

Technical Information

3.0

3.1 Air Installations Compatible Use Zones (AICUZ) Program

Overview

All airports attract development. People who work at the airport want to live nearby, and businesses are established to cater to the airport and its employees. As development encroaches upon the airfield, more people experience noise and other impacts associated with aircraft operations.

The Noise Control Act of 1972 declared that it is the policy of the United States to promote an environment for all Americans free from noise that jeopardizes their health or welfare. This act also excluded military weapons or equipment that are designed for combat use. In response to the Noise Control Act of 1972, DoD established the Air Installations Compatible Use Zones (AICUZ) Program to balance the need for aircraft operations and community concerns. The goal of the AICUZ Program is to protect the health, safety, and welfare of those living near a military airport while preserving its defense-flying mission. AICUZ guidelines define zones of high noise and accident potential and recommend uses compatible within these zones. Local land use agencies are encouraged to adopt these guidelines.

Noise Zones

Under the AICUZ Program, DoD provides noise zones as a planning tool for local planning agencies. DoD measures noise exposure using the day-night average sound levels (DNL). The DNL noise metric averages noise events that occur over a 24-hour period. Aircraft operations conducted at night (10:00 p.m. to 7:00 a.m.) are weighted because people are more sensitive to noise during normal sleeping hours when ambient noise levels are lower. The DNL contours on the AICUZ maps reflect the noise exposure in the surrounding communities and the fact that noise impacts diminish with distance from the airfield. DNL contours do not reflect the noise of individual aircraft events. DNL contours are used to assess average long-term noise exposure rather than the impact of a single event.

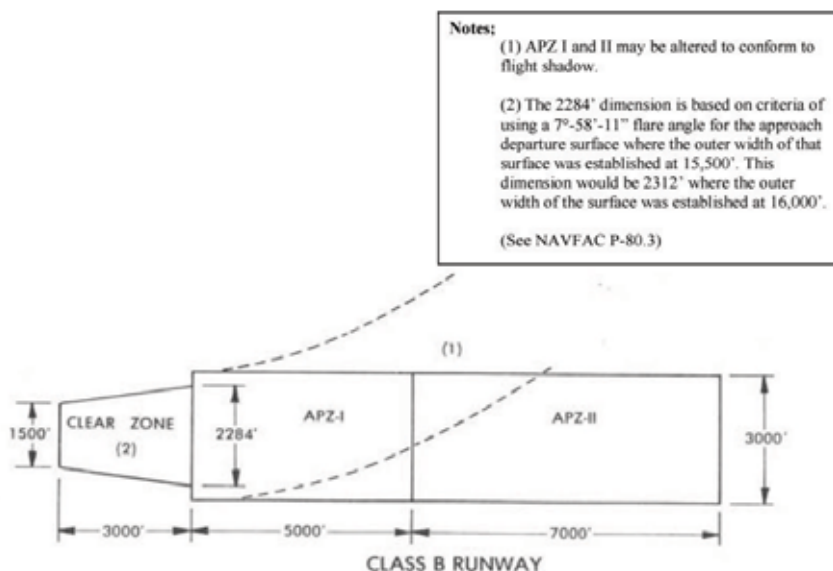
Accident Potential Zones

DoD also provides Accident Potential Zones (APZs) around its airfields as a planning tool to local land use agencies. APZs are areas where an aircraft accident is likely to occur if one occurs. They do not reflect the probability of an accident. APZs follow arrival, departure, and pattern flight tracks and are based upon analysis of historical data. The AICUZ map defines three APZs - the Clear Zone, APZ 1, and APZ 2. The Clear Zone extends 3,000 feet beyond the runway and has the highest potential for accidents. APZ 1 extends 5,000 feet beyond the Clear Zone, and APZ 2 extends 7,000 feet beyond APZ 1. If an accident is to occur, it is more likely to occur in APZ 1 than APZ 2 and more likely to occur in the Clear Zone than in either APZ 1 or APZ 2.

As stated above, APZs follow arrival, departure, and pattern flight tracks. APZs are not “roadways” in the sky. Weather conditions, wind, pilot technique, and other air traffic will typically cause some lateral deviation within the landing pattern around an airport.

Certain land uses are not compatible with military flight operations. Modifications to proposed land development near the airfield can help

Figure 3.1 Accident Potential Zone Dimensions (APZs)



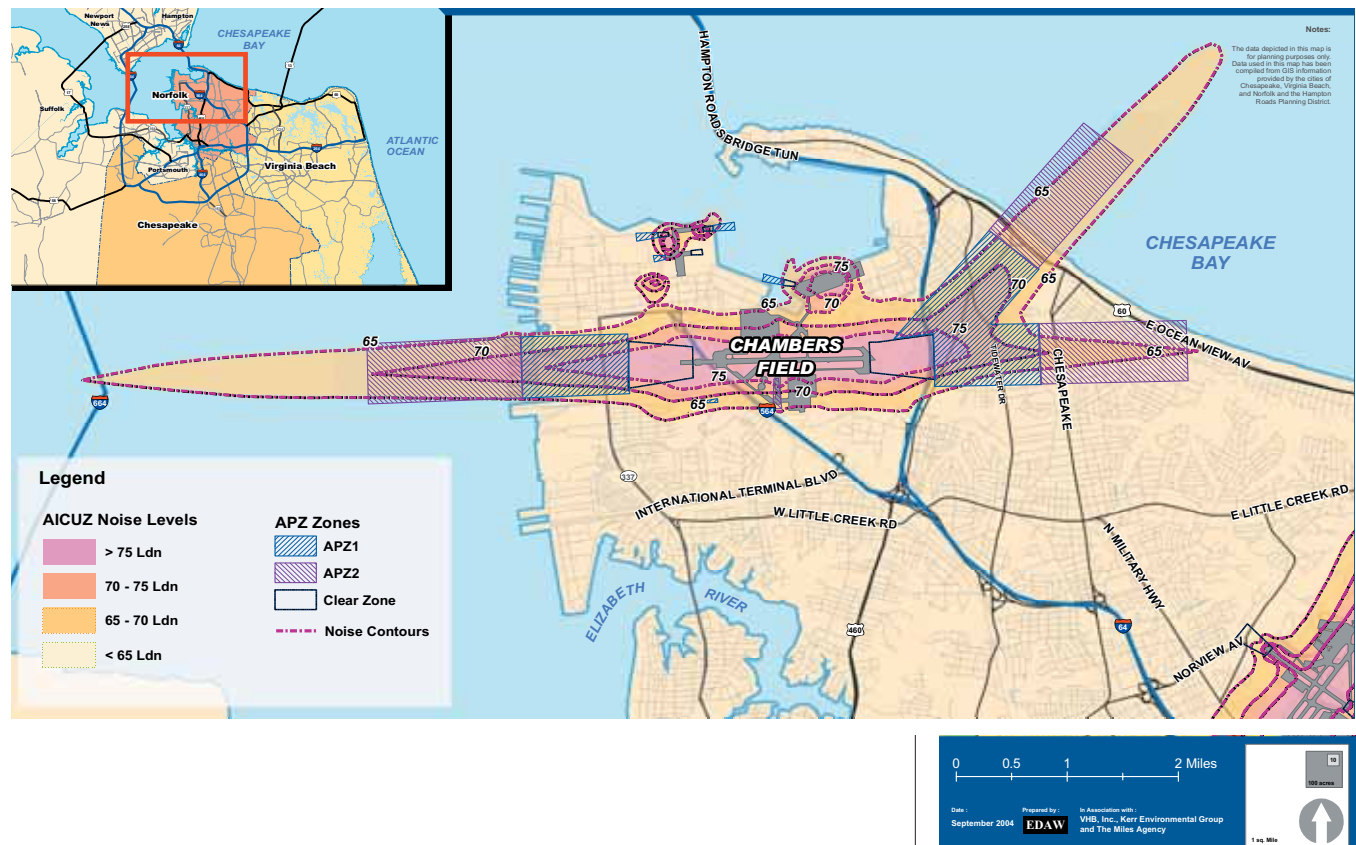
Source: OPNAV INSTRUCTION 11010.36B, December 2002

