



Joint Land Use Studies for Military Installations

A Cooperative Effort

SOUTHEAST REGIONAL USER CONFERENCE – MAY 2, 2012

Overview

- § What is a Joint Land Use Study?
- § Primary Concerns?
- § JLUS Process
- § GIS Role
- § Cooperation and Public Involvement
- § Lessons Learned



What is a Joint Land Use Study?

- § A cooperative land use planning effort between military installations and the surrounding communities
- § It promotes compatible community growth while supporting military training and operational missions



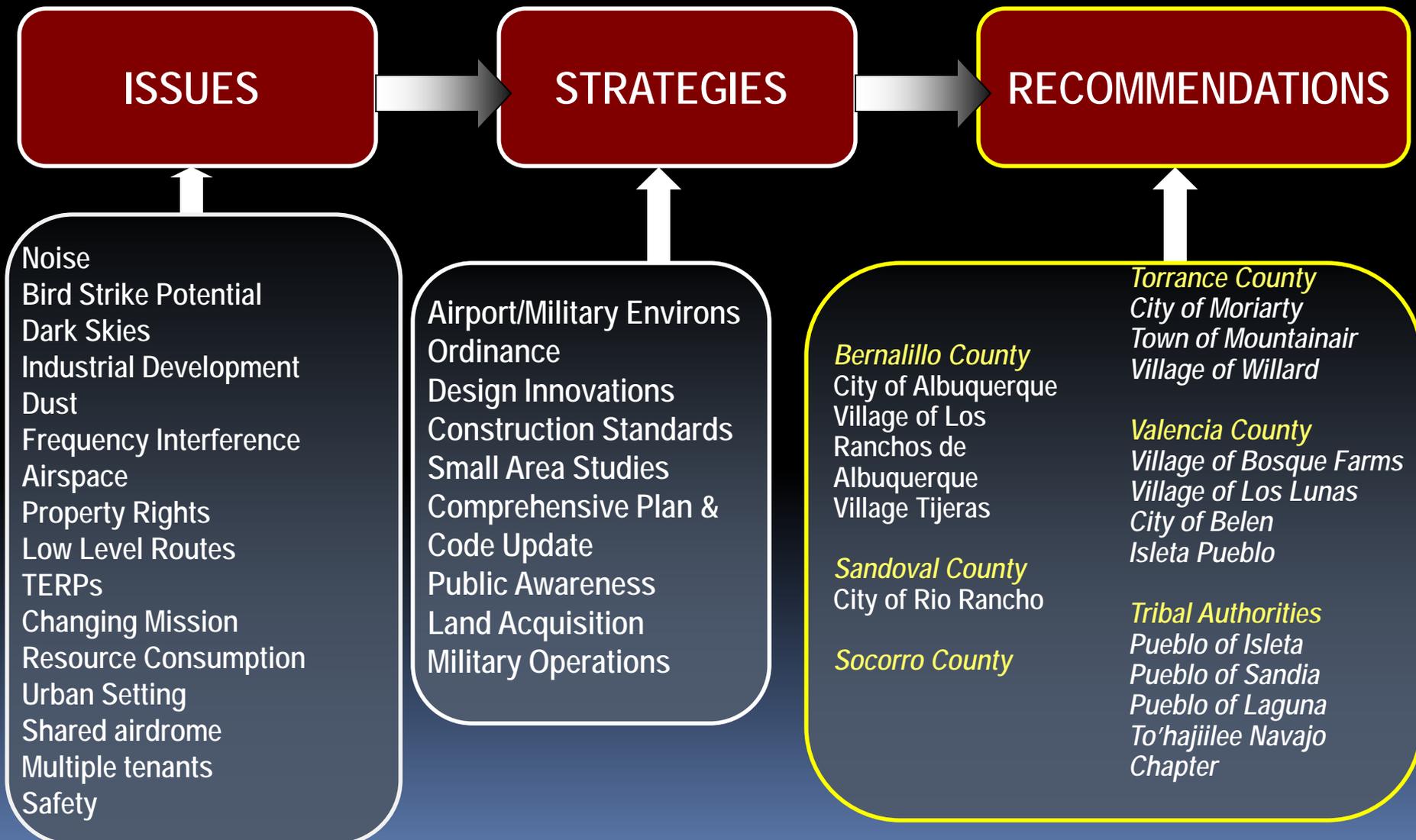
Primary Concerns

- § Protect the health, safety, and welfare, of the local community with regard to military operations
- § To address encroachment that is threatening or may threaten the mission and viability of an installation

Training Incidents

- § Dec 12, 2008 – F/A 18 crashed in a suburban area near Miramar, CA; 4 deaths, 3 homes destroyed
- § April 16, 2011 – F/A 18 crashed in agricultural area just west of NAS Lemoore, CA; 2 Officers onboard died
- § April 9, 2012 – F/A 18 crash into a Virginia Beach ,VA apartment complex after taking off from NAS Oceana;No Fatalities

JLUS Process – *Simplified Kirtland AFB*



JLUS Jurisdictions

- § Eglin AFB JLUS, Florida – (Tri-County Council of Governments) 14 Jurisdictions
- § NAS LeMoore, California – (Kings County Assoc. of Governments) 4 Jurisdictions
- § Kirtland AFB, New Mexico– (MRCOG) 20+ Jurisdictions
- § Avon Park AFR, Florida– (CFRPC) 7 Jurisdictions

What is the GIS Role in JLUS?

- § **Data Collection** of all military and jurisdictional datasets
- § **Analyze** the relationships between data using geo-processing tools in ArcGIS
- § **Organize** all input data, document geoprocessing, input results into logical format to be used by planners
- § **Identify** land use issues that may impact military operations and vice-versa
- § **Illustrate** results into simple, effective maps
- § **Report** assist planners in generated reports

GIS Assets?

§ Software

§ ArcInfo, ArcEditor, Excel, Adobe Acrobat Pro, Photoshop

§ Geoprocessing Tools

§ Union, Append, Spatial Join, 3D Analyst Dissolve

§ Tools

§ X tools, 3D Analyst, Georeferencing, Excel Pivot Tables

Important GIS Considerations

- § Data Collection , Inventory, and Mapping – Storage, Organization, Georeferencing, and Cartography
 - § Large amounts of geospatial data across large geographic areas and political jurisdictions
- § Multiple Jurisdictions and Data Creators – Storage and Data Organization
- § 3 Dimensions of Data – 3D Analyst Extension
- § Analysis– Geoprocessing, tools, and documentation
- § KEEP IT SIMPLE

Data Collection

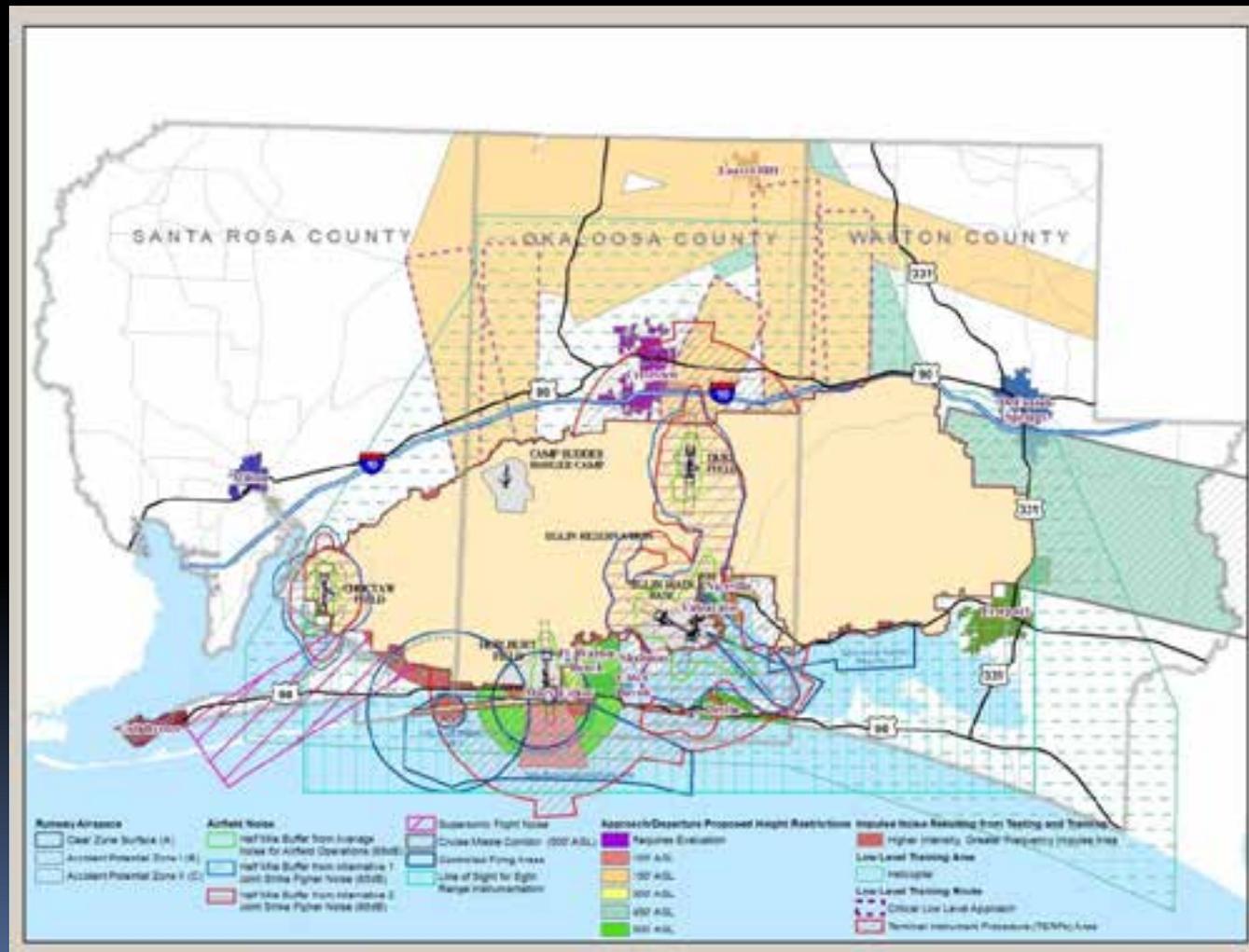
Military Operations Data

- § Clear Zones
- § Accident Potential Zones
- § Airfield Noise
- § Supersonic Flight Noise
- § Impulse Areas and Associated Noise
- § Ordnance Delivery Corridors (Cruise Missiles)
- § Controlled Fire Areas
- § Range Instrumentation
- § Low Level Training Areas (Helicopter)
- § Low Level Overflight (Aircraft)
- § Terminal Instrument Procedure Areas
- § Communications

Jurisdictional Data

- § Zoning Designations and Definitions
- § Future Land Use Designations and Definitions
- § Proposed Developments
- § Building Codes
- § Conservation Areas/Wetlands
- § Capital Improvement Programs
- § Agricultural Areas and Resources
- § Species Habitats
- § Public/Private Lighting
- § Airfield Locations (Public and Private)
- § FAA Regulations
- § Emergency Care Providers
- § Landfill Locations
- § Marina Locations and Boating Routes
- § Land Use/Land Cover

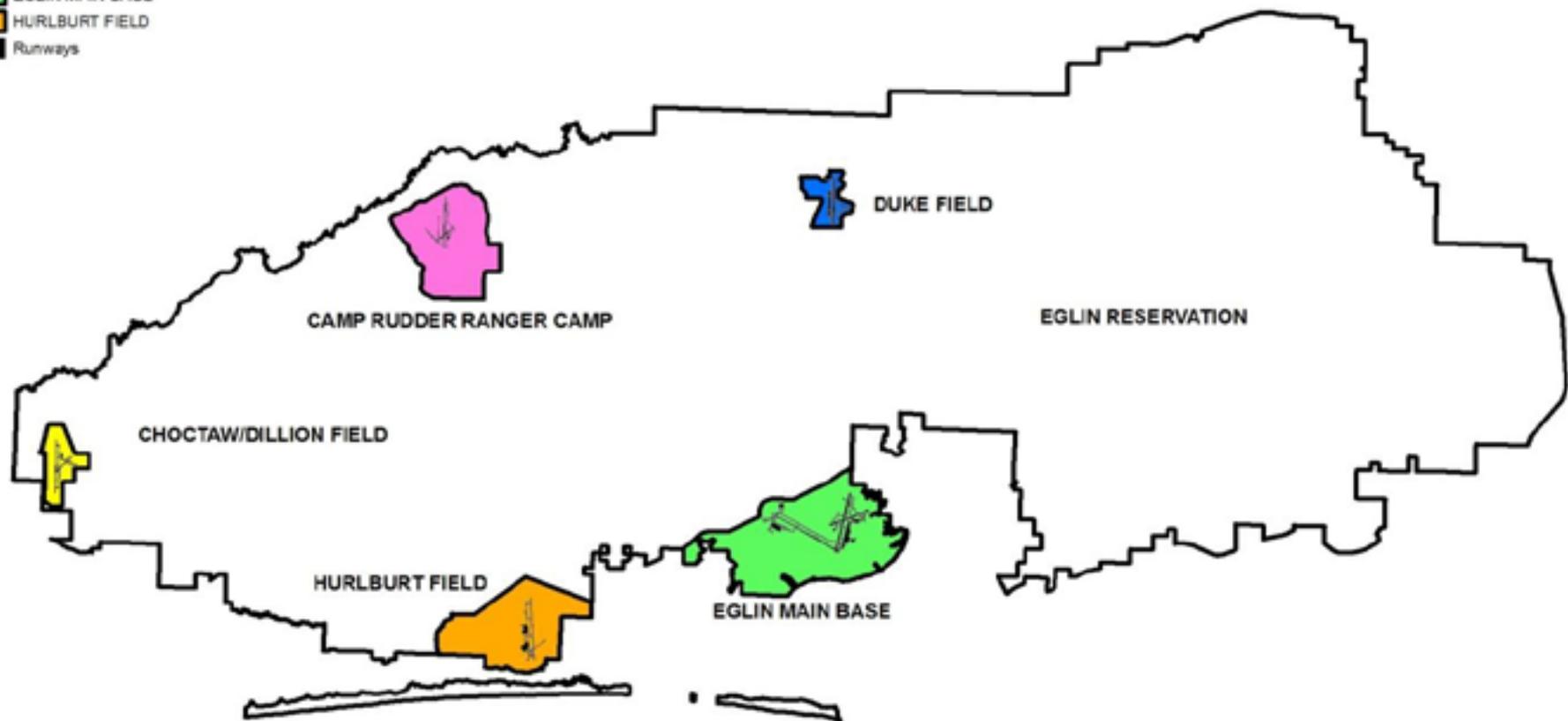
Analysis – Eglin AFB



Legend

EGLIN Installations

-  EGLIN RESERVATION
-  CAMP RUDDER RANGER CAMP
-  CHOCTAW/DILLION FIELD
-  DUKE FIELD
-  EGLIN MAIN BASE
-  HURLBURT FIELD
-  Runways



Legend

EGLIN Installations

EGLIN RESERVATION

CAMP RUDDER RANGER CAMP

CHOCTAW/DILLION FIELD

DUKE FIELD

EGLIN MAIN BASE

HURLBURT FIELD

Runways

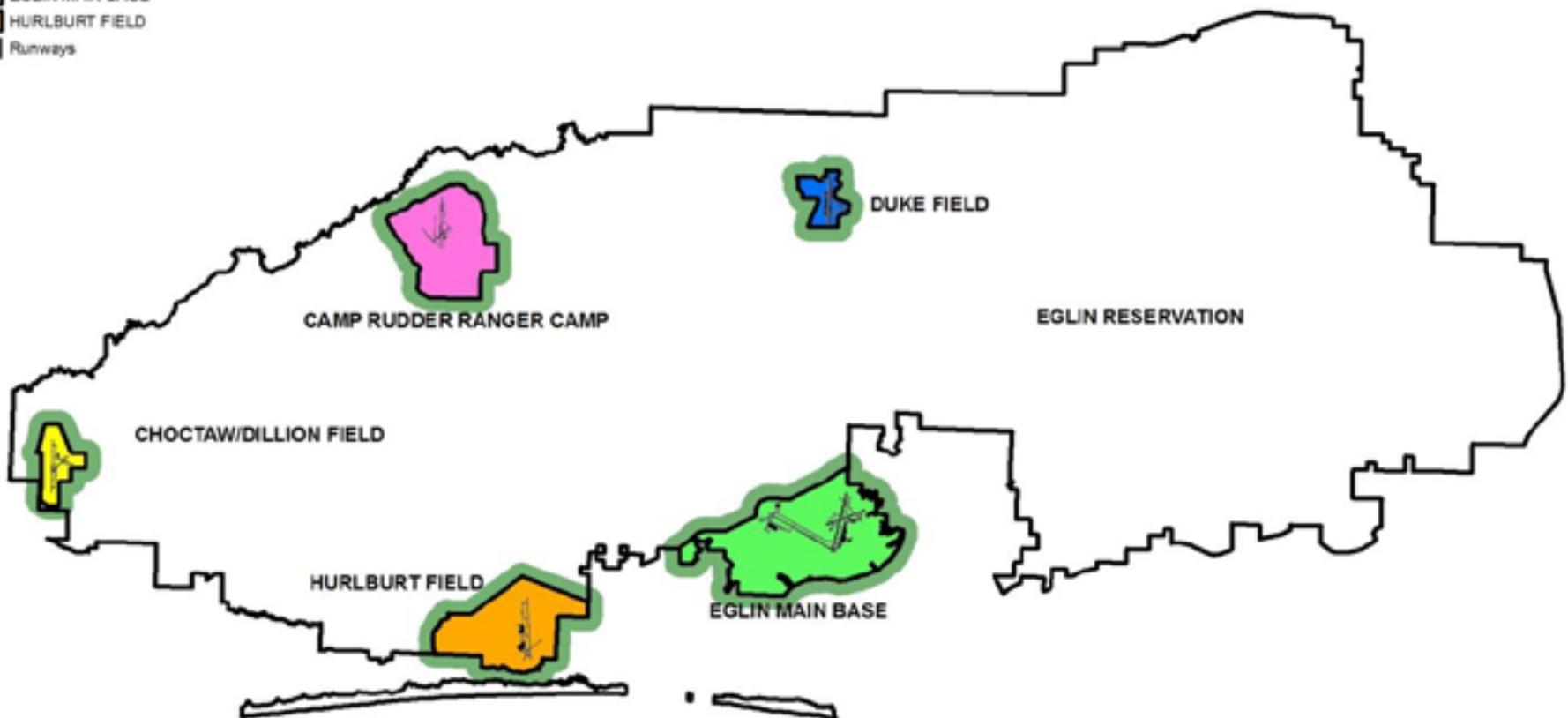
Choctaw Impact Area (0.5 Mile)

Camp Rudder Impact Area (0.5 Mile)

Duke Impact Area (0.5 Mile)

Eglin MB Impact Area (0.5 Mile)

Hurlburt Impact Area (0.5 Mile)



Legend

EGLIN Installations

EGLIN RESERVATION

CAMP RUDDER RANGER CAMP

CHOCTAW/DILLION FIELD

DUKE FIELD

EGLIN MAIN BASE

HURLBURT FIELD

Runways

Choctaw Impact Area (0.5 Mile)

Camp Rudder Impact Area (0.5 Mile)

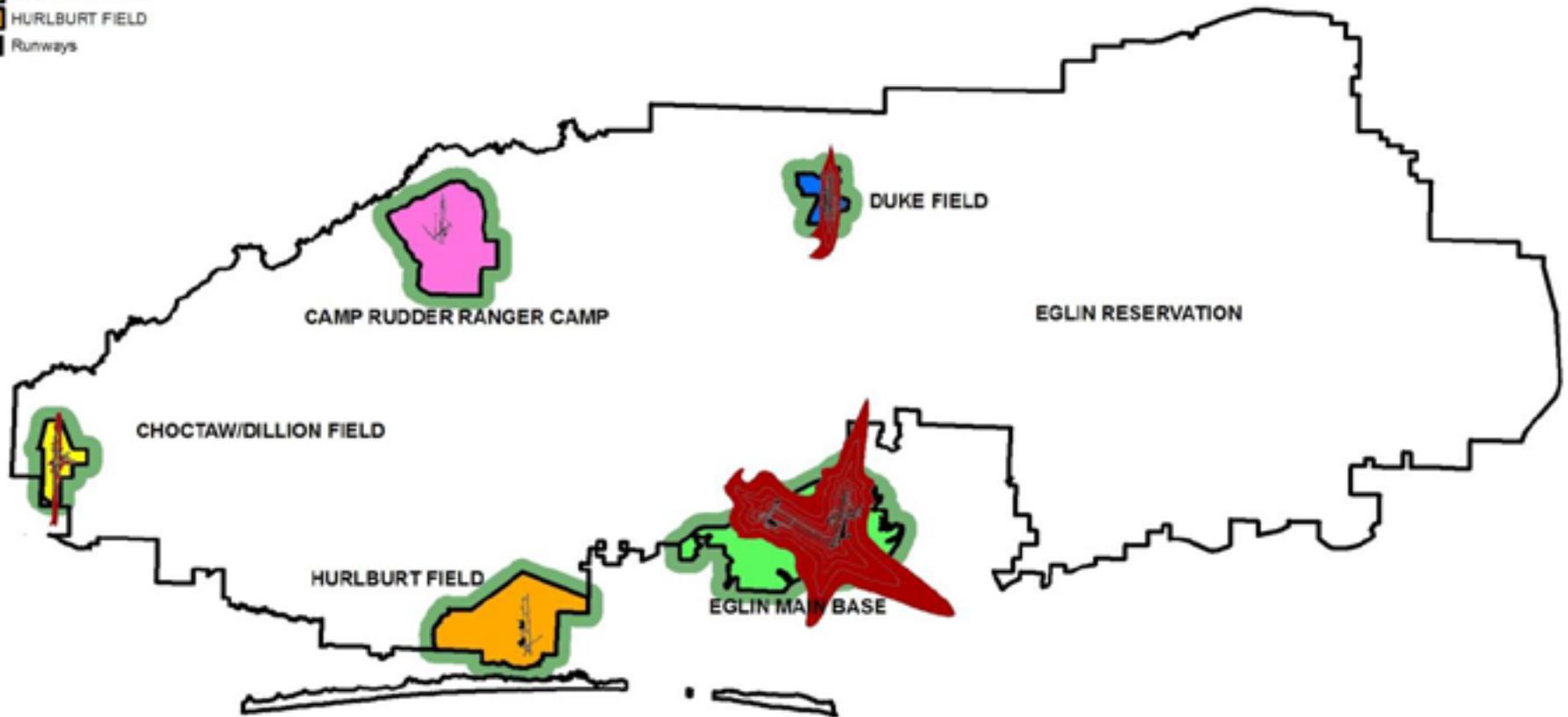
Duke Impact Area (0.5 Mile)

