August 5, 2010

City of San Antonio

North Sector Plan

Shaping the Future of San Antonio

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Foreword

By 2035, the San Antonio metropolitan area is expected to contain a population of 2.1 million residents. Approximately 35 percent are expected to be located in the North Sector. Based on an existing population base of 568,000, the growth forecasted over the next 25 years will add nearly 220,000 new residents in the North Sector as projected by the San Antonio - Bexar County Metropolitan Planning Organization. Accommodating this growth in a sustainable manner will require the collective efforts of all who have a stake in a prosperous North Sector future:

- *Developers, who want to satisfy market demand for markets in residential units and retail, office, and industrial space;*
- *Companies, who want to locate or expand to a strong community that provides a high quality of life for their employees;*
- *Citizens, who want efficient transportation, safe neighborhoods, quality schools, and job opportunities; and*
- *Public and private utility and service providers, who utilize this blueprint to guide their forward planning needs and service investments.*

The North Sector Plan is a strategic instrument which is one of several key planning tools that promote a community fabric that is vibrant, attractive and valued. It is one of seven sector plans in the City, and contributes, in a unique way, to a prosperous San Antonio region. Each sector was developed through a collaborative process that enabled individuals and organizations to share views about current community conditions and to work together to set future priorities. While market,

physical and environmental factors impact continuing growth, this planning process has addressed a full array of key issues related to transportation, economic development, housing, natural resources, community facilities, land use and urban design, and military compatibility.

Consistent with the Comprehensive Master Plan Policies, the North Sector Plan reflects a long-term outlook over the next 25 years, while the Comprehensive Master Plan Policies offer general guidance for growth and development within the metropolitan region. The North Sector Plan provides specific strategies and recommendations that address the unique needs of its defined sub region.

The North Sector Plan has been crafted to allow flexibility to address changes in community circumstances and priorities that may occur over time. Although this document reflects outcomes of extensive community dialogue, continued effort will be needed to achieve its future vision and its supportive strategies. Ongoing community assistance will be required for successful strategy implementation.

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Executive Summary

The North Sector Plan is intended to be a guide for everyone involved in making the North Sector a great place to live, work and play. The plan will be: used by City staff in recommending the appropriate land uses and zoning for specific areas of the North Sector; assist the development and real estate community in understanding the desired future for specific areas; and aid the Planning Commission and City Council in evaluating the merits of development proposals and capital investment within specific areas.

Through the implementation of this document, the North Sector Plan will provide an overall vision to achieve the plan area's shared values of its supportive goals and strategies. Recommended strategies are presented to guide transportation, housing, economic development, parks and open spaces, community facilities, land use and urban design, and military compatibility. An action plan identifies the proposed partnerships to ensure this plan achieves the desired goals of the many residents, workers and others with a stake in the continued success and prosperity of the North Sector.

The vision for the North Sector is built on the key issues and values identified by stakeholders.

North Sector Vision Statement

The North Sector is a community, rich with natural panoramic views and abundant natural resources, nestled in the Texas Hill Country. As the North Sector Community continues to grow, compatible live, work, and play opportunities will foster a high quality of life by:

Preserving priceless natural resources, including the irreplaceable Edwards Aquifer, which provide a unique and valuable asset to the region today and in the future;

Enhancing the integration of scenic and recreational resources, outstanding educational opportunities, and diverse quality housing; while

Developing a compatible land use fabric that preserves military readiness, contributes high quality jobs to the regional economy, recognizes and respects private property rights and integrates sustainable development patterns.

Document Organization

The North Sector Plan is divided into five chapters: Planning Into Practice , North Sector Planning Area, North Sector Plan Elements, North Sector Adopted Neighborhood and Community Plans, and North Sector Action Plan. It also includes an Appendix. The following is a brief overview of the organization of the North Sector Plan, including the contents of each chapter.

- ***Chapter I: Planning Into Practice:*** This chapter provides an introduction and context for the North Sector Plan. It discusses the North Sector Plan's relationship to the City's Comprehensive Plan and the North Sector Plan's role in the development process.
- ***Chapter 2: North Sector Planning Area:*** This chapter restates the vision for the North Sector, provides a description of the boundary, discusses the existing profile of the planning area and an includes an overview of the Plan's goals and strategies.
- ***Chapter 3: North Sector Plan Elements:*** This chapter provides information for the various areas of discussion and elements included as part of the North Sector Plan. A brief discussion of the existing conditions in relation to the key issues provides a foundation for the goals and strategies for each of the Plan Elements. Several of the elements also contain supportive maps and guidelines to communicate their intentions for compliance. The seven Plan Elements are organized and summarized as follows:
  - *Transportation, Infrastructure, and Utilities*
  - *Housing*
  - *Economic Development*
  - *Parks, Natural Environment, and Historic Resources*
  - *Community Facilities and Education*
  - *Land Use and Urban Design*
  - *Military Compatibility*
- ***Chapter 4: North Sector Adopted Neighborhood and Community Plans:*** This chapter provides a summary of each of the five adopted plans within the North Sector. Each summary describes the major plan concepts, its supportive land use plan, and consistency with the North Sector Plan.

- ***Chapter 5: North Sector Action Plan:*** This chapter provides both a near term and complete listing of the strategy responsibilities necessary to implement the goals over the next 5 - 10 years.
- ***Appendix:*** The Appendix provides supplemental material used to develop the North Sector Plan, including Acknowledgements, Public Involvement Process, Planning Area Profile, Map Atlas, Land Use / Zoning Consistency, BASH Plan, JAZB Draft Ordinance, Rotary Wing Safety Zones, Compatibility Development Standards, Acronyms, Glossary, Planning Commission Resolution, and City Council Ordinance.

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Chapter 1
Planning Into Practice

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Chapter 1: Planning Into Practice

Shaping the Future of San Antonio

Putting plans into practice is an important step in order to maintain the ongoing relevance of goals and strategies from their initial identification. The implementation steps that correspond to each of the goals are identified in Chapter 5: North Sector Action Plan. For items that are not identified in the actions, but are guided by the Sector Plan goals and strategies, understanding which plan element to review and how sector plans affect proposed developments is vital.

Relationship of Plans

Sector plans are a new addition to the City's planning toolbox. Sector plans, neighborhood plans, community plans, and several functional city-wide plans are adopted as components of the City's Comprehensive Master Plan. The City's Comprehensive Master Plan Policies document, which was adopted in 1997, provides all-encompassing, broad, long-range goals and policies to guide future development decision making and evaluation of City programs and initiatives. City-wide functional plans focus on whole areas or systems, such as the environment, transportation, and parks. A sector plan is a long-range guide for the future growth, conservation, and redevelopment of all physical aspects of the City on a regional level. Community plans are developed for areas with a population greater than 10,000 people and include multiple neighborhoods. Neighborhood plans cover a smaller area and may include at least one neighborhood unit. When proposing a project, applicants need to know which plan applies to them, and how their project is consistent (or not).

By virtue of the plan adoption process, all proposed projects must be determined consistent with the Comprehensive Master Plan as the initial condition for approval. It is recommended that all adopted city sector, community and neighborhood plans be consulted for context regardless of project scale. In the case of future land use recommendations, the most specific plan (neighborhood, community or sector plan) should be consulted. A neighborhood plan is more specific than a community plan; a community plan is more specific than a sector plan. Where a neighborhood or community plan does not currently exist, then the North Sector Plan should be consulted.

All of the City's plans are vital to understanding the connective vision and desires of area stakeholders. The investment of time in reviewing plans that are focused on different geographic scales and topics conducted at different points in time creates an enhanced understanding of area conditions, issues, and actions, which assists in an informed application, submission, and potential reduced approval time frame.

Development Process

When a contractor, builder or property owner applies for a building permit, the first step in the development process is to review the applicant's zoning standards (if any) that apply to the property. Texas Local Government Code allows cities and towns to adopt zoning regulations in order to protect and promote the health, safety, and general welfare of the public. Generally, counties in Texas are not allowed to enforce zoning regulations. Zoning districts detail what types of uses are permitted, as well as regulations for standards such as height and building location on the site.

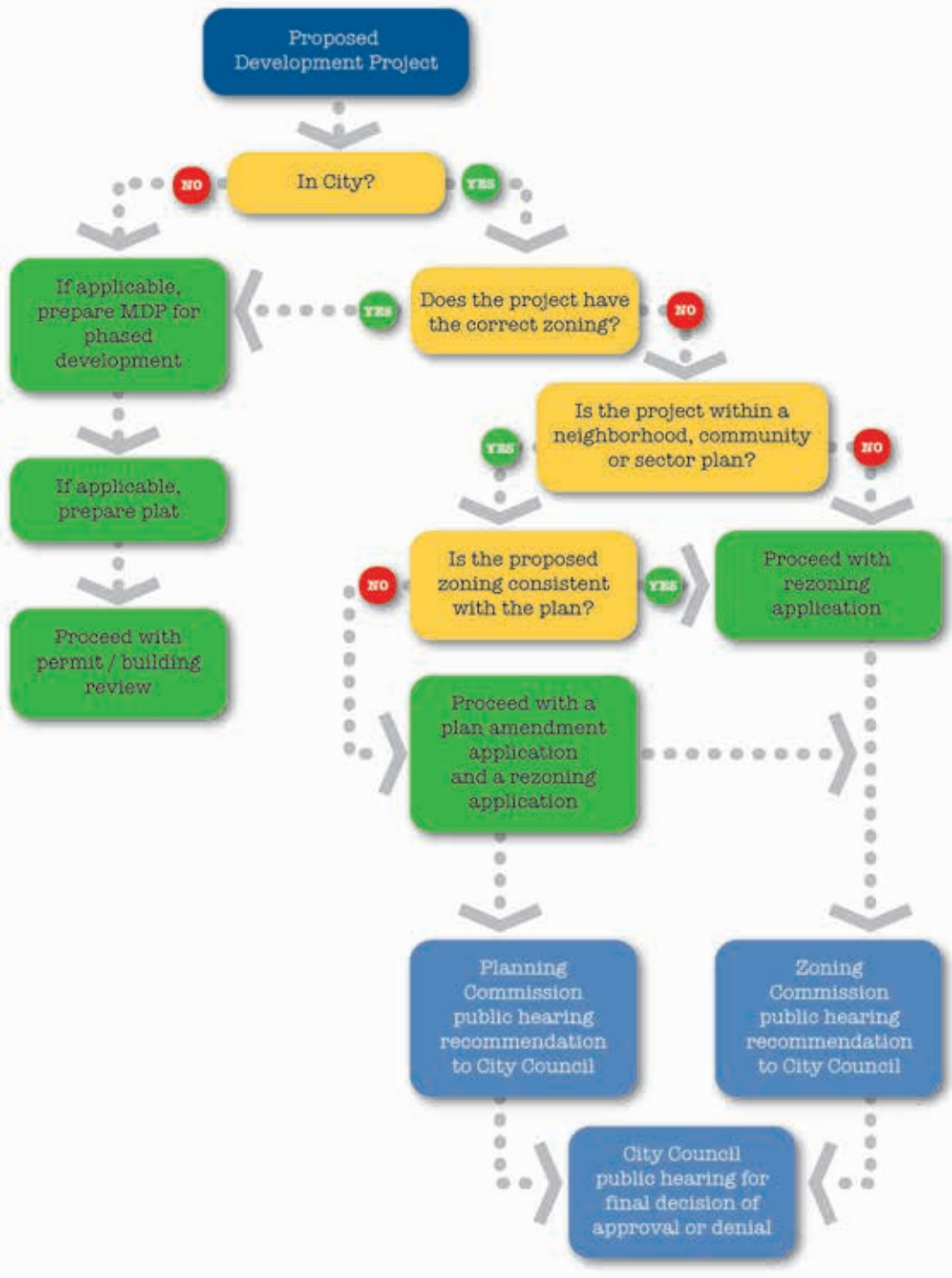
If the current zoning allows for the property or structure on the property to be occupied, developed, renovated, or expanded for a proposed project, then permits may be issued as long as the proposal meets the building and zoning requirements detailed in the Unified Development Code (UDC). The following examples are for demonstrative purposes only:

