SECTION 3.0

LAND USE COMPATIBILITY GUIDELINES

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SECTION 3. LAND USE COMPATIBILITY GUIDELINES

3.1 INTRODUCTION

The U.S. Department of Defense (DoD) developed the Air Installation Compatible Use Zone (AICUZ) Program for military airfields. Using this program, DoD works to protect aircraft operational capabilities at its installations and to assist local government officials in protecting and promoting public health, safety, and quality of life. The goal is to promote compatible land use development around military airfields by providing information on aircraft noise exposure, accident potential, and height limitations.

An AICUZ Study describes three basic types of constraints that affect, or result from, flight operations. The first constraint involves areas that the Federal Aviation Administration (FAA) and DoD have identified for height limitations (see Height and Obstruction Criteria in Appendix D). U.S. Air Force (USAF) obstruction criteria are based upon those contained in Federal Aviation Regulation Part 77, Subpart C. These obstruction criteria are defined for all military airfields regardless of the current flying mission.

The second constraint involves noise zones associated with aircraft operations. Using the NOISEMAP program, DoD uses aircraft operations data to generate noise contours showing the noise exposure levels generated by these aircraft operations. Noise contours connect the points of the same noise exposure level, in much the same way as ground contours on a topographic map visually represent lines of equal elevation. Noise contours are plotted in increments of 5 A-weighted decibels from the airfield, ranging from a day–night average sound level (DNL) of 65 dB-DNL up to 80 dB-DNL, and are overlaid on a map of the airport vicinity. DNL is a noise metric describing the average noise level over the course of a 24-hour period (see Appendix B for more information on noise). Cumulative noise levels, resulting from multiple single events, are used to characterize effects from aircraft operations. The cumulative DNL is presented in the form of noise contours. The area between two noise contours is known as a noise zone. Additional information on the AICUZ methodology is presented in Appendix A.

The third constraint involves Accident Potential Zones (APZs) based on statistical analysis of past DoD aircraft accidents. DoD analyses have determined that the areas immediately beyond the ends of runways and along the approach and departure flight paths have relatively significant potential for aircraft accidents. Based on this analysis, DoD developed three zones that have high relative potential for accidents: Clear Zones (CZs) and APZs I and II (see Appendix C).

3.1.1 2013 Noise Zones

NOISEMAP Version 7 was used to calculate and plot the DNL noise contours based on the average annual day (AAD) aircraft operations data described in Section 2.3. Figure 3–1 shows the 2013 DNL noise contours plotted in 5-decibel (dB) increments, ranging from 65 dB-DNL to greater than or equal to 80 dB-DNL.

These noise zones extend north and south from the primary runway centerline. The noise zones extend away from the installation to the northwest and south. The 80+ dB-DNL noise zone extends south through the Caps community and north through the city of Tye. The 2013 noise zones extend a small amount into the northwest corner of the city of Abilene.

3.1.2 Understanding the Historical Noise Environment

The historical noise zones associated with Dyess AFB are presented to show how noise exposure has fluctuated over time from varying aircraft-related factors (e.g., aircraft type, number of operations, and flight tracks). This AICUZ Study presents historical noise zones from the 2008 AICUZ Study to show previously published noise zones for the installation. Noise zones were developed for the 2008 AICUZ Study to reflect the changes in flight operations and assigned aircraft types since the previous AICUZ Study, which was completed in 2000.

The 2007 and 2013 65 dB-DNL noise contours were plotted on an aerial map and are shown in Figure 3–2. The 65 dB-DNL noise contour is considered the level where land use planning recommendations begin. As shown, the 65 dB-DNL noise zones have decreased in extent since 2007. The decrease in contour extent results from operational changes and a change in DoD noise modeling.

As shown in Figure 3–2, the number of acres in the noise zones has the capacity to change based on noise exposure from change in aircraft operations. Should a new mission be established