Eglin MB Impact Area (0.5 Mile)

Hurlburt Impact Area (0.5 Mile)

EGLIN-DUKE Noise

Choctaw Noise



Legend

EGLIN Installations

EGLIN RESERVATION

CAMP RUDDER RANGER CAMP

CHOCTAW/DILLION FIELD

DUKE FIELD

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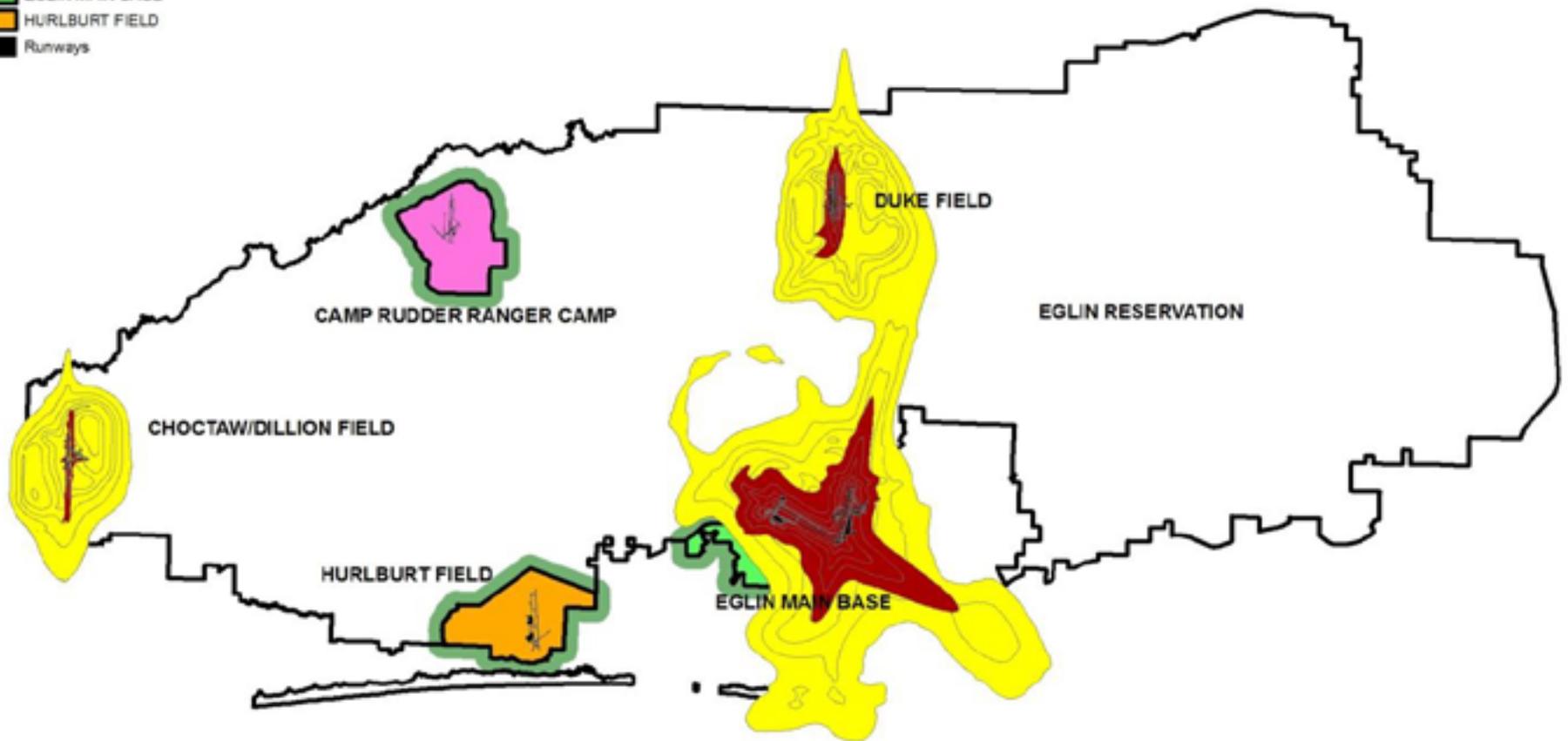
Hurlburt Impact Area (0.5 Mile)

EGLIN-DUKE Noise

Choctaw Noise

Choctaw F-35 Noise Alt1

Eglin-Duke F-35 Noise Alt1



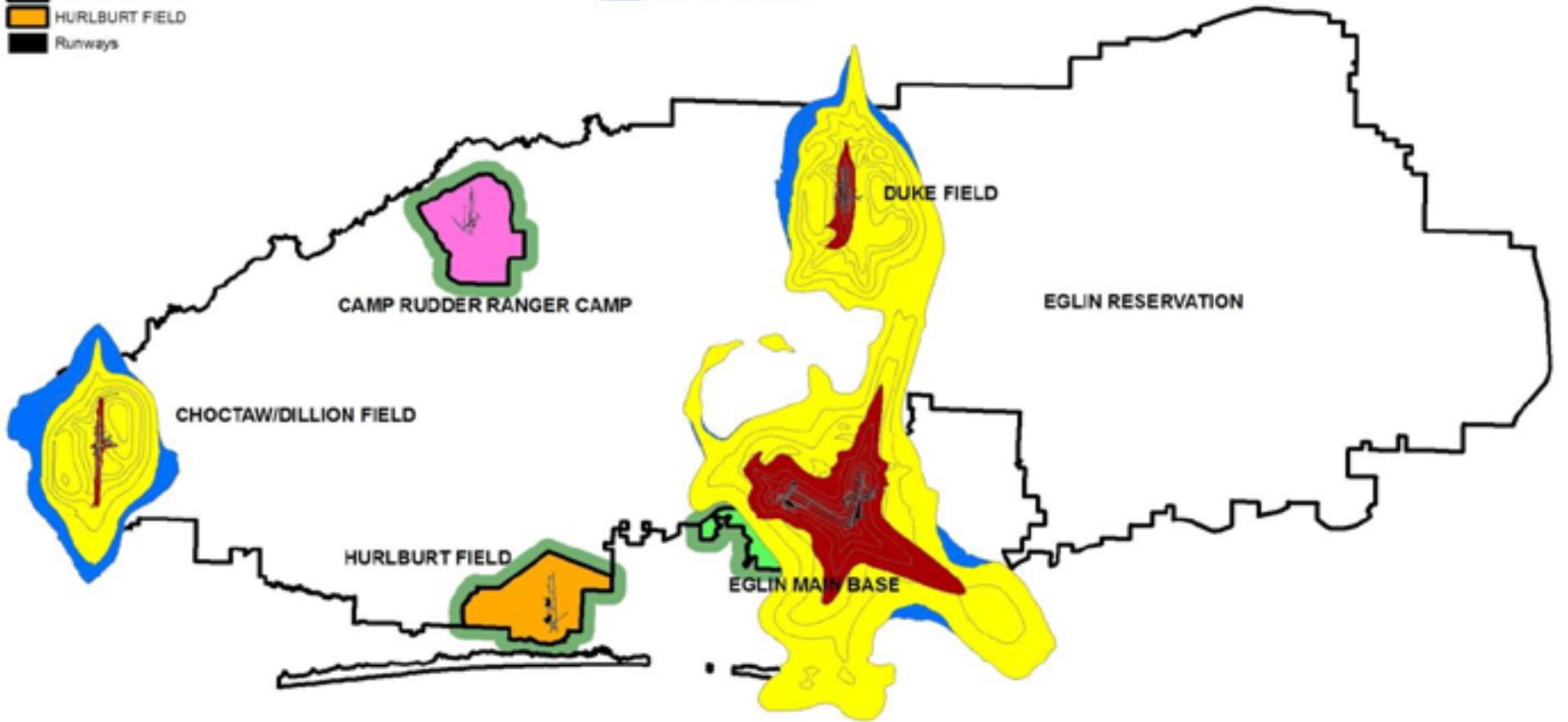
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-  Runways

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-  EGLIN-DUKE Noise
-  Choctaw Noise
-  Choctaw F-35 Noise Alt1
-  Eglin-Duke F-35 Noise Alt1
-  Eglin-Duke F-35 Noise Alt2
-  Choctaw F-35 Noise Alt2



Legend

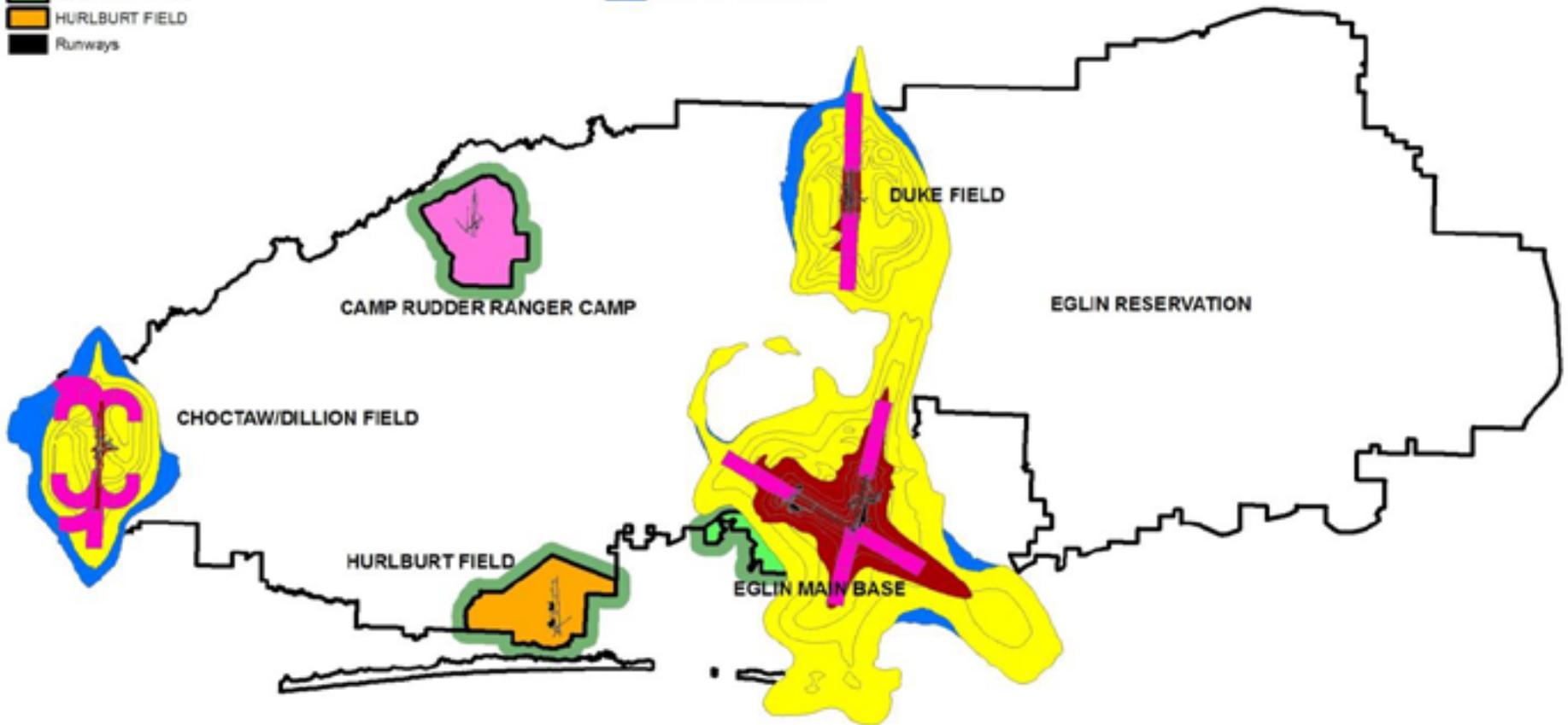
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- Eglin-Duke F-35 Noise Alt1
- Eglin-Duke F-35 Noise Alt2
- Choctaw F-35 Noise Alt2

- Choctaw APZ
- Eglin - Duke APZ



Legend

EGLIN Installations

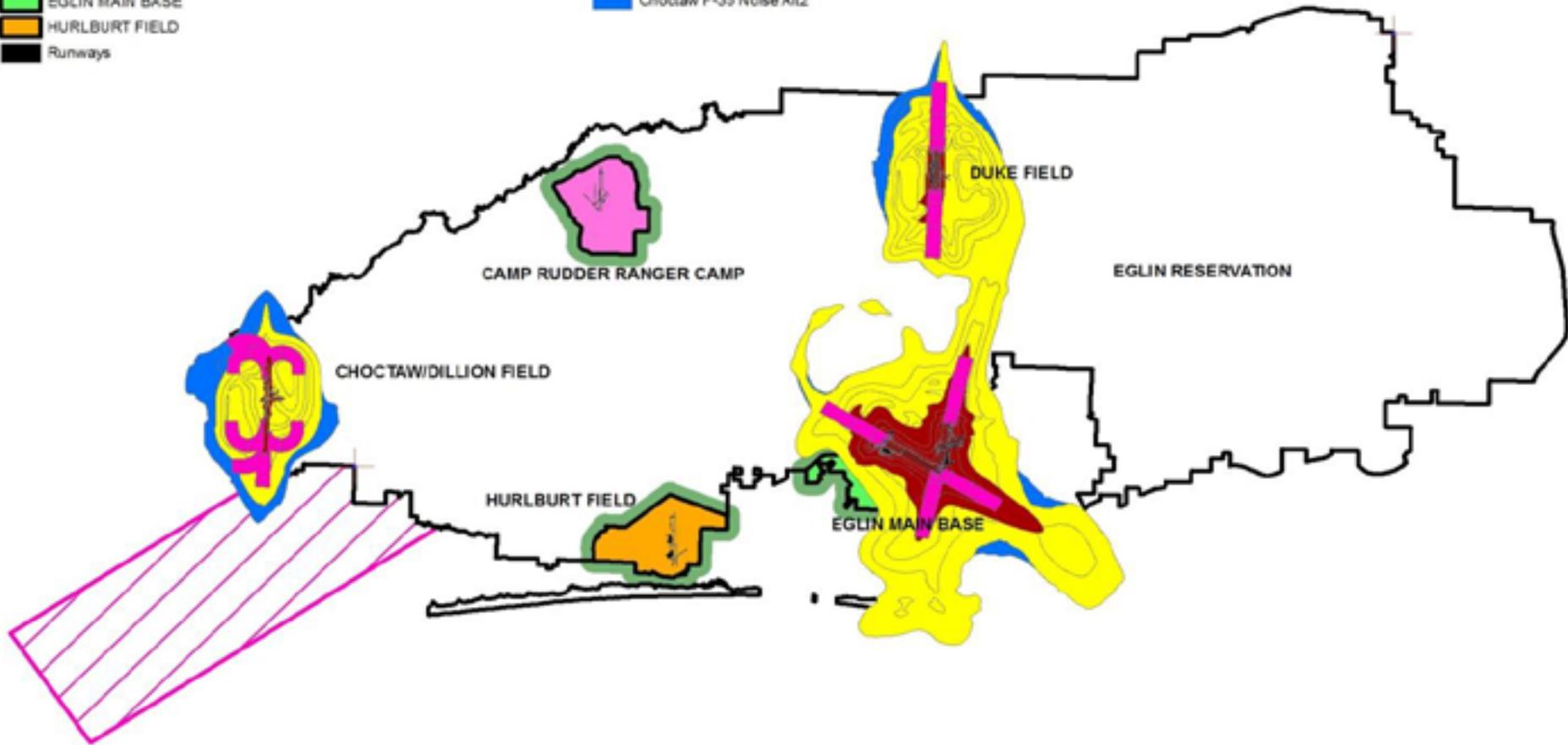
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- Choctaw APZ
- Eglin - Duke APZ

- B-70 Supersonic Noise



Legend

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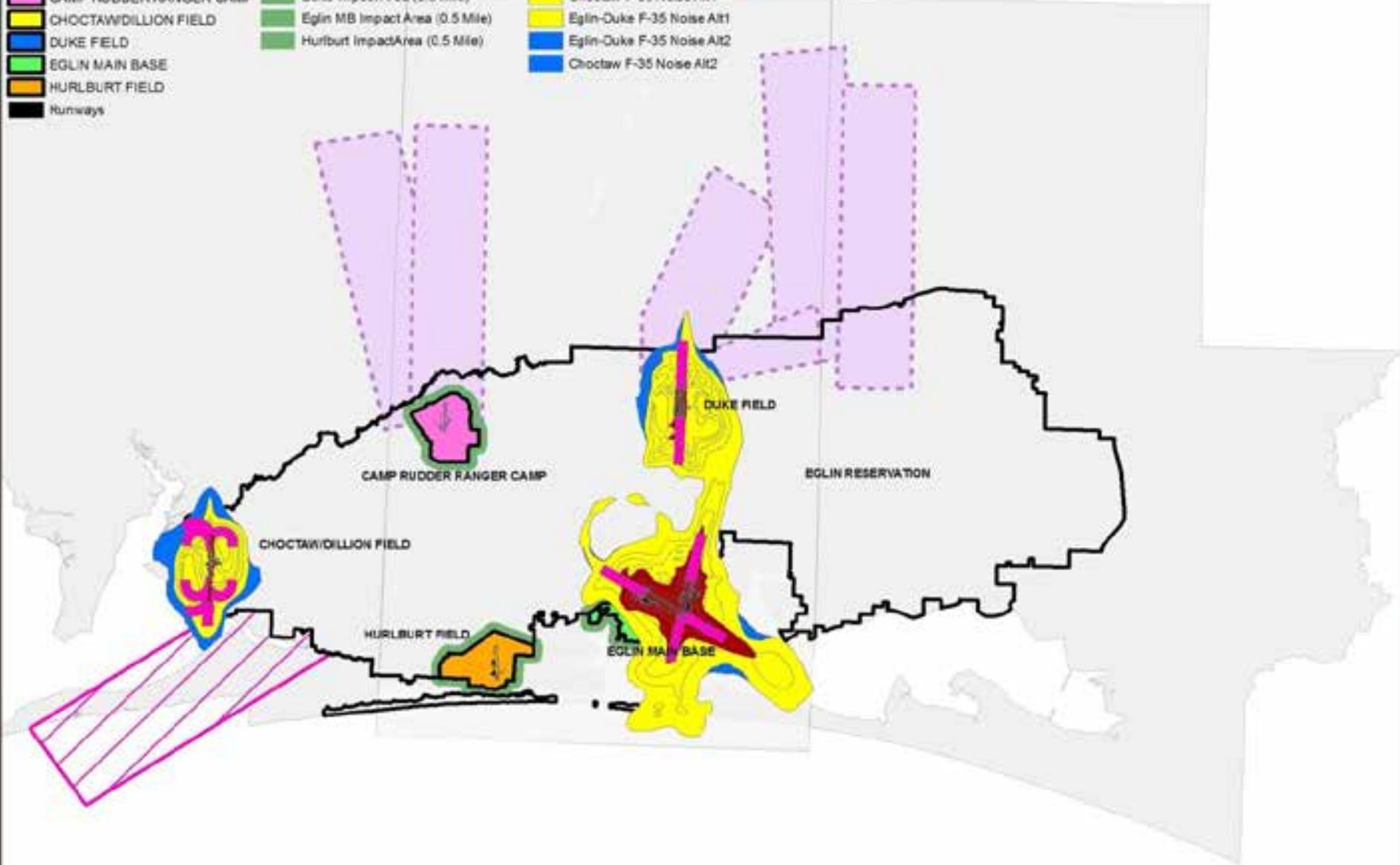
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- Choctaw APZ
- Eglin - Duke APZ

- B-70 Supersonic Noise

- Critical Low Level Approach



Legend

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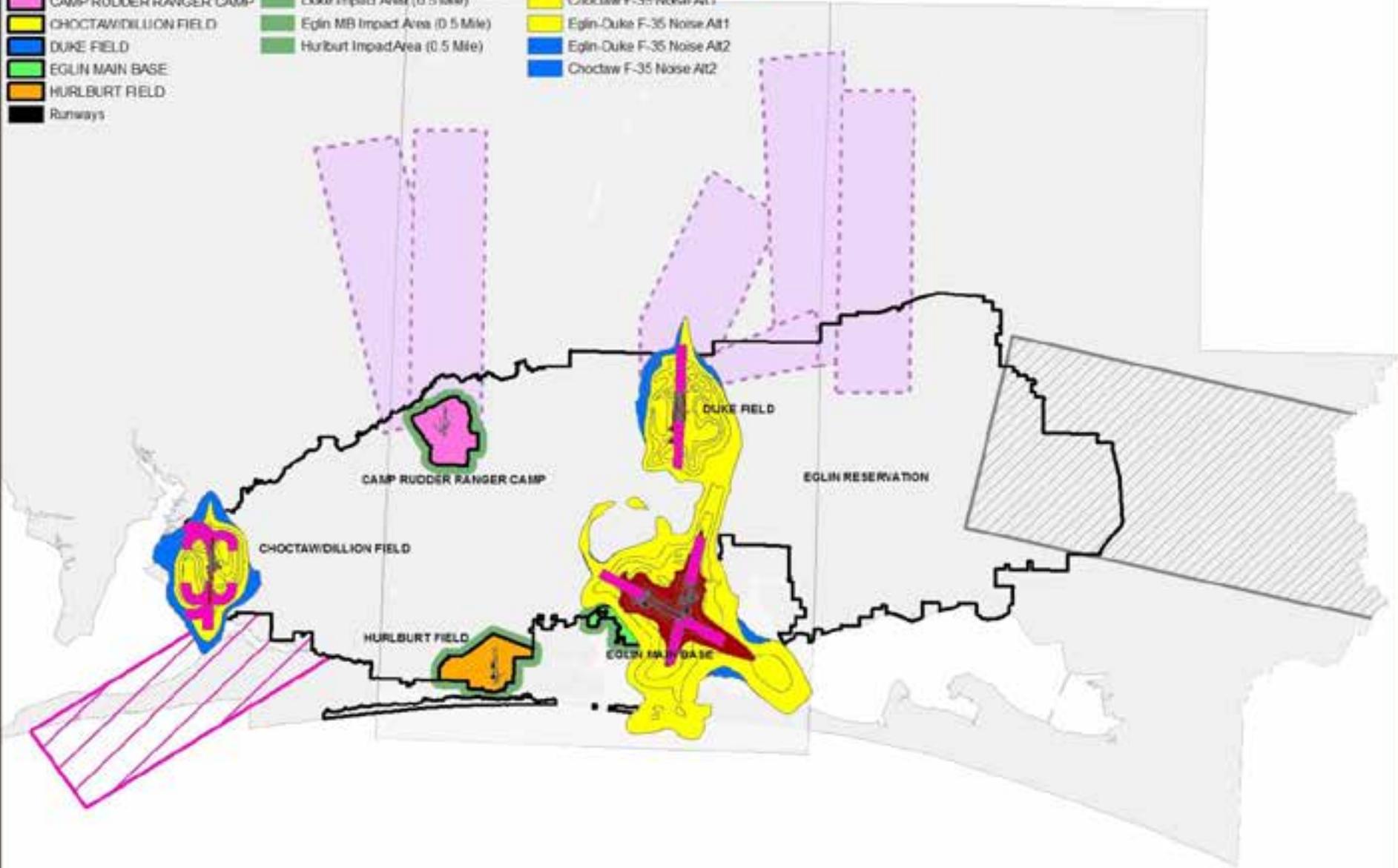
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- Choctaw APZ
- Eglin - Duke APZ