For example: *A property owner proposes to build a small office building on a parcel that is zoned Neighborhood Commercial (NC). City Planning and Development Services Department staff determine that the building plans are consistent with the NC zoning district and a zoning change is not required for the proposed use. Permits for the office are issued to the property owner or contractor to construct and open the office building following procedures for review and inspections identified in the UDC.*

In cases where the current zoning does not allow for the proposed project or development, the property owner or a designated representative may apply for a zoning change. The applicable land use plan (i.e., sector, neighborhood or community) will be reviewed when an application is made to change the current zoning. If the request is inconsistent with the land use plan, the request cannot be approved unless an amendment is made changing the land use designation to one which is consistent with the proposed zoning change. See ***Figure 1-1: North Sector Plan Role in the Development Process***.

For example: *A property owner has a parcel that is currently zoned Residential Single Family (R-6) in the Suburban Tier land use designation. The property owner is requesting a zoning change to General Commercial (C-3) to construct a large commercial outlet store. The Suburban Tier land use designation is primarily low density residential with scattered commercial uses that are supported at the community or neighborhood level. The highest commercial use that the Suburban Tier corresponds to is Commercial (C-2). Therefore, the zoning change request is determined to be inconsistent with the land use plan. In order for the property owner to be approved for the C-3 zoning, the sector land use plan must be amended from the Suburban Tier to the Regional Center land use designation. The Regional Center land use designation is characterized as a power center which includes a mix of multi-family residential uses and big box retail stores.*

Figure 1-1: North Sector Plan Role in the Development Process



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Chapter 2
North Sector Planning Area

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Chapter 2: North Sector Planning Area

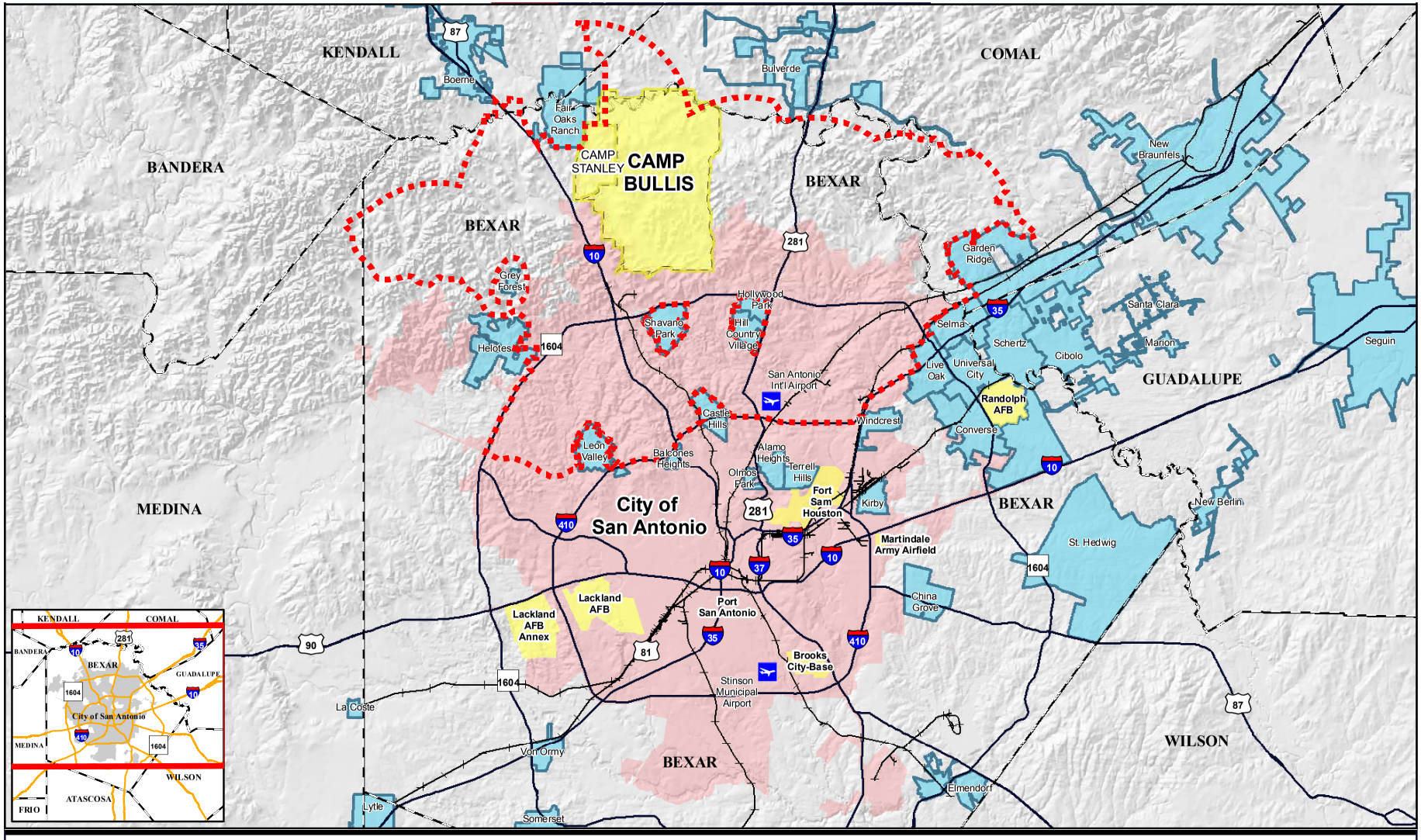
Shaping the Future of San Antonio

The North Sector Planning Area chapter includes important information that provides a foundation for the other chapters in this Sector Plan. This information includes an overview of the Planning Area and its division into four quadrants, the guiding vision, which underpins the goals and strategies, an overview of the demographic character of the Sector, and an overview of goals and strategies, which are components for each of the seven Sector Plan elements (contained in Chapter 3: North Sector Plan Elements).

- *Overview*
- *Profile*
- *Vision*
- *Goals and Strategies Overview*

Overview

The North Sector is the largest of the seven sectors in the City, and comprises a gross total of 256,400 acres or approximately 400 square miles of land as shown on ***Figure 2-1: Regional Location***. The North Sector also surrounds the incorporated communities of Hill Country Village, Hollywood Park, Shavano Park and Grey Forest, and is adjacent to portions of Castle Hills, Leon Valley and Helotes. These incorporated areas comprise approximately 11,400 acres or 17 square miles of land (and are not included within this process), which translates to a net planning area of 383 square miles. Camp Bullis and Camp Stanley are also located within the North Sector, and collectively comprise a total of 32,000 acres. These bases are currently utilized for a variety of day and night military training operations, supported by both fixed and rotary wing aircraft. While the City does not have regulatory authority over the military installations, this document contains strategies and guidelines to ensure the protection and sustainability of the military operations. The North Sector Planning Area also includes unincorporated land within Bexar, Comal, Kendall, and Medina Counties that comprise a portion of the City's Extraterritorial Jurisdiction (ETJ). The North Sector is generally bounded by: Loop 410, Grissom Road, and Culebra Road to the south; Loop 1604 and Texas Highway 16 / Bandera Road to the west; The City of San Antonio Extraterritorial Jurisdiction boundary to the north; and The City of San Antonio Extraterritorial Jurisdiction boundary, Toepperwein Road and Interstate Highway 35 to the east.



source: Bexar County, Comal County, Kendall County / 2010; TNRIS / 2009

North Sector Regional Location

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Figure 2-2: North Sector Boundary and Quadrants

Due to its size, the North Sector Planning Area is divided into four quadrants based on the north-south boundary of Blanco Road and the east-west boundary of Loop 1604, as shown on ***Figure 2-2: North Sector Boundary and Quadrants***. These quadrants include: southwest, southeast, northwest, and northeast and will be utilized to assist in describing the recommendations for various elements of the North Sector Planning Area, including land use, transportation, and community facilities.

Profile

The residents of the North Sector reflect high levels of educational attainment which translate to elevated levels of household income and value of their homes as shown in ***Table 2.1: North Sector Profile***. The sector also exhibits a median age that is higher than other sectors and lower levels of unemployed residents. It is the largest of all seven sectors in the city.

Table 2.1: North Sector Profile

Size of the Sector:	400 Sq. Mi. (gross) / 383 Sq. Mi. (net)
Population:	568,020 (2008)
Employed:	304,600 (2008)
Median Age:	36 years
Ethnicity:	White (50%) Hispanic/Latino (40%)
Education:	Bachelors (25%) Masters (10%)
Median Household Income:	$63,000
Median Housing Value:	$188,000 (2008)

Source: U.S. Census, Claritas and Matrix Design Group, January 2010

Vision

During the course of the North Sector planning process, a series of Planning Sector Team and Public meetings were conducted. Several meetings were dedicated to identifying issues, values, and assets. Attendees were organized into groups and asked to identify key areas within the North Sector that they felt to be either an issue – an item of concern needing to be addressed, or a value – a physical asset or existing quality of the community that is important. Assets were also identified and located within the North Sector Planning Area through a mapping exercise. The resulting map and issues and values are contained in the Appendix of this document. This process helped to identify what the community and stakeholders consider to be important to the North Sector, and the areas that they felt needed improvement to achieve the community's desired direction. The objective of this issue and value identification and prioritization process was to develop and gain community support for an overarching Vision Statement for the North Sector. The Vision states:

North Sector Vision Statement

The North Sector is a community, rich with natural panoramic views and abundant natural resources, nestled in the Texas Hill Country. As the North Sector Community continues to grow, compatible live, work, and play opportunities will foster a high quality of life by:

Preserving priceless natural resources, including the irreplaceable Edwards Aquifer, which provide a unique and valuable asset to the region today and in the future;

Enhancing the integration of scenic and recreational resources, outstanding educational opportunities, and diverse quality housing; while

Developing a compatible land use fabric that preserves military readiness, contributes high quality jobs to the regional economy, recognizes and respects private property rights and integrates sustainable development patterns.

