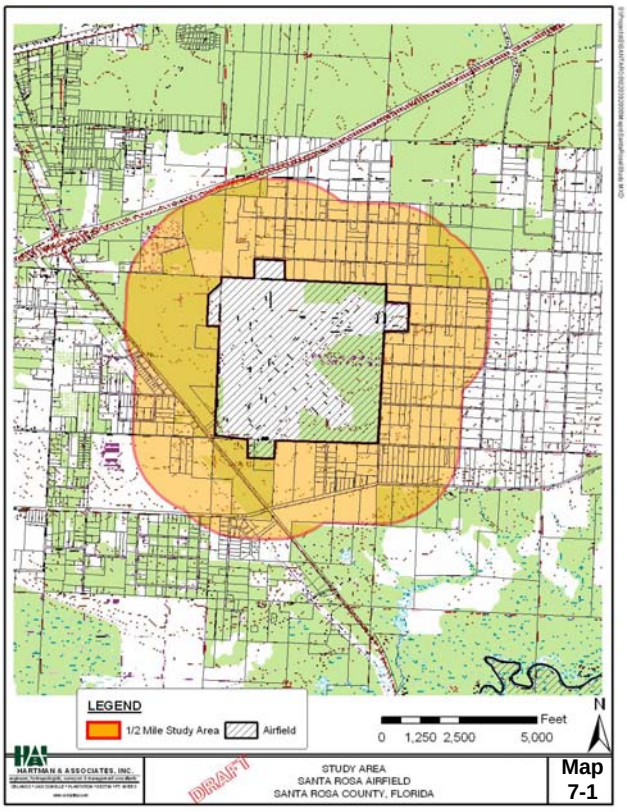
CHAPTER 7
NOLF SANTA ROSA JLUS



Executive Summary

Primary Airfield Use	Rotary-wing (helicopter) TH-57 aircraft supporting flight training for NAS Whiting Field
Airfield Capability	Four linear landing pads (not runways). Two additional lighted pads for night use.
Time of Use	Day and night hours; year-round
Other Uses	Model aircraft organizations.
Planned Uses	Same as current use.

Study Area Population	**Current**	**Potential**
	547	2,960

Study Area Issues and General Recommendations

Residential homes, typically on 4-acre lots, occur north, east and southeast of NOLF Santa Rosa. Nearly all homes are buffered from the airfield by forested lands on the east side of the airfield. Western and southern lands are vacant forested property, mining, or horticulture uses. Lot splits are reducing average typical lot size and inviting more encroachment. Zoning allows for one-acre lot splits. Substantial potential exists for commercial/industrial development west of the airfield. Residential home sites in the APZ are all mobile homes.

Recommendations: Form a zoning or overlay district to limit lot size at 4 acres east of SR 87 and north of CR 184. Update County lot split procedures. Require PUD approval for larger tracts and/or cluster development away from the airfield.

Chapter Contents

Note: with exception to Map 7-1 above, maps referenced in this chapter are placed in Appendix 7A, 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 accommodate 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 Navy Outlying Landing Fields (NOLF), which includes NOLF Santa Rosa.

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 jointly working together, mutually acceptable growth management strategies can be developed to avoid conflicts between NAS Whiting Field's mission objectives 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 formation 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 NAS Whiting Field 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 (14) NOLFs; Santa Rosa, Holley, Choctaw, Harold, Spencer, and Pace. This chapter addresses only NOLF Santa Rosa and non-military lands within its study area.

1.2 NOLF Santa Rosa Location

NOLF Santa Rosa is generally located one-mile south of Interstate 10, east of State Road (SR) 87, and north of County Road (CR) 184, which is also named Nichols Lake Road. NOLF Santa Rosa is six miles north of NOLF Choctaw, 2.5 miles southeast of Peter Prince Field, and five miles southeast of NAS Whiting Field. The general proximity of NOLF Santa Rosa with other airfields in Santa Rosa County appears 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 Santa Rosa is located in Area 3H of Alert Area 292. The boundaries of Alert Area 292 and Area 3H appear in Map 7-2. Area 3H is primarily allocated for helicopter use.

1.3 Santa Rosa Study Area

The study area boundaries for NOLF Santa Rosa JLUS (hereafter Santa Rosa Study Area) are illustrated on Map 7-1, which is located at the top of the first page in this chapter. The Santa Rosa Study Area covers 2,604 acres while military–owned property comprising NOLF Santa Rosa contains 692 acres, or approximately 26% of the total study area. All property within the Santa Rosa Study Area is situated in unincorporated Santa Rosa County and not within any municipal boundaries.

The Santa Rosa Study Area includes all areas within Accident Potential Zones or areas located within Noise Level Contours established by the existing Air Installation Compatibility Use Zones (AICUZ) study for NOLF Santa Rosa. To take into consideration lands outside the AICUZ that may also be affected by military operations, study boundaries were expanded to encompass areas within one-half miles from NOLF Santa Rosa's perimeter. Also, the eastern boundary of the study area was extended to encompass areas inside noise level contours beyond one-half mile.

The NOLF Santa Rosa JLUS presented in this chapter emphasizes evaluation of non-military lands within its 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 Santa Rosa Study Area is shown in Table 7-1 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 7-1
Study Area Components

Study Area Component	Acres
Total Study Area (Map 7-1)	*2,604*
Non-Military Property	*1,912*
Noise Level Zone (current)	1,273
Clear Zone/Accident Potential Zone	
Clear Zone "A"[1]	0
APZ- I "B"	61
APZ- II "C" [2]	0
Military	*692*

[1] All Clear Zone "A" boundaries occur on NOLF Santa Rosa property.

[2] No non-military lands surrounding NOLF Santa Rosa qualify for APZ-II "C".

A. **Clear Zones (Helicopters).** Aviation history has demonstrated that property along primary flight paths and immediately beyond the ends of runways 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 Santa Rosa JLUS, and for ease of reading maps, the Clear Zone is designated area "A". All portions of the Clear Zone are located within the

boundaries of NOLF Santa Rosa. Figure 7-1 graphically depicts the Clear Zone and its relationship with the APZ designations applied for fixed-wing aircraft.

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 7-1 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 Santa Rosa, 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 flight paths unless local accident history exhibits a need for additional caution.

Maps placed in Appendix 7A as well as the aerial image provided in Appendix 7B delineate boundaries of the Clear Zones and APZ-I's in relationship to NOLF Santa Rosa and adjacent non-military property.

NOLF Santa Rosa 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 points for entry and departure have been established for NOLF Santa Rosa. 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 Santa Rosa 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 Santa Rosa Study Area, non-military lands inside the 50 dB contour are referred to as the Noise Zone. Maps placed in Appendix 7A delineate noise contours associated with NOLF Santa Rosa. 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 airfield. 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 Santa Rosa. 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 Santa Rosa's sole military use 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 Santa Rosa. Ground crews return to their home station at NAS Whiting Field when flight-training activities dismiss. A manned control tower is not located at this field, but communications occurs with the crash crew prior to field entry or departure from the airfield.

NOLF Santa Rosa's primary role supporting NAS Whiting Field is for tactical helicopter training, which includes field deck landing practice (FDLP) and instrument flying rules (IFR). IFR involves navigation of helicopters following instrument panel information. On-site equipment, field runway layout, and local flight patterns are designed to specifically serve these training functions, as demonstrated in the aerial image (Figure 7-2) and field operation diagram (Figure 7-3) placed in Appendix B.

Operating procedures established by NAS Whiting Field for NOLF Santa Rosa limit activities assigned to this airfield to a maximum of eleven helicopters in pattern or operation during daytime hours. Organized into work areas, the airfield is limited to seven aircraft on the normal approach side or four in the autorotation side. During night hours, only six aircraft may operate at NOLF Santa Rosa, limiting 3 to each side of the field. Figure 7-3 illustrates field layout for NOLF Santa Rosa.

NAS Whiting Field operating procedures identify NOLFs that must be avoided by fixed-wing aircraft except in the event of an emergency. NOLF Santa Rosa *is* one of the fields that must be avoided by fixed-wing aircraft. NOLF Santa Rosa is located in Area 3H.

NOLF Santa Rosa's mission for future years will continue to support current helicopter flight training activities conducted from NAS Whiting Field. Flight training will continue to include both day and night operations. This airfield serves a critical role for NAS Whiting Field because it is equipped with a tactical air navigation system (TACAN) for IFR recovery training, and because it is the only helicopter NOLF equipped for night helicopter training operations. Transferring training functions to other airfields would be difficult and costly because of the unique equipment and field layout installed at NOLF Santa Rosa. NAS Whiting Field plans to keep this field assigned for the specific roles currently in place. This NOLF 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 Santa Rosa provides four paved runways functioning as landing pads, each extending a length of 4,500 feet and having a width of 150 feet. Though appearing as runways, these facilities actually function as helicopter landing pads and not as runways for fixed-wing aircraft. Grass fields are also incorporated into the field layout. A diagram of the field layout is shown in Figure 7-3 (See Appendix 7B), which illustrates the four courses and other flight operations at NOLF Santa Rosa.

Two landing pads adjacent to the paved areas are equipped with night lighting. Flight training for IFR recovery operations relies on the TACAN system installed at this airfield.

Other facilities located on-site include structures occupied by crash crew personnel when they are on-site. The crash crew is on site only during flight training and will return to NAS Whiting Field when scheduled practice concludes. Crash crew facilities are located on the west side of the field. Fueling facilities are not available at this airfield.

Runways and work areas supporting flight training are placed on the western two-thirds of NOLF Santa Rosa's land area. Forested lands align perimeter areas for the entire eastern boundary and for about half of the north and south boundary. Trees have been planted by NAS Whiting Field along a portion of the west boundary beginning at the northwest corner.

Only helicopters typically use NOLF Santa Rosa. The primary aircraft seen at this airfield is the TH-57, as shown in Figure 7-4\3. Powered by a single turbofan engine, the Sea Ranger can seat a pilot and up to two students. The TH-57 rotary-wing aircraft is used by NAS Whiting Field to train flight students and experienced USN aviators.

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 helicopter training.

Figure 7-4
Aircraft Using
NOLF Santa Rosa

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 Santa Rosa.

2.3 Airfield Operations and Procedures

NOLF Santa Rosa is assigned for helicopter operations. Fixed-wing aircraft are prohibited from using NOLF Santa Rosa except in case of an emergency, according to the operating procedures set forth by

NAS Whiting Field. A control tower is not present to instruct helicopter traffic. However, the crash crew conducts radio communications with aircraft 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 with those set forth by 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 impacts 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 as well as the unique character and individual needs 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 air space into "areas." Horizontal (geographic) and vertical (altitude) areas have been established within Alert Area 292. NOLF Santa Rosa is located in Area 3 of Alert Area 292. The boundaries of Alert Area 292 and Area 3 appear in Map 7-2. 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, whether rotary-wing or fixed-wing, must be authorized by a Commanding Officer.

