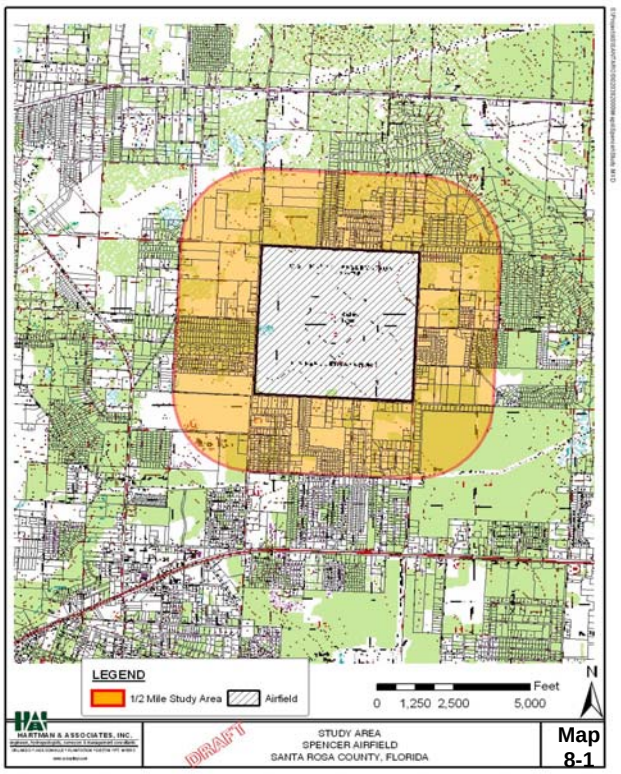
CHAPTER 8
NOLF SPENCER JLUS



Executive Summary

Primary Airfield Use	Rotary-wing (helicopter) TH-57 aircraft supporting flight training for NAS Whiting Field
Airfield Capability	Primarily grass airfield with paved landing pad facilities. Emergency response crews on-site only during scheduled operations
Time of Use	Daylight hours only; year-round
Other Uses	Refueling facility on site also supports NOLF Pace.
Planned Uses	Same as current use.

Study Area Population	**Current**	**Potential**
	2,386	5,065

Study Area Issues and General Recommendations

Residential development has encroached into areas abutting NOLF Spencer, nearly surrounding the airfield perimeter. Agriculture uses occur on a few remaining large tracts. Pressures for infill development on these remaining tracts can be expected based on current residential character. Institutional uses, churches, are also taking advantage of open lands near the airfield.

Recommendations: Planned unit development and/or clustering should be required on large tracts near airfield. Density controls should be placed on remaining larger undeveloped parcels. County should pursue Land Swap replacement for this airfield.

Chapter Contents

Note: with exception to Map 8-1 above, maps referenced in this chapter are placed in Appendix 8A, located in the back of this chapter.

SECTION 1
INTRODUCTION AND STUDY BACKGROUND

1.1 Study Purpose

In 1973, the United States Department of Defense (DoD) created the Air Installation Compatible Use Zones (AICUZ) program to encourage local governments to manage growth and development in a manner compatible with present and future military installation operations. The program evaluates existing land uses, identifies potential conflicts between growth and military operations, and offers recommendations for compatible growth patterns. Program emphasis is placed on areas most susceptible to noise impacts and safety concerns associated with military operations. To accomplish this program objective, noise contours and accident potential zones have been established for all military airfields, including Naval Air Station (NAS) Whiting Field (North and South) and its fourteen outlying landing fields (NOLF), which includes NOLF Spencer.

The Commanding Officer at NAS Whiting Field recognizes that any successful plan to realize compatible growth near airfields requires involvement by the Santa Rosa County Board of County Commissioners (BCC). While NAS Whiting Field can manage military activity at its airfields, the BCC holds authority to manage land use and development on properties outside of military installations and within unincorporated Santa Rosa County. By working together, mutually acceptable growth management strategies can be developed to avoid conflicts between NAS Whiting Field's mission and Santa Rosa County's desired growth patterns and quality of life.

This joint endeavor involves a two-step process. Once a joint land use study (JLUS) has identified compatible land uses and growth management guidelines, the second step will involve formulation of specific development regulations and land management implementation programs. This report addresses the first step -- a joint land use study. All together, a JLUS has been prepared for seven US Navy (USN) airfields (North and South combined) and the County Airport, Peter Prince Field. These eight separate and distinct studies comprise the Santa Rosa JLUS. The seven USN installations evaluated in the Santa Rosa JLUS are NAS Whiting Field (North and South) and six of its fourteen Navy Outlying Landing Fields NOLFs); Santa Rosa, Holley, Choctaw, Harold, Spencer, and Pace. This chapter addresses only NOLF Spencer and non-military lands within its study area.

1.2 NOLF Spencer Location

NOLF Spencer is bordered on all four sides by Spencer Field Road (North, East, South and West). All four roads are public right-of-ways and outside boundaries of NOLF Spencer. This airfield is located one mile north of US Highway 90, 3.5 miles west of the City of Milton, and approximately seven miles southwest of NAS Whiting Field. Santa Rosa County's western boundary and the Escambia River are just over six miles to the west of NOLF Spencer. The general location of NOLF Spencer as well as its proximity to other airfields in Santa Rosa County is shown in Map 1-1 of Chapter 1.

The US Navy organizes airspace into operational "areas" within the Federal Aviation Administration (FAA) designated Alert Area 292 airspace. NOLF Spencer is located in Area 3H of Alert Area 292.

The boundaries of Alert Area 292 and Area 3H appear in Map 8-2. Area 3H is primarily allocated for helicopter use.

1.3 Spencer Study Area

The study area boundaries for NOLF Spencer JLUS (hereafter Spencer Study Area) are illustrated on Map 8-1, which is located on the first page of this chapter. The Spencer Study Area covers 2,358 acres while military–owned property comprising NOLF Spencer contains 608 acres, or 26% of the total study area. All property within the Spencer Study Area is situated in unincorporated Santa Rosa County and not within any municipal boundaries. The nearest municipality is the City of Milton, situated approximately 3.5 miles directly to the east.

The Spencer Study Area includes all areas within Accident Potential Zones or located within Noise Level Contours established by the existing Air Installation Compatibility Use Zones (AICUZ) study for NOLF Spencer. To take into consideration lands outside the AICUZ that may also be affected by military operations, study boundaries were expanded to encompass non-military lands generally located within one-half mile from the airfield. On the south side of the study area, the Noise Level Zone extends beyond one-half mile from the airfield. To incorporate all of the Noise Level Zone into the NOLF Spencer JLUS, the study area boundaries were reach beyond one-half mile only to encircle the outer most noise contour.

The NOLF Spencer JLUS presented in this chapter emphasizes evaluation of non-military lands within the study area boundaries. The study area consists of three components – Accident Potential Zones, Noise Zones, and non-military lands. Each component is a separate entity and overlaps with portions of the other components. Acreage for the Spencer Study Area is shown in Table 8-1 according to these study area components. Note that acreage for the total study area will not equal a summation of its components. This anomaly occurs because some areas in the Noise Level Zone overlap with the Accident Potential Zone, creating a double counting of acreage if sub-categories are added together.

Table 8-1
Study Area Components

Study Area Component	Acres
Total Study Area (Map 8-1)	*2,358*
Non-Military Property	*1,750*
Noise Level Zone (Current)	1,476
Clear Zone/Accident Potential Zone	
Clear Zone "A"	0
APZ–I "B"	94
APZ-II "C"	0
Military	*608*

A. **Clear Zones (Helicopters).** Aviation history has demonstrated that property along primary flight paths and immediately beyond the ends of runway have a higher potential exposure to aircraft accidents than areas further out from an airfield. The takeoff safety zone for Visual Flight Rules

(VFR) rotary-wing facilities shall be used as the clear zone. The takeoff safety zone is that area that is under the VFR approach/departure surface until that surface is 50 feet above the established landing area elevation. The Clear Zone is an area that possesses a high potential for accidents and is usually part of the airfield. For the NOLF Spencer JLUS, and for ease of reading maps, the Clear Zone designated area "A". All portions of the Clear Zone are located within the boundaries of NOLF Spencer. Figure 8-1, found in Appendix 8B, graphically depicts the Clear Zone and its relationship with the APZ designations applied for helicopters.

B. **Accident Potential Zones (Helicopters).** Beyond the Clear Zone is an area along the flight path that possesses a significant potential for accidents. Created as part of the AICUZ program, Accident Potential Zones (APZ) are intended to delineate areas exposed to higher risk for accident occurrences. Intended to serve as guidelines only, APZs function to heighten the general public's awareness to areas exposed to potentially higher risks. They also help local governments to identify where to direct zoning regulations and land use standards designed to reduce potential conflicts between airfield operations and civilian populations. Figure 8-1 graphically explains APZ boundaries and their geographical relationship with the Clear Zone applied for fixed-wing aircraft.

APZ's are divided into two designations based on accident potential. APZ-I is the area beyond the clear zone for the remainder of the approach/departure zone, which is defined as the area under the VFR approach/departure surface until the surface is 150 feet above the established landing area elevation. This zone is labeled area "B". While a portion of APZ I lies within the boundaries of NOLF Spencer, most is situated within non-military property adjacent to the field boundary.

