

SECTION 5 LAND USE ANALYSIS

5.1 INTRODUCTION

Land use planning and control is a dynamic, rather than a static process. The specific characteristics of land use determinants will always reflect, to some degree, the changing conditions of the economic, social, and physical environment of a community, as well as changing public concern. The planning process accommodates this fluidity in which decisions are normally not based on boundary lines, but rather on more generalized area designations.

Andrews AFB was originally established in the relatively undeveloped, rural fringe of Washington D.C. Beginning in the 1960s, these areas of Prince George's County experienced significant amounts of growth and today the west side of the installation fronts the densely developed Capital Beltway corridor.

Computer technology enables Andrews AFB to more precisely display its flight tracks and noise contours for land use planning purposes. The computer technology reveals the extent of the Andrews AFB region of impact into the counties and surrounding nearby cities and towns.

For the purpose of this Study, existing and future land uses on the figures in this section are generalized into one of the following six categories:

Residential: This category includes all types of residential activity, such as single and multi-family residences and mobile homes, at a density greater than one dwelling unit per acre.

Commercial: This category includes offices, retail, restaurants, and other types of commercial establishments.

Industrial: This category includes manufacturing, warehousing, and other similar uses.

Public/Quasi-Public: This category includes publicly owned lands and/or land to which the public has access, including military reservations and training grounds, public buildings, schools, churches, cemeteries, and hospitals.

Recreational: This category includes land areas designated for recreational activity including parks, wilderness areas and reservations, conservation areas, and areas designated for trails, hikes, camping, etc.

Open/Agricultural/Low Density: This category includes undeveloped land areas, agricultural areas, grazing lands, and areas with residential activity at densities less than or equal to one dwelling unit per acre.

5.2 EXISTING LAND USE

The areas immediately surrounding Andrews AFB are all part of Prince George's County, Maryland. The local communities that fall within the AICUZ footprint are unincorporated and under county governance. In general, land use in the vicinity of Andrews AFB is characterized by a mix of commercial and residential suburban development. Areas immediately west of the installation fronting the Capital Beltway are the most heavily developed and contain several established commercial corridors. Areas immediately east of the installation typically remain semi-rural, or have only recently experienced low and medium density suburban development.

Virtually all of Prince George's County was rural when Andrews AFB was first established in 1941. Areas south and east of the installation remained fully rural until the 1960s. During the 1960s and 1970s, the Washington D.C. area experienced rapid growth. However, development in the area of Andrews AFB was limited to the adjacent Capital Beltway corridor west of the installation. Growth in the following decades increased dramatically, spreading east and south from the Capital Beltway. However, suburban growth in Prince George's County has not reached the intensity or geographic extent seen in the northern Virginia portions of the Washington D.C. area. As a result, some areas east and south of Andrews AFB retain vestiges of their former rural character. In recent years, residential development has taken hold in eastern and southern Prince George's County. This growth has been centered along Maryland Route 4, Maryland Route 5, and U.S. Route 301 corridors. Farther north, a significant amount of development has occurred along Route 50 linking the Capital Beltway with Annapolis. Development along the Route 50 corridor extends as far as the Chesapeake Bay Bridge. Areas of Eastern Shore on the far side of the Chesapeake Bay remain rural and agricultural. While most towns near Andrews AFB have been in existence since at least the turn of the 20th century, many of these older localities have been encroached upon or physically overtaken by recent suburban development. The east side of the Base is bordered by Allentown Road and Marlboro Pike, two major local commercial corridors. Named communities adjacent to the Base are Morningside and Woodyard to the north and east, and Clinton and Camp Springs to the south and west.

The Capital Beltway skirts the northwestern edge of Andrews AFB. Land use in this area is a mix of moderate density residential development and commercial establishments. The immediate northern end of the installation is bounded by Suitland Parkway and associated green space. Farther north, land use is characterized by a mix of commercial and light industrial development and individual residential communities. Much of the commercial development is oriented along Capital Beltway. Moving clockwise, land use along a broad swath northeast and east of Andrews AFB is typified by open space and agricultural land interspersed by recent, single home residential developments. Some agricultural fields are present, but large tracts of undeveloped land remain wooded. Residential land use increases south of Maryland Route 4, and the area just east-southeast of the installation is the location of established residential communities. Most of this development is in the form of single family houses. Areas fronting the southeast corners of the installation are undeveloped. Residential development borders the southern end of the Base, while a mix of medium density

residential and established commercial land uses define the Branch Avenue (Maryland Route 5) corridor, which extends along the southwest and west sides of Andrews AFB.