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

B. **Flight Patterns.** Operating procedures established address two types of flight patterns for helicopters using NOLF Santa Rosa. The first set of operating procedures addresses flight patterns to enter or depart NOLF Santa Rosa airspace. The second set addresses flight operations within or adjacent to the field itself. Flight patterns for activity at the airfield are referred to as the local pattern.

   1. **Entry and Departure Flight Patterns**. Helicopters approach NOLF Santa Rosa from the north. As helicopters reach the vicinity of the Santa Rosa Study Area, they descend to 700 feet MSL, then eventually descending to the local pattern at the airfield. When helicopters enter NOLF Santa Rosa, operating procedures dictate a pattern splitting the field directly over the maltese cross on a track parallel to the landing course in use. Once reaching the south end of the airfield, the helicopters then turn left or right to proceed to the intended practice area. Map 7-3 illustrates flight patterns established by NAS Whiting Field for NOLF Santa Rosa. Once in the local pattern, descent follows a pattern generally aligned with the APZ patterns appearing in Map 7-4 and other maps within Appendix 7A. Aircraft departing NOLF Santa Rosa leave from

its northwest corner, head west following Interstate 10 and eventually northwest following SR 89 and then SR 87 back to NAS Whiting Field.

Once in the local pattern at the airfield, arriving helicopters eventually align with a landing course at strategic locations where APZ-I appears in Map 7-4 as well as other maps appearing in Appendix 7A of this chapter. The landing pattern selected by the pilot will vary based on wind direction, air traffic at NOLF Santa Rosa, and intended work area destination. Departure from the field will always be from the Northwest corner of the airfield.

Map 7-3 illustrates the four different landing patterns.

2. **Field Flight Pattern**. NOLF Santa Rosa serves several flight-training functions for NAS Whiting Field. Local flight patterns within and adjacent to the airfield will vary based on the type of training activity that is performed. Local patterns generally involve helicopters conducting pre-determined training programs or maneuvering into the entry or departure pattern. The airfield is organized into four work areas as shown in Figure 7-2. Specific local patterns are set for field deck landing patterns and for each of the four courses or work areas. Flight patterns differ between day and night operations.

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 for flight operations at all airfields, including NOLF Santa Rosa. Also, to protect health, safety, and welfare of civilian populations, aircraft may be restricted from operating within certain sensitive areas or within designated 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.

Restrictions and operating procedures applicable to aircraft within Area 3H airspace and NOLF Santa Rosa, 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 Santa Rosa.
2) Aircraft approaching NOLF Santa Rosa from the east, remain clear of restricted airspace designated R2915-A, which is situated one-mile east of Santa Rosa.
3) The RV Park, located at the northeast corner of Interstate10 and State Road 87, is to be avoided. Helicopters circumvent the RV Park when using approach or departure flight patterns

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

NAS Whiting Field has already recognized current conflicts between land uses and flight patterns for areas within or near the Santa Rosa Study Area. A campground resort is located north of I-10 but aligned with the normal entry flight pattern for NOLF Santa Rosa. Operating procedures direct aircraft around the campground resort. Also, NAS Whiting Field has retained forested lands on the eastern side of the airfield and has planted trees along portions of NOLF Santa Rosa's western boundary. The natural vegetative area and the trees serve to buffer adjacent development from noise and visual impacts. Field operations occur in the day or evening. The vegetation also serves to reduce light or glare impacts on adjacent property. The planted trees also buffer impacts to a convenience store.

Limited vacant land exists within northern, eastern, and southeastern portions of the study area, as residential development occupies a substantial portion of the lots. Whereas residential development surrounds most of the airfield's perimeter and occupies a substantial portion of the study area, little flexibility appears available to alter flight patterns to reduce impacts on existing development. Any actions to reduce conflicts between current development and flight activities will have to be directed to land use regulations or programs to retrofit existing buildings with better sound insulation. The latter action will have a limited benefit considering that mobile homes represent the substantial type of dwelling unit.

A landscaping nursery has greenhouses located within the southern APZ-I. However, work at landscape or horticulture nurseries usually does not occur during evening hours.

Ground activities conducted at military installations also generate noise, dust, light, and other impacts that can create nuisances for those living or working on nearby property. Other than aircraft operating at or near the ground, the only ground activity conducted at NOLF Santa Rosa is that associated with the crash crew. Their facilities are located on the western side of the NOLF. No residential areas are near the crash crew area.

The two lighted landing pads are located in the northwest quarter of the NOLF, as depicted in Map 7-3. The southeastern landing pad appears to be well screened from most residential areas. With a portion of the northwest corner not screened by trees or vegetation, the northern night landing pad may appear to have greater potential for conflicts with development northeast of the airfield. This issue could be resolved by on or off site landscaping and vegetative buffers.

Map 7-4 compares existing land use with the APZ, Noise Zone, and the Santa Rosa Study Area.

SECTION 3
COMMUNITY PROFILE AND DEVELOPMENT CHARACTERISTICS

The general area surrounding NOLF Santa Rosa is predominantly single family residential to the north, east, and southeast and agriculture to the south and west. For the residential areas to the north and east of the airfield boundary, residential character is predominantly four-acre lots occupied by mobile homes and to a lesser extent conventional single-family home construction. Residential lots, typically between four to five acres in size, abut the north and east boundary of the airfield. Residential lots near the southeast boundary are typically one to two acres. The Agriculture zoning and future land use designation assigned to existing residential areas within the Santa Rosa Study Area inaccurately defines surrounding land use character, which is actually large lot singe family residential. A landscape nursery with greenhouses occurs along the south boundary of the airfield and a convenience store/gas station and a volunteer fire department abut the southwest corner. Appendix 7B provides an aerial image exhibiting current land use and development character surrounding NOLF Santa Rosa. Map 7-4 illustrates existing land uses occurring on non-military lands within the study area.

3.1 Study Area Profile

Within the Santa Rosa Study Area, military property comprising NOLF Santa Rosa amounts to 692 acres, or approximately 27% of the entire study area. Non-military lands cover 1,912 acres of the 2,604 acres comprising the Santa Rosa Study Area. Nearly 37% of non-military lands are used for home sites. While nearly 23% of the study area is used for agriculture, most of this land is forested. Approximately 60 acres appearing as agriculture along the airfield's south boundary is actually a landscape nursery with several greenhouses. Table 7-2 provides a summary profile for existing land uses within the non-military lands within the Santa Rosa Study Area. Map 7-4 shows existing land use appearing in the Santa Rosa Study Area as well as proximity of Accident Potential Zones and the Noise Zone to these land uses.

Major roadways within the Santa Rosa Study Area include Interstate 10 (I-10) to the north, State Road 87 to the west, and Nichols Lake Road (County Road 184) to the south. Farm Life Road runs adjacent to and parallel with NOLF Santa Rosa's eastern boundary for all but a few hundred feet near the northeast corner.

Table 7-2
Existing Land Use Profile by Acreage
Santa Rosa Study Area

Existing Land Use	Study Area[1]		Clear Zone/Accident Potential Zone[1] (acres)				Noise Zone[1]
	Acres	Percent	A[3]	B	C[4]	Total	(acres)
Single Family Residential[2]	701	36.7%		10		10	446
Agriculture	430	22.5%		11		11	376
Vacant	384	20.1%		21		21	242
Right-of-Way	100	5.2%		2		2	74
Agriculture, Homestead	99	5.2%		20		20	37
Silviculture	74	3.9%					41
Commercial/Office	64	3.4%					6
Utilities	45	2.4%					35
Industrial	13	0.7%		6		6	14
Institutional	1	0.05%					1
Publicly Owned Property	1	0.1%					1
Study Area (non-military)	1,912	100%		61		61	1,273

Source: Santa Rosa County, 2003.
[1] Land uses and acreages appearing in the table are for non-military lands within the Santa Rosa Study Area.
[2] May include single family, townhouses, mobile homes or condominiums.
[3] All Clear Zones "A" boundaries lie within NOLF Santa Rosa.
[4] No APZ-II "C" has been assigned to NOLF Santa Rosa.
Note: Due to rounding, totals may not match with summation of sub-categories.

An estimated 233 single-family residential units occur within the Santa Rosa Study Area. All but about forty dwelling units are located in that portion of the study area south of I-10, north of Nichols Lake Road, and east of SR 87.

Non-residential development currently inside the Santa Rosa Study Area includes two convenience stores and the East Milton Volunteer Fire Station, all located along SR 87. One of the two convenience stores is located on a one-acre parcel at the airfield's southwest point. To the south of NOLF Santa Rosa, a landscape nursery with greenhouses is on a parcel adjacent to the airfield and an automobile racetrack is on the south side of Nichols Lake Road.

For the northern and eastern portions of the Santa Rosa Study Area, land subdivision exhibits residential lots with a typical size of about four acres, though lot size will range from one to ten acres. Lot splits appear to be a common practice in these areas. Many property owners have split their four-acre lots into a three-acre site and a smaller one-acre lot. To the southeast of the airfield in the area north of Nichols Lake Road and south of South Trace Road, residential lot size typically ranges from one to two acres. The western perimeter of NOLF Santa Rosa abuts a 234-acre tract that extends to SR 87 and a 13-acre tract that appears to be used for or intended to be used for a borrow pit. In the case of this latter parcel, the Santa Rosa County Property Appraiser classifies its use as a mining activity. Map 7-5 illustrates distribution of property ownership by parcel size within the study area. Unlike the other Navy Outlying Landing Fields evaluated within the Santa Rosa County Joint Land Use Study, NOLF Santa Rosa does not have any non-military properties, other than right-of-way, owned by the State or County. Few large ownership tracts appear within the NOLF Santa Rosa Study

Area. Only four parcels, all under separate ownership, exceed forty acres. Counting the tracts greater than forty acres, parcels exceeding twenty acres tally in at 15, a small number considering over 400 parcels occur within the study area

General land use coverage for the Santa Rosa Study Area is illustrated on Map 7-6. This map also identified occurrences of any endangered or threatened species within the study area. As shown in Map 7-6, occurrences have been identified for the Florida pine snake and gopher frog, as recorded by the Florida Natural Areas Inventory. In 1996-1997 FNAI conducted a survey to identify the endangered, threatened, and rare vertebrate and plants species occurring at NAS Whiting Field and all but one of its NOLFs. NOLF Santa Rosa was surveyed by FNAI. A rare plants documented at this site is the hairy wild indigo. In addition to the gopher frog and Florida pine snake, FNAI also observed presence of the gopher tortoise, which is a species of special concern.