APZ –II is outward from the Clear Zone and the APZ-I along the flight track and has a measurable potential for accidents. APZ-II is normally not applied to helicopter flight paths unless local accident history exhibits a need for additional caution.

Maps placed in Appendix 8A delineate boundaries of the Clear Zones and APZ-I's in relationship to NOLF Spencer and adjacent non-military property.

NOLF Spencer operates solely for rotary-wing (i.e., helicopter) aircraft. While fixed-wing aircraft must use runways for landing and take-off, helicopters typically arrive or depart an airfield facing the direction of the wind. Flight paths for helicopters taking-off or landing will vary, then, based on wind direction as well as air traffic. To accommodate aerodynamic requirements for safe helicopter aviation, separate point for entry and departure have been established for NOLF Spencer. There are several designated flight paths (cardinal headings of 090, 180, 270, and 360). These flight paths were established based on normal weather and wind conditions. Because wind direction often deviates from prevailing trends, helicopter flight paths will also adjust flight patterns.

C. **Noise Level Zone.** In addition to addressing safety concerns, the AICUZ also addresses noise exposure over non-military lands near military installations. Noise exposure can create conflicts with public welfare and quality of life for those living or working near airfields. For the NOLF Spencer JLUS, noise level contours extending from the airfield are incrementally measured from

the highest typical decibels (dB) generated within a military installation to 50 dB within non-military property. Within the Spencer Area, non-military lands inside the 50 dB contour are referred to as the Noise Zone. Maps placed in Appendix 8A delineate noise contours associated with NOLF Spencer. The outer-most noise contour represents the boundary for the Noise Zone.

Noise direction and impacts change with wind and weather conditions. Similar to aircraft operational conditions described above for APZs, helicopters must face oncoming wind to create optimal conditions for safe take-off and landing. Subject to aerodynamic wind effects, landing and take-off flight paths for helicopters experience wider variations than flight paths for fixed-wing aircraft, which must be aligned with a runway. Helicopter approach and departure to and from an airfield follow pre-determined flight paths referred to as the "normal flight path." Deviation from a normal helicopter flight path occurs to take advantage of safer flight patterns created by wind direction or to accommodate air traffic in pattern at or near the airport. Noise patterns for helicopters will change with flight patterns, which can vary for the dynamic conditions stated. A Noise Zone for helicopters must allow for more flexibility than that for fixed-wing aircraft because of aerodynamic and safety requirements.

SECTION 2
AIRFIELD OPERATIONS AND NAVY GROWTH OBJECTIVES

This section inventories and analyzes current air and ground operations performed at NOLF Spencer. Any current conflicts with military operations, whether air or ground, are also identified and described.

2.1 Airfield Use and Mission – Current and Future

One of fourteen NOLFs supporting NAS Whiting Field, NOLF Spencer's primary military role is for helicopter primary and advanced flight training conducted by NAS Whiting Field. Ground operations at this airfield are primarily limited to emergency response crew, referred to as crash crews by the Navy, when flight-training exercises occur at NOLF Spencer. Ground crews return to their home station at NAS Whiting Field when flight-training activities are not in session. A manned control tower is not located at this field, but communications are maintained with the crash crew prior to field entry or departure.

Operating procedures established by NAS Whiting Field for NOLF Spencer limit activities assigned to this airfield to a maximum of fifteen helicopters in pattern. NOLF Spencer is considered to have a full pattern when fifteen aircraft are using operating training activities within the field. If more than then fifteen aircraft intend to use this airfield, others must wait in the crash crew change area until the field capacity is no longer full.
NAS Whiting Field operating procedures identify NOLFs that must be avoided by fixed-wing aircraft except in the event of an emergency. NOLF Spencer is one of the fields that must be avoided by fixed-wing aircraft. Fixed-wing flight training in Area 3 of Alert Area 292 primarily occurs further to the south in Santa Rosa County (reference Map 8-2 for Area boundaries). NOLF Spencer is located in Area 3H.

NAS Whiting Field grants authorization to model aircraft enthusiasts and clubs to use NOLFs for scheduled club events. This activity occurs at NOLF Spencer.

NOLF Spencer's mission for future years will continue to support current helicopter flight training activities supporting NAS Whiting Field. NAS Whiting Field plans to keep this field assigned for helicopter training. This airfield will not be used to accommodate the Joint Primary Aircraft Training System (JPATS)[1] to be stationed at NAS Whiting Field. Also, NAS Whiting Field does not have any plans to use this field for the unmanned aerial vehicle (UAV) program.

[1] JPATS components consists of the T-6A Texan II turboprop aircraft, simulators and associated ground-based training devices, a training integration management system, instructional courseware, and contractor logistics support.

2.2 Facilities and Aircraft

NOLF Spencer is a grass field offering four practice courses and paved landing pads at the field center. Refueling facilities are also located at the center of the field. This field is not equipped for night use, thus no ground lighting is in place. Refueling facilities also serve helicopters using NOLF Pace as well as those using NOLF Spencer. An aerial image of the field layout is provided in Figure 8-2.

Eight asphalt runways are strategically located at the center of the field. These runways, which measure 1,800 feet by 150 feet in dimension, do not function as runways but as landing pads. Refueling facilities are located in the interior of the landing pads and within a grass surface.

TH-57 *Sea Ranger* is primarily used for training, but these aircraft are also used by the Navy for aerial photography, chase and utility missions. At NAS Whiting Field and its NOLFs, the TH-57 is predominantly used for primary and advanced training.

Figure 8-2
Aircraft Using NOLF Spencer

Only helicopters use NOLF Spencer. The primary aircraft seen at this airfield is the TH-57, as shown in Figure 8-3. Powered by a single turbofan engine, the Sea Ranger can seat a pilot and up to two students. This rotary-wing aircraft is used by NAS Whiting Field to train flight students and experienced USN aviators.

The US Navy has a capital improvement program to schedule and budget infrastructure and equipment at its military installations and facilities. This program is known as the Military Construction Program, or MILCON. Infrastructure improvements are not currently proposed in MILCON for NOLF Spencer.

2.3 Airfield Operations and Procedures

NOLF Spencer conducts only helicopter operations. Fixed-wing aircraft do not use this airfield. A control tower is not present to direct helicopter traffic. However, the crash crew maintains radio communications with pilots and provides information regarding field activity and status. Inside airfield boundaries, flight training typically occurs between the surface and 500 feet above ground level.

The Commanding Officer of NAS Whiting Field administers policy consistent with all Federal Aviation Administration (FAA) Regulations and the Office of the Chief of Naval Operations Instructions (OPNAVINST's) regarding safe aviation operations, flight altitudes, and noise abatement. NAS Whiting Field is sensitive to the effects of noise at all its airfields and their impacts on surrounding communities. When appropriate, actions are taken to reduce aircraft noise. Operating procedures are in place for fixed-wing and helicopter aircraft to reduce and avoid noise impact to non-military lands as well as to promote public safety. To this endeavor, operating procedures and policy

have been established to address specific circumstances associated with conditions unique to each airfield, including the character of the adjacent community.

A. **Operation Areas and Flight Planning** West Florida and South Alabama are home to numerous USN and USAF air bases generating substantial air traffic. For safety and operation purposes the US Navy organizes airspace into "areas." Horizontal (geographic) and vertical (altitude) areas have been established within Alert Area 292. NOLF Spencer is located in Area 3H of Alert Area 292. The boundaries of Alert Area 292 and Area 3 appear in Map 8-2. Area 3H is allocated for helicopter use. For safety purposes, helicopters in Area 3H are approved to fly from the surface to an altitude of 3,000 feet MSL.

To implement safety objectives, NAS Whiting Field manages aircraft flight patterns, altitudes, and traffic volumes within its control areas through standard operating procedures and authorized flight plans. All flights must be authorized by a Commanding Officer.

Student naval aviators follow trainings programs set forth as part of an approved curriculum. Their flight training programs require them to follow specific flight plans and protocol.

B. **Flight Patterns.** Operating procedures address two types of flight patterns for helicopters using NOLF Spencer. The first set of operating procedures addresses flight patterns to enter or depart NOLF Spencer airspace. The second set addresses flying operations within the field itself.

