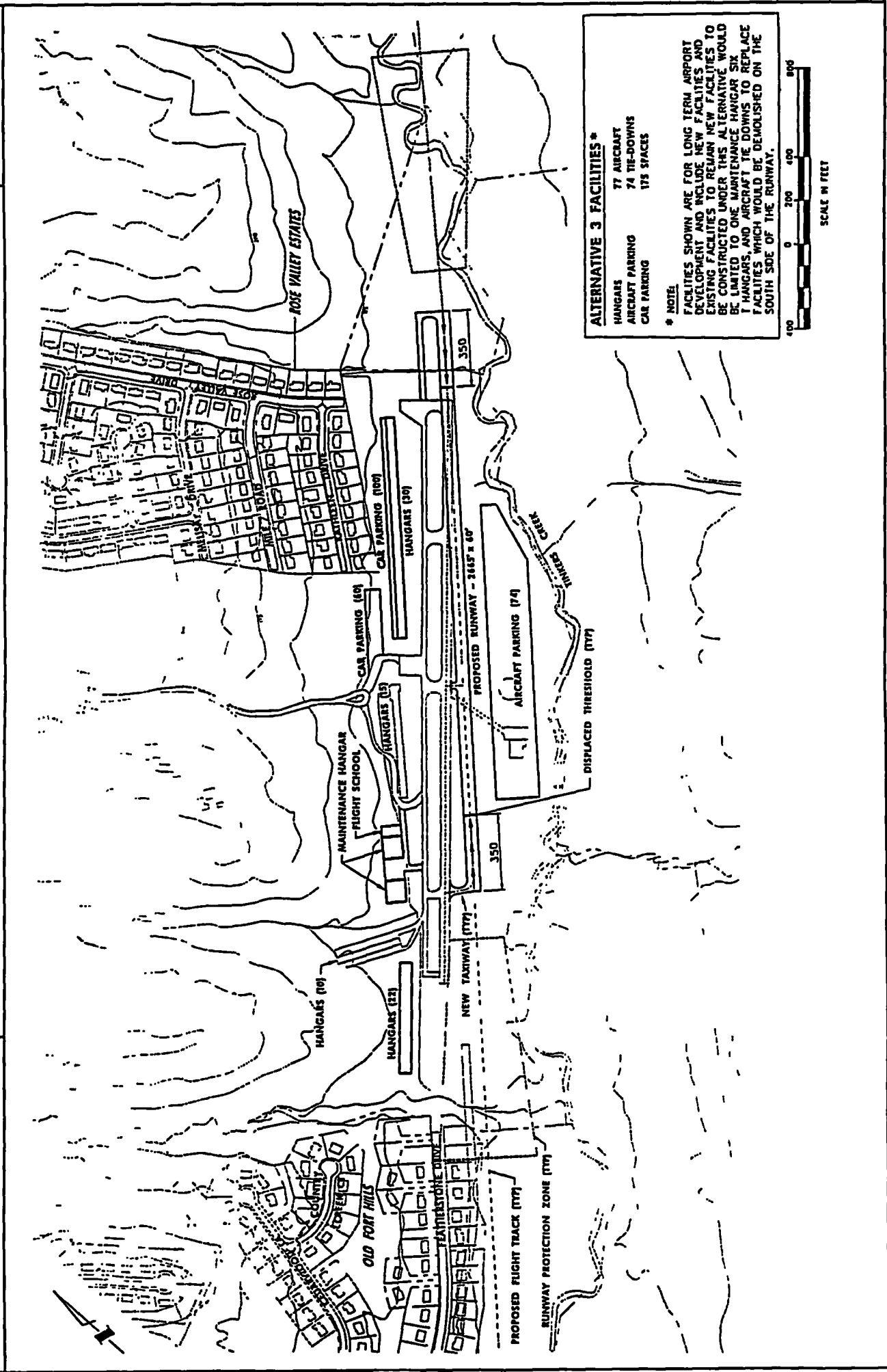
Each alternative meets required airport design criteria while also improving the safety and welfare of the local community. Significant environmental impacts, especially floodplain impacts, will have to be studied in more detail to better determine the extent, feasibility, and costs of these impacts and to develop appropriate mitigation measures. Before proceeding with the final design of a new runway, floodplain impacts will have to be analyzed to determine whether the proposed project meet floodplain regulatory requirements and floodplain mitigation measures will have to be quantified. The impact of continued stream bank erosion will also need to be addressed, as well as the loss of aquatic and terrestrial habitat.

Close Airport by Purchasing it: Appraisal of Potomac Airfield

How much is the airport worth? What is its market value?

A Certified General Real Estate Appraiser was contracted by the M-NCPPC, Community Planning Division in August 1998 to estimate the market value of Potomac Airfield. The data and the reasoning used by the appraiser to formulate the estimate of value are presented in the appraisal report. Its preparation was in accordance with the *Standards of Professional Practice of the Appraisal Institute* and the *Uniform Standards of Professional Appraisal Practices* of the Appraisal Foundation.

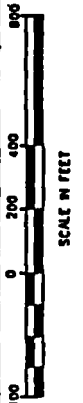
The appraised market value of Potomac Airfield, as of August 12, 1998, is \$2,000,000. Two appraisal methodologies were used to arrive at this estimate: the Reproduction Cost Approach and the Income Approach. A third approach, the Sales Comparison Approach, was not used because the appraiser concluded that this approach was not applicable in this instance, since regional searches produced no acceptable comparables. Comparables that were found were too old. Descriptions of the two approaches employed in appraising Potomac Airfield are as follows:



ALTERNATIVE 3 FACILITIES *

HANGARS	77 AIRCRAFT
AIRCRAFT PARKING	74 TIE-DOWNS
CAR PARKING	175 SPACES

* NOTE:
 FACILITIES SHOWN ARE FOR LONG TERM AIRPORT DEVELOPMENT AND INCLUDE NEW FACILITIES AND EXISTING FACILITIES TO REMAIN NEW FACILITIES TO BE CONSTRUCTED UNDER THIS ALTERNATIVE WOULD BE LIMITED TO ONE MAINTENANCE HANGAR SIX T HANGARS AND AIRCRAFT TIE DOWNS TO REPLACE FACILITIES WHICH WOULD BE DEMOLISHED ON THE SOUTH SIDE OF THE RUNWAY.



The (Reproduction) Cost Approach is an analysis of the physical value of the property; the market value of the land, assuming it to be vacant, to which is added the depreciated value of the improvements. Accrued depreciation is considered in terms of physical deterioration, functional and any economic obsolescence. The reliability of using a replacement estimate in this approach was questioned due to the improbability of obtaining approval for a new Special Exception (only an airport that meets FAA design standards could be approved). Although the Cost Approach is often the only applicable test of value for properties with a unique specialized purpose, it was used in this appraisal report only as a check of the Income Capitalization Approach.

The Income (Capitalization) Approach is an analysis of the property in terms of its ability to provide a net income in dollars. The estimated net annual income is then capitalized at a rate commensurate with the relative certainty of its continuance and the risks involved in the ownership of the property. It is an estimate of the future productivity of the property measured by the quality, quantity, and durability of the income stream. The Income Approach was based on income and expense data from similar properties in very similar locations. The appraiser was instructed to obtain income and expenses from the market because the owner of Potomac Airfield would not divulge actual income and expenses. The income and expense data developed from the market are considered to be the best available and valid for the intended purpose. The appraiser used direct capitalization and the EBITDA (or Earnings Before Interest, Taxes, Depreciation, and Amortization) multiplier used in the airport industry. Other checks on the reasonableness of the values used in this approach were used given the potential for variances between the applied market income data and actual figures.

The appraisal report for Potomac Airfield is a 77-page document, plus a lengthy Addendum. Pages 46 to 75 of the appraisal report discuss the application of each of the above appraisal methodologies used in estimating the market value of Potomac Airfield. The final chapter consists of a reconciliation and the final value estimate of \$2,000,000 for the site.

Certain conditions limit the extent to which this appraisal can be discussed. As mentioned previously, the appraiser was instructed to develop income and expenses from the market because actual income and expenses could not be obtained from Potomac Airfield. Financial statements or data that were obtained are considered sensitive and proprietary information. Although deemed to be reliable, this data have not been independently audited. For these reasons, the information contained in the appraisal report is considered to be "non-public and confidential"; thus it cannot be publicly disseminated or published.

If Potomac Airfield is purchased to remove the airport operation, there are several potential reuses of the land. One would be redevelopment of the site as a residential subdivision in the R-R Zone, similar to adjacent properties. Theoretically, as many as 86 lots could be developed on this 43 acre site at two dwelling units per acre utilizing cluster subdivision techniques. Since such a large part of the property is in the 100-year floodplain, the true development potential would be somewhat less. The remaining land in the 100-year floodplain could be dedicated to park use.

Purchase Homes Under the Potomac Airfield Runway Approach

A third option to resolve expressed concerns about flight departure and landing operations at Potomac Airfield by owners of homes on Featherstone Drive is acquisition and demolition (or relocation) of some or all of the 29 homes that were built and sold along Featherstone Drive between 1990 and 1992. The means to accomplish this option is not clear, either in terms of funding or legal justification. Since no standards appear to have been violated and there is no public improvement planned or proposed that would require displacement of these structures, there does not appear to be sufficient justification to force the sale of these homes via condemnation. Moreover, each homeowner is reported to have acknowledged the existence of the airport and assumed some risk by signing statements to that effect at the time of home purchase. Nonetheless, if it is determined that the existing situation is of sufficient concern to warrant action of this magnitude, and if the all homeowners voluntarily agree to sell their homes for demolition or moving, and if a source can be identified to fund the purchase, then the following information will help to estimate the likely costs involved. Concerns of homeowners in other parts of the Old Fort Hills subdivision are acknowledged, but their homes are not included in these computations because of their distance from the end of the runway

Value of Homes on Featherstone Drive

According to State Department of Assessments and Taxation (SDAT) records, the total original purchase price for the 29 homes on Featherstone Drive was \$5,545,111, or an average price of \$191,211 each. To help estimate the current fair market value of these homes, SDAT records for the full current value (FCV) assessment have been researched for the current and for the previous three-year assessment cycles, i.e., the 1998 to 2000 assessment and the 1995 to 1997 assessment. Figure VII-4 shows the average of SDAT record information for this comparison. On the whole, there was some loss in total assessed value relative to original purchase price for homes on Featherstone Drive during the mid 1990s. According to the most recent assessment, there has been some recovery during the later 1990s to yield a slight overall gain in assessed value relative to original purchase price. This tends to parallel general real estate market trends experienced in the metropolitan area over that time period.

Partial Acquisition of Homes on Featherstone Drive

Acquisition of homes closest to the end of the runway and perhaps exposed to somewhat greater risk than those located farther away is an option to be considered. The difficulty is in determining how and where to draw an acquisition line. There are no clear legislative or industry standards for development surrounding general aviation airports. However, as previously referenced in the discussion of regulatory issues and design criteria, ideal FAA airport design criteria (AC 150/5300-13) do identify a "runway protection zone" or RPZ as a trapezoidal plane along the extended centerline of the airport runway for a distance of 1,000 feet beyond the primary surface of the runway. Federal guidelines discourage residential use or activities that attract congregations of people in this area. With respect to Featherstone Drive, the area corresponding to an RPZ as defined by Federal guidelines encompasses 8 of the 10 homes at the north end of Featherstone Drive, or house numbers: 10609 to 10701. Two of the homes located on flag lots at this end of Featherstone Drive, i.e., 10611 and 10613, are not located within the

defined RPZ area due to the depth of their lots and distance from the extended runway centerline. Regardless, if homes on the surrounding adjacent lots were acquired, it would be difficult to justify leaving these two homes in place. Thus, if acquisition of homes closest to the runway in the area corresponding to an RPZ were selected, the total acquisition cost would be approximately \$2 million, with additional settlement, demolition and site restoration costs.

Relocation of Homes

Instead of demolishing homes along Featherstone Drive, it has been suggested that they could be moved to other lots in the area that are not beneath the departure or landing approach pattern. According to SDAT information, the value of the lots for homes along Featherstone Drive is well in excess of \$40,000 each. Comparable lots would need to be acquired for home relocation, which for 29 homes would add more than \$1 million to the initial cost. Foundation work, house moving and reconstruction, and resale costs would likely add another million or so to the cost of this option depending on the distance of the move and the difficulties encountered. Upon resale of the homes, there would be recovery of the relocation costs as well as some recovery of initial acquisition costs. It is doubtful that the relocated homes could be sold for as much as their original purchase prices. Regardless, even if there were complete recovery of the \$5.7 million initial home acquisition cost, an operating fund of \$8-9 million will be required to pursue this option with a net cost of at least \$2-3 million upon completion.

Effect of Potomac Airfield Flight Path on Value of Homes

It has been alleged that the location of the homes on Featherstone Drive directly beneath the airport runway approach pattern for Potomac Airfield negatively affects their value. To help evaluate this assertion, three other blocks of subdivision homes built and sold in the surrounding Fort Washington area during the same 1990 to 1992 time period, which are not directly under an airport runway approach pattern, were researched. These include: (a) 13 homes on Cedarwood Lane immediately northwest of Featherstone Drive in the Old Fort Hills Subdivision, (b) 20 homes on Aragona Boulevard on the west side of Old Fort Road, about one mile away, and (c) 29 homes on Amer Drive on the west side of Indian Head Highway, approximately three miles away. Only 6 of these 62 homes have been resold. Homes within these selected subdivision blocks that were originally sold before or after the 1990-1992 comparison time period were excluded from computations.

As indicated by data on Figure VIII-4, the average assessed value of homes on Featherstone Drive and in the three comparison areas reflect similar trends — declines in the early part of the decade with some recovery in the later part. These trends are probably more reflective of real estate market conditions in general than of circumstances peculiar to one subdivision. At the same time, close examination of the data reveals that homes on Featherstone Drive exhibit somewhat more pronounced declines and less substantial recovery of average assessed value than homes on the neighboring street Cedarwood Lane. Further breaking down the data for Featherstone Drive in Figure VIII-4 indicate that the 10600 block of Featherstone Drive, which is closer to the airport, had slightly more negative mid-1990s assessments and slightly fewer late-1990s increases in assessments than did the 10700 block, which is further away. Thus, it could be reasoned that there is some negative effect due to the location of homes

on Featherstone Drive directly under the Potomac Airfield runway approach pattern, but general market conditions seem to exert a greater influence.

Summary of Homes Acquisition Alternative

The cost to acquire homes on Featherstone Drive will be approximately

All 29 homes -	\$5.7 million
10 homes in RPZ -	\$2.0 million
Additional costs -	Formal appraisals, administrative costs, demolition and site restoration

Since acquisition would be voluntary, rather than occur as condemnations under powers of eminent domain, additional funds for moving and resettlement would be required.

Other Options

Could operations at Potomac Airfield be consolidated with those at neighboring Washington Executive Airport?

Consolidating Potomac Airfield operations with those less constrained operations at Washington Executive Airport is an idea that repeatedly surfaces in public discussions. In part, this is due to the fact that there is currently more undeveloped land surrounding Washington Executive Airport than there is surrounding Potomac Airfield. If new zoning was approved to reduce residential densities in the airport impacted areas adjacent to Washington Executive Airport, future development that would be compatible with airport operations could be sought. In addition, the approved County land use plan for the area surrounding Washington Executive Airport presently addresses future improvements to and development around this airport.

Implementing a consolidation of airports is a complex proposition. There is no apparent compelling State interest involved, it is simply an interesting idea. The owner of Potomac Airfield will not abandon his business; he has too great an investment in it. In addition, it cannot be assumed that the owner of Washington Executive Airport will want to absorb the cost of doing more business, i.e., to build the improvements that would be needed to accommodate more business. The FAA may assist with funding the improvements but, according to an FAA official, not unless the County or State is financially committed to the project. The County and State have limited resources that may preclude their investment in this idea.

To consolidate Potomac Airfield operations at Washington Executive Airport, a first step is to propose a strategic plan that accomplishes the following objectives:

- Demonstrate that a merger is beneficial and realistic to the owners of both airports

POTOMAC AIRFIELD STUDY	AVERAGE RESIDENTIAL ASSESSMENTS						FIGURE VIII-4
Comparison of Average Original Sales (1990-1992 Only) to Recent SDAT Assessment Values							
Street	Average Original Sale	Evaluation Year 1997 Average FCV	Difference	% Change	Evaluation Year 2000 Average FCV	Difference	% Change
Featherstone Drive — 29 d u	\$191,211	\$172,401	(\$18,810)	-9.8	\$196,007	\$4,796	2.5
Selected 1990-1992 Construction for Comparison							
Cedarwood Lane — 13 d u	\$179,345	\$171,363	(\$7,982)	-4.5	\$195,033	\$15,688	8.7
Aragona Boulevard — 20 d u	\$231,163	\$208,767	(\$22,396)	-9.7	\$211,246	(\$19,917)	-8.6
Amer Drive — 29 d u	\$308,323	\$263,140	(\$45,183)	-14.7	\$281,954	(\$26,369)	-8.6
Detail for Featherstone Drive by Block							
10600 Block Featherstone Drive — 8 d u	\$190,199	\$169,833	(\$20,366)	-10.7	\$194,611	\$4,412	2.3
10700 Block Featherstone Drive — 21 d u	\$191,596	\$173,380	(\$18,216)	-9.5	\$196,538	\$4,942	2.6

- Estimate cost of road improvements needed for Washington Executive Airport renovation and development
- Itemize financial commitments from FAA, MAA, County, Federal grants, property owners, FBOs and amortize cost of improvements where necessary
- Identify how increased use of aviation can alleviate regional traffic congestion (to apply for TEA-21 funding)
- Analyze the community impacts from the increased air traffic at Washington Executive Airport from the merger and the increased ground traffic that airport renovation would generate
- Estimate the increased tax revenue from Washington Executive Airport redevelopment.

Could airport traffic patterns be revised?

The area to the east of Potomac Airfield, between the two airports, has not yet been developed. A potential means of reducing flights from Potomac Airfield over developed subdivisions areas to the west would be to revise the established traffic patterns at both Potomac Airfield and Washington Executive Airport. If the traffic pattern at Washington Executive Airport could be changed to require a right turning pattern for RWY 05, then the traffic pattern for RWY 24 at Potomac Airfield could become a standard left turning pattern. Since approximately 80% of flight operations at Potomac Airfield can use RWY 24 because of prevailing wind direction, this would relocate the majority of air traffic operations to the east of the airport over less developed land areas. More flight traffic would be directed over areas to the east of Washington Executive Airport, but at present these are relatively undeveloped. While this sounds like a simple solution to some of the concerns expressed about Potomac Airfield, there are significant procedural and practical obstacles.

- First, the FAA does not dictate airport traffic patterns. Instead, it defers to individual airport operators and certifies their recommended traffic patterns as safe or unsafe. In short, both airport operators would have to agree to make such a change.
- Second, changing to a left-turn traffic pattern for RWY 24 would tend to direct departing traffic toward/across the extended runway centerline for RWY 23 at Washington Executive Airport. This would essentially reverse the less than ideal pattern now existing for departures from these airports on RWYs 05 and 06 to the northeast, but may incur more conflicts since more operations (80 percent) are oriented in this direction. Thus, revising the established traffic patterns at Potomac Airfield is probably inadvisable.
- Third, the non-standard traffic pattern at Potomac Airfield and the standard pattern at Washington Executive Airport are both of longstanding duration, have been published repeatedly in Federal, State and private flight manuals and maps, and are well known by the aviation community. Somewhat similar to adding a traffic signal at a previously unsignalized major highway intersection, a change to these established patterns and long standing habits of pilots operating at these airports may be difficult to implement in the short term. Unless there were an overwhelming hazard to avoid regarding residential area overflights, such a

change would not be advised. Finally, since future development is anticipated in the undeveloped area between the two airports, revised traffic patterns may be only a temporary solution.

Post Signs

To ensure that prospective purchasers of homes in the vicinity of Potomac Airfield have notice of its existence it has been suggested that airport signs be posted at key points within the community. The signs should communicate the fact that within the area there will be light aircraft flying overhead. One such sign has already been erected in the community. Prospective home purchasers should be aware of the airport operations and the attendant noise and risk factors.

Chapter IX. Conclusions and Recommendations

There are two perspectives to safety and compatibility issues in airport environments. One perspective is that of the aviation community, and the other is that of people on the ground around airports.

From the perspective of the aviation community, the FAA and the MAA do well to protect the aviation community and the flying public from hazards during takeoff and landing and in flight. They protect airspace from hazardous obstructions, or make sure obstructions are well identified. Operations in congested airspace are strictly controlled through regulations, Advisory Circulars, operational procedures, training, airport inspections and publications. Simultaneously, a high degree of protection is also provided to persons in areas surrounding airports by minimizing hazards during normal flight operations. Although adjustments are made during administration of the MAA and FAA regulations to reflect existing situations, they are thought to be well within reasonable limits from the perspective of the aviation community

From the perspective of people on the ground, however, not enough attention is paid to the hazards of unplanned events during aircraft operations, such as engine failure or pilot error resulting in forced landings, runway over- or under-shoots. While the frequency of these events is rare, they do occur in a predictable pattern near an airport. **Unfortunately, there are virtually no regulations or standards in the industry that specifically address accident potential or risk from a community perspective.** The rule of caveat emptor prevails. At best, the FAA's Advisory Circular on airport design recommends runway protection zones (RPZ) at each end of a runway to accommodate the effects of such unplanned events. However, RPZs are not required at all airports. Moreover, as the available data reveals, the boundaries of the RPZs do not appear to extend far enough to encompass the pattern of admittedly rare accidents or incidents that occur beyond the end of the runway or off the airport property. More definitive regulatory standards should be enacted by the County to restrict land uses in these areas along the extended runway centerline to reduce the potential for catastrophic consequences and ensure the availability of relatively safe areas in which to set down disabled aircraft or to accommodate pilot error.