3.2 Current Housing and Population

In 2003, residential development amounts to 65 single-family homes and 168 mobile homes for a total of 233 dwelling units. Most dwellings are located south of I-10, east of SR 87, and north of Nichols Lake Road. Approximately 50 homes inside the Santa Rosa Study Area are located in areas on the opposite side of these roads. Current population inside the study area is estimated at 547 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 housing construction, about 72% of the dwellings are mobile homes while the remaining 28% are single family houses. No multiple family dwellings are located within the Santa Rosa Study Area. Table 7-3 summarizes the number of housing units by study area component and dwelling type.

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 Santa Rosa 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 7-3
Existing Housing Unit Profile
Santa Rosa Study Area

Residential Type	Housing Units					
		Clear Zone/Accident Potential Zone				
	Study Area	A[1]	B[2]	C[3]	Total APZ	Noise Zone
Single Family	65		0		0	38
Mobile Home	168		8		0	122
Multiple Family	0		0		0	0
Total	233		8		8	160

[1] All Clear Zone "A" boundaries lie within NOLF Santa Rosa.
[2] Numbers shown represent parcels or lots with all or a portion of its boundaries in the APZ-I. A home or building on such parcels or lots may be located outside the APZ-I boundary.
[3] NOLF Santa Rosa AICUZ study does identify a need to delineate APZ-II "C" .

3.3 Accident Potential Zone (APZ) Profile

Within the Santa Rosa Study Area, the Clear Zone/Accident Potential Zone covers 309 acres, of which 61 acres of APZ-I fall on non-military lands. Table 7-4 provides a land use profile for the Santa Rosa Study Area. For non-military lands in the Santa Rosa Study Area, all are located within APZ-I "B" designation. No portions of the Clear Zone "A" occur outside NOLF Santa Rosa boundaries. Portions of APZ-I "B" extend into non-military lands on the south, north, northeast, and northwest perimeter of the airfield. Among the eight areas within the airfield classified as APZ-I "B", two completely lie within airfield boundaries and another, at the northeast corner, only slightly breaches the airfield. As evident by APZ-I "B" locations and the shape of the airfield perimeter, NAS Whiting Field has purchased lands within the APZ-I "B", thereupon incorporating them into NOLF Santa Rosa.

Land uses inside the APZ-I extending west of the airfield consist of forested land and a mining operation, presumably what is or is intended to be a borrow pit. On the airfield's southern perimeter a landscaping nursery has a greenhouse situated within the APZ-I at the southeastern corner of the airfield. Although not located within this same APZ-I, a convenience store with gasoline sales and the East Milton Volunteer Fire Station are approximately 300 feet to the west. NAS Whiting Field has planted a row of trees along the property edge to help screen these land uses from airfield activities. This row of trees can be seen in the aerial image placed in Appendix B.

Along NOLF Santa Rosa's northern perimeter, the southern portions of eight residential lots cross into the northern APZ-I. Based on review of air photographs, two structures appear to lie within the APZ-I, though another one or two structures appear to be on or just outside the APZ-I. Figures 7-4 and 7-5 provide an aerial image of the sites holding the landscape nursery business and the residential lots affected by the APZ-I. Approximately 21 residents are estimated to reside on the lots affected by the northern APZ-I.

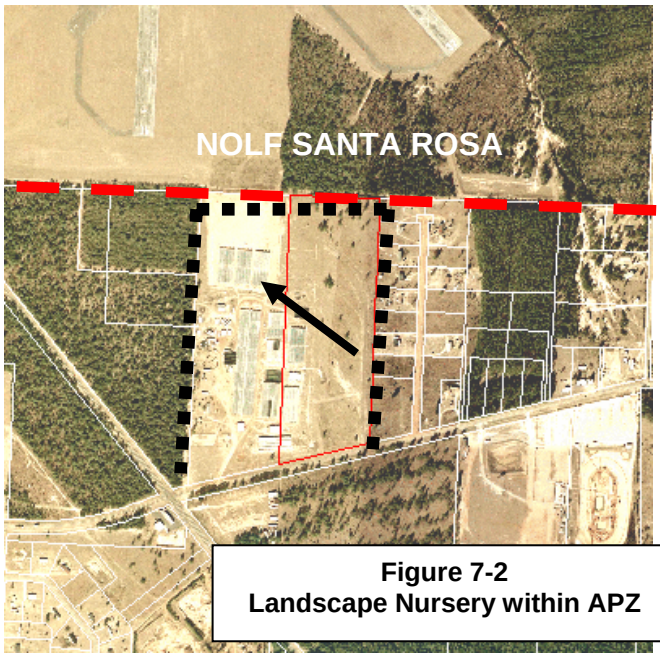


Figure 7-2
Landscape Nursery within APZ

Through land acquisition, NAS Whiting Field has averted further encroachment into the APZ-I. Properties were acquired within the APZ-I's on all four sides of NOLF Santa Rosa, as can be generally seen in Map 7-5 and others in Appendix A.

Lots along the northern perimeter of the airfield, and within the northeast APZ-I, range in size from one acre to ten acres. Most lots in all other APZ-I's surrounding the airfield are over ten acres in size.

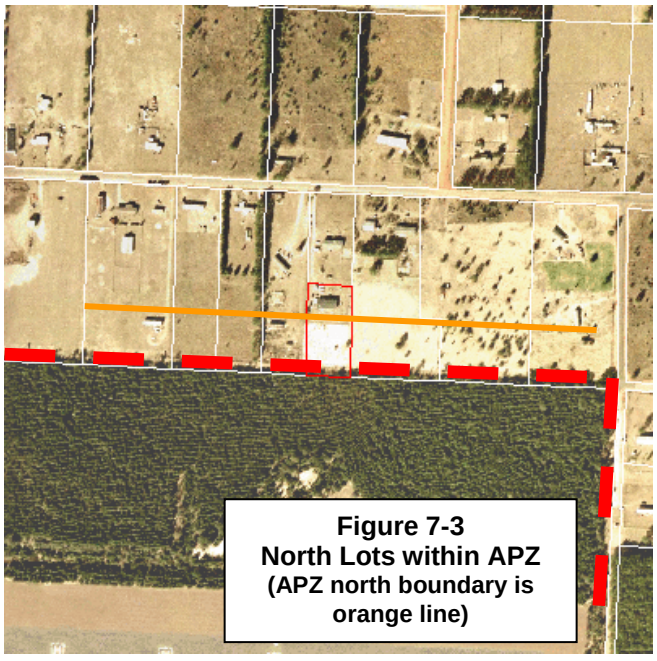


Figure 7-3
North Lots within APZ
(APZ north boundary is orange line)

Accident Potential Zone Profile: Existing Land Use

Santa Rosa Study Area
(Non-Military Lands)

Zone	Use	Activity	Acres
APZ -I "B"	Agriculture	Horticulture (nursery) business (south APZ); cleared grass field (northwest APZ)	22
	Vacant	All parcels zoned Agricultural and are either forested (southwest APZ) or cleared property (north APZ)	21
	Single Family Residential	Eight parcels with mobile homes north of the airfield. All mobile home chassis located outside of APZ.	10
	Industrial	13 acre parcel for a borrow pit site.[1]	6
	Right-of-Way	State Road 87 at southwest corner of airfield	2
Total APZ-I "B"--- Non-Military Lands			61

[1] Pursuant to records of the Santa Rosa County Property Appraiser's Office, the existing land use description states site is intended for mining purposes.

3.4 Noise Zone Profile

Within the Santa Rosa Study Area, the Noise Zone within non-military property covers 1,273 acres, equal to 49% of the Santa Rosa Study Area. The Noise Zone does reach into areas north of I-10 and west of SR 87. A substantial share of land uses within the Noise Zone, similar for the study area, are single-family residences and agriculture. Table 7-5 summarizes land use distribution within the Noise Zone.

Table 7-5
Noise Zone: Existing Land Use Profile
Santa Rosa Study Area
(Non-Military Lands)

Existing Land Use	Acres
Single Family Residential[1]	446
Agriculture	376
Vacant	242
Right-of-Way	74
Silviculture	41
Agriculture, Homestead	37
Utilities	35
Industrial	14
Commercial/Office	6
Institutional	1
Publicly Owned Property	1
Total	1,273

[1] Includes mobile homes.

3.5 Summary of Existing Airfield and Land Use Conflicts

Residential development abuts the north, east, and eastern portions of the south boundary for NOLF Santa Rosa. Residential homes on the east side are visually buffered from airfield activities and because of forested lands along the eastern perimeter. However, the normal flight path for entry relies on the northeastern boundary for all four patterns. A limited number of residential structures on the north side encroach onto the APZ-I. Though most homes along the northern border are outside the APZ, the northern flight path will affect homes on the north boundary. Similar to the residential parcel abutting the eastern boundary, most northern parcels are also visually buffered from the airfield by a forested area. The forested area on the east side of the airfield is critical to reduce impacts associated with night operations, which occur on the northwest corner of the airfield.

While a residential density on four-acre lots spreads out residential development on the north and east sides of the study area, lot splits are introducing more residents into the area surrounding NOLF Santa Rosa. Development density of one and two acres lots within the southeastern portion of the study area appears too high for this area.

On the south and southeastern corners of the field, greenhouses for a landscaping nursery encroach into APZ-I. Despite a location outside the APZ-I, a convenience store/gas station abuts the western boundary of NOLF Santa Rosa. This store is located about 300 feet from the APZ-I.

Flight training activity and local patterns appears to be more intensive on the north and west sides of the airfield than the south and east. Only one APZ-I points eastward, but it is located on the north side of the airfield. Entry and departure points are located on the northeast and northwest respectively. Flight patterns can be reviewed from Map 7-3.

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 Santa Rosa Study Area will be impacted by flight and ground activities at NOLF Santa Rosa.

Population growth and certain types of non-residential development, such as commercial retail and 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 Santa Rosa 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 and Land Development Code, future land use designations assigned to property within the Santa Rosa 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.