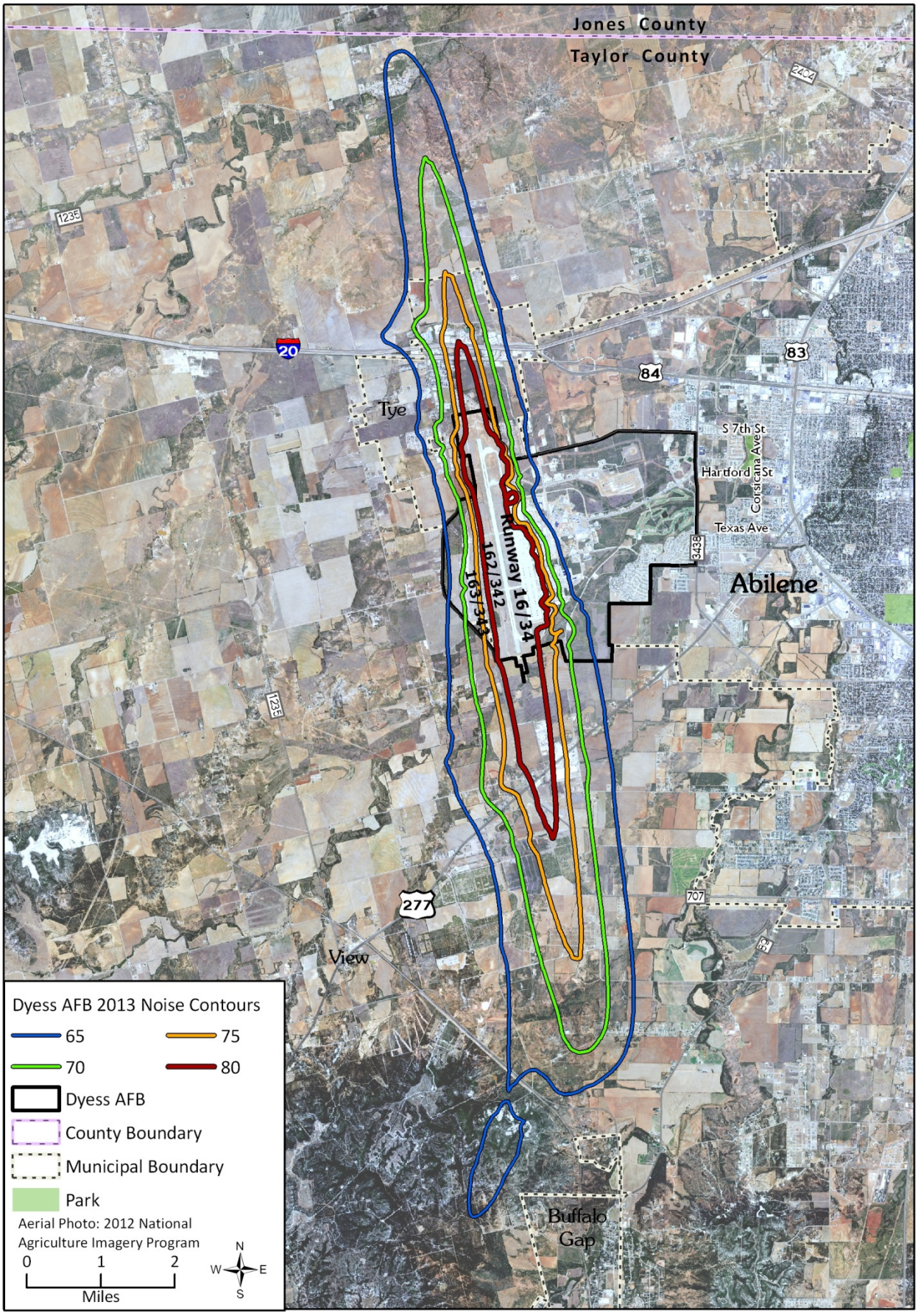

Figure 3–1 2013 DNL Noise Zones at Dyess AFB

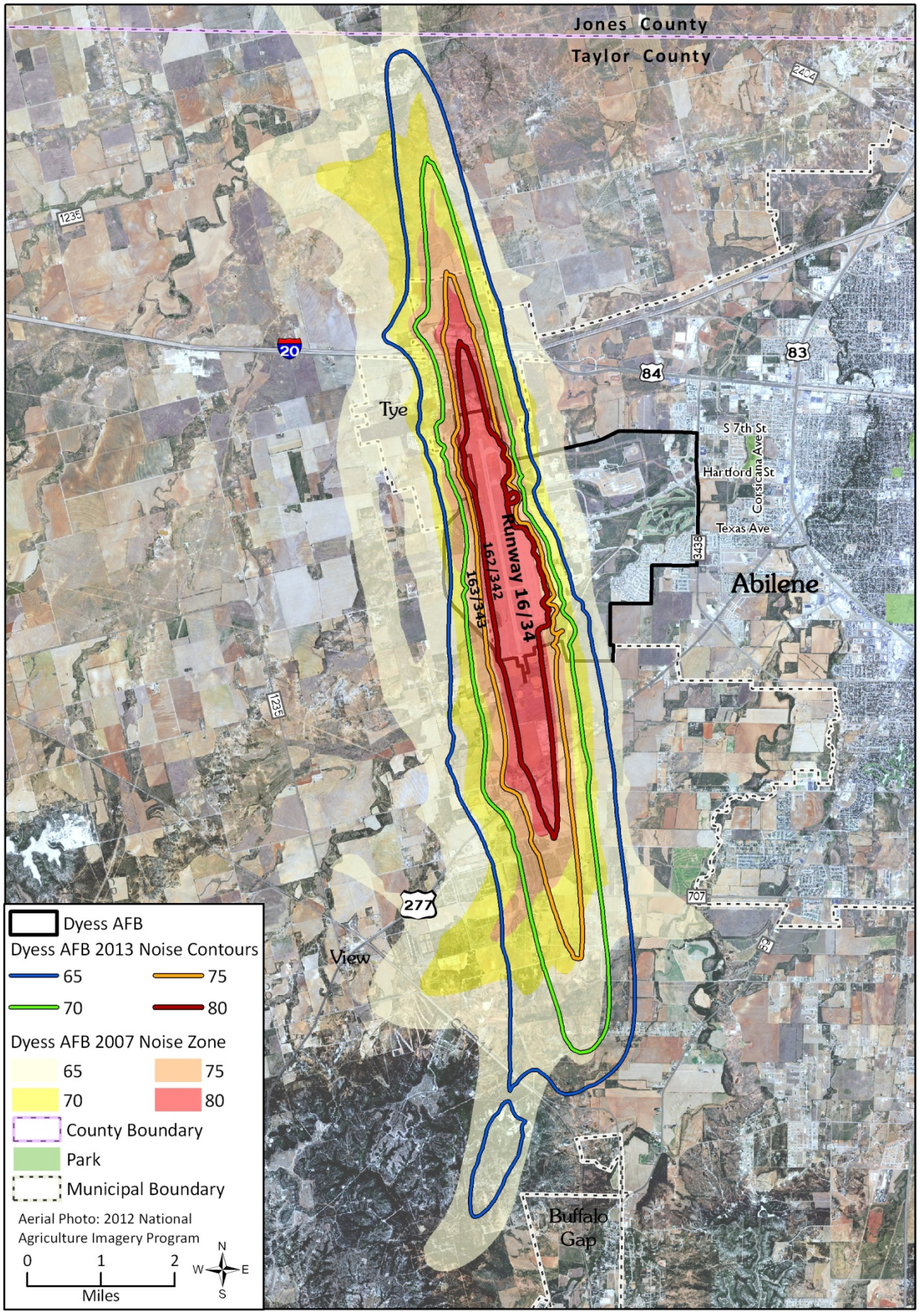

Figure 3–2 Historical DNL Noise Zones at Dyess AFB

at Dyess AFB, such as assigning additional aircraft or changing the model type, the number of acres impacted by the different noise levels has the potential to increase. This possibility should be fully considered by local planning authorities before making land use decisions. Zoning and land use regulations should not be based on noise zones alone since the noise levels fluctuate depending on current aircraft operations. Local jurisdictions should explore the idea of creating zoning ordinances dependent on natural boundaries instead of a particular noise zone.

3.1.3 Clear Zones and Accident Potential Zones at Dyess AFB

Statistically, the CZ, the area closest to the runway end, is the most likely site for an aircraft mishap. The overall risk is high enough that DoD generally acquires the land through purchase or easement to prevent development. The northern CZ at Dyess AFB is within the installation boundaries; however, approximately half of the land in the southern CZ is privately owned and controlled by restrictive use easements. APZ I is an area beyond the CZ that has significant potential for accidents. APZ II is an area beyond APZ I with a lesser, but still significant, potential for accidents. While aircraft accident potential in APZs I and II does not warrant acquisition by the USAF, land use planning and controls are strongly encouraged in these areas for the protection of the public. Dyess AFB's CZs encompass areas 3,000 feet wide by 3,000 feet long. APZ I is 3,000 feet wide by 5,000 feet long, and APZ II is 3,000 feet wide by 7,000 feet long. CZs and APZs are established for each runway, and are shown in Figure 3–3. Additional information on accident potential is presented in Appendix C of this report.