With respect to questions raised by the residential community on Featherstone Drive regarding public intervention to close the airport, it needs to be reiterated that **no laws appear to have been violated** regarding the construction of their homes. The residents' purchases were made with written acknowledgment specifically identifying and referencing the airport, and the airport had been in operation for several decades before the homes were built. At worst, it appears that better judgment could have been demonstrated at virtually every level of the subdivision design and approval process, the home construction, sale and purchase process, and the airport revision and relicensing process.

Nonetheless, the uncomfortably close juxtaposition of residential homes on Featherstone Drive along the extended centerline of the Potomac Airfield runway is an undesirable situation that begs resolution. The estimated cost to implement each of the three alternative solutions

evaluated to resolve the perceived conflicts between aircraft takeoff and landing patterns at Potomac Airfield and the homes on Featherstone Drive are:

Purchase of Airport	\$2+ million
Runway Realignment	\$3.5+ million
Purchase of Homes	\$2+ to 5.7+ million

- **The single most effective solution would be to purchase and close the airport.**

This is the most effective solution because it would remove air traffic from Potomac Airfield over nearby residential subdivisions, schools, churches and parks, even though the airport was there first. According to the airport appraisal estimate, it may also be the most economical alternative.

The aircraft based at Potomac Airfield could be moved to Washington Executive Airport or other airports in the region. To facilitate a transfer to Washington Executive Airport, an upgrade of the facilities at Washington Executive Airport is probably in order. While upgrading of Washington Executive Airport has long been approved by the FAA, the MAA, and the County (via Zoning Application A-9979), there are significant financial and practical obstacles. Thus, it is also recommended that if closing Potomac Airfield is the selected alternative, a coalition of Federal, State, and County officials, the owners of the two airports, representatives of civic associations and based pilots should be assembled to coordinate, redesign, fund, and facilitate the consolidation of these airports. There should be a balance between compatibility with the surrounding neighborhoods and serving the needs of the County's general aviation community. To ensure that the benefits of consolidation are not short-lived, future residential development should be controlled through enactment and implementation of compatible use zoning techniques for airport environments.

- **The next best solution is to implement runway realignment Alternative 2 as described in the Michael Baker Corporation report to redirect the flight path over Tinkers Creek.**

If purchasing Potomac Airfield with the intent of closing it proves infeasible, the next best solution is realignment of the airport runway to redirect flights behind the homes on Featherstone Drive and along Tinkers Creek. Although extensive environmental damage will result, it will be significantly less costly than attempting to acquire a sufficient number of homes to alleviate perceived threats to the safety of residents.

Recommendation

As the aforementioned approaches to resolving the cited land use conflicts are both costly and complex to implement, and financing is uncertain, the status quo will probably be maintained for some period of time, if not indefinitely. It would be prudent to engage an independent aviation industry consultant or "expert" to evaluate and comment on the material presented in

this report, particularly regarding the risk and safety of existing airport operations relative to surrounding land uses; to define effective measures that could be taken to enhance the safety of continuing operations; and, finally, to evaluate the cost effectiveness of the runway relocation alternative to resolve the identified safety concerns.

Quick-Fix Actions

Additional quick-fix actions that could be implemented fairly easily are listed below. These actions will not eliminate air traffic over the residential community, but will reduce the negative impacts of the airport operation experienced by a majority of residents in the area.

Impact: Annoyance from Airport Operations (Noise)

Quick-Fix Actions by Airport Manager

- Limit the number of operations per hour on weekends.
- Prohibit night operations, except with prior notification.
- Turn off the fuel pumps after 10 p.m.
- Designate a specific number of operations available to the flight schools on the weekends.
- Restrict the total number of flight schools.

Impact: Low-Flying Aircraft (Safety Concern)

Quick-Fix Actions:

- Airport operator admonishes pilots to stay within the published traffic pattern.
- Pilots that violate the traffic pattern without cause are fined.

Impact: No Constructive (written) Notice of the Airport

Quick-Fix Action:

- Airport manager/County/State posts signs in the community identifying “Airport Runway Approach Area” or “Low Flying Aircraft.”
- Pilots are encouraged to purchase homes within impacted areas.
- Amend County Code to require disclosure of airport location to prospective purchasers of residential properties affected by airport operations.

Long-Term Regulatory Solutions

It is further recommended that compatible land use zoning techniques for airport environments be prepared. Their enactment and implementation would, over the long term, lessen the adverse impact of airport operations experienced within the community. These zoning techniques should include, but not be limited to, the following:

- Restrictions on density and placement of new development to minimize exposure of new development to noise and safety concerns.
- Provision of adequate buffer areas between the airport and incompatible land uses.
- At the time of development, preservation of existing natural features to the greatest extent possible, such as hills, tree line or depressions that may help to reduce noise levels, provided they do not affect safe operation of aircraft.
- Require disclosure of airport to prospective purchasers of property near the airport.
- If noise from other aircraft in the vicinity would not skew the results, require ongoing actual noise monitoring instead of prediction modeling in the development of noise contours, to ensure that actual noise propagation thresholds are available.
- Encourage retrofitting with noise-attenuating materials habitable structures located within an 800-foot radius of the airport.

What if Nothing Happens?

A final scenario is the maintenance of the status quo. Given the current rate of business growth at Potomac Airfield, operations may continue to increase. If this happens the neighborhood may experience slightly more noise, more overflights, and a corresponding greater frequency of accidents.

Glossary

A-Weighting	A-weighting refers to a particular processing of sound signals in which low frequencies are de-emphasized. This weighting has been found to correspond fairly well to subjective human response to sound signals. ("Land Use Compatibility Survey", National Capital Region Transportation Planning Board)
Airfield Elevation	The highest point of an airfield's usable landing area measured in feet from mean sea level. For Potomac Airfield the established airport elevation is 115 feet.
Airport Hazard	Any structure or tree or use of land which obstructs the airspace required for, or is otherwise hazardous to, the flight or aircraft in landing or taking-off at the airport; and any use of land which is hazardous to persons or property because of its proximity to the airport. (Luke AFB AICUZ)
Airport Lighting	<p>Runway End Identifier Lights (REIL). Two synchronized flashing lights, one on each side of the runway threshold, which provide rapid and positive identification of the approach end of a particular runway</p> <p>Visual Approach Slope Indicator (VASI). An airport lighting facility providing vertical visual approach slope guidance to aircraft during approach to landing by radiating a directional pattern of high intensity red and white focused light beams. If the pilot sees red/white lights, aircraft is "on path"; if lights are white/white, aircraft is "above path"; if lights are red/red, aircraft is "below path." Some airports serving large aircraft have three-bar VASIs which provide two visual glide paths to the same runway (FAR Aeronautical Information Manual 98 Pilot/Controller Glossary)</p>
Approach Surface	The imaginary surface that extends outward and upward from the end of the primary surface.
Ambient Noise	The ambient noise of an environment is the average sound level due to the combined effect of all the sound sources in that environment. It is sometimes identified as the sound level that is exceeded 90% of the time (L ₉₀). ("Land Use Compatibility Survey", National Capital Region Transportation Planning Board)
Approach Clearance Surface	An inclined plane, symmetrical about the runway centerline extended, beginning 200 feet beyond each end of the primary surface at the centerline elevation of the runway end and extending for 50,000 feet. The slope of the approach clearance surface is 50 to 1 along the runway centerline extended until it reaches an elevation of 500 feet above the established

airfield elevation. It then continues horizontally at this elevation to a point 50,000 feet from the point of beginning. The width of this surface at the runway end is the same as the primary surface, it flares uniformly, and the width at 50,000 is 16,000 feet. (Luke AFB AICUZ)

Attitude Survey An attitude survey is a process that seeks to determine how people feel about any matter of interest by asking them about it. (“Land Use Compatibility Survey,” National Capital Region Transportation Planning Board)

Clear Zone Surface A surface located on the ground or water at each end of the primary surface, with a length of 1,000 feet and the same width as the primary surface. (Luke AFB AICUZ)

Conical Surface A surface extending from the periphery of the inner-horizontal surface outward and upward at a slope of 20 to 1 for a horizontal distance of 7,000 feet to a height of 500 feet above the established airfield elevation. (Luke AFB AICUZ)

Controlled Airspace (ICAO) — An airspace of defined dimensions within air traffic control service is provided to IFR flights and to VFR flights in accordance with the airspace classification. (Note: Controlled airspace is a generic term which covers ATS airspace Classes A, B, C, D, and E.) (FAR Aeronautical Information Manual 98 Pilot/Controller Glossary)

Decibel The decibel (abbreviated dB) is a convenient unit used to express the magnitude of sound as a logarithmic ratio of variables. The level of an acoustical quantity is usually expressed in decibels. (“Land Use Compatibility Survey”, National Capital Region Transportation Planning Board)

Displaced Threshold A threshold that is located at a point on the runway other than the designated beginning of the runway (FAR Aeronautical Information Manual 98 Pilot/Controller Glossary)

Flight Path A line, course, or track along which an aircraft is flying or intended to be flown. (FAR Aeronautical Information Manual 98 Pilot/Controller Glossary)

Flight Standards District Office An FAA field office serving an assigned geographical area and staffed with Flight Standards personnel who serve the aviation industry and the general public on matters relating to the certification and operation of air carrier and general aviation aircraft. Activities include general surveillance of operation safety, certification of airmen and aircraft, accident prevention, investigation, enforcement, etc. (FAR Aeronautical Information Manual 98 Pilot/Controller Glossary)

General Aviation	(ICAO) — All civil aviation operations other than scheduled air services and nonscheduled air transport operations for remuneration or hire. (FAR Aeronautical Information Manual 98 Pilot/Controller Glossary)
Global Positioning System (GPS)	A space-base radio positioning, navigation, and time-transfer system. The system provides highly-accurate position and velocity information, and precise time, on a continuous global basis, to an unlimited number of properly equipped users. The system is unaffected by weather, and provides a worldwide common grid reference system. The GPS concept is predicated upon accurate and continuous knowledge of the spatial position of each satellite in the system with respect to time and distance from a transmitting satellite to the user. The GPS receiver automatically selects appropriate signals from the satellites in view and translates these into three-dimensional position, velocity, and time. System accuracy for civil users is normally 100 meters horizontally (FAR Aeronautical Information Manual 98 Pilot/Controller Glossary)
Hazard To Air Navigation	An obstruction determined to have a substantial adverse effect on the safe and efficient utilization of the navigable airspace. (Luke AFB AICUZ)
Horizontal Surface, Inner	A plane, oval in shape, at a height of 150 feet above the established airfield elevation. The plan is constructed by scribing an arc with a radius of 7,500 feet about the centerline at the end of each runway and interconnecting these arcs with tangents. (Luke AFB AICUZ)
Horizontal Surface, Outer	A plane, located 500 feet above the established airfield elevation, extending outward from the outer periphery of the conical surface for a horizontal distance of 30,000 feet. (Luke AFB AICUZ)
ICAO	International Civil Aviation Organization, created in 1944 to promote the safe and orderly development of civil aviation in the world. A specialized agency of the United Nations.
IFR Aircraft	An aircraft conducting flight in accordance with instrument flight rules. (FAR Aeronautical Information Manual 98 Pilot/Controller Glossary)
IFR Conditions	Weather conditions below the minimum for flight under visual flight rules. (FAR Aeronautical Information Manual 98 Pilot/Controller Glossary)
Instrument Approach Procedure	A series of predetermined maneuvers for the orderly transfer of an aircraft under instrument flight conditions from the beginning of the initial approach to a landing or to a point from which a landing may be made visually It is prescribed and approved for a specific airport by competent

	authority (FAR Aeronautical Information Manual 98 Pilot/Controller Glossary)
Instrument Flight Rules (ICAO)	A set of rules governing the conduct of flight under instrument meteorological conditions. (FAR Aeronautical Information Manual 98 Pilot/Controller Glossary)
Instrument Runway	A runway equipped with electronic and visual navigation aids for which a precision or nonprecision approach procedure having straight-in landing minimums has been approved. (FAR Aeronautical Information Manual 98 Pilot/Controller Glossary)
	L_{dn} L_{dn} is equivalent to the L_{eq} measured over a 24-hour period with a 10 dB penalty added for the nighttime hours. ("Land Use Compatibility Survey", National Capital Region Transportation Planning Board)
	L_{eq} L_{eq} is a descriptor of the total noise exposure during a finite time interval. The equivalent sound level, L_{eq} , has the same total sound energy as the actual time varying A-weighted sound during the specified period. ("Land Use Compatibility Survey", National Capital Region Transportation Planning Board)
Navigable Airspace	Airspace at and above the minimum flight altitudes prescribed in the FARs including airspace needed for safe takeoff and landing. (FAR Aeronautical Information Manual 98 Pilot/Controller Glossary)
Navigational Aid	Any visual or electronic device airborne or on the surface which provides point-to-point guidance information or position data to aircraft in flight. (FAR Aeronautical Information Manual 98 Pilot/Controller Glossary)
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, and for which no precision approach facilities are planned, or indicated on an FAA planning document or military service military airport planning document. (FAR, Part 77.2)
Notice to Airmen (NOTAM)	A notice containing information (not known sufficiently in advance to publicize by other means) concerning the establishment, condition, or change in any component (facility, service, or procedure of, or hazard in the National Airspace System) the timely knowledge of which is essential

to personnel concerned with flight operations. (FAR Aeronautical Information Manual 98 Pilot/Controller Glossary)

Obstacle An existing object, object of natural growth, or terrain at a fixed geographical location or which may be expected at a fixed location within a prescribed area with reference to which vertical clearance is or must be provided during flight operation. (FAR Aeronautical Information Manual 98 Pilot/Controller Glossary)

Obstacle Free Zone The OFZ is a three-dimensional volume of airspace which protects for the transition of aircraft to and from the runway. The OFZ clearing standard precludes taxiing and parked airplanes and object penetrations, except for frangible NAVAID locations that are fixed by function. Additionally, vehicles, equipment, and personnel may be authorized by air traffic control to enter the area using the provisions of FAA Order 7110.65, Air Traffic Control, paragraph 3-1-5. The runway OFZ and when applicable, the inner-approach OFZ, and the inner-transitional OFZ, comprise the OFZ.

A. **Runway OFZ.** The runway OFZ is a defined volume of airspace centered above the runway. The runway OFZ is the airspace above a surface whose elevation at any point is the same as the elevation of the nearest point on the runway centerline. The runway OFZ extends 200 feet beyond each end of the runway. The width is as follows...

...2. For runways serving only small airplanes:

- (a) 300 feet for precision instrument runways.
- (b) 250 feet for other runways serving small airplanes with approach speeds of 50 knots, or more.
- (c) 120 feet for other runways serving small airplanes with approach speeds of less than 50 knots.

B. **Inner-approach OFZ.** The inner-approach OFZ is a defined volume of airspace centered on the approach area. The inner-approach OFZ applies only to runways with an approach lighting system. The inner-approach OFZ begins 200 feet from the runway threshold at the same elevation as the runway threshold and extends 200 feet beyond the last light unit in the approach lighting system. The width of the inner-approach OFZ is the same as the runway OFZ and rises at a slope of 50 (horizontal) to 1 (vertical) from the beginning.

C. Inner-transitional OFZ. The inner transitional surface OFZ is a defined volume of airspace along the sides of the runway and inner-approach OFZ and applies only to precision instrument runways. The inner-transitional surface OFZ is a defined volume of airspace along the sides of the runway and inner-approach OFZ and applies only to precision instrument runways. The inner-transitional surface OFZ slopes 3 (horizontal) to 1 (vertical) out from the edges of the runway OFZ and inner-approach OFZ to a height of 150 feet above the established airport elevation. (FAR Aeronautical Information Manual 98 Pilot/Controller Glossary)

Obstruction Any object/obstacle exceeding the obstruction standards specified by FAR Part 77, Subpart C. (FAR Aeronautical Information Manual 98 Pilot/Controller Glossary)

Operational Acceptable Level of Traffic An air traffic activity level associated with the designed capacity for a sector or airport. The OALT considers dynamic changes in staffing, personnel experience levels, equipment outages, operational configurations, weather, traffic complexity, aircraft performance mixtures, transitioning flights, adjacent airspace, handoff/point-out responsibilities, and other factors that may affect an air traffic operational position or system element. The OALT is normally considered to be the total number of aircraft that any air traffic functional position can accommodate for a defined period of time under a given set of circumstances. (FAR Aeronautical Information Manual 98 Pilot/Controller Glossary)

Primary Surface A surface that extends a certain width outward from the centerline of the runway, and for 200 feet beyond the end of hard surface runways. The width varies with the type/classification of runway. The elevation of any point on the primary surface is the same as the elevation of the nearest point on the runway centerline.

Public Use Public use means available for use by the general public without a requirement for prior approval of the owner or operator. (“Establishing an Airport: the Basics” AOPA Publication.)

Runway A defined area on an airport prepared for landing and takeoff of aircraft along its length. The runway includes any proposed new runway or runway extension shown on an Airport Layout plan or other planning document. (Luke AFB AICUZ)

Runway Heading The magnetic direction that corresponds with the runway centerline extended, not the painted runway number. When cleared to “fly or maintain runway heading,” pilots are expected to fly or maintain the heading

that corresponds with the extended centerline of the departure runway Drift correction shall not be applied; e.g., Runway 4, actual magnetic heading of the runway centerline 044, fly 044. (FAR Aeronautical Information Manual 98 Pilot/Controller Glossary)

Runway Protection Zone (RPZ)	An area off the runway and to enhance the protection of people and property on the ground (see Appendix 7).
Runway Safety Area	<p>A defined surface surrounding the runway prepared, or suitable, for reducing the risk of damage to airplanes in the event of an undershoot, overshoot, or excursion from the runway The dimensions of the RSA vary and can be determined by using the criteria contained within AC 150/5300-13, Chapter 3. Figure 3-1 in AC 150/5300-13 depicts the RSA. The design standards dictate that the RSA shall be:</p> <ul style="list-style-type: none">A. Cleared, graded, and have no potentially hazardous ruts, humps, depressions, or other surface variationsB. Drained by grading or storm sewers to prevent water accumulationC. Capable, under dry conditions, of supporting snow removal equipment, aircraft rescue and firefighting equipment, and the occasional passage of aircraft without causing structural damage to the aircraftD. Free of objects, except for objects that need to be located in the runway safety area because of their function. These objects shall be constructed on low-impact resistant supports (frangible mounted structures) to the lowest practical height with the frangible point no higher than three inches above grade. (FAR Aeronautical Information Manual 98 Pilot/Controller Glossary)
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. (Luke AFB AICUZ)
Terminal Area	A general term used to describe airspace in which approach control service or airport traffic control service is provided. (FAR Aeronautical Information Manual 98 Pilot/Controller Glossary)
Terminal Area Facility	A facility providing air traffic control service for arriving and departing IFR, VFR, Special VFR, and on occasion en route aircraft. (FAR Aeronautical Information Manual 98 Pilot/Controller Glossary)

Threshold	The beginning of that portion of the runway usable for landing. (FAR Aeronautical Information Manual 98 Pilot/Controller Glossary)
Tower	A terminal facility that uses air/ground communications, visual signaling, and other devices to provide ATC services to aircraft operating in the vicinity of an airport or on the movement area. Authorizes aircraft to land or takeoff at the airport controlled by the tower or to transit the Class D Airspace area regardless of flight plan or weather conditions (IFR or VFR). A tower may also provide approach control services (radar or non-radar). (FAR Aeronautical Information Manual 98 Pilot/Controller Glossary)
Traffic	<p>A. A term used by a controller to transfer radar identification of an aircraft to another controller for the purpose of coordinating separation action. Traffic is normally issued:</p> <ol style="list-style-type: none"> 1. In response to a handoff or point out 2. In anticipation of a handoff or point out 3. In conjunction with a request for control of an aircraft <p>B. A term used by ATC to refer to one or more aircraft. (FAR Aeronautical Information Manual 98 Pilot/Controller Glossary)</p>
Traffic Pattern	Traffic pattern means the traffic flow that is prescribed for aircraft landing or taking-off from an airport, including departure and arrival procedures utilized within a five-mile radius of the airport for ingress, egress, and noise abatement. (“Establishing an Airport: the Basics” AOPA Publication)
Traffic Pattern “ Legs”	<ul style="list-style-type: none"> • The <i>upwind leg</i> is that portion of the pattern flown on take-off along the extended runway centerline. • The <i>crosswind leg</i> is flown by making a 90-degree turn once the aircraft attains a safe altitude (500-700+ feet). The aircraft is still ascending to pattern altitude on the cross wind leg. • The <i>downwind leg</i> results from another 90-degree turn after flying a short distance on the crosswind leg. The downwind leg is parallel to the runway, but flown in the opposite direction from take-off, and should be flown at the pattern altitude. • The <i>base leg</i> is flown by making a descending 90-degree turn toward the extended runway centerline after flying past the landing end of the runway on the downwind leg. • The <i>final leg</i> is attained by making another descending 90-degree turn as the aircraft approaches the extended centerline of the runway, to line up with the runway for final descent and landing. The turn to

the final leg should be made at least a quarter mile away from the runway

Transitional Surfaces These surfaces connect the primary surfaces, the first 200 feet of the clear zone surfaces, and the approach clearance surfaces to the inner horizontal surface, conical surface, other horizontal surface or other transitional surfaces. The slope of the transitional surface is 7 to 1 outward and upward at right angles to the runway centerline. (Luke AFB AICUZ)