resolve tension between the community and the military. In general, DoD recommends that noise-sensitive uses (i.e., houses, churches, amphitheaters, etc.) be placed outside high noise zones and that people-intensive uses (i.e., regional shopping malls, theaters, etc.) not be placed in APZs. These DoD recommendations are intended to serve only as guidelines. Local governments alone are responsible for regulating land use.

Navy Regulations

The Navy sets specific recommendations for land uses within the various noise and Accident Potential Zones identified in the AICUZ Program. This guidance is contained in OPNAV INSTRUCTION 11010.36B issued by the Chief of Naval Operations (CNO) in 2002, which is used across the country to set compatibility standards around Navy air installations. The suggested land use compatibility charts for noise zones and APZs contained in OPNAVINST 11010.36B are provided in Appendix 1. This instruction updates earlier instructions in effect prior to 2002.

Figure 3.2 Accident Potential and Noise Levels - Chambers Field



Notes:
The data depicted in this map is for planning purposes only. Data used in this map has been compiled from GIS information provided by the cities of Chesapeake, Virginia Beach, and Norfolk and the Hampton Roads Planning District.

Legend

AICUZ Noise Levels	APZ Zones
> 75 Ldn	APZ1
70 - 75 Ldn	APZ2
65 - 70 Ldn	Clear Zone
< 65 Ldn	Restricted Zone
	Noise Contours

Scale: 0 0.5 1 2 3 Miles

Date: October 2004

Prepared by: EDAW

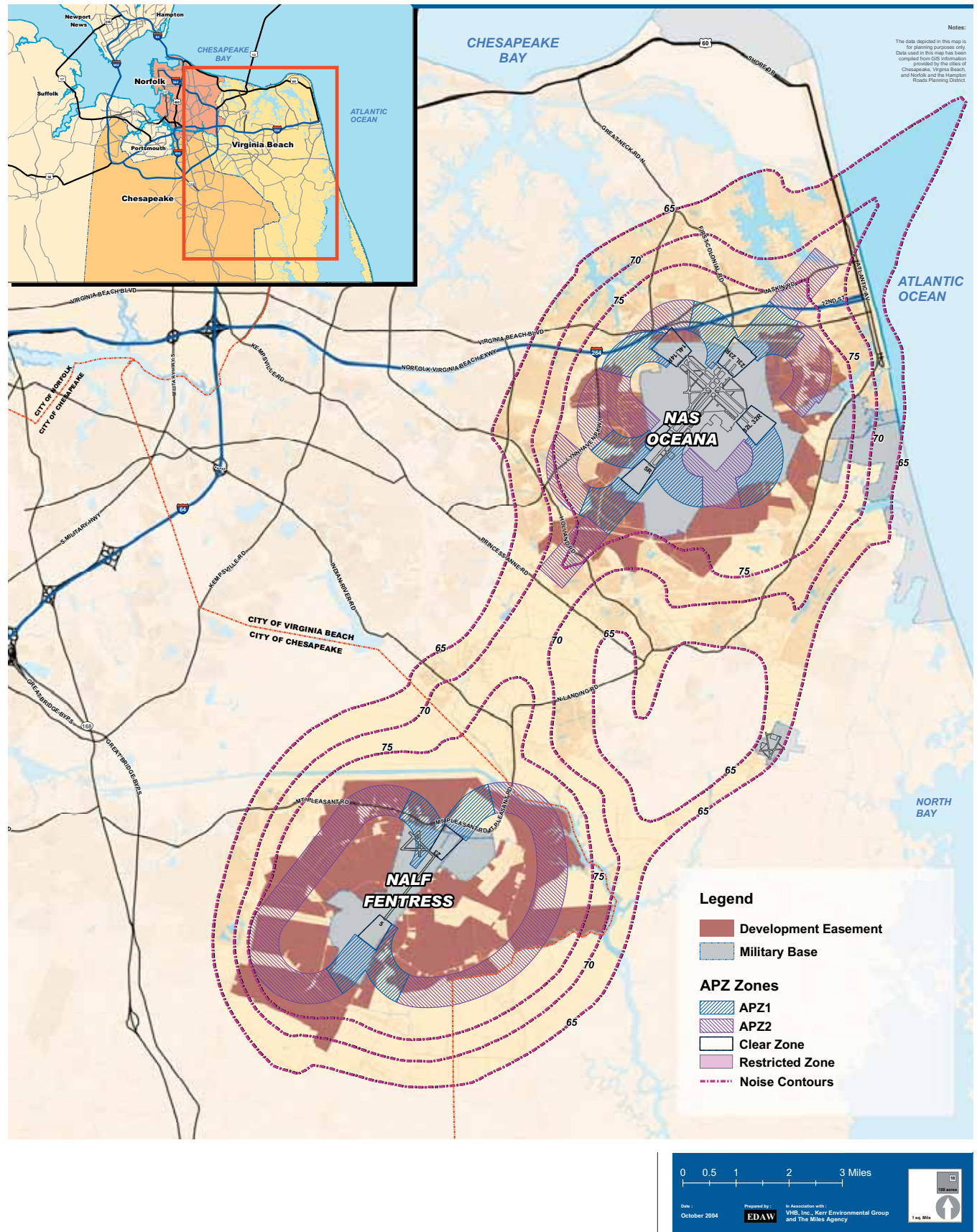
In Association with: VHB, Inc., Kerr Environmental Group and The Miles Agency

1 sq. Mile

The most recent AICUZ study the Navy drafted for its Hampton Roads airfields was in 1999. As directed by the JLUS Policy Committee, the maps generated as part as the 1999 AICUZ study are the maps used for planning purposes in this JLUS planning effort. These maps, shown in Figures 3.2 and 3.3, depict the noise contours and APZs for each of the three Navy air installations included in this study.

To further assist in buffering impacts related to military operations, the Navy has purchased restrictive easements around both Oceana and Fentress. The easements were purchased from individual landowners and conveyed to the Navy the right to restrict certain activities on the property that would be incompatible with airfield operations, such as residential development. These easements were acquired over a 12-year period after 1972 when the initial AICUZ for Oceana and Fentress was established. Congress funded the purchase of these easements through the Navy's military construction (MILCON) program. A total of 3,681 acres of restrictive easements were purchased around NAS Oceana and 8,780 acres were purchased around NALF Fentress (See Figure 3.4).