Figure 5.1 presents the existing land uses for the area that surrounds Andrews AFB and within the DNL 65 dB and greater noise exposure area for the installation. Table 5.1 summarizes the acreage by land use category exposed to noise levels of DNL 65 dB and greater.

Table 5.1 Generalized Existing Land Use Within DNL 65 dB and Greater Noise Exposure Area (Off Installation)

Category	Acreage Within Noise Zones, Not Included in CZs and APZs				Total
	65-69	70-74	75-79	80+	
Residential	558	143	92	70	863
Commercial	62	21	13	0	96
Industrial	59	59	25	51	194
Public/Quasi-public	29	1	0	0	30
Recreation/Open/ Agricultural/Low Density	3,195	974	228	172	4,569
Total	3,903	1,198	358	298	

The analysis also includes land use within the Andrews AFB CZs and APZs. Inclusion of the CZs and APZs in the evaluation shows 951 acres of residential land within the Andrews AFB CZs and APZs. Table 5.2 reflects the land use (off-installation areas only) within the Andrews AFB CZs and APZs.

Table 5.2 Generalized Existing Land Use within the Andrews AFB Clear Zones and Accident Potential Zones (Off-Installation)

Category	Acreage Within CZs and APZs			Total
	CLEAR ZONE	APZ I	APZ II	
Residential	0	133	818	951
Commercial	9	73	32	114
Industrial	16	219	89	324
Public/Quasi-public	0	8	29	37
Recreation/Open/ Agricultural/Low Density	109	435	627	1,171
Total	134	868	1,595	2,597

5.3 CURRENT ZONING

Figure 5.2 overlays the 2007 noise contours and APZs on a map displaying the current generalized zoning in the vicinity of Andrews AFB. Prince George’s County has adopted standard zoning ordinances and zoning maps to guide and control development. Local governments and planning agencies have developed a strong working relationship with

Andrews AFB in matters of development planning. The zoning classifications identified on Figure 5.2 have been generalized for AICUZ planning purposes.

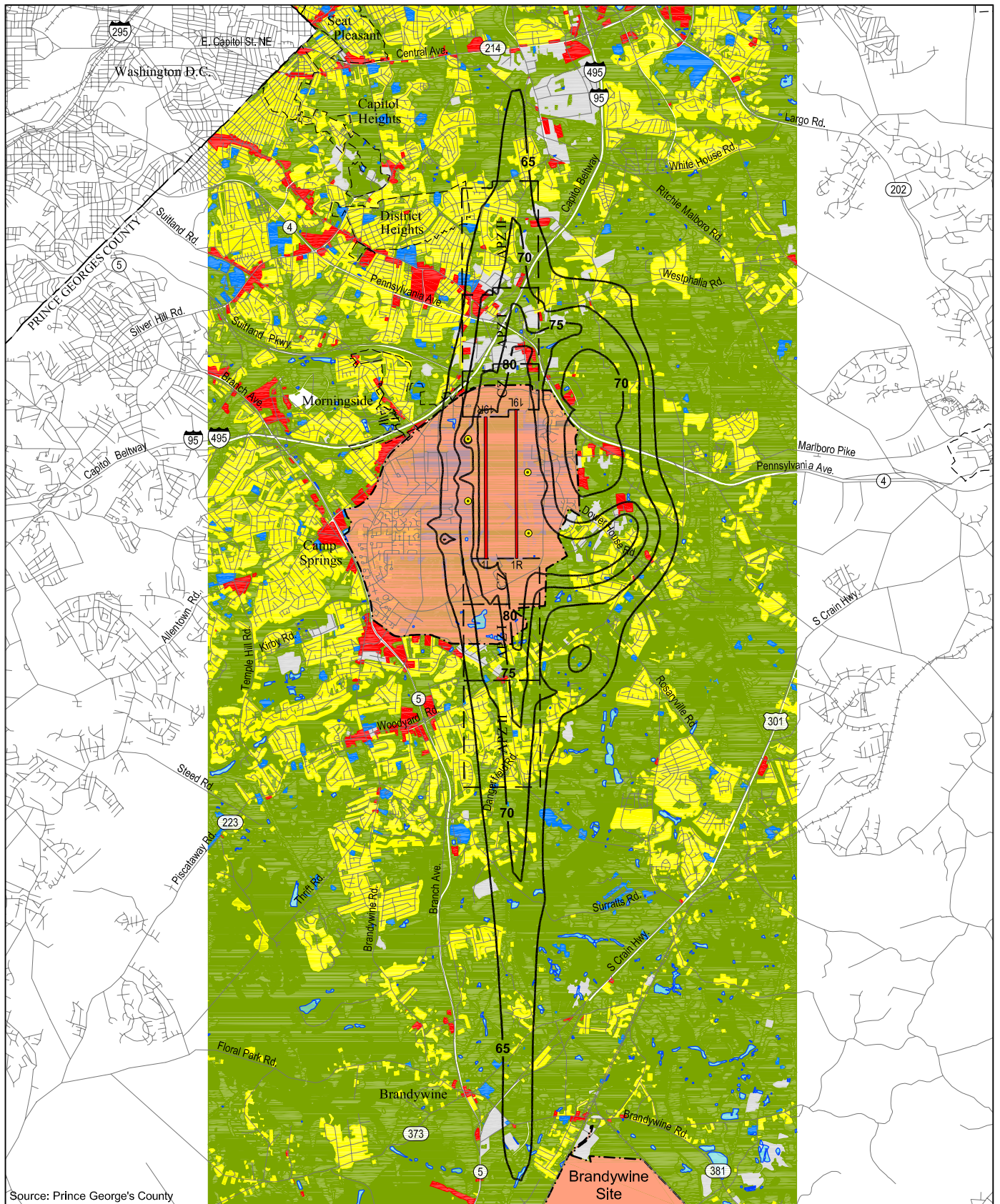
Prince George’s County zoning in the area of Andrews AFB generally follows existing land use patterns. An exception to this is in the area just to the northeast of the installation, which is the future site of the Westphalia planned community described in the succeeding Subsection 5.4. To accommodate this project, a 6,000-acre tract northeast of the Base has been rezoned to include mixed use, low urban, high suburban, and retail commercial categories. The project also reserves significant open space and preservation areas.