For purposes of this study, build-out potential represents development of all land according to the maximum densities allowed by a property's assigned zoning category, as determined by the Santa Rosa County Land Development Code. 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. Lands inside a Clear Zone are explicitly subject to development restrictions. Population and housing projections take into account effects that Article 11, Airport Environs, has on the development potential for properties situated within an APZ, Clear Zone, 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 Santa Rosa is not affected by environmental conditions that may limit development potential. Soils in the Santa Rosa Study Area are

sand or loamy sand, pursuant to the US Soil Conservation Service's most recent soil survey for Santa Rosa County.

When evaluating methodology alternatives to estimate potential development within the study area, one alternative would base new housing and population based on vacant platted lots. Approximately 60 vacant lots occur where lands have been subdivided into parcels ten acres or less in size. However, a methodology estimating development on vacant lots was not applied because County lot split procedures allow developed parcels to further subdivide the property. Therefore, the methodology used to estimate development potential applies all lands designated residential or agriculture on the County zoning map with maximum allowed development densities.

For the estimation of population and residential development for build-out, 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 requirements for infrastructure to support new development. For commercial and industrial lands, the potential building square footage was estimated by assuming that building floor area would cover 20% of a parcel for commercial zoned property and 15% for industrial zoned property. The assumptions also only consider a one-story building.

Development potential for land within the study area was determined by applying the maximum density allowed by the zoning category assigned to the property. For the Santa Rosa Study Area, zoning was used to evaluate development potential rather than using the future land use designation. While Map 7-7 provides information regarding future land use designation assigned to property, Map 7-8 illustrates zoning for the Santa Rosa Study Area. Regulatory policy and code may reduce development potential within the APZ or Noise Zone.

4.2 Study Area Development Potential

Currently, an estimated 547 residents live among 233 homes located within the Santa Rosa Study Area. Based on undeveloped lands that could potentially accommodate new development, population in the Santa Rosa Study Area has a potential to reach close to or over 3,000. While existing commercial and industrial building floor area is less than 10,000 square feet, the study area can expect to experience more than 2.2 million square feet. The estimate for commercial and industrial is likely a conservative number given the volume of undeveloped commercial or industrial zoned land and its proximity to the intersection of I-10 and SR 87. Tables 7-5 and 7-6, respectively, list the number residents and homes that could potentially occur within the Santa Rosa Study area in the future.

A. **Residential Development**. Eight undeveloped parcels within the study area exceed twenty acres in size. However, existing developed residential lots between two and ten acres could potentially experience further subdivision. The Santa Rosa County Land Development Code allows for administrative approval of lots splits. Based on all property zoned Agriculture within the study area (less the current site occupied by the landscape nursery) and 27 acres zoned R-1 or R-1M, 1,520 acres are potentially available for residential development. Table 7-7 provides a summary of the methodology used to estimate potential residential development. Residential development potential addresses impacts that the Article 11, Airport Environs, has on the reduction of densities within the APZ. As shown in Map 7-8, Agriculture zoned land is the predominant zoning category appearing in the study area.

Table 7-5
Potential Future Population
Santa Rosa Study Area

	Year				
Residential Unit	**2005**	**2010**	**2015**	**2020**	**Build-Out Potential**
Single Family[1]	584	677	770	863	2,960
Multiple Family	0	0	0	0	0
Total	584	677	770	863	2,960

[1] Includes mobile homes.

Table 7-6
Potential Future Housing Units and Non-Residential Space
Santa Rosa Study Area

	Year				Build-Out Potential	
Residential Units	**2005**	**2010**	**2015**	**2020**	**Residential** (units)	**Non-Residential** (sq. ft.)
Single Family Units[1]	246	285	324	363	2,960	n/a
Multiple Family U\nits	0	0	0	00	0	n/a
Total Residential Units	246	285	324	363	2,960	n/a
Non-Residential	(refer to Table 7-7)					
Commercial or industrial building floor area					n/a	2,221,560

[1] Includes mobile homes.
n/a – not applicable.

Table 7-7
Build-Out Potential for Dwelling Units and Non-Residential Floor Area

Zoning Category	Development Density/ Intensity	Acres	Adjusted Zoning Acreage[2]	Dwelling Units	APZ –I "B" Acreage	Dwelling Units[3]	Total Units
Residential	**Max. U/A[1]**	1,520	1,467	1,253	53	9	1,262
Agriculture/Rural Residential (AG)	1/1	1,493	1,440	1,156	53	9	1,165
Single Family Residential (R-1)	4/1	5	5	18	0	0	18
Mixed Residential Subdivision (R-1M)	4/1	22	22	79	0	0	79
Non-Residential	**FAR[4]**	**Acres**	**Adjusted Zoning Acreage[2]**	**Floor Area** (sq. ft.)	**Acres**	**Floor Area** (sq. ft.)	**Total** (sq. ft.)
Commercial Highway	.20 per acre	141	141	1,228,392	0	0	1,228,392
Restricted Industrial[5]	.15	152	145	947,430	7	45,738	993,168

[1] Maximum units per acre.
[2] Area within the APZ-I was subtracted from the total acreage for the zoning category. APZ located on State-owned lands was also not included in this analysis.
[3] Dwelling unit projection based on maximum density of one unit per five acres for APZ-I "B" and no units within Clear Zone "A", the maximum allowed by County Airport Environs Ordinance.
[4] For analysis purposes, analysis assumes ground floor coverage equal to 20% of parcel area and one-story building.
[5] Article 11, Santa Rosa County Land Development Code, restricts the type of industrial that can occur within APZ.

B. **Non-Residential Development**. As shown in Map 7-8, a 234-acre site, located between SR 87 and the western boundary of NOLF Santa Rosa, is substantially zoned for commercial or industrial land uses. Based on this property's proximity to the I-10 intersection, this site is likely a viable location for regional retail commercial, lodging, warehousing and shipping, or other similar enterprises searching for quick access to regional highway systems. The layout of the commercially zoned land within the parcel promotes strip commercial fronting SR 87. The southeastern point of this property abuts NOLF Santa Rosa near the south APZ. A portion of the property also lies within the northwestern APZ.

Table 7-7 estimates potential commercial and industrial development that could occur within the study area. Restrictions established by Article 11 of the County's Land Development Code were reviewed and addressed to perform this estimate.

4.3 APZ and Noise Zone Development Potential

Structures are currently located within the APZ-I. A few residential structures or accessory structures appear to lie within the northern APZ-I. Greenhouses occur within the southern APZ-I. Table 7-8 lists the estimated population and housing units that could potentially develop within parcels extending into the APZ. The housing and population, then, shown in Table 7-8 may not actually occur within the APZ but the parcel on which the APZ boundary crosses. Potential for new development is very limited in the APZ because density is limited to one unit per five acres inside the APZ. As most residential lots within the APZ are four acres, further lots splits would be inconsistent with the County's Land Development Code.

Table 7-8

Potential Future Population and Housing Units:
Build-Out Conditions for APZ

Study Area Component	Population	Housing Units
APZ-I "B"	23	9
Noise Zone[2]	2,246	957

[1] For analysis purposes APZ-I "B" residential densities limits to one unit per five acres, consistent with maximum density allowed in APZ-I by County Land Development Code Article 11, Airport Environs.
[2] APZ-I lands located within the Noise Zone were evaluated at 1 unit per five acres. Approximately 52 acres within the Noise Zone are also within APZ-I "B".

4.4 Other Development Issues

NOLF Santa Rosa is near the Intersection of I-10 and SR 87 as well as the intersection of SR 87 and CR 184 (Nichols Lake/Hickory Hammock Rds). Access to these highways, particularly I-10, will likely be attractive to industrial, commercial retail, and warehouse businesses. Much of the industrial and commercial land on the west and northwest sides of the airfield may not be within the APZ but are near local flight patterns or entry and departure flight paths commencing at the northwest corner of NOLF Santa Rosa. Undeveloped land is available for residential development, but few large parcels exist to accommodate major residential developments. Zoning and future land use designations do not accommodate any multiple family apartments within the study area.

SECTION 5
STUDY RECOMMENDATIONS

Map 7-9 may illustrate locations applicable to some recommendations presented below.

5.1 Residential Overlay District or New Future Land Use Designation

A. **Findings.** Areas in the north, east, and southeastern portions of the Santa Rosa Study area are primarily subdivided into four-acre lots. Lot size may be up to ten acres or, in the case of the southeastern areas, as small as one-acre. Currently, the Santa Rosa County Comprehensive Plan, the Future Land Use Map adopted therein, and the County's Land Development Code assign an Agriculture land use category to nearly all of these residential areas. The maximum density allowed is one unit per acre. Current land subdivision supports a density much less intense than one unit per acre, as typical lots are four-acres in size.

The character of the north, east, and southeastern portions of the Santa Rosa Study Area is residential and not agriculture. No or limited agriculture activities actually occurs within most residential areas. Through lot splits and land subdivisions, the typical lot size of four acres is diminishing as more one-acre lots emerge.

B. **Recommendation.** For the areas delineated by the dashed line labeled R1 (for recommendation number one) in Map 7-9, Santa Rosa County should prepare an overlay district or establish a new zoning district that maintains current residential character in lots of four-acres. Maximum density should be limited to one unit per three to four acres, as current established character for the areas within the R1 delineation. To further implement this approach, the current lot split procedures will need to be updated to preclude property owners from further splitting four-acre lots (or similar size lots) into multiple parcels and flag lots. Discouraging lots splits is most critical for parcels abutting the airfield.

5.2 Planned Unit Development Techniques

A. **Findings.** NOLF Santa Rosa has only a limited number of large tracts located within the Santa Rosa Area. However, some of the larger tracts, particularly the 234-acre parcel abutting NOLF Santa Rosa's western boundary, have potential for substantial commercial and industrial development. Through site design, development can be directed away from the airfield or out of normal flight paths. Buffers and landscaping create horizontal and visual separation from some airfield activities.

B. **Recommendation.** Santa Rosa County should establish Future Land Use Designations or zoning overlay districts that allow for flexible site design and land use patterns for parcels near the airfield. 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.

5.3 Cluster Development Intensity

A. **Findings.** Only a limited number of vacant or undeveloped parcels within the Santa Rosa Study Area exceed twenty acres. However, such lots are concentrated northwest, west, and southwest of NOLF Santa Rosa. An evaluation of parcels abutting the airfield indicates that sufficient depth exists to cluster development away from the airfield. Open space and stormwater facilities could be concentrated closer to the airfield.

B. **Recommendation.** Land use policy should allow for cluster development away from the airfield on the northwest, west, and southwest parcels abutting the airfield. This area is generally shown as R2 on Map 7-9.