- B-70 Supersonic Noise

- Critical Low Level Approach
- Cruise Missile Low Level



Legend

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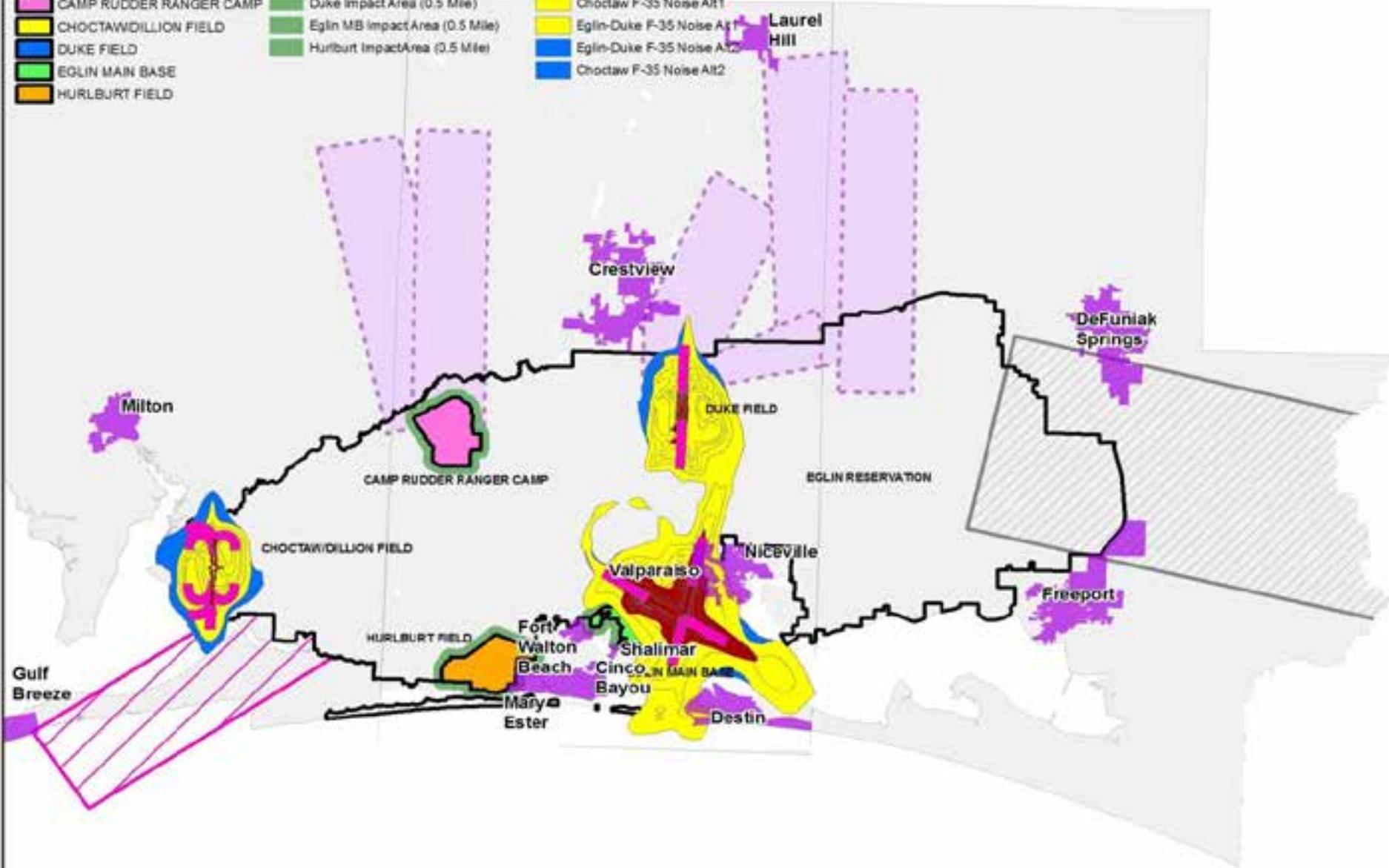
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-  Choctaw APZ
-  Eglin - Duke APZ

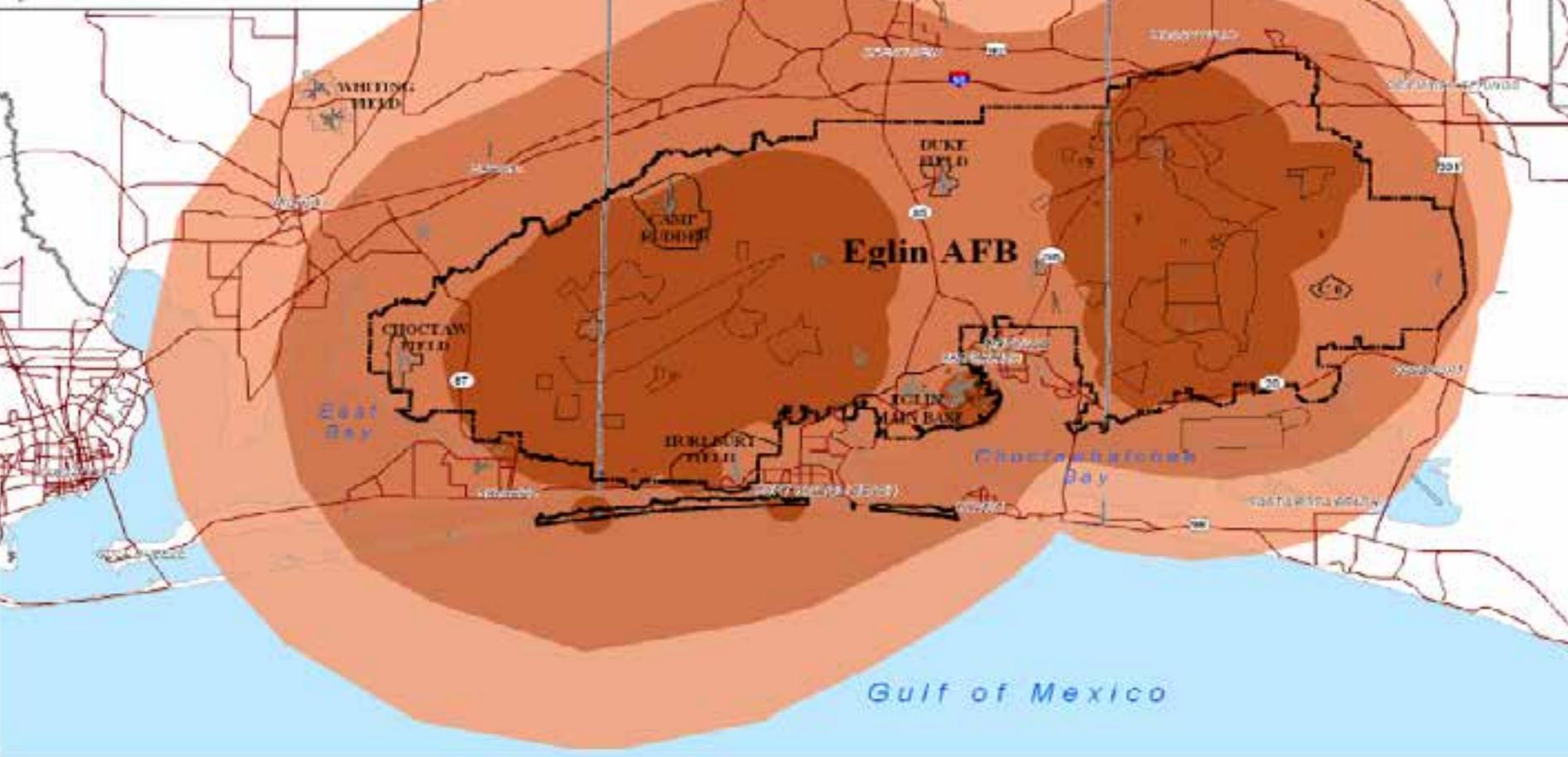
-  B-70 Supersonic Noise

-  Critical Low Level Approach
-  Cruise Missile Low Level

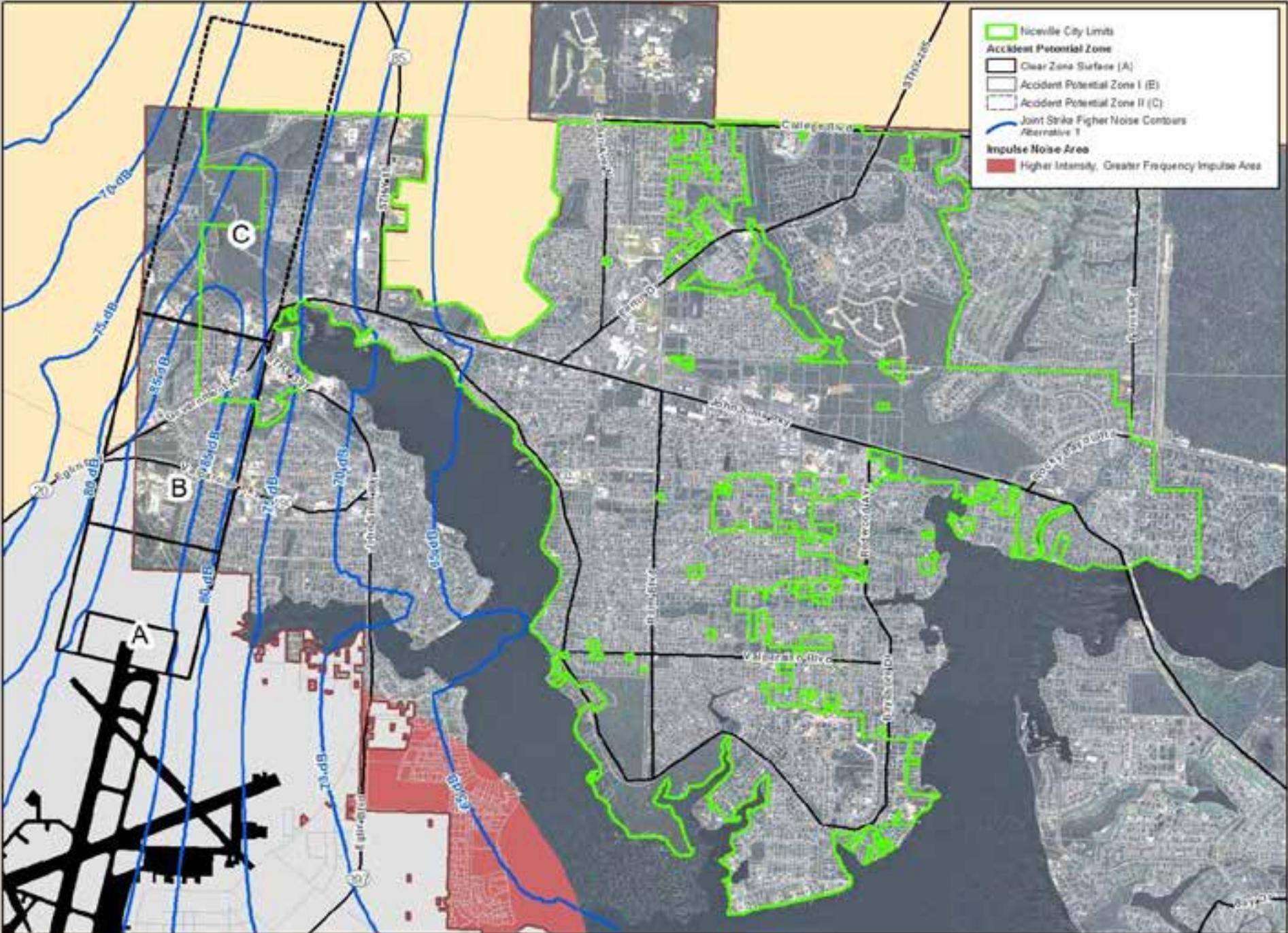


Impulse Noise Area

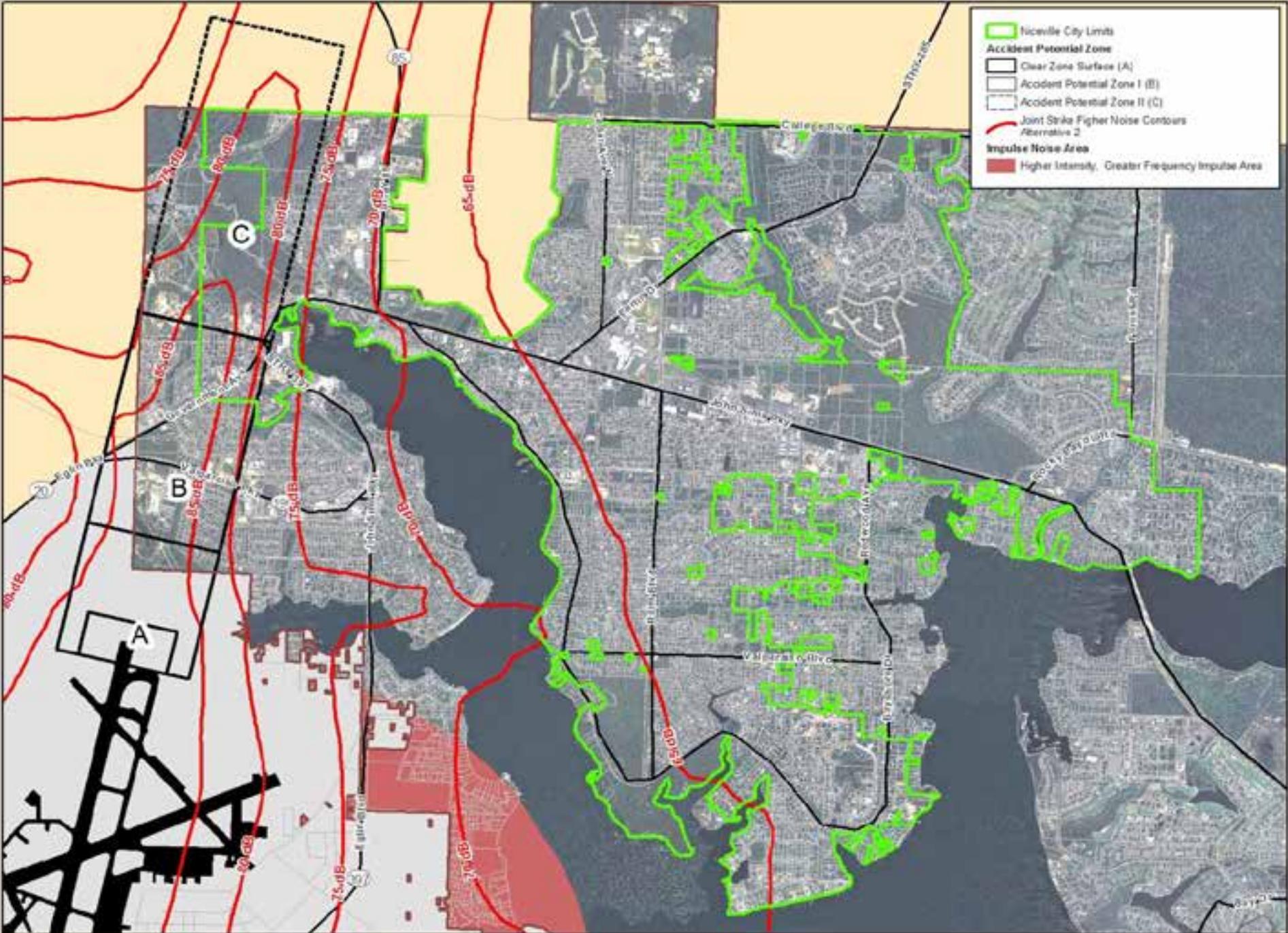
- Higher Intensity, Greater Frequency Impulse Area
- Moderate Intensity, Less Frequent Impulse Area
- Low Intensity, Infrequent Impulse Area

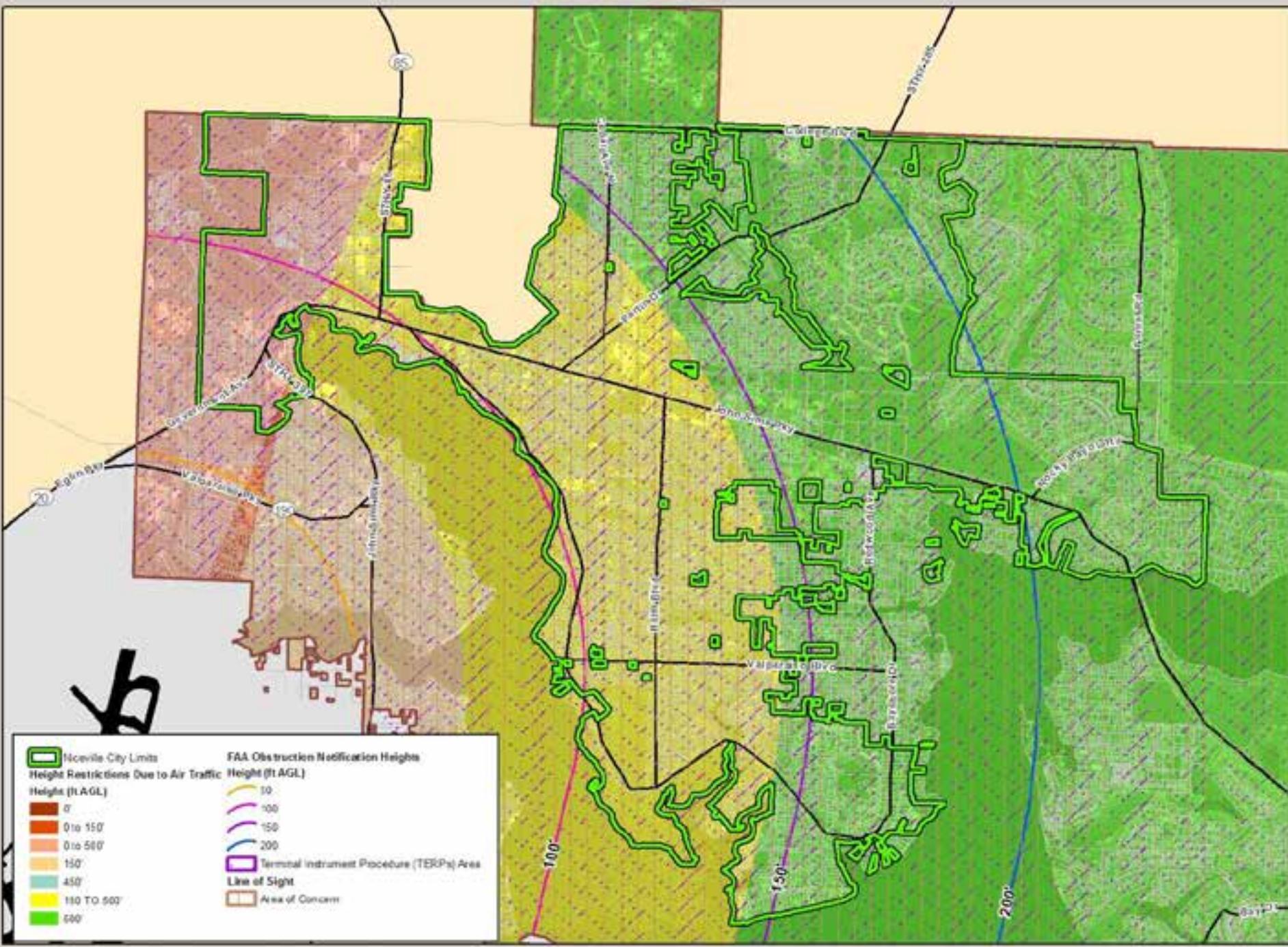


□ Niceville City Limits
Accident Potential Zone
 Clear Zone Surface (A)
 Accident Potential Zone I (B)
 Accident Potential Zone II (C)
— Joint Strike Fighter Noise Contours
 Alternative 1
Impulse Noise Area
 Higher Intensity, Greater Frequency Impulse Area



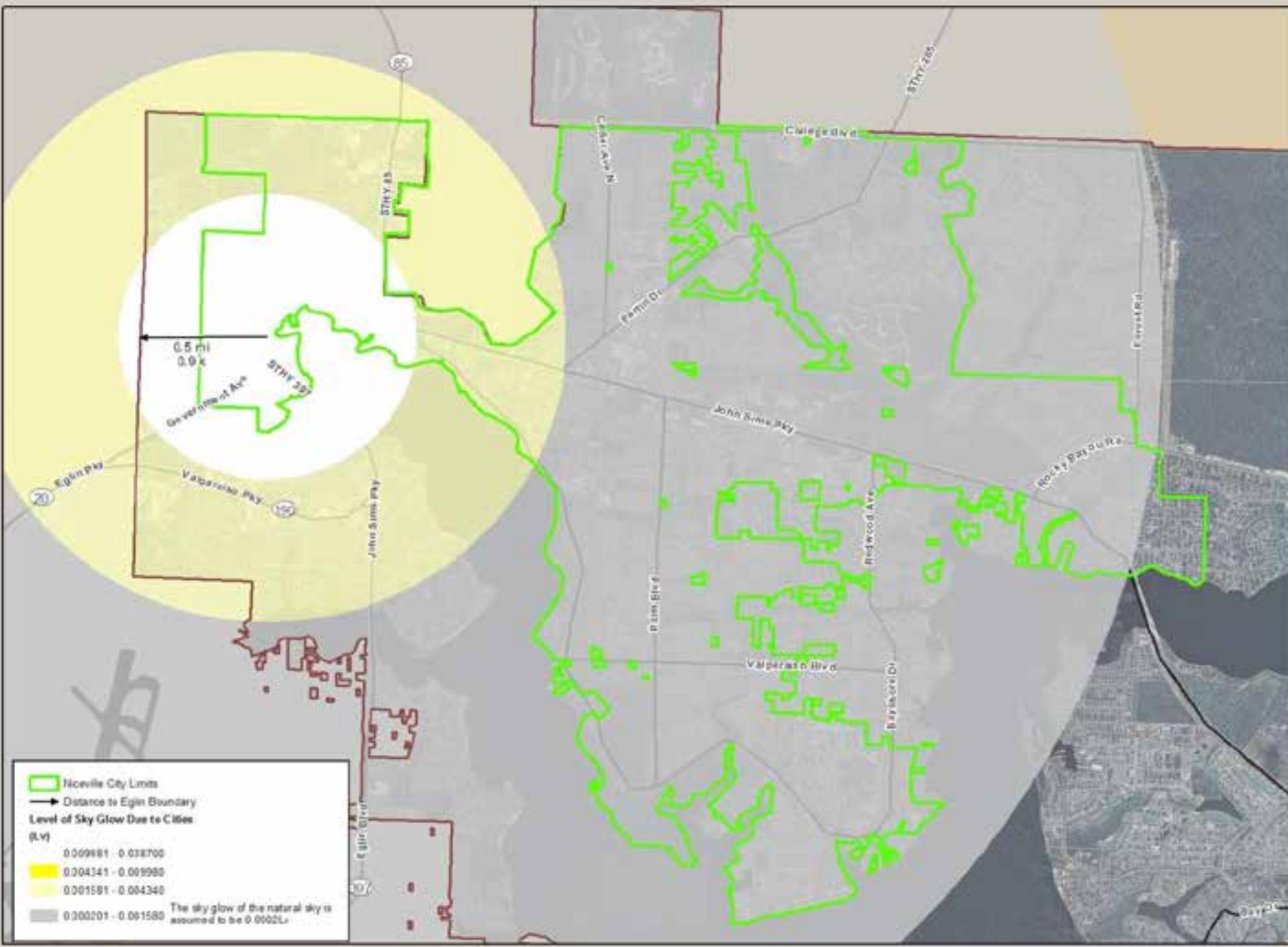
Niceville City Limits
 Accident Potential Zone
 Clear Zone Surface (A)
 Accident Potential Zone I (B)
 Accident Potential Zone II (C)
 Joint Strike Fighter Noise Contours
 Alternative 2
Impulse Noise Area
 Higher Intensity, Greater Frequency Impulse Area