Areas immediately fronting the north end of the installation are zoned industrial. The industrial zoning continues north along the east side of the Capital Beltway up to the Maryland Route 214 Central Avenue interchange. Areas to the east of the industrial corridor are zoned in a mix of residential and open/agricultural/low density with the exception of the Westphalia tract. Areas immediately to the east and southeast of the installation are zoned industrial. Zoning farther east is mostly residential with increasing amounts of open/agricultural/low density areas at a distance from the installation. Areas south of Andrews AFB are mostly residential. Residential and commercial zoning is dominant directly west of the Base. Some industrial zoning occurs along the Capital Beltway while much of the Branch Avenue corridor is commercial.

Analysis of current zoning in the noise exposure area was performed to determine the acreage of each zoning designation within the DNL 65dB and greater noise contours. From this analysis, as with the land use analysis, the zoning designations were categorized into residential, commercial, industrial, public/quasi-public, and recreational/open/agricultural/low density. Figure 5.2 shows the results of the compilation, and Table 5.3 provides a breakdown of the generalized zoning (areas outside Andrews AFB only, outside CZs and APZs) within the DNL 65 dB and greater noise area.

Table 5.3 Generalized Zoning within DNL 65 dB and Greater Noise Exposure Area (Off-Installation outside CZs and APZs)

Category	Acreage Within Noise Zones, Not Included in CZs and APZs				Total
	65-69	70-74	75-79	80+	
Residential	1,935	607	169	100	2,811
Commercial	477	209	29	172	887
Industrial	488	248	129	0	865
Public/Quasi-public	0	0	0	0	0
Recreation/Open/ Agricultural/Low Density	779	86	0	0	865
Total	3,697	1,150	327	272	5,428