Figure 3.4 Restrictive Easements around NAS Oceana & NALF Fentress



3.2 Environmental Resources

One method of reducing to some degree conflicts between the operational requirements of the Navy and future development within the JLUS jurisdictions is to identify methods and/or opportunities for conservation of natural areas, particularly within the AICUZ. As part of this study, existing conservation lands were identified in the region that currently provide natural “buffers” from air operations, as well as lands that have the potential for future designation for this purpose. These lands were identified in a Geographic Information System (GIS) mapping format using data available from Federal, state or local sources. The analysis was completed for lands surrounding NAS Oceana and NALF Fentress only since Chambers Field is in an existing urban area with little undeveloped natural areas remaining near NS Norfolk (that are not already designated as City parkland or open space).

The natural resources data available at a scale sufficient to cover the Virginia Beach and Chesapeake study area required use of planning-level documentation, rather than precise parcel-by-parcel information. The data sources utilized included the State Scenic Rivers, 100-year floodplain maps (FEMA), 100 foot Resource Protection Area buffers (Cities of Chesapeake, Norfolk and Virginia Beach), 50 foot Southern Watersheds Management Ordinance buffers (City of Virginia Beach) and the National Wetland Inventory (U.S. Fish and Wildlife Service).

The existing resources mapped included the following environmental resources:

Environmentally Sensitive Areas:

- Water bodies
- Floodplains
- Wetlands

Parks and Open Space:

- Parkland
- Golf courses
- City-owned public open space
- False Cape State Park
- First Landing State Park
- Northwest River Natural Area Preserve

Protected Lands:

- DoD/military lands
- DoD easements

- Wildlife refuges (managed by U.S. Fish & Wildlife Service)
- Wildlife Management Areas (managed by Virginia Department of Game and Inland Fisheries)
- Open space easements (purchased by or donated to the Virginia Outdoors Foundation)
- Privately conserved land (purchased by or donated to the Nature Conservancy)
- Preserved farmland (designated as part of the City of Virginia Beach's Agricultural Reserve Program)

The overwhelming majority of existing conservation and open space lands lie within the 100 year floodplain of the dominant water bodies within the study area: Back Bay, North Landing River, Northwest River, the Elizabeth River, and their dominant tributaries. Properties within the Agricultural Reserve Program are often located immediately outside the 100 year floodplain, thereby providing buffers to the floodplains and occasional corridors between them. Opportunities for conservation were examined that could build upon this existing “backbone” of conservation and land stewardship.

An ongoing, regional study, the Southern Watershed Area Management Program (SWAMP) was initiated formally in 1994 by the Cities of Chesapeake and Virginia Beach, in partnership with HRPDC and the Virginia Coastal Program with the goal: “To protect and enhance the natural resources, sensitive lands and water supplies of the Southern Watersheds of Chesapeake and Virginia Beach.”

The Southern Watersheds include Back Bay, Northwest River and the North Landing River. The SWAMP has achieved many successes including the incorporation of elements of SWAMP in the recent Comprehensive Plan approved by Virginia Beach and the Comprehensive Plan update currently underway in Chesapeake. Other achievements include the adoption of an Open Space and Agricultural Preservation Program in Chesapeake, and the development of the first Conservation (low-impact residential) Subdivision in the Southern Watershed Area (the “Preserve on the Elizabeth”) in Chesapeake. Both Cities are also in the process of revising their preservation and conservation zoning district.

An additional outcome of SWAMP was the completion of the Multiple Benefits Conservation Program Memorandum of Agreement in 2002, signed by the Cities of Chesapeake and Virginia Beach, along with several state and Federal agencies. The Agreement is intended to encourage the achievement of multiple ecological benefits when sites are being



Intercoastal Waterway and wetlands in Chesapeake

considered for restoration or preservation in the Southern Watershed Area, including compensation for impacts to jurisdictional wetlands. A Conservation Corridor system was developed for the Southern Watershed Area (SWA) as part of the Multiple Benefits Conservation Program. This corridor roughly corresponds to the 100 year floodplain surrounding the three major water bodies in the SWA. The Conservation Corridor system was intended to achieve three goals: linkages of existing protected areas, protection of critical habitat (67 plants, 22 animal and 19 community types rare in the Commonwealth are found in the SWA), and formation of riparian buffers. Currently, the use for this Conservation Corridor system is to identify restoration and preservation sites within the SWA that provide multiple benefits, chiefly for wetland compensation.

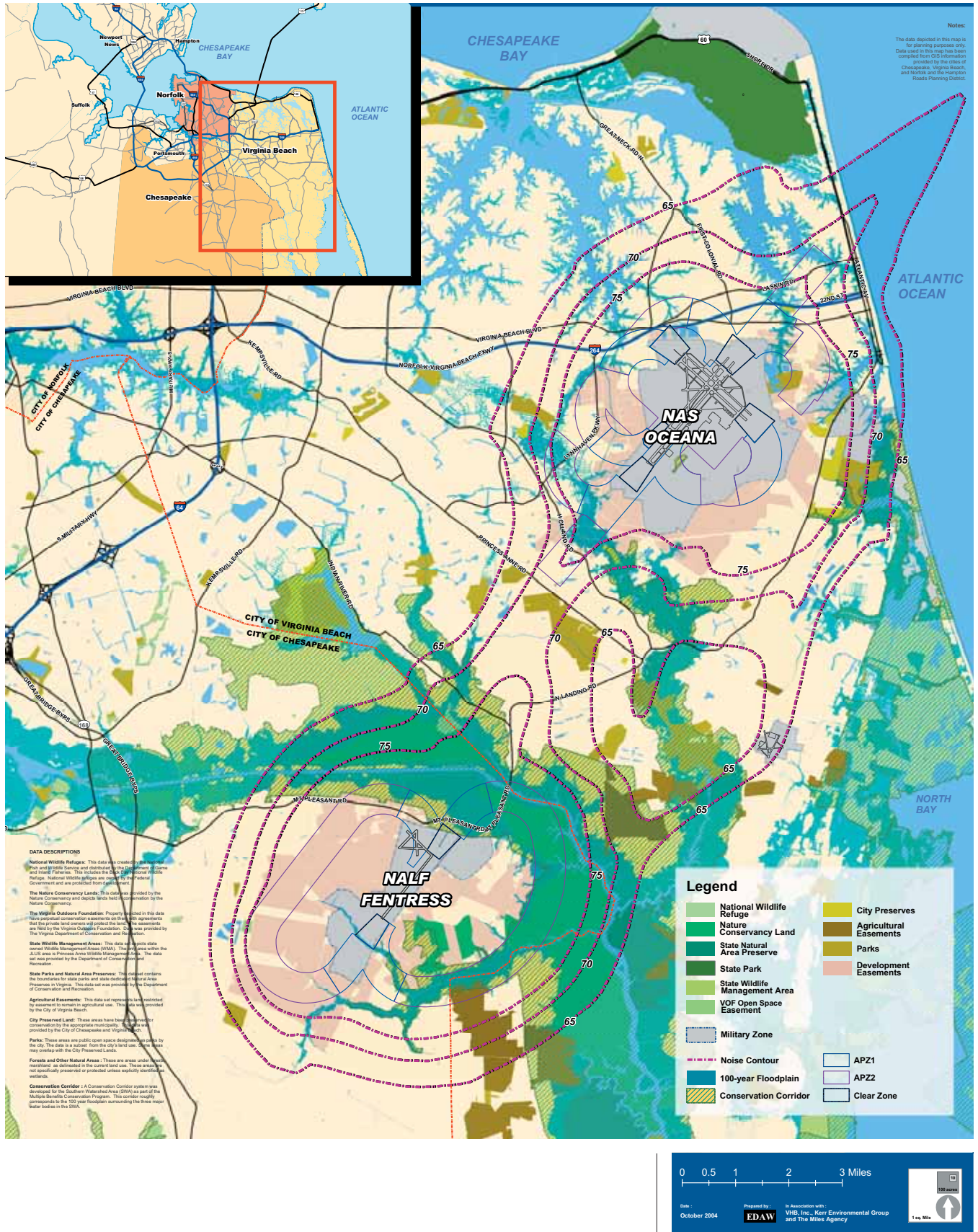
As a consequence of the Southern Watershed Area being located largely within the JLUS area, it is recommended that potential conservation opportunities be researched within the Conservation Corridor system to learn whether the goals of the JLUS can be benefited (See Figure 3.5). Mechanisms for the preservation and enhancement of such properties (acquisition, easements, etc.) will also need to be researched as there are no monies currently available for such efforts.