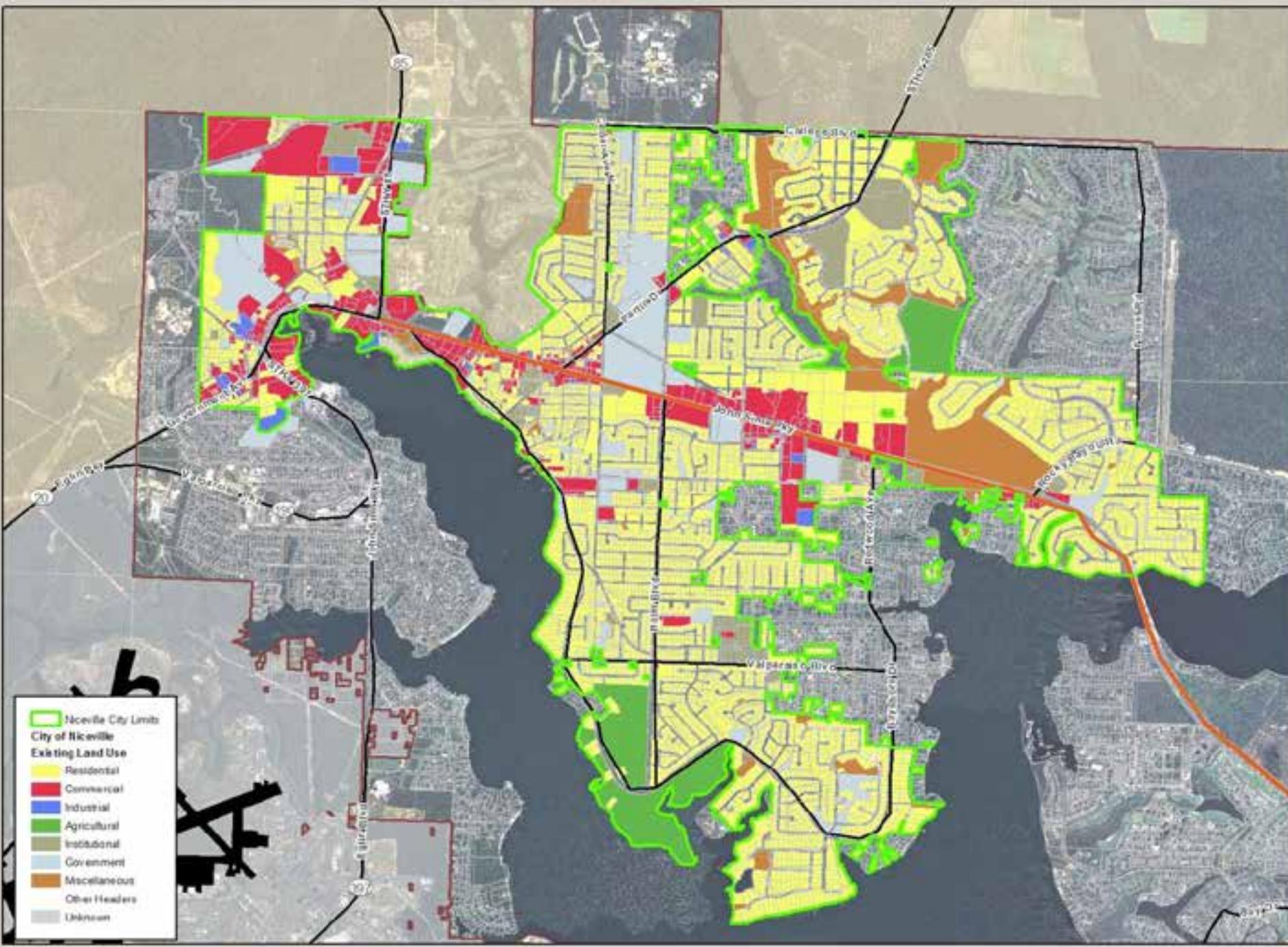
Height Restrictions Due to Air Traffic		FAA Obstruction Notification Heights	
Height (ft AGL)		Height (ft AGL)	
	0'		10'
	0 to 150'		100'
	0 to 500'		150'
	150'		200'
	450'		Terminal Instrument Procedure (TERPs) Area
	110 TO 500'		Line of Sight Area of Concern
	600'		

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□ Niceville City Limits
→ Distance to Egin Boundary
Level of Sky Glow Due to Cities (LV)
 0.009881 - 0.038700
 0.004341 - 0.009990
 0.001581 - 0.004340
 0.000201 - 0.001580

The sky glow of the natural sky is assumed to be 0.0002LV.

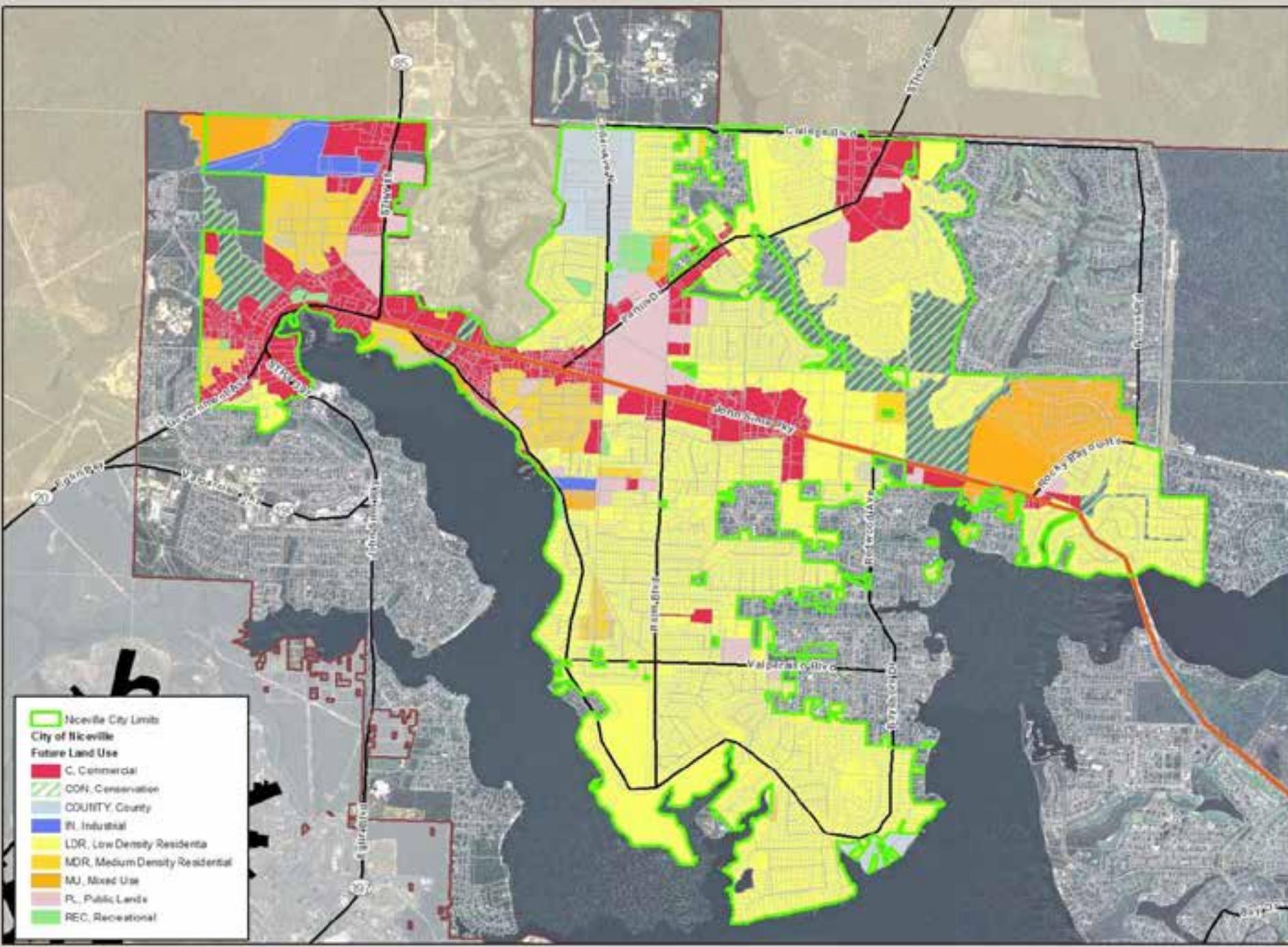


Niveville City Limits

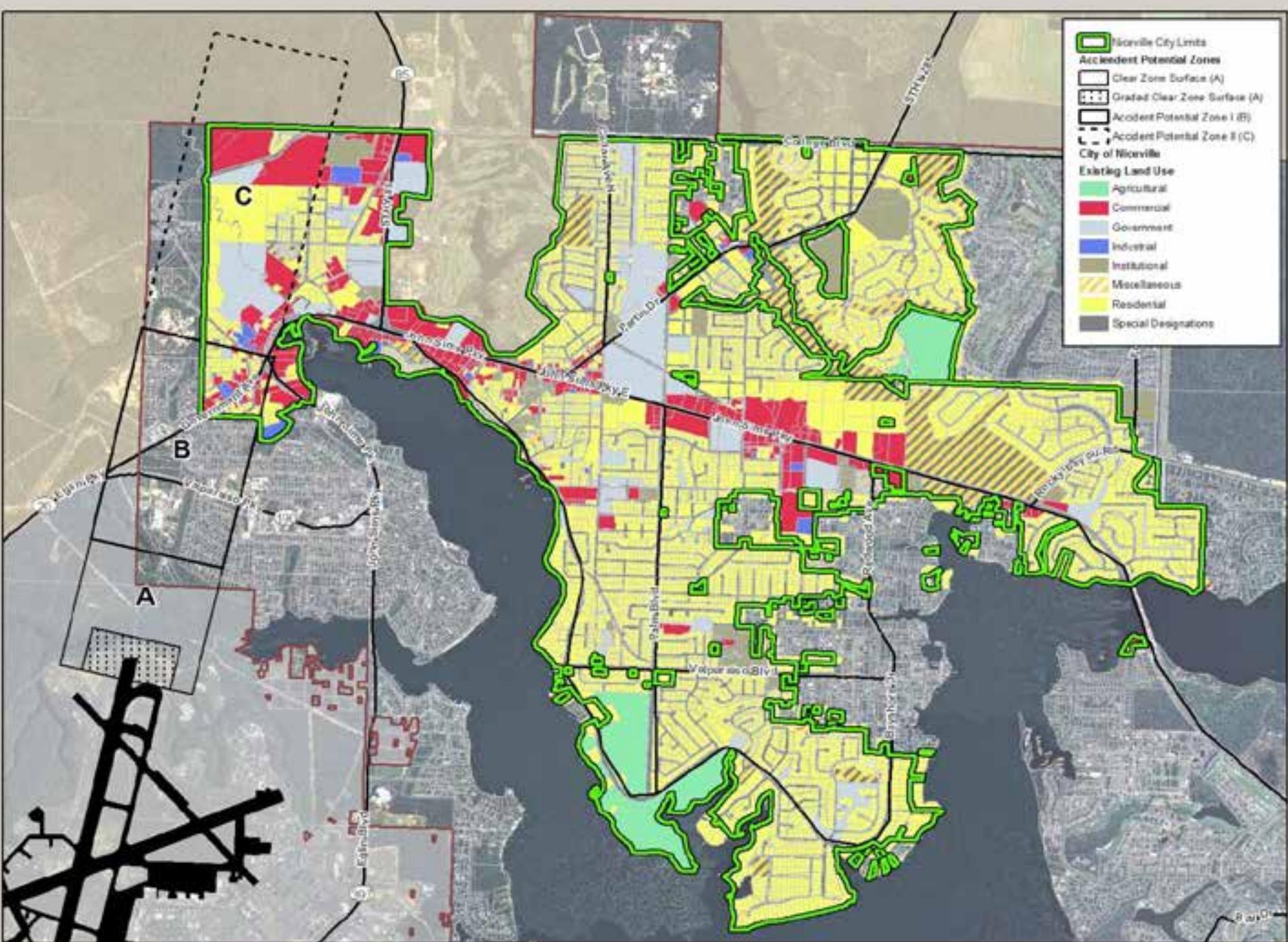
City of Niveville

Existing Land Use

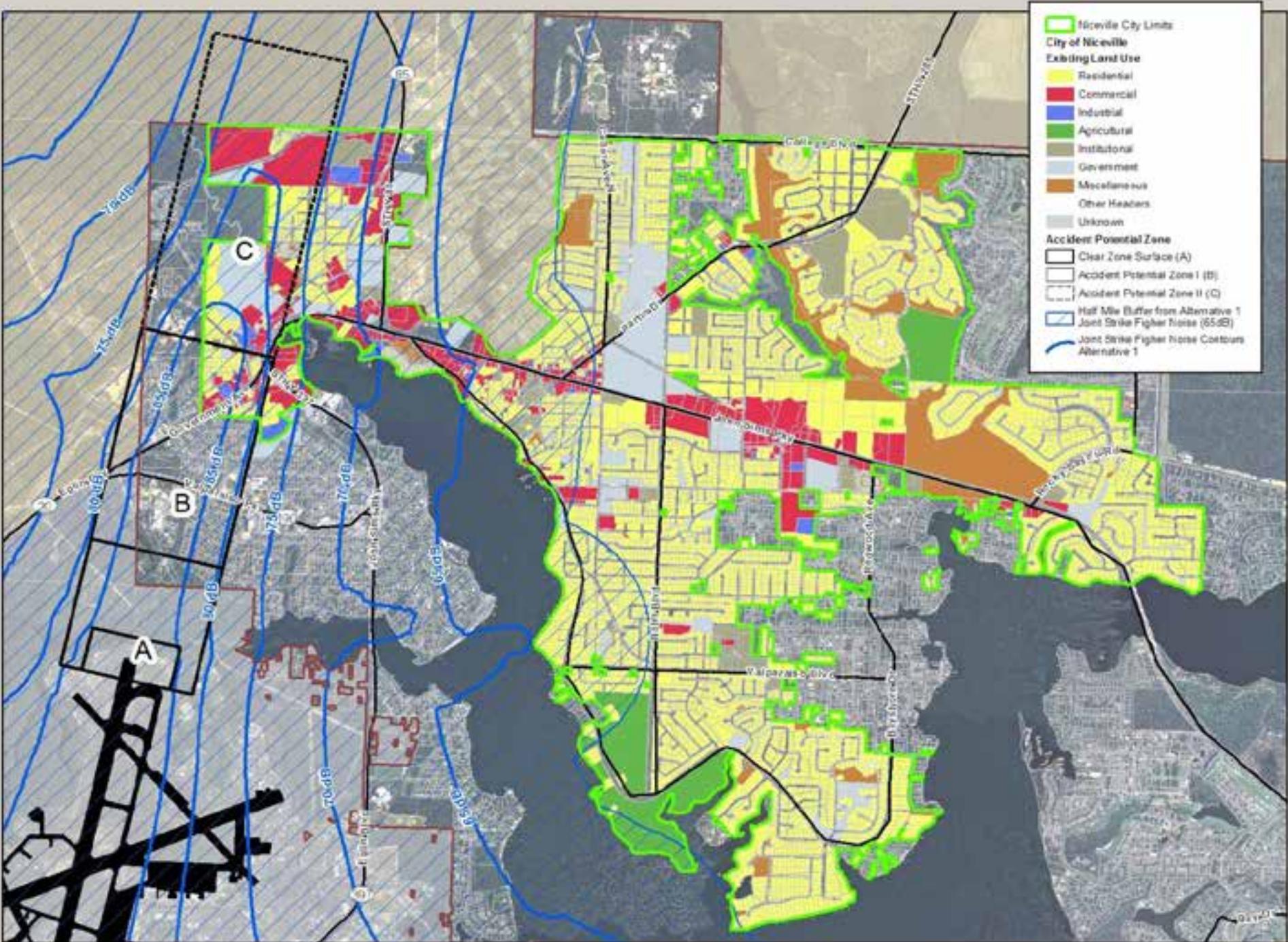
- Residential
- Commercial
- Industrial
- Agricultural
- Institutional
- Government
- Miscellaneous
- Other Headers
- Unknown



- Niveille City Limits
- City of Niveille**
- Future Land Use**
- C, Commercial
- CON, Conservation
- COUNTY, County
- I, Industrial
- LDR, Low Density Residential
- MDR, Medium Density Residential
- MU, Mixed Use
- P, Public Lands
- REC, Recreational



	Nicville City Limits
Accident Potential Zones	
	Clear Zone Surface (A)
	Grated Clear Zone Surface (A)
	Accident Potential Zone I (B)
	Accident Potential Zone II (C)
City of Nicville	
Existing Land Use	
	Agricultural
	Commercial
	Government
	Industrial
	Institutional
	Miscellaneous
	Residential
	Special Designations

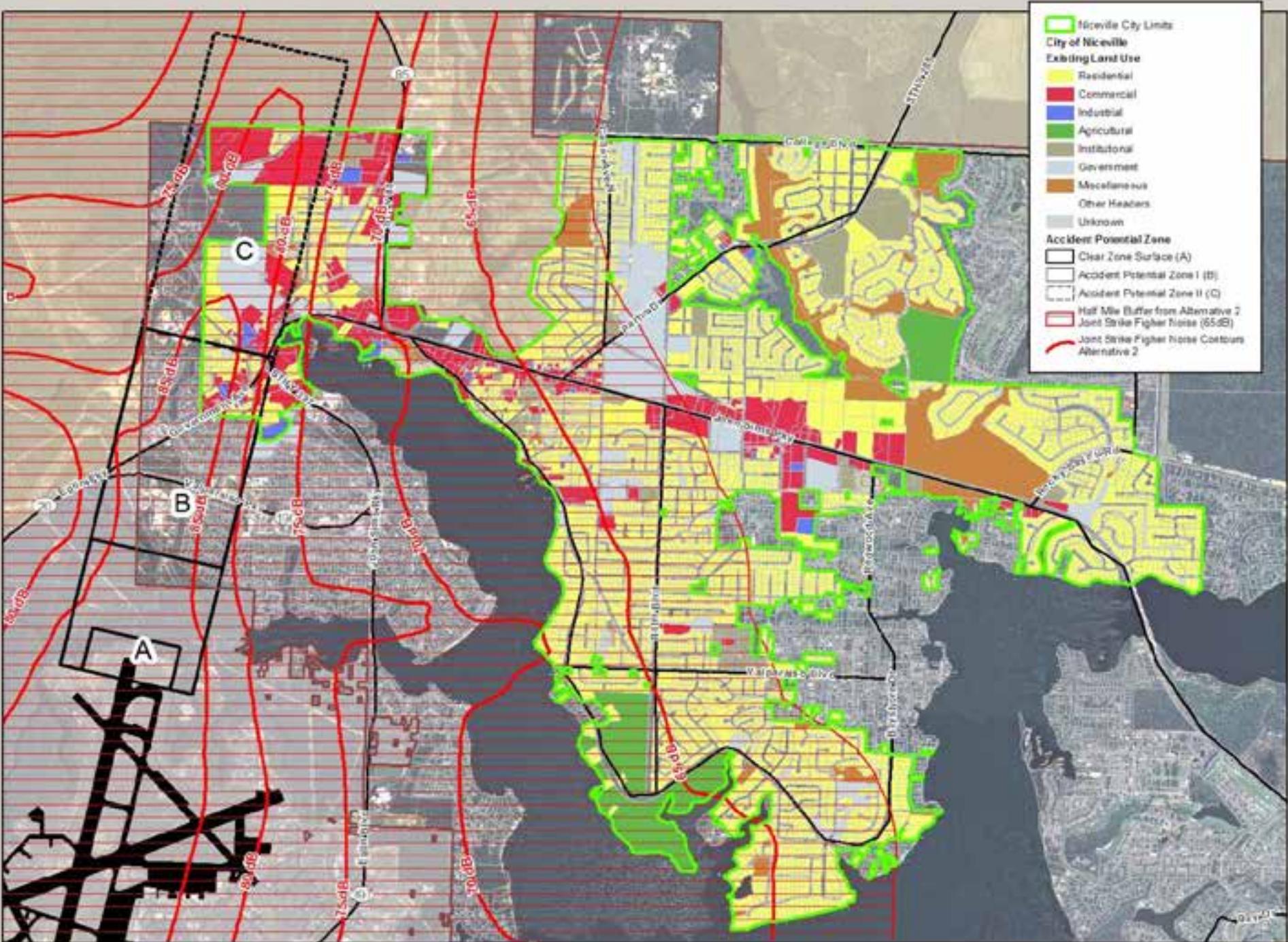


Niceville City Limits
 City of Niceville
Existing Land Use

- Residential
- Commercial
- Industrial
- Agricultural
- Institutional
- Government
- Miscellaneous
- Other Features
- Unknown

Accident Potential Zone

- Clear Zone Surface (A)
- Accident Potential Zone I (B)
- Accident Potential Zone II (C)
- Half Mile Buffer from Alternative 1
- Joint Strike Fighter Noise (65dB)
- Joint Strike Fighter Noise Contours Alternative 1