In addition to the CZ and APZs for the primary runway (Runway 16/34), there are CZs and APZs for Landing Zones (LZs) at Dyess AFB, as shown in Figure 3–3 (see Appendix D.3.1 for additional information on CZs and APZs for LZs). As discussed in Section 2.3.1.2, the LZs are used exclusively by C-130J aircraft at Dyess AFB. The CZs for the LZs are entirely within the installation boundary, as shown in Figure 3–3, and only the southern APZ for Runway 163/343 (paved LZ) extends outside the installation boundary.

3.1.4 Height Obstructions

The height restrictions for objects near airports are meant to prevent man-made structures from creating an obstruction that could prevent aircraft from accessing airports or otherwise degrade the safety of air navigation. Aircraft depart from airports on a vertically sloped flight path that increases in altitude relative to the runway as distance from the runway increases. The height obstruction criteria reflect this principle, and generally permit the placement of taller structures as distance from the runway increases. This does not necessarily hold true, however, when the runway is near higher terrain. Dyess AFB has additional height obstruction limitations above and beyond those that exist at most air installations. These limitations are driven by an on-base aerial Drop Zone and the rising terrain to the south of the installation (see Figure 3–4). Aircraft approach and depart from airports on a vertically sloped flight path that gets farther from the ground as distance from the airport increases. The height obstruction criteria reflect this principle, and permit the placement of taller structures as distance from the airport increases. This does not hold true, however, for the rising terrain south of Dyess AFB.

Obstructions to air navigation are considered to be:

- Natural objects or man-made structures that protrude above the planes or imaginary surfaces and/or
- Man-made objects that extend more than 500 feet above ground level (AGL) at the site of the structure.

The following elevation, runway length, and dimensional criteria apply:

- Controlling Elevation – Whenever surfaces or planes within the obstruction criteria overlap, the controlling (or governing) elevation becomes that of the lowest surface or plane.
- Established Airfield Elevation – The established airfield elevation at Dyess AFB Airfield is 1,788 feet above mean sea level.
- Dimensions – All dimensions are measured horizontally unless otherwise noted.

Although the FAA establishes criteria for the height of structures around airports, the FAA does not have the authority to limit their actual construction. Therefore, to protect the health, safety, and welfare of populations around airfields, local communities must enforce the height restriction guidelines established by the FAA. This is particularly important for DoD airfields. The FAA can influence civilian airports through funding matters. However, the FAA does not