The Floodplain Regulations of the City of Virginia Beach also limit development within this natural resource. Perpetual protection of lands within the Conservation Corridor system or any other area within the JLUS area will need to consider natural limitations to development based upon the 100 year floodplain.

It is also recommended that the Agricultural Reserve Program (ARP) be evaluated to determine whether a criterion can be developed that takes into account whether the lands of future participants provide benefits related to goals defined in the JLUS. ARP lands are already providing protection to 100 year floodplains as well as providing buffers to the floodplain and yielding conservation corridors between various 100 year floodplains. The result of this future effort would be similar to the benefits accrued to NALF Fentress as a consequence of the Open Space and Agricultural Preservation Program in Chesapeake.

In summary, conservation opportunities may exist within the context of building incrementally on existing programs and agreements within and between the Cities of Chesapeake and Virginia Beach. Such opportunities could further the protection of the 100 year floodplains of Back Bay, Northwest River, North Landing River and their major tributaries, and aid in maintaining agriculture as a viable industry in the Southern Watershed Area.

Figure 3.5 Conservation Areas around NAS Oceana & NALF Fentress



3.3 Transportation/Infrastructure

3.3.1 Existing Conditions

NAS Oceana

The general location of the airfield and its associated activity areas within the urbanized areas of Virginia Beach and Chesapeake results in a multitude of existing traffic and transportation conditions. Interstate-264 (I-264), which connects the oceanfront to Interstate-64 (I-64) and Downtown Norfolk, bisects the city in the east-west direction and traverses just north of NAS Oceana. I-264 serves Oceana from several interchanges at Lynnhaven Parkway, First Colonial Road and Birdneck Road.

The central location of NAS Oceana within the city of Virginia Beach creates a large, non-traversable, secure area that requires several perimeter routes to provide access to southern areas of the city. There have been several recent improvements to perimeter corridors connecting to the interstate that will improve base access and reduce congestion for vehicles traveling to the growing areas in southeast Virginia Beach.

Along the west perimeter, the Virginia Department of Transportation (VDOT) is completing work on the improvements of London Bridge Road from Virginia Beach Boulevard to Dam Neck Road. These improvements will increase capacity and safety by improving the roadway from a two-lane rural roadway to a four-lane divided roadway. Along the northeast perimeter, improvements on Oceana Boulevard have also been recently completed from Virginia Beach Boulevard to General Booth Boulevard and provide the same increase in capacity/safety for through traffic, as well as traffic accessing the base.

Princess Anne Road, Dam Neck Road and General Booth Boulevard provide connectivity to the base from southern Virginia Beach as well as from Chesapeake. The latter two facilities have adequate existing capacity and, if required, potential for expansion to handle projected future traffic growth in the area. Sections of Princess Anne Road require widening in the future to meet current and projected traffic demands.

Chambers Field

Chambers Field is located on NS Norfolk, in the northern part of the City of Norfolk. The area around the base is a densely developed, mature urban environment with major roadway corridors mixed with local street systems. The existing systems mainly experience congestion during

peak hour events generated by base traffic. In order to offset impacts to the local system, there are multiple access points to the base that are frequently affected by security requirements. Interstate-564, Interstate-64, Hampton Boulevard and International Terminal Boulevard are the major transportation corridors in vicinity of the base. These corridors provide the main access and capacity for the large amount of traffic generated by the base. Various methods of transit, including use of HOV lanes, buses and ride share programs, are currently in use to mitigate impacts of traffic on the roadway network.

NALF Fentress

NALF Fentress is located in Chesapeake along its northern border with Virginia Beach. The surrounding area is generally rural with residential development generating the majority of traffic in the area. Mount Pleasant Road, a two and four lane rural arterial, serves as the major east/west corridor in the area. Also bracketing the area in the north/south directions are Princess Anne Road and Route 168, which serves the Outer Banks of North Carolina. Rural secondary roadways in the area are generally two-lane facilities with minimal shoulders and sharp curves creating low safety conditions.

3.3.2 Future Improvements

Chambers Field

Because of the developed urban nature of the area, no significant improvements beyond the Third Hampton Roads Crossing are planned except those that will be defined by redevelopment activities. The Third Crossing is a regional project providing additional connections between I-564 at the Naval Base and Interstate 664 (I-664) in Suffolk and on the Peninsula and Route 164 in Portsmouth (see Figure 3.6). The project includes tunnel crossings, multiple interchanges, and a mass transit component, taking more than ten years to complete with costs in excess of three billion dollars. The project will improve access to the base and surrounding communities.

In the more immediate term, a new highway/rail underpass will be constructed on Hampton Boulevard in the area of Greenbrier Avenue. Work on this project to eliminate travel conflicts between cars and trains serving the adjacent international port is scheduled for 2007.

Figure 3.6 Planned Transportation Improvements around Chambers Field



NAS Oceana

Future planned improvements around NAS Oceana include the construction of the Southeastern Parkway and Greenbelt connecting I-64 in Chesapeake to I-264 just northeast of the base in Virginia Beach (See Figure 3.7). This is the most significant improvement for the area as the limited access roadway will improve local traffic and provide an alternative to I-264 for traffic heading toward the oceanfront and the base. Several access points are planned near the base at Dam Neck Road and Oceana Boulevard. In addition, other planned improvements include reconstruction of the Lynnhaven Parkway interchange with I-264 and the widening of First Colonial Road between Virginia Beach Boulevard and the I-264 interchange. A future extension of Nimmo Parkway to North Landing Road will also improve circulation in the area and provide an additional access point for future growth in south Virginia Beach.

Although not directly adjacent to the base, improvements are planned in the southern part of Virginia Beach designated as the Princess Anne or Transition Area. This area has recently undergone a planning charrette to define development requirements in anticipation of the growth. Improvements in the area include:

- Sandbridge Road Widening and Safety Improvements
- Seaboard Road Improvements
- Indian River Road Widening

NALF Fentress

Similar to Oceana, the proposed Southeastern Parkway and Greenbelt will pass Fentress north of the existing Mount Pleasant Road. It will provide interstate-type access to this area and accommodate recent growth along the corridor and adjacent connecting routes. Because of its proximity to the Virginia Beach Transition Area, the secondary roadways around Fentress will see similar improvements by developers to gain access to developable land near the new interstate facility. As part of these improvements, the City of Chesapeake has identified Route 17 as a major priority to serve areas of south Chesapeake and provide an alternative to Route 168 for access to North Carolina. This roadway is tied to the Southeastern Parkway and Greenbelt by an agreement between the two cities and VDOT to support both projects to ensure success for both localities. Significant steps are underway by both cities to plan land use around these growth corridors to ensure measured growth and maximize the potential improvements.