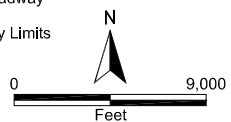


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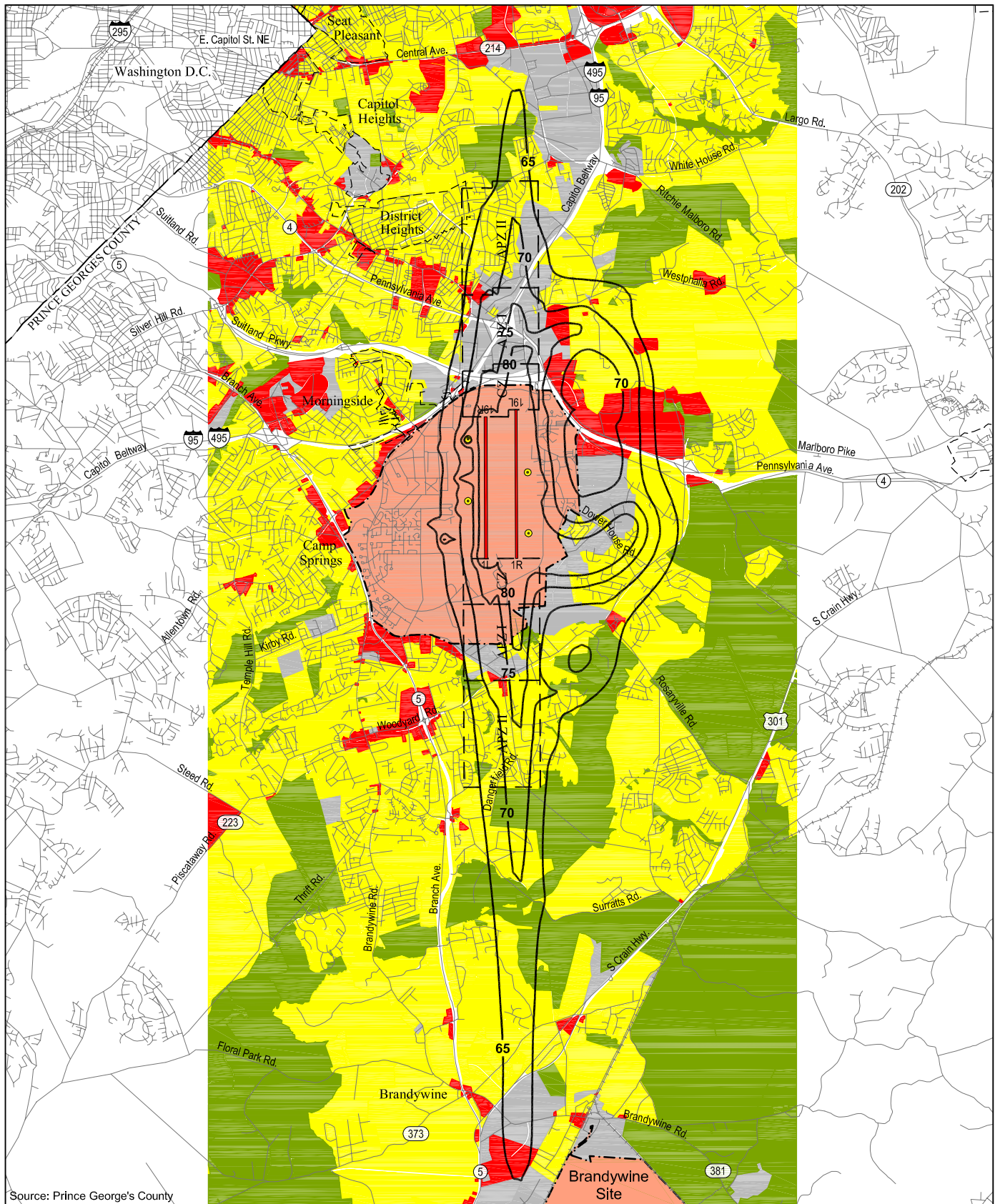
LEGEND

- Public/Quasi-Public
- Residential
- Commercial
- Industrial
- Open/Agriculture/ Low Density
- Andrews AFB
- DNL dB Contours
- CZ/APZ Boundary
- Helipad
- Runway
- Roadway
- City Limits



Generalized Existing Land Use

Figure 5.1



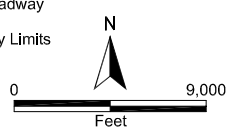
Source: Prince George's County

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LEGEND

- Public/Quasi-Public
- Residential
- Commercial
- Industrial
- Open/Agriculture/ Low Density
- Andrews AFB
- DNL dB Contours
- CZ/APZ Boundary
- City Limits
- Helipad
- Runway
- Roadway



Generalized Zoning

Figure 5.2

A similar analysis was performed to determine the acreage of each generalized zoning category within the Andrews AFB CZs and APZs and is shown on Table 5.4.

Table 5.4 Generalized Zoning within the Andrews AFB Clear Zones and Accident Potential Zones (Off-Installation)

Category	Acreage Within CZs and APZs			Total
	CLEAR ZONE	APZ I	APZ II	
Residential	0	132	1,112	1,244
Commercial	0	24	29	53
Industrial	52	559	199	810
Public/Quasi-public	0	0	0	0
Recreation/Open/ Agricultural/Low Density	0	31	57	88
Total	52	746	1,397	2,195

5.4 FUTURE LAND USE AND FUTURE DEVELOPMENT PROJECTS

Figure 5.3 shows long-range generalized future land use predicted for the Andrews AFB environs based on local zoning maps, comprehensive plans, and local development proposals. The following paragraphs discuss these anticipated future land use patterns.