Goals and Strategies Overview

The creation of realistic and interrelated strategies is based on issues, values and community assets identified by North Sector stakeholders during the planning process. Goals and strategies communicate a common understanding in the guidance of the broad range of plan elements that guide community development activities within the North Sector Planning Area.

> **Goal:** A broad, flexible, long range aim that achieves the desired result.
>
> **Strategy:** A succinct statement that prescribes a course of action to implement its respective goal.

The intent of these goals and strategies are to provide a common reference point for informed decision making that fosters both consistency and predictability. Such decisions assist all residents, business owners, property owners, public entities and development interests to plan their respective actions. The goals and strategies are presented within each of the plan elements in Chapter 3: North Sector Plan Elements.

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Chapter 3
Sector Plan Elements

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Chapter 3: North Sector Plan Elements

Shaping the Future of San Antonio

The North Sector Plan Elements chapter provides the guidance for elected and appointed decision makers to promote quality growth in the North Sector. This chapter is presented in the following seven sections:

- *Transportation, Infrastructure, and Utilities*
- *Housing*
- *Economic Development*
- *Parks, Natural Environment, and Historic Resources*
- *Community Facilities and Education*
- *Land Use and Urban Design*
- *Military Compatibility*

Each section is organized in a standard approach to foster ease of reference. This standard approach is identified and summarized below:

- ***Overview** - Provides background information and describes several key issue areas.*
- ***Goals and Strategies** - Provides the guiding statements to manage future growth in the North Sector*
- ***Element Guidance** - Contains supportive maps and standards to implement the goals and strategies*

Transportation, Infrastructure, and Utilities

Overview

The planning, design, construction, and maintenance of transportation networks within the San Antonio Metropolitan Area (and the North Sector) involves federal, state, regional, and local agencies.

The City's Major Thoroughfare Plan (MTP) is a long-range transportation plan for both the City and Bexar County. Originally adopted in 1978 and substantially updated over the years, the MTP designates the desired or future location, cross-sections, and dedication requirements of roadways. The City and County have also prepared the Bicycle Master Plan (adopted in 2005) which is currently in the process of being updated. VIA Metropolitan Transit is also currently working on a long-range comprehensive transportation plan (SmartwaySA) for the City and County.

The Alamo Regional Mobility Authority (Alamo RMA) is currently conducting two environmental impact statements within North San Antonio. Alamo RMA is studying US 281 from Loop 1604 to the Bexar / Comal County line and Loop 1604 from US 90 to IH 35N.

Connect Roadways and Non-Vehicular Networks for East-West Mobility

The southern quadrants of the North Sector exhibit a more developed transportation network than the northern quadrants due to the amount and density / intensity of development over the years extending outward from the central city. Hence, the northern quadrants are challenging for transit and pedestrian mobility. While a connected transportation network exists in the southern quadrants, it often becomes congested during peak traffic times, based on the dislocation of jobs and residences.

The North Sector includes numerous MTP street designations including expressways, primary arterials and secondary arterials. As future development occurs, it will be important to ensure that appropriate road networks are constructed concurrently to support increased travel demand.

New Ways to Move People and Goods

The North Sector includes portions of three railroad lines: Kerville Subdivision, Austin Subdivision-Mainline 1, and Austin Subdivision-Mainline 2. The Kerville subdivision line extends north from downtown San Antonio, parallels IH-10, and terminates at Loop 1604 near IH-10. Union Pacific has indicated that the use of the Kerville Subdivision for freight purposes may end in three to five years. If so, it could be evaluated for reuse for commuter transportation. The Austin Subdivision-Mainline 1 extends north from downtown San Antonio parallel to the US 281 corridor and then northeast to New Braunfels. Within Bexar County, this line is approximately 33 miles long with approximately 66 percent located inside the North Sector boundary. This line appears to be ideally suited for commuter rail reuse. Austin Subdivision-Mainline 2 is proposed to become Lone Star Rail for commuters between Austin and San Antonio and extends from downtown San Antonio parallel to the IH-35 corridor and then out to New Braunfels. Outside the City, within Bexar County, this line is approximately 34 miles long, of which approximately 33 percent is located inside the North Sector boundary. However, appropriate redevelopment and the interface of transit stops in the future could transition the demand to move people instead of goods. VIA is currently conducting a study on Union Pacific Rail lines for future passenger rail potential.

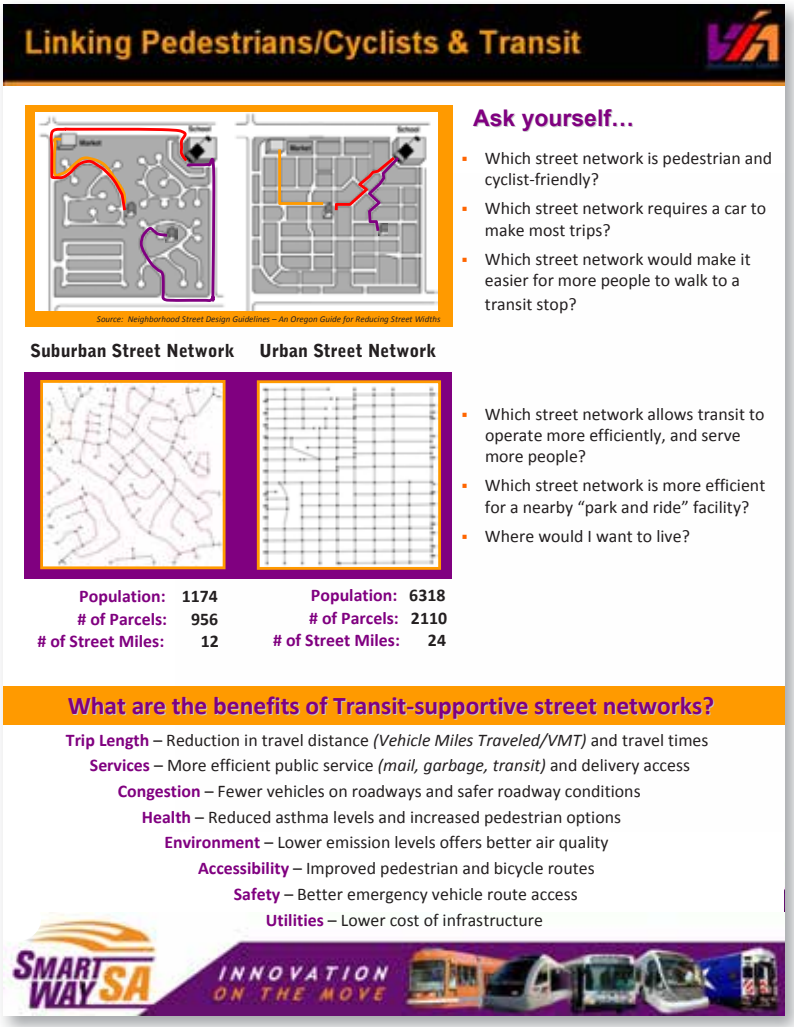
While transit currently serves mainly the southern quadrants of the North Sector, current planning focuses on extending transit improvements to include new park and ride facilities, and opportunities for high occupancy corridors to provide another choice for commuters. The provision of enhanced buses, bus rapid transit (BRT) and internal circulator service to significant originations and destinations within the North Sector will also assist mobility in the area.

Changing the Behavior of the Commuter

VIA serves the North Sector with bus routes and stops. With a few exceptions, these routes are located south of Loop 1604. In total, throughout the North Sector, there are 35 bus routes in operation that cover approximately 355 linear miles. Routes 2 (Blanco Road), 14 (Perrin Beitel), 534 (Wurzbach), 92 (Fredericksburg Road) and 88 (Bandera Road) exhibit the highest ridership within the Sector. Additionally, there are three park and ride lots, which include Parkhills (temporary) Park and Ride, University Park and Ride and the Blossom Park and Ride which serves the Southeast Quadrant. Two transit stations provide connections to other areas of the City including Medical Center Transit Center. Transit facilities located south of the southern North Sector boundary include the North Star Transit Center, Randolph Park and Ride, Crossroads Park and Ride and the Ingram Transit Center. Additionally, VIA indicates that a permanent park and ride at US 281 and Loop 1604, as well as one at Loop 1604 and Highway 151 would also support mobility in the area.

The improvement of north-south arterials is expected to provide relief to IH-10 and US 281, while enhanced capacity and connectivity will assist in relieving congestion on Loop 410 and Loop 1604. East-west connectivity is impeded to the far north with the presence of Camp Bullis. VIA is studying the necessary transit improvements on Wurzbach Parkway needed to increase east-west capacity and connectivity.

As the plan is updated every five years, staff will ensure the plan is consistent with both the San Antonio - Bexar County Metropolitan Planning Organization (MPO) and VIA Metro Transit Long-Range Comprehensive Transportation Plans.



Connecting Bicycle and Pedestrian Paths for a Healthier Community

The City of San Antonio and Bexar County both adopted the Bicycle Master Plan in 2005. The City of San Antonio is in the process of updating the Bicycle Master Plan. The North Sector currently has approximately 40 miles of dedicated bike lanes and routes which are not interconnected in all cases.

The inclusion of a connected bicycle and pedestrian network should not be overlooked. While segments of these networks have been implemented, their

true value is to connect activity areas and provide a safe and healthy alternative for North Sector residents, visitors and workers. As a component of context sensitive streets or linear parks/greenways, these paths and trails are an important component of the North Sector transportation network.

Creating a Future Land Use Pattern That Fosters Integrated Utility Planning

Utility service in the North Sector is provided by numerous public and private providers. CPS Energy serves the majority of the Planning Area with natural gas and electricity. The majority of the wastewater and water service is provided by the San Antonio Water System (SAWS), while the remaining areas are served by additional private providers.

Utilizing the land use plan as the underpinning for infrastructure investments will allow for the provision of extensions and improvements for the existing water, wastewater and natural gas providers, that will leverage the expenditure of funds for both capital and operating and maintenance expenses that match the density and intensity of anticipated development.

Protecting Existing and Future Residents from the Threat of Flooding

Bexar County is comprised of five different watersheds, all of which are partially located in the North Sector: Leon Creek, Salado Creek, Cibolo Creek, Medina River and San Antonio River. The Northwest Quadrant contains portions of the Cibolo Creek, Salado Creek, Medina River and Leon Creek watersheds. The Northeast Quadrant contains portions of the Cibolo Creek, Salado Creek and San Antonio River watersheds. The Southwest Quadrant contains portions of the Salado Creek, San Antonio River and Leon Creek watersheds. The Southeast Quadrant contains portions of the Cibolo Creek, Salado Creek and San Antonio River watersheds. Each watershed contains several waterways and floodplains.

Flash floods are a serious problem in flood prone areas, including parts of the North Sector. Average annual rainfall can range from 15 inches to 33 inches, which can cause unpredictable droughts and also sporadic flash floods. A major cause of flash floods is impervious cover, which impedes rainwater from percolating into the ground causing it to flow across surfaces and collect in low lying areas. There are approximately 65 low water roadway crossing locations in the North Sector, which are unusable during such weather events.