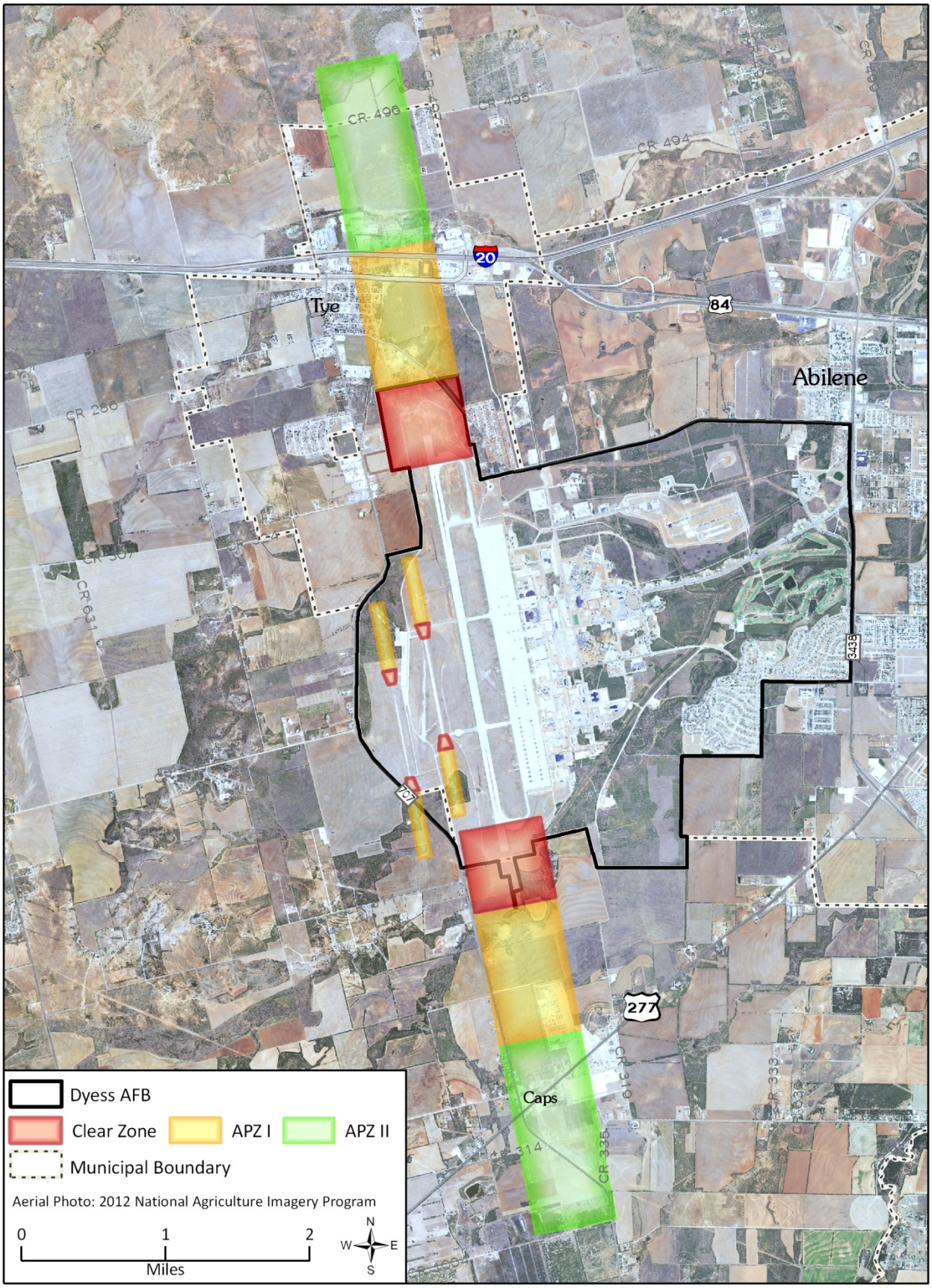

Figure 3–3 Dyess AFB Clear Zones and Accident Potential Zones

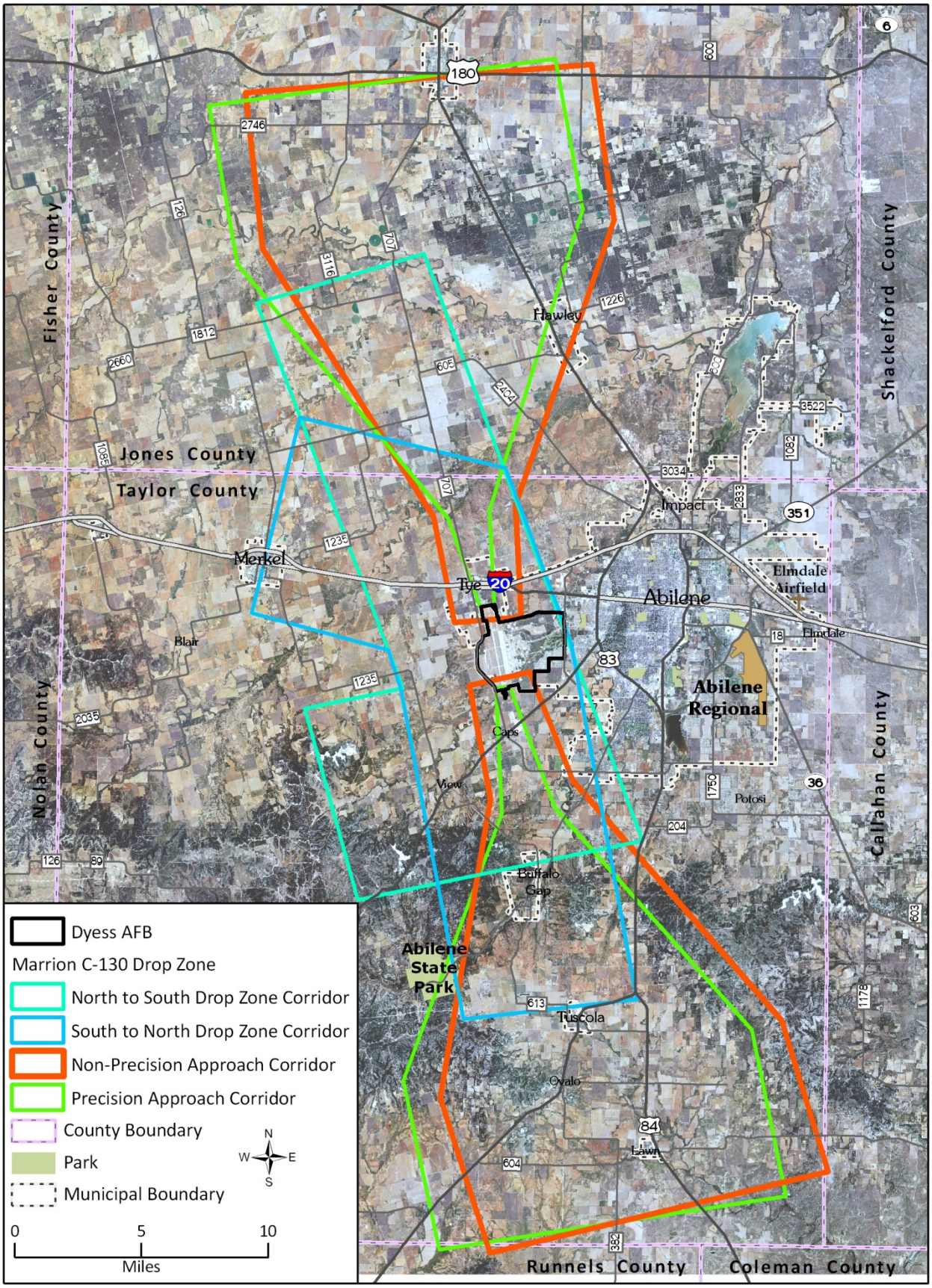

Figure 3–4 Local Airspace, Drop Zones, and Approach Corridors for Dyess AFB

provide funds to DoD airfields; consequently, it is imperative that local communities around DoD airfields enforce the restrictions set for airspace heights.

Of particular interest in the vicinity of Dyess AFB is the gradient of the terrain to the south and southwest of the installation. The slope of the land rises fairly rapidly about 5 miles south and west of the airfield, and actually penetrates the Outer Horizontal Surface. This rising terrain makes the construction of tall structures in most of this area particularly problematic because it is not only in the Outer Horizontal Surface, but it is also under the approach and departure corridors for the Marrion Drop Zone, as shown in Figure 3–4.

The rising terrain to the south is also problematic for the precision and non-precision approach corridors to the primary runway (Runway 16/34). Figure 3–4 outlines the footprint of these corridors, but in fact they are complex three-dimensional shapes that cannot be readily depicted. In some cases the floor elevation is actually lower at distances farther from the airfield. It is prudent for anyone contemplating construction of vertical structures in these areas to know that it is important to initiate coordination with the FAA and Dyess AFB.

3.1.5 Runway Airspace Imaginary Surfaces

The USAF seeks to protect all airfields from airspace encroachment by land uses that are incompatible with Dyess AFB's mission. Runway airspace imaginary surfaces, in graphical form, are the result of the application of obstruction height criteria to Dyess AFB Airfield. Imaginary surfaces are surfaces in space around airfields in relation to runways. The surfaces are designed to define the obstacle-free airspace at and around the airfield. Appendix D provides definitions for each of these surfaces. Figure 3–5 depicts the runway airspace imaginary surfaces for Dyess AFB.

USAF obstruction criteria in Unified Facilities Criteria 3-260-01 are based on those contained in Federal Aviation Regulation (FAR) Part 77, Objects Affecting Navigable Airspace (FAA 1993), Subpart C. FAR Part 77 provides guidance on submittal of FAA Form 7460-1, *Notice of Proposed Construction or Alteration* (FAA 2012). The form is used to notify the FAA of construction or alteration of structures proximate to imaginary surfaces around airfields.