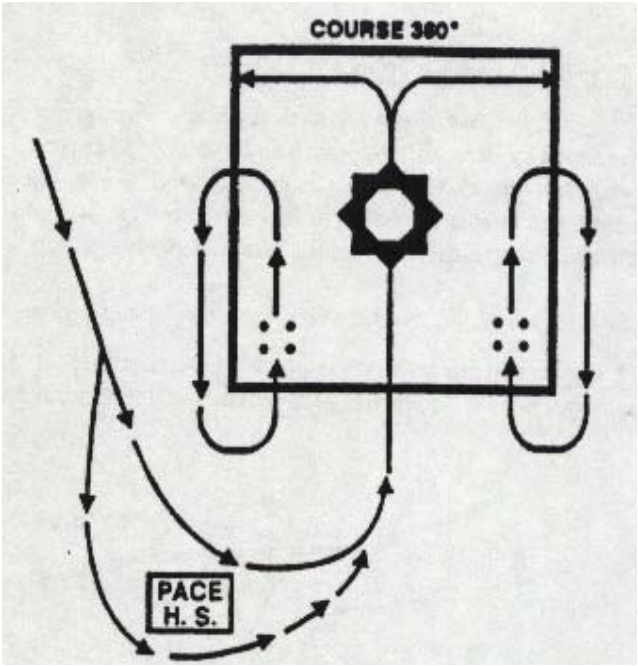


Figure 8-3
Spencer 360 Entry and Local Patterns

1. **Entry and Departure Flight Patterns**. Helicopters approach NOLF Spencer from a northerly direction, pass field to the west for courses 090 and 360 and turn toward the centerline of the airfield. Aircraft proceeding for course 270 will approach from the north and pass to the east of the NOLF before turning west towards the center of the NOLF. For course 180, aircraft proceed directly to the airfield from the north. Typically, helicopters approaching the airfield will descend to 700 MSL in the approach. Entry flight procedures for course 360 mandate avoidance of Pace High School. Entry flight paths for course 360 normally follow patterns illustrated in Figure 8-3. Once helicopters enter the field, they assume a local pattern and a descent following a pattern generally aligned with the APZ patterns appearing in Map 8-4 and other maps within Appendix 8A. Aircraft departing NOLF Spencer

enter the local pattern and depart from the southeast corner of the field, generally on a straight path directly to highway 90 out from the field.

Once entering the field, helicopters move into a local pattern associated with training activities or refueling. Arriving helicopters eventually align with a landing pattern generally at strategic locations where Clear Zone/APZ appear in Map 8-4 and other maps appearing in Appendix 8A of this chapter. The pattern selected by the pilot will vary based on wind direction, air traffic, and the intended course destination. Departure from the field will normally be from the southeast corner but also may be from the northeast or northwest corner for designated flights. Helicopters must land or take-off pointed in the direction of the prevailing wind. As wind direction changes based on seasonal and daily cyclical climatic conditions, patterns will change in conjunction with wind direction.

For purposes of the JLUS, it is important to recognize that local flight patterns and departure and entry substantially rely on overflight of non-military lands outside airfield boundaries.

2. **Field Flight Pattern**. NOLF Spencer is divided into several work areas as illustrated in Map 8-2. The field's four corners are used for training student pilots techniques used for precision and normal landing approaches. Each of these four areas is referred to as a field "course." In addition to the four courses, a field landing pad and a refueling station are in place at the center of the field. Flight training operations are organized into three general areas. A left pattern, right pattern, and low work area. Running landings and high speed-low-level flying occur in north-south lanes inside the low work area.

   Local flight patterns accommodating training activities require use of airspace adjacent to the field, as shown in Map 8-2.

C. **Flight Operating Procedures and Restrictions.** Protection of the health and safety for civilian and military population is a top priority administered and enforced by the USN and NAS Whiting Field. To reduce aircraft accident potential, standard operating procedures have been established by NAS Whiting Field for flight operations at all its airfields, including NOLF Spencer. Also, to protect health, safety, and welfare of civilian populations, aircraft may be restricted from operating within certain sensitive areas or below certain altitudes.

Fixed-wing aircraft and helicopters have different performance and aerodynamic capabilities. Separate standard operating procedures have been developed for each type of aircraft. However, some operating standards and restrictions apply uniformly to all types of aircraft. Other procedures and restrictions may apply to designated geographical areas, such as an airfield or operating area, or subject to altitude. And some may apply only to specific aircraft types, pilot training level, or calendar schedule.

Any restrictions or procedures applicable to Area 3H or Alert Area 292 will include NOLF Spencer. Restrictions and operating procedures applicable to aircraft within Area 3H airspace and NOLF Spencer, in addition to the flight pattern procedures and maximum aircraft restrictions described above, are listed below.

1) Crash crews must be in position and ready for duty prior to commencing any flight operation at NOLF Spencer.
2) NOLF Spencer is used for daytime operations only.
3) Flights are to avoid flying over Pace High School, circumventing the area when approaching NOLF Spencer for field entry.
4) Fixed-wing aircraft must avoid NOLF Spencer unless for emergency purposes.

The Commanding Officer for NAS Whiting Field may also issue temporary directives regarding flight operations, flight paths, or hours of operation.

2.4 Current Air Operation Conflicts

Air and ground operations conducted at NOLF Spencer will impact non-military lands within the Spencer Study Area. The normal flight pattern entering NOLF Spencer brings aircraft over or near single family residential areas located at the southwest corner of the study area. Local flight patterns during training activities may circulate outside the field and return. Effective use of the field depends on airspace surrounding the airfield, particularly at the four corners of the field.

Residential homes are located across the street from the field at each of the NOLF Spencer's four corners. Two church organizations own property near the northeast and northwest field corners. Extent of current and future conflicts with these institutional uses will depend on what types of programs and community services they plan to offer. Some church organizations provide day care, pre-school, and other similar weekday activities. Map 8-4 compares existing land use with APZ, Clear Zones, and Noise Zones.

No locations within the Spencer Study Area have been designated by NAS Whiting Field as resort areas or noise sensitive areas. Operating procedures mandate that aircraft avoid such areas unless necessary.

SECTION 3
COMMUNITY PROFILE AND DEVELOPMENT CHARACTERISTICS

The Spencer Study Area is predominantly characterized by residential subdivision on lots between one-quarter acre and five acres. Most residential subdivisions have a limited number of vacant lots, with the exception of some residential areas within the southern section of the study area. While large tracts of agricultural land are dispersed throughout the study area, most are located at the study area corners. Among undeveloped parcels, less than ten are greater than 35 acres in size. Other land uses occurring within the study area include institutional and commercial uses. Pace High School is located at the southwest corner of the Spencer Study Area. A few churches are located within the study area, a well. One of the undeveloped parcels bordering the east side of the airfield appears as an agriculture use but is owned by a church organization. A County park and proposed site for a public library is situated on property northwest of the airfield. Some neighborhood and retail commercial land uses, that represent only a small portion of all the land use profile for the study area, occur in the study area's southwest corner.

Market pressures to provide more housing for a growing population in Santa Rosa County are introducing residential neighborhoods within the vicinity of the Spencer Study Area. Most residential subdivisions have no or a limited number of vacant lots. Based on an inventory of platted lands within the Spencer Study Area, approximately 210 vacant lots or parcels occur within residential subdivisions. Most of these lots range in size from one-quarter to one acre. Only two large undeveloped parcels – one 32 acres and the other 27 acres – are currently assigned a residential zoning category. As remaining vacant lots are absorbed by housing demands, pressures will likely emerge to convert agriculture properties to residential subdivisions.

3.1 Study Area Profile

Within the Spencer Study Area, military property comprising NOLF Spencer amounts to 608 acres, or 26% of the 2,358 acres comprising the study area. Representing non-military lands within the Spencer Study Area, the remaining 1,750 acres offers a variety of land uses but predominately carry a residential and agricultural character. Approximately 72% of the non-military land is used for residential homes or agriculture purposes. Table 8-2 provides a summary profile for existing land uses within the non-military lands within the Spencer Study Area. Map 8-4 shows existing land use appearing in the Spencer Study Area as well as proximity of Accident Potential Zones and the Noise Zone to these land uses.

Table 8-2
Existing Land Use Profile by Acreage
Spencer Study Area

Existing Land Use	Study Area[1]		Clear Zone/Accident Potential Zone (acres)			Noise Zone
	Acres	Percent	A[2]	B	C[3]	(acres)
Single Family Residential[4]	705	40.3%		32		650
Agriculture, Homestead	470	26.9%		20		356
Vacant	205	11.7%		15		183
Right-of-Way	144	8.2%		9		137
Agriculture	100	5.7%		11		60
Institutional	44	2.5%		5		29
Publicly Owned Property	44	2.5%				34
Silviculture	20	1.1%				11
Commercial/Office	5	0.3%				5
Multi-Family Residential	4	0.2%		0.5		5
Utilities	4	0.2%				2
Uncategorized	2	0.1%				2
Mixed Residential/Commercial	1	0.1%		1		1
Office	.8	0.05%				.8
Industrial	.3	0.02%				.3
Total Non-Military Lands	1,750	100%	0	94	0	1,476

Source: Santa Rosa County, 2003.
[1] Land uses and acreages appearing in the table are for non-military lands within the Spencer Study Area.
[2] All Clear Zone "A" designations are located within NOLF Spencer boundaries.
[3] No areas within the Spencer Study Area qualify for an APZ-II designation.
[4] Includes single family, townhouses, or condominiums

While public roads abut the airfield, single family homes or residential subdivisions primarily surround the airfield along the opposite side of the road.

Land ownership within the Spencer Study Area occurs predominantly in parcels or lots less than five acres in size. Larger parcels are generally located along the study area perimeter or at its corners. Map 8-5 denotes all parcels over five acres in size. Most undeveloped parcels greater than ten acres are zoned for agriculture use. One 32-acre undeveloped parcel north of the airfield is zoned R-1 residential (up to four units per acre) and a 27-acre undeveloped parcel is zoned RR-1 residential (two units per acre) south of the airfield.

Map 8-6 provides information regarding land use coverage and vegetative communities identified by the Northwest Florida Water Management District for the Spencer Study Area

The Natural Areas Inventory (FNAI) conducted a survey to identify endangered, threatened, and rare vertebrate and plants species occurring at NAS Whiting Field and all but one of its NOLFs. NOLF Spencer was surveyed by FNAI but no rare animals or plants were discovered.