In general, development along the southeastern quadrant of the Capital Beltway loop lags behind the other parts of the Washington D.C. metropolitan area. Medium and high density development near Andrews AFB has been limited to the area adjacent to the Capital Beltway. Areas to the west, or inside the Beltway, are characterized by older suburbs and urban fringe. Areas east and south of the installation retain some of their rural fringe character. This situation is changing and much of Prince George’s County in the area of Andrews AFB is poised for growth. This growth will be spurred in part by several high profile projects. Real estate interests are also drawn to the western Prince George’s County as the area contains some of the last major tracts of developable land in proximity to the Capital Beltway.

Future land use in the area of Andrews AFB is guided in the broadest sense by the Prince George’s County General Plan (2002). The Plan divides the county into three basic zones. These are: 1) the Developed Tier; 2) the Developing Tier; and 3) the Rural Tier. The General Plan also defines transportation corridors and planned Metropolitan Centers, Regional Centers, and Community Centers. The Developed Tier includes all county areas inside the Capital Beltway. The Developed Tier in the area of Andrews AFB extends across the Beltway up to the installation’s western limits. The Beltway delineates the Developed Tier’s eastern limits north of Andrews AFB. The Developing Tier encompasses middle sections of the county while the Rural Tier occupies the eastern end of Prince George’s County. Residential density in the Rural Tier outside established communities is heavily restricted by zoning in order to maintain a rural character. Zoning in the Developing Tier is variable but is structured to promote logical and sustainable development.

More specific future land use guidance is provided in the Prince George's Comprehensive Plan (Maryland-National Capital Park and Planning Commission 1994). Most of the AICUZ footprint falls within the Melwood Westphalia unit of the Plan. The Comprehensive Plan's Melwood Westphalia unit was approved in 1994 but is currently in the process of being updated. The Plan depicts future industrial categories to the north, east, and southeast of the installation. The Comprehensive Plan also calls for the significant residential land use east of the installation, including both low density and high density residential development.

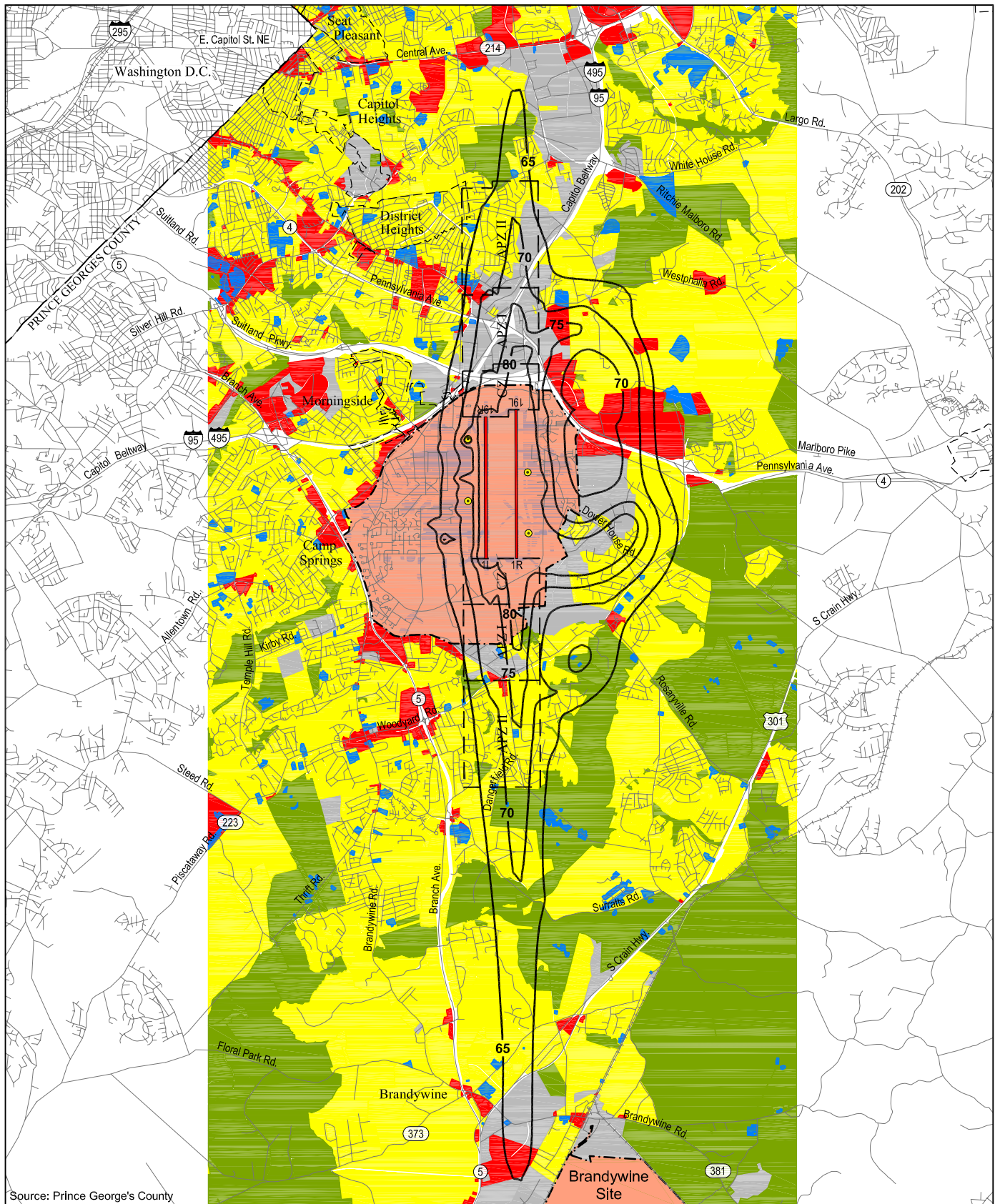
Areas south of Andrews AFB can expect some increases in residential development in the coming years. This will consist mostly of infill type development between established residential communities. The areas west of the installation are fairly well built out. At present, Prince George's County has targeted the established commercial and residential districts along Branch Avenue as an area suitable for revitalization as urban fringe.