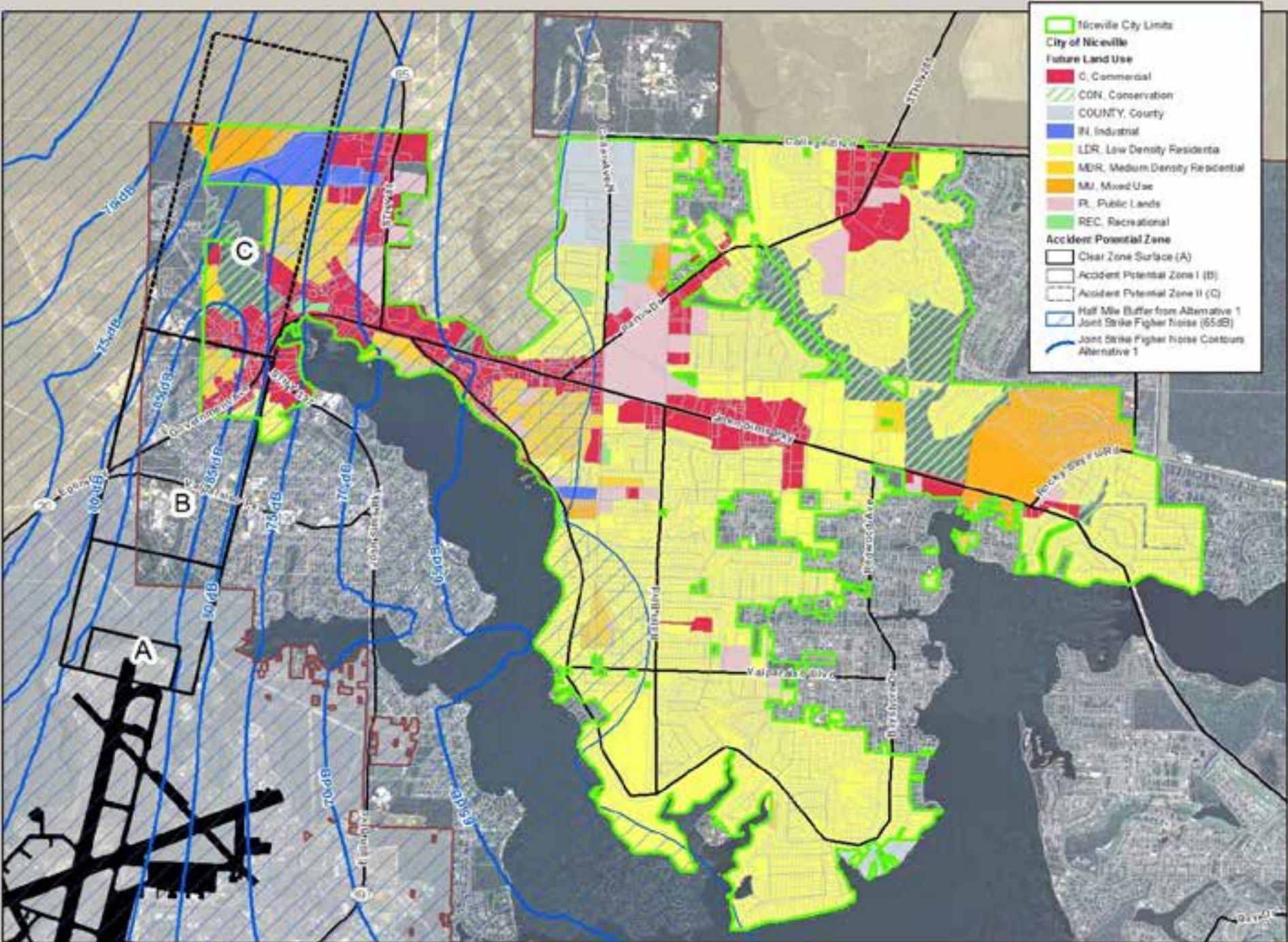


Niceville City Limits
 City of Niceville
Existing Land Use

- Residential
- Commercial
- Industrial
- Agricultural
- Institutional
- Government
- Miscellaneous
- Other Headers
- Unknown

Accident Potential Zone

- Clear Zone Surface (A)
- Accident Potential Zone I (B)
- Accident Potential Zone II (C)
- Half Mile Buffer from Alternative 2
- Joint Strike Fighter Noise (65dB)
- Joint Strike Fighter Noise Corridor Alternative 2



Niceville City Limits

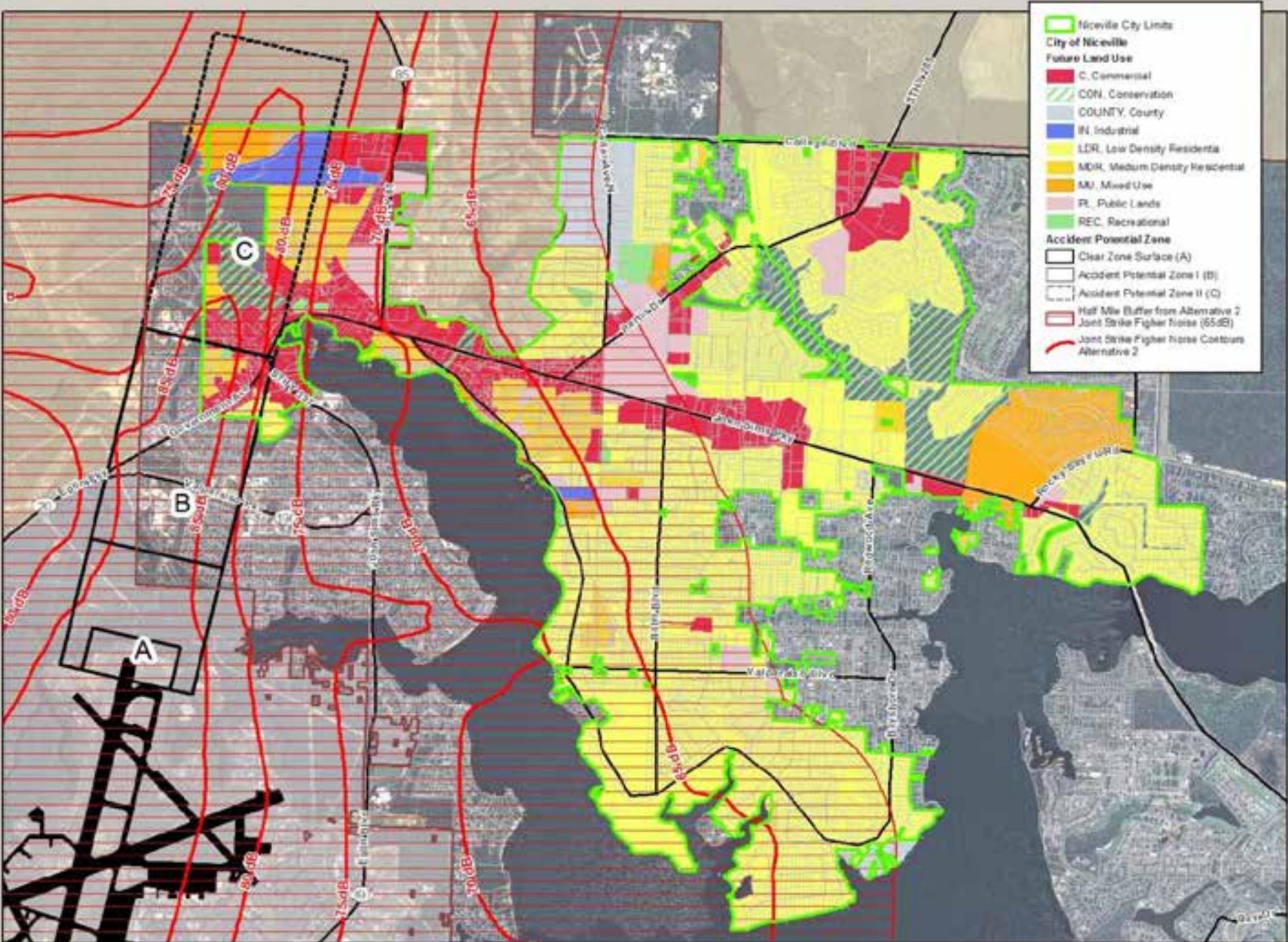
City of Niceville

Future Land Use

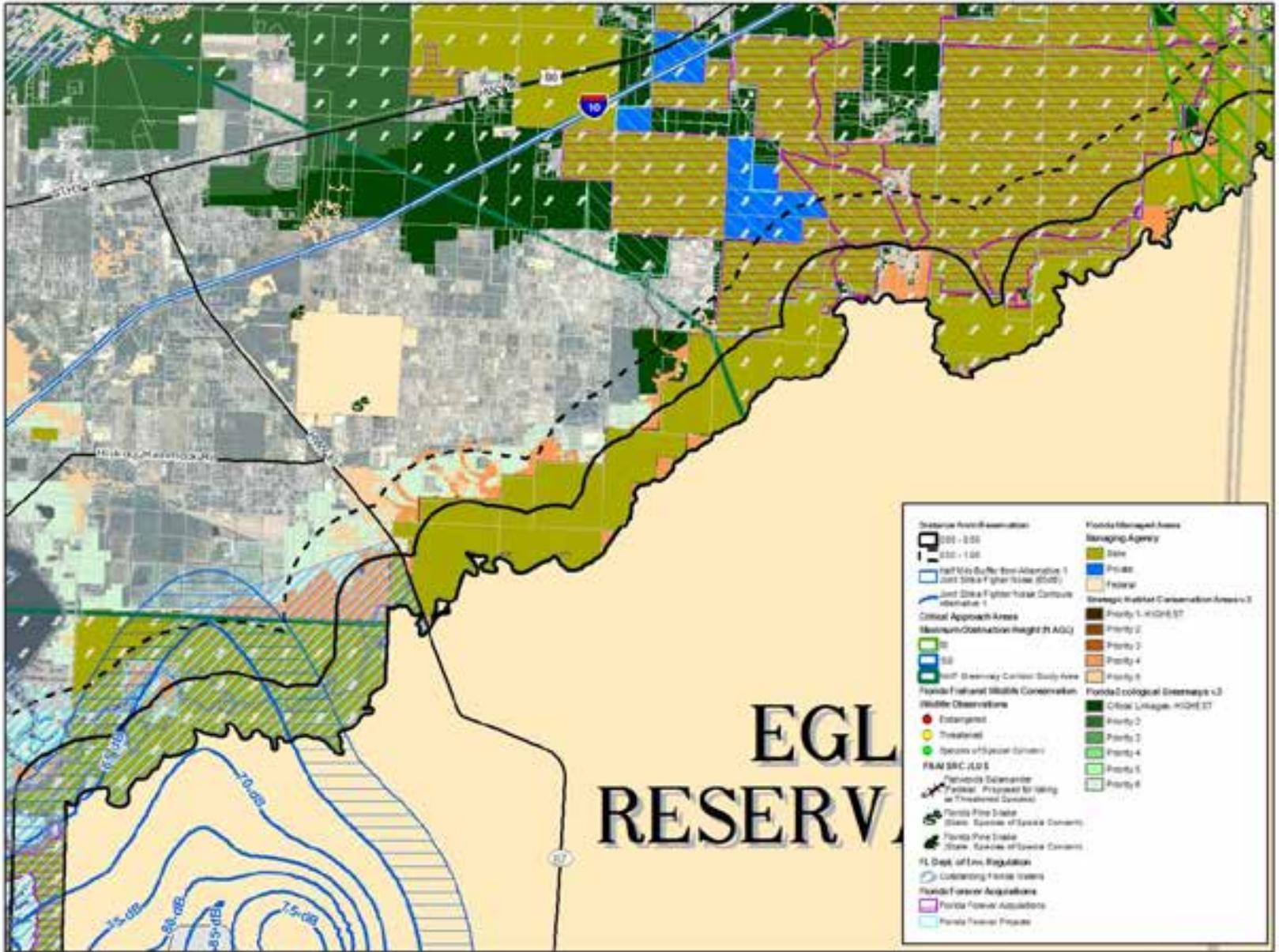
- C, Commercial
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- COUNTY, County
- I1, Industrial
- CON, Conservation
- PL, Public Lands
- Accident Potential Zone

Accident Potential Zone

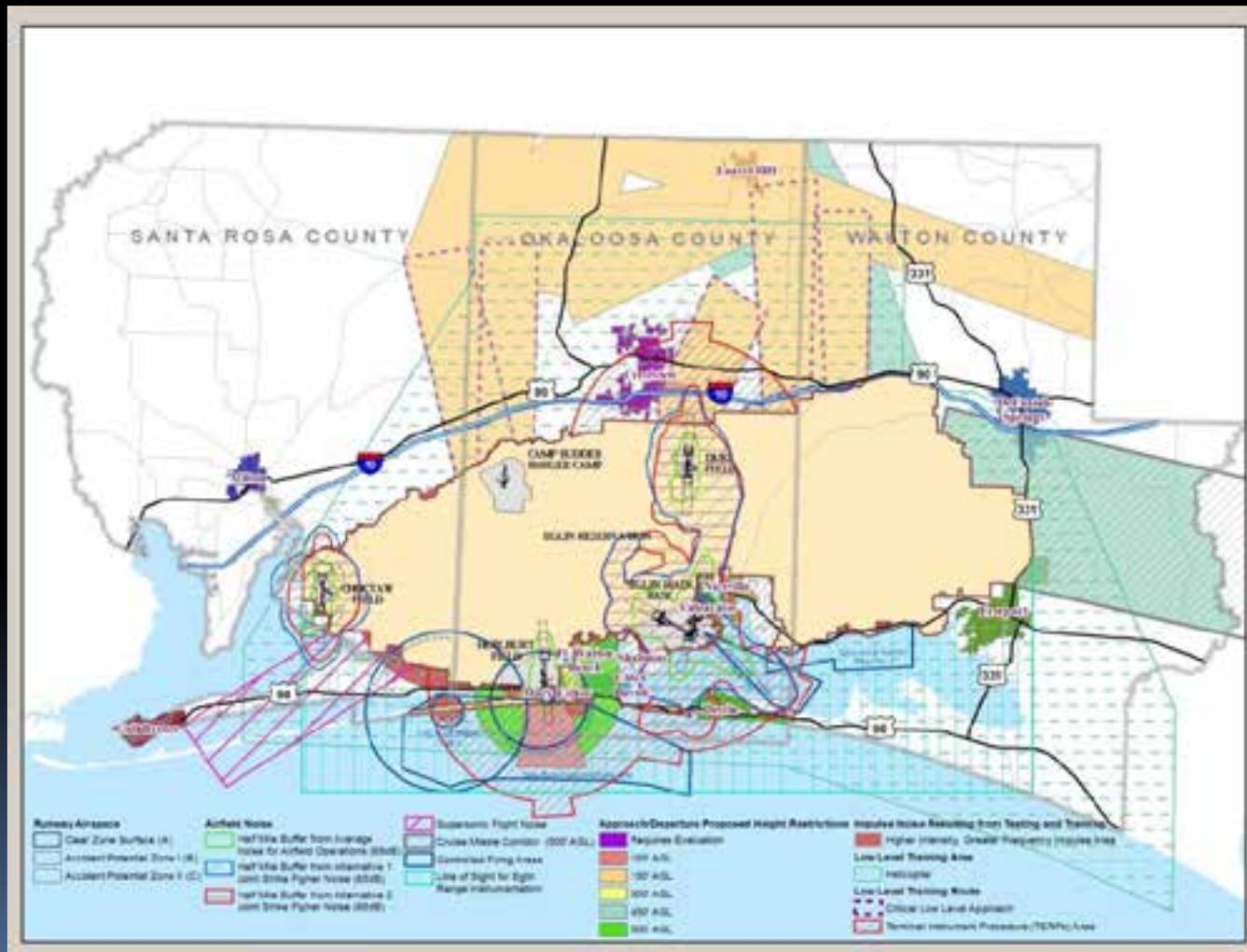
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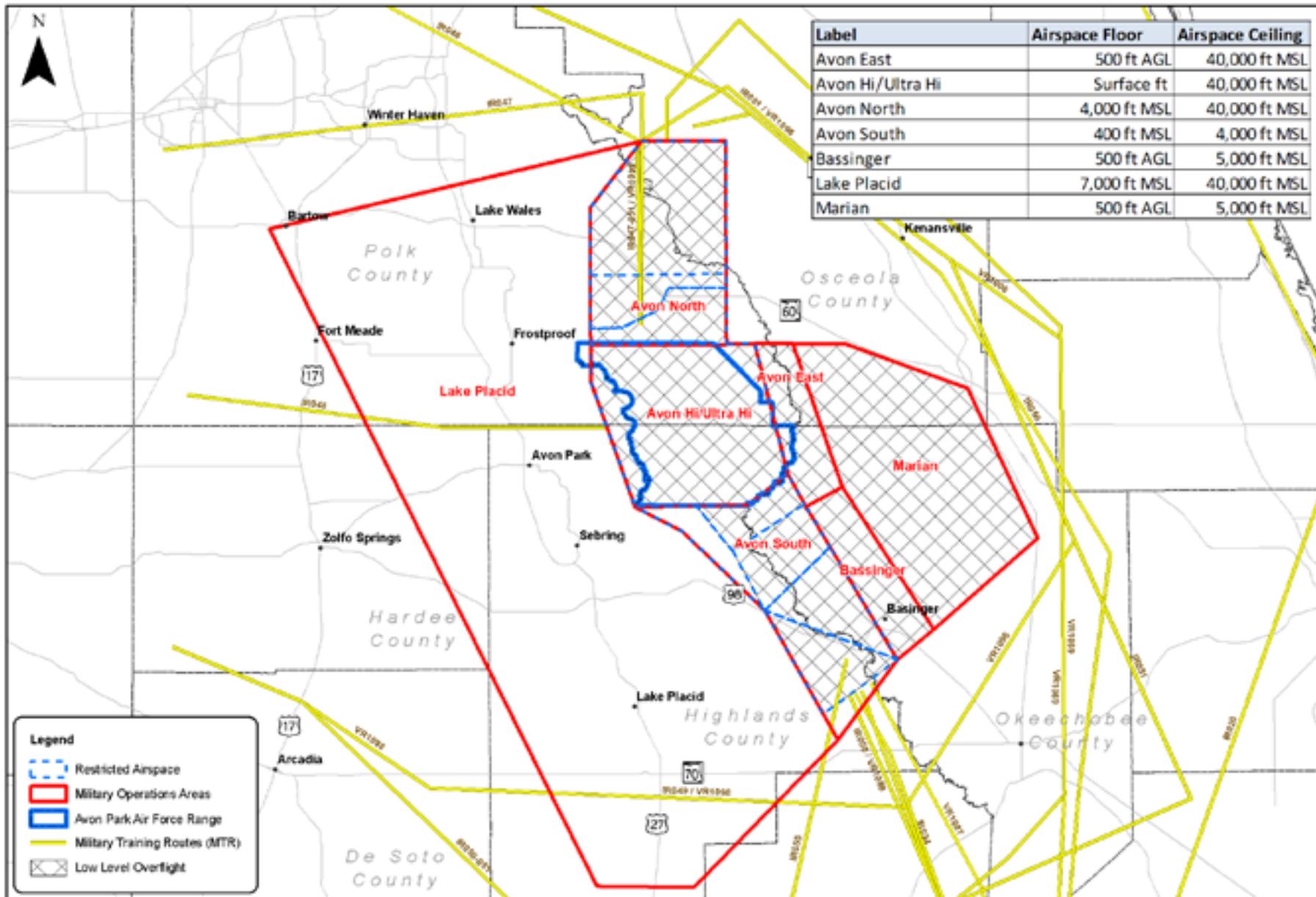


- █ Niceville City Limits
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- █ MDR, Medium Density Residential
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- █ PL, Public Lands
- █ REC, Recreational
- Accident Potential Zone**
- Clear Zone Surface (A)
- Accident Potential Zone I (B)
- Accident Potential Zone II (C)
- Half Mile Buffer from Alternative 2
- Joint Strike Fighter Noise (65dB)
- Joint Strike Fighter Noise Contours Alternative 2