3.2 Current Housing and Population

In 2003, residential development amounts to 1,017 residential units. Only 31 units are multifamily contained in buildings holding two to four apartments. Current population is estimated at 2,400 persons, based on 2.63 persons per household and an occupancy rate of 89% as recorded by the US Census 2000 for Santa Rosa County. In regards to the type of single family housing construction, 85% of the dwellings are conventional single family home while 15% are mobile homes. Table 8-3 summarizes the number of housing units by study area component and dwelling type. Table 8-4 lists population currently located within Spencer Study Area

Population and housing estimates were determined by comparing land use records from the Santa Rosa County Property Appraiser's Office with statistical and demographic data from the 2000 U.S. Census. The average number of persons per household for Santa Rosa County was applied to the number of estimated occupied housing units. Occupancy rates for Santa Rosa County were applied to the total number of residential units in the Spencer Study Area to obtain total occupied housing unit figures. Housing units shown below are the total number of housing units, not the occupied housing units.

Table 8-3
Existing Housing Unit Profile
Spencer Study Area

	Housing Units					
		Clear Zone/Accident Potential Zone				
Residential Type	Study Area[1]	A[2]	B	C	Total	Noise Zone
Single Family	815	0	52	0	52	840
Mobile Home	181	0	10	0	10	146
Multiple Family	31	0	7	0	7	31
Total Housing Units	1,027	0	69	0	69	1,017

[1] Includes all areas within study boundaries, including Clear Zone, APZ and Noise Zone falling therein.
[2] **Zone "A" is the Clear Zone.**

Table 8-4
Existing Population
Spencer Study Area

	Population					
		Clear Zone/Accident Potential Zone				
Residential Type	Study Area[1]	A[2]	B	C	Total	Noise Zone
Single Family	1,912	0	122	0	122	1,971
Mobile Home	425	0	23	0	23	343
Multiple Family	68	0	16	0	16	73
Total	2,405	0	162	0	162	2,386

[1] Includes all areas within study boundaries, including Clear Zone, APZ and Noise Zone falling therein.
[2] **Zone "A" is the Clear Zone.**

3.3 Clear Zone and Accident Potential Zone (APZ) Profile

Boundaries for the APZ at NOLF Spencer are delineated on Map 8-4 as well as other maps within Appendix 8A. All boundaries of the Clear Zone "A" designation fall within NOLF Spencer. All non-military lands are located within the APZ-I with the designation of "B". Within the Spencer Study Area, the APZ-I "B" covers 69 acres extending on to non-military property. For all non-military lands in the Spencer Study Area, approximately 5% is located within the APZ-I. No APZ-II "C" designations have been assigned to lands under NOLF Spencer airspace. As shown in Table 8-5, parcels supporting residential or institutional uses are located within the APZ. Table 8-5 summarizes existing land uses occurring within the APZ.

Sixty-nine residential units were estimated to occur within the APZ-I, housing 162 residents. Located near the northwest corner of the airfield, a parcel is owned by Pace Community Church within the APZ. A building does not exist on this property according to Santa Rosa County Property Appraiser records. The multi-family units within the APZ-I are along Charles Circle off of West Spencer Field Road. The one commercial activity is located south of the field toward the west end of South Spencer Field Road. This commercial activity is a small warehouse facility with a floor area of less than 2,000 square feet.

Table 8-5
Accident Potential Zone Profile: Existing Land Use
Spencer Study Area
(Non-Military Lands)

APZ-I "B" Non-Military Lands	Acres	Percent
Single Family Residential	32	34.2%
Agriculture, Homestead	20	21.2%
Vacant	15	16.4%
Agriculture	11	11.5%
Right-of-Way	9	9.8%
Institutional	5	5.5%
Mixed Residential/Commercial	1	0.8%
Multi-Family Residential	0.5	0.5%
Total	94	100%

For the combined eight APZ-I sites along the airfield perimeter, approximately 70 different property owners are affected. Some property owners own more than one parcel or lot. The two largest parcels within the APZ-I are approximately eleven acres, while most are less than one acre in size.

3.4 Noise Zone Profile

Within the Spencer Study Area, the Noise Zone within non-military property covers nearly the same geographical area as the study area boundaries. A small portion of the Noise Zone does protrude to

residential areas further than one-half mile from the airfield perimeter. Existing land use profile and population within the Noise Zone are similar to that experience for the Spencer Study Area. Noise contours and the outer limits of the Noise Zone are illustrated on Map 8-4 as well as other maps within Appendix 8A.

3.5 Summary of Existing Airfield and Land Use Conflicts

Currently, population within the Spencer Study Area has reached approximately 2,400 residents and 1,027 homes. Most residents live in homes on lots less than one acre in size and within the R-1 zoning category, which allows up to four units per acre. Two churches own property across the street from the airfield. While one church property is on the east side of the field, the other is at its northwest corner and exposed to the APZ-I. Both properties have a potential to accommodate sizeable buildings.

Nearly the entire study area is exposed to the Noise Zone. An estimated 162 residents live inside the APZ-I or reside on a parcel inside the APZ-I but the house is outside the APZ-I "B" designation. No existing conflicts occur within the Clear Zones.

SECTION 4
FUTURE DEVELOPMENT POTENTIAL AND ASSESSMENT OF FUTURE LAND USE CONFLICTS

People living or working near a military airfield can expect impacts such as noise, smoke, or dust generated from ground and air operations. Quality of life for those living or working near an airfield can be negatively affected when these impacts reach levels creating a nuisance. A potential risk to public safety also exists from the possibility of aircraft crashing at or near an airfield. The extent and frequency of negative impacts affecting people living near airfields will vary based on the type of aircraft, airfield operating hours, airfield ground activities, frequency of flight and ground training activities, proximity to the airfield, and the individual tolerance level for affected persons. Future residents choosing to live within the Spencer Study Area will be impacted by flight and ground activities at NOLF Spencer.

Population growth and certain types of non-residential development, such as commercial retail and professional/medical office uses, are considered to create future potential conflicts between airfield operations and the civilian population's expectations for the enjoyment and use of privately-owned property, particularly a residential home environment. The purpose of this section is to identify potential population and non-residential development that could occur within the Spencer Study Area as well as inside Noise Zone and APZ-I boundaries, the areas where airfield impacts are known to create the greatest potential land use conflicts.

4.1 Housing and Population Methodology

Population and housing estimates were prepared using maximum residential densities allowed by the Santa Rosa County Comprehensive Plan, zoning classifications and densities assigned to property within the Spencer Study Area, occupancy rates and average persons per household for Santa Rosa County in the 2000 US Census, and Article 11 (Airport Environs) of the Santa Rosa County Land Development Code. Housing and population figures estimated for year 2005 through 2020 are based on an annual growth rate of 3.4%, which is identical to the growth rate applied in the Santa Rosa County Comprehensive Plan to project population through 2020.

Past development and land subdivision within the Spencer Study Area has left few remaining large tracts of land. Undeveloped parcels that are greater than 35 acres are assigned an agriculture zoning category. One parcel classified as R-1 residential holds 32 acres and another residential parcel zoned RR-1 holds 27 acres. Build-out conditions were estimated by using these large tracts – the large two residential properties and the agriculture zoned parcels – to measure development potential for housing and population. In addition, vacant residential lots within existing subdivisions were inventoried and counted. Population and housing for build-out conditions represent development potential allowed on vacant lots and properties zoned for agriculture.

For purposes of this study, build-out potential represents development of all land according to the maximum densities allowed by a property's assigned Future Land Use Designation, as determined by the Santa Rosa County Comprehensive Plan and its corresponding Future Land Use Map. Article 11 of the County's Land Development Code establishes specific development densities for property

located with the APZ or Noise Zone. Lands inside the APZ may be subject to restrictions reducing residential density below that allowed by the underlying zoning or land use designation. Population and housing projections take into account effects that Article 11, Airport Environs, as on the development potential for properties situated within an APZ or Noise Zone.

Other factors that were considered to estimate housing and population include environmental characteristics and infrastructure needs. Based on land coverage information mapped by the NWFWMD, a substantial portion of the land surrounding NOLF Spencer is not affected by environmental conditions that may limit development potential. Wetlands cover only small pockets within the study area.

For the estimation of population and residential development for build-out conditions (i.e., all developable land is built-on at maximum densities permitted by the Comprehensive Plan or zoning code), developable land was reduced by 10% to acknowledge right-of-way and drainage needs to accommodate new development. Population and housing estimates could be higher or lower based on land needs to accommodate infrastructure and drainage.

Future land use designations and zoning categories assigned to property within the Spencer Study Area appear in Maps 8-7 and 8-8.

4.2 Study Area Development Potential

Currently, an estimated 2,400 residents live among 1,027 homes located within the Spencer Study Area. Based on undeveloped lands that could potentially accommodate new development and vacant lots within platted residential subdivisions, population in the Spencer Study Area has a potential to reach 5,065 residents or more. The number of homes could rise to as many as 2,159 or more. Tables 8-6 and 8-7, respectively, list the number of residents and homes that could potentially occur within the Spencer Study area in the future. Development densities within areas designated as Accident Potential Zones will have a density less than that allowed in some zoning categories. The methodology used to estimate housing and population accounts for density variations associated with development limitations placed on areas inside the APZ. Table 8-8 summarizes dwelling unit potential for the APZ and areas outside the APZ.