5.4 Land Acquisition of Large Land Agriculture Tracts

A. **Findings.** Large undeveloped tracts (i.e., over twenty acres) occur at the northwest and southwest corner of the airfields. The northwest parcels occur underneath the primary entry and departure flight pattern. Southwestern parcels are located within or adjacent to the APZ

B. **Recommendations.** NAS Whiting Field or Santa Rosa County should evaluate the merits of purchasing larger tracts that are undeveloped and zoned Agriculture. The parcels that warrant consideration for acquisitions are denoted with the letter "P" placed on them in Map 7-9.

5.5 Land Acquisition of Residential Lots and Relocation

A. **Findings.** All residential homes on lots within the northern APZ appear to be mobile homes. No conventional residential structures appear to be constructed on these parcels. Purchase of these lots before conventional residential homes are constructed will make relocation and acquisition more effective and cost efficient. As all the residences appear to be mobile homes, relocation of the structures may be more feasible than relocation of conventional residential construction.

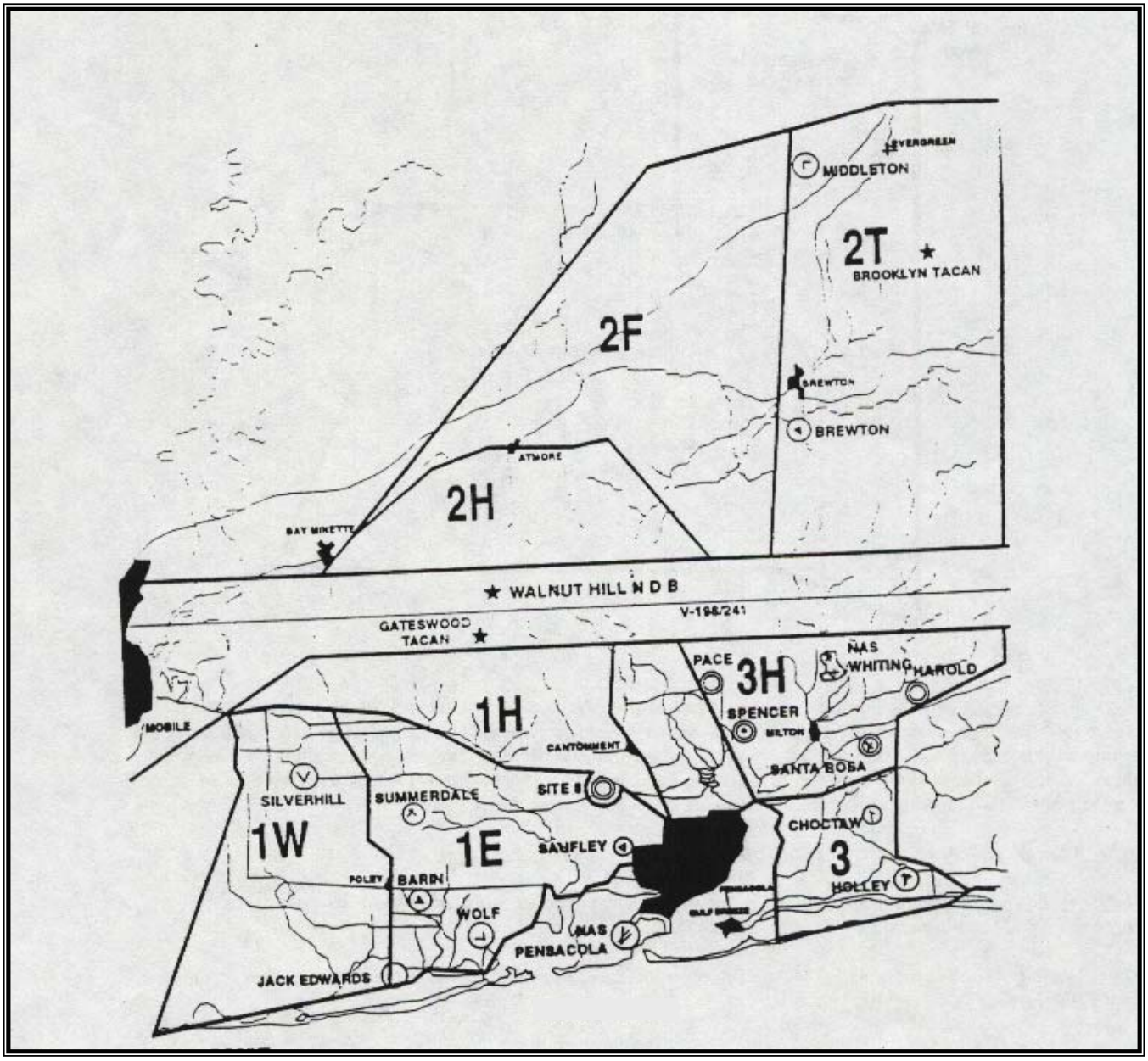
B. **Recommendation**s. Santa Rosa County and NAS Whiting Field should evaluate the merits of purchasing residential lots on the north side of the airfield when relocation of residential units is more feasible and more efficient for the property owner and the government acquisition agency.

5.6 General Recommendations

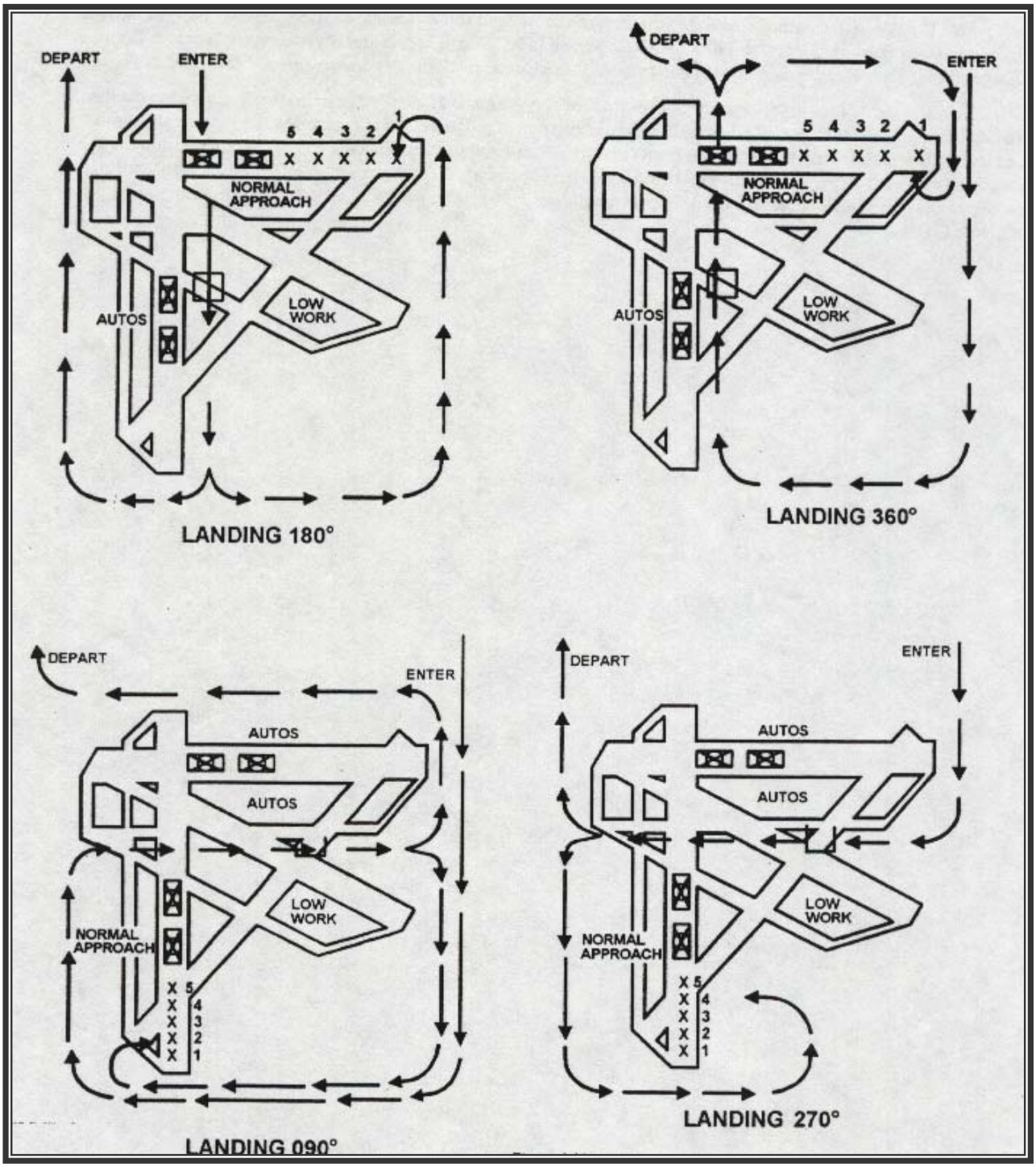
Chapter 1 may include additional recommendations affecting the use of land or construction methods applicable to areas near all or a number of airfields evaluated as part of the Santa Rosa Joint Land Use Study.