Several major development projects are planned in the vicinity of Andrews AFB and these will have a major bearing on future land use in the vicinity of the installation. The largest of these projects is Westphalia, which will front the northeast corner of Andrews AFB. This undertaking is in the final planning stages. In February 2007, the Maryland National Capital Park and Planning Commission approved the Preliminary Sector Plan and Proposed Sectional Map Amendment for the project area. The Westphalia project includes construction of up to 14,000 residential units, up to 710,000 square feet of retail space, and over four million square feet of other commercial space. The development will include a high density town center, several outlying village center nodes, and ample open space. The 6,000-acre Westphalia tract is bounded on the south by Maryland Route 4, Pennsylvania Avenue, to the east by the Capital Beltway, and to the north and east by Ritchie Marlboro Road.

Other major development projects will have some effect on development and future land use in the area of Andrews AFB. These include construction of a new U.S. Census Bureau headquarters in Suitland that will consolidate approximately 6,000 staff positions in a single location. The ongoing National Harbor project in Oxon Hill will provide nearly four million square feet of hotel, office, retail, entertainment, and residential space. Although not located immediately adjacent to Andrews AFB, the National Harbor project will likely be a catalyst for additional high density development along the southeast quadrant of the Capital Beltway from the Maryland Potomac River shore north and east toward Andrews AFB.

5.5 INCOMPATIBLE LAND USES

Table 5.4 shows land use compatibility as it applies to existing land use within the APZs and noise contours DNL 65dB and greater for Andrews AFB. For a land use area to be considered compatible, it must meet both noise and accident potential criteria shown in Table 4.3. The compatibility guidelines shown in Table 4.3 were combined with the existing land use plan shown in Figure 5.1 to determine land use incompatibility associated with aircraft operations at Andrews AFB. Results of this analysis are depicted numerically in Table 5.5 and illustrated in Figure 5.4.