Transponder The airborne radar beacon receiver/transmitter portion of the Air Traffic Control Radar Beacon System (ATCRBS) which automatically receives radio signals from interrogators on the ground, and selectively replies with a specific reply pulse or pulse group only to those interrogations being received on the mode to which it is set to respond. (FAR Aeronautical Information Manual 98 Pilot/Controller Glossary)

UNICOM A nongovernment communication facility which may provide airport information at certain airports. (FAR Aeronautical Information Manual 98 Pilot/Controller Glossary)

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. (FAR, Part 77.2)

VFR Conditions Weather conditions equal to or better than the minimum for flight under visual flight rules. The term may be used as an ATC clearance/instruction only when:

- A. An IFR aircraft requests a climb/descent in VFR conditions.
- B. The clearance will result in noise abatement benefits where part of the IFR departure route does not conform to an FAA approved noise abatement route or altitude.
- C. A pilot has requested a practice instrument approach and is not on an IFR flight plan. (FAR Aeronautical Information Manual 98 Pilot/Controller Glossary)

Visual Approach An approach conducted on an instrument flight rules (IFR) flight plan which authorizes the pilot to proceed visually and clear of clouds to the airport. The pilot must, at all times, have either the airport or the preceding aircraft in sight. This approach must be authorized and under the control of the appropriate air traffic control facility. Reported weather at the airport must be ceiling at or above 1,000 feet and visibility of 3 miles

or greater. (FAR Aeronautical Information Manual 98 Pilot/Controller Glossary)

- Visual Flight Rules** Rules that govern the procedures for conducting flight under visual conditions. The term "VFR" is also used in the United States to indicate weather conditions that are equal to or greater than minimum a VFR requirements. In addition, it is used by pilots and controllers to indicate type of flight plan. (FAR Aeronautical Information Manual 98 Pilot/Controller Glossary)
- Visual Runway** A runway intended solely for the operation of aircraft using visual approach procedures, with no straight-in instrument approach procedure and no instrument designation indicated on an FAA approved airport layout plan. (FAR, Part 77.2)
- VOR (VHF Omni Range)** A ground-based electronic navigation aid transmitting very high-frequency navigation signals, 360 degrees in azimuth, oriented from magnetic north. Used as the basis for navigation in the National Airspace System. The VOR periodically identifies itself by Morse Code and may have an additional voice identification feature. Voice features may be used by ATC or FSS for transmitting instructions/information to pilots. (FAR Aeronautical Information Manual 98 Pilot/Controller Glossary)
- VORTAC** A navigation aid providing VOR azimuth, TACAN azimuth, and TACAN distance measuring equipment (DME) at one site. (FAR Aeronautical Information Manual 98 Pilot/Controller Glossary)
- Vortices** Circular patterns of air created by the movement of an airfoil through the air when generating lift. As an airfoil moves through the atmosphere in sustained flight, an area of low pressure is created above it. The air flowing from the high pressure area to the low pressure area around and about the tips of the airfoil tends to roll up into two rapidly rotating vortices, cylindrical in shape. These vortices are the most predominate parts of aircraft wake turbulence and their rotational force is dependent upon the wing loading, gross weight, and speed of the generating aircraft. The vortices from medium to heavy aircraft can be of extremely high velocity and hazardous to smaller aircraft. (FAR Aeronautical Information Manual 98 Pilot/Controller Glossary)

APPENDIX 1

Summary of Community Participation

The goal throughout the project process was to maintain open lines of communication with the area residents and the airport owner. The Airport Study Team held two community forums and attended Old Fort Hills Homeowner Association (HOA) meetings to gather input from residents, give updates on the status of the study, and present new information. The kick-off meeting was at an Old Fort Hills HOA meeting on November 18, 1997

A community forum was held in the auditorium at Harmony Hall on March 24, 1998. Residents, pilots and the airport owner were all encouraged to attend. Staff especially sought the attendance of residents on Featherstone Drive. Councilman Estep and members of the Planning Board attended to meet with the citizens, to listen and to take note of specific concerns. With representatives from the news media (television and print) also present, the forum received much attention. Unfortunately, there was a proportionally (40-60) low citizen turn out given the 3,000+ notices mailed to the community. Some of the attendees expressed frustration in their attempts to sell their homes. Homeowners from the subdivisions surrounding the airport complained that their property values had dropped due to noise and disruption from the activities of flying schools and nighttime takeoffs. The consensus seemed to be that the residents wanted the airport to cease nighttime activity and keep landing and takeoffs from threatening the homes on Featherstone Drive. The participants were encouraged to contact members of the study group either by phone or in writing to express their views, if they did not feel comfortable doing so during the forum.

In response to residents' statements that they were having trouble selling their homes because of Potomac Airfield, the Old Fort Hills HOA decided to conduct a survey (see the survey at the end of this Appendix). The survey was prepared, distributed and tallied by the Old Fort Hills Homeowners Association, with assistance from the community planning staff. The survey attempted to understand the disposition of all the homeowners on Featherstone Drive in regard to their perceptions of annoyance from the airport operations and the degree to which they would like to participate in a solution. At the onset, it should be noted that the survey was sent by first class mail to all 28 residents on Featherstone Drive and approximately one-half (14) of the residents responded (one absentee owner was not sent a survey). None of the respondents were pleased with their current situation. While the majority of the respondents wanted to sell their homes or take part in a "buy-out," no one was interested in physically moving their structure to another location. They reported far more concern with safety issues than with noise.

The second community-wide meeting was a presentation of the findings of the Michael Baker, Corporation, Inc. *Potomac Airfield Runway Realignment Study*. It was held on June 25, 1998, at Providence United Methodist Church on Old Fort Road. The presentation generated many questions from the community participants. Below are the questions and answers from this meeting:

Comments, questions and answers from the Michael Baker Corporation, Inc. Public Presentation on the Realignment of the Runway at Potomac Airfield - June 25, 1998.

Introductions by: Wendy Irminger M-NCPPC

Presentation by: Chris Van Note, Aviation Engineer, Michael Baker Corp., Inc.

Questions Taken After Start of Presentation

- Q. Does the airport currently meet all FAA and MAA standards?**
A. The approach surface is penetrated by trees in the 20:1 surface. The primary surface criteria separation of runway to buildings is also not currently met. All of the new proposed alignments meet all of these basic criteria.
- Q. Those criteria, are for safety?**
A. Yes, primarily for safety
- Q. Will the study allow larger aircraft in the airport?**
A. The study was essentially a replacement in-kind. So it is not going to allow larger aircraft. You will have safer aircraft standards.
- Q. Will the runway be wider?**
A. Yes. There are a lot of improvements with the new alignments. It will be a much safer facility
- Q. Where are the measurements taken from?**
A. All offset distances are measured from the center of the runway

Questions Following Explanation of Realignment Alternatives

- Q. So all your doing is extending it? There's no change. He still has all that (exists) and more. He still has the same amount.**
A. The (realignment) alternatives would clear trees and remove the planes from over Featherstone and Old Gate Court.
- Q. Of these studies, which one does your company recommend? Did you rate them?**
A. We did not provide a recommendation, nor rate them. There is a table in the report that covers parameters like cost.
- Q. Don't two of the alternatives allow eight more aircraft to be stationed at the airport?**
C. David Wartofsky - We currently have no restrictions.
A. We identified areas where aircraft could be parked. We had no criteria to base this on. We just calculated what could fit according to the space David gave us.

Q. In terms of takeoffs, do all planes takeoff right to left? Or do they go in both directions. Alternatives 2 & 3 seem like you're increasing runway space on the back side. What impact does that have on our community (Steed's Grant)?

A. David Wartofsky - Takeoff is determined by the wind direction. (Craig Rovelstad shows relationship of airport to Steed's Grant on the map).

C. But you would notice an increase, I live in Steed's Grant.

**Note - residents say that pilots turn left early, and fly over Steed's Grant on a daily basis.*

Q. The new construction would be in-kind?

A. Yes, with some small improvements to meet minimum standards.

Q. Would you be adding more buildings, or demolishing some?

A. Yes, that's right. Under current standards a maintenance hangar and circular storage hangar would have to be demolished under all three alternatives, because they are too close to the runway The facilities would be relocated on site.

A. Craig Rovelstad - the Special Exception provides for expansion...what he shows in orange (on exhibit) is replacing what exists that would be demolished.

Q. And you're relying on the Special Exception of 1965?

A. That's the one; seems to be the one that's controlling.

Q. In that Special Exception, how long was the runway extended?

A. 3,200 feet (total length), I believe.

Q. Was any of that extended over Featherstone Drive?

A. Yes, right up to the berm.

Q. So the runway could be extended?

A. FAA wouldn't really let you extend. You would be bringing the approach surface closer to the homes. There is a limit to the proximity

Questions Following Noise Impacts Presentation

Q. The only reason I ask, is because I think you've relied on the Special Exception to say the airport can do certain things now Well if the Special Exception cannot be fully utilized now, could some of those things be changed now?

A. The way I would answer that is the Special Exception is the controlling law, unless there is another law that precludes meeting the S.E. fully

Q. Are the alternatives predicated on a 3% approach slope, or the 4.5% or 5% that we have now?

A. It would be on the 3%.

Q. Do you have a sense that there will be substantial tree removal if you use the 5%?
A. FAA criteria is what we have to apply, you can't use a steeper slope to lessen tree removal.

Q. Is there a reduction in numbers of aircraft for tie-down parking?
A. The spacing was obtained from David Wartofsky We used the same size to count up tie-down spaces.

Q. So, you're not essentially losing any real-estate?
A. No.

Q. Where did you get the data that there were hardly any flights after 10:00 PM?
A. From MAA and discussions with David Wartofsky
C. Community disputes the data, and that information therefore alters the noise contours.

**Note - When Chris Van Note questioned if the community was talking about departures after 10:00 PM they unanimously stated: Yes!*

Q. You say in the study (on page 14) that due to a penalty assigned to nighttime flights between 10:00PM and 7:00AM (of which we have actual footage, via video tape, that disputes the study) based on information obtained from the airport, only 0.1% of all arrivals occur at night and no departures (which is incorrect). These percentages are assumed to be representative of typical fleet operation. But, they are representative of just verbal information. We have video taping going on all the time down there. That's why the community... stated they thought the data was skewed!
A. I'm sorry, the only thing I will say is that takeoffs after 10:00PM count...

Q. Did you use MAA study data?
A. We did get the current data from the MAA system plan and we tried to corroborate it as best we could.

Q. For the counts they have a little gizmo at the airport, did you use that data?
A. No, we didn't. We used the annual accounts.

Q. Does that come from the actual study, or do you know?
A. That comes from the annual FAA Form 5010, which is declared at the time of airport inspection.
C. I live right on runway, 250 feet from 24, on Cynthia. There aren't very many operations after 10:00PM. Once in a while you have aircraft arriving there and using fuel systems there. And we even go someplace else. But, from someone that actually physically lives there (if I could throw a baseball at the opening ceremony), there was not that much.

Q. But aren't you a pilot too?
A. Yes, but my wife isn't.

- C. We were talking about where you say there were no departures after 10:00PM.**
- C. But the conclusions are not going to be correct, without the correct data.**
- A. What I will say is; if we input more nighttime departure flights and stretch like a rubber band the 65 DNL noise contour, there would be little perception of difference.**
- Q. Did you use in the study aircraft in the air or on the ground?**
- A. The model uses the fleet mix, uses the number of departures and arrivals. We over-estimated the data that we got from MAA, to be conservative. We looked at the entire noise event, not just what's on the ground.**
- Q. You have the shape and the runway enclosed, if it were extended another (to) 2600 feet that noise contour would be larger, wouldn't it?**
- A. Maybe marginally so, you have the same fleet... the contours won't change much.**
- Q. Did you look at the altitude of the aircraft, flying over any of these homes?**
- A. We did not look at anything other than FAA and MAA criteria, and what we needed to clear in terms of these orange zones (new alignment shown on exhibits) in order to maintain these approaches from trees.**
- Q. My question is your noise contours, it seems as if you've cut it off prematurely? If an aircraft is using Featherstone Dr as an extended runway ... your noise contours would increase?**
- A. All I can say is, and I'll say it again...the only thing that would change these noise contours is if you added more night flights. It would really have very little effect.**
- C. *The data from the airport was not used. Even if it is negligible, it should be used. But if you want credibility you have to include the proper information.***

**Note - Wendy Irminger: these are the kinds of comments we need from you, to take back and include as additional analysis in our report.*

Questions Following Environmental Impacts Presentation

- Q. Were those costs (for mitigation, etc.) added into the analysis?**
- A. Costs of study doesn't include cost for mitigation.**
- Q. What controls the mitigation? The counts?**
- A. Requirements both local and federal. There are ways to mitigate that can be expensive. Compensatory storage or stream mitigation.**
- Q. Was mitigation always above and beyond the high estimate cost?**
- A. This stage of the alternatives does not even take in preliminary design, there are other issues, like stormwater management. Because we didn't do a more detailed design, we put a contingency fee into the cost.**

Q. Let's say where you have tree removal areas there was a bald eagle nest. Could you do what you are suggesting?

A. I would have to check with our environmental people. These are just paper possibilities.

Q. Do you have a chart that shows the environmental impact of the other two alternatives (#2 and #3)?

A. Actually in the report, the biggest difference was the (amount of) tree removal.

Q. What's the cost of the other two?

A. \$3.5 to 3.7 million for alternatives #2 and # 3, with \$3.5 to 4 million for alternative #1.

Q. A waiver is indicated in the report to the approach surface, is that issued by MAA?

A. Yes, the waiver is to the approach surface. The MAA are the ones that must license the pilots. The waiver refers to the steeper glide angle. This is the criteria that they violate, the waiver lets them mitigate by increasing the glide angle.

Q. So, is that the same as FAA regulation, that they are in violation?

A. FAA design criteria is not a regulation. They do not have an interest or regulation over this airport, nor can they say to Mr. Wartofsky that the airport is or isn't safe. The MAA has a lawsuit pending, where we are trying to get authority for the State to approve or disapprove categories of airports. The FAA says that is their right, but there are no regulations that Mr. Wartofsky is bound by

Hyde (Washington Executive Airport) is bound by advisory circulars, the airport owner signed an agreement when he accepted aid. He agreed that he would abide by all the advisory circulars that apply to airports. The criteria that MAA has for Mr. Wartofsky is the approach level and the clearance cited. The MAA has no control because of home rule, they have no control because of State law MAA has no control over land use. The MAA can control the approach level, as well as proposed construction going in to that, so long as the County approves. MAA has no way to enforce that. The County must enforce the land use requirement. The power has been taken away from the State. The only thing the MAA can do is control the 200' off the runway, where the approach surface begins.

Q. Does MAA control what happens on the Airfield property?

A. Yes, they do when it comes to the clear areas around the runway, the obstructions between the edges of the runway to the building and also the ability to control approach surfaces and transitional surfaces.

C. The new alternatives will bring the airport into conformance with criteria for MAA and FAA.

Q. But MAA doesn't have any control of aircraft that might go over Steed's Grant?

A. No, that is a Federal requirement. MAA does not own the airspace over Maryland.

- Q. Where are we going from here, and who will determine that? What sort of timetable are we looking at?**
- A. This study will need your comments. The study will include more than just this airport, it (involves) drafting legislation that would apply to all general aviation airports in the County**

Appendix 2: Application and Staff Report for S.E.1130

APPLICATION FOR SPECIAL EXCEPTION

PRINCE GEORGE'S COUNTY, MARYLAND

S.E. No. 1130

DATE

RECEIPT No.

October 13 1964

BY

DIST. COUN. ACTION Cont. to Mar 11 1965 ... Renewal - Approved 3-19-65

I, Martin Shaw and Rosia Shaw (Name of Applicant)

owner/agent, hereby make application for permission to use for the purposes of continued use for commercial Air-port with (Intended use)

Improvements requested:

None known as

the premises of Rose Valley Airport, Friendly, Md. (Description and location of property)

containing 30 99/10 acres and 14 25/11 acres located in District of Prince Georges Md

now zoned Airport with non conforming residential (Zoning classification)

ADJOINING PROPERTY OWNERS CONSENT

We hereby consent for special exception use.

Martin L Shaw Rosia L Shaw (Signature of Applicant) 9550 Allentown Rd Friendly, Maryland (Post Office address of applicant)

John B. Real Estate Services, Inc James L Faulkner, Sr Treasurer

CH 8-8425 (Telephone number of applicant)

PR. GEORGE'S CO.

APPROVED AS TO LEGALITY

County Attorney

SE 1130 Joseph Goldstein Cedar Beach Farm Prince Frederick, Md Office Phone # 410-3-8302

THE MARYLAND-NATIONAL CAPITAL PARK AND PLANNING COMMISSION
Prince George's County Regional Office

TECHNICAL STAFF REPORT

January 27 1965

TO: The Prince George's County Planning Board

FROM: Technical Staff

SUBJECT Special Exception No. 1130 - Filed by Martin and Rosie Shaw, Owners, to permit an airport on a tract of land containing 45,242B acres in the R-R Zone

Location of Property: This property is a tract of land containing 45,242B acres and is located on the west side of Tinkers Creek, approximately 3,500 feet south of Steed Road and approximately 4,000 feet southeast of Allentown Road.

Discussion: The staff's review of this request for a Special Exception to permit the operation of an airport in the R-R Zone can best be broken down into five parts, which are discussed below.

I Compatibility With General Plan - The staff has reviewed the relationship of the proposed use with the proposals set forth on the General Plan, as required under Section 28.313 (a), which states as follows. "The proposed location is in accordance with the Master Plan of Airports for the Maryland-Washington Regional District in Prince George's County or, if such plan has not been adopted, then the proposed location has been approved by the Commission as to compatibility with the General Plan for the physical development of the said Regional District." The staff's review of this request in relationship to the General Plan proposals has indicated the following facts. (1) The Rose Valley Airport, which is presently located on the subject property has existed for several years as a non-conforming use and is presently operating as such. (2) The General Plan proposes a low density development in the area west of Tinkers Creek extending westerly to Indian Head Highway and beyond. (3) There is a proposal on the General Plan for an airport, however this proposal is not indicated to be the Rose Valley Airport. Not only is it not located in the same area, but more important, the approach areas for the runways of the proposed airport facility would extend more in a north-south direction. Under the proposals of the General Plan, these airport approach areas would be fairly low density areas of population and would not extend over areas which are proposed to develop intensively. The approach areas of the present facility, the Rose Valley Airport, extend generally in a northeast-southwest direction and the northeast approach area projects over the community of Oaklawn which is located slightly to the west of the proposed Southeast Expressway. The staff's evaluation of these various factors, has led to the conclusion that, while admittedly the General Plan is only general in its proposals, a proposal for an airport should not be considered as being general in the sense that density proposals might be considered general particularly in view of the fact that an airport, while physically occupying a given amount of acreage on the ground, affects a much larger area by means of the use of its approach areas and the airport proposal shown on the General Plan has allowed for the extension of these approach areas in a manner which would be more compatible with the development recommended by the General Plan.

II The Recently Appointed County Airport Committee - The Prince George's County Commissioners recently appointed a committee which has been directed to study the county-wide airport situation and make recommendations concerning the establishment of a municipal airport within Prince George's County. In view of this development, it would seem quite reasonable to take no action on any airport, either existing or proposed, until such time as the recommendations of the airport committee, are available for study. In connection with this topic, one of the factors which would most surely be reviewed and considered by the airport committee in the course of their investigations, is the close proximity of Rose Valley Airport to the Hyde Field Airport and the fact that their approach areas overlap.

III Technical Considerations and Requirements as set forth by the Zoning Ordinance - The Zoning Ordinance for the Maryland-Washington Regional District in Prince George's County adopted in 1949 and since amended, states under Section 28.313 that an airport, airpark, or airfield (private) is permitted by a grant of a special exception in any zone provided that certain requirements are met. These requirements are listed as (a) through (f) under this Section of the Zoning Ordinance.