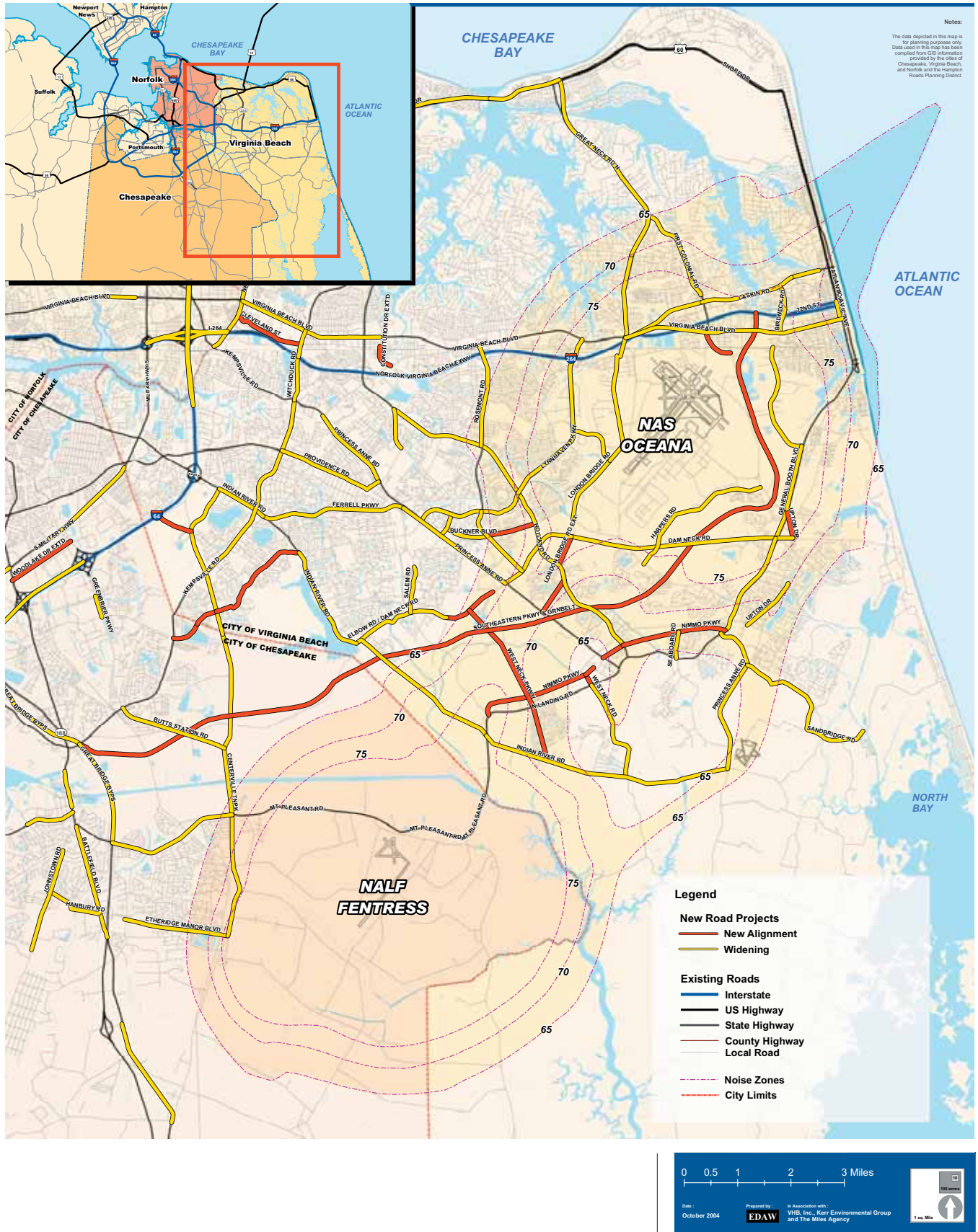
3.3.3 Summary

Improvements to the transportation networks around NAS Oceana and NALF Fentress will have noticeable effects in the near and long-term. In the near-term, improvements are designed and projected to decrease congestion on collector and local roads within the study area, increasing access to key destinations. Some improvements will result in alternatives to current traffic patterns on both major arterials and collectors within the vicinity of the airfields.

Long-term impacts of the planned improvements are still unknown. Predicted effects will be an increased level of access for new development in areas surrounding NAS Oceana and NALF Fentress. The development of new roadways will inevitably provide improved and more convenient access to lands previously not conducive for development because of a lack of infrastructure. However to be approved, new development will need to be consistent with the adopted Comprehensive Plan policies of both surrounding jurisdictions.

The only major transportation improvements planned near NS Norfolk and Chambers Field are the Third Crossing and Hampton Boulevard

Figure 3.7 Planned Transportation Improvements around NAS Oceana & NALF Fentress



underpass at Greenbrier Avenue, which will have minimal effects, if any, on land uses in the AICUZ.

3.4 Existing Land Uses

The following analysis assesses the compatibility of existing civilian land uses around the three Navy airfields. When compatible, land uses can exist next to each other without causing interference or exposing people to risk or nuisance. In the JLUS context, the following land uses are generally deemed inconsistent when near military aircraft operations:

- uses that concentrate people in a compact area (certain residential densities, schools, churches, hospitals)
- vertical uses that encroach on air space (communications towers)
- uses that may draw birds/animals near airfields creating a strike hazard for aircraft (retention ponds)
- uses that may interfere with radio frequency
- uses that throw off excessive lighting and may impair a pilot's vision
- uses that throw off smoke, dust, and steam and may impair a pilot's vision

Land use types used for this JLUS analysis were based on the Standard Land Use Coding Manual (SLUCM), which was used to create a common basis for land use analysis across the three jurisdictions within the study. This analysis evaluated the existing land use within the AICUZ noise contours surrounding the three Navy airfields, as established by the 1999 AICUZ map.

3.4.1 NAS Oceana

The area within the noise zones around NAS Oceana is dominated by Residential uses, Military uses, and Undeveloped/Vacant land. These categories combined constitute over half of the lands within the affected area. Residential (including single and multi-family units) is approximately 26% of total land use within the 1999 AICUZ noise contours (See Table 3.1).

Land use compatibility is an obvious concern around NAS Oceana, as evidenced by the number of existing acres in residential use. Almost 12,000 acres are in residential use within noise contours above 65 DNL. Approximately 3,000 acres are in the highest Noise Zone above 75 DNL (See Figure 3.8).