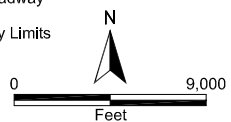
Source: Prince George's County

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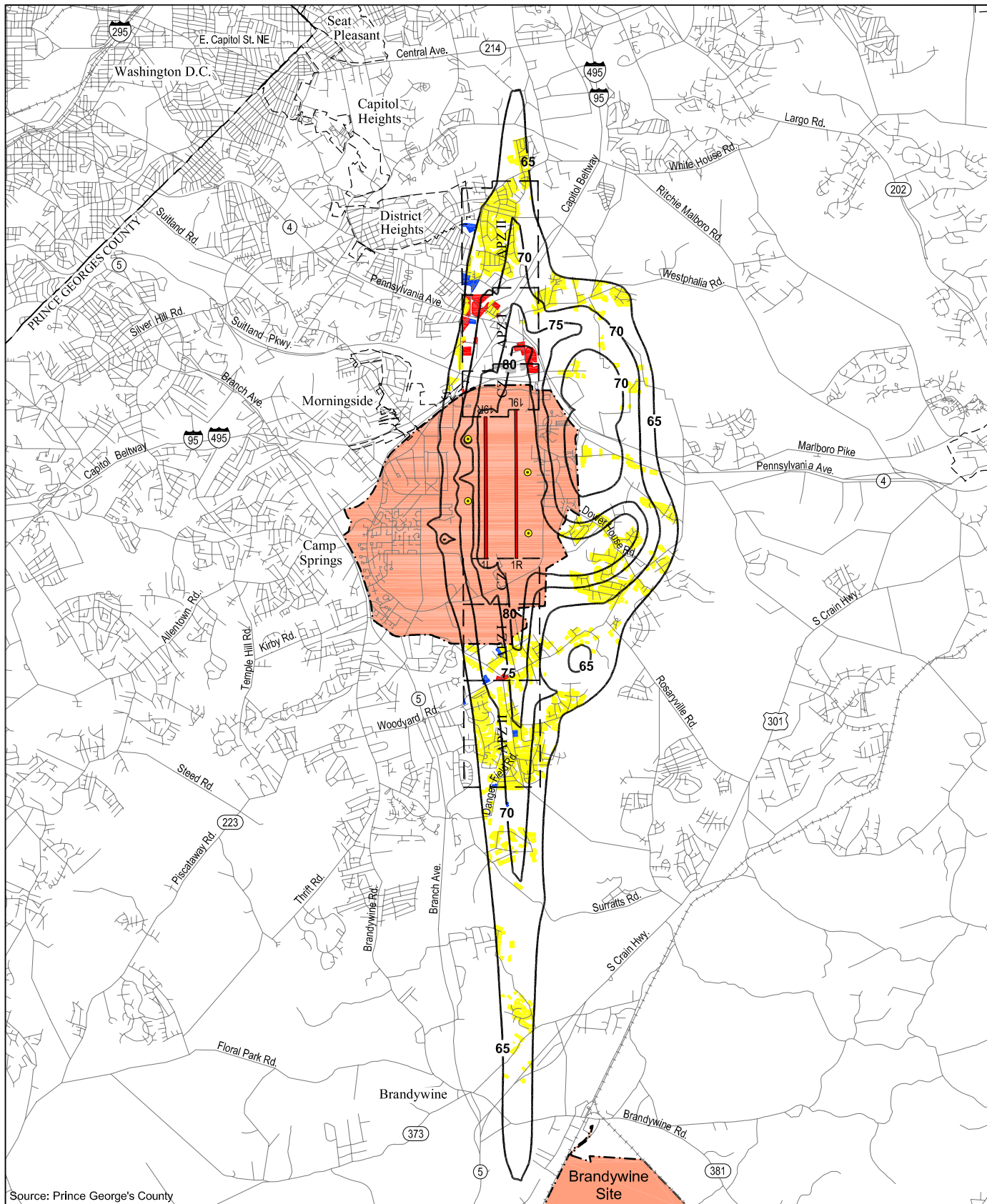
LEGEND

- | | | |
|----------------------------------|-----------------|-------------|
| Public/Quasi-Public | Andrews AFB | Runway |
| Residential | DNL dB Contours | Roadway |
| Commercial | CZ/APZ Boundary | City Limits |
| Industrial | Helipad | |
| Open/Agriculture/
Low Density | | |



Generalized Future Land Use

Figure 5.3

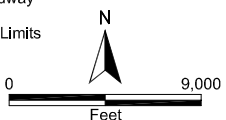


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Andrews Air Force Base 2007 AICUZ

LEGEND

- Industrial
- Residential
- Commercial
- Public/Quasi-Public
- Andrews AFB
- DNL dB Contours
- CZ/APZ Boundary
- Helipad
- Runway
- Roadway
- City Limits



Incompatible Land Uses

Figure 5.4

Table 5.5 Incompatible Land Use for Runways 19Left/01Right and 19Right/01Left at Andrews AFB

Category	Acreage Within CZs and APZs			Acreage Within Noise Zones, Not Included in CZs and APZs				Total
	CLEAR ZONE	APZ I	APZ II	65-69	70-74	75-79	80+	
Residential	•	128	•	565	140	97	71	1,001
Commercial	9	78	•	•	•	•	•	87
Industrial	16	•	•	•	•	•	•	16
Public/Quasi-public	•	8	30	•	1	•	•	39
Recreation/Open/ Agricultural/Low Density	•	•	•	•	•	•	•	0
Total	25	214	30	565	141	97	71	1,143

* Represents compatible land use

As mentioned in Subsection 3.2, helicopters from the 1st Helicopter Squadron accomplish operations at the Brandywine and Davidsonville sites. Appendix D discusses land use incompatibility at the two locations.