There are several development measures that can be implemented to reduce the potential damages caused by flooding. Within flood areas, minimize development within mandatory detention areas or institute low-impact development features which allow for increased stormwater percolation into the ground instead of collecting in areas where it could cause property damage or harm to residents. Increased stormwater percolation also improves water quality. San Antonio currently implements many regulatory measures that are used to guide future development to manage stormwater and flood prone areas. The goal of the North Sector Plan is to reduce and mitigate flooding hazards.

Transportation, Infrastructure and Utilities Goals and Strategies

Goal TRAN-1	*Connected road network constructed with improved traffic flow on local, collector, and arterial streets within and among neighborhoods.*

Strategies:

TRAN-1.1 Continue to coordinate with the San Antonio-Bexar County Metropolitan Planning Organization (MPO) to model existing and future roadways and intersections and prepare mitigation plans for roadways and intersections where projected volumes exceed capacity in the 2035 horizon year.

TRAN-1.2 Continue to implement and update the recommendations of the Major Thoroughfare Plan to allow for context sensitive streets that help to achieve the Sector Land Use Plan

TRAN-1.3 Encourage connectivity in street design within new residential developments.

Goal TRAN-2	*East-west roadway mobility and connectivity that alleviates north-south congestion is established.*

Strategies:

TRAN-2.1 Conduct a network mobility study to identify potential collector connections.

TRAN-2.2 Implement east-west intra-neighborhood collector and local road connectivity to reduce traffic on the arterial network and incorporate linear hike-bike paths, public transportation, and local road connectivity.

Goal TRAN-3	*Mass transit corridors within the developed southern half of the North Sector are supported through land use planning and increased density at selected locations.*

Strategies:

TRAN-3.1 Support the recommendations of SmartWaySA (Long Range Transit Comprehensive Transportation Plan) to explore options within the North Sector for high capacity transit, including bus rapid transit, electric streetcar, light rail, commuter rail, dedicated bus lanes, transit stations, and HOV lanes.

TRAN-3.2 Augment transit station area planning with adjacent transit oriented development (TOD) to capitalize on the access and proximity of high capacity transportation corridors.

TRAN-3.3 Encourage VIA to add an Express Route on Loop 1604.

TRAN-3.4 Support Alamo Area Council of Governments' Alamo Regional Transit Program, which provides additional connectivity for commuters.

Goal TRAN-4	*Enhanced and strategically located new park and ride options within the Northeast and Northwest Quadrants are encouraged.*

Strategies:

TRAN-4.1 In conjunction with the SmartWaySA Plan and Alamo Regional Transit Program, coordinate the siting of preferred locations and tract acquisition where park and ride facilities will provide optimum support for the extension of transit service.

TRAN-4.2 Work with VIA advance planning to identify mid- and long term park and ride locations along anticipated high capacity transit corridors.

Goal TRAN-5	*Bicycle and pedestrian network expanded along compatible streets.*

Strategies:

TRAN-5.1 Consider bicycle and pedestrian infrastructure improvements in capital improvement and infrastructure maintenance projects based on the updated Bicycle Master Plan and recommendations from the Bicycle Mobility Advisory Committee (BMAC).

TRAN-5.2 Promote secondary access through bike and pedestrian networks connecting gated and un-gated communities to nearby attractions and destinations (i.e. parks, schools, libraries, employment areas etc.).

TRAN-5.3 Provide incentives for "context sensitive streets" and cluster development that encourages walkability and bikability.

TRAN-5.4 Form public-private partnerships with major employers, the medical industry, and higher education to enhance the connection of the non-vehicular network on private property.

TRAN-5.5 Consider the road diet analysis conducted by the San Antonio-Bexar County MPO and the provision of bike racks, bike stations, lockers and shower facilities by employers to enhance bicycle and pedestrian commuting.

TRAN-5.6 Expand coordination with health organizations, businesses, and private retailers to promote bicycle and pedestrian networks.

TRAN-5.7 Implement the recommendations of the Regional Bicycle Master Plan and update the plan periodically.

Goal UTI-6	*Utility investments coordinated in order to accommodate recommended future development.*

Strategies:

UTI-6.1 Enhance communication with all water purveyors and the City and Counties on the proposed expansions of Certificates of Convenience and Necessity (CCNs) for sewer and water that is consistent with the Sector Land Use Plan.

UTI-6.2 Encourage energy efficiency through green building and design and renewable energy sources such as solar and wind energy.

UTI-6.3

- *Ensure that new development meets the following conditions:*
- *The applicant demonstrates that the necessary transportation and utilities will be installed or adequately financed; and*
- *Anticipated environmental issues have been addressed.*

Goal INF-7	*Stormwater runoff is effectively managed to reduce flooding and protect the safety of citizens and property.*

Strategies:

INF-7.1 Continue to manage the capacity and transmission capabilities of the storm drainage network to protect public and private property from damage and prevent degradation of natural resources.

INF-7.2 Encourage project designs that utilize low impact development and best management practices that minimize impervious cover where feasible and provide a natural water course appearance.

INF-7.3 Discourage development or major fill or structural improvements (except for flood control purposes) within the 100-year floodplain as regulated by the Federal Emergency Management Agency (FEMA). Recreational activities that do not conflict with habitat uses may be permitted within the floodplain.

INF-7.4 Increase inspections and maintenance of retention/detention areas.

INF-7.5 Complete watershed management master plans for all watersheds in the area.

INF-7.6 Promote San Antonio Flood Emergency (SAFE) system programs.

INF-7.7 Utilize the North Sector Land Use Plan to create a drainage master plan for future drainage infrastructure.

INF-7.8 Strive to design and construct future drainage infrastructure such that it does not impact historic or environmentally sensitive areas.

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Housing

Overview

Housing in the North Sector expanded faster (21 percent) than the overall pace of all the other sectors combined (13 percent) between 2000 and 2008. Out of the total housing units in all sectors, the North Sector contained 37 percent in 2000, and 41 percent in 2008. The increase in the North Sector's housing share is the result of its capture of approximately 66 percent (49,000 housing units) built between 2000 and 2008 among all Sectors. The Northeast Quadrant exhibited the greatest amount of housing growth with a 54 percent increase in housing units from 2000 to 2008. The Northwest and Southwest Quadrants also experienced growth that was higher than the overall sector total, 37 percent and 18 percent, respectively.

A Range of Housing Types Creates Choices

The existing housing stock within the North Sector is comprised of both single and multi-family housing types. Single family housing is the predominant housing type, is relatively new, and is located within the interior area of transecting major thoroughfares. Multi-family housing is typically located adjacent or proximate to employment areas and transportation corridors. In the future, the composition of the housing stock south of Loop 1604 will continue to age. Focused efforts on revitalization activities to maintain their viability through transitioning neighborhood demographic cycles will be necessary in the future. North of Loop 1604, the pattern of single family housing is expected to continue, but lot

sizes should increase to respond to site conditions. Where appropriate, higher density housing should be considered in areas where it can be carefully integrated as a stand alone project or part of a Planned Unit Development (PUD).

The Natural Environment Is Conducive To Low Impact Development

The Texas Hill Country, and the northern portions of the Northwest and Northeast Quadrants, exhibit an existing character of natural features and rural development. These areas not only provide a lifestyle choice for North Sector residents, they also contribute valuable habitat for wildlife and offer protection for Camp Bullis. For these reasons, future residential development should consider the limiting effects of slope, vegetation, floodplain, and encroachment as growth pressure is expected to extend north in the future. As such, care should be expended to master plan these lands with the intent to focus housing density in areas where limitations of development are minimal or can be reasonably mitigated.

High Density Housing Is an Important Land Use

Within the North Sector, high density residential is primarily located in the southern quadrants, primarily in a cluster surrounding the Medical Center, as well as along several major arterial roads, such as Blanco Road. These areas are the ideal locations for high density residential. It is not an appropriate land use for portions of the quadrant that are more rural in character and where higher density development would have a negative impact on sensitive natural lands. Furthermore, the placement of high density development within commercial and office areas, and as a component of mixed use, helps to foster walkable communities and live-work centers.

In addition, the redevelopment or revitalization of commercial and employment uses, may provide a higher density residential component that would appeal to a different segment of the City population than exists in such areas today. Also, the future provision of commuter/light rail would also have a resulting catalytical effect on the provision of transit oriented development concepts adjacent to transit stations, fostering the inclusion of a higher density housing in these surrounding areas.

Neighborhoods Are Well Organized

San Antonio's Planning and Development Service Department's (PDSD) Neighborhood Planning and Urban Design Section assists citizens in organizing and registering a Neighborhood Association (NA) for their neighborhood. A registered NA can develop a unified voice for its residents that the City responds to, can create neighborhood plans with a consensus on goals and priorities, and can be the official point of contact between local citizens and the City. For example, registered NAs in San Antonio receive notice of proposed rezoning cases, plan amendments, and other public notices affecting the area within and near their boundaries. Approximately 240 of San Antonio's total 400 registered NAs are located within the North Sector's boundaries, spanning most of San Antonio's established residential neighborhoods in the Sector's southern quadrants. Some newer subdivisions in the northern quadrants of the North Sector are not registered NAs with the City.

Housing Goals and Strategies

Goal HOU-1	*Continued support for development of diverse housing stock using infill housing development between Loop 1604 and Loop 410.*

Strategies:

HOU-1.1 Consider innovative allowances in zoning amendments that promote a variety of housing types in the North Sector and embrace flexible standards, including, but not limited to: zero lot lines, clustering of development, and density bonuses as per the Sector Land Use Plan.

HOU-1.2 Encourage compatible growth patterns and transitions of higher density residential along principal arterials and transit corridors that fit in with the existing residential character of the North Sector.

HOU-1.3 Advocate for new residential developments to meet energy efficiency and mitigate adverse environmental impacts as per the goals of the Mission Verde Plan.

HOU-1.4 Make available public information provided by other public agencies and non-profit organizations on equal housing opportunity and rehabilitation grants and programs.

HOU-1.5 Encourage residents and developers in the North Sector to utilize available local and state funding resources.

HOU-1.6 Support the efforts to designate, preserve and enhance existing and future neighborhood conservation districts within the North Sector.

HOU-1.7 Encourage the use of incentive and rebate programs for energy and water efficiency.

Goal HOU-2	*High density housing is developed near post secondary education facilities, principal and arterial transportation routes, and major employment areas.*

Strategies:

HOU-2.1 Focus High Density Residential near activity centers.

HOU-2.2 Educate and encourage homeowners to utilize available financial mechanisms (i.e. Location Efficient Mortgages, etc.) that reflect increased disposable income from lower car ownership costs in areas served by transit.

HOU-2.3 Utilize High Density Residential as a buffer between principal and arterial roadways / non-residential (i.e. office, retail, commercial uses) and lower density residential housing.

HOU-2.4 Consider the use of High Density Residential along the periphery of concentrated employment areas to foster a compatible land use transition between single family detached/attached residential neighborhoods and concentrated locations of non-residential uses.