3.1.5.1 Drop Zone and Landing Zone Operations

Specific criteria are established when airdrops of personnel or equipment are performed at a USAF installation. Air Force Instruction (AFI) 13-217, *Drop Zone and Landing Zone Operations* (USAF 2007), outlines the minimum size of a Drop Zone, marking criteria, aerial delivery methods, and parameters for aircraft conducting airdrops. A specific minimum elevation, or floor, is established for the Drop Zone approach and departure corridors (Figure 3–4). Vertical penetrations into the floor of these corridors would severely limit the viability of airlift training conducted by the C-130J squadrons.

The north-to-south and south-to-north Marrion Drop Zone corridors at Dyess AFB are shown in Figure 3–4. The Drop Zone corridors are used by C-130J aircraft when conducting practice drops on the Marrion Drop Zone, located west of the Dyess AFB primary runway. The height of the Drop Zone corridors extends to 2,000 feet above the Drop Zone itself and is determined by the ability of the last aircraft, which is flying in a "stacked" formation, to hit the target.

Appendix D.3.1 contains definitions of the runway airspace imaginary surfaces for USAF LZs for C-130 aircraft. Objects that penetrate this surface are considered obstructions to navigable airspace and should be removed. If removal is not possible, these objects must be mapped, marked, and lighted as obstructions. The northern and southern LZ Approach-Departure Clearance Surfaces for both LZs extend outside the installation boundary.

Dyess AFB personnel also conduct parachute drop training on the Tennyson (Bronte) Drop Zone, southwest of Dyess AFB in Coke and Runnels counties. Floor elevations for the approach and departure corridors for the Tennyson Drop Zone are addressed in Appendix D.

3.1.6 Hypothetical Noise Zones

Although no additional aircraft are scheduled or anticipated at this time, the following hypothetical noise zones are presented for planning purposes should aircraft operations at Dyess AFB change in the future.

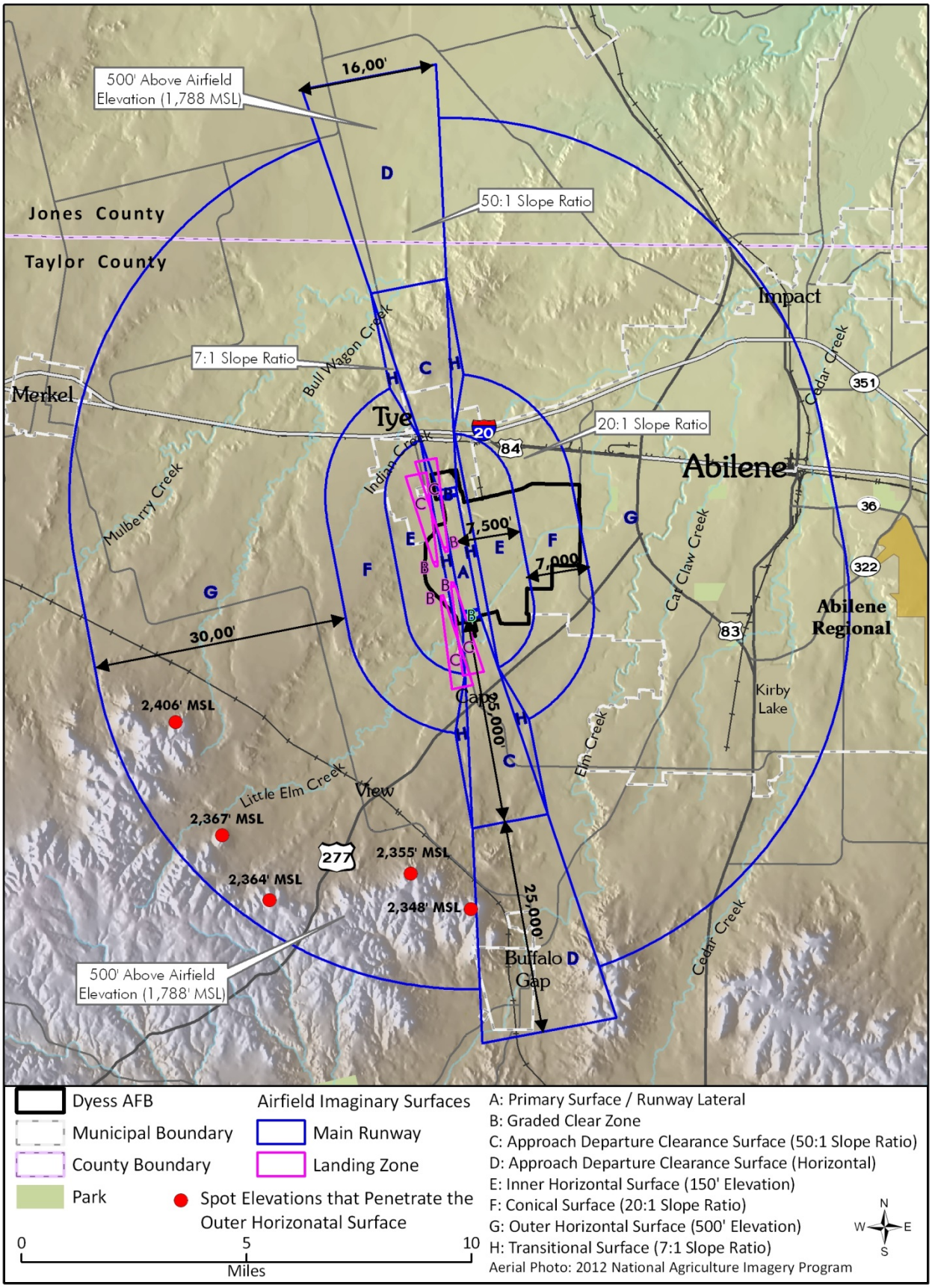

Figure 3–5 Dyess AFB Class B Air Force Runway Airspace Imaginary Surfaces

Hypothetical noise zones are provided for planning purposes and are meant to provide a potential scenario, but are dependent on aircraft type, number, engine type, performance, and flight path. Noise zones also change as a result of mission changes or operations tempo. The hypothetical noise zones were created by doubling the number of 2013 Dyess AFB-based aircraft operations within the established flight tracks.