5.5.1 Runways 19L and 19R Clear Zones and Accident Potential Zones

5.5.1.1 Runways 19L and 19R Clear Zone (North of the Airfield)

Any land uses other than vacant are incompatible with the safety criteria established for a CZ. The majority of the Runway 19 CZ is located within the Andrews AFB boundary. The Runway 19 CZ contains rights-of-way for Interstate 95 and Suitland Parkway. The actual roadways represent an incompatible land use. The northern portion of the CZ contains incompatible industrial development and a small portion of commercial land use exists in the extreme northeast corner of the CZ. A commercial parking lot is also incompatibly located in the west end of the Runway 19 CZ, just north of the base boundary.

5.5.1.2 Runways 19L and 19R Accident Potential Zone I (North of the Airfield)

In general, industrial, recreational, vacant, and agricultural/open land uses are compatible with the safety criteria established for APZ I. Compatibility of commercial uses within APZ I is dependent on densities and intensity of uses. Incompatible uses located in the Runway 19 APZ I are primarily located in the northwest corner of APZ I and include residential, commercial, and a public/quasi-public parcel.

5.5.1.3 Runways 19L and 19R Accident Potential Zone II (North of the Airfield)

Most categories of land use are compatible with the safety criteria established for APZ II with the exception of public/quasi-public and some densities of residential. These land uses generally would be incompatible if residential densities are greater than two dwelling units per acre. Significant areas of residential development that exceed the density recommendations exist within the Runway 19 APZ II. Additionally, several incompatible

public/quasi-public activities exist within APZ II including churches, pre-schools, and the North Forestville Elementary School.

5.5.2 Runways 01R and 01L Clear Zones and Accident Potential Zones

5.5.2.1 Runways 01R and 01L Clear Zone (South of the Airfield)

All land within the CZ is located within the Andrews AFB boundary.

5.5.2.2 Runways 01R and 01L Accident Potential Zone I (South of the Airfield)

In general, industrial, recreational, vacant, and agricultural/open land uses are compatible with the safety criteria established for APZ I. Compatibility of commercial uses within APZ I is dependent on densities and intensity of uses. A small amount of incompatible residential development exists within APZ I. A restaurant and convenience store, incompatible commercial uses, are located at the intersection of Alexandria Ferry and Woodyard Roads. An incompatible public/quasi-public activity, the Tanglewood Regional Center, is located at the southern end of APZ I.

5.5.2.3 Runways 01R and 01L Accident Potential Zone II (South of the Airfield)

Most categories of land use are compatible with the safety criteria established for APZ II with the exception of public/quasi-public and some densities of residential. The predominant incompatible land use within APZ II are residential areas that have densities greater than two dwelling units per acre.

5.6 NOISE ZONES

At noise levels between DNL 65-69 dB, the only incompatible land use type is residential without noise level reduction (NLR) materials. Residential uses within the DNL 65-69 dB noise zone would be conditionally compatible upon incorporation of the appropriate amount of NLR. Based on the land use compatibility guidelines detailed in Table 4.3, residential use within the DNL 65-74 dB zone is discouraged unless there is a demonstrated community need and no viable alternate locations. The majority of the residential areas surrounding Andrews AFB appears to have been built prior to the implementation of sound attenuation and energy insulation requirements. Significant areas of incompatible residential areas exist within the DNL 65-74 dB to the north and south of the Base, with smaller areas of incompatibility to the east. A few residences along Colonial Lane, directly south of the Base, are located within the DNL 80+ dB zone. A small amount of public/quasi-public activities are located to the south of the airfield within the DNL 70-74 dB zone. Commercial activities are incompatibly located within the DNL 80+ dB zone, adjacent to Old Marlboro Pike Road, directly north of the airfield.

5.7 AIR INSTALLATION COMPATIBLE USE ZONE STUDY UPDATES

AICUZ noise contours describe the noise characteristics of a specific operational environment, and as such, will change if a significant operational change is made. An AICUZ Study should be evaluated for an update if the noise exposure map changes by DNL 2 dB or more in noise sensitive areas when compared to the noise contour map in the last publicly released AICUZ Study. With this in mind, this AICUZ Study updates the 1998 AICUZ Study and provides flight track, accident potential zone and noise zone information in this report, which reflects the most accurate picture of the installation's aircraft activities as of May 2007.

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