DEED DESCRIPTION

Being part of the land of Martin L. Shaw and Rosie O. Shaw as described in a conveyance recorded among the Land Records of Prince George's County, Maryland (5th Election District) in Liber 571 at Folio 331, and being more particularly described as follows:

Beginning for the same at a fence post on the division line between the land of Martin L. Shaw and Rosie O. Shaw (Liber 571, Folio 331) and the land of George Curtis, et al (Liber 2282, Folio 309), said fence post lying S 64 deg. 45 min. 10 sec. E, 2313.75 feet from an iron pipe at the most westerly corner of Shaw, and running thence through the land of Shaw, N 30 deg 42 min. 50 sec. E, 317.79 feet to an iron pipe, thence N 34 deg. 06 min. 50 sec. E, 699.66 feet to a nail, thence N 37 deg. 29 min. 50 sec. E, 599.48 feet to an iron pipe, thence with the division line between the land of Shaw and the land of Francis W. Underwood and Merva L. Underwood (Liber 813, Folio 479), S 43 deg. 09 min. 20 sec. E, 1017.43 feet to an iron pipe, passing in transit an iron pipe 254.18 feet from the beginning of said course, thence leaving said division line, S 28 deg. 41 min. 40 sec. W, 396.00 feet to a point in Tinkers Creek, thence with Tinkers Creek S 66 deg. 20 min. 10 sec. W, 299.11 feet to a point, thence S 27 deg. 59 min. 10 sec. W, 123.00 feet to a point, thence S 51 deg. 02 min. 30 sec. W, 528.00 feet to a point, thence leaving Tinkers Creek and running with the division line between Shaw and Curtis, N 64 deg. 45 min. 10 sec. W, 755.25 feet to the point of beginning, passing in transit an iron pipe 30.00 feet from the beginning of said course;

Containing 1,349,997 square feet or 30.9917 acres.

August 19, 1964

M. J. M.
Please proofread this description before recording. Make no change in this description without consulting our office. If unwilling to adhere to this practice do not use my name in connection with this survey.

Deed Description of
Subject Property

SE .1130

DEED DESCRIPTION

Being part of the land of Francis W. Underwood and Marva L. Underwood as described in a conveyance recorded among the Land Records of Prince George's County, Maryland (5th Election District) in Liber 813 at Folio 179, and being more particularly described as follows.

Beginning for the same at an iron pipe at the most southerly corner of the land of Francis W. Underwood and Marva L. Underwood (Liber 813, Folio 179), said iron pipe being the most easterly corner of the land of Martin L. Shaw and Rosie O. Shaw (Liber 571, Folio 331), and running thence with the division line between Shaw and Underwood, N 43 deg. 09 min. 20 sec. W, 763.25 feet to an iron pipe, thence through the land of Underwood N 37 deg. 44 min. 12 sec. E, 918.16 feet to an iron pipe, thence with the division line between Underwood and the land of Lowa E. Steed (Liber 217, Folio 235), S 41 deg. 10 min. 10 sec. E, 639.18 feet to a stone, thence with Tinklers Creek, S 46 deg. 35 min. 30 sec. W, 124.55 feet to a point, thence S 02 deg. 50 min. 40 sec. W, 165.00 feet to a point, thence S 57 deg. 50 min. 40 sec. W, 264.00 feet to a point, thence S 19 deg. 50 min. 40 sec. W, 462.00 feet to the point of beginning,

Containing 620,777 square feet or 14.2511 acres.

$$\begin{array}{r} 36.9917 \\ \hline 45.2428 \end{array}$$

August 19, 1954

W. J. ...
Please note ... and before recording.
Make no change in area computation without
consulting the ... of ...
to this ... and ...
injection with ...

SE 1130

Dr. UNDERWOOD
83-479
07.15A.
.114-218

LOWE E STEED
211-286
129 50A.
P115-140

FRANCIS W. UNDERWOOD
813-474
107 15A
P114 218

SE 1130

MARTIN L. SHAW
571-331
125.75A.
P.123-48

SE 1130

GEO M. LANGE
930-225
150.22A
P 19

WATERLOO

Section 28.313 (a) states as follows. "The proposed location is in accordance with the Master Plan of Airports for the Maryland-Washington Regional District in Prince George's County or if such plan has not been adopted that the proposed location has been approved by the Commission as to compatibility with the General Plan for the physical development of the said Regional District."

Section 28.2 further states: "A special exception may be granted when the Council finds that (a) the proposed use is in harmony with the purpose and intent of the General Plan for the physical development of the district as embodied in this Ordinance and in any master plan or portion thereof adopted or proposed as part of said General Plan. (b) The proposed use will not affect adversely the health and safety of residents or workers in the area and will not be detrimental to the use and/or development of adjacent properties or the general neighborhood." In the opinion of the staff this request would not satisfy either of the requirements listed under Section 28.2.

Section 28.313 (d) states: "There is sufficient distance between each usable landing strip and the airport boundary to satisfy the requirements of Sections 27.251, 27.252, and/or 27.253, whichever may apply." (Section 27.251 applies in this instance and requires that the first 500 feet of the glide path or approach area shall be wholly within the airport, except in instances where air rights or easements have been obtained from the owners of abutting properties in such approach areas, in which case this figure may be reduced to not less than 250 feet) "In cases where air rights or easements have been acquired from owners of abutting properties in which approach zones may fall satisfactory evidence thereof shall be submitted with the application." The staff's review of this sub-section would indicate that there is not a distance of 500 feet between the end of the runway and the airport boundary and no evidence has been submitted with the application, indicating the acquisition of air rights or easements as required.

Section 28.314 states as follows: "No application shall be considered unless it is accompanied by a plan drawn to scale showing the proposed location of the airport boundary lines, dimensions, names of owners of abutting properties, proposed layout of runways, landing strips or areas, taxi strips, aprons, roads, parking areas, hangars, buildings and other structures and facilities, the location and height of all buildings, structures, trees and overhead wires, falling within the airport approach zones and less than 500 feet distant from the boundary lines of the airport other pertinent data, such as topography and grading plan, drainage, water, sewerage, etc." The staff's review of this Section indicates that plans have been submitted with the application which show the proposed physical improvements contemplated at the Rose Valley Airport. However a substantial amount of the information which is required under Section 28.314 has not been submitted with the application.

IV The staff is in receipt of a letter from the Potomac Electric Power Company dated January 21, 1965, under the signature of Thomas E. O'Dea. This letter indicates a concern of the Potomac Electric Power Company in regard to the subject application and while not expressing opposition to the proposal does point out the existence of electric power transmission lines in the immediate area around the airport, specifically, crossing both the north and south approach areas. These lines are presently on 60 foot high wooden poles, however it is planned eventually to replace the wooden poles with steel towers which would be 125 feet in height. The letter goes on to say that these existing transmission lines are presently a non-conforming use and indicates a concern as to the effect of granting the special exception for this airport in terms of its relationship to a future special exception to allow improvements to the above mentioned power lines.

V The staff is also in receipt of a letter dated December 30, 1964, under the signature of Mr. Curtis F. Greve, District Airport Engineer with the Federal Aviation Agency. This letter discusses the general airport situation in Prince George's County however the following quote from the letter is pertinent to this request: "Amendments to the Federal Airport Act now require (see P.L. 88-200) that sponsors obtaining funds for airport improvement or establishment submit a statement that their projects are consistent with plans for developing the area and also that they have taken action to restrict the use of land in the vicinity of the airport to uses compatible with airport operations and development. Because of these requirements, it will become necessary that adequate treatment be given to general aviation needs in all the area studies performed by your office."

Recommendation: DENIAL

SE 1130

DISTRICT COUNCIL FOR PRINCE GEORGE'S COUNTY, MARYLAND.

ZONING PROPOSAL NO. 11 1965

ZONING RESOLUTION NO. 11 1965

To grant a special exception to the zoning Regulations for the Maryland-Washington Regional District of Prince George's County

WHEREAS a petition for a special exception to the Zoning Regulations has been filed by Martin Shaw and Rosie Shaw (Joseph Goldstein, Agent)

to use the property known as Rose Valley Airport, Friendly, Maryland, containing 30.9917 acres and 14.2511 acres, Piscataway District, Prince George's County, Maryland,

in the R-R zone for the purpose of an airport,

and

WHEREAS after public hearing the County Commissioners for Prince George's County, sitting as the District Council of the Maryland-National Capital Park and Planning Commission, has found that the proposed use is in harmony with the purpose and intent of the general plan for the physical development of the District, and will not affect adversely the health and safety of the residents or workers in the area and will not be detrimental to the use of development of adjacent properties or the general neighborhood,

SECTION 1. Be it resolved by the County Commissioners for Prince George's County, sitting as the District Council of the Maryland-National Capital Park and Planning Commission. That the special exception as requested be and it is hereby granted.

SECTION 2. And be it further resolved, That this resolution shall take effect from the date of its adoption.

ADOPTED THIS 30th DAY OF March 1965
COUNTY COMMISSIONERS FOR PRINCE GEORGE'S COUNTY,
MARYLAND.

ATTEST

J. Leonard Eyer
CLERK

BY

[Signature]
PRESIDENT

SE 1130

Appendix 4: Affidavit

DISCLOSURE OF AIRPORT OPERATIONS

The Purchaser acknowledges that Seller has made a full disclosure of the fact that a private airport known as Potomac Airfield is located in the vicinity of the Old Fort Hills (Rose Valley) subdivision. Purchaser desires to purchase a lot with a house constructed on it located on Featherstone Drive in the Old Fort Hills (Rose Valley) subdivision knowing that the Potomac Airfield is located on the adjacent property. Seller has advised Purchaser that to the best knowledge of Seller the subdivision of Old Fort Hills (Rose Valley) meets all Federal Aviation Administration, Maryland State Aviation Administration and Prince George's County regulations for the construction of a subdivision in the vicinity of an airport. Purchaser agrees to hold Seller, its agents and broker(s) harmless and to release Seller, its agents and broker(s) from any and all liability with respect to the risk and dangers associated with the airport and aviation activity in the area of the Old Fort Hills (Rose Valley) subdivision. Purchaser acknowledges that this disclosure will survive closing notwithstanding any other provisions of the Contract or any addendums executed by Purchaser and Seller.

SELLER:

Maxwell B. Ford
Lovell Regency Homes, Regency Homes
Corporation, General Partner

Date: _____

1-18-91

PURCHASER:

Date: _____

Appendix 5

Chronology

Background Chronology for Potomac Airfield (formerly Rose Valley Airport)

- 1957** Airport constructed on Shaw property with 870 feet of runway on neighboring Curtis property
- 1964** Area became subject to zoning authority; original zoning is R-R Zone. Airport became a nonconforming use because of its pre-existing status.
- 10/13/64** Application for Special Exception SE-1130 filed by Martin and Rosie Shaw for continued use of commercial airport with future improvements at Rose Valley Airport on two parcels of land containing 30.9917 and 14.2511 acres. Site plan submitted with application and property deeds/plat show a 2,600 foot long by 36.5 foot wide runway with a 19-foot-wide taxiway as the first stage (probably what existed at the time) with expansion to a 3,200 foot long by 75 foot wide runway with a 30-foot-wide taxiway as the final stage of development. Airplane hangars and other buildings are also shown on the site plan in stages. However, only the northeastern two-thirds of site plan are on the property subject to the Special Exception application; remainder is on Curtis property Curtis Bros. Real Estate, Inc., adjoining property owner, signed application as consenting to Special Exception use.
- 01/15/65** Public hearing on SE-1130 by Board of County Commissioners; continued to later date because no recommendation had been received from M-NCPPC.
- 01/27/65** M-NCPPC Technical Staff Report on SE-1130 recommends DENIAL as not in conformance with Zoning Ordinance Special Exception requirements for an airport at Sections 28.2, 28.313 (a) and (d), and 28.314. In brief, these sections required conformance with recommendations of the General Plan; no adverse affect to health, safety, welfare of residents or development of adjacent properties, adequate distance between the end of the landing strip and property boundary via ownership or easement so that the first 500 feet of glide path is within the airport (as per Section 27.251), and a Detailed Site Plan showing all proposed improvements, existing structures, trees and overhead wires and their elevations on the airport and within the airport approach zones. The application did not comply with these provisions.
- 03/19/65** Continued public hearing on SE 1130 held by Board of County Commissioners; it was reported that M-NCPPC recommended that the Special Exception NOT be granted until the County Airport Committee completed their report and submitted to County Commissioners for review; hearing was recessed.

- 03/30/65 SE 1130 for Rose Valley Airport was approved by District Council Zoning Resolution No.11-1965 on two parcels of land 30.9917 acres and 14.2511 acres, respectively
- 04/29/76 Preliminary Subdivision 4-76032 Old Fort Hills Cluster , 328.8 acres in the R-R Zone, APPROVED (PGCPB Resolution 76-25) for 395 lots, including 63 lots on Featherstone Drive in Sections 7 and 8, some shown on top of the southern 870 feet of existing Rose Valley Airport runway This part of the subdivision was on a portion of the property shown on the site plan of SE-1130 for the airport. There were eight speakers (in addition to staff) on the transcript of public hearing; for the applicant: 1) Marc Montgomery, 2) Charlie Johnson of Johnson, McCordice and Thompson, Inc., 3) Bill Knight, Atty., 4) George Curtis and 5) Jo Kuhn both of Curtis Properties, Inc. (owner); other speakers: 6) Mary S. Holmes and 7) John E. Sellner, both of Friendly and 8) George P Giavasias of Alexandria, Va. There was no mention of existing airport or negative testimony on the transcript, reports or records in the files, except for the paving for the runway shown as an existing feature on the preliminary subdivision plats where a number of lots were proposed in Section 8.
- 03/22/79 Preliminary Subdivision 4-79018 for a portion of 4-76032 (which had expired before it could be recorded in entirety) was approved for 298 lots on 269.8 acres in the R-R Zone. Staff report notes "clearing for Valley View Airport near Tinkers Creek" in background section, but makes no other reference. Except for runway paving as an existing feature on preliminary plats, there is no other mention of airport in this file. A public hearing was held on March 22, 1979; in addition to staff only one person spoke at hearing, Lee Clayman, representing the Piscataway Citizens Association. Chairman Burcham also read a letter into the record as testimony from Mary Holmes, Friendly Citizens Association. There were no comments submitted at this hearing regarding the airport.
- 10/23/79 Accokeek, Piscataway, Tippet SMA changed zoning on northeast part of airport property from R-R to R-E Zone (but did not effect Special Exception 1130). The southwest part of airport runway on Curtis property included in preliminary subdivision 4-79018 was retained in R-R Zone.
- 09/06/84 Preliminary Subdivision 4-84113 approved, revising previous approval from 123 to 117 lots for a 105-acre portion of 4-79018/4-76032 for Sections 7 and 8; eventually recorded as A-131-068 and 131-069 (1987). Stated purpose of revision was to reduce the amount of earth to be moved under previous layout; new design eliminated cul-de-sacs on stream valley side of proposed Featherstone Drive and the amount of roads proposed up steep grades of hill to northwest. There were only two speakers (in addition to staff) at the public hearing: 1) Bill Knight, Atty representing owner and 2) Anne Thompkins of Rose Valley Woods. Ms. Thompkins objected to re-subdivision because the neighborhood was opposed to

small lot sizes allowed by cluster regulations and would like to see homes built on larger lots. There is no mention of airport in record of this subdivision.

- 11/06/86 Old Fort Hills Subdivision, Sections 7 and 8, Final Plats 5-86184-86 and 5-86214-15 approved by Planning Board. Also included approval of variation from strict application of the rules regarding preliminary plan expiration date.
- 03/11/87 Old Fort Hills Subdivision, Sections 7 and 8, recorded as Plats NLP 131-067 thru 131-070.
- 05/01/87 Open Space dedication for Old Fort Hills Subdivision, Sections 7 and 8 transferred from Curtis to M-NCPPC (6631/793):
Plat 131-068, Block E, Parcel A, 14.3 acres
Plat 131-069, Block J, Parcel A, 10.2 acres
Plat 131-070, Block J, Parcel C, 18.2 acres
- 07/26/87 Curtis Properties, Inc. informed owner (C. H. Doherty, Jr., Trustee of estate of Bryan Gordon, Jr.) and operator (Larry DeAngelis, Professional Flight Services, Inc.) that the month to month lease for 870 feet of runway at P.G. Airpark would be terminated by Curtis effective 10/01/87 and that said runway would be removed from service effective that date. Purpose was planned construction of approved and platted subdivision.
- Sumr/87 Prince George's Airpark LP (Wartofsky) and Prince George's Airpark Inc. (Estate of Gordon) negotiate sale of Rose Valley Airport; Wartofsky began to occupy and run airport.
- 08/01/87 Curtis notified airport owner (Estate of B. Gordon, Jr.) that month to month lease for land including 870 feet of airport runway and some hangars would cease on 9-1-87 (later extended to 10/01/87)
- 08/07/87 C. H. Doherty, Jr. (Trustee estate of Gordon) acknowledged receipt of 07/26/87 notice of lease termination.
- 08/27/87 Curtis gave notice to Md. SAA of intention to remove approximately 870 feet of paved runway at southwest end of beginning on 10/01/87 Curtis also gave notice to: FAA (Form 7490-1) concerning construction in area of the airport; Wartofsky; the Gordon Estate; Professional Flight Services, Inc., and all aircraft operators at Rose Valley Airport.
- 08/20/87 Ltr. from Mr. DeAngelis, Professional Flight Service, Inc., informing MAA of proposed reconfiguration of airport runways to offset pending loss of 870 feet of runway on south end.

- 08/25/87 SAA inspection (Selby) of Rose Valley Airport determined proposed reconfiguration (870 feet shorter than before), resulting in a length of 1,329 feet landing surface for Runway 06 and 1,334 feet for Runway 24, would NOT meet minimum standards for either a public-use or private-use commercial use airport due to obstructions in the approach surfaces.
- 09/03/87 Professional Flight Services, Inc. notified all users of Rose Valley Airport about the reduction in length of the runway and limitation on use of hangars on Curtis property
- 09/14/87 Ltr. from T Mathison, Administrator, MAA, to Lawrence J. DeAngelis, Pres., Professional Flight Service, Inc., informing of failure to meet MAA minimum standards for runway length, displaced surfaces and 20:1 approach slopes. Stated that unless the airport is able to effectuate removal of trees to allow minimum runway length of 1,500 feet and 20:1 approach slope, the MAA will revoke Airport Operating Certificate as of that date. In addition for a 1,500-foot runway, by 09/30/87 must also: (a) reposition all runway and threshold lighting to conform to runway length, (b) SAA will remove Bar-VASIs, and (c) if sufficient obstructions cannot be removed to attain minimum 2,000 feet of runway with approaches, must change status of airport from Public to Private, which requires prior permission for use.
- 09/26 & 27/87 On or about the weekend of 9/26 & 27/87 (per CAL87-16404 second amended bill of complaint received by Clerk 12-21-88, p. 7) Unknown persons unlawfully cut down and destroyed trees on the property owned by Curtis, M-NCPPC, and Steed near P G. Airpark at the ends of Runway 06 and 24.
- 10/01/87 Lease between Curtis (owner, southern part of airport) and Gordon Estate (owner northern part of airport) expired; southern 870 feet of runway and hangars on Curtis property no longer available for airport use.
- 10/01/87 SAA (Selby) remeasured P G. Airpark and determined that the landing surface available on proposed Runway 06 was 1,949 feet and on proposed Runway 24 was 1,829 feet.
- 10/01/87 SAA issued airport operating certificate # 170 to P G. Airport as a Public Use Commercial Use airport with restriction for daytime operation only
- 10/01/87 Curtis Properties, Inc. and John E. Watson (rep. of Steed Estate) and James S. Watson filed suit against William Malone and David Wartofsky and P G. Airpark c/o C. H. Doherty, Jr. and Bryan Gordon, Jr. Trust c/o C. H. Doherty, Jr. and P G. Airpark Associates, LP, for injunctions against further airport operations, for damages to the Old Fort Hills Subdivision, Sections 7 and 8, for trespass and other damages alleged to have occurred when defendants or their agents destroyed several acres of trees. (CAL 87-16404, CAE 878-17762 (Consolidated))

- 10/01/87 Circuit Court issued restraining order preventing airplane landing or taking-off.
- 10/08/87 Property including airport sold on or about October 6, 1987 by estate of Bryan Gordon, Jr. to P G. Airpark Associates Limited Partnership (Wartofsky, et al.). (TM 123/F-2 and 124/A-2, Parcels 48 and 64, 114 acres, liber 6796 folio 263)
- 10/07/87 PG-DER issued stop work order V-14587 for logging that occurred w/o permit.
- 10/07/87 P G. County Circuit Court dissolved temporary restraining order issued 10/01/87, held hearing regarding unlawful/illegal removal of trees on properties adjoining P G. Airpark filed by Curtis and Watson against P G. Airpark.
- 02/02/88 SAA holds administrative hearing (hearing officer Mundie) (at Curtis request) on Operating Certificate #170 for P.G. Airpark. Issues: 1) Has there been a change of physical or legal condition of airport since issuance of its license? 2) If so, what changed? 3) Have changes caused airport to become unusable for purposes of license? SAA concluded that changes in the physical and legal conditions of P G. Airpark "caused the airport to become unusable for the purposes for which the certificate was issued."
- 02/21/88 Curtis files Amended Bill of Complaint (CAL 87-16404, CAE 87-17762) for permanent injunction and damages for alleged trespass and removal of trees without permission, adds P G. Airpark, LP as a defendant.
- 03/07/88 Building Permit Application 1395-88G for addition to runway; recommended for denial.
- 03/18/88 P G. Airpark, et al., file answer to Amended Bill of Complaint CAL87-16404, CAE 87-17762) denying trespass and removal of trees. (Trial set for 02/14/89, retrial hearing for 12/20/88, pretrial statements due by 12/5/88)
- 04/27/88 Ltr to Ron Schiff, M-NCPPC, from R. Shipley, rep. P G. Airpark, re: Appl. 1395-88-G grading permit application.
- 05/17/88 SAA (Mundy) remeasured P G. Airpark.
- 05/18/88 SAA administrative hearing decision rendered: (a) Operating Certificate 170 for P G. Airpark issued to Larry DeAngelis was revoked by order of T E. Mathison, Administrator, Md.-SAA and (b) SAA would reinspect to determine if a PRIVATE COMMERCIAL certificate could be issued.
- 05/20/88 Md.-SAA received application for a commercial use/public use airport operating certificate along with a slope waiver request from David Wartofsky (rep. new owner of airport, P.G. Airpark Associates, Limited Partnership)