Existing land uses in Virginia Beach AICUZ

Table 3.1 Existing Land Use around NAS Oceana (City of Virginia Beach)

Land Use Type	Acres in Noise Zone (LDN)				% of Total AICUZ Acres*
	65-70	70-75	+ 75	Total	
Rural Residential	98	127	134	359	0.8%
Residential	5,318	3,556	3,005	11,879	25.5%
Agricultural Use	2,136	1,016	1,080	4,232	9.1%
Commercial Office	53	95	463	611	1.3%
Commercial Retail	432	281	1,005	1,718	3.7%
Industrial	45	38	626	708	1.5%
Institutional / Public / Semi-Public	1,136	965	676	2,777	6.0%
Military Base	661	291	5,683	6,634	14.2%
Public Open Space	578	322	223	1,123	2.4%
Forest and Other Natural Areas	1,608	1,134	1,285	4,027	8.6%
Roads & Transportation	1,378	1,024	1,391	3,793	8.1%
Undeveloped / Vacant	1,923	1,603	3,146	6,672	14.3%
Water	1,218	492	419	2,129	4.6%
TOTALS	16,583	10,945	19,134	46,663	100.0%

Source: EDAW, City of Virginia Beach Planning Dept., 2004

* Totals calculated within jurisdiction only

3.4.2 NALF Fentress

The land uses within the noise zones around NALF Fentress are dominated by open space and agriculture. Over 70% of the land uses in the AICUZ are in these two categories, with Rural Residential comprising the next highest percentage, approximately 12% of the land area (See Table 3.2).

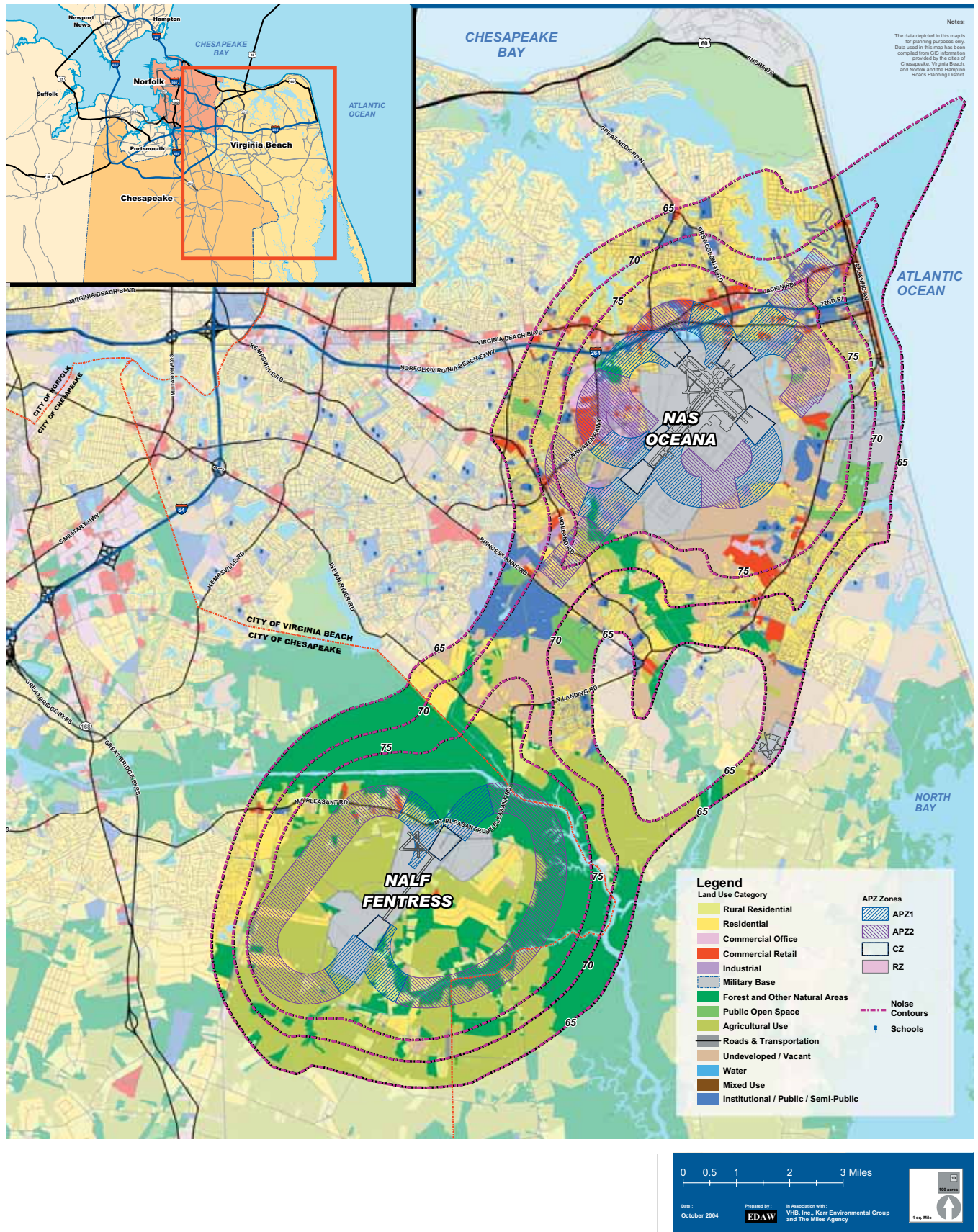
Table 3.2 Existing Land Use around NALF Fentress (City of Chesapeake)

Land Use Type	Acres in Noise Zone (LDN)				% of Total AICUZ Acres*
	65-70	70-75	+ 75	Total	
Residential	459	188	47	694	3.0%
Rural Residential	427	397	1,916	2,740	12.0%
Agricultural Use	1,258	908	5,631	7,797	34.1%
Commercial Retail	17	3	64	83	0.4%
Commercial Office	1	0	5	7	0.0%
Institutional / Public / Semi-Public	0	27	7	35	0.2%
Military Base	0	0	2,142	2,142	9.4%
Forest and Other Natural Areas	1,463	1,350	5,284	8,097	35.4%
Public Open Space	0	12	15	27	0.1%
Roads & Transportation	107	81	242	429	1.9%
Undeveloped / Vacant	52	50	280	382	1.7%
Water	85	70	267	422	1.8%
TOTALS	3,868	3,086	15,900	22,854	100.0%

Source: EDAW, City of Chesapeake Planning Dept., 2004

* Totals calculated within jurisdiction only

Figure 3.8 Existing Land Use around NAS Oceana & NALF Fentress



3.4.3 NS Norfolk (Chambers Field)

Most of the Chambers Field AICUZ is located within the military boundaries of NS Norfolk (See Table 3.3). Land uses within the noise zones outside of the Navy base are dominated by suburban residential development, comprised mostly of established single family neighborhoods. The next highest categories off-base include water and recreational lands.

High density residential use is considered incompatible in any noise zones. However, the majority of these uses were constructed either prior to air operations at Chambers Field or during or after WWII when Navy operations at NS Norfolk were focused on the waterfront. Little remaining land exists within the AICUZ around Chambers Field for future development (See Figure 3.9).