Analysis – Avon Park AFR



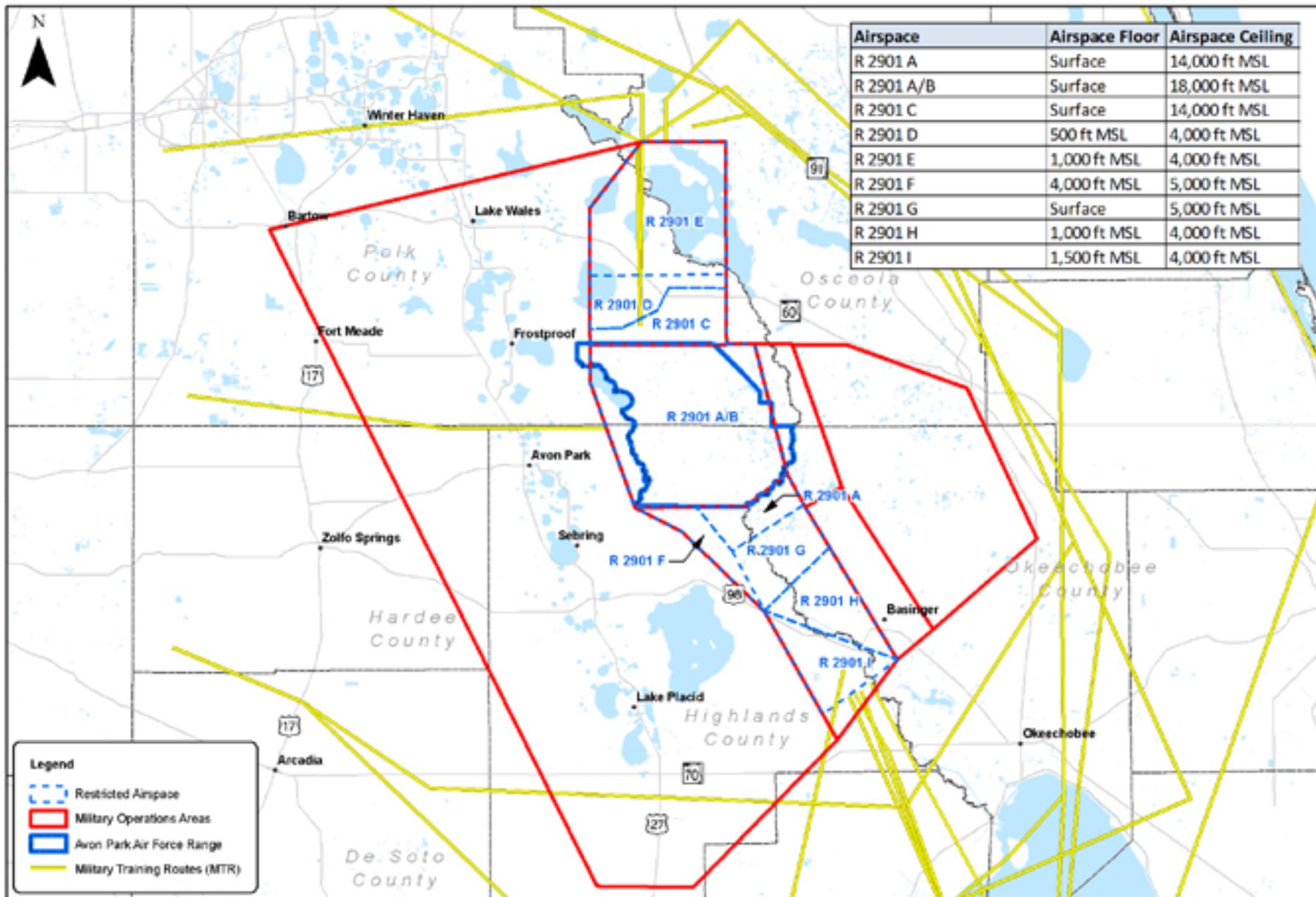


MILITARY OPERATIONS AREAS

**AVON PARK
AIR FORCE RANGE JLUS**

Printing Date: Thursday, October 15, 2009

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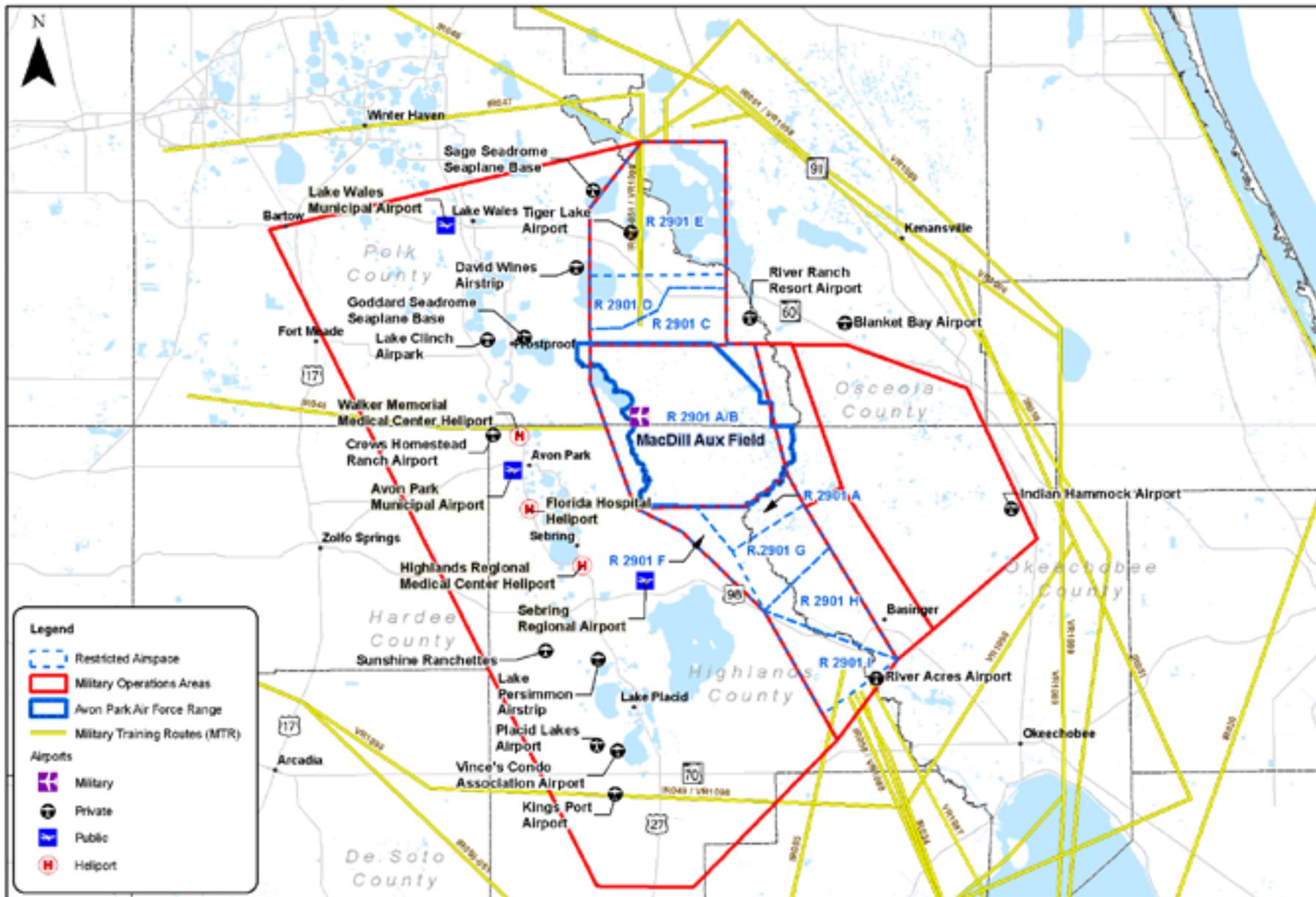
Airspace	Airspace Floor	Airspace Ceiling
R 2901 A	Surface	14,000 ft MSL
R 2901 A/B	Surface	18,000 ft MSL
R 2901 C	Surface	14,000 ft MSL
R 2901 D	500 ft MSL	4,000 ft MSL
R 2901 E	1,000 ft MSL	4,000 ft MSL
R 2901 F	4,000 ft MSL	5,000 ft MSL
R 2901 G	Surface	5,000 ft MSL
R 2901 H	1,000 ft MSL	4,000 ft MSL
R 2901 I	1,500 ft MSL	4,000 ft MSL

Legend

- - - Restricted Airspace
- - - Military Operations Areas
- - - Avon Park Air Force Range
- - - Military Training Routes (MTR)

RESTRICTED AIRSPACE

**AVON PARK
AIR FORCE RANGE JLUS**



Legend

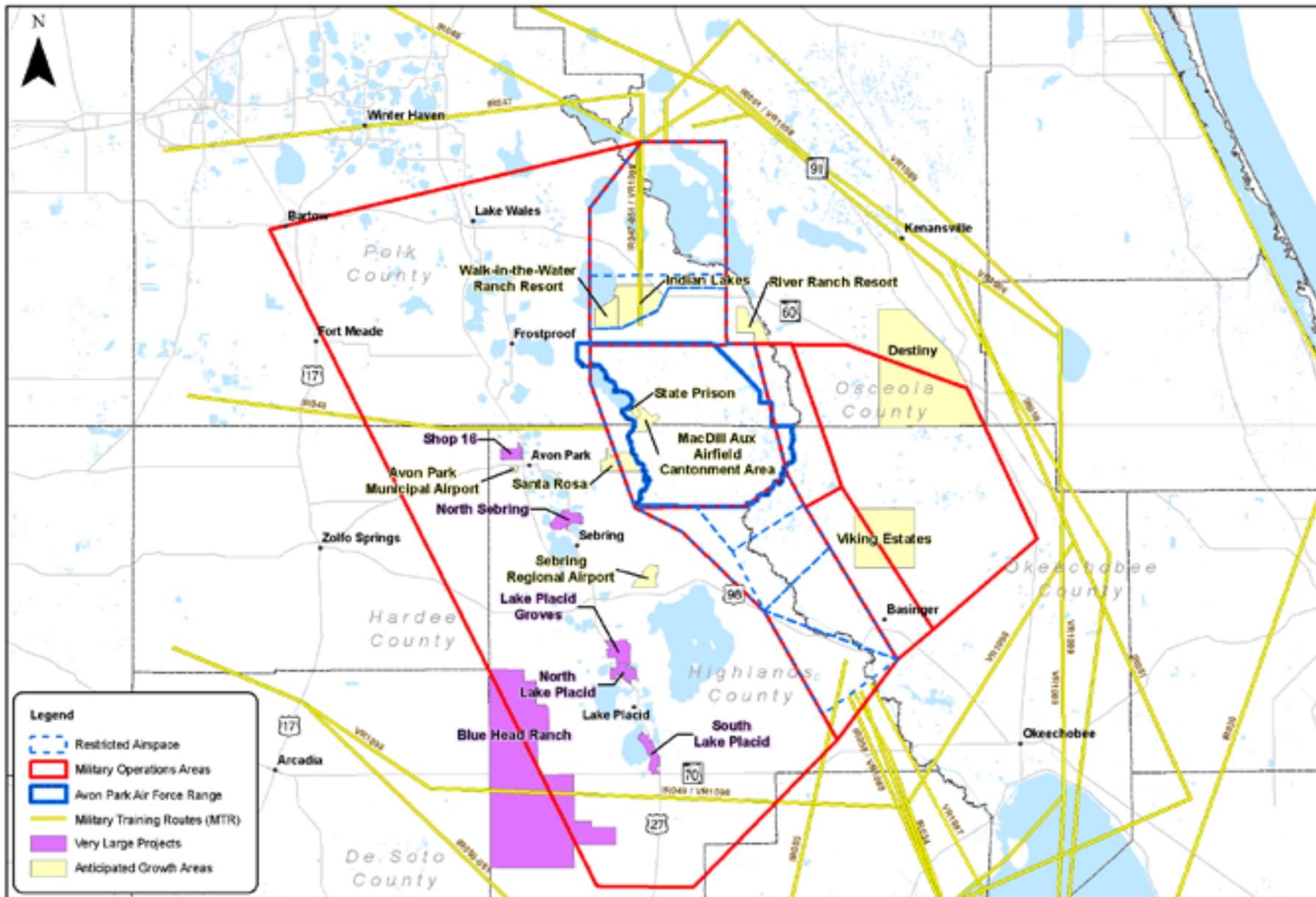
- Restricted Airspace
- Military Operations Areas
- Avon Park Air Force Range
- Military Training Routes (MTR)

Airports

- Military
- Private
- Public
- Heliport

AIRPORTS AND AIRSTRIPS

AVON PARK AIR FORCE RANGE JLUS



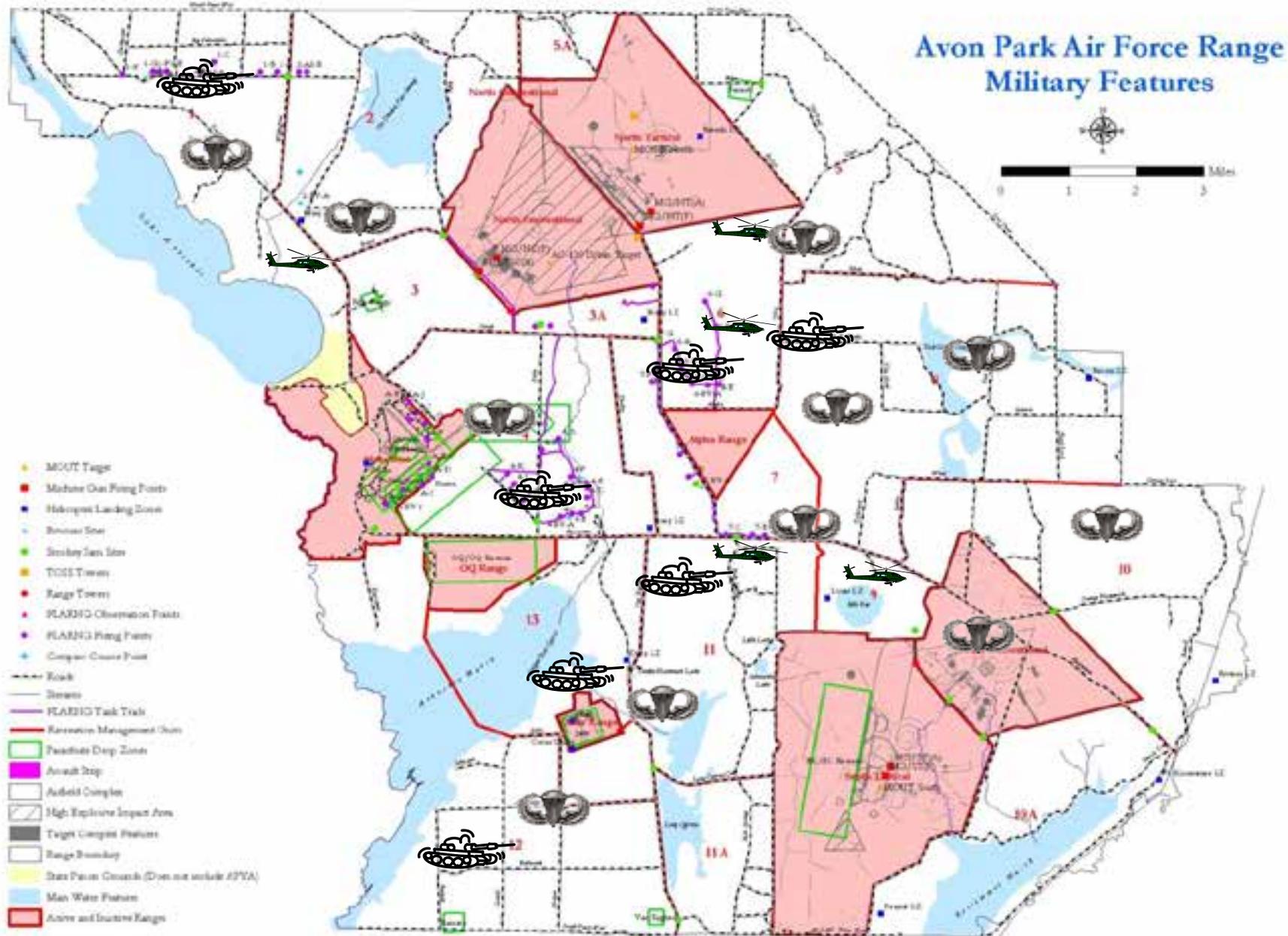
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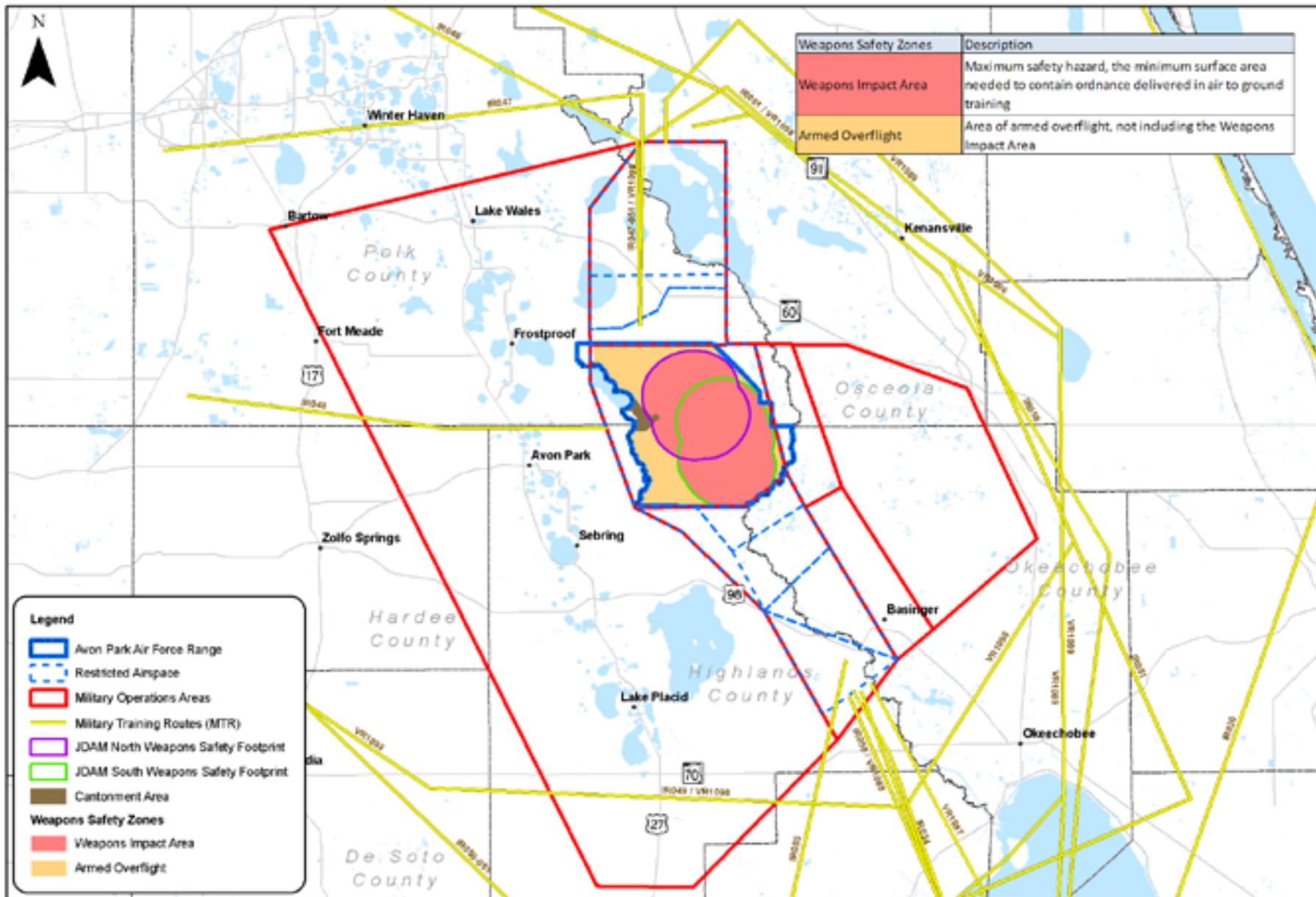
-  Restricted Airspace
-  Military Operations Areas
-  Avon Park Air Force Range
-  Military Training Routes (MTR)
-  Very Large Projects
-  Anticipated Growth Areas

DEVELOPMENTS

**AVON PARK
AIR FORCE RANGE JLUS**

Military Activities Contributing to Noise Generation



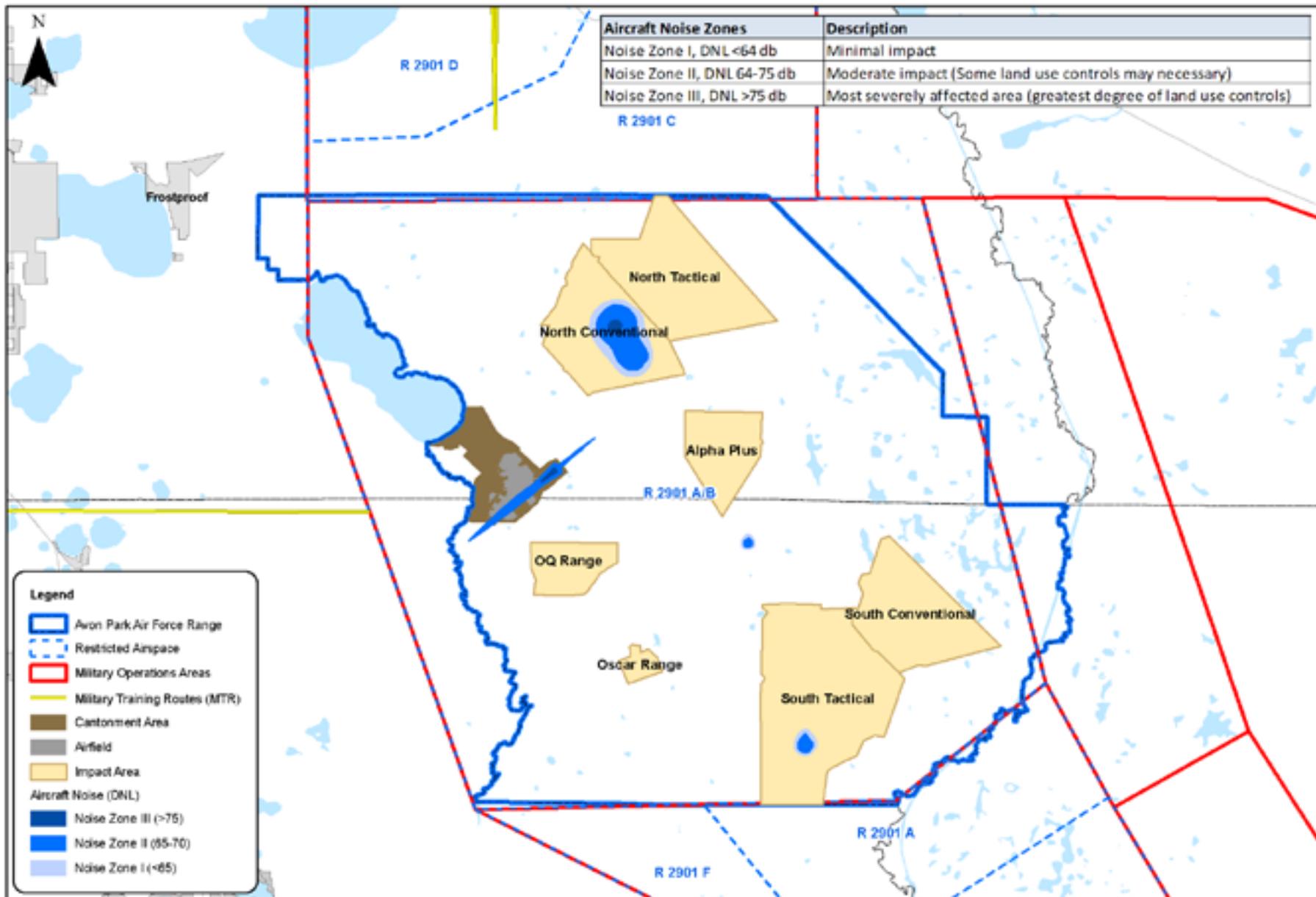


WEAPONS SAFETY ZONES

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AVON PARK AIR FORCE RANGE JLUS