APPENDIX 7A

NOLF SANTA ROSA JLUS MAPS

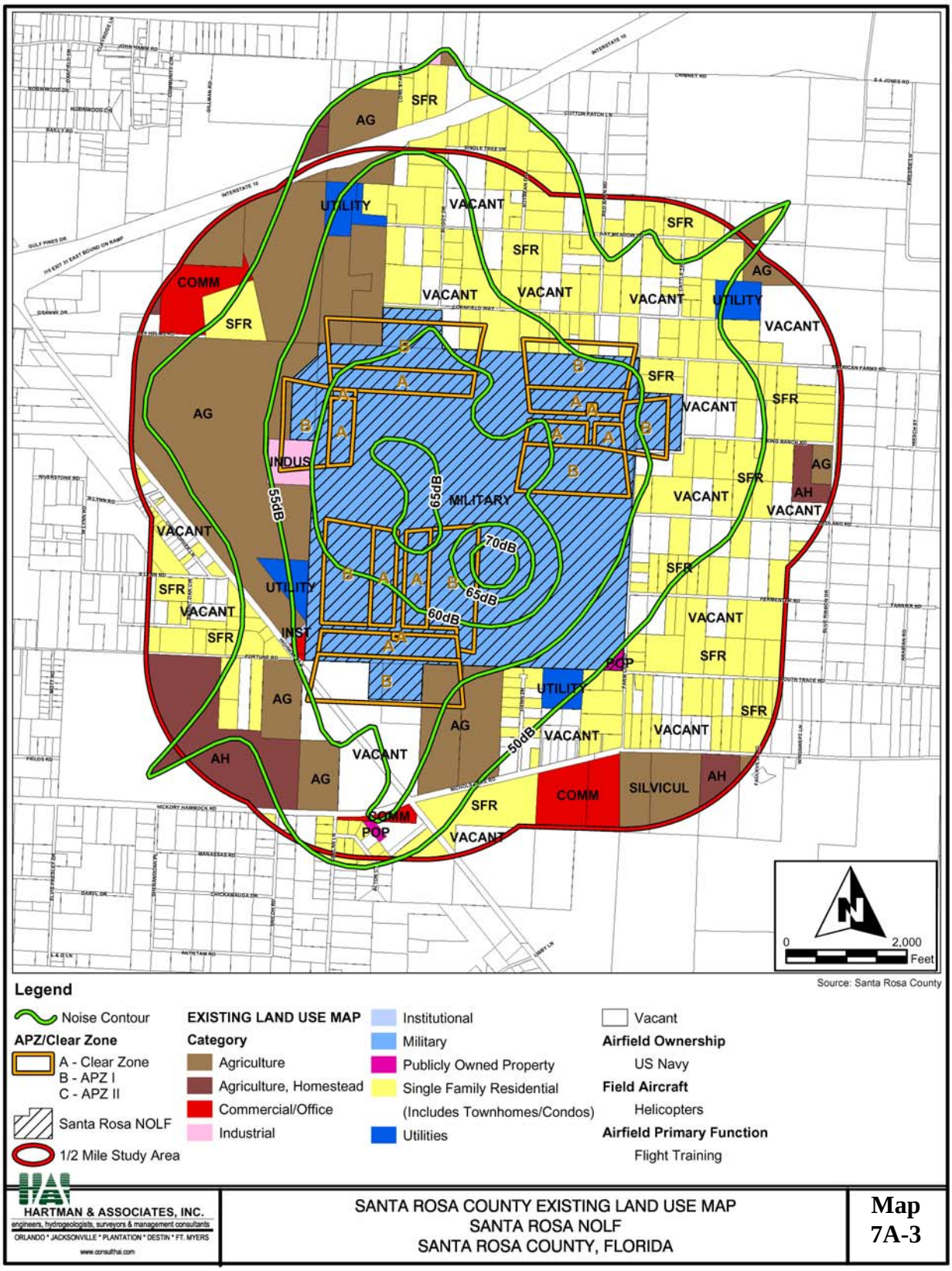


ALERT AREA NO. 292	Map 7A-1



ENTRY AND DEPARTURE POINTS AND FLIGHT PATTERNS NOLF SANTA ROSA

MAP 7A-2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APZ/Clear Zone
A - Clear Zone
B - APZ I
C - APZ II
Santa Rosa NOLF
1/2 Mile Study Area
EXISTING LAND USE MAP
Category
Agriculture
Agriculture, Homestead
Commercial/Office
Industrial
Institutional
Military
Publicly Owned Property
Single Family Residential
(Includes Townhomes/Condos)
Utilities
Vacant
Airfield Ownership
US Navy
Field Aircraft
Helicopters
Airfield Primary Function
Flight Training
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SANTA ROSA COUNTY EXISTING LAND USE MAP
SANTA ROSA NOLF
SANTA ROSA COUNTY, FLORIDA
Map
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A - Clear Zone
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C - APZ II
Santa Rosa NOLF
1/2 Mile Study Area
SRC Property Appraiser Data
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< 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
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Airfield Ownership
US Navy
Field Aircraft
Helicopter
Airfield Primary Function
Flight Training
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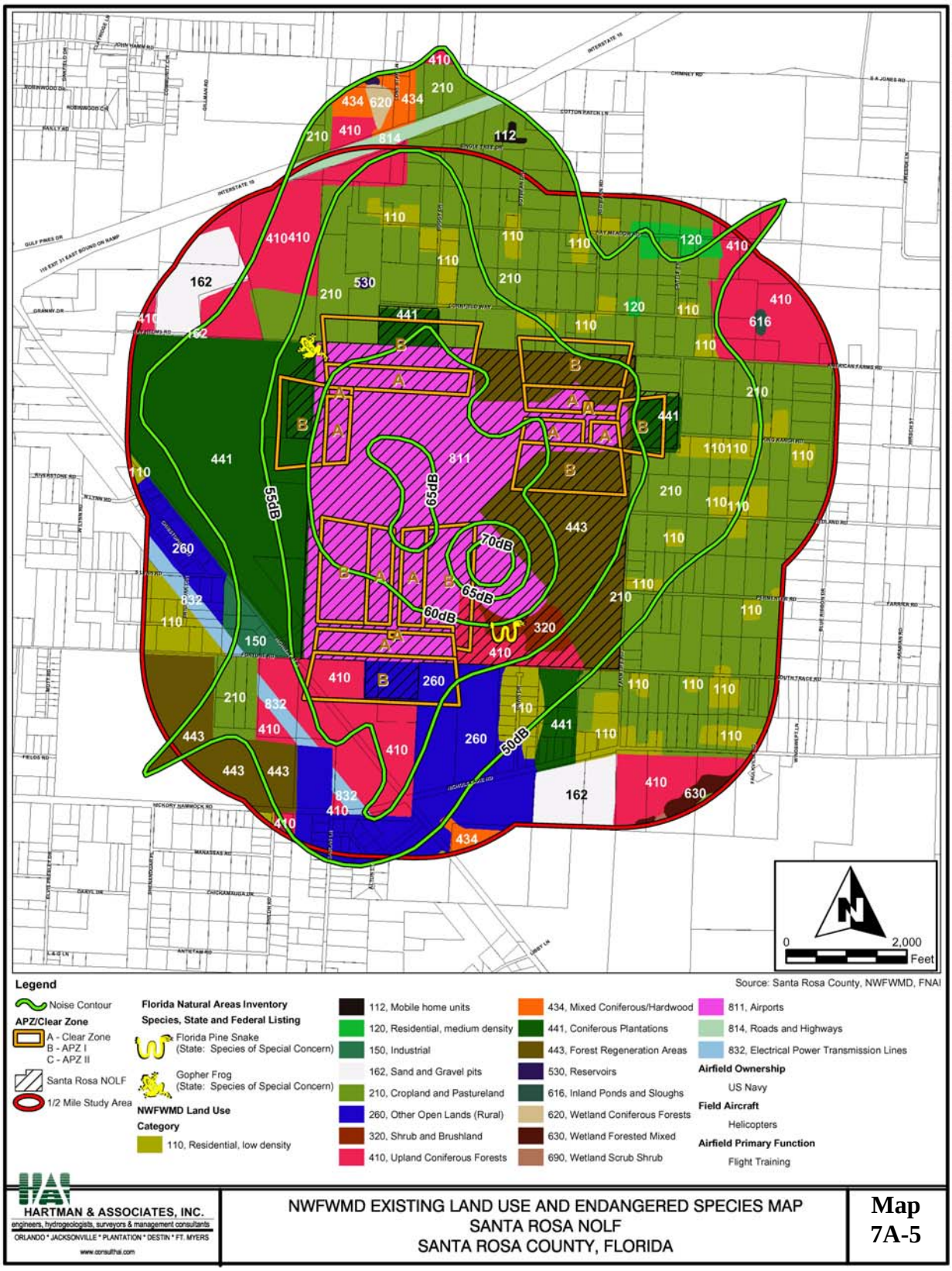
SANTA ROSA COUNTY - PARCEL ACREAGE MAP
SANTA ROSA NOLF
SANTA ROSA COUNTY, FLORIDA
Map
7A-4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APZ/Clear Zone
A - Clear Zone
B - APZ I
C - APZ II
Santa Rosa NOLF
1/2 Mile Study Area
Florida Natural Areas Inventory
Species, State and Federal Listing
Florida Pine Snake
(State: Species of Special Concern)
Gopher Frog
(State: Species of Special Concern)
NWFWMD Land Use
Category
110, Residential, low density
112, Mobile home units
120, Residential, medium density
150, Industrial