Table 3.3 Existing Land Uses around Chambers Field

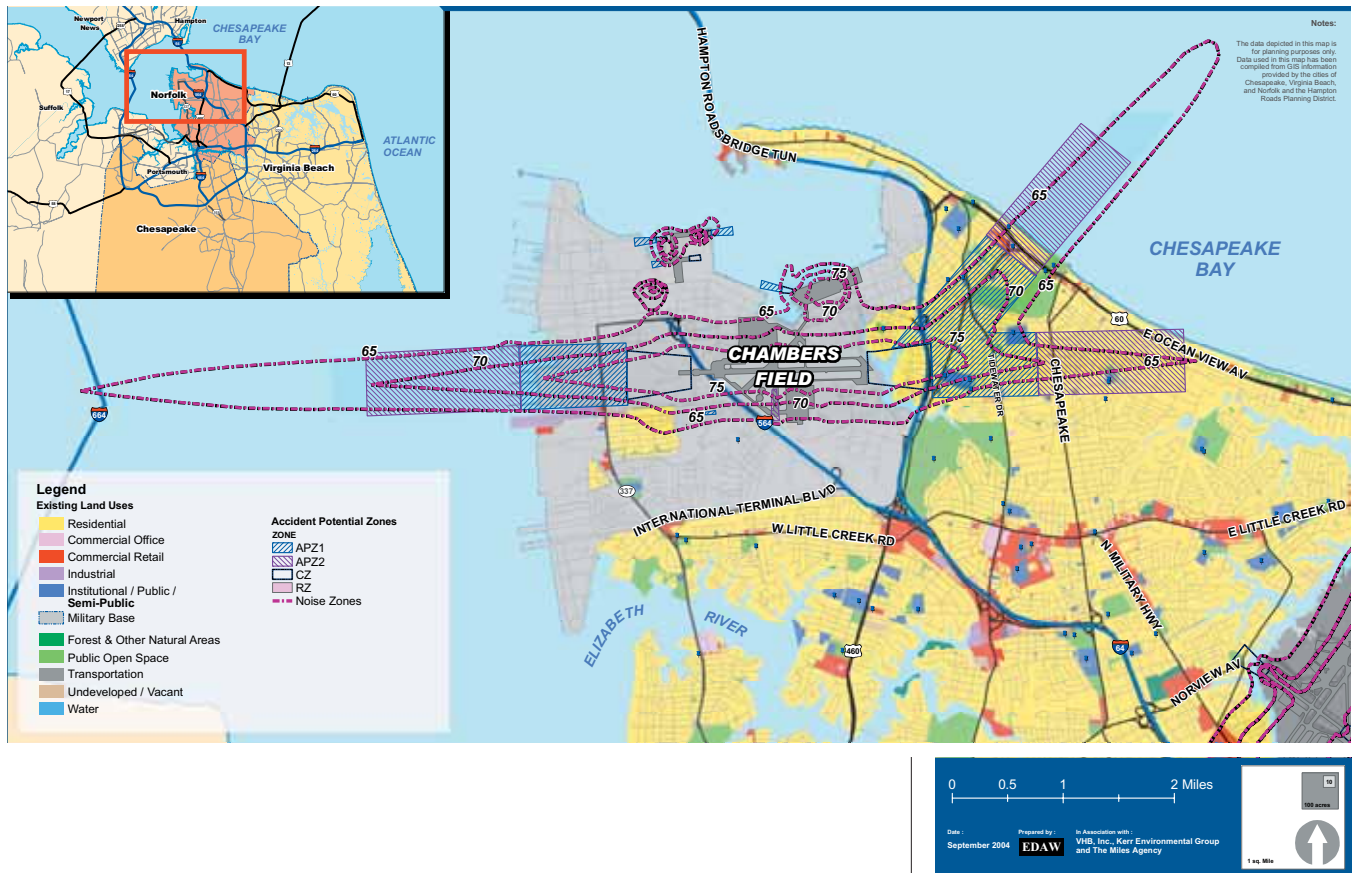
Land Use Type	Acres in Noise Zone (LDN)				% of Total AICUZ Acres
	65-70	70-75	75+	Total	
Commercial	16	3	0	18	0.5%
Industrial	14	0	0	14	0.4%
Institutional / Public / Semi-Public	67	17	2	86	2.6%
Military Base	654	531	684	1,869	56.0%
Public Open Space	50	39	0	89	2.7%
Residential	546	276	133	955	28.6%
Undeveloped / Vacant	1	0	0	1	0.03%
Water	174	93	41	308	9.2%
TOTALS	1,522	959	860	3,341	100.0%

Source: EDAW, City of Norfolk Planning Dept., 2004



Commodore Park residences east of Chambers Field

Figure 3.9 Existing Land Use around Chambers Field



3.5 Future Land Use

3.5.1 Virginia Beach (NAS Oceana)

The City of Virginia Beach adopted a new Comprehensive Plan in 2003, guiding future development through broad land use policies. The Plan guides future development into Strategic Growth Areas, regions designated around the City which are suitable for the creation of community nodes, often with access to transportation links and mixed-use services. Compatible land uses are designated for each Strategic Growth Area, recognizing constraints and development limitations of specific areas.

Twelve strategic growth areas were created, half of which are located within the AICUZ zones (See Figure 3.10). Strategic Growth Areas within the AICUZ noise zones around NAS Oceana recognize the incompatibility of residential uses, instead targeting future growth of limited commercial and industrial uses. The seven growth areas located inside the NAS Oceana AICUZ boundaries include:

- North London Bridge Area
- Hilltop/North Oceana Area
- East Oceana Area
- West Oceana Area
- South Oceana Area
- West Holland Area
- North Princess Anne Commons Area

In addition, the AICUZ also includes the entire Resort Area which is a major area in the City targeted for redevelopment and revitalization.

In total, over 70% of lands in the AICUZ zones lie north of the Green Line (See Table 3.4). Nearly 6,000 acres of the land north of the Green Line are designated as future Strategic Growth Areas. This figure can then be compared to approximately 200 acres designated in Strategic Growth Areas south of the Green Line. Thus, much of the future development growth planned for Virginia Beach is located north of the Green Line.

Lands within the AICUZ south of the Green Line primarily include the Princess Anne and Rural Areas. Created to provide a gradient of development options and densities between the existing development in the north and rural areas in the south, the Princess Anne or Transition Area is one where limited new services and utilities will help ensure such a buffer. The City identified this area along with the Green Line to prevent the extension of capital improvements and utilities into existing rural



New Convention Center under construction

Notes:
The data depicted in this map is for planning purposes only. Data used in this map has been compiled from GIS information provided by the cities of Chesapeake, Virginia Beach, and Norfolk and the Hampton Roads Planning District.

Legend

Chesapeake Land Use

- Rural Residential
- Residential
- Commercial Office
- Commercial Retail
- Industrial
- Institutional / Public
- Semi-Public
- Military Base
- Forest and Other Natural Areas
- Public Open Space
- Agricultural Use
- Roads & Transportation
- Undeveloped / Vacant
- Water
- Mixed Use

Virginia Beach Planning Areas

- OCEANFRONT RESORT AREA
- STRATEGIC GROWTH AREA
- PRINCESS ANNE
- RURAL ZONE
- GREEN LINE

APZ Zones

- APZ1
- APZ2
- Clear Zone
- Restricted Zone

Noise Contours

- 65
- 70
- 75

Schools

Scale: 0 0.5 1 2 3 Miles

Date: October 2004

Prepared by: EDAP

In Association with: VHB, Inc., Kerr Environmental Group and The Miles Agency

1 sq. Mile

Table 3.4 Future Land Uses around NAS Oceana

Areas North of Green Line	Acres in Noise Zone (LDN)			
	65-70	70-75	+ 75	Total
Strategic Growth Areas	289	942	4,595	5,826
Primary Residential Area	10,036	4,670	5,495	20,201
Oceanfront Resort Area	603	942	240	1,785
Military	488	291	5,686	6,465
Water	1,047	447	284	1,778
SUBTOTAL	12,463	7,292	16,300	36,055
Areas South of Green Line				
Strategic Growth Areas	233	0	0	233
Princess Anne/Transition Area	3,153	1,965	928	6,046
Rural Area	3,196	1,640	1,925	6,761
SUBTOTAL	6,582	3,605	2,853	13,040
TOTALS FOR BOTH AREAS	19,045	10,897	19,153	49,095

Source: EDAW, City of Virginia Beach Planning Dept., 2004

areas. The new Comprehensive Plan allows residential densities in the Transition Area at a maximum of one dwelling unit per acre, an increase from the existing agricultural zoning but less than other residential uses north of the Green Line. However, rezonings consistent with the Interim Development Guidelines for individual parcels in this area have been postponed pending the completion of this JLUS and other studies under review by the City Council.