As shown in Figure 3–6, the hypothetical noise zones would encompass a greater number of acres in every direction as compared to the 2013 noise zones. Under the hypothetical scenario, all of the noise zones would expand to encompass land to the south, which is not heavily populated except for the Caps community, and to the north, which is not heavily populated except for the city of Tye. The 65–69 dB-DNL noise zone extends north into Jones County. The hypothetical noise zones also encompass additional land farther west of the installation as compared to the 2013 noise zones.

3.2 THE LAND USE COMPATIBILITY GUIDELINES

Each AICUZ Study contains land use guidelines. Table 3–1 lists land uses versus all possible combinations of noise exposure and accident potential at Dyess AFB, showing land uses that are compatible or incompatible. Noise guidelines are essentially the same as those published by the Federal Interagency Committee on Urban Noise in the June 1980 publication, *Guidelines for Considering Noise in Land Use Planning and Control*. The U.S. Department of Transportation publication, *Standard Land Use Coding Manual (SLUCM)* (USURA 1965), has been used for identifying and coding land use activities. Accident potential guidelines are published in DoD Instruction 4165.57, originally promulgated in 1977.

The designations are a combination of criteria listed in the legend and notes at the end of Table 3–1. The notes provide more detailed restrictions or conditions that need to be taken into consideration when determining compatibility. For example, Y^1 means land use and related structures are compatible without restriction at a suggested maximum density of 1–2 dwelling units per acre, possibly increased under a Planned Unit Development where lot coverage is less than 20 percent.

Airspace obstructions, construction in the APZs, residential development, and the construction of other noise-sensitive uses near Dyess AFB are of great concern. Dyess AFB is very interested in minimizing increases in incompatible usage and in encouraging voluntary conversion of non-compatible usage to compatible usage. Applying the categories for compatible land use described in Table 3–1, Dyess AFB evaluates the impacts aircraft operations have on surrounding properties and the effects new development or changes in land use might have on Dyess AFB operational capabilities.

3.3 PARTICIPATION IN THE PLANNING PROCESS

As local communities prepare their land use plans, the USAF must be ready to provide additional inputs. Dyess AFB has provided this AICUZ Study to local communities to assist them in preparing their local land use plans.

The initial point of contact for AICUZ matters at Dyess AFB is the Public Affairs Office at (325) 696-2863, but the Base Civil Engineer has been designated as the official liaison with the local communities on all planning matters. This office is prepared to participate in the continuing discussion of zoning and other land use matters as they may affect, or may be affected by Dyess AFB.

Dyess AFB conducts active outreach to the community by meeting with various community groups and speaking with individuals as needed. The Dyess AFB Base Civil Engineer and Public Affairs Offices work together to provide public meetings and informational workshops to disseminate information about base operations, forecasts, plans, and mitigation strategies.