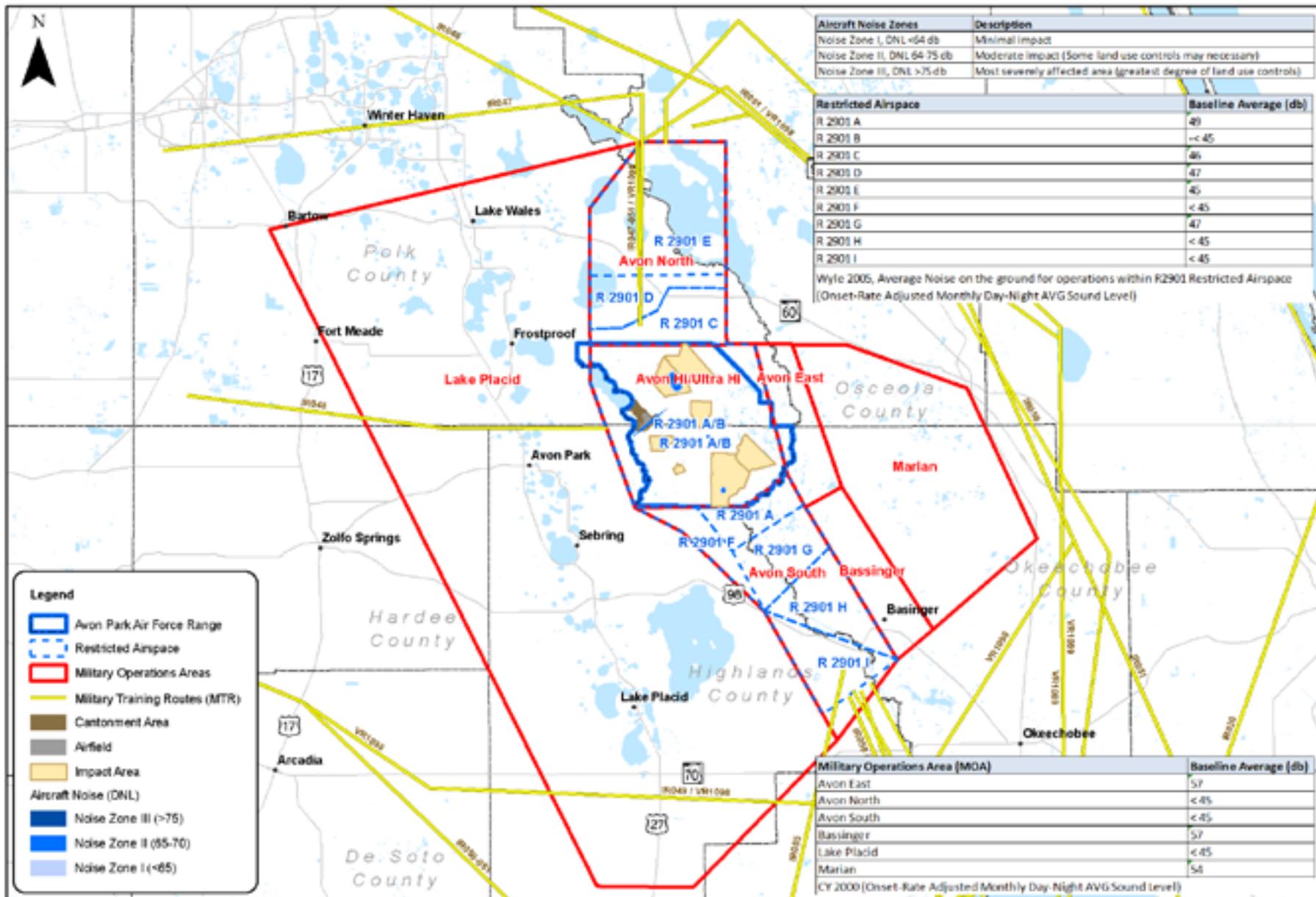


AIRCRAFT NOISE

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AVON PARK AIR FORCE RANGE JLUS



Aircraft Noise Zones	Description
Noise Zone I, DNL <64 db	Minimal impact
Noise Zone II, DNL 64-75 db	Moderate impact (Some land use controls may be necessary)
Noise Zone III, DNL >75 db	Most severely affected area (greatest degree of land use controls)

Restricted Airspace	Baseline Average (db)
R 2901 A	49
R 2901 B	< 45
R 2901 C	46
R 2901 D	47
R 2901 E	46
R 2901 F	< 45
R 2901 G	47
R 2901 H	< 45
R 2901 I	< 45

Wyle 2005, Average Noise on the ground for operations within R2901 Restricted Airspace (Onset-Rate Adjusted Monthly Day-Night AVG Sound Level)

Legend

- Avon Park Air Force Range
- Restricted Airspace
- Military Operations Areas
- Military Training Routes (MTR)
- Cantonment Area
- Airfield
- Impact Area

Aircraft Noise (DNL)

- Noise Zone III (>75)
- Noise Zone II (65-70)
- Noise Zone I (<65)

Military Operations Area (MOA)	Baseline Average (db)
Avon East	57
Avon North	< 45
Avon South	< 45
Bassinger	57
Lake Placid	< 45
Marian	54

©Y 2000 (Onset-Rate Adjusted Monthly Day-Night AVG Sound Level)

AIRCRAFT NOISE

Printing Date: Thursday, October 15, 2009

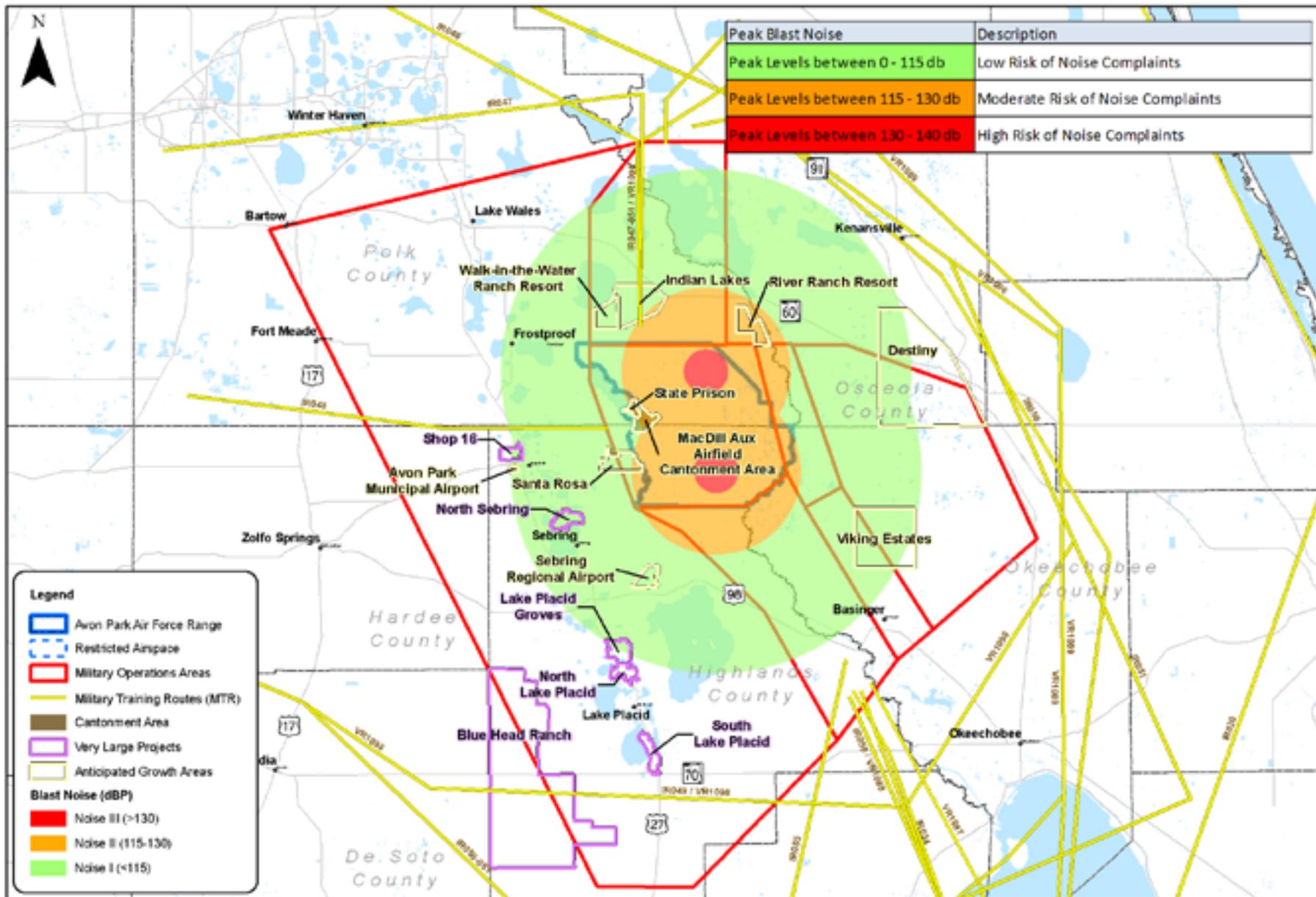
File: M:\GIS_proj\20090810309001\Maps\PPT\AircraftNoise2.mxd

AVON PARK AIR FORCE RANGE JLUS

Blast Noise

- § Blast Noise - generated from firing projectiles and detonation of ordnance
- § Short Duration, High Energy, Low Frequency episodes
- § Low Frequency can generate structural vibrations
- § Noise Data Source: Wyle 2005 noise study from the EIS





BLAST NOISE

AVON PARK AIR FORCE RANGE JLUS

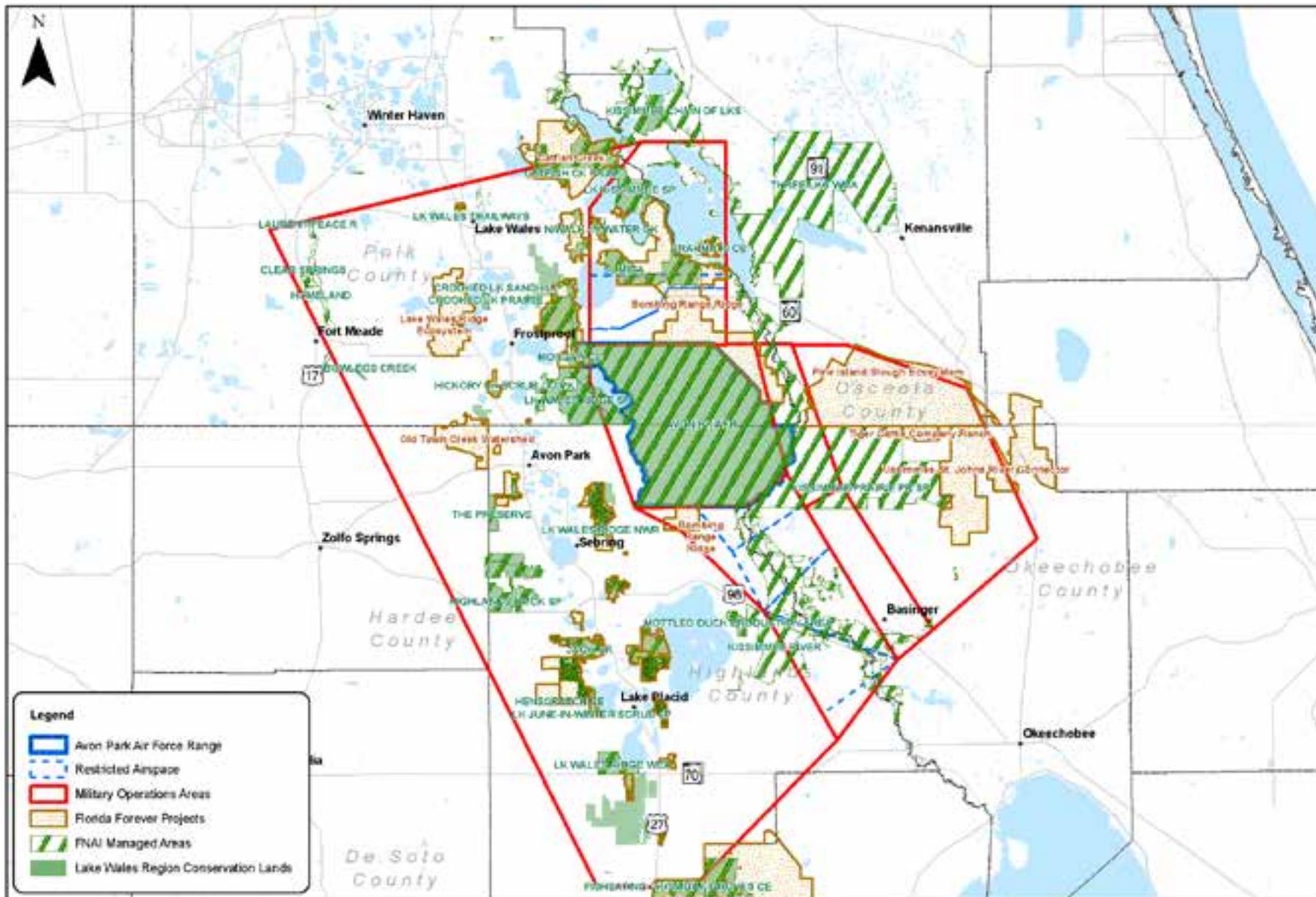
Conservation Data Sources

§ Florida Natural Areas Inventory

§ Lake Wales Ridge Conservation Areas

§ Florida Forever Projects





CONSERVATION AREAS

Printing Date: Thursday, October 15, 2009

File: M:\GIS_prop\2008\8463\09001\Maps\PT\Conservation1a.mxd

AVON PARK AIR FORCE RANGE JLUS

Conservation Data Sources

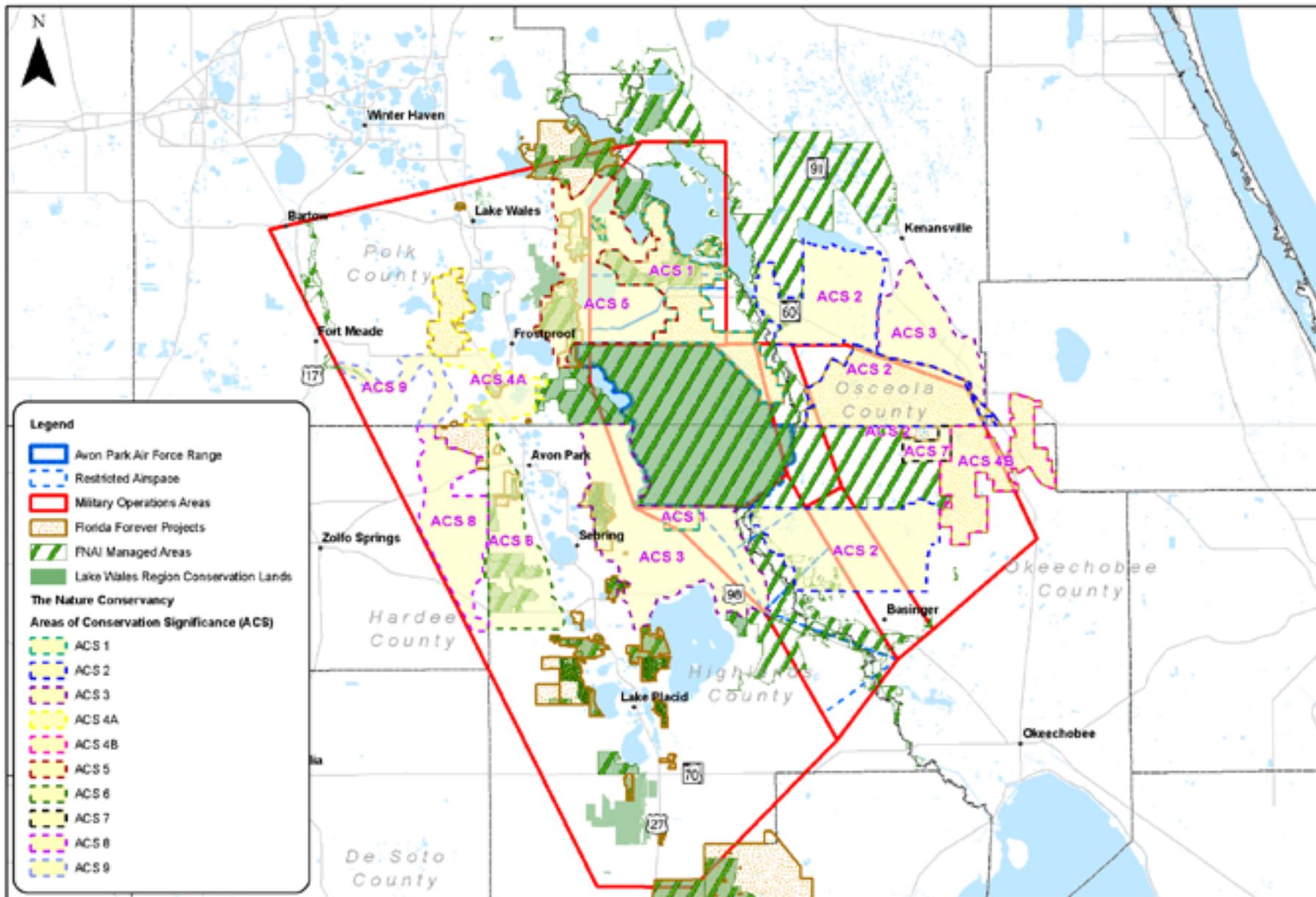
§ The Nature Conservancy – Areas of Conservation Significance (ACS)

§ Broad based ecological assessment of the natural resources surrounding each of 10 key military installations in Florida.

§ Identified 10 Areas of Conservation Significance near Avon Park Air Force Range

The Nature Conservancy 
Protecting nature. Preserving life.™





**THE NATURE CONSERVANCY
STUDY**

**AVON PARK
AIR FORCE RANGE JLU**

Printing Date: Thursday, October 15, 2009

File: M:\GIS_pro\200\08403\09001\Maps\PT\Conservation2.mxd

Example Maps – City of Avon Park

§ Example Maps

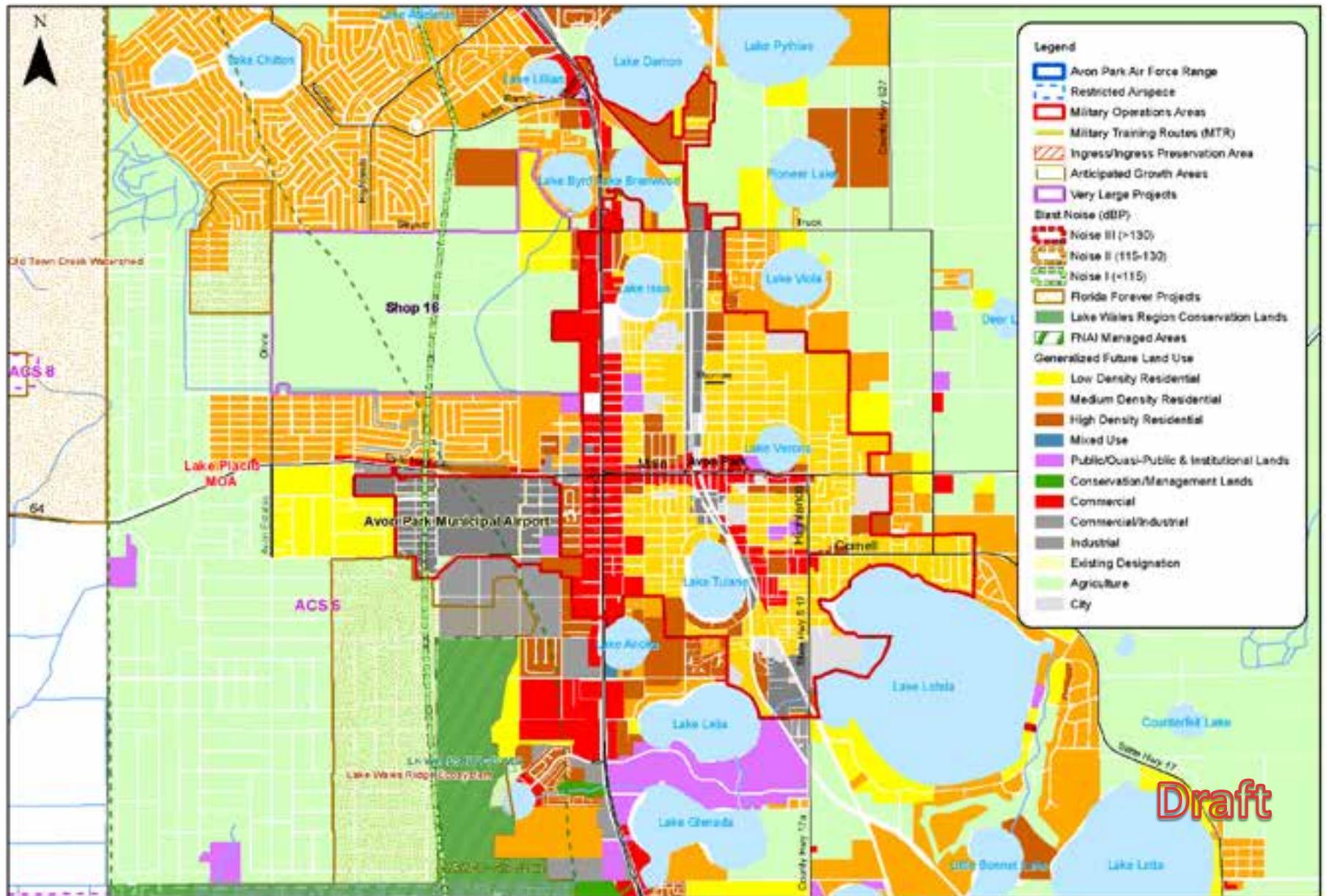
§ Future Land Use

§ Existing Land Use

§ Zoning

§ JLUS Map (Composite Map with Planning Data and Analysis Datasets)





AVON PARK COMPOSITE MAP

Printing Date: Wednesday, October 21, 2009
 File: M:\2009\94030960\Map\PT\AvonPark_JLUS.mxd

AVON PARK AIR FORCE RANGE JLUS

* In order to create a cohesive map across jurisdictions, planning designations have been generalized for illustrative purposes.