Table 8-6
Potential Future Population
Spencer Study Area

	Year				
Residential Unit	**2005**	**2010**	**2015**	**2020**	**Build-Out Potential**
Single Family[1]	2,495	2,893	3,290	3,687	4,950
Multiple Family	78	90	102	115	115
Total	2,573	2,983	3,392	3,802	5,065

[1] Includes mobile homes.

Table 8-7
Potential Future Housing Units
Spencer Study Area

Residential Unit Type	Year 2005	2010	2015	2020	Build-Out Potential
Single Family[1]	1,051	1,219	1,386	1,553	2,111
Multiple Family	33	38	43	48	48
Total	1,084	1,257	1,429	1,601	2,159

[1] Includes mobile homes.

Table 8-8
Build-Out Potential by Dwelling Units

Zoning Category	Max. U/A[1]	Acres	Adjusted Zoning Acreage[2]	Dwelling Units	APZ Acreage[3]	Dwelling Units	Total
Agriculture/Rural Residential (AG)	1/1	880	833	749	47	8	757
Vacant platted lots in R-1, R-1M, RR-1,R-1A, R-2	n/a	n/a	n/a	207	0	18	225
R-1 large tract	4	32	0	110	0	0	110
RR-1	2	27	22	39	5	1	40
Total Undeveloped				1,105		27	1,132
Current Housing Units				958		69	1,027
Total Potential Units				2,063		96	2,159

[1] Maximum units per acre.
[2] Area within the APZ was subtracted from the total acreage for the zoning category.
[3] Dwelling unit projection based on maximum density of one unit per five acres, the maximum allowed by County Airport Environs Ordinance.
[4] Total acres may be less than total study area acres because right-of-way or non-residential zoning categories are not included.

4.3 APZ and Noise Zone Development Potential

Based on development potential of lands within the APZ-I, the current number of dwelling units located therein could rise from 69 to a potential estimated high of 96 units. As the Noise Zone covers an area similar in size to the Spencer Study Area, the potential development characteristics will be similar in character. Table 8-8 lists potential population and housing that could occur if all lands within the APZ-I and Noise Zone develop according to maximum densities allowed by the Santa Rosa County Comprehensive Plan and Land Development Code.

Table 8-9
APZ: Potential Future Population and Housing Units
(Build-Out Conditions)

Zoning Category	APZ-I Acreage[3]	Dwelling Units	Potential Population
Agriculture/Rural Residential (AG)	47	8	
Vacant platted lots in R-1, R-1M, RR-1,R-1A, R-2	0	18	
R-1 large tract	0	0	
RR-1	5	1	
Total Undeveloped	n/a	27	63
Current Housing Units	n/a	69	162
Total Potential Units	n/a	96	225

SECTION 5
STUDY RECOMMENDATIONS

5.1 Planned Unit Development Techniques

A. **Findings.** NOLF Spencer has only a limited number of large tracts located within the Spencer Study Areas. Some of the parcels, such as the large parcel owned by the Spencer family at the southeast corner of the Study Area, extend into areas outside the study area boundary. Through site design, residential development can be directed away from the field vicinity and outside any APZ. Recreation area and parks or stormwater facilities can be oriented to areas closer to the airfield, forcing new homes to be located further away.

B. **Recommendation.** Santa Rosa County should establish Future Land Use Designations and zoning overlay districts that allow the clustering of residential homes, perhaps through planned unit development. Design standards would also require orientation of open space and parks within new residential development to be placed toward the field while residential development is located further away.

5.2 Land Swap for Replacement Airfield.

A. **Findings.** There is a high level of existing encroachment around NOLF Spencer. Opportunities for down zoning or land acquisition are prohibitive**.**

B. **Recommendation.** County should pursue Land Swap replacement for this airfield.

5.3 Density Reduction and Horizontal Separation

A. **Findings.** Undeveloped lands within the Spencer Study Area are currently zoned R-1 residential, allowing up to four units per acre. This density promotes higher populations near the airfield. Building orientation should be directed away from the field. Front yard set backs should require buildings to be oriented to the rear of the lot for lots fronting Spencer Field Road.

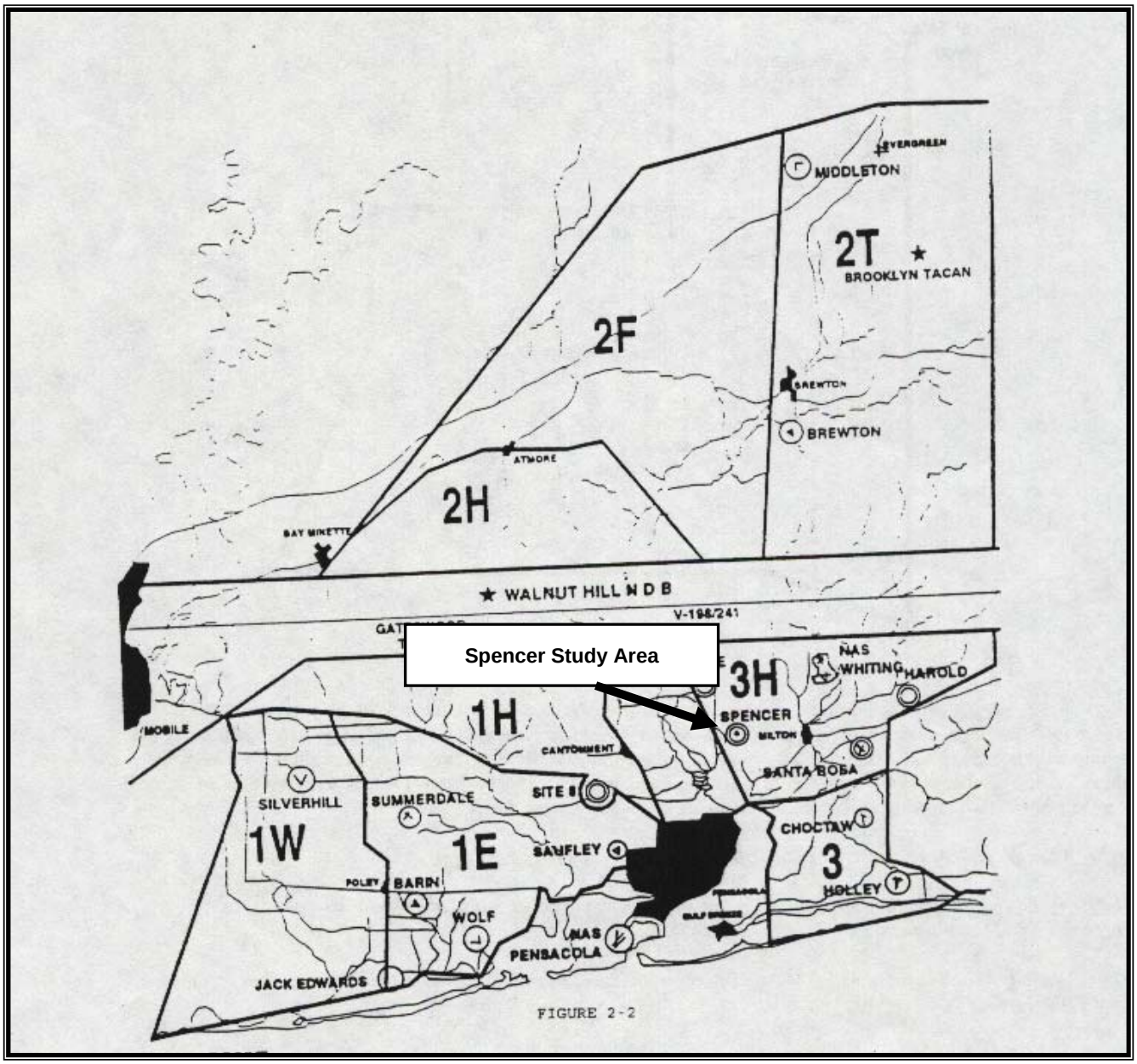
B. **Recommendations.** An overlay district should limit residential development to no more than two units per acre for areas within 2,000 feet of the airfield. Existing platted subdivisions may be exempt if lots are less than ½ an acre. The County should review setback requirements and establish minimum front yard setback of 100 feet for larger lots. Also, for larger lots that may be subdivided into residential neighborhoods, bufferyards and noise barriers should be required as part of landscaping and screen standards.