Economic Development

Overview

The North Sector exhibits a relatively healthy economy partly due to its demand as a desirable living environment that has generated appreciation in home values and positive market characteristics for retail uses as well as job retention and expansion efforts. The Planning Area also contains several key employers within the metropolitan area including health care, education, military, and tourism/hospitality.

Focus on Retention and Expansion of Existing Major Employers

Two of the largest contributors to the economy of the North Sector are the 900-acre South Texas Medical Center in the Southwest Quadrant and the military, including Camp Bullis in the Northwest Quadrant. The Medical Center is a prime location for future economic growth as it supports the medical field, research and study, and innovation in new science and technology for San Antonio and South Central Texas. The area surrounding the Medical Center, as well as the area surrounding the San Antonio International Airport, in the Southeast Quadrant, are both primed to continue to foster economic growth and bring in new businesses. The Airport is currently updating its Airport Master Plan. In addition, the University of Texas at San Antonio (UTSA), USAA, Valero Energy, NuStar, Kinetic Concepts Inc., and San Antonio International Airport all contribute to an approximate 40 percent job capture for the North Sector. The military is also expanding in San Antonio, which will further boost the City's, and North Sector's, economic base.

The North Sector serves an important role as a contributing area to the City's economic base. Its roadway transportation system provides confluence areas where freeways intersect that have been and should continue to be focal areas for the attraction, retention and expansion of several targeted employment clusters, including aviation/aerospace, biotechnology, creative services, information technology and cyber-security, finance, logistics and distribution, telecommunications, and corporate and regional headquarters. The increase of jobs in areas adjacent to the San Antonio International Airport and the South Texas Medical Center provides opportunities to work within proximity to where North Sector citizens live, which improves both air quality and their quality of life.

The achievement of the Sector's economic goals will rely on the coordinated efforts of all entities including business alliances and chambers of commerce. These efforts will range from new relocations of desired target businesses to appropriate sites in the North Sector, to the retention and expansion of existing employers who have invested in the City and its residents.

The Military Is a Significant Contributor to the Sector and Regional Economy

Camp Bullis and Camp Stanley are located within the Northwest Quadrant of the North Sector. Since 1917, Camp Bullis has served as the training site for soldiers stationed at Fort Sam Houston. Camp Bullis has evolved as the Army's premier training installation for combat medicine. As of October 2008, there were 745 full-time personnel at Camp Bullis. Recent forecasts estimate an additional 180 people resulting from the Base Realignment and Closure (BRAC) mission increases to Fort Sam Houston and Camp Bullis. In fiscal year 2008, approximately 151,000 personnel were trained at Camp Bullis.

Fort Sam Houston is the parent command to Camp Bullis and provides overall leadership, management and oversight. One of the most anticipated economic development initiatives is the expansion of Fort Sam Houston. By 2011, Fort Sam Houston will host almost all military personnel involved in combat medic training in the US. A total of 12,500 new personnel, along with their dependents are expected. Fort Sam Houston is one of four major military installations that have a significant economic impact on San Antonio, totaling $13.3 billion from the Department of Defense (DOD) annually, apportioned among DOD contracts ($5.7 billion), civilian and military personnel ($5.4 billion), and retirees and beneficiaries ($2.2 billion).

A Joint Land Use Study was finalized in 2009 for Camp Bullis that included many initiatives to promote compatibility around the training facility and minimize encroachment so that it will remain operational for future military students. The study can be viewed at ***www.sanantonio.gov/oma/cbjlus.asp***. It is expected that the military will continue to be one of the highest contributors to San Antonio's economy in the future.

Economic Development Goals and Strategies

Goal ED-1	*Compatible economic development along major transportation routes and existing activity centers that do not interfere with the mission of Camp Bullis.*

Strategies:

ED-1.1 Continue to locate higher density residential and compatible employment uses near the intersections of:

- IH-10 / Loop 410
- US 281 / Loop 1604
- IH-10 / Loop 1604
- IH-35 / Loop 410
- Along Lone Star Rail in Selma and Garden Ridge

ED-1.2 Continue to locate compatible employment uses at the intersections of US 281 and Loop 410.

ED-1.3 Continue to maintain and revitalize the North Sector to retain and expand vibrant retail and commercial uses within the IH-10, IH-35, Loop 410 and Loop 1604 corridors and/or centers.

ED-1.4 Work cooperatively with other incorporated and adjacent cities and counties, and other local and regional economic development entities to retain, expand, and improve the North Sector economic base.

Goal ED-2	*Strong and stable medical and research industries that promote economic stability in the North Sector.*

Strategies:

ED-2.1 Promote development activity inside Loop 1604 that is adjacent and proximate to existing medical and research employers in the western portion of North Sector for expansion as per the Sector Land Use Plan.

ED-2.2 Actively promote the benefits of locating and/or hiring from within areas designated as a Texas Enterprise Zone, HUBZone or Foreign Trade Zone as shown on Figure A-10.

ED-2.3 Support, stimulate, and foster increased activity of existing businesses within the North Sector including but not limited to finance, insurance, real estate, medical, cyber security, research and development.

ED-2.4 Identify and attract biotechnology and medical industry jobs that achieve the City's strategic economic objectives.

Goal ED-3	*Camp Bullis' continued significance as a component of San Antonio's military and residential economy.*

Strategies:

ED-3.1 Encourage developers to coordinate with the City and/or Bexar County for all proposed non-residential developments or expansion of an existing use if located within the Military Influence Overlay Area as identified in the North Sector Land Use Plan.

ED-3.2 Continue to work with Camp Bullis representatives to enhance the use of local and regional contractors and services, and to purchase material, equipment, and supplies from in-City or in-County sources.

ED-3.3 Identify and support the development of businesses and suppliers to the military and their contractors that are compatible with the US Army/Air Force.

Parks, Natural Environment, and Historic Resources

Introduction

The North Sector contains a variety of man-made and natural open spaces within its boundaries. The provision of parks and open space is one of the key factors that define a community's quality of life. The ability to engage in active and passive pursuits among all age groups fosters a healthy and engaged population of residents, workers and visitors. The Texas Hill Country is also characterized by a unique natural environment and includes endangered species, the Edwards Aquifer Recharge and Contributing Zones, and the Edwards Plateau, with its often-sought after viewsheds.

Recharge And Contributing Zones Are Important To The Health And Sustainability Of The Natural Aquifer

The Edwards Aquifer, of which the Recharge and Contributing Zones are partially located in the North Sector, is an immense underground reservoir that stores and transports water. Rainfall and streams seep into cracks, fissures, fractures, sink holes, solution cavities, caves, and other karst features, eventually reaching the aquifer. The Edwards Aquifer produces many springs that feed creeks, streams, waterfalls, and rivers throughout Bexar County and Central Texas. In addition, the Edwards Aquifer is able to supply most of Central Texas with drinking water[1].

The importance of preserving and protecting the Edwards Aquifer Recharge and Contributing Zones is a fundamental step in ensuring that there is an adequate and healthy supply of water for the current and future residents of San Antonio. Low impact development such as low density residential, ranches and agricultural uses are ideally suited for areas located on sensitive Edwards Aquifer features.

1 (www.saws.org, accessed 5-26-2009)

The Hill Country Contains Sensitive Landform, Vegetation And Wildlife Characteristics

The North Sector contains many areas exhibiting a range of topographical relief. Where such relief occurs over short distances, steep slopes result. The steepest slopes in Bexar County are located in the North Sector. Developing on steep slopes is typically more costly than in lower sloped areas and must be completed in a sensitive manner to integrate it within the natural environment as well as making it structurally sound. The landscape of the North Sector is rocky and rugged and is dominated by Ashe juniper and various oaks.

Bexar County contains several federally listed threatened and endangered species. Endangered species known to exist in the North Sector include two small song birds, the Golden-cheeked Warbler and the Black-capped Vireo, six endangered plant species, and nine karst invertebrates often referred to as "cave bugs". Potential habitat for these species is generally located in the North Sector due to the geology and vegetation of the Edwards Plateau. Golden-cheeked Warblers utilize heavily wooded areas along steep slopes, drainages, and upland areas with a thick tree canopy typically comprised of both mature Ashe junipers (cedars) and hardwoods. Black-capped Vireos tend to occupy recently disturbed areas that are relatively open and contain a shrubby component. The main threat to both of these birds is loss of habitat and, for Vireos, nest-site parasitism from cowbirds who lay their eggs in Vireo nests.

Karstic limestone outcroppings on the Edwards Plateau provide habitat for karst invertebrate species. Frequently, karst invertebrates in Bexar County are single-cave endemics, which means they are only located in that single feature. The invertebrates cannot relocate or be relocated to other karst features. If the karst feature is disturbed by development, direct/indirect contamination, or changes to water flow/water availability, the species may be lost at that location. Additionally, karst invertebrates are an indicator of water quality and quantity.

Several measures are currently in place and being evaluated to protect sensitive habitats and endangered species within the North Sector. Federal regulations currently require site evaluations to be submitted when a developer is proposing to build on an area that could potentially support endangered species. Certain locations have been and should be acquired either through public or private funds, where available, in order to preserve as native habitat. The outlook for future development within sensitive habitat areas will be primarily low density residential and will consider the need to preserve these lands and species.

Historic Resources Provide an Important Physical Connection to the Past

The presence of historic resources in the Sector are minimal. The area itself, however, is rich in history and has been involved in important events that have shaped the City of San Antonio. Some of the important historic trails and corridors within the North Sector include the Old Spanish Trail auto highway, El Camino Real, the Pinta Trail, the Great Western Cattle Trail, and Scenic Loop Road. The northern portion of the Sector also includes several historic farms and ranches that have been in the area for generations.

Stakeholders have expressed a strong desire to retain the existing rural character in the Northwest Quadrant where several historic trails and scenic corridors exist. If these corridors and adjacent farms and/or ranches in this area are retained in their existing manner by the property owners, the area can retain its history and culture.

Parks, Natural Environment and Historic Resources Goals and Strategies

Goal NR-1	*Edwards Aquifer Recharge and Contributing Zones are protected as the City's primary potable water source.*

Strategies:

NR-1.1 Continue to work with and support the Edwards Aquifer Authority (EAA), other groundwater conservation districts, other cities and counties, and local water purveyors to share groundwater data to develop a mutually beneficial Integrated Regional Water Resources Management Program, define the long-term sustainability of the groundwater basin, and work to manage groundwater uses in ways that facilitate the basin's quality and quantity.

NR-1.2 Work with the Texas Commission on Environmental Quality (TCEQ) on preventing non-point (i.e. land runoff, precipitation, drainage, etc.) source pollution.

NR-1.3 Support measures, such as low impact development standards, by counties, Edwards Aquifer Authority or other groundwater conservation districts to preserve water quality, support vegetation and protect environmentally sensitive features within the Recharge Zone and Contributing Zone.

NR-1.4 Continue and enhance public education campaign regarding residential landscaping to reduce runoff and improve water quality.

NR-1.5 Encourage the implementation or improvements to construction standards, performance measures, and best management practices to preserve water quality.

Goal NR-2	*Natural Hill Country features such as steep slopes, soils, native trees and natural vistas are protected.*

Strategies:

NR-2.1 Respect the natural setting of the Hill Country area by encouraging hillside development to retain existing/incorporate natural landscape/hardscape features.