- 05/25/88 Md.-SAA issued new private use/commercial use license operating certificate to David Wartofsky for P G. Airpark.
- 06/03/88 Ltr. to Ruth Senes, M-NCPPC Permits Office, from William Knight, rep. Curtis Properties and John Watson, property owners surrounding SE 1130 noting existing circumstances of airport and stating in their opinion that the airport has no valid operating license, it violates requirements of use and occupancy permit, and does not conform to Special Exception Site Plan.
- 06/21/88 Ltr. to Russell Shipley (rep P G. Airpark) from Jehanne M. McIntyre, Assoc. Gen. Counsel, M-NCPPC, re: Permit 1395-88-G in response to 4/26/88 Ltr to R. Schiff, M-NCPPC. States staff findings that construction of facilities south of runway do not conform with site Plan for SE-1130 and staff recommendation for denial of permit 1395-88-G were appropriate unless or until SE-1130 were revised.
- 07/01/88 Ltr. to Wm. Knight from Ruth Senes, M-NCPPC Permits Office, in response to 06/03/88 ltr acknowledging awareness of SE-1130 file, and indicating that Permit No. 1395-33-G to extend runway was recommended for denial because the site plan submitted with application did not comply with SE-1130 site plan. Also, states reference in 06/03/88 letter to opinions about revocation/modification of SE-1130 was in error; Permits office staff does not participate in revocation process, nor take a position on whether SE should be revoked. Refers Knight to Robert Payne, Supervisor of Zoning Enforcement Section, DER.
- 08/17/88 MD-SAA Administrative Hearing (J. Huber) on appeal by Curtis regarding reissuance of airport license 170 for P.G. Airpark. Issues 1) Was there and assessment of noise impact upon surrounding area? 2) Should site measurements necessary for issuance of license be recalculated to include prior existence of trees in Curtis and Watson property? SAA staff testified there was no noise impact to neighborhood, and they did not take into account prior condition of surrounding properties (i.e., height of trees prior to cutting). M-NCPPC, Curtis, and Steed Estate all testified trees were removed from each of their properties illegally without permission. Airport operator DeAngelis and owner Wartofsky testified they didn't authorize tree cutting. Tax maps showing residential subdivisions were introduced to record.
- 10/13/88 Ltr. to staff from Arthur Horne, (rep P G. Airpark) apparently forwarding affidavits from the original builders of airport structures (ref in 11/01/88 ltr. below).
- 11/01/88 Ltr. to Arthur Horne (rep P G. Airpark) from J. McIntyre, Assoc. Gen. Counsel, M-NCPPC acknowledging receipt of affidavits from airport builders as substitute for lost building permits prior to 1975 and indicating structures were built in accordance with applicable building permits at the time. Will notify Permits

Office that affidavits have been accepted for purposes of pending grading applications.

- 11/01/88 Permit application 1395-88-G check sheet revised/approved 11/08/88 per legal opinion of 11/01/88
- 12/02/88 Curtis filed SECOND AMENDED BILL OF COMPLAINT FOR TRESPASS AS TO LAND FOR MALICIOUS INTERFERENCE WITH PROSPECTIVE ADVANTAGE FOR DECLARATORY JUDGMENT AND FOR PERMANENT INJUNCTION in case of Curtis Properties, Inc., et al., vs. William Malone, David Wartofsky, et al., (CAL 87-16404, CAE 87-17762) adding charge of "intentional interference with prospective advantage" because they were prevented from developing Old Fort Hills Sections 7 and 8 because P G. Airpark obtained a private commercial airport license from SAA and didn't close when the Curtis part of runway was removed. Sought \$2.5 million in compensatory damages (lost profits) and \$10 million in punitive damages.
- 12/05/88 Pretrial statement filed by P G. Airpark, et al., (CAL 87-16404, CAE 87-17662) denying trespass or tree removal and also stating that tree removal on Curtis property was a regular occurrence over past 30 years per express/implied agreements. (Some records say this took place on 12/19/88)
- 12/19/88 Curtis deposed Wartofsky and Simon (P.G. Airpark) re: CAL 87-16404, CAE 87-17662. Off-record discussion reportedly involved legality of Old Fort Hills Subdivision and whether M-NCPPC exceeded authority in approving extension. Upon knowledge that Curtis filed Second Amended Bill of Complaint, P G. Airpark threatened to 1) file counterclaim against Curtis for illegally trying to put airport out of business and 2) file third party claim against M-NCPPC for "illegally" granting approval of final plats for Sections 7 and 8 of Old Fort Hills subdivision.
- 12/20/88 Pretrial meeting for case CAL 87-16404, CAE 87-17762. Discussion/agreement among parties to avoid filing of counterclaim and third party claim in hopes of settling case. Court rescheduled trial from 02/14/89 to 07/06/89; pretrial for 06/06/89 Subsequent discussions among parties are reported to have included 1) trading other ground owned by defendant (airport) for ground plaintiff (Curtis) felt could not be developed, 2) discussion and meetings by defendants attorney with owners of Hyde Field regarding possible merger of two airports with residential development occurring on defendants airport as well as on Steed and Curtis, 3) a second offer to trade part of defendants' property for part of Curtis. Nothing came of these discussions.
- 01/17/89 Revised permit application 1395-88-GU/04 submitted to include "repaving existing driveway and existing parking."

- 03/29/89 Ltr from SAA (Mathison) approving airport Operating Certificate #170 as a Public Use Commercial Use Airport for 01/01/89 to 12/31/89 (w/ NO restrictions).
- 04/06/89 SAA Administrative Hearing final decision, upholding 10/01/87 issuance of operating certificate 170. Examiner considered only those facts relevant to determination whether P G. Airpark met minimal standards for public use airport per COMAR 11.03.04.07F Administrator did not make any findings regarding relationships or disputes of Curtis, Malone, Watson, Wartofsky, P G. Airpark, Gordon estate, or P G. Airpark LP
- 04/17/89 Curtis (Brennan of KMBO&H) filed Circuit Court against Findings of Facts, Conclusions of Law and Final Decision of State Aviation Admin., dated 4-6-89
- 06/06/89 P G. Airpark filed 1) counterclaim against Curtis and 2) third party claim against M-NCPPC in CAL 87-16404, CAE 87-17762. (Per discussion 12/19/88)
- 07/18/89 Ltr. to Todd Redden, Stehle Eng. Corp. from Susan Cotter, M-NCPPC Permits Office, re: 1395-88-GU/Rev 04 that revised area of grading on latest application was not included on SE-1130 site plan. Unless access road could be certified as nonconforming, cannot approve permit.
- 07/29/89 Motion to consolidate all four court cases; Curtis vs. Malone (P G. Airpark et al.) CAL87-16404, Curtis vs. Malone (P G. Airpark et al.) CAE87-17762, Curtis vs. SAA CAL 89-06808, Curtis vs. SAA CAE 89-07695.
- 08/10/89 SAA response to motion to consolidate cases; opposes consolidation because issues involved are different.
- 08/ /89 P G. Airpark Assoc., LP, filed a third party claim against M-NCPPC alleging that final plat approval of Sections 7 and 8 of Old Fort Hills subdivision was invalid because the preliminary plan approval had expired. M-NCPPC counterclaimed for damages to its trees allegedly caused by defendants. (CAL 87-16404, CAE 878-17762 [Consolidated])
- 08/29/89 Opposition to motion to dismiss counterclaim to CAL 87-16404, CAE 87-17662 filed by P G. Airpark.
- 09/08/89 Settlement conference; continued to 12/18/89; trial scheduled for 3/5/90.
- 09/29/89 SE-3954 filed for expansion, improvement of airport.
- 12/18/89 Settlement/pretrial conference; rescheduled to allow principals to meet and discuss settlement; conference to be scheduled with Judge Woods. (CAL 87-16404, CAE 87-17662)

- 12/28/89 Motion for continuance CAL 87-16404, CAE 87-17662; pretrial settlement conference scheduled for 01/23/90 Judge Woods.
- 01/23/90 Settlement conference for CAL 87-16404, CAE 87-17662; continued to another settlement conference scheduled for 02/27/90.
- 02/20/90 Settlement agreement reached between M-NCPPC and P G. Airpark in CAL 87-16404, CAE 87-17662
- 02/27/90 P G. Airpark dismissed third party claim against M-NCPPC in circuit Court. M-NCPPC agreed to dismiss claim against P.G. airpark per settlement. CAL 87-16404, CAE 87-17662
- 03/02/90 Curtis Development Corp. files Notice of Proposed Construction w/ FAA for Sections 7 and 8 of Old Fort Hills Subdivision
- 04/03/90 Staff Report on SE-3954 recommends DENIAL of request to improve/expand airport facilities as not meeting FAA airport design standards which the Zoning Ordinance adopts as the County's standards by reference.
- 04/20/90 Ltr. from Ron Schiff, General Counsel M-NCPPC, to Robert Arciprete, Dept. of Parks and Recreation, reporting that suit against P G. Airpark Associates arising from cutting of trees on park property near Rose Valley Airport was settled out of court for \$25,000; according to terms of settlement, P G. Airpark refused to accept responsibility for tree-cutting incident.
- 06/05/90 Zoning Public Hearing on SE 3954 to expand airport; SAA rep. testified regarding proposed airport improvements and COMAR (6/6/90 Ltr Holmes to Trainor, Sec. MDOT)
- 06/14/90 Permit 5517-90-U certified as nonconforming use the gravel driveway to airport from Glen Way
- 06/21/90 ZHE continued hearings on SE-3954.
- 07/06/90 Ltr. to George Rathlev, Pres., Curtis Development Corp., from Louis P DeRose, Acting Manager, Airports Division, FAA, stating that proposal to construct dwellings in the approach zone for Runway 06 at Potomac Airfield "is not an obstruction under standards of FAR Part 77, Subpart C, and would not be a hazard to air navigation," per 7-7-90 Acknowledgment of Notice for Aeronautical Study No. 90-AEA-0273-0, Edward R. Trudeau, Manager, System Management Branch, Jamaica, NY But it was also determined that part of property lies within the Runway Protection Zone (RPZ) for Runway 06, and buildings are proposed in the Controlled Activity Area.

- 07/12/90 ZHE held and completed continued hearing on SE-3954.
- 07/18/90 FAA officials measured Potomac Airfield runway; confirmed length was less than recorded in MAA records. (07/19/90 Ltr. from J. Holmes of Friendly, MD, to T Mathison, MAA)
- 07/20/90 Meeting at Potomac Airfield between Mathison, Administrator, MAA, J. Holmes of Friendly and others to confirm reported discrepancies in runway measurements at MAA and in aeronautical publications.
- 07/23/90 Ltr. from Mathison, MAA, to Holmes of Friendly, acknowledging discrepancy in Potomac Airfield runway length as 2,281 feet, not 2,400 feet as indicated in MAA records and in aeronautical publications. MAA is taking following steps: 1) Require airport operator to file Notice to Airmen and post signs in operations building about accurate runway length and ditch at the approach end of RWY 24, 2) advise FAA of correct runway length and request revision of aeronautical publications, 3) advise operator of any necessary runway remarking that may be required, 4) give operator 14 days to respond, 5) allow appropriate time to take corrective actions, and 6) if no corrective action is take, reevaluation of license.
- 07/30/90 Ltr from Mathison, MAA, to Wartofsky, Potomac Airport, regarding findings of 7/20/90 inspection of airport which found: 1) paved length of RWY 06/24 is 2,281 feet, 2) RWY 06 displaced threshold line is marked 270 feet from end of runway; threshold lights are placed 285 feet from end, 3) RWY 24 displaced threshold line is marked 387 feet from end of runway; threshold lights are placed 393 feet from end. Under this configuration, only daytime takeoffs on RWY 24 and daytime landings on RWY 06 are provided the minimum 2,000 foot runway length required by COMAR for a Public Use/Commercial Use license. (Daytime takeoffs on RWY 06 and landings of RWY 24 have only 1,894 feet of runway; night operations have only 1,888 feet. Night operation from RWY 24 and on RWY 06 have 1,996 feet of runway) Without modifications, the airport is only licensable as a Public Use/Commercial Use airport subject to the following restrictions: 1) Daytime operations only, 2) RWY 24 used for departures only, 3) RWY 06 used for landings only Operator was given 15 days to respond and proposed modifications.
- 08/02/90 Ltr. from Simon, P G. Airpark LP to Mathison, MAA, responding to 07/30/90 letter and proposing to provide 2,000 feet of runway for day and night operations by changing the locations of the displaced threshold lines and the placement of threshold lights on both runways.
- 08/17/90 Ltr. from Mathison, MAA, to Simon, P G. Airpark LP, responding to 08/02/90 proposal to reconfigure runways by revising the displace threshold markings. MAA evaluation found the changes would yield: RWY 06 (w/206 foot displaced threshold) — takeoff length available 2,005 feet; landing length available 2,075

feet. RWY 24 (w/276 foot displaced threshold) — takeoff length available 2,075 feet, landing length available 2,005 feet. Approach slopes for RWY 06 would be 5 1/2 degrees, and RWY 24 would be 6 1/2 degrees. MAA considered these proposed changes adequate to meet COMAR requirements for 2,000 foot runway requirement and directed operator to make changes and file appropriate Notice to Airmen.

- 09/24/90 ZHE recommends DENIAL of SE-3954 for airport improvement/expansion.
- 10/22/90 Applicant filed exceptions to ZHE decision on SE-3954 and requested oral argument at District Council.
- 02/25/91 District Council held oral argument hearing on SE-3954.
- 03/25/91 District Council issued order of DENIAL for SE-3954.
- 04/17/91 P G. Airpark Associates appeal decision to DENY SE-3954 by District Council to Circuit Court. (Case No. CAL 91-08107)
- 10/09/91 Circuit Court affirmed decision of District Council for DENIAL of SE-3954.
- 09/25/92 Undeveloped property south and west of Potomac Airfield transferred to Rose Valley Limited Partnership by Curtis from Old Fort Hills Section 8, Plats 131-069 and 070, Block J, Lots 1-29 and 34-46, and Parcel B (8461/816) and by P G. Airpark Assoc. LP (Parcel 48 on Tax Map 123, F-3 (8461/809). On the same date, 11 acres of property at the north end of the airport (part of the former Steed/Watson parcel) was transferred to P G. Airpark Associates from Rose Valley Limited Partnership (Parcel 112 on Tax Map 124, A-1 (8461/824).
- 09/28/92 Court of Special Appeals affirms the decision of the Circuit Court affirming the decision of the District Council for DENIAL of SE-3954.
- 10/22/92 Permit 1567-92-U/01 to "change propose use: airport land/takeoff fields to airport hangar/storage/maintenance"; recommended for approval per SE 1130, permit 1395-88-GU/04 & NCU #5517-90-U.
- 06/24/93 A parcel northeast of the Old Fort Hills Subdivision, Section 8 and adjoining Friendly High School property transferred to M-NCPPC (Parcel 302, TM 123, approx. 7.0 acres, 8846/352) as an addition to the planned Friendly Community Park. At same time, part of the property (approx. 3.5 of 10.8 acres) dedicated to M-NCPPC in 1982 as part of the open space for the Old Fort Hills Subdivision in Section 8 was transferred from M-NCPPC to Rose Valley Limited Partnership (Plat 131-069, Block J, Parcel A (8846/356). The transferred part of Parcel A was behind lots on the east side of proposed Featherstone Drive in a "controlled activity area" under the airport flight path, as subsequently identified on

preliminary subdivision application 4-94129 M-NCPPC retained the balance of the parcel bordering Tinkers Creek.

- 02/22/94 P G. Airpark Assoc. LP re-recorded 45.2 acres for the airport property by deed 9375/64 (TM 124, Grid A-2, Parcel 64).
- 05/31/94 Preliminary Subdivision 4-94062, Rose Valley Cluster (136 lots) filed by Curtis Regency Service Corp. and Rose Valley Std, Partnership; includes part of Section 8, Old Fort Hills Subdivision, the north part of Featherstone Drive. (Withdrawn 10/94)
- 10/21/94 Preliminary Subdivision 4-94062, Rose Valley Cluster withdrawn.
- 10/26/94 Preliminary Subdivision 4-94129, Rose Valley Cluster (123 lots) filed by Curtis Regency Service Corp. and Rose Valley Ltd. Partnership; includes part of Section 8, Old Fort Hills Subdivision, the north part of Featherstone Drive.
- '94-'95 Runway paving re-extended 384 feet to southwest over part of former runway area demolished in 1988 by Curtis. There is no record of building permit; extension/length of paving determined by comparing aerial photos and data submitted for MAA Airport License No. 170 renewal applications for years 1994 and 1995. A displaced threshold of 384 feet is listed on the 1995 license application for Runway 06, encompassing entire length of runway extension.
- 01/12/95 Planning Board disapproved Preliminary Subdivision 4-94129, Rose Valley Cluster.
- 01/20/95 Letter from applicant in 4-94129 requested Planning Board reconsider 1/12/95 decision of disapproval.
- 02/09/95 Planning Board granted request for reconsideration of 4-94129
- 06/01/95 Planning Board held public hearing pursuant to 02/09/95 grant of reconsideration for Preliminary Subdivision 4-94129, Rose Valley Cluster. Planning Board approved subdivision with conditions.
- 06/11/95 Airplane crashed into trees behind house at south end of Featherstone Drive, approximately 2,000 feet southwest of runway on attempted go-around; two injuries-pilot and passenger.
- 12/13/95 Preliminary Subdivision 4-94129, Rose Valley Cluster - Following review on appeal, District Council issued Order of Denial.
- 01/11/96 Preliminary Subdivision 4-94129, Rose Valley Cluster - Decision of Denial by District Council appealed to Circuit Court. (CAL-9600423)

- 11/13/96 Preliminary Subdivision 4-94129, Circuit Court reversed decision of District Council; reinstated decision of approval by Planning Board.
- 11/26/96 Airplane crashed into house on Old Gate Court, approximately 3,000 feet southwest of runway during take-off; one injury-pilot.
- 03/07/97 Preliminary Subdivision 4-94129, District Council appealed 11/13/96 decision of Circuit Court to Court of Special Appeals.
- 04/29/98 Preliminary Subdivision 4-94129, Court of Special Appeals remanded case back.
- 05/17/98 Airplane crashed into trees approximately one-quarter mile northeast of runway during takeoff; one fatality-pilot; two injuries-passengers.
- 06/15/98 Preliminary Subdivision 4-94129, District Council filed writ of cert in Court of Appeals.

APPENDIX 6

Federal Regulations Regarding General Aviation Airports

GENERAL REMARKS

Under Title 14 of the U S. Code of Federal Regulations, The Federal Aviation Administration (FAA), as an agency of the U.S. Department of Transportation, publishes the Federal Aviation Regulations (FAR). Part 77 of the FAR, "Objects Affecting Navigable Airspace" contains the regulations that apply to all airspace within the United States, and are therefore applicable to Prince George's County. Some portions of Part 150, "Airport Noise Compatibility Planning" are also applicable at the County level.

In general, all airports are subject to FAA regulations and review involving airspace and air travel. But, only certain classes of airports are subject to FAA regulations regarding ground issues. If an airport is an air carrier facility or a public use airport obligated under the Grant Assurances it is subject to FAA airport design regulations. The Grant Assurances are conditions to which the airport sponsor is obligated for a 20-year period after receiving an Airport Improvement Grant. The FAA has a trust fund, generated by user taxes, for funding projects associated with qualified private or public airports.

If an airport is not one of these obligated airports, the MAA exerts the regulation of ground issues on airport property through its licensure and registration program. They cannot and do not regulate the lands adjacent to airports, only the airport itself, and the associated airspace. For example, airports are "advised" to comply with the standard RPZ (runway protection zones) and clear zones, but may not be required by either the FAA or MAA to do so. The power of regulation in this case is left to the County.

If development, construction or alterations are proposed near an airport or its airspace, the applicant must send FAA Form 7460-1 (Part 77 of FAR) to the MAA and FAA. These agencies make a determination on whether or not the proposed activity will be an obstruction, and therefore a hazard to air navigation, and whether it will need marking and lighting.

The FAA Washington Flight Standards District Offices perform inspections for proper aircraft operation from airports and proper use of designated flight paths. The FAA also maintains a contract with MAA for performing annual safety data inspections for all airports. The MAA performs additional inspections for licensure and /or registration of airports at least annually.