5.4 General Recommendations

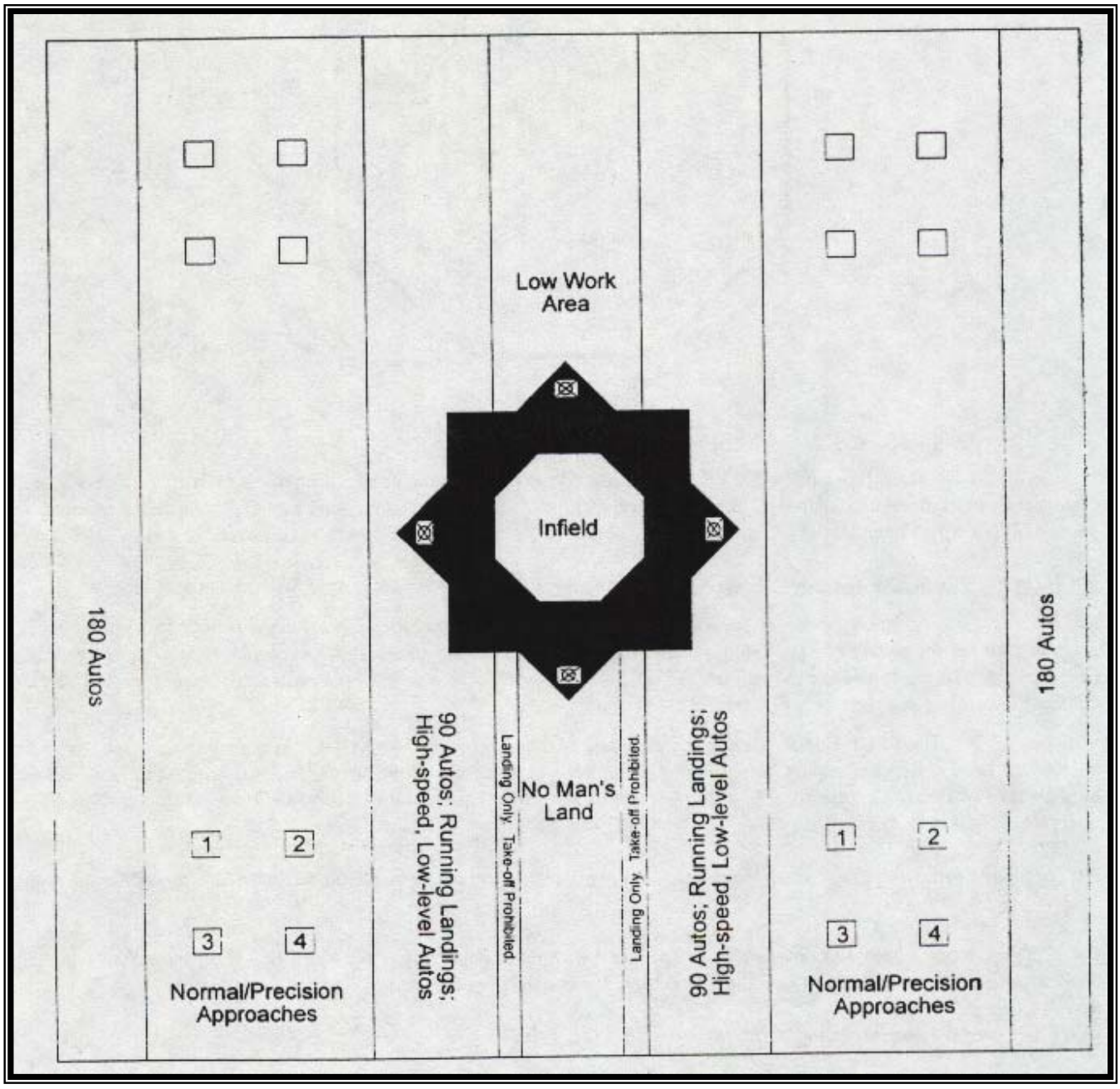
Chapter 1 may include additional recommendations affecting the use of land or construction methods applicable to areas near all or a number of airfields evaluated as part of the Santa Rosa Joint Land Use Study.