162, Sand and Gravel pits
210, Cropland and Pastureland
260, Other Open Lands (Rural)
320, Shrub and Brushland
410, Upland Coniferous Forests
434, Mixed Coniferous/Hardwood
441, Coniferous Plantations
443, Forest Regeneration Areas
530, Reservoirs
616, Inland Ponds and Sloughs
620, Wetland Coniferous Forests
630, Wetland Forested Mixed
690, Wetland Scrub Shrub
811, Airports
814, Roads and Highways
832, Electrical Power Transmission Lines
Airfield Ownership
US Navy
Field Aircraft
Helicopters
Airfield Primary Function
Flight Training
Source: Santa Rosa County, NWFWMD, FNAI
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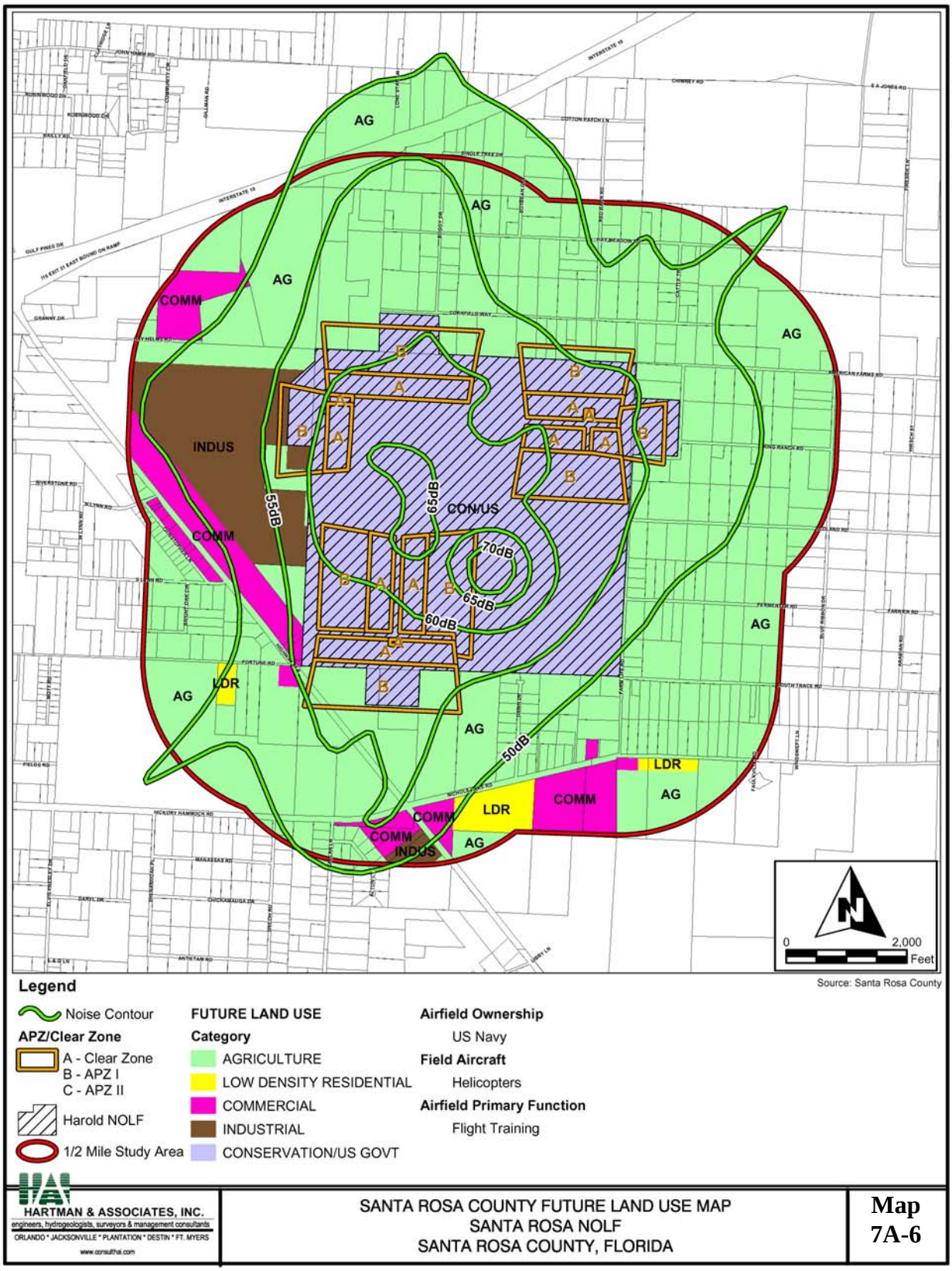
NWFWMD EXISTING LAND USE AND ENDANGERED SPECIES MAP
SANTA ROSA NOLF
SANTA ROSA COUNTY, FLORIDA
Map
7A-5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Harold NOLF
1/2 Mile Study Area
FUTURE LAND USE
Category
AGRICULTURE
LOW DENSITY RESIDENTIAL
COMMERCIAL
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Field Aircraft
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Airfield Primary Function
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SANTA ROSA COUNTY FUTURE LAND USE MAP
SANTA ROSA NOLF
SANTA ROSA COUNTY, FLORIDA
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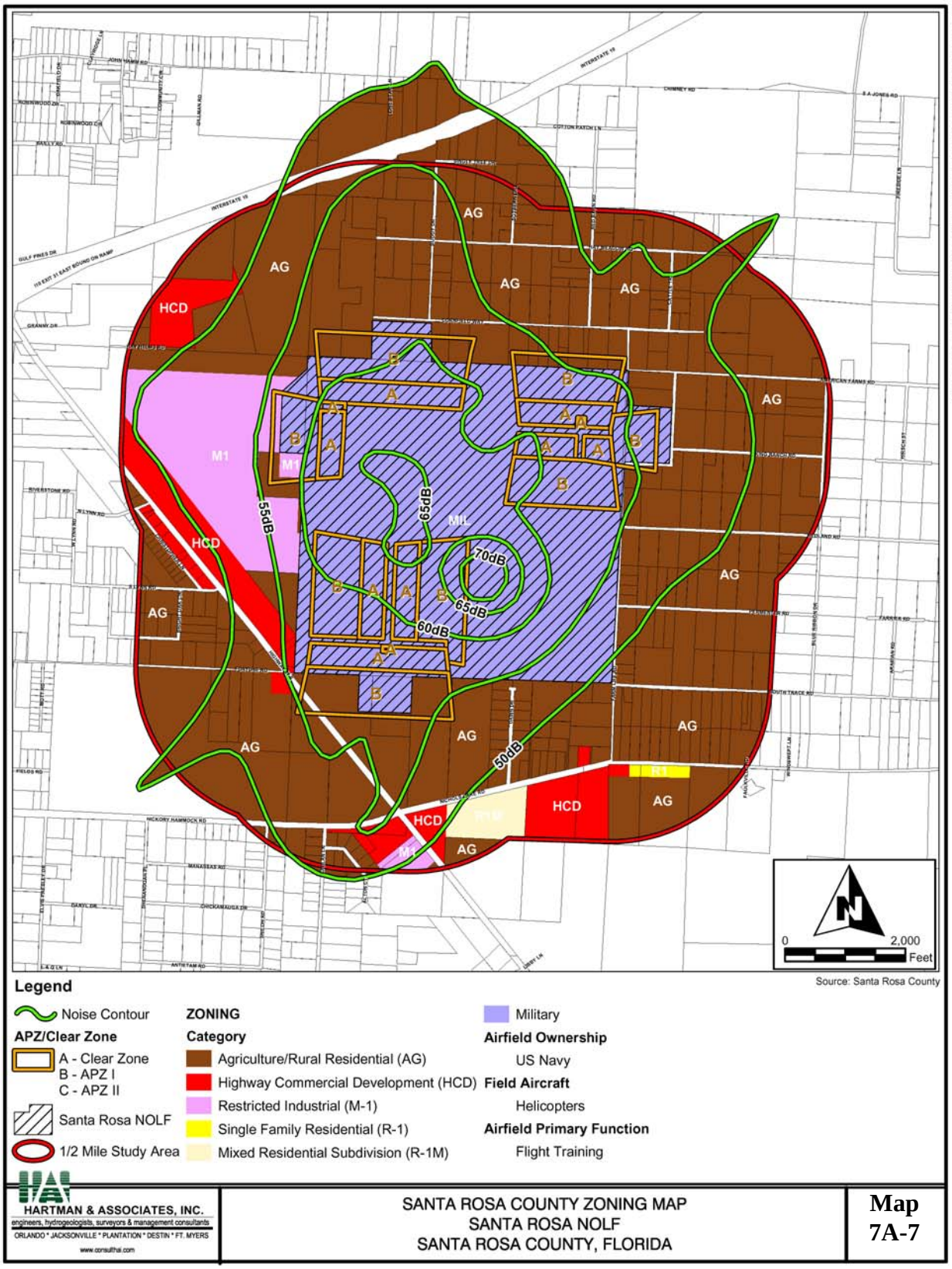
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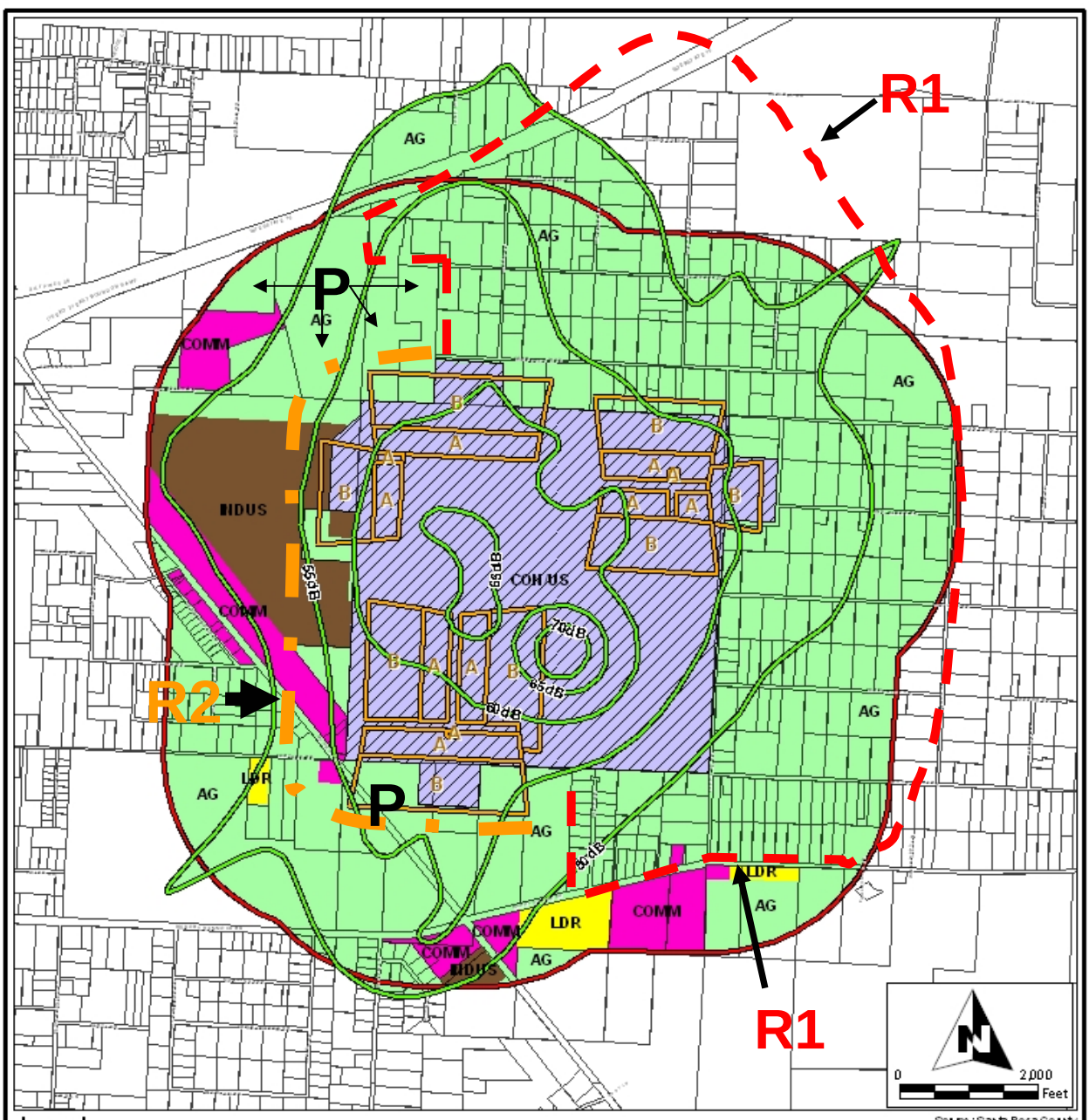
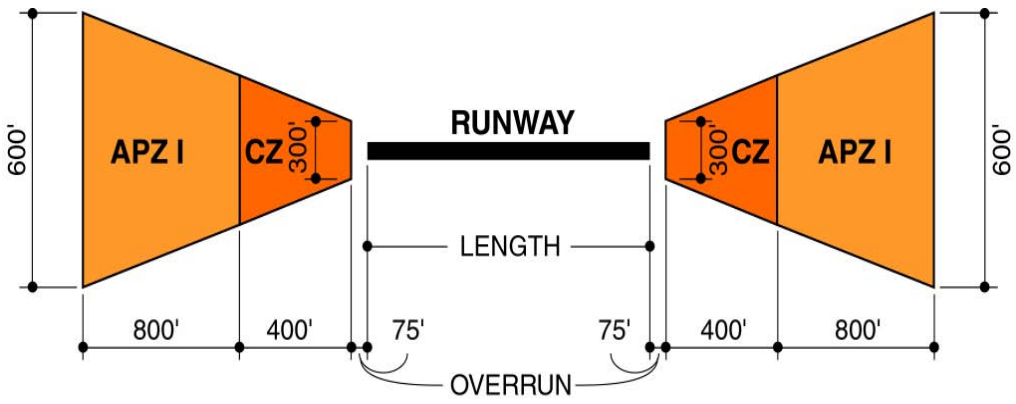
Source: Santa Rosa County
Legend
Noise Contour
APZ/Clear Zone
A - Clear Zone
B - APZ I
C - APZ II
Santa Rosa NOLF
1/2 Mile Study Area
ZONING
Category
Agriculture/Rural Residential (AG)
Highway Commercial Development (HCD)
Restricted Industrial (M-1)
Single Family Residential (R-1)
Mixed Residential Subdivision (R-1M)
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
SANTA ROSA NOLF
SANTA ROSA COUNTY, FLORIDA
Map
7A-7