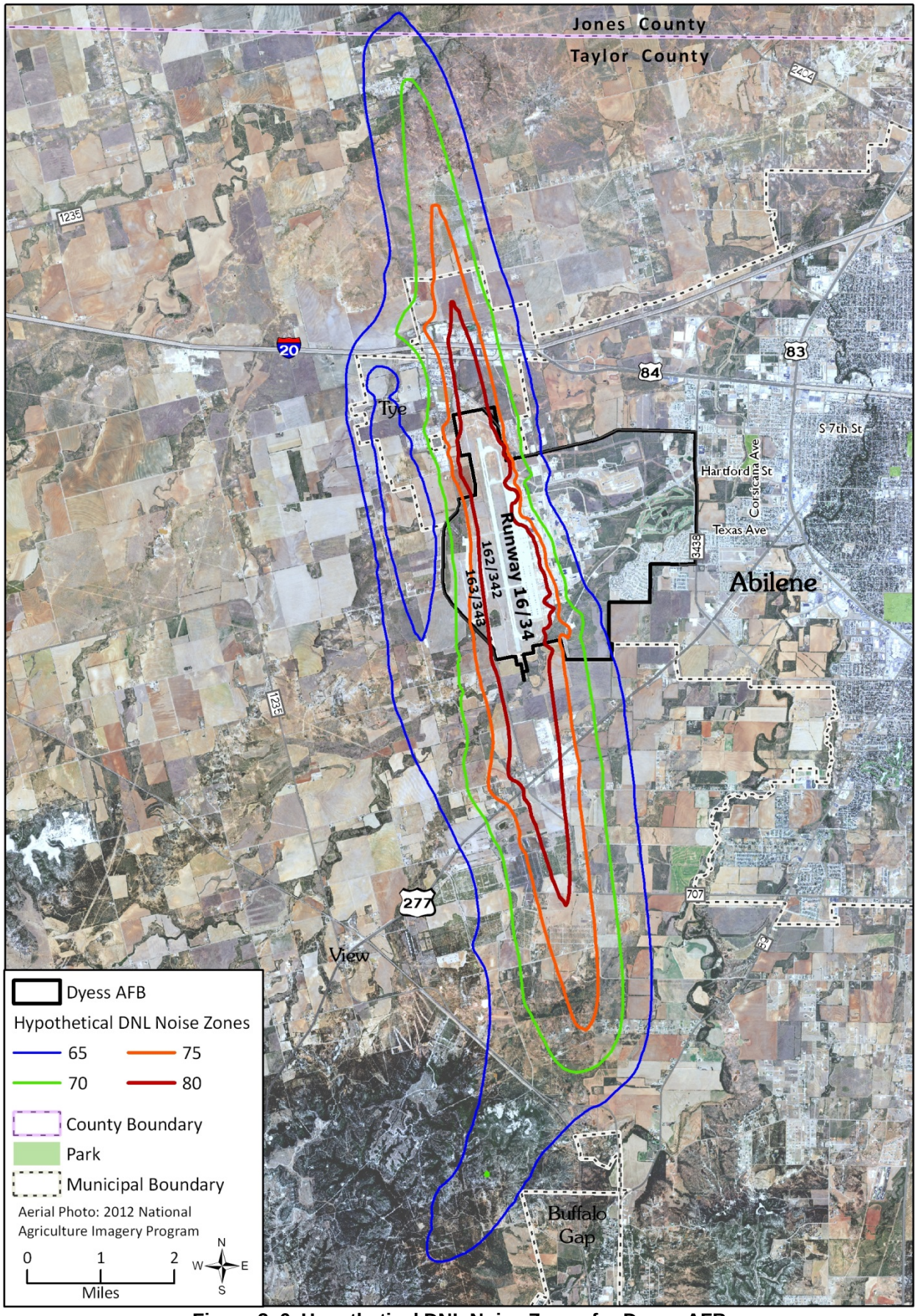

Figure 3–6 Hypothetical DNL Noise Zones for Dyess AFB

Table 3–1 Land Use Compatibility Guidelines

Land Use		Accident Potential Zones			Noise Zones (dB-DNL)			
SLUCM No.	Name	Clear Zone	APZ I	APZ II	65–69	70–74	75–79	80+
10	**Residential**							
11	Household units							
11.11	Single units; detached	N	N	Y[1]	A[11]	B[11]	N	N
11.12	Single units; semidetached	N	N	N	A[11]	B[11]	N	N
11.13	Single units; attached row	N	N	N	A[11]	B[11]	N	N
11.21	Two units; side-by-side	N	N	N	A[11]	B[11]	N	N
11.22	Two units; one above the other	N	N	N	A[11]	B[11]	N	N
11.31	Apartments; walk up	N	N	N	A[11]	B[11]	N	N
11.32	Apartments; elevator	N	N	N	A[11]	B[11]	N	N
12	Group quarters	N	N	N	A[11]	B[11]	N	N
13	Residential hotels	N	N	N	A[11]	B[11]	N	N
14	Mobile home parks or courts	N	N	N	N	N	N	N
15	Transient lodgings	N	N	N	A[11]	B[11]	C[11]	N
16	Other residential	N	N	N[1]	A[11]	B[11]	N	N
20	**Manufacturing**							
21	Food and kindred products; manufacturing	N	N[2]	Y	Y	Y[12]	Y[13]	Y[14]
22	Textile mill products; manufacturing	N	N[2]	Y	Y	Y[12]	Y[13]	Y[14]
23	Apparel and other finished products made from fabrics, leather, and similar materials; manufacturing	N	N	N[2]	Y	Y[12]	Y[13]	Y[14]
24	Lumber and wood products (except furniture); manufacturing	N	Y[2]	Y	Y	Y[12]	Y[13]	Y[14]
25	Furniture and fixtures; manufacturing	N	Y[2]	Y	Y	Y[12]	Y[13]	Y[14]
26	Paper and allied products; manufacturing	N	Y[2]	Y	Y	Y[12]	Y[13]	Y[14]
27	Printing, publishing, and allied industries	N	Y[2]	Y	Y	Y[12]	Y[13]	Y[14]
28	Chemicals and allied products; manufacturing	N	N	N[2]	Y	Y[12]	Y[13]	Y[14]
29	Petroleum refining and related industries	N	N	Y	Y	Y[12]	Y[13]	Y[14]
30	**Manufacturing**							
31	Rubber and misc. plastic products; manufacturing	N	N[2]	N[2]	Y	Y[12]	Y[13]	Y[14]
32	Stone, clay and glass products; manufacturing	N	N[2]	Y	Y	Y[12]	Y[13]	Y[14]
33	Primary metal industries	N	N[2]	Y	Y	Y[12]	Y[13]	Y[14]
34	Fabricated metal products; manufacturing	N	N[2]	Y	Y	Y[12]	Y[13]	Y[14]
35	Professional, scientific, and controlling instruments; photographic and optical goods; watches and clocks; manufacturing	N	N	N[2]	Y	A	B	N
39	Miscellaneous manufacturing	N	Y[2]	Y[2]	Y	Y[12]	Y[13]	Y[14]

Table 3–1 Land Use Compatibility Guidelines (*continued*)

Land Use		Accident Potential Zones			Noise Zones (dB-DNL)			
SLUCM No.	Name	Clear Zone	APZ I	APZ II	65–69	70–74	75–79	80+
40	**Transportation, Communications, and Utilities**							
41	Railroad, rapid rail transit, and street railroad transportation	N[3]	Y[4]	Y	Y	Y[12]	Y[13]	Y[14]
42	Motor vehicle transportation	N[3]	Y	Y	Y	Y[12]	Y[13]	Y[14]
43	Aircraft transportation	N[3]	Y[4]	Y	Y	Y[12]	Y[13]	Y[14]
44	Marine craft transportation	N[3]	Y[4]	Y	Y	Y[12]	Y[13]	Y[14]
45	Highway and street right-of-way	N[3]	Y	Y	Y	Y[12]	Y[13]	Y[14]
46	Automobile parking	N[3]	Y[4]	Y	Y	Y[12]	Y[13]	Y[14]
47	Communications	N[3]	Y[4]	Y	Y	A[15]	B[15]	N
48	Utilities	N[3]	Y[4]	Y	Y	Y	Y[12]	Y[13]
49	Other transportation communications and utilities	N[3]	Y[4]	Y	Y	A[15]	B[15]	N
50	**Trade**							
51	Wholesale trade	N	Y[2]	Y	Y	Y[12]	Y[13]	Y[14]
52	Retail trade – building materials, hardware, and farm equipment	N	Y[2]	Y	Y	Y[12]	Y[13]	Y[14]
53	Retail trade – general merchandise	N	N[2]	Y[2]	Y	A	B	N
54	Retail trade – food	N	N[2]	Y[2]	Y	A	B	N
55	Retail trade – automotive, marine craft, aircraft, and accessories	N	Y[2]	Y[2]	Y	A	B	N
56	Retail trade – apparel and accessories	N	N[2]	Y[2]	Y	A	B	N
57	Retail trade – furniture, home furnishings and equipment	N	N[2]	Y[2]	Y	A	B	N
58	Retail trade – eating and drinking establishments	N	N	N[2]	Y	A	B	N
59	Other retail trade	N	N[2]	Y[2]	Y	A	B	N
60	**Services**							
61	Finance, insurance, and real estate services	N	N	Y[6]	Y	A	B	N
62	Personal services	N	N	Y[6]	Y	A	B	N
62.4	Cemeteries	N	Y[7]	Y[7]	Y	Y[12]	Y[13]	Y[14,21]
63	Business services	N	Y[8]	Y[8]	Y	A	B	N
64	Repair services	N	Y[2]	Y	Y	Y[12]	Y[13]	Y[14]
65	Professional services	N	N	Y[6]	Y	A	B	N
65.1	Hospitals, nursing homes	N	N	N	A*	B*	N	N
65.1	Other medical facilities	N	N	N	Y	A	B	N
66	Contract construction services	N	Y[6]	Y	Y	A	B	N
67	Governmental services	N	N	Y[6]	Y*	A*	B*	N
68	Educational services	N	N	N	A*	B*	N	N
69	Miscellaneous services	N	N[2]	Y[2]	Y	A	B	N