APPENDIX 8A

NOLF SPENCER JLUS MAPS

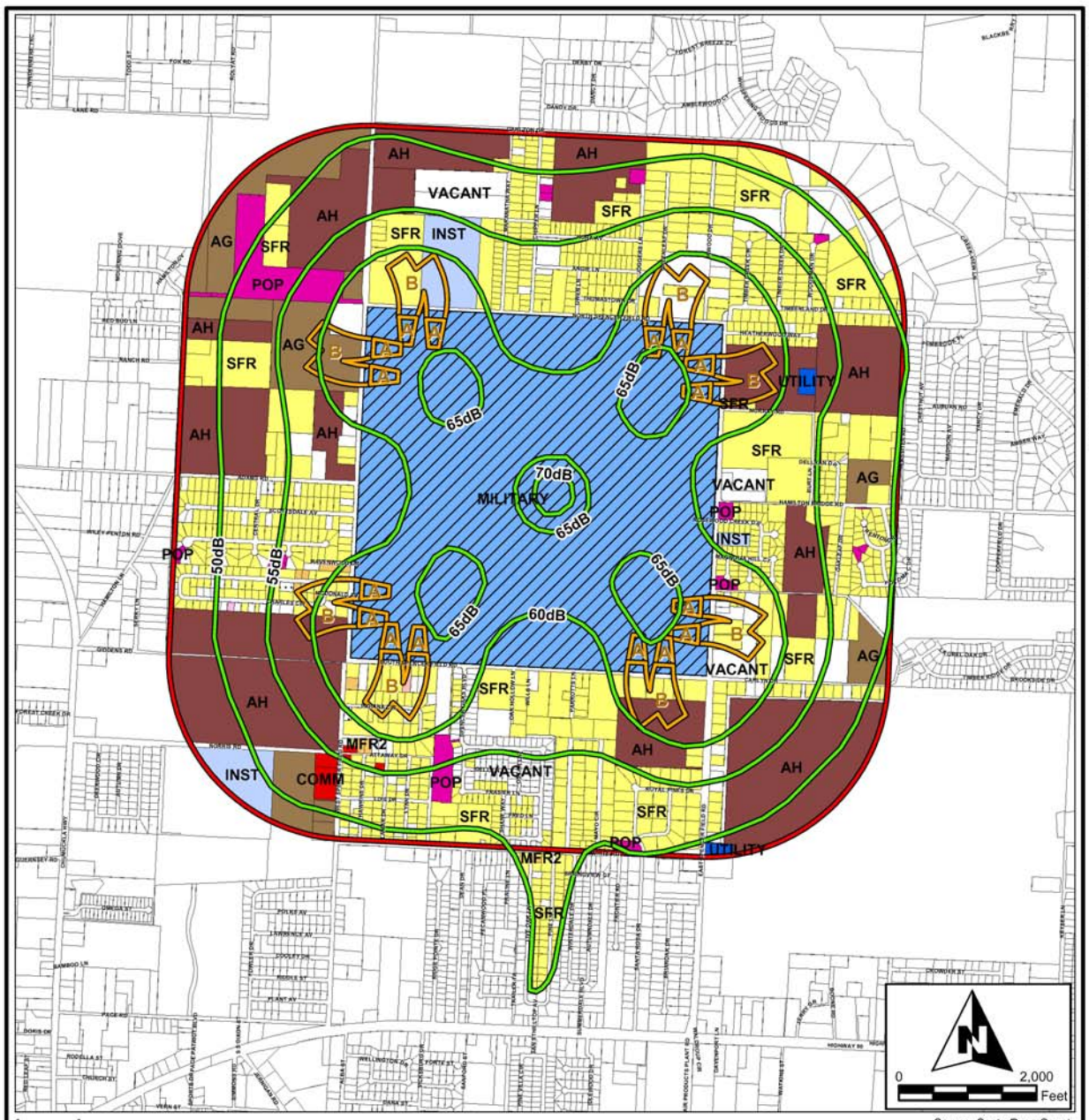


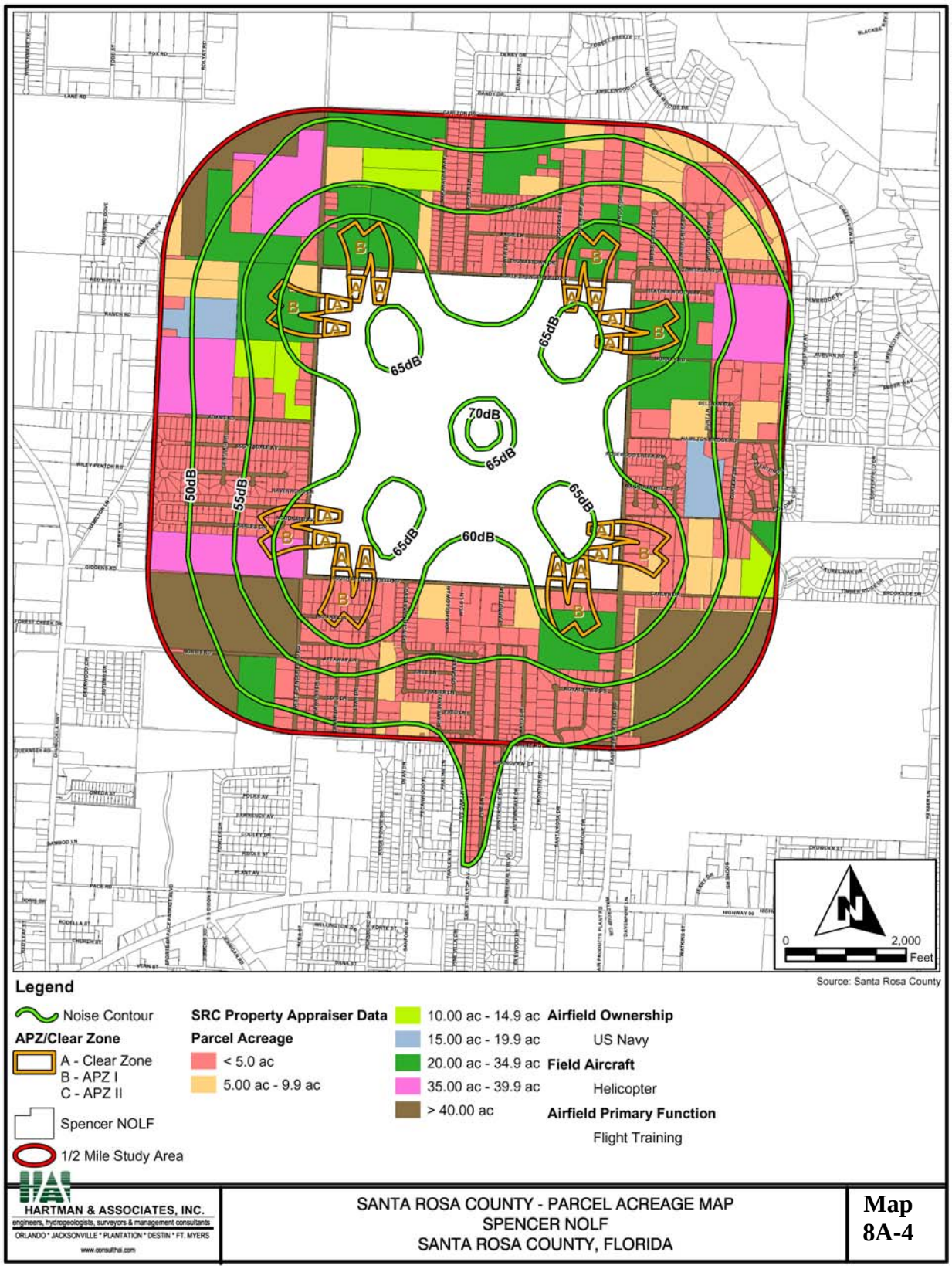
ALERT AREA NO. 292	Map 8A-1

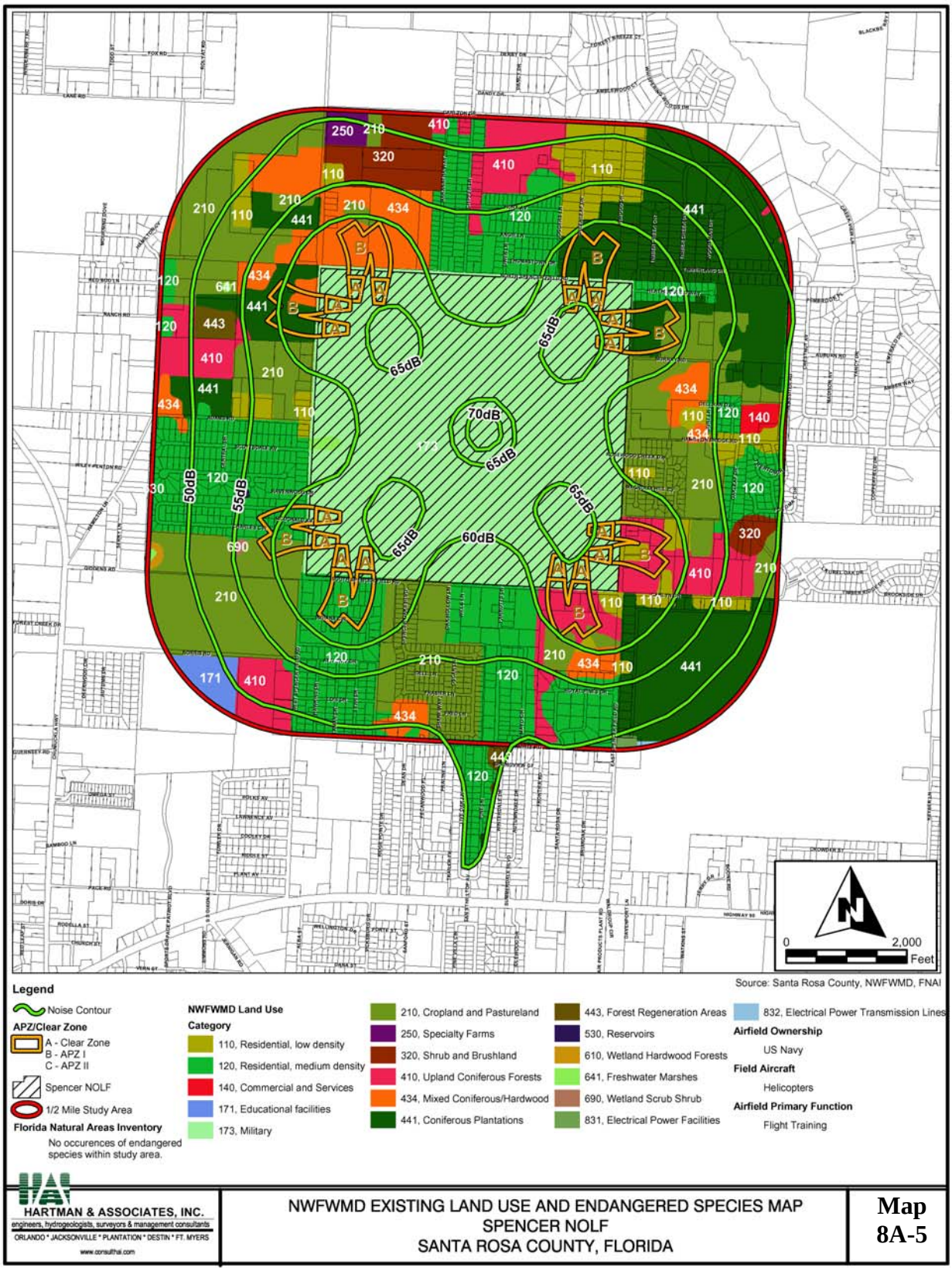


FIELD WORKING AREAS FOR COURSE OF 36
NOLF SPENCER

MAP 8A-2


S:\Projects\S\SANTAROS\02039200\Maps\Spencer\ReportAPEL.MXD [08-06-03 bam]
AH
VACANT
SFR
INST
AG
POP
UTILITY
MILITARY
70dB
65dB
60dB
55dB
50dB
MFR2
COMM
0
2,000
Feet
Source: Santa Rosa County
Legend
Noise Contour
APZ/Clear Zone
A - Clear Zone
B - APZ I
C - APZ II
Spencer NOLF
1/2 Mile Study Area
EXISTING LAND USE MAP
Category
Agriculture
Agriculture, Homestead
Commercial/Office
Industrial
Institutional
Multi-Family Residential
Military
Mixed Residential/Commercial
Publicly Owned Property
Single Family Residential
(Includes Townhomes/Condos)
Uncategorized
Utilities
Vacant
Airfield Ownership
US Navy
Field Aircraft
Helicopters
Airfield Primary Function
Flight Training
HARTMAN & ASSOCIATES, INC.
engineers, hydrogeologists, surveyors & management consultants
ORLANDO * JACKSONVILLE * PLANTATION * DESTIN * FT. MYERS
www.consulthai.com
SANTA ROSA COUNTY EXISTING LAND USE MAP
SPENCER NOLF
SANTA ROSA COUNTY, FLORIDA
Map
8A-3


S:\Projects\S\SANTAROS\02039200\Maps\Spencer\ReportAPLotSize2.MXD [08-06-03 bam]
70dB
65dB
60dB
55dB
50dB
0
2,000
Feet
Source: Santa Rosa County
Legend
Noise Contour
APZ/Clear Zone
A - Clear Zone
B - APZ I
C - APZ II
Spencer NOLF
1/2 Mile Study Area
SRC Property Appraiser Data
Parcel Acreage
< 5.0 ac
5.00 ac - 9.9 ac
10.00 ac - 14.9 ac
15.00 ac - 19.9 ac
20.00 ac - 34.9 ac
35.00 ac - 39.9 ac
> 40.00 ac
Airfield Ownership
US Navy
Field Aircraft
Helicopter
Airfield Primary Function
Flight Training
HARTMAN & ASSOCIATES, INC.
engineers, hydrogeologists, surveyors & management consultants
ORLANDO * JACKSONVILLE * PLANTATION * DESTIN * FT. MYERS
www.consulthai.com
SANTA ROSA COUNTY - PARCEL ACREAGE MAP
SPENCER NOLF
SANTA ROSA COUNTY, FLORIDA
Map
8A-4