SUMMARY OF “FAR Part 77: “Objects Affecting Navigable Airspace”

Subpart A--General Information

Section number

- Sec. 77.1** The scope of Part 77 is to:
- establish standards for determining obstructions in navigable airspace
 - set procedure for notifying FAA of proposed construction and alteration
 - provide for aeronautical studies of obstructions
 - provide for public hearings regarding obstructions to airspace
 - provide for establishment of antenna farm areas.
- Sec. 77.2** Defines standard terms, including precision, non-precision and visual runways
- Sec. 77.5** Clarifies that Part 77 applies to (1) objects of natural growth, terrain, permanent or temporary construction or alterations and the equipment used for them, and (2) alteration of the height or lateral dimensions of structures.

Subpart B--Notice of Construction or Alteration

- Sec. 77.11** The scope of this subpart is to require adequate notification for certain kinds of construction or alteration of existing structures, so that the FAA can:
- evaluate the effect on current and proposed air traffic
 - determine any hazardous effects on air navigation
 - recommend marking and lighting 9AC 70/7460-1
 - chart the obstruction and notify airmen of its location.
- Sec. 77.13** Construction and alterations requiring notification of FAA include:
- anything more than 200 feet high from ground level
 - anything that penetrates the following imaginary surface slopes from an airport:
 - 100:1 for 20,000 feet past the end of runways > 3200 ft.
 - 50:1 for 10,000 feet past the end of runways < 3200 ft.
 - 25:1 for 5000 feet from helipads
 - any highway, or other transit that achieves a height that is 200 feet from ground or penetrates the imaginary surfaces listed above.
- Supplemental notice is required 48 hours prior to construction and also following completion of construction in some cases.

Sections 77.7, 77.19 Set requirements for filing the notice and for FAA's response.

Subpart C--Obstruction Standards

- Section 77.21** Establishes standards for determining obstructions to air navigation. Sets the primary surface for hard surface runways at 200 feet beyond each end of the runway. Also addresses non-hard surface, and non-defined runways. These standards apply to all public use and U.S. government airports.

- Sec. 77.23** Existing or planned objects are obstructions to air navigation if they are:
- taller than 500 feet above ground level (at the site of the object in question)
 - within 3 nautical miles of the airport and taller than 200 feet above ground level, or 200 feet above the established elevation of the airport, whichever is higher, and has a runway greater than 3200 feet in length. The allowable object height increases by 100 feet for each additional nautical mile, up to a maximum of 500 feet
 - penetrating the established minimum instrument flight altitude of the “terminal obstacle clearance area” or those areas used for taking off, landing and circling, etc. from an airport
 - penetrating “en route obstacle clearance areas” used by aircraft in transit
 - higher than the takeoff, landing, or imaginary surface areas of airport, as established under sections 77.25, 77.28 or 77.29

Traverse ways, other than those internal to controlled by the air facility, are considered obstacles if they meet the definitions above, after adding the following heights:

- 17 feet for interstate highways
- 15 feet for other public roadways
- 10 feet for private roads, or the height of the tallest mobile object
- 23 feet for a railroad
- the height of the tallest mobile object for traverse ways not mentioned.

Sec.77.25 Establishes the imaginary surfaces for civil airports. The size of these surfaces is based on the category of each runway and the type of approach available or planned for that runway. The slope and dimensions of the approach surface are applied to each end of the runway, and are based on the most precise approach used for that runway. The imaginary surfaces include the horizontal, conical, primary, approach and transitional surfaces.

Subparts D and E – Aeronautical Studies of Effect of proposed Construction on Navigable Airspace, and Rules and Practice for Hearings

Sec. 77.31 An aeronautical study is conducted by the FAA whenever a notice is submitted, or upon the request of a sponsor, or whenever the FAA determines it appropriate.

Sec. 77.35 through 77.69 Outlines the procedure for submittal, review, hearings and appeals for aeronautical studies of proposed construction or alterations.

Subpart F – Establishment of Antenna Farm Areas

Defines and explains the establishment and review of antennae farm areas, and lists their designated locations.

SUMMARY OF PART 150 “Airport Noise Compatibility Planning”

Subpart A prescribes or provides the following:

- procedures, standards and methodology for developing, submitting and reviewing airport noise exposure maps, and airport noise compatibility programs
- the process for evaluating and approving/disapproving those programs
- single systems for (a) measuring noise at airports and surrounding areas, which provides a reliable relationship between projected noise exposure and reaction of people to the noise (b) determining exposure of individuals to the noise from airport operations
- technical assistance to airport operators, in conjunction with local, State and Federal authorities to prepare and execute appropriate noise compatibility planning and implementation.

Sec.150.3 and 150.5 The noise compatibility planning activities in Part 150:

- (1) apply to operators of “public use airports,” and
- (2) are not activities that the FAA makes determinations on as to compliance or implementation. Rather, Subpart 150 states that the interpretation of the effects of noise contours upon land uses and properties rests with the sponsor, and the State or local government. FAA approves a noise compatibility program, but accepts no responsibility for implementation action or financial assistance, unless FAA requests further action under the National Environmental Policy Act.

Sec. 150.7 Definitions

Interesting point: the “airport noise compatibility program” includes measures taken by the airport operator to reduce existing incompatible land uses and to prevent the introduction of additional incompatible land uses within the area.

Sec. 150.9 Sets guidelines for designating the noise system for an airport and surrounding area (mostly references Appendix A, which contains technical material).

Sec. 150.11 References Appendix A of Part 150 for identifying land uses and applying criteria for their compatibility with various noise exposures. States that the land use must be based on professional planning criteria and procedures utilizing comprehensive, or master, land use planning, zoning, and building and site designing, as appropriate.

Sec. 150.21 Discusses the creation of noise exposure maps. The features and documentation required for these maps might be helpful for countywide planning:

- identification of noncompatible land uses

- the noise exposure is based on forecast aircraft operations, type and frequency of operations, flight patterns, number of nighttime operations, airport layout and planned development, planned land use changes, and area demographics
- the nature and extent to which the forecast operations will affect compatibility and land uses on the map
- Appendix A contains the requirements for developing the map, but other federal, state or local requirements may be used instead if they are “equivalent.” A chart showing compatibility of different land uses at various decibel levels is contained in Appendix A and is attached below

The Regional Airports Districts Manager must indicate whether the noise exposure maps and descriptions are in compliance, and make them available for public review and comment.

Every 5 years, or if the yearly day-night average sound level increases by 1.5 decibels and causes more areas to become incompatible or more incompatible, the maps must be revised and resubmitted.

If a person had actual knowledge of the existence of a noise exposure map, and then acquires property, they are not entitled to recover damages, unless they can show that there is a significant change in the type or frequency of aircraft operations, airport layout, flight patterns, nighttime operations. Definitions of these terms are included in this section. It remains with the local government to interpret and apply this section.

Sec. 150.23 Outlines the requirements for the noise compatibility program used to mitigate the problem areas noted on the noise exposure maps. Appendix B contains the requirements for this process, but equivalent FAA approved requirements may be used instead, after consultations with federal, state and local interests or agencies affected by the program. The airport operator must provide adequate opportunity for active and direct participation of all these parties before the final draft program is developed.

Subpart C -- Evaluation and Determinations of Effects of Noise Compatibility Programs

The sections under this subpart explain the procedure for FAA to evaluate each noise compatibility program in order to approve or disapprove it.

APPENDIX 7

FAA Advisory Circular 150-5300-13 (Change 5)

- ◆ Paragraph 212 Runway Protection Zone (RPZ)
- ◆ Table 2-4 RPZ dimensions
- ◆ Figure 2-3 RPZ diagram

Appendix 7: Runway Protection Zones, FAA AC 150/5300-13

obstructions to air navigation which are not covered in paragraph 211.a, especially those penetrating an approach surface. On a paved runway, the approach surface starts 200 feet (61 m) beyond the area usable for takeoff or landing, whichever is more demanding. On an unpaved runway, the approach surface starts at the end of the area usable for takeoff or landing.

212. RUNWAY PROTECTION ZONE (RPZ).

The RPZ's function is to enhance the protection of people and property on the ground. This is achieved through airport owner control over RPZs. Such control includes clearing RPZ areas (and maintaining them clear) of incompatible objects and activities. Control is preferably exercised through the acquisition of sufficient property interest in the RPZ.

a. Standards.

(1) RPZ Configuration/Location. The RPZ is trapezoidal in shape and centered about the extended runway centerline. The controlled activity area and a portion of the Runway OFA are the two components of the RPZ (see figure 2-3). The RPZ dimension for a particular runway end is a function of the type of aircraft and approach visibility minimum associated with that runway end. Table 2-4 provides standard dimensions for RPZs. Other than with a special application of declared distances, the RPZ begins 200 feet (60 m) beyond the end of the area usable for takeoff or landing. With a special application of declared distances, see Appendix 14, separate approach and departure RPZs are required for each runway end.

(a) The Runway OFA. Paragraph 307 contains the location, dimension, and clearing standards for the Runway OFA.

(b) The Controlled Activity Area. The controlled activity area is the portion of the RPZ beyond and to the sides of the Runway OFA.

(2) Land Use. In addition to the criteria specified in paragraph 211, the following land use criteria apply within the RPZ.

(a) While it is desirable to clear all objects from the RPZ, some uses are permitted, provided they do not attract wildlife, are outside of the Runway OFA, and do not interfere with navigational aids. Golf courses (but not club houses) and agricultural operations (other than forestry or livestock farms) are expressly permitted under this proviso. Automobile parking facilities, although discouraged, may be permitted, provided the parking facilities and any associated appurtenances, in addition to meeting all of the preceding conditions, are located outside of the object free area extension (as depicted in figure 2-3). Fuel storage facilities should not be located in the RPZ.

(b) Land uses prohibited from the RPZ are: residences and places of public assembly (Churches, schools, hospitals, office buildings, shopping centers, and other uses with similar concentrations of persons typify places of public assembly.) Fuel storage facilities should not be located in the RPZ.

b. Recommendations. Where it is determined to be impracticable for the airport owner to acquire and plan the land uses within the entire RPZ, the RPZ land use standards have recommendation status for that portion of the RPZ not controlled by the airport owner.

c. FAA Studies of Objects and Activities in the Vicinity of Airports. The FAA policy is to protect the public investment in the national airport system. To implement this policy, the FAA studies existing and proposed objects and activities, both off and on public-use airports, with respect to their effect upon the safe and efficient use of the airports and safety of persons and property on the ground. These objects need not be obstructions to air navigation, as defined in 14 CFR Part 77. As the result of a study, the FAA may issue an advisory recommendation in opposition to the presence of any off-airport object or activity in the vicinity of a public-use airport that conflicts with an airport planning or design standard or recommendation.

213. to 299. RESERVED.

Table 2-4. Runway protection zone (RPZ) dimensions

Approach Visibility Minimums ^{1/}	Facilities Expected To Serve	Dimensions			
		Length L feet (meters)	Inner Width W ₁ feet (meters)	Outer Width W ₂ feet (meters)	RPZ acres
Visual and Not lower than 1-Mile (1 600 m)	Small Aircraft Exclusively	1,000 (300)	250 (75)	450 (135)	8.035
	Aircraft Approach Categories A & B	1,000 (300)	500 (150)	700 (210)	13.770
	Aircraft Approach Categories C & D	1,700 (510)	500 (150)	1,010 (303)	29.465
Not lower than 3/4-Mile (1 200 m)	All Aircraft	1,700 (510)	1,000 (300)	1,510 (453)	48.978
Lower Than 3/4-Mile (1200 m)	All Aircraft	2,500 (750)	1,000 (300)	1,750 (525)	78.914

^{1/} The RPZ dimensional standards are for the runway end with the specified approach visibility minimums. The departure RPZ dimensional standards are equal to or less than the approach RPZ dimensional standards. When a RPZ begins other than 200 feet (60 m) beyond the runway end, separate approach and departure RPZs should be provided. Refer to appendix 4 for approach and departure RPZs.

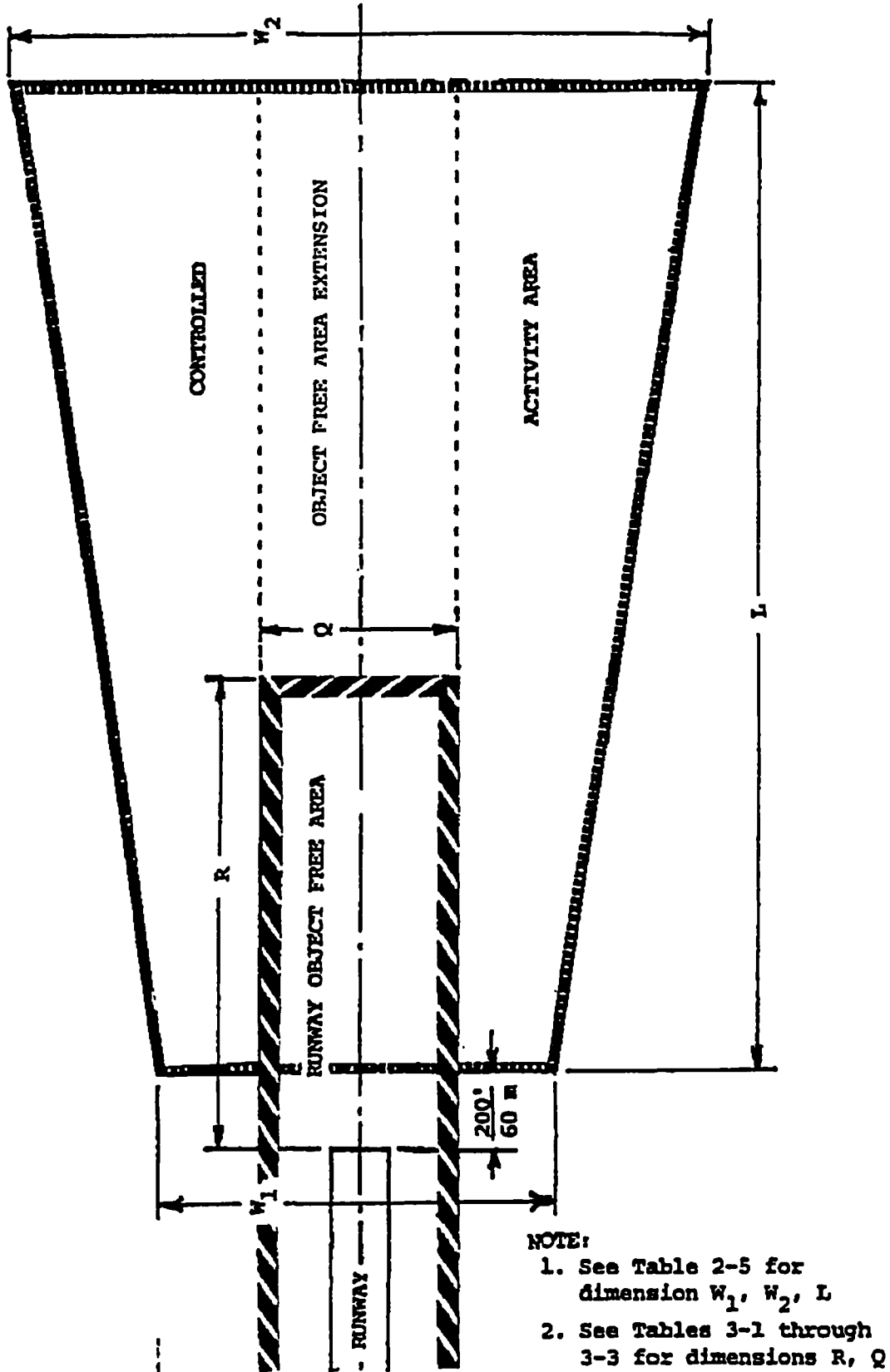


Figure 2-3. Runway protection zone

APPENDIX 8

State of Maryland Regulations of General Aviation Airports

GENERAL REMARKS

In Maryland there are two sources of State regulations regarding aviation:

- (1) statutes approved by the State legislation in the Annotated Code of Maryland, Transportation Article, Title 5, "Aviation," and
- (2) agency regulations in the Code of Maryland Regulations (COMAR), Title 11 "Department of Transportation," Subtitle 03 "Maryland Aviation Administration."

Title 5 of the Annotated Code of Maryland provides, among other things, for the creation of the Maryland Aviation Administration, and allows that agency to create the aviation regulations found under COMAR, Title 11, Subtitle 03.

SUMMARY OF REGULATIONS

The regulations in the Maryland Code that apply to Prince George's County are summarized below

A. Summary of Applicable Title 5 Statutes

Under Title 5 there are twelve subtitles:

Subtitle

- | | |
|-----|---|
| 1 | Definitions; General Provisions |
| 2. | Maryland Aviation Administration |
| 3. | Licensing and Registration of Airports |
| 4. | Establishment and Operation of State and Local Airports |
| 5 | Airport Zoning--By Administration |
| 6. | Airport Zoning--By Political Subdivision |
| 7 | Obstruction Regulations |
| 8. | Noise Zone Regulations |
| 9 | Licensing of Air Schools |
| 10. | Operation of Aircraft |
| 11 | Enforcement and Penalties |
| 12. | Airport Noise Assistance Programs |

The sections of these Title 5 subtitles that apply to aviation in Prince George's County are summarized below

Subtitle 1 Definitions; General Provisions

Section

5-102: Includes standard definitions.

5-102: Outlines the purpose of Title 5 as:

- to promote safety and protection of aeronautics
- to promote and comply with Federal aviation laws
- to grant powers to the MAA
- to cooperate and assist political subdivisions, and
- to establish minimal, but essential regulations.

5-104 Gives sovereignty of the air space above land to the State, unless they grant it to the Federal government. Ownership is also vested in the owner of surface features underneath the air space, but subject to certain public rights of transit (see 5-1001).

5-105 Allows political subdivisions to impose a tax and to appropriate money to carry out powers and duties under this title.

Subtitle 2: Maryland Aviation Administration

Section

5-201 & 202 Establishes the MAA, and its structure.

5-204 Outlines powers and duties of MAA, including cooperating with political subdivisions, and participating on their behalf as a plaintiff, defendant, or an intervenor in any controversy that involves the interest of the State in aeronautics. Also encourages, fosters and assists the development of aeronautics in Maryland.

5-205 States that political subdivisions may cooperate with MAA for development of aeronautics and facilities.

5-206 Outlines Federal-State cooperation.

5-207 Regards the State airways system. It cannot be established or altered (for whatever reason) without a public hearing. Must be supplementary to and coordinated with Federal airway system. May include any type of private or public facility that conforms to Federal standards.

5-208 Establishes the power of the MAA to perform any act, issue and amend orders, adopt rules, regulations and procedures, and minimum standards as necessary to:

- carry out Title 5
- protect public safety
- develop and promote aeronautics.

5-215 Allows the MAA to make available, with or without a fee, its engineering and technical services to people planning, acquiring, constructing, improving or operating an airport, airport facility or air navigation facility

Subtitle 3 Licensing and Registration of Airports

Section

5-301 Defines commercial and public use airports.

5-303 Authorizes the MAA to approve new airport sites after certain prerequisites are met. Minimum safety standards must be met, but they cannot be more stringent than those imposed by FAA.

- 5-304 Authorizes issuance, renewal or revocation of airport licenses. Airports must meet minimum safety standards, and must meet environmental noise control requirements of this title for new licenses. Licenses can be revoked if
- the airport endangers the lives or property of people using the airport or living near the airport
 - it is in the best interest of public safety and general welfare
 - the airport itself has become unsafe or unusable
 - the airport has failed to comply with the noise controls required by this title.
- 5-306 Authorizes the MAA to require registration of those airports not subject to licensure.

Subtitle 4 Establishment and Operation of State and Local Airports

Section

- 5-402 Specifically states that the subtitle does not limit any right, power, or authority of the State or a political subdivision to regulate any airport hazard by zoning.
- 5-405 Allows the State to acquire, if necessary, through a variety of means, land outside an airport or the airport itself. Reasons for acquisition include:
- to permit the safe and efficient operation of the airport
 - to permit the removal or marking of airport hazards
 - to prevent the establishment of airport hazards.
- 5-407 Establishes that any power authorized by this title to MAA may be exercised jointly with the federal government, any political subdivision, or any other agencies.

Subtitle 5 Airport Zoning by Administration

This subtitle authorizes the MAA to adopt airport zoning regulations to protect approaches to State owned airports. Considerations and limitations listed in this subtitle may be useful examples for County airport zoning.