NR-2.2 Preserve the existing natural edges and minimize erosion along the City's creek system and wetland areas and restore impacted creeks by planting indigenous vegetation.

NR-2.3 Promote the use of best management practices for site grading and drainage to foster sustainable development objectives.

	NR-2.4	Encourage (where feasible) the provision of pedestrian, bicycle and wildlife access to linear creekways and open space areas.
	NR-2.5	Locate open space and parks adjacent to creeks, whenever possible.
	NR-2.6	Continue to follow the Parks and Recreation Department's System Strategic Plan (2006-2016)
	NR-2.7	Encourage the protection and continuation of existing important wildlife corridors.
Goal NR-3	***Native tree canopy is conserved and managed to provide natural stormwater mitigation, shade, and improved air quality.***	
Strategies:	**NR-3.1**	Where feasible, incorporate low impact development features to reduce the need for structural onsite retention facilities and foster healthy vegetation through natural infiltration.
	NR-3.2	Promote the use of green roofs.
	NR-3.3	Monitor the enforcement of the tree ordinance.
Goal NR-4	***Endangered species in the area are protected.***	
Strategies:	**NR-4.1**	Pursue public and private funding to acquire endangered species habitat areas through land acquisition programs that support the dual protection of endangered species habitat and water quality.
	NR-4.2	Participate in the preparation and implementation of the Southern Edwards Plateau Habitat Conservation Plan.
	NR-4.3	Require coordination with US Fish and Wildlife Service (USFWS) for public facilities and activities proposed in wildlife habitat areas.
	NR-4.4	Educate the general public and the development community about endangered species, current protection regulations, and the need for wildlife corridors.

Goal NR-5	*Historic trails, sites, structures, cemeteries, and ridges are preserved and promoted.*

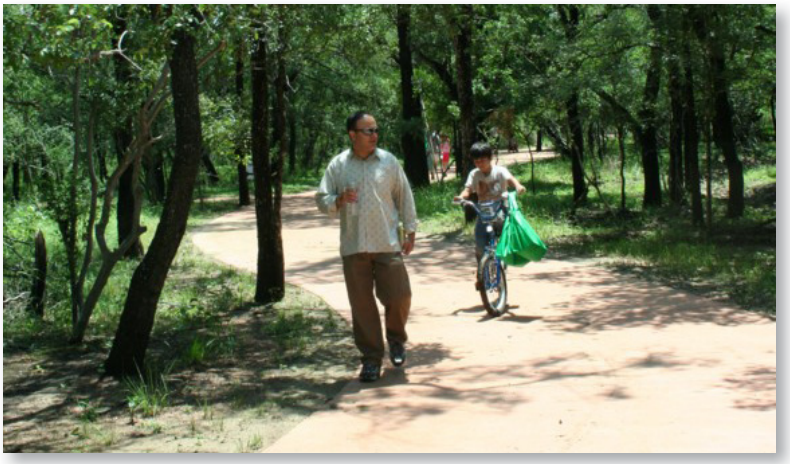
Strategies:

NR-5.1 Strive to make rehabilitation the first choice in all public projects and encourage it in the private sector, consistent with the City's Strategic Historic Preservation Plan and Mission Verde Plan.

NR-5.2 Preserve wildlife corridors, historic trails and scenic corridors such as the Old Spanish Trail, El Camino Real, Pinta Trail, Chisholm / Great Western Cattle Trail, Scenic Loop Road, Babcock (north of 1604), and Boerne Stage Road.

NR-5.3 Support voluntary efforts by landowners to preserve historic farms, ranches, and structures within the North Sector.

NR-5.4 Ensure that new development respects the Hill Country heritage through its preservation of the regional architectural context.



Community Facilities and Education

Overview

The Community Facilities and Education section includes the discussion of public safety, health care and educational facilities within the North Sector. These facilities provide the foundation for a high quality of life for North Sector residents, workers and visitors. A successful educational system comprised of primary, secondary, and post-secondary opportunities will match up with the professional and technical job requirements of both North Sector and regional employers.

Community Facilities are Critical Components for a Strong Community

The North Sector is currently served by eight (soon to be nine) City of San Antonio public libraries. All but two branches, Bannwolf Library at Reagan High School and the future Parman Branch, are located south of Loop 1604. The Great Northwest, Maverick, Igo and Cody Branches are located within the Southwest Quadrant. Brook Hollow, Thousand Oaks, and Semmes Branches are located within the Southeast Quadrant.

The Bannwolf Library at Reagan High School is located in the Northeast Quadrant, northwest of the intersection of Loop 1604 and US 281. The Parman Branch, currently under construction, will serve the area east of Camp Bullis and north of Loop 1604. It is anticipated that additional branch libraries will be needed to serve the growing population. The Library's new Strategic Plan is expected to determine the number and location of future libraries.

The need was also expressed for a satellite animal care facility in the North Sector. While a specific location has not been identified, a high visibility shopping area with direct arterial access is also recommended.

Public Safety and Protection Are Important Characteristics within the North Sector

All areas of the North Sector within San Antonio's city limits are served by San Antonio's police, fire, and emergency medical services (EMS). The San Antonio Police Department has an authorized strength of over 2,300 officers to protect the City's six district areas. The North Sector includes two districts (Prue [west] and North [east]). These districts are administered by a substation that is typically centralized within each district. The Department has indicated that it is considering adding another substation to serve the far northern area of the City. The City's ETJ area is patrolled by the respective County Sheriff's Department, which typically utilizes very large patrol areas and provides limited public safety service.

The San Antonio Fire Department operates a total of 16 stations within the North Sector and is interconnected through the computer aided dispatch system. The Department is expected to augment these existing stations with one new station, to be located southeast at Beckwith Boulevard and Vance Jackson (Station 51). This station will also be home to the City's second Technical Rescue Team. Areas outside of San Antonio's city limits are served by emergency service districts and a range of public agencies including Bexar County, Comal County, and Kendall County.

Schools Are the Foundation for Future Employment Bases

A total of 149,000 children currently reside in the North Sector. For those children who are enrolled in the public education system, five independent school districts (ISD) provide the majority of coverage across the entire Sector. The Northside and Northeast Independent School Districts are the two largest school districts within the Sector. Boerne, Comal, and Judson ISDs also provide service to the North Sector. Very small portions of two districts (San Antonio and Alamo Heights) are located to the south and only serve a very limited number of Sector students. There are approximately 102 elementary schools, 19 middle schools and 42 high schools within the sector. The graduation rates of the public schools are listed below in ***Table 3.1: Graduation Rates at Independent School Districts***. As shown, the Boerne ISD exhibits the highest graduation rate, followed by the Comal ISD.

In addition to public schools there are approximately 8 charter schools, 46 private schools, and 2 trade schools located within the North Sector.

Even though the educational system is not under the direct purview of the City, it has a significant impact on many aspects of the community. The North Sector has a significant inventory of elementary, middle and high schools within its incorporated area. As development continues to the north, the timing of supportive schools will have to occur as well.

Table 3.1: Graduation Rates at Independent School Districts

DISTRICT	STUDENTS	PERCENT GRADUATED
Judson	21,256	73
Northside	91,578	81
Northeast	65,318	90
Boerne	6,300	99
Comal	16,600	94

Source: Judson ISD, Northside ISD, Northeast ISD, Boerne ISD, Comal ISD; June 2010

Opportunities for Post-Secondary Education Will Enhance Vitality

The North Sector includes two universities, University of Texas at San Antonio, (UTSA), and University of Texas (UT) Health Science Center San Antonio, as well as two trade schools (Hallmark College, and ITT Technical Institute). A new site has been purchased by the Alamo Community College for its North Central Campus in the Northwest Quadrant. UTSA had a 2009 enrollment of over 28,000 students, offering 64 bachelor, 49 master, and 21 doctoral programs, making it the fifth largest university in Texas and the second largest in the University of Texas system. The university is currently in the process of greatly expanding its research funding to attain Tier 1 status as a research institution. Enrollment projections expect UTSA to grow to 35,000 students by 2016. The UT Health Science Center San Antonio had an enrollment of 3,223 in the fall of 2009. It contains five schools offering programs in biomedical sciences and health professions. In order to increase the level of funding it receives from the State of Texas, UT Health Science Center's School of Nursing hopes to increase enrollment by 25 percent by 2014, but the School of Medicine and the Dental School have state-mandated enrollment caps for each class, set at 200 medical students and 90 dental students per year.[2]

Hallmark College offers associate degrees at its aeronautics, allied health, and information technology schools, as well as Bachelor of Science degrees at its school of business. Total enrollment is just over 750 students. ITT Technical Institute has an enrollment of roughly 700 students at its San Antonio campus, offering two-year associate degrees in information technology related fields.

The Alamo Community College District offers associate degrees, certificates and licenses in occupational programs that prepare students for jobs. Its curriculum also includes arts and science courses that transfer to four-year colleges and universities and lead to Associate of Arts (AA) and Associates of Science (AS) degrees. Alamo Community College purchased an approximate 150-acre site in February 2009 for its future North Central Campus.

2 *UTHSCSA Website*

Community Facilities and Education Goals and Strategies

Goal COM-1	*Parks, schools, libraries, animal care and other community facilities linked to one another.*

Strategies:

COM-1.1 Utilize the recommendations identified in the City's updated Parks and Recreation Department System Strategic Plan (2006-2016) to ensure adequacy, accessibility, and connectivity.

COM-1.2 Continue to implement the City's Bicycle Master Plan to connect existing bicycle facilities, through the use of linear parks, utility easements, riparian corridors, and other greenways.

COM-1.3 Foster collaborative efforts by the City, independent school districts, and other quasi-public and private entities to create a common site for the possible co-location of community/recreation centers, neighborhood and community parks, elementary, middle and senior high schools, libraries and stormwater features.

COM-1.4 Use trails incorporated within greenways as connective links among community facilities, parks, open space, libraries and commercial uses.

COM-1.5 Prepare and adopt an amendment to the Transfer of Development Rights (TDR) policy to facilitate the preservation of open space, parks, and agricultural preservation.

COM-1.6 Consider / encourage private funding and/or sponsorships/ partnerships (e.g., adopt-an-area, after hours use of recreational facilities) to leverage public resources for acquisition and to provide for long-term operational and maintenance needs.

COM-1.7 Consider the location of an accessible, high traffic satellite animal care facility, in the North Sector.

COM-1.8 Construct additional off-leash dog parks in existing and/or new park facilities.

COM-1.9 Create a partnership with schools to keep athletic fields and facilities open after hours for community use to reduce the potential for obesity and other diseases through active lifestyles.

Goal COM-2	*Educational facilities and libraries are cornerstones of the North Sector.*

Strategies:

COM-2.1 Strive to continue to upgrade and augment library facilities and services to meet educational, informational, and cultural needs of residents.

COM-2.2 Co-locate libraries near or adjacent to schools and park sites, and other community facilities wherever possible.