Organize

Yell Clear Zone and APZs (Compatibility Mode) - Microsoft Excel

File Home Insert Page Layout Formulas Data Review View Developer

Clipboard Font Paragraph Alignment Number Styles

MM Eglin Main/Duke Field

City of Avon Park Future Land Use Designations
Row Labels **Sum of Acres**
Avon Park 2,634
 City 38
 Commercial 2
 Downtown Commercial 76
 Highway Commercial 310
 Industrial 459
 Low Density Residential 1,007
 Medium Density Residential 242
 Neighborhood Commercial 35
 Public/Institutional 208
 Rural Open Space 44
 No Designation 213
Grand Total 2,634

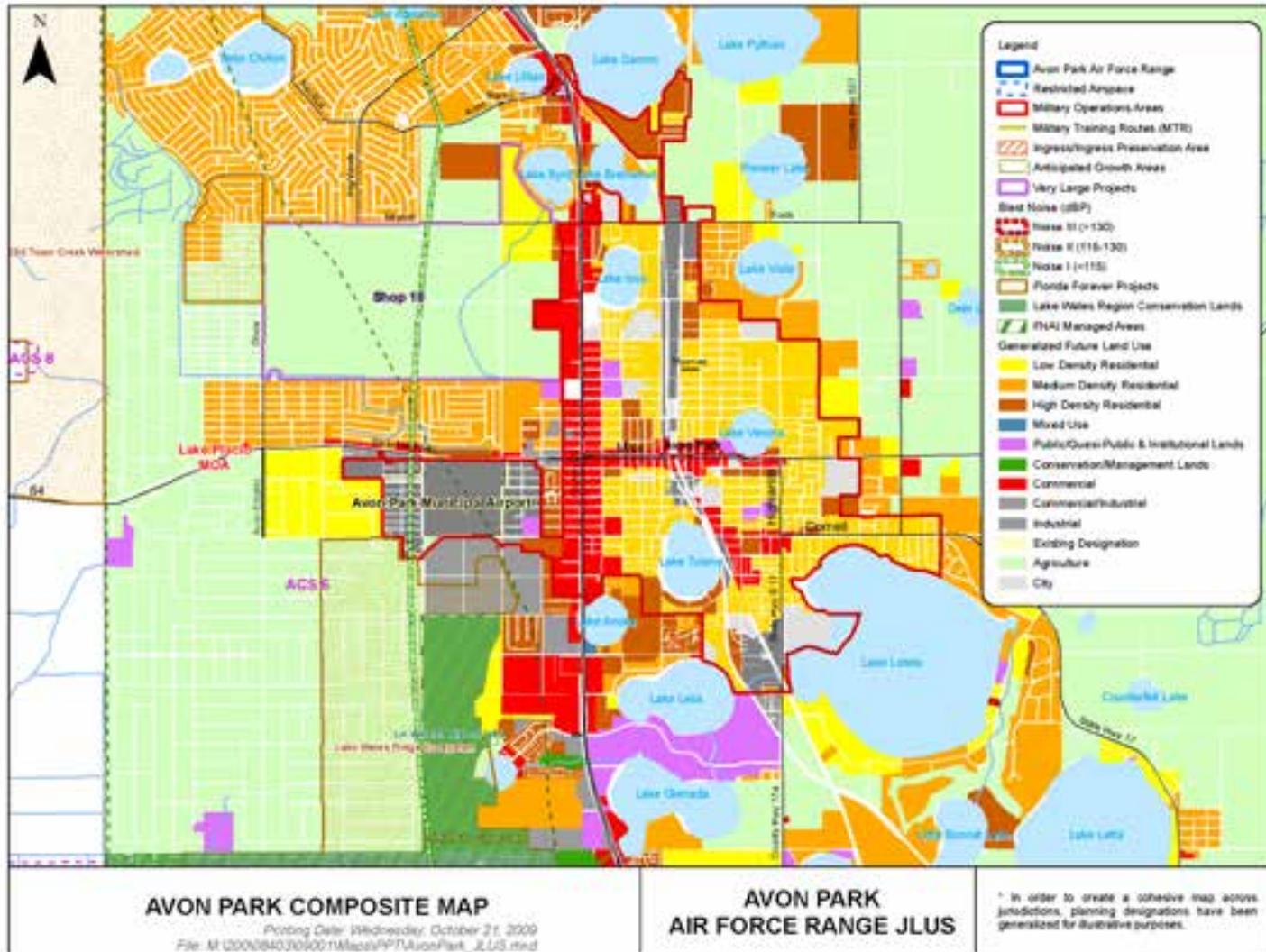
CITY OF AVON PARK FUTURE LAND USE LAKE PLACID MOA BLAST NOISE CONTOUR I <115db
Row Labels **Sum of Acres**
Inside Lake Placid MOA 2,634
Inside the <115 dB Blast Noise Contour 2,553
 City 35
 Commercial 2
 Downtown Commercial 76
 Highway Commercial 310
 Industrial 397
 Low Density Residential 1,007
 Medium Density Residential 242
 Neighborhood Commercial 35
 Public/Institutional 208
 Rural Open Space 44
 No Designation 198
Outside of Blast Noise Contour 80
 City 2
 Industrial 62
 No Designation 15
Grand Total 2,634

Identify

**City of Valparaiso
Existing Land Use Development Within Clear Zone (Area A), APZs (Areas B and C), and Noise Levels
Profile by Acreage and Number of Parcels**

Existing Land Use	Clear Zone and Accident Potential Zones								Noise Level									
	Clear Zone (Area A)		APZ I (Area B)		APZ II (Area C)		Total		65-69 dB		70 - 74 dB		75 - 79 dB		80 - 84 dB		85+ dB	
	Total Acres	# of Parcels	Total Acres	# of Parcels	Total Acres	# of Parcels	Total Acres	# of Parcels	Total Acres	# of Parcels	Total Acres	# of Parcels	Total Acres	# of Parcels	Total Acres	# of Parcels	Total Acres	# of Parcels
Beauty Parlor	0	0	0	0	0	0	0	0	-	-	0.1	1	-	-	-	-	-	-
Churches	0	0	3.4	2	0	0	3.4	2	-	-	3.8	6	2.6	4	3.4	2	-	-
Clubs/Lodging	0	0	0.8	1	0	0	0.8	1	-	-	0.3	1	-	-	-	-	0.8	1
College	0	0	0.0	0	0	0	0.0	0	-	-	-	-	0.1	1	-	-	-	-
Commercial Unlimited	20.0	4	0	0	0	0	20.0	4	-	-	-	-	-	-	-	-	-	-
Common Area/Community	0	0	3.2	2	2.8	1	6.1	3	-	-	3.6	9	9.9	9	0.8	1	2.4	1
County	0	0	0	0	6.9	4	6.9	4	-	-	3.1	11	5.3	3	1.7	1	-	-
Financial - Bank	0	0	0	0	0.0	0	0.0	0	-	-	1.5	1	-	-	-	-	-	-
Hotels and Motels	0	0	0	0	0.0	0	0.0	0	-	-	1.2	3	-	-	-	-	-	-
Light Manufacturing	0	0	1.8	1	0	0	1.8	1	-	-	0.3	1	0.5	1	-	-	1.8	1
Military	0	0	0	0	0	0	0.0	0	-	-	25.8	15	96.3	19	-	-	17.7	2
Mineral PR	0	0	2.0	1	0	0	2.0	1	-	-	-	-	-	-	-	-	2.0	1
Mobile Home	0	0	2.3	1	0	0	2.3	1	-	-	0.3	1	1.2	3	-	-	2.3	1
Multi-Family	0	0	2.2	8	10.0	5	12.2	13	0.7	3	9.1	33	5.6	10	11.6	11	0.6	2
Municipal	0	0	10.6	7	0.2	4	10.8	11	11.1	3	9.1	16	38.3	21	1.1	4	12.0	7
Nightclub	0	0	0.0	0	0.0	0	0.0	0	-	-	-	-	0.3	1	-	-	-	-
No Ag Acre	0	0	0	0	7.8	2	7.8	2	-	-	-	-	7.8	2	-	-	-	-
Office Building	0	0	1.2	2	0	0	1.2	2	-	-	11.7	23	1.2	2	-	-	1.2	2
Post Office	0	0	0.0	0	0	0	0.0	0	-	-	0.4	1	-	-	-	-	-	-
Kennel	0	0	0.8	1	0	0	0.8	1	-	-	-	-	-	-	-	-	0.8	1
Repair Service Shop	0	0	0.0	0	0	0	0.0	0	-	-	3.1	4	0.8	3	-	-	-	-
Restaurant	0	0	0.0	0	0	0	0.0	0	-	-	5.8	5	-	-	-	-	-	-
Retail Stores	0	0	0.0	0	0	0	0.0	0	-	-	4.1	9	0.7	1	-	-	-	-
School, Private	0	0	0.6	1	0	0	0.6	1	-	-	-	-	-	-	-	-	0.6	1
School, Public	0	0	0.9	1	0	0	0.9	1	-	-	42.0	3	12.6	3	0.9	1	-	-
Single Family	5.9	14	80.0	267	9.8	15	95.8	296	78.1	162	181.7	614	88.1	315	52.1	169	38.5	126
Single Family - Townhome	0	0	0.5	11	1.0	53	1.5	64	2.9	30	0.5	10	5.1	125	0.4	10	-	-
Utilities	0	0	3.4	4	0	0	3.4	4	-	-	-	-	-	-	0.9	1	2.5	3
Vacant	0	0	43.5	21	17.4	13	60.8	34	18.6	27	48.8	111	23.6	44	15.8	9	41.4	17
Vehicle Sales	0	0	3.7	2	36.6	1	40.3	3	-	-	5.2	3	-	-	36.6	1	3.7	2
Warehouse	0	0	8.8	5	0	0	8.8	5	-	-	4.4	7	2.5	4	1.1	1	7.7	4

Illustrate



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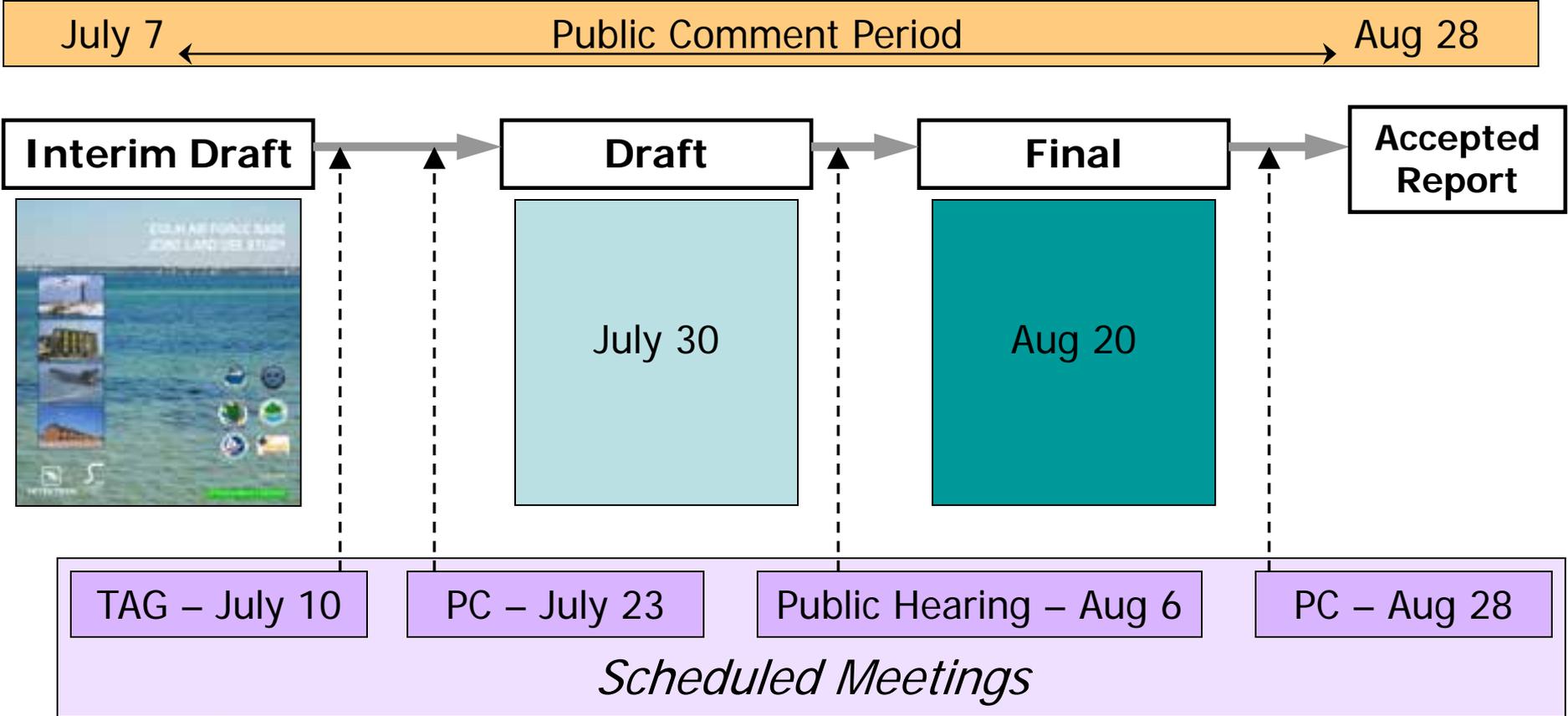
JURISDICTION		Kings County	City of Lemoore	Fresno County	NAS Lemoore	
SUMMARY OF RECOMMENDATIONS	ENVIRONMENTAL	Support and/or Collaborate With Ongoing NASL Environmental Stewardship Programs	✓	✓	✓	✓
		Support & Coordinate on the Studying & Implementing Methods to Control BASH	✓	✓	✓	✓
		Develop and Distribute BASH Educational Material				✓
		Develop Policies to Protect Critical Areas Supporting Military Readiness, Agricultural Uses in Compatible Areas, and/or Environmental Conservation	✓	✓	✓	
	NOISE	Continue the Requirement for Noise Attenuation Design and Construction Standards for New Construction in NASL Overlays I and II	✓	✓	✓	
		Establish NASL Overlay Districts I, II, and III	✓	✓	✓	
		Revise Land Use Regulations, As Required, to be Compatible with Overlay Designations	✓	✓	✓	
	Develop & Implement Plan to Construct Bush Housings to Buffer Jet Noise from Engine Run-ups & Tests				✓	
	LAND USE	Monitor Land Use Within Transportation Corridors and/or Hubs	✓	✓	✓	
		Limit Object Heights in NASL Overlays I, II, and III	✓	✓	✓	
		Implement Lighting Standards to Avoid Glare and Reflection	✓	✓	✓	
		Develop Policies to Protect Critical Areas Supporting Military Readiness, Agricultural Uses in Compatible Areas, and/or Environmental Conservation	✓	✓	✓	✓
Establish NASL Overlay Districts I, II, and III		✓	✓	✓		
Update General Plans to Include Language Meeting State Requirements Designed to Strengthen Uses Compatible to NASL Mission Activities		✓	✓	✓		
Revise Land Use Regulations, As Required, to be Compatible with Overlay Designations		✓	✓	✓		
Establish Technical Standards for Renewable Energy Facilities Within NASL Overlay Zones I, II, and III		✓	✓	✓	✓	
Implement Effective Disclosure Measures		✓	✓	✓		
Participate in Small Area Study Creating Strategies for Compatible Development in the OCA Box		✓	✓	✓	✓	
COORDINATION	Continue Ongoing Coordination with the FAA	✓	✓	✓	✓	
	Implement Public Awareness Measures	✓	✓	✓	✓	
	Support and/or Collaborate with School Districts Seeking Additional Funding Related to NASL Growth	✓	✓	✓	✓	
	Collaborate with Local Jurisdictions to Establish NASL Overlay District Zone Designations	✓	✓	✓	✓	
	Continue Cross-Jurisdictional Collaboration and Formalize a Coordination Policy in Development Review and Planning Process	✓	✓	✓	✓	
	Collaborate with the KCAG as Lead Facilitator of the JLUS Implementation Activities	✓	✓	✓	✓	
Adopt Resolution Supporting the JLUS Recommendations and Implementation	✓	✓	✓			

Table ES-2: NASL JLUS Recommendation Summary Matrix by Jurisdiction

Cooperation and Public Involvement

- § Technical Advisory Committee Review
- § Policy Committee Review
- § Public Awareness and Meetings
- § Flyers
- § Websites

Plan of Action



Legend:
TAG: JLUS Technical Advisory Group
PC: JLUS Policy Committee

Eglin Joint Land Use Study (JLUS) Policy Committee Meeting



TETRA TECH



July 23, 2008

Issues Matrix

	Issue													
	Supersonic Noise	Cruise Missile Corridor	High Intensity Impulse Noise	Line of Sight - Radar	Controlled Firing Areas	Lighting	Height of Objects	Radio Frequency	Terminal Instrument Procedures (TERPs)	Low Level Helicopter Training	Low Level Approach	Noise	Clear Zone & APZs	Development at Boundary
Military Area														
Camp Rudder						•	•			•	•		•	
Choctaw Field						•	•	•			•	•	•	
Duke Field				•		•	•	•		•	•	•	•	
Eglin Main			•	•	•	•	•	•			•	•	•	
Eglin Reservation	•	•		•	•	•	•	•	•		•		•	
Hurlburt Field					•	•	•	•	•		•		•	

Military Impacts on Civilian Land, Facilities, & Citizens

§ Noise (≥ 65 Decibels)

§ Disrupts daily activities and impacts health and facilities

§ Low flying aircraft

§ Noise and accident potential

§ Accident potential

§ Threatens public safety, loss of life, and property

§ Controlled firing and Drops

§ Hiatus on civilian activity, disruption of activity, and/or noise

Civilian Impacts on Military Operations

- § Excessive Lighting
 - § Interferes with night training missions
- § Tall Structures
 - § Interference with aircraft and instrumentation
- § Incompatible Development
 - § Intensifies public safety hazard and complaints (Places of Assembly, High Density Residential, Tall Structures)
- § Line of Sight Obstructions
 - § Interfere with aircraft and instrumentation
- § Marina Construction/Boat Traffic
 - § Disrupts firing range, drop zone, and test operations
- § Electronic Transmissions Interference
 - § Impedes radar, communication, instrumentation, surveillance

Recommendations

- § Discourage Increases in Density and Intensity Within One Mile of Eglin Boundary
- § Implement Construction Standards for New Construction to Decrease Noise Levels Inside Structures Within High Noise Areas (>65 dB)
- § Retrofit Existing Public Buildings Within the High Noise Level Areas (>65dB) with Sound Attenuation
- § Develop and Implement Assistance Program for Sound Reduction Program for Private Property Owners
- § Implement Property Sales and Lease Disclosures
- § Develop and Implement Land Acquisition Program
- § Limit Object Heights
- § Identify Low Level Training/Critical Approach Areas on All County Maps and Public Reports and Require Developers to Identify on All Proposed Projects

Recommendations Continued

- § Record and Disclose Low Level Training/Critical Approach Areas and Cruise Missile Corridors in Offices of County Clerk and Property Appraiser
- § Limit Residential Density and/or Allow Clustering Away From Low Level Approach Patterns
- § Implement Outdoor Lighting Standards
- § Educate Developers and Builders on Radio Frequency Interference Through Education Handouts
- § Implement Comprehensive Plan Amendments Discouraging Boat Slips, Marina Facilities, and Boat Traffic in Controlled Firing Areas
- § Implement Public Awareness Measures
- § Conduct Small Area Studies
- § Adjust Flight Patterns, Runway Usage Frequency, and/or Hours of Operations
- § Implement Military Influence Area (MIA) Ordinance

Public Awareness Flyer

Program Products and Benefits

The Eglin Tri County JLUS will result in a report identifying existing environment in the study area, any current conflicts between land uses and base operations, and potential future impacts. The report will also present strategies to minimize current problems, encourage compatible future development and prevent incompatible future development.

Anticipated benefits include:

- Improved intergovernmental relationships with respect to land use planning and development regulations.
- Improved communications among local governments, Eglin Air Force Base, and local neighborhoods.
- Increased awareness of potential conflicts between land development and Eglin Air Force Base.
- Improved local land development regulations.
- Protection of future military missions at Eglin.
- Health, safety, and welfare concerns addressed.



For More Information

Jeff Farris
Okaloosa County
Department of Growth Management
Growth Project Coordinator
1804 Lewis Turner Blvd., Suite 200
Fort Walton Beach, FL 32547
850.909.3014
850.551.7706 fax
www.co.okaloosa.fl.us

Submit feed back and question online at www.co.okaloosa.fl.us. From the home page, simply click on "Customer Service" and sign in as anonymous, register for an online account, or sign-in using your existing account.



Okaloosa, Walton,
Santa Rosa County

Joint
Land
Use
Study

Eglin Air Force Base
June 2008

Eglin Air Force Base Joint Land Use Study (JLUS):

What is a Joint Land Use Study (JLUS) ?

The Joint Land Use Study (JLUS) program managed by the Office of Economic Adjustment (OEA), Office of the Secretary of Defense, is a Department of Defense initiative that provides grants to state and local governments to participate with military installations in developing land use plans compatible with their mission.

The JLUS program encourages cooperative land use planning between military installations and the adjacent communities so that future community growth and development are compatible with the training and operational missions of the installation. It is more inclusive in scope than just noise and accident potential, and is more public in nature than the Air Installations Compatible Use Zones (AICUZ) program. Similar to the AICUZ program, the JLUS is a cooperative land use planning effort between the affected local government(s) and neighboring military installation(s). The difference is that a local or regional agency takes the lead in conducting the JLUS. The JLUS process typically involves various local community interests along with the military installation, and the study is a locally-produced product. Under this arrangement, there is a greater assurance that compatible land use controls will be adopted.

Why Do We Need a Joint Land Use Study?

The primary purpose of the JLUS is for the local governments to develop a compatible land use plan and set of land development regulations for the properties adjacent to and affected by Eglin Air Force Base and its operations.

Eglin Air Force Base is situated among three counties - Santa Rosa, Okaloosa, and Walton. Eglin is composed of 724 square miles of land and 123,000 square miles of water space, with 36 large test areas.

As part of 2005 Base Realignment and Closure (BRAC), the Department of Defense reported to Congress a recommended personnel and mission realignment to Eglin Air Force Base resulting in the addition of almost 5,000 military and civilian workers to the Base starting in 2009. There is a need for a systematic evaluation of a larger study area of the properties adjacent to and affected by Eglin's operations. Eglin Tri County JLUS will fulfil the need for a comprehensive study which brings both regulatory and non-regulatory minds together to protect existing and future development/operations.

Program Goals and Actions

The Eglin Tri County JLUS has the following goals:

- Involve local cities and counties within the project study area that will include portions of Okaloosa, Santa Rosa and Walton Counties.
- Protect the health, safety and welfare of the civilian and military communities.
- Identify appropriate regulatory and non-regulatory measures to ensure compatibility between existing and future land uses.
- Increase communication and cooperation between Eglin Air Force Base and neighboring counties.
- Protect and promote the present and future operational capabilities of Eglin's areas.

To achieve these goals, the following general steps have been identified:

- Establish a Policy Committee comprised of officials from local governments, Eglin Air Force Base, State of Florida, and other appropriate agencies to review and approve specific planning methodologies and implementation strategies.
- Establish a Technical Advisory Group comprised of professionals and citizens from local communities. The Group provides technical expertise and advises the Policy Committee.
- Evaluate existing and future operations and requirements of Eglin's operations.
- Evaluate existing and future land uses adjacent to and affected by Eglin's operations.
- Evaluate existing and proposed land use regulations to determine how conflicts are currently addressed, and identify gaps.
- Identify new land use regulations to ensure compatibility between existing and future land uses and air operations.

AAC Land Ranges



AAC Water Ranges



Public Awareness Websites

§ Avon Park Air Force Range

§ <http://www.cfrpc.org/JLUS-AvonParkAFR/>

§ Eglin AFB Joint Land Use

§ <http://webgis.co.okaloosa.fl.us/jlus/index.php/jlus.html>

§ NAS Lemoore

§ <http://www.kingscog.org/jlushome.html>

§ Kirtland AFB

§ <http://www.mrcog-nm.gov/land-aamp-water-mainmenu-158/kirtland-study-mainmenu-281>

Lesson Learned

Organization and Documentation are the keys to completing a project of this scope on time and on budget

- § Archive Input Data
- § Document Geoprocess Steps
- § Use consistent nomenclature
- § Delete Unsuccessful Geoprocess results
- § Easy File Naming System
- § Processing Power!

Questions/Comments

Alex Montalvo | GIS Senior Analyst
Tetra Tech

alex.montalvo@tetratech.com