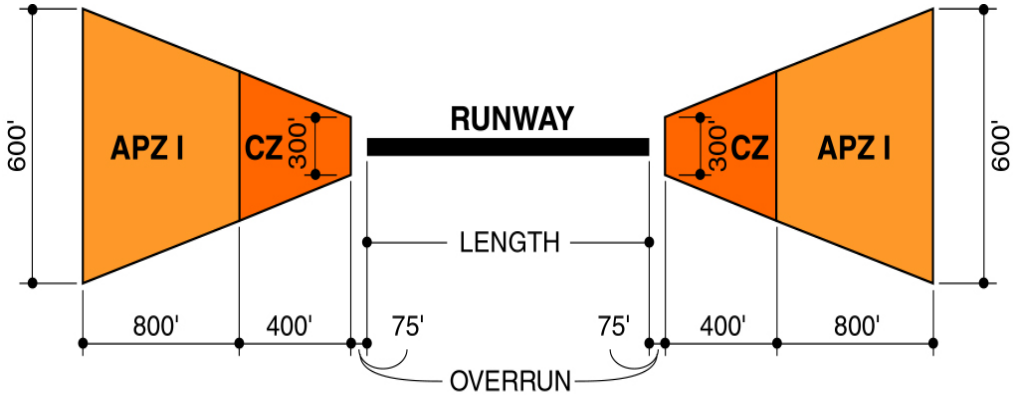

S:\Projects\SSANTAROS\02039200\Maps\Spencer\ReportAPCC_CN.MXD [08-06-03 bam]
65dB
70dB
60dB
55dB
50dB
0
2,000
Feet
Source: Santa Rosa County, NWFWMD, FNAI
Legend
Noise Contour
APZ/Clear Zone
A - Clear Zone
B - APZ I
C - APZ II
Spencer NOLF
1/2 Mile Study Area
Florida Natural Areas Inventory
No occurences of endangered species within study area.
NWFWMD Land Use Category
110, Residential, low density
120, Residential, medium density
140, Commercial and Services
171, Educational facilities
173, Military
210, Cropland and Pastureland
250, Specialty Farms
320, Shrub and Brushland
410, Upland Coniferous Forests
434, Mixed Coniferous/Hardwood
441, Coniferous Plantations
443, Forest Regeneration Areas
530, Reservoirs
610, Wetland Hardwood Forests
641, Freshwater Marshes
690, Wetland Scrub Shrub
831, Electrical Power Facilities
832, Electrical Power Transmission Lines
Airfield Ownership
US Navy
Field Aircraft
Helicopters
Airfield Primary Function
Flight Training
HARTMAN & ASSOCIATES, INC.
engineers, hydrogeologists, surveyors & management consultants
ORLANDO * JACKSONVILLE * PLANTATION * DESTIN * FT. MYERS
www.consulthai.com
NWFWMD EXISTING LAND USE AND ENDANGERED SPECIES MAP
SPENCER NOLF
SANTA ROSA COUNTY, FLORIDA
Map 8A-5


S:\Projects\SSANTAROS\02039200\Maps\Spencer\Report\APFL.MXD [08-06-03 bam]
AG
LDR
CON/REC
MDR
NDUS
CON/US
HDR
COMM
MER2
70dB
65dB
60dB
55dB
50dB
N
0
2,000
Feet
Source: Santa Rosa County
Legend
Noise Contour
APZ/Clear Zone
A - Clear Zone
B - APZ I
C - APZ II
Spencer NOLF
1/2 Mile Study Area
FUTURE LAND USE
Category
AGRICULTURE
CONSERVATION/RECREATION
LOW DENSITY RESIDENTIAL
MEDIUM DENSITY RESIDENTIAL
HIGH DENSITY RESIDENTIAL
COMMERCIAL
INDUSTRIAL
CONSERVATION/US GOVT
Airfield Ownership
US Navy
Field Aircraft
Helicopters
Airfield Primary Function
Flight Training
HARTMAN & ASSOCIATES, INC.
engineers, hydrogeologists, surveyors & management consultants
ORLANDO * JACKSONVILLE * PLANTATION * DESTIN * FT. MYERS
www.consulthai.com
SANTA ROSA COUNTY FUTURE LAND USE MAP
SPENCER NOLF
SANTA ROSA COUNTY, FLORIDA
Map
8A-6


S:\Projects\SSANTAROS\02039200\Maps\Spencer\ReportAPZ.MXD [08-06-03 bam]
AG
R1
P2
RR1
R1M
M2
HCD
R2
R3
MIL
70dB
65dB
60dB
55dB
50dB
0
2,000
Feet
N
Source: Santa Rosa County
Legend
Noise Contour
APZ/Clear Zone
A - Clear Zone
B - APZ I
C - APZ II
Spencer NOLF
1/2 Mile Study Area
ZONING
Category
Agriculture/Rural Residential (AG)
Highway Commercial Development (HCD)
General Industrial (M-2)
Active Park (P-2)
Single Family Residential (R-1)
Single Family Residential (R-1A)
Mixed Residential Subdivision (R-1M)
Medium Density Residential (R-2)
Medium High Density Residential (R-3)
Rural Residential Single Family (RR-1)
Military
Airfield Ownership
US Navy
Field Aircraft
Helicopters
Airfield Primary Function
Flight Training
HARTMAN & ASSOCIATES, INC.
engineers, hydrogeologists, surveyors & management consultants
ORLANDO * JACKSONVILLE * PLANTATION * DESTIN * FT. MYERS
www.consulthai.com
SANTA ROSA COUNTY ZONING MAP
SPENCER NOLF
SANTA ROSA COUNTY, FLORIDA
Map
8A-7

APPENDIX 8B

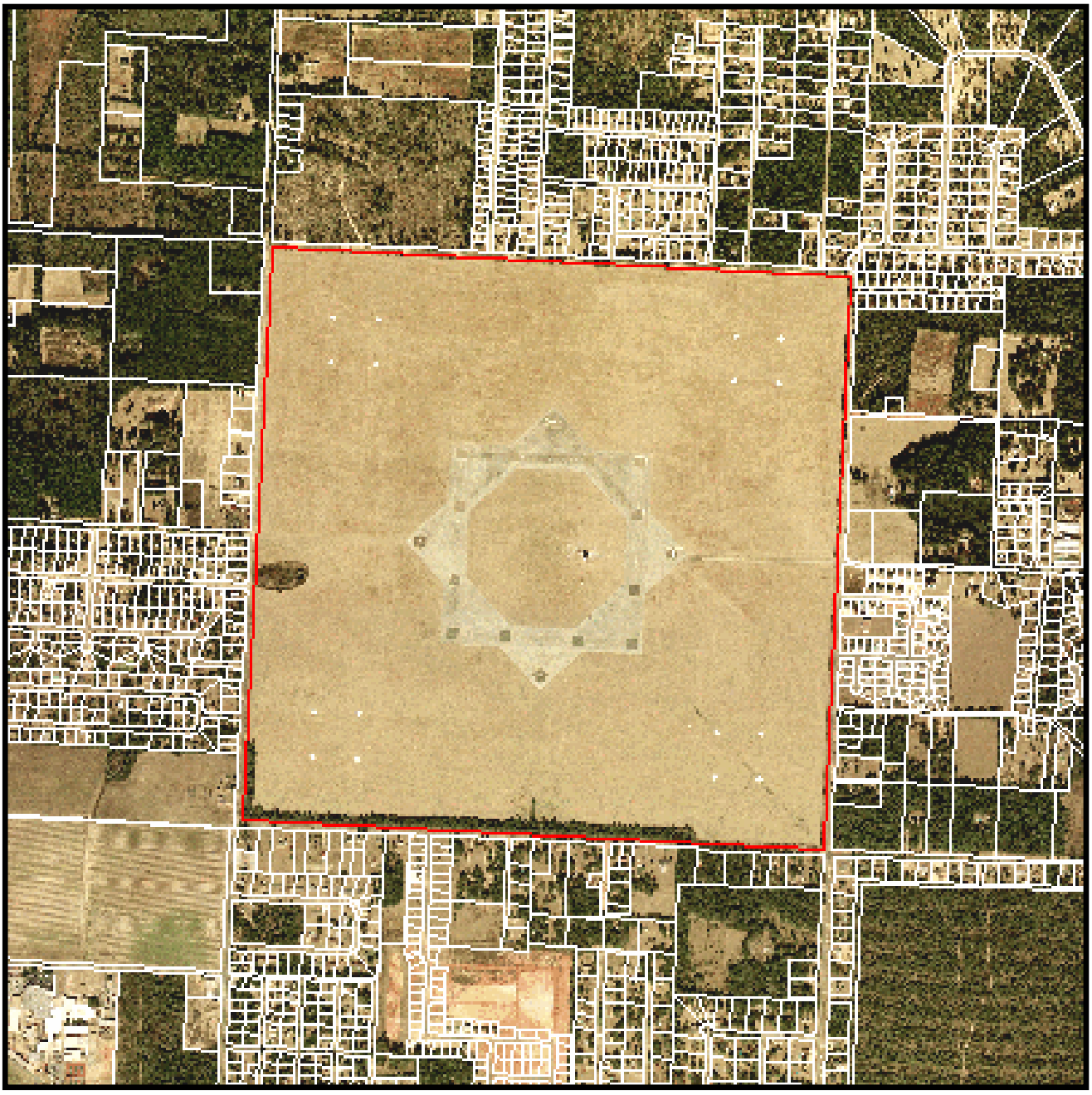
HELICOPTER ACCIDENT POTENTIAL ZONES



APZ II is normally not applied to helicopter flight path unless local accident history indicated need for additional protection

OPNAVINST 11010.36A

ACCIDENT POTENTIAL ZONES FOR HELICOPTERS	Figure 8B-1



NOLF SPENCER AERIAL IMAGE

Figure 8B-2