Goal COM-3	*All emergency and public safety services are continually improved within the North Sector.*

Strategies:

COM-3.1 Continue to work toward regional coordination of existing City emergency and public service facilities with existing Bexar, Kendall, and Medina County facilities, equipment, and staffing.

COM-3.2 Promote the use of Crime Prevention Through Environmental Design (CPTED) using site planning and building design as elements that decrease crime and calls for service.

COM-3.3 Continue to organize and foster citizen assistance and participation in safety programs, such as the San Antonio Fear Free Environment (SAFFE), Neighborhood Watch, National Night Out, and Cellulars on Patrol programs.

COM-3.4 Promote the location of a new police substation within the boundaries of the North Sector.

COM-3.5 Continue to build on public education to understand emergency services and wild fire prevention.

COM-3.6 Continue to enforce fire code safety through code enforcement.

Goal COM-4	*Growth and expansion of University of Texas at San Antonio (UTSA), Alamo Community College District (ACCD), and other post secondary institutions in the North Sector.*

Strategies:

COM-4.1 Support and encourage the expansion of UTSA and ACCD programs by:

- *Providing supportive community infrastructure i.e. capacity of the vehicular transportation network, utilities, pedestrian/bicycle access and egress from the university, park and ride facility/ transit connectivity from key destination points outside the UTSA or ACCD areas,*
- *Bonding projects for transportation improvements,*
- *Forming a partnership among VIA, ACCD and UTSA to transport students to and from their campuses,*
- *Investigating enacting parking agreements with local businesses to ease traffic and parking on -campus and in the neighborhoods near UTSA.*

COM-4.2 Nurture the expansion of other existing, and attract new, post secondary institutions to the North Sector as per the master plans of each institution (i.e., ACCD Master Plan and UTSA Campus Master Plan).

COM-4.3 Work with UTSA, ACCD, and other post secondary institutions to prepare an integrated land use and transportation plan that supports the campus' long-term housing needs while protecting environmentally sensitive features.

COM-4.4 Encourage the widening of Hausman Road in order to accommodate the growth around UTSA.

Goal COM-5	*Post secondary programs in the North Sector provide a career ready workforce in support of the targeted job needs of greater San Antonio.*

Strategies:

COM-5.1 Foster a partnership among the city (i.e. libraries), universities/ colleges and business community to match educational curriculum with the technical and educational skills required to enhance the City's targeted job base.

COM-5.2 Communicate the post secondary program to the independent public school districts and private schools to ensure senior high school students are properly prepared for college coursework.

Goal COM-6	*Strong neighborhood school districts.*

Strategies:

COM-6.1 Strive to expand the collaboration of the City with private and public school entities serving the North Sector Planning Area to serve youth through curriculum, after-school, and extended day care programs and day camps.

COM-6.2 Foster multi-use campus facilities comprised of public libraries, parks and recreation facilities and schools to support after school programs for North Sector youth with shared costs for operation and maintenance of such facilities.

COM-6.3 Encourage the various independent school districts to site: elementary schools within residential neighborhoods within walking distance; middle schools at the periphery of residential neighborhoods where they are served by a collector street and bicycle networks and high schools away from residential neighborhoods, in locations served by a collector or arterial street, transit service, and pedestrian and bicycle networks.

Land Use and Urban Design

Overview

The North Sector comprises the largest area of all seven sectors within the City. The Sector is transected by numerous principal arterial roadways as well as three railroad corridors. The Sector includes several major employment centers, such as: San Antonio International Airport, Camp Bullis, Camp Stanley, University of Texas at San Antonio, South Texas Medical Center, USAA and Valero. Camp Bullis' and Camp Stanley, covering approximately 32,000 acres, or roughly 11 percent of the North Sector land area, are located in the Northwest Quadrant; the 2,600-acre San Antonio International Airport is in the Southeast Quadrant, just northeast of the Loop 410/Highway 281 interchange; and the 900-acre South Texas Medical Center lies northwest of the Loop 410/IH-10 interchange in the Southwest Quadrant.

Single family residential occupies the majority of the developed portion of the North Sector and is the primary land use along minor collector and local streets. High density residential is generally located in a cluster around the Medical Center and along major roads. Commercial land uses are located along major highways and principal arterials. Significant clustering of commercial uses also exists in the vicinity of the South Texas Medical Center and surrounding San Antonio International Airport. Industrial uses and zones are primarily located around the Airport, specifically along the rail corridors. Park and open space are generally sited adjacent or proximate to drainage ways and are scattered throughout the North Sector. The majority of park and open space areas are located in the Northwest and Southwest Quadrants.

Even though the net area of the North Sector is nearly 400 square miles, a significant portion has either already been developed or has been approved for development. A suitability analysis was prepared using geographic information systems (GIS) to identify lands with existing and/or potential physical and environmental factors. The suitability factors considered were organized into five categories which are summarized below:

- **Endangered Species** – *potential habitat for the Golden-cheeked Warbler (not excluded-only identified) .*
- **Planned/Approved Development** *– contains approved community, neighborhood and master development plans.*
- **Ownership** *– owned by federal, state, or municipal governments.*
- **Land Use** *– contains existing development and/or uses.*
- **Natural** *– includes bodies of water, floodplains, and dedicated open space.*

Effectively, over 85 percent of the land within the North Sector, more than 200,000 acres, was excluded. These lands are included within at least one of the five categories identified above (excluding Endangered Species), in an effort to illustrate those lands remaining to be planned to accommodate future development. Although potential Golden-cheeked Warbler habitat is not necessarily prohibitive to future development, it lowers the overall development suitability of the land it occupies.

Potential for Compatible Land Uses

In general, similar land uses are located next to each other within the North Sector. The northern quadrants are primarily low density residential and rural, while the southern quadrants are developed at a higher density and intensity that supports more concentrated residential, employment, and industrial areas. It is important to separate incompatible land uses so that they do not interfere with each other and infringe upon the quality of life of residents or the operational livelihood of North Sector workers. For example, locating a residential community next to an industrial area has the potential for many issues, such as noise, glare, objectionable chemicals or emissions, or other safety and/or nuisance concerns for nearby residents. Likewise, developing residential uses around Camp Bullis could interfere with military training operations at the facility as well as generating complaints from residents of noise generated by aviation and/or firing range training activities.

The concept of buffering has been identified at numerous locations within this section. Buffering is a mechanism that should be considered when any residential and non-residential development pattern or land use abuts one another, particularly if there is

substantial reason to believe the adjacency and/or proximity of such uses will be incompatible. Buffering consists of placing neutral space between two incompatible uses. Methods of buffering may employ the following techniques:

- *Natural or Landscaped Areas*
- *Concrete masonry unit block walls, opaque fences*
- *Earth berms*
- *Combinations of the above*

Another technique that can successfully be implemented is the concept of transitional uses. These are uses contained within the palette of Tier and Center land uses identified later in the chapter and can be selected to be placed between two dissimilar or incompatible land uses to assist in creating a compatible land use pattern within a defined area. An example may be the placement of medium density residential use between low density and high density residential uses.

Buffering or the placement of transitional uses is recommended when the following conditions occur:

- *Single-Family residential land uses within the Country and Rural Estate Tiers are located adjacent to Multi-Family residential land uses.*
- *Single-Family residential land uses are located adjacent to commercial or industrial land uses.*

Farms and Ranches are an Important Hill Country Component

The rural character of the northern portion of the North Sector includes farms and ranches that have been in operation for generations. These land uses have a variety of attributes that make them important for the character of the North Sector. Although all of them may not have been established over a long period of time, they are important community assets and are central to the livelihood and history of the families that own and operate them. Ranch and farmland are generally compatible uses in the region around Camp Bullis and Camp Stanley (as long as they are not excessively illuminated). Low-impact farming and ranching uses in which natural features are preserved provide reduced interference with military operations such as night-time training. Utilizing large tracts of land for ranching or farming can also help to preserve natural viewsheds.

Land Use Goals and Strategies

Goal LU-1	*Compatible land use pattern promoted so that natural resources are preserved and the local economy remains viable.*

Strategies:

LU-1.1 Locate buffers between high density/intensity land uses that are potentially incompatible.

LU-1.2 Promote the application of site plan and subdivision designs that provide residents with transportation choices to walk, ride bicycles, access public transit, as alternatives to a vehicle.

LU-1.3 Promote a variety of housing types, including apartments, lofts, condominiums, townhouses and single family attached and detached housing between Loop 1604 and Loop 410.

LU-1.4 Continue programs to improve the quality of life in existing neighborhoods, using available city, county, state, and federal resources, including: enforcement of all codes, participation in neighborhood associations, housing and commercial rehabilitation programs, historic or neighborhood conservation designations and other city and county departmental actions.

LU-1.5 Promote flexibility and innovation in residential, business and recreational land uses through planned unit developments, conservation subdivisions, specific plans, mixed use projects, and other innovative development and land use planning techniques.

LU-1.6 Identify and preserve appropriate areas, including floodplains, (based on size, location and ecological value) for preservation of natural resources.

Goal LU-2	*Preservation of farm and ranch lands is encouraged.*

Strategies:

LU-2.1 Encourage the protection of agricultural land in an environmentally sensitive manner for long-term use through conservation easements

Goal LU-3	*Higher density/intensity tiers are recommended adjacent or proximate to activity centers.*

Strategies:

LU-3.1 Set priority for pursuing a compatible and highest and best use for development of vacant infill and underutilized parcels between Loop 1604 and Loop 410 in a compatible manner as recommended in the Sector Land Use Plan.

LU-3.2 Integrate mixed use areas vertically as well as horizontally, allowing for differing uses within the same building, as well as within the same project area.

LU-3.3 Promote job growth in the Specialized, Regional, and Mixed Use Centers to achieve the City's diversified business targets through land use guidance and economic incentives.

Goal LU-4	*City of San Antonio collaborates with Bexar, Comal, Kendall, and Medina counties to support the North Sector Plan goals within the City's ETJ.*

Strategies:

LU-4.1 Encourage counties located within the North Sector Planning Area to implement land use regulations to the fullest extent available by Texas State law and to make them consistent with the adopted or amended Sector Plans within the City and County.

LU-4.2 Partner with, and provide planning support and guidance to Bexar and surrounding counties to identify land use controls, implementation measures and actions by the City and County to maintain consistency with the Sector Plan and the goals and policies of San Antonio's Comprehensive Master Plan.

LU-4.3 Utilize the resources and benefits of collaborative planning with the MPO and the Alamo Area Council of Governments' (AACOG) regional planning programs and other regionally cooperative entities to coordinate City plans and programs with its surrounding and internal municipalities.

LU-4.4 Work with other incorporated towns and cities in planning contiguous areas in order to ensure a compatible land use edge for both jurisdictions.

Goal LU-5	*All new construction and renovation efforts within corridor overlay districts must be in compliance with applicable standards.*

Strategies:

LU-5.1 Continue to implement the standards and guidelines of existing scenic corridors, gateway corridors and overlay districts to maintain and enhance a consistent design theme along North Sector principal and arterial roadways.