The Comprehensive Plan recognizes the limitations of new growth around NAS Oceana for the community's safety while balancing the need for future development of the tourist economy and redevelopment of the resort area along the shore. The community recognizes the opportunities in targeting higher density development around transit outside of the noise zones. Maintaining lower density residential and rural uses in the Princess Anne Area and southern part of the city enables the retention of suburban communities desired by some citizens. Future challenges include the redevelopment of the Resort Area, and other aging residential communities, within the context of land uses compatible with the military mission at NAS Oceana.

3.5.2 Chesapeake (NALF Fentress)

Future land uses envisioned around NALF Fentress are rural and conservation-related. Low density residential use is planned in complementary form with rural preservation in this part of the City. This section of the City is also subject to Level of Service (LOS) standards that require existing, planned or funded infrastructure to be in place before rezonings to more intensive development districts are allowed by City Council. In addition, much of the land to the north and east of Fentress is wetland and marsh areas, including the North Landing Natural Area Preserve, that will remain as permanent open space (See Figure 3-10).

Within close proximity to the airfield, because of existing development easements purchased by the Navy years ago, the predominant uses will remain rural residential and agricultural. The majority of residential acreage in the AICUZ is already developed, including subdivisions such as Stratford Terrace, Schoolhouse Crossing and Albemarle Farms west of Fentress off of Mount Pleasant Road.



New home construction in Chesapeake near NALF Fentress

Table 3.5 Future Land Uses around NALF Fentress

Future Land Use Type	Acres in Noise Zone (LDN)			
	65-70	70-75	+ 75	Total
Residential	993	496	143	1,632
Rural Residential & Agriculture	1,824	1,266	8,998	12,088
Commercial Retail	35	3	64	102
Commercial Office	1	0	5	6
Institutional / Public / Semi-Public	133	154	867	1,154
Military Base	0	0	2,142	2,142
Forest and Other Natural Areas	797	1,085	3,398	5,280
Public Open Space	0	12	15	27
Water	85	70	267	422
TOTALS	3,868	3,086	15,899	22,854

Source: EDAW, City of Chesapeake Planning Dept., 2004

3.5.3 Norfolk (Chambers Field)

Future land use envisioned around Chambers Field in the City of Norfolk is similar to today's current patterns, primarily because this area is already developed with very little vacant land available for future development. Redevelopment of existing residential units and limited new retail/service uses in certain locations is the primary focus of future land use. New commercial, condominium and other resort-type development is being considered along portions of the waterfront but this development is



West Ocean View in Norfolk

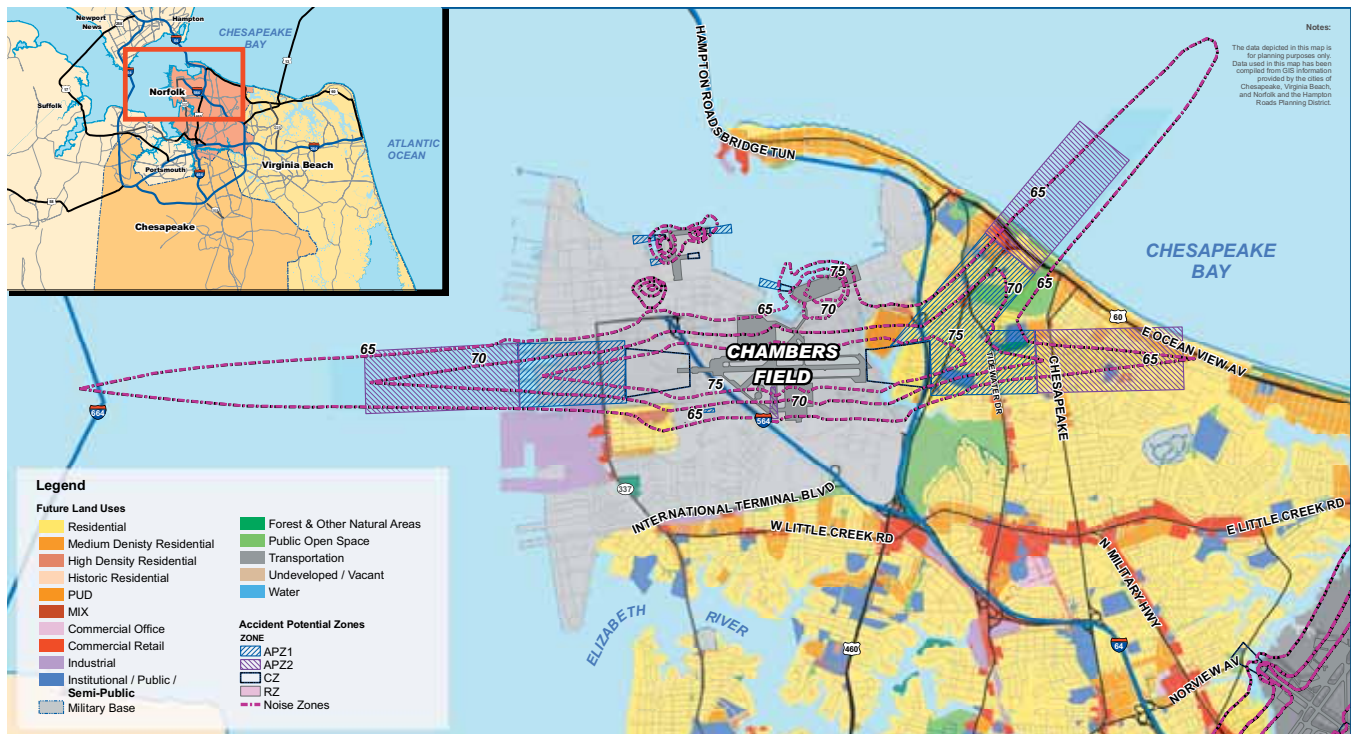
located primarily in East Ocean View and at the end of Willoughby Spit outside of the Chambers Field AICUZ (See Figure 3.11).

Table 3.6 Future Land Uses around Chambers Field

Land Use Type	Acres in Noise Zone (LDN)			
	65-70	70-75	75+	Total
Commercial	19	4	0	23
Industrial	14	0	0	14
Institutional / Public / Semi-Public	67	17	2	86
Military Base	654	531	684	1,869
Public Open Space	58	39	0	97
Residential	459	243	111	813
Medium Density Residential	54	24	22	100
High Density Residential	23	0	0	23
Water & Natural Area	174	101	41	316
TOTALS	1,522	959	860	3,342

Source: EDAW, City of Norfolk Planning Dept., 2004

Figure 3.11 Future Land Uses around Chambers Field



Source: EDAW, City of Norfolk Planning Dept., 2004