Subtitle 6: Airport Zoning by Political Subdivision

Section

- 5-602 Establishes the purpose of the subtitle is to protect health safety and welfare of both airports and their users, and the lives and property of occupants of the land near airports. Authorizes political subdivisions to adopt zoning regulations (see 5-604) and to acquire property by purchase, grant, lease, or condemnation in order to eliminate airport hazards.
- 5-604 Grants political subdivisions the powers to adopt airport zoning to protect aerial approaches to airports (except those owned by the State). The subtitle allows airport zoning to become part of the general zoning and administered and enforced with it. However, the general zoning cannot limit the effectiveness or scope of the airport zoning.
- 5-605 Authorizes and sets guidelines for joint boards between political subdivisions.
- 5-606 Mandates that airport districts be established surrounding airports as deemed most logical by the political subdivision. Heights of structures and vegetation may be regulated and restricted in these districts. There are several things listed under this subtitle that have to be considered in light of public health, safety, order, or security, such as:

- character of flying operations
 - surrounding terrain
 - heights and structures and vegetation in area
 - risks associated with aerial traffic
 - prevailing weather
 - types of aircraft
 - size and layout of airport
- 5-607 Outlines procedures for adopting and changing airport zoning regulations by a political subdivision.
- 5-608 Requires the political subdivision to appoint an airport zoning commission (may be a zoning board of appeals) to recommend the airport district boundaries and appropriate regulations to be enforced.
- 5-610 Allows the legislative body of a political subdivision to delegate administration and enforcement to any administrative agency under its jurisdiction.
- 5-611 Authorizes a political subdivision to establish a system and adopt rules and regulations for granting permits for certain activities in the airport zones. Nonconforming uses and permit conditions are discussed.
- 5-612 Requires the provision of a board of appeals for the airport zoning regulations adopted by political subdivision. Details required for its establishment and operation are listed.
- 5-613 Establishes Appeals
- 5-614 Establishes Variances
- 5-615 Establishes Judicial Review
- 5-616 Authorizes political subdivision to acquire property, air rights or interests to eliminate hazards, protect airport approaches, or ensure other purposes of the subtitle for airports it owns, controls or operates.
- 5-617 Authorizes political subdivision to enforce its airport regulations and assign penalties.

Subtitle 7: Obstruction Regulations

Establishes the Legislative policies, adoption of regulations, prohibited activities, variances, marking and lighting of obstructions to air navigation. These rules and regulations are to incorporate FAA obstruction standards except when, after a public hearing, those federal standards are found to be detrimental to the safety of the general public, persons and property on land or water, or persons operating, using or traveling in an aircraft.

Subtitle 8. Noise Zone Regulations

Section

- 5-801 Definitions of noise terms.
- 5-802 States that the purpose of the subtitle is to allow the MAA to adopt regulations to provide a positive basis for noise abatement in communities near airports, and to prevent new noise problems, and to protect the health and general welfare of occupants of land near airports.
- 5-804 Directs the MAA to establish limits for cumulative noise standards based on
- general health and welfare issues

- rights of property owners
 - accepted scientific and professional standards
 - recommendations of FAA and EPA
 - noise standards of the Department of Health and Mental Hygiene.
- 5-805 Requires airport owners to assess the noise environment created by both the existing and the future use of their airport, following the procedures established by the MAA. This procedure is to be performed and results submitted every five years, unless otherwise directed. Noise zone delineations and impacted land use areas are to be included. Requires a noise abatement plan for affected areas. Outlines components of said plan, such as relocation for runways, acquisition of impacted properties, establishment of noise abating flight and ground procedures, and noise abatement glide slopes. Requires the MAA to provide the plan to the chief executive officer and zoning board of the affected political subdivision.
- 5-806 Lists requirements for implementation of noise abatement plan. An approved noise abatement plan or a noise zone may be adjusted by MAA upon application by an airport operator, or the affected political subdivision, to reflect changes in operation or adjoining land uses. Requires public notice and hearing. Recertification of noise zones occur only after hearings and comments by the applicable political subdivision.
- 5-807 MAA may provide technical and financial aid for implementing a noise abatement plan.
- 5-810 Allows political subdivisions to adopt noise zone regulations establishing local noise zones, provided that their noise zones are not less restrictive than those certified by the MAA.
- 5-812 requires that a person obtain an appropriate permit from the political subdivision to build any new structure, change the use of existing structures and land, or substantially alter existing structures or land use in a noise zone. Before issuing such a permit, the MAA shall be notified for comment.
- 5-813 Establishes that a political subdivision may provide a board of appeals to hear and decide appeals of local or MAA decisions, and variances from the noise zone regulations. The following sections provide guidelines for appeals, variances, and judicial review

Subtitle 9: Licensing of Air Schools

Allows the MAA to adopt rules and regulations for licensing air schools.

Subtitle 10: Operation of Aircraft

Section

- 5-1001 Establishes that, among other things, lawfulness of operation includes:
- public right to freedom of transit in airspace
 - operations over land and water, unless they are at too low an altitude and interfere with existing lawful land use, water use, or air space use, or are dangerous to persons or property underneath
 - landing on another person's property only if an emergency arises, and liability is compliant with 5-1005
- 5-1002 Requires liability insurance for aircraft operators and sets coverage amounts.

Subtitle 12: Airport Noise Assistance Programs

Although these regulations are targeted for residential areas near BWI Airport, there may be useful information for Prince George’s County as there are residential areas within a 65 decibel contour generated by an airport. Addresses the purchase of property and the provision of funds for noise attenuation measures.

B. Summary of Applicable Title 11 Regulations

As authorized by the Transportation Article, Title 5, the State regulations governing airports are included in Title 11, “Department of Transportation,” Subtitle 03 “Maryland Aviation Administration” within the Code of Maryland Regulations (COMAR). There are 9 chapters in the aviation subtitle, some of which are pertinent to County level regulations, and some of which are not. Each chapter and its topic are listed below. Chapters which are relevant to Prince George’s County (Chapters 3, 4, 5, and 8) are indicated by **, and their Title 5 cross references are noted. A summary of the pertinent information from these particular chapters follow the chart.

<u>Chapter</u>	<u>Chapter Title</u>	<u>Authorizing Section of Title 5</u>	<u>Topic</u>
01	Baltimore Washington International Airport		Regulations particular to BWI Airport
02	Martin State Airport		Regulations particular to Martin State Airport
03**	Airport Noise Control Program	5-204 5-208 5-801	Standards for measuring and reporting noise related to airport operations; Responsibilities of airport owners; Construction within noise zones at State-owned airports
04**	Aeronautical Regulations	5-208	Provides for protection of and promotion of safety in aeronautics for citizens as well as those in the aeronautic field; Effects uniform aeronautic regulations; Ensures safety and rights of all stakeholders

<u>Chapter</u>	<u>Chapter Title</u>	<u>Authorizing Section of Title 5</u>	<u>Topic</u>
05**	Obstructions to Air Navigation	5-204 5-208 5-702	Regulates the erection and maintenance of any obstruction to air navigation that interferes with the public right to use airspace, and/or endangers the lives and property of both the airspace users and the occupants of the land below the airspace.
06	Airport Zoning Regulations		Provides for protection of aerial approaches of State-owned airports; regulations were developed with joint consideration for public health, safety, order and security
07	Maryland Air Terminal Assistance Program		Administrative guidance for giving grants to publicly owned airports that are capable of supporting scheduled air service for customers
08**	Maryland Assistance to Private Airports Program (MAPA)**	5-103 5-204 5-208	Administrative guidance for giving grants to private airports
09	Issuance of Citations by Maryland Aviation Administration Personnel		Regards air traffic controllers

** Denotes particular relevancy to County airport regulations/legislation project.

Chapter 03 Airport Noise Control Program
Section

01 Defines acoustic terminology such as: Ldn (annual or daily average day-night sound levels), LeQ (average sound/noise level), noise contours, decibels, daily air traffic volume, daytime, nighttime, runway threshold, noise abatement plan.

- 02. Includes methods for calculation and measurement of levels of cumulative noise exposure standards for developing and mapping noise contours. This section contains a lot of detail regarding the elements needed to predict noise levels and contours. The noise measurement system used by an airport to map their contours must provide hourly sound levels for every hour of the day and night, and must be approved by the MAA.
- 03 Lists the adopted cumulative noise exposure levels on page 120. In summary, land uses containing residences, schools, libraries, auditoriums have maximum 65 decibels (annual day-night average), and 70-75 decibels for hotels, motels, sports centers, playgrounds, golf courses, offices, commercial, manufacturing, and livestock areas. Other agricultural areas and aviation related land uses (hangars, runways and maintenance facilities) have no noise limit.
- 04. Outlines the duties of an airport owner to assess the noise environment of their airports, both current and future, and to delineate the noise zone, and identify any impacted land-use areas, and to develop a plan to reduce or eliminate the impacted land-use area. This section also requires the submittal of updated noise information every five years. If impacted land use areas exist, the owner must prepare a noise abatement plan and report periodically on its implementation.
- 05 Deals with State-owned airports and construction permits within their noise zones.

Chapter 04 Aeronautical Regulations

Section

- 01 -03. Includes authority, definitions (including types of airports), and purpose.
- 04. Includes regulations regarding the operation of aircraft at licensed airports, on public property, and public lands and waters.
- 06. Outlines licensing and registration of airports, separated by public/private use and commercial/noncommercial. Promulgates that an airport cannot be operated without land use approval from the local governing body if that body has an airport zoning ordinance. States that airports cannot be licensed or registered without airspace approval by FAA.
- 07 Prescribes minimum safety standards for licensed airports. Airport manager must advise MAA of any proposed construction or zoning change that may affect the safety of the airport use. The airport traffic pattern, ground traffic rules and noise abatement procedures must be prominently displayed at the airport. Sets minimum standards for Public Use Airports (as well as for commercial airports, heliports, nonconventional aircraft and seaplanes), such as for runway length and separation, lighting, surface materials, obstruction free approach surfaces, runway visibility

Sets minimum standards for public use airports as:

- 2,000-foot long x 50-foot-wide paved runway (wider for turf, narrower for visual approach only)
- obstruction free approach surface that is 20:1 slopes with a 200-foot clear zone inner width and a 10:1 flare for each side (see diagram)
- airports with runways greater than 3,200 feet must comply with FAA regs.

08. Lists restrictions to airport registration. Airport operations may not endanger lives or property on the ground, airport operations may not interfere with authorized use of other airspace, airport must be of sufficient size to meet specifications for its aircraft.

09 Covers exemptions for agricultural airstrips, balloon and glider landing areas, and emergency landing areas.

10.-13. States the waivers, fees, inspections, etc.

11.03.04 REVISION in 1990:

Amends airport licensing standards to include a requirement that aircraft owners have liability insurance.

Chapter 05 Obstructions to Air Navigation

Section

- 01 Lists definitions, including precision and nonprecision instrument approaches, imaginary surfaces, hazards, airport obstruction zone (all land within a three nautical mile radius of an airport), utility and visual runways, established airport elevation and reference point, hazards.
02. States purpose is to protect rights and safety of all stakeholders in terms of the obstruction zone.
- 03 States that building structures or planting vegetation or allowing vegetation to grow into the obstruction zone is prohibited.
04. Defines an obstruction as anything taller than 200 feet above ground level, within three nautical miles of the established reference point for an airport, or anything that penetrates the imaginary surface for the airport.

Classifies runways according to type of approach allowed, as follows:

<i>Table 1 Runway Classifications</i>	
<i>Type of Runway</i>	<i>Classification</i>
Utility Runway Visual approaches only With nonprecision instrument approach	I 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 three-quarter statute mile	IV
Precision instrument approach or non-precision approach and visibility minimum of three-quarter statute mile or less	V
Precision instrument runway using an Instrument Landing System or a Precision Approach Radar (PAR)	VI

Defines imaginary surfaces (includes primary surface, horizontal surface, conical surface, approach surface and transitional surface.) These dimensions of these surfaces are particular to the classification of runway in the above table.

- 05 -11 Sets standards for notice of construction, variances, obstruction lighting, nonconforming uses, enforcement, penalties, conflicts:
- applications for variances may be submitted to the local jurisdiction
 - manmade structures existing prior to this regulation are grandfathered
 - if conflicts between local, State and Federal regulations occur, the more stringent will apply

Chapter 08: Maryland Assistance to Private Airports (MAPA)

States that the MAA may provide grants and loans to privately owned airports for land acquisition, improvement and rehabilitation of facilities, provided the airport meets certain criteria: lighting, fueling facilities, land acquisition and new pavement.

APPENDIX 9

State of Maryland Regulations

Title 11 Department of Transportation

Subtitle 03 Maryland Aviation Administration

Chapter 04 Aeronautical Regulations

Sections .07 - .07G Safety Standards

testimony as to the safety of any particular airport. Nothing in these regulations waives the rights granted by the Transportation Article, §5-211, Annotated Code of Maryland.

.07 Airports: License.

A. Scope. This regulation prescribes minimum licensed airport safety standards. For requirements concerning the airport noise control program, see COMAR 11.03.03, Airport Noise Control Program.

B. General.

(1) **Airport Licensee Responsibility** The airport licensee is responsible for operating and maintaining the airport in compliance with State law.

(2) **Appointment of Airport Manager.** The airport licensee shall appoint an airport manager and notify the Administration of the appointment.

(3) **License Display** The airport licensee shall prominently display the airport license at the airport or, if there are no buildings at the airport, at the office of the airport manager.

(4) **Renewal.** The airport license may be renewed annually.

(5) **Transfer of License.** An airport license may not be transferred either in its ownership or geographical location, unless the transfer is approved by the Administration.

(6) **Discrimination or Segregation.** All services performed at every licensed airport shall be without discrimination or segregation as to race, creed, color, national origin, or sex.

(7) **Waivers.** Every waiver of an airport requirement shall be stated on the face of the airport license and every waiver granting a substantial deviation from these regulations shall be listed in the State airport directory.

(8) **Existing Licensed Airports.** The Administration shall waive any portion of these regulations for every existing airport licensed as of the effective date of these regulations if the application of the regulation would be an undue burden on the licensee and is not required in the interest of public safety. However, an airport seeking relicensing after a lapse of more than 30 days shall meet the requirements of these regulations.

11.03.04.07C DEPARTMENT OF TRANSPORTATION

C. Airport Manager.

(1) **Availability of Airport Manager.** The airport manager, or his authorized representative, shall be at the airport, or shall post how he can be contacted, during all hours of operation.

(2) **Marking Dangerous Areas.** If, for any reason, a landing area becomes dangerous or unusable, the manager shall mark each danger area with appropriate markers or close the landing area with an "X" clearly visible from pattern altitude.

(3) **Notice to Airmen.** The manager shall file a Notice to Airmen (NOTAM) with the FAA designating any change in airport conditions that may affect safety

(4) **Hazards and Zoning Changes.** The manager shall advise the Administration of any proposed construction or zoning change near the airport that may affect safety or airport use.

(5) **Local Procedures.** The manager shall prominently display the airport traffic pattern, ground traffic rules, noise abatement procedures, and any special orders relating to the airport and its operation at a prominent location on the airport.

D. Site Approval.

(1) **Scope.** Approval of a site by the Administration entitles the airport operator to an airport license upon completion of the airport, if all the requirements in the site approval and these regulations have been met. (Reference: Transportation Article, §5-303, Annotated Code of Maryland)

(2) **Application.** Any person desiring to establish a licensed airport may apply on a form provided by the Administration. Applications for site approvals shall include:

(a) Name, address, and telephone number of applicant;

(b) Proposed use of airport;

(c) Location of the site;

(d) Schematic drawing of the proposed airport layout with airport dimensions shown;

(e) Location of obstructions over 150 feet high within a 1-mile radius;

(f) Airport noise control program data as required by COMAR 11.03.03.03 (for public-use airports only).

STATE AVIATION ADMINISTRATION 11.03.04.07F

E. Temporary Commercial Use License. A temporary airport license for a period of not more than 30 days may be issued for commercial purposes if the designated landing area is inspected by the Administration and found to be safe for use by the type of aircraft and for the type of operation specified in the request for the temporary license.

F Minimum Standards: Public-Use Airport.

(1) Scope. Every licensed public use airport that is not specifically limited to the landing and taking off of a special category of aircraft shall meet or exceed these standards.

(2) General Items.

<i>Item</i>	<i>Minimum Standard</i>
(a) Runway-	
Length (paved)	2000 feet
Length (turf)	2000 feet
Width (paved)	50 feet
Width (paved): Runway restricted to visual flight rules traffic	40 feet
Width (turf)	75 feet
Longitudinal grade	2 percent or less
Graded width	.100 feet
(b) Separations:	
Runway centerline to taxiway centerline	.100 feet
Runway centerline to buildings	.150 feet
Runway centerline to tie down or apron area	.125 feet
(c) Runway lighting (if operated at night):	
Number of threshold lights (each end of runway)	.3 on each side
Maximum longitudinal spacing	.200 feet
Maximum distance off runway edge	15 feet
(d) Taxiway width.	.15 feet

11.03.04.07F DEPARTMENT OF TRANSPORTATION

<i>Item</i>	<i>Minimum Standard</i>
(e) Wind direction indicator: wind cone	Required
Lighted wind cone or lighted tetrahedron (if operated at night)	Required
(f) Segmented circle (with any non-standard landing pattern indicated)	.Required
(g) Obstruction lights	.As necessary
(h) Fueling area: Fire extinguisher	.Required
Grounding clamps	.Required
"No Smoking" signs	.Required
(i) First aid kit.	.Required
(j) Telephone (with emergency number posted)	Required
(k) Shelter for pilots and crewmembers	.Required

(3) Surface. The landing surface shall be smooth and free from hazards or obstructions.

(4) Obstruction-Free Approach Surface.

(a) An obstruction-free approach surface is an imaginary surface, established in relation to a designated landing area, above which there are no obstructions to aerial navigation.

(b) The obstruction-free approach surface shall have a 20:1 slope with a 200-foot clear zone inner width and a 10:1 flare for each side. This standard obstruction-free approach surface is depicted in Diagram 1. Runway and Obstruction Free Approach Surface Configurations.

(5) Runway Visibility The runway shall be in such condition that two airplanes at rest on the same runway are visible to each other except at airports where traffic control exists and is exercised.

(6) Lighting. If the airport is advertised as lighted for night operations, the lights shall be made available for use from dusk until dawn.

STATE AVIATION ADMINISTRATION 11.03.04.07G

(7) Runway Marking.

(a) Non-Paved Runways. Markers shall be placed 200 feet apart outlining the length of landing surface on both sides. Thresholds shall be marked with at least four markers of a type approved by the Administrator on each side of the landing area where the effective length commences. The threshold markers shall be 5 feet apart and placed on line 90 degrees to the runway heading.

(b) Paved Runways. Marking shall conform to current FAA standards.

(8) State Supplied Safety Equipment. The licensee shall install and operate any safety equipment, such as rotating beacons, wind cones, or other equipment supplied by the Administration.

(9) Compliance with National Standards. To promote uniform airport standards, every licensed airport with a runway over 3,200 feet long shall substantially comply with the airport design standards recommended in the "Utility Airport Design Circular" (FAA Advisory Circular 150/5300-4A) or the "Transport Airport Design Circular" (FAA Advisory Circular 150/5300-6) as they may be updated or replaced from time to time by the FAA. Deviations from these recommended standards shall be properly justified by the airport operator before a license will be issued by the Administration.

(a) The "Utility Airport Design Circular" is available from:

Superintendent of Documents
U.S. Government Printing Office
Washington, D. C. 20402.

(b) The "Transport Airport Design Circular" is available from:

Department of Transportation
Distribution Unit, TAD 484.3
Washington, D. C. 20590.

(10) FAA Certification Program. Airports fulfilling the requirements of the FAA airport certification program meet or exceed the minimum standards for a public-use airport.

G. Minimum Standards: Commercial-Use Airport.

(1) Scope. Every licensed commercial-use airport that is not specifically limited to the landing and taking off of a special category of aircraft shall meet or exceed these standards.

(2) General Items.

<i>Item</i>	<i>Minimum Standard</i>
(a) Runway	
Length (paved)	1,500 feet
Length (turf)	1,500 feet
Width (paved)	30 feet
Width (turf)	50 feet
Graded width	75 feet
(b) Clearance over adjoining land (unless waived by property owner)	20 feet

(c) Wind direction indicator Required

(3) Surface. The landing area shall present a surface which may be used for the landing and take-off of aircraft without undue hazard.

(4) Obstruction-Free Approach Surface. The obstruction-free approach surface minimum standards for a commercial-use airport are the same as the public-use airport obstruction-free approach surface minimum standards (see Diagram 1).

H. Minimum Standards: Public-Use or Commercial-Use Seaplane Base.

(1) Scope. Every licensed airport specifically adapted for the landing and taking off of seaplanes shall meet or exceed these standards.

(2) Size. The body of water shall have a minimum effective length of at least ½ mile and shall be of sufficient width and depth to permit the safe operation of aircraft on the surface.

(3) Boundary Markers. The area available for landing and take-off and for taxiing, when required in the interest of safety, shall be marked in a way approved by the Administration, or as may be required by the marine traffic regulations of the authority having jurisdiction.

(4) Hazards. Every hazard in the approach or landing area, including underwater obstructions, shall be marked in a way approved by the Administration.

(5) Wind Indicator. Every public-use seaplane base shall be equipped with a wind indicator which is clearly visible from pattern altitude. If night operations are conducted, the wind indicator shall be lighted.