Table 3–1 Land Use Compatibility Guidelines (*continued*)

Land Use		Accident Potential Zones			Noise Zones (dB-DNL)			
SLUCM No.	Name	Clear Zone	APZ I	APZ II	65–69	70–74	75–79	80+
70	**Cultural, Entertainment, and Recreational**							
71	Cultural activities (including churches)	N	N	N[2]	A*	B*	N	N
71.2	Nature exhibits	N	Y[2]	Y	Y*	N	N	N
72	Public assembly	N	N	N	Y	N	N	N
72.1	Auditoriums, concert halls	N	N	N	A	B	N	N
72.11	Outdoor music shell, amphitheaters	N	N	N	N	N	N	N
72.2	Outdoor sports arenas, spectator sports	N	N	N	Y[17]	Y[17]	N	N
73	Amusements	N	N	Y[8]	Y	Y	N	N
74	Recreational activities (including golf courses, riding stables, water recreation)	N	Y[8,9,10]	Y	Y*	A*	B*	N
75	Resorts and group camps	N	N	N	Y*	Y*	N	N
76	Parks	N	Y[8]	Y[8]	Y*	Y*	N	N
79	Other cultural, entertainment, and recreation	N	Y[9]	Y[9]	Y*	Y*	N	N
80	**Resources Production and Extraction**							
81	Agriculture (except livestock)	Y[16]	Y	Y	Y[18]	Y[19]	Y[20]	Y[20,21]
81.5 to 81.7	Livestock farming and animal breeding	N	Y	Y	Y[18]	Y[19]	Y[20]	Y[20,21]
82	Agricultural-related activities	N	Y[5]	Y	Y[18]	Y[19]	N	N
83	Forestry activities and related services	N[5]	Y	Y	Y[18]	Y[19]	Y[20]	Y[20,21]
84	Fishing activities and related services	N[5]	Y[5]	Y	Y	Y	Y	Y
85	Mining activities and related services	N	Y[5]	Y	Y	Y	Y	Y
89	Other resources production and extraction	N	Y[5]	Y	Y	Y	Y	Y

LEGEND:

SLUCM - Standard Land Use Coding Manual, U.S. Department of Transportation.

Y - (Yes) - Land use and related structures are compatible without restriction.

N - (No) - Land use and related structures are not compatible and should be prohibited.

Y^{x} - (yes with restrictions) - Land use and related structures generally compatible; see notes 1–21.

N^{x} - (no with exceptions) - See notes 1–21.

NLR - (Noise-Level Reduction) - NLR (outdoor to indoor) to be achieved through incorporation of noise attenuation measures into the design and construction of the structures (see Appendix E).

A, B, or C - Land use and related structures generally compatible; measures to achieve NLR of A (25 dB-DNL), B (30 dB-DNL), or C (35 dB-DNL) need to be incorporated into the design and construction of structures.

A*, B*, or C* - Land use generally compatible with NLR. However, measures to achieve an overall noise-level reduction do not necessarily solve noise difficulties and additional evaluation is warranted. See appropriate footnotes.

***** - The designation of these uses as "compatible" in this zone reflects individual Federal agency and program consideration of general cost and feasibility factors, as well as past community experiences and program objectives. Localities, when evaluating the application of these guidelines to specific situations, may have different concerns or goals to consider.

Table 3–1 Land Use Compatibility Guidelines (*continued*)

NOTES:

1. Suggested maximum density of 1–2 dwelling units per acre possibly increased under a Planned Unit Development where maximum lot coverage is less than 20 percent.
2. Within each land use category, uses exist where further definition may be needed due to the variation of densities in people and structures. Shopping malls and shopping centers are considered incompatible in any accident potential zone (CZ, APZ I, or APZ II).
3. The placing of structures, buildings, or aboveground utility lines in the Clear Zone is subject to severe restrictions. In a majority of the Clear Zones, these items are prohibited. See Air Force Instruction 32-7063 and Unified Facilities Criteria 3-260-01 for specific guidance.
4. No passenger terminals and no major aboveground transmission lines in APZ I.
5. Factors to be considered: labor intensity, structural coverage, explosive characteristics, and air pollution.
6. Low-intensity office uses only. Meeting places, auditoriums, etc., are not recommended.
7. Excludes chapels.
8. Facilities must be low intensity.
9. Clubhouse not recommended.
10. Areas for gatherings of people are not recommended.

11A. Although local conditions may require residential use, it is discouraged in 65–69 dB-DNL and strongly discouraged in 70–74 dB-DNL noise contours. An evaluation should be conducted prior to approvals, indicating a demonstrated community need for residential use would not be met if development were prohibited in these zones, and there are no viable alternative locations.

11B. Where the community determines the residential uses must be allowed, measures to achieve outdoor-to-indoor NLR for 65–69 dB-DNL and 70–74 dB-DNL noise contours should be incorporated into building codes and considered in individual approvals.

11C. NLR criteria will not eliminate outdoor noise problems. However, building location and site planning, and design and use of berms and barriers can help mitigate outdoor exposure, particularly from near ground-level sources. Measures that reduce outdoor noise should be used whenever practical in preference to measures that only protect interior spaces.

12. Measures to achieve the same NLR as required for facilities in the 65–69 dB-DNL range must be incorporated into the design and construction of portions of these buildings where the public is received, office areas, noise-sensitive areas, or where the normal noise level is low.
13. Measures to achieve the same NLR as required for facilities in the 70–74 dB-DNL range must be incorporated into the design and construction of portions of these buildings where the public is received, office areas, noise-sensitive areas, or where the normal noise level is low.
14. Measures to achieve the same NLR as required for facilities in the 75–79 dB-DNL range must be incorporated into the design and construction of portions of these buildings where the public is received, office areas, noise-sensitive areas, or where the normal noise level is low.
15. If noise-sensitive, use indicated NLR; if not, the use is compatible.
16. No buildings.
17. Land use is compatible provided special sound reinforcement systems are installed.
18. Residential buildings require the same NLR required for facilities in the 65–69 dB-DNL range.
19. Residential buildings require the same NLR required for facilities in the 70–74 dB-DNL range.
20. Residential buildings are not permitted.
21. Land use is not recommended. If the community decides the use is necessary, personnel should wear hearing protection devices.