R1
R2
P
P
AG
COMM
INDUS
CONS/US
LDR
65dB
70dB
0
2,000
Feet
Source: Santa Rosa County
Legend
Noise Contour
APZ
Harold NOLF
1/2 Mile Study Area
FUTURE LAND USE
Category
AGRICULTURE
LOW 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
RECOMMENDATION MAP
NOLF SANTA ROSA
Map
7A-8

APPENDIX 7B

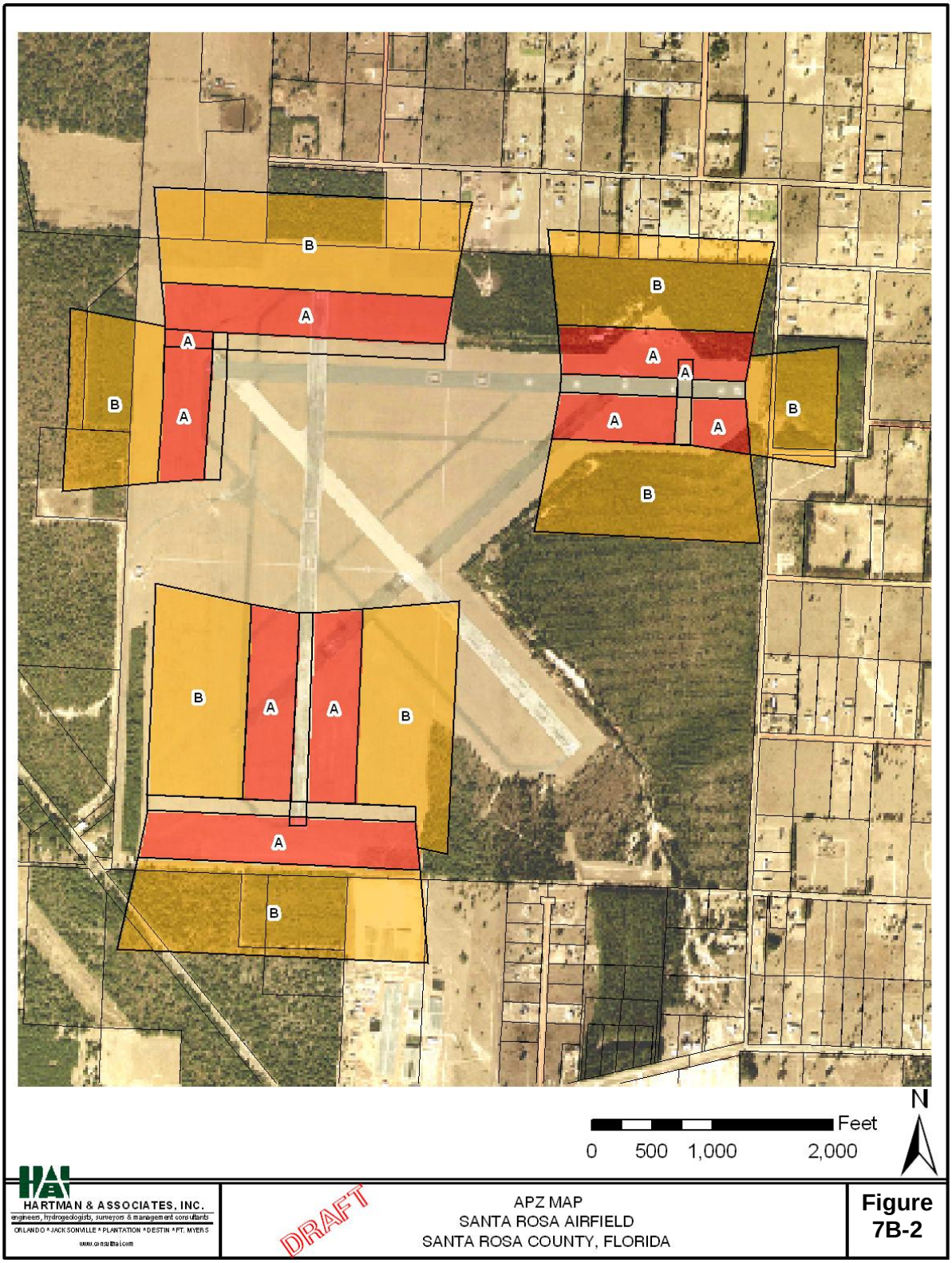
HELICOPTER ACCIDENT POTENTIAL ZONES

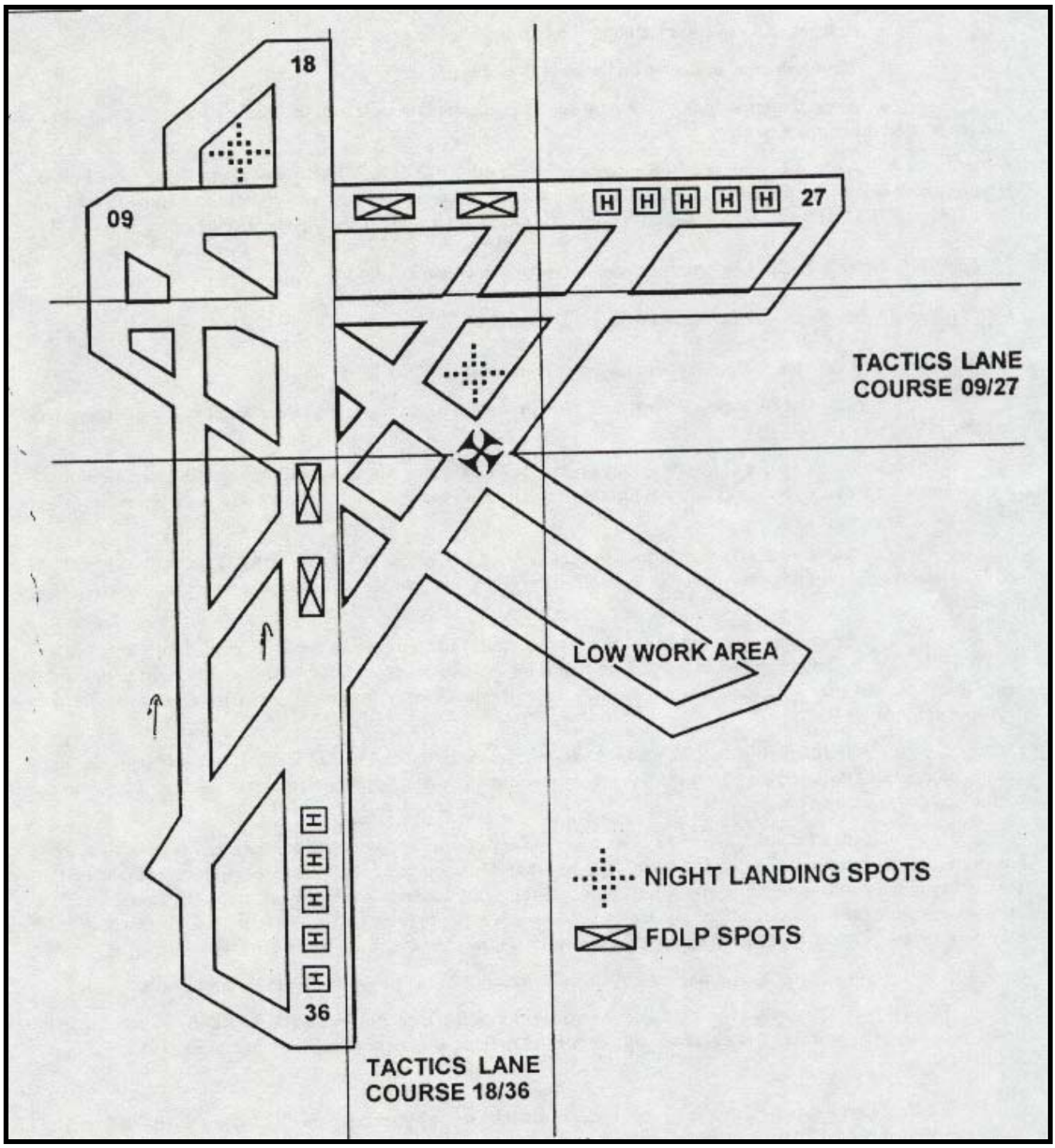


APZ II is normally not applied to helicopter flight path unless local accident history indicated need for additional protection

OPNAVINST 11010.36A

FIGURE 7-1 ACCIDENT POTENTIAL ZONES FOR HELICOPTERS	Figure 7B-1


S:\Projects\SANTAROSA\2039\2000\M apst\SantaRosaAPZ.MXD
B
A
N
Feet
0
500
1,000
2,000
HARTMAN & ASSOCIATES, INC.
engineers, hydrogeologists, surveyors & management consultants
ORLANDO * JACKSONVILLE * PLANTATION * DESTIN * FT. MYERS
www.consultha.com
DRAFT
APZ MAP
SANTA ROSA AIRFIELD
SANTA ROSA COUNTY, FLORIDA
Figure
7B-2



SANTA ROSA OPERATIONS	Figure 7B-3