**Appendix 10: Zoning Ordinance,
Airport Provisions,
(1964)**

ZONING ORDINANCE

For the

MARYLAND-WASHINGTON

REGIONAL DISTRICT

in

PRINCE GEORGE'S COUNTY,

MARYLAND

November 29, 1949

as amended through

December, 1964

Printed May, 1965

BOOK No 1156

Prepared and Published by

The Maryland National Capital

Park and Planning Commission

Prince George's County Regional Office

Riverdale, Maryland

Price \$5 00

SECTION 130 RR ZONE (Rural Residential) (Continued)

Notwithstanding the provisions of subsection 31 13, a use and occupancy permit is required for all such professional uses whether previously sanctioned or not

ADOPTED 5 31 68
Churches, convents, monasteries, and other places of worship

Dwellings, one family detached in addition the permitted use in the same building of not more than two (2) dwelling units in excess of the living facilities for one (1) family; provided the additional dwelling units were in existence prior to November 29, 1949, and the owner or successor actually resides in such building. Notwithstanding the provisions of Section 31 10, a use and occupancy permit is required to validate such additional dwelling unit use irrespective of its commencement prior to November 29, 1949

ADOPTED 5 28 68
Libraries, museums, and similar institutions of a non-commercial nature

Parking or storing of farm vehicles and farm machinery used on the premises, which may include only three (3) commercial vehicles and only one (1) unoccupied trailer except that, on lots having an area of twenty thousand (20 000) square feet or less, the number of motor vehicles other than farm machinery shall not exceed five (5);
Public Buildings and Uses

Public Parks, playgrounds, and other recreational areas, buildings, including community buildings, if owned and/or operated by a public agency

Riding stables, animal hospitals, kennels, and other domestic pet breeding and raising, except that, on lots having an area of twenty thousand (20,000) square feet or less, such uses shall be permitted only upon the grant of a special exception therefor, in accordance with the provisions of Section 28 0

Signs, including professional name plates, those advertising home occupations or sale or lease of the premises, and other permanent and temporary signs, in accordance with the provisions of Section 28 0

Swimming Pools, Private, provided that the pool shall be completely enclosed by a fence at least six (6) feet in height and further provided that

SECTION 130 RR ZONE (Rural Residential) (Continued)

the pool shall not encroach upon any of the yard requirements for the zone in which such pool is located; except that said pool may be constructed not less than eight (8) feet from the rear property line. A private swimming pool shall not be considered to be an accessory use as defined in this Ordinance

13 11 The following uses, as special exceptions, in accordance with the provisions of Section 28 0: Airports, Airparks, and Airfields (private)

Antique Shops
Automobile Parking Compounds, in connection with an adjacent commercial or industrial use, subject to the provisions of Section 24 0
ADOPTED 10 3 67

Automobile Parking Lot (public and private)
Cemeteries, Animal
Cemeteries, Crematories, and other places for the disposal of the human dead, subject to the provision of any other applicable state or local law

Commercial recreational attractions including educational, cultural, historical and similar exhibits and related uses
ADOPTED 5 16 68

Conversion of Dwelling, one family detached to additional dwelling units For all such uses commenced on or after November 29, 1949, an exception is required to validate such uses
ADOPTED 5 28 68

Educational Institution (private)
Golf Courses, Country Clubs, Private Clubs, in cluding community buildings and similar recreational uses not owned and/or operated by a public agency
Hospitals, Eleemosynary, and Philanthropic Institutions
ADOPTED 5 31 68

Insurance Sales Office
Medical Practitioner's Office (more than one (1) practitioner)
ADOPTED 5 31 68

Motels
Pari Mutuel Race Tracks (horse racing)
Public Utility and Public Service Facilities
ADOPTED 5 31 68

Real Estate Sales Office
Rifle, skeet shooting, or golf driving ranges
Sand, gravel, or clay pits; stone quarries, min

owning does reside in dwelling

see set of 21

SECTION 27 0 EXCEPTIONS AND SUPPLEMENTS TO GENERAL PROVISIONS
(Continued)

27 24 Structures Excluded from Height Control
The building height limits set forth in this Ordinance shall not apply to bellfries chimneys cupolas domes, flagpoles flues monuments radio towers spires tanks water towers or similar structures, except where such structures are located within an airport approach area as designated on the Zoning Map; nor shall such building height limits apply to bulkheads elevators water tanks or similar roof structures and mechanical appurtenances. No such structure shall have a total area greater than twenty five (25) percent of the roof area; nor shall such structure be used for any residential purpose or for any commercial or industrial purpose other than a use incidental to the main use of the building.

27 25 Height Limit in Airport Approach Areas
Building height limits, as provide in this Ordinance, shall not apply in areas designated as "Airport Approach Areas" on the Zoning Map. In such airport approach areas the height limit of all buildings and structures, including chimneys super structures, flagpoles, spires, radio towers, and any other projections into the air shall be limited as follows:

27 251 Class 1 Airports
In airport approach areas building heights shall be limited to provide a clear glide path of twenty to one (20:1) from the end of the usable landing strip and the first five hundred (500) feet of such glide path shall be wholly within the airport, except that in cases where the owner or lessee thereof has purchased air rights or easement from the owner of abutting property in which such approach area falls or when such approach area is over a public open area reservation or park and appropriate permits have been obtained from the agency having jurisdiction thereof, the portion of the glide path wholly within the airport may be reduced to not less than two hundred fifty (250) feet

27 252 Classes 2, 3, 4, and 5 Airports (Normal Use Runways)
In airport approach areas for normal use

SECTION 27 0 EXCEPTIONS AND SUPPLEMENTS TO GENERAL PROVISIONS
(Continued)

runways building heights shall be limited to provide a clear glide path of thirty to one (30:1) from the end of the usable landing strip and the first seven hundred fifty (750) feet of such glide path shall be wholly within the airport; except that in cases where the owner or lessee thereof has purchased air rights or easement from the owner of abutting property in which such approach area falls, or when such approach area is over a public open area, reservation, or park and appropriate permits have been obtained from the agency having jurisdiction thereof, the portion of the glide path wholly within the airport may be reduced to not less than three hundred twenty five (325) feet

27 253 Insurment Landing Runways
In airport approach areas for instrument landing runways, building heights shall be limited to provide a clear glide path of forty to one (40:1) from the end of the usable landing strip, and the first one thousand (1,000) feet of such glide path shall be wholly within the airport, except that, in cases where the owner or lessee thereof has purchased air rights or easement from the owner of abutting property in which such approach area falls or when such approach area is over a public open area reservation, or park and appropriate permits have been obtained from the agency having jurisdiction thereof, the glide path wholly within the airport may be reduced to not less than five hundred (500) feet

27 3 Area
27 31 Side-Yard Width on One Family Dwelling Lots Forty (40) to Fifty (50) Feet in Width

A one family detached dwelling erected on a lot having a width of at least forty (40) feet, but less than fifty (50) feet, at the front building line shall have, on a lot forty (40) feet in width, two (2) side yards having a total width of not less than ten (10) feet, each of which shall be at least five (5) feet in width. For each foot of lot width over

SECTION 28 0 SPECIAL EXCEPTIONS (Continued)

notice given as in the case of a new application. The cost thereof to be borne by the petitioner
ADOPTED 7 23 68

- 28 17 Zoning Map to Indicate Special Exception
Upon receipt of notice of grant of special exception the Commission shall indicate the same in the proper place on the Zoning Map by use of appropriate code number or symbol
- 28 18 Enlargement of Special Exception
No use or activity permitted as a special exception, shall be enlarged or extended beyond the limits authorized in the grant of special exception. All such enlargements or extensions shall require grants of special exception as in the case of the original petition

28 2 General Provisions

A special exception may be granted when the Council finds that:

- (a) The proposed use is in harmony with the purpose and intent of the General Plan for the physical development of the District as embodied in this Ordinance and in any Master Plan or portion thereof adopted or proposed as part of said General Plan
- (b) The proposed use will not affect adversely the health and safety of residents or workers in the area and will not be detrimental to the use and/or development of adjacent properties or the general neighborhood

28 3 Specific Provisions

A special exception may be granted in accordance with the specific provisions herein enumerated, in connection with a use for which such exception is required. The Council may, and is hereby empowered to, add to the specific provisions any others that it may deem necessary to protect adjacent properties, the general neighborhood, and the residents and/or workers therein

28 31 Uses for Which Special Exceptions May Be Granted and Special Provisions Relative Thereto

- 28 311 Accessory Building, Height of
(a) In the R R R 55, R 35 and R P C Zones, the height of an accessory building may

Reissued Oct 1968

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SECTION 28 0 SPECIAL EXCEPTIONS (Continued)

be increased to two (2) stories, but not over twenty five (25) feet, to provide living quarters on the second story for servants and other household help employed on the premises, if such additional height and purpose are reasonably necessary for the convenience of the family occupying the main building and if such additional height will not be detrimental to the abutting properties

(b) In an R R Zone, the height of accessory buildings used for bona fide agricultural purposes may be extended to forty (40) feet

(c) In an R 18 or R 10 Zone an accessory building used as an office, in connection with a multiple family dwelling project, may be increased in height to two (2) stories, but not over twenty five (25) feet provided such additional height is required and used solely in connection with the main use

(d) Plot plans, drawn to scale, showing the location of the accessory building for which the height increase is requested its relationship to other buildings on the lot and adjoining lots, and the proposed use of the additional space, shall be submitted with each application

28 312

Agricultural Uses (General)

In any zone, general agricultural uses on a lot or tract located in an area predominantly undeveloped. Such exceptions shall be temporary, with the provision that those for animal farming, pet breeding and raising poultry farming and similar agricultural uses shall be revocable

118c

Reissued Oct 1968

SECTION 280 SPECIAL EXCEPTIONS (Continued)

28 313

Airport, Airpark, Airfield (Private)
In any Zone, an airport or similarly de-
signed area for the landing and taking off
of aircraft, provided that:

(a) The proposed location is in accordance
with the Master Plan of Airports for the
Maryland Washington Regional District
in Prince George's County or, if such
plan has not been adopted, that the
proposed location has been approved
by the Commission as to compatibility
with the General Plan for the physical
development of the said Regional
District

(b) The area shall be sufficient to meet the
Civil Aeronautics Administration's re-
quirements for the class of airport pro-
posed

(c) There are no existing flight obstructions,
such as towers, chimneys, or other tall
structures, or natural obstructions, out-
side the proposed airport which fall
within the approach zone to any of the
proposed runways or landing strips of
the airport

(d) There is sufficient distance between the
end of each usable landing strip and
the airport boundary to satisfy the re-
quirements of Sections 27 251, 27 252
and/or 27 253, whichever may apply
In cases where air rights or easements
have been acquired from the owners of
abutting properties, in which approach
zones may fail, satisfactory evidence
thereof shall be submitted with the
application

(e) Any buildings, hangars, or other struc-
tures shall be at least one hundred
(100) feet from any street or lot line;
and

(f) Adequate space for off street parking
of at least fifty (50) vehicles has been
provided

28 314

No application shall be considered unless it
is accompanied by a plan drawn to scale,
showing the proposed location of the air-
port; boundary lines; dimensions; names of

SECTION 28.0 SPECIAL EXCEPTIONS (Continued)

owners of abutting properties; proposed layout of runways landing strips or areas taxi strips aprons roads parking areas hangars buildings and other structures and facilities; the location and height of all buildings, structures, trees and overhead wires falling within the airport approach zones and less than five hundred (500) feet distant from the boundary lines of the airport; other pertinent data such as topography and grading plan, drainage, water, and sewerage etc

28 315 Animal Hospital, Pet Shop, Veterinarian In a C 2 Zone on animal hospital, animal boarding place pet shop and/or veterinarian, provided that the lot upon which such use is proposed shall not abut a lot in any residential zone; nor shall the proposed use be incompatible with or detrimental to, any existing uses on abutting lots in a C 1 or C 2 Zone

28 316 Antique Shop In the RR Zone an antique shop provided that outdoor display of articles for sale shall be at least twenty five (25) feet from any street or lot line

28 316A Apartment Housing; Elderly or Physically Handicapped Families In the R 18 R H and R 10 Zones apartment housing and related facilities for elderly or physically handicapped families or both, with a waiver of minimum area and off street parking requirements to less than normally required subject to the following requirements and conditions:

(a) Such housing is developed under a site development plan approved with the special exception application by the owner being a private eleemosynary or philanthropic institution or foundation which has recorded or will record among the land records a Declaration of Covenants establishing for a fixed term of not less than twenty (20) years that the premises will be occupied solely by elder

SECTION 28.0 SPECIAL EXCEPTIONS (Continued)

ly or handicapped families as herein after defined The site plan shall show the number and type of proposed dwelling units per net lot area and if greater than permitted in the applicable zone the special exception applied for may be granted if the net lot area is not less than one half (1/2) of the minimum area normally required in such zone and the dwelling units per net lot area do not exceed by more than 100% the number of units normally permitted in the zone without a special exception

(b) Off street parking facilities shall be reflected in the site development plan and if less than normally required the special exception applied for may be granted if one (1) parking space is provided for every three (3) dwelling units to be contained in the development; provided however that the District Council may lessen such latter requirements when practical difficulties preclude their application

(c) As used in this subsection the term elderly or handicapped families means families which consist of two or more persons and the head of which (or his dependent) is sixty two years of age or over or is physically handicapped Such term also means a single person who is sixty two years of age or over or who is physically handicapped A person shall be considered physically handicapped if he or she has a physical impairment which (a) is expected to be of long continued and in definite duration, (b) substantially impedes ability to live independently and (c) is of such a nature that such ability could be improved by more suitable housing conditions

28 317 Automobile Filling Station In the C 1 and C 2 Zones an automobile filling station subject to the following conditions that:
ADOPTED 12 6 68

SUBTITLE 27 ZONING.

**Appendix 11: Zoning Ordinance,
Airport Provisions,
(1995)**

Sec. 27-333. Airport, airpark, or airfield, private.

(a) A private airport, airpark, airfield, airstrip, heliport, helistop, or similarly designed area for the landing and taking off of aircraft may be permitted, subject to the following:

(1) The land area proposed for the use shall be sufficient to meet the Federal Aviation Administration's requirements for the class of facility proposed;

(2) There are no existing or proposed flight obstructions which are located outside the proposed facility and which fall within the approach zone to any of the proposed runways or landing strips;

(3) If air rights or easements have been acquired from the owners of adjacent properties in which approach zones fall, satisfactory evidence of them shall be submitted with the application;

(4) Structures shall be located at least one hundred (100) feet from any boundary line of the subject property; and

(5) An airstrip or helistop shall contain no terminal, storage, or repair/service facilities.

(b) In addition to the requirements of Section 27-296(c), the site plan shall show the location and height of all structures, trees, and overhead wires located within airport approach zones and less than five hundred (500) feet from the property. The site plan shall also show such things as the proposed topography, grading, drainage, and water and sewerage facilities.

Sec. 27-334. Reserved.

SUBTITLE 27 ZONING.

(F) The name, address, and signature of each owner of record of the property. Applications for property owned by a corporation must be signed by those officers empowered to act for the corporation; and

(G) The name, address, and telephone number of the correspondent.

(c) **Other submission requirements.**

(1) Along with the application, the applicant shall submit the following:

(A) An accurate plat (prepared, signed, and sealed by a registered engineer or land surveyor) capable of being reproduced on an ozalid or similar dry-copy machine, or six (6) copies of the plat. This plat shall show

(i) The present configuration of the property, including bearings and distances (in feet). In the case of applications for public utility power transmission line rights-of-way, towers, poles, conduits, pipelines, and similar facilities, the applicant shall not be required to supply a metes and bounds survey of the rights-of-way, but shall show on the plat the center line (by bearings and distances) and width (in feet) of the project, so that the location of the rights-of-way can be readily determined. In this latter case, within ninety (90) days after the acquisition of each property necessary for the project, and prior to the issuance of any building permit (for the approved Special Exception use), the applicant shall complete an accurate metes and bounds survey of the property and furnish either one (1) reproducible or six (6) nonreproducible copies of the survey to the Planning Board;

(ii) The names of the owners of record or subdivision lot and block numbers of adjoining properties;

(iii) The name, location, distance to the center line, and present right-of-way width of all abutting streets. If the property is not located at the intersection of two (2) streets, the distance to, and the name of, the nearest intersecting street shall be indicated;

(iv) The subdivision lot and block numbers of the subject property (if any);

(v) A north arrow and scale (not smaller than one (1) inch equals four hundred (400) feet);

(vi) The total area of the property (in square feet or acres);

(vii) The location of all existing buildings on the property; and

(viii) The subject property outlined in red.

see CB-47-1996 new wording (B) A site plan (drawn to scale) showing all existing and proposed improvements and uses on the subject property, and the use and zoning of adjacent properties. The site plan shall be in sufficient detail so that a determination can be made that the proposed use will be in compliance with all requirements of this Subtitle applicable to it. The site plan shall show all moderately priced dwelling units proposed for the subject property, where the development is subject to the provisions of Part 4A of this Subtitle and Subtitle 13, Division 8, of this Code. The site plan must be capable of being reproduced on an ozalid or similar dry-copy machine, or nine (9) copies of the plan must be supplied. In a Chesapeake Bay Critical Area Overlay Zone, the site plan shall be prepared in accordance with the Conservation Manual.

(C) A landscape plan shall be prepared in accordance with the provisions of the Landscape Manual. The landscape plan must be capable of being reproduced on an ozalid or similar dry-copy machine, or nine (9) copies of the plan must be supplied.

(D) Three (3) copies of the appropriate Zoning Map page on which the property is plotted to scale and outlined in red.

(E) A certificate of public convenience and necessity for a public utility power

SUBTITLE 27. ZONING.

transmission line right-of-way, tower, pole, conduit, pipeline, or similar facility, if:

(i) The actual record owner of the subject property has not signed the application; and

(ii) A certificate is required by the State or Federal agency having jurisdiction over the public utility operation.

(F) Three (3) copies of a typewritten statement of justification in support of the request. The statement shall address the provisions of this Subtitle applicable to the requested use. The statement shall also set forth the factual reasons showing why approval of the request would not be detrimental to the public health, safety, and welfare. This statement may be accompanied by three (3) copies of any material which (in the applicant's opinion) is necessary to clarify or emphasize the typewritten statement. This additional material, if not foldable, shall be not larger than eighteen (18) by twenty-four (24) inches.

(G) A statement listing the name, and the business and residential addresses, of all individuals having at least a five percent (5%) financial interest in the property

(H) If any owner is a corporation, a statement listing the officers of the corporation, their business and residential addresses, and the date on which they assumed their respective offices. This statement shall also list the current Board of Directors, their business and residential addresses, and the dates of each Director's term. An owner that is a corporation listed on a national stock exchange shall be exempt from the requirement to provide residential addresses of its officers and directors.

(I) If the owner is a corporation (except one listed on a national stock exchange), a statement containing the names and residential addresses of those individuals owning at least five percent (5%) of the shares of any class of corporate security (including stocks and serial maturity bonds).

(J) A forest stand delineation.

(K) All other data or explanatory material deemed necessary by the District Council, Zoning Hearing Examiner, or Planning Board (submitted in triplicate).

CB-15-1998 [(L) A list containing the names and addresses of each municipality if any part of the property in the application is located within the municipal boundaries, or is located within one (1) mile of the municipality, and a set of preaddressed envelopes or mailing labels.]

(2) For the purposes of (G), (H), and (I) above, the term "owner" shall include not only the owner of record, but also any contract purchaser.

(CB-107-1984; CB-33-1985; CB-72-1987; CB-86-1988; CB-1-1989; CB-75-1989; CB-84-1990; CB-95-1991)

Sec. 27-297 Fees.

(a) In general.

(1) A check or money order, made payable to the Maryland-National Capital Park and Planning Commission, covering all applicable fees, shall accompany the application.

(2) The fees shall be paid by the applicant and retained by the Planning Board.

(b) Filing fees (original application).

(1) The filing fee for a mobile home (as a one-family dwelling) shall be Two Hundred Dollars (\$200.00).

APPENDIX 12

Noise Models and Nuisance Factors

Unfortunately, there are no models to predict the reaction of individuals to a given noise exposure or impact. Complaints about noise may occur regardless of the compatibility noise threshold established. How to further reduce complaints related to noise is the issue. One suggestion is that 55 Ldn is the level at which incompatible uses should be controlled in order to protect the public health, safety and welfare of citizens.

Changing the community noise criteria metric from Ldn to another unit of measure was suggested by residents. Presently, the two most commonly used metric/units of measure are Leq and Ldn metrics. Leq is defined as the average of the sound pressure levels (dBA) measured during some specified time period. The Ldn is determined as the energy equivalent, a weighed continuous sound level compared to a 24-hour varying noise level, with a 10 dBA penalty added to nighttime noise levels, between 10:00 p.m. and 5:00 a.m. Generally, in the United States, except in California, the Ldn metric system is used.

Based on the logarithmic math and aircraft flyovers concept, different countries have adopted a different metric as shown below. These complex criterion for predicting future noise impact of airports vary considerably, due to variations in the penalty factors.

- In Europe
Flyover: $WECPNL = L_{EPN} + 10 \log_{10} (N_{day} + 3 N_{eve} + 10 N_{night}) = 39.4$
The penalty factor is 15dB (5dB + 10 dB)
- In Canada
Flyover: $NEF = L_{EPN} + 10 \log_{10} (N_{day} + 16.67 N_{night}) - 88.0$
The penalty factor is 12dB
- In California
Flyover: $L_{cne} = L_e + 10 \log_{10} (N_{day} + 3 N_{eve} + 10 N_{night}) = 49.4$
The penalty factor is 15dB (5dB + 10db)
- In the USA (except California)
Flyover: $L_{dn} = L_E + 10 \log_{10} (N_{day} + 10 N_{night}) = 49.4$
The penalty factor is 10dB

Despite the recognition by many that the absolute level of 65 Ldn as a noise zone boundary does not adequately protect citizens who live in the more quiet environment of suburban and rural areas, the argument for using any given concept or metric depends prevailing on factors and conditions.