LU-5.2 Encourage development and preservation of diverse and distinctive neighborhoods that build on the patterns of the natural landscape and are sensitive to their locations and historic contexts.

LU-5.3 Enhance the built environment by providing transitions between the street and building, encouraging variation in building articulation and massing.

Goal LU-6	*Development of livable, walkable communities is encouraged.*

Strategies:

LU-6.1 Provide incentives for development proposals that create and enhance major public streets, open spaces, cityscape, and important "gateways" into the natural environment.

LU-6.2 Create connectivity and compatible transitions among the seven City Sectors, and encourage activities in each that result in the creation of diverse and distinctive places reflective of their environmental, historical, and cultural heritage.

LU-6.3 Designate gateway points at major entrances to the Sector/City, using street trees, welcome signs, decorative lighting, archways, etc.

LU-6.4 Maintain a distinct urban edge between Regional and Mixed Use Centers and adjacent Tiers (using open space) to promote vitality, while creating a gradual transition in density and intensity.

LU-6.5 Encourage development that is visually and functionally compatible with its surrounding neighborhoods by maintaining a massing and density of development that is compatible with adjacent developed neighborhoods.

Tiers and Centers are the Land Use Components of the North Sector Land Use Plan

The North Sector Land Use Plan has been prepared based on the concept of Centers and Tiers. The intent of this concept is to allow for a range of compatible residential and non-residential uses within each Tier and Center. Tiers and Centers allow for a range of appropriate densities and intensities that can achieve compatibility and respond to market opportunities. Each Center and Tier utilized within the North Sector Land Use Plan considers the character of the existing land use pattern, existing and proposed transportation networks, and the presence of environmental resources.

The overview of each Center and Tier and its land use guidance is presented below. There are seven Tiers, five Centers and one Overlay. The following "related zoning districts" are those that best meet the land use descriptions for the Tier or Center. Special zoning districts such as MXP, IDZ, TOD, ED, AE, PUD, FBZD, etc. may have a broad range of applicability. Requests for these special districts should be evaluated on a case by case basis. Generally, lower density or intensity uses may be accommodated in most Tiers and Centers although they are not listed as a related zoning district.

Tiers	Centers	Overlay
Natural Tier	Mixed Use Center	Military Influence Overlay Area
Country Tier	Regional Center	
Rural Estate Tier	Specialized Center	
Suburban Tier	Civic Center	
General Urban Tier	Military Center	
Urban Core Tier		
Agribusiness Tier		

Natural Tier

RESIDENTIAL: None

NON-RESIDENTIAL: Limited

Generally: Ancillary uses located within existing and man-made natural areas that supports active and/or passive open space and recreational uses

RELATED ZONING DISTRICTS:

RP, G

SUMMARY: *The Natural Tier includes parks, designated natural areas, and recreational areas. It is dispersed throughout the entire Sector in a pattern that acknowledges the natural drainage system and adjacent parks and open spaces, and provides opportunities for active and passive recreation. The combination of Natural Tier Land includes more in than outside the city, with over 10,000 and 4,000 acres, respectively, as shown on* ***Chart 3.1.*** *The Natural Tier encompasses nearly 18,000 acres or 6 percent of the North Sector.*

Country Tier

RESIDENTIAL: Rural Homestead

Generally: Large tract detached single family housing; Served by well water and septic systems; Lots greater than 10 acres.

NON-RESIDENTIAL: Agriculture, Commercial

Generally: Outlying areas where small-scale farms or ranches that produce, process, or distribute agricultural products and/or livestock as well as farmers market, nurseries, bed and breakfasts, small restaurants, and other small neighborhood sized stores are appropriate

RELATED ZONING DISTRICTS:

RP, FR

LOCATION: Commercial uses in the Country Tier should be located at the intersections of arterials and collectors or rural roads, or clustered into rural commercial villages.

Rural Estate Tier

RESIDENTIAL: Low Density Residential Estate

Generally: Large tract detached single family housing; Served by central water and septic systems; Lots greater than 1/2 acre.

NON-RESIDENTIAL: Neighborhood Commercial

Generally: Outlying areas where detached and limited retail services such as convenience stores, service stations, professional offices, restaurants, bed and breakfasts, and other small businesses are appropriate

RELATED ZONING DISTRICTS:

RP, RE, R-20, O-1, NC, C1, RD

LOCATION: Commercial uses to serve these low density rural estate neighborhoods should be located at the intersection of arterials, collectors, and/or rural roads. Although these uses are small scale, they serve a large geographic area and therefore are primarily accessed by car, nearby road should be friendly to bicycles and pedestrians.

Suburban Tier

RESIDENTIAL: Low to Medium Density

Generally: Small and large tract attached and detached single family; Multi-family housing (duplex, triplex, quadplex); townhomes, garden homes, and condominiums

NON-RESIDENTIAL: Neighborhood and Community Commercial

Generally: Neighborhoods where detached retail services such as service stations, professional offices, bakeries, restaurants, bookstores, supermarkets, clinics, hotels, and other retail stores are appropriate

RELATED ZONING DISTRICTS:

NP-15, NP-10, NP-8, R-6, R-5, R-4, R-3, RM-6, RM- 5, RM-4, MF-18, O-1, 0-1.5, NC, C-1, C-2, C-2P RD (Conservation Subdivision), UD

Suburban Tier *(continued)*

LOCATION: Commercial uses in Suburban areas serve both neighborhood and community scale markets. Neighborhood commercial is appropriate at the intersection of residential streets and collectors, and should not encroach into residential areas. Neighborhood uses should be accessible by pedestrians. Community commercial should be located at the intersections of arterials and/or collectors. The intensity of the commercial use should not interfere with the character and density of nearby residential uses and adequate buffers should be maintained. Community commercial uses should be accessible by car and bike, and the commercial areas should be pedestrian friendly.

General Urban Tier

RESIDENTIAL: Medium to High Density

Generally: Small tract detached Multi-Family including apartments, quadplexes, triplexes, duplexes, and townhomes (condominiums)

NON-RESIDENTIAL: Community Commercial

Generally: Urbanized areas where frequent and/or attached walkable retail services such as convenience retail stores, live/work units, cafes, grocery stores, hotels, clinics and other small businesses are appropriate

RELATED ZONING DISTRICTS:

R-4, R-3, RM-6, RM-5, RM-4, MF-18, MF-25, MF-33, O-1.5, C-1, C-2, C-2P, UD

LOCATION: Community commercial uses in the General Urban Tier, which serve medium and high density residential uses, should be located at the intersections of arterials and/or collectors. Serving both a local and wider community, these commercial areas should be accessible by walking from nearby residents, biking within the vicinity, and cars from a broader range. Parking for both cars and bikes should be located as to not interfere with pedestrian circulation.

Urban Core Tier

RESIDENTIAL / NON-RESIDENTIAL: Mixed Use

Generally: High density detached, attached multi-family such as mid to high rise apartment buildings, lofts, condos. Mixed use blocks and buildings with a high concentration of attached office, hotels, and retail / services in mid to high rise buildings are appropriate

RELATED ZONING DISTRICTS:

D, FBZD, TOD, MXD, MPCD

LOCATION: The Urban Core serves a mix of residential and commercial uses. The compatibility of these uses in a dense urban environment is dependent upon the urban design of the buildings and the public realm. The street pattern should be conducive to pedestrians, bikes, cars, and have appropriate access for commercial vehicles. In this environment, the form of the development takes precedence over the location of the use.

Agribusiness Tier

RESIDENTIAL: Farm Homestead

Generally: Large tract (25 acres or greater) detached single family housing significantly buffered from industrial uses. Farm worker housing is appropriate.

NON-RESIDENTIAL: Agriculture and Light Industry

Generally: Isolated areas where businesses that produce, process, or distribute agricultural products and/or livestock and conduct related agribusiness activities are appropriate

RELATED ZONING DISTRICTS:

FR, I-1, MI-1, BP, L, RP, L

LOCATION: Agriculture uses are permitted throughout the tier. Light Industrial uses should be screened and buffered from adjoining non-industrial uses. Commercial uses should be located at the intersections of arterials and collectors or rural roads, or clustered into rural commercial villages located along arterials.

Mixed Use Center

RESIDENTIAL: Very High Density

Generally: High density detached, mid-high rise condominium buildings, apartment complexes, and row houses

NON-RESIDENTIAL: Community Commercial, Office, Mixed Use

Generally: Detached or attached walkable retail services such as convenience stores, live/work units, cafes, pantry stores, hotels, and other businesses

RELATED ZONING DISTRICTS:

MF-40, MF-50, O-1, O-1.5, O-2, C-1, C-2, C-2P, UD, FBZD, TOD, MXD, MPCD

LOCATION: Mixed Use Centers serve Suburban, General Urban, and Rural Tiers outside of the Urban Core Tier. Although mixed use developments are encouraged, Community Commercial and Office uses are also appropriate. The higher intensity of the residential and commercial uses should be located on, or at the intersection of, arterials and collectors. Streets should accommodate high volumes of commercial traffic for cars while accommodating safe and inviting access for pedestrians and bicycles within and around the center. High capacity transit should be encouraged.

Regional Center

RESIDENTIAL: High Density

Generally: Attached single family and multi-family housing; Mid-High rise condominium buildings, apartment complexes, and row houses

NON-RESIDENTIAL: Regional Commercial, Office

Generally: "Big box" or "power centers", shopping malls, movie theaters, hospitals, office complexes, laboratories, wholesalers, and light manufacturing

Regional Center *(continued)*

RELATED ZONING DISTRICTS:
MF-25, MF-33, O-1, O-1.5, O-2, C-2, C-2P, C-3, UD

LOCATION: Regional Centers accommodate the most intense commercial uses and should be located at the intersection of Expressways and Major Arterials. Serving a regional market, streets need to accommodate large volumes of automobile traffic traveling to, and within, the development. Internal access and circulation is important. Pedestrians and Bicycles should be able to travel safely within the development. Transit is encouraged.

Specialized Center

RESIDENTIAL: None

NON-RESIDENTIAL: Heavy Industrial, Business / Office Park
Generally: Manufacturing, wholesaling, warehouses, office parks, laboratories, and regional retail/services

RELATED ZONING DISTRICTS:
0-1.5, 0-2, BP, I-1, I-2, MI-1, MI-2, SGD, QD

LOCATION: Heavy Industrial uses should be located near expressways, arterials, and railroad line. This use is not compatible with residential uses. Business/Office Park uses should take the form of a cohesive, campus setting with adequate open space and pedestrian walkways between or around buildings. Residential uses should be separated with landscape buffers.

Civic Center

RESIDENTIAL:
Generally: Dormitories and/or student housing

NON-RESIDENTIAL: Office, Educational, Governmental, Religious
Generally: Federal, state, county, or municipal governmental and quasi-governmental uses, public or private school or campus uses, retreat areas or campuses for religious organizations

Military Center

RESIDENTIAL:
Generally: Permanent or temporary housing for military personnel and civilians on military installations

NON-RESIDENTIAL:
Generally: Federal or state military installations and uses associated with military readiness and related military services and offices

RELATED ZONING DISTRICT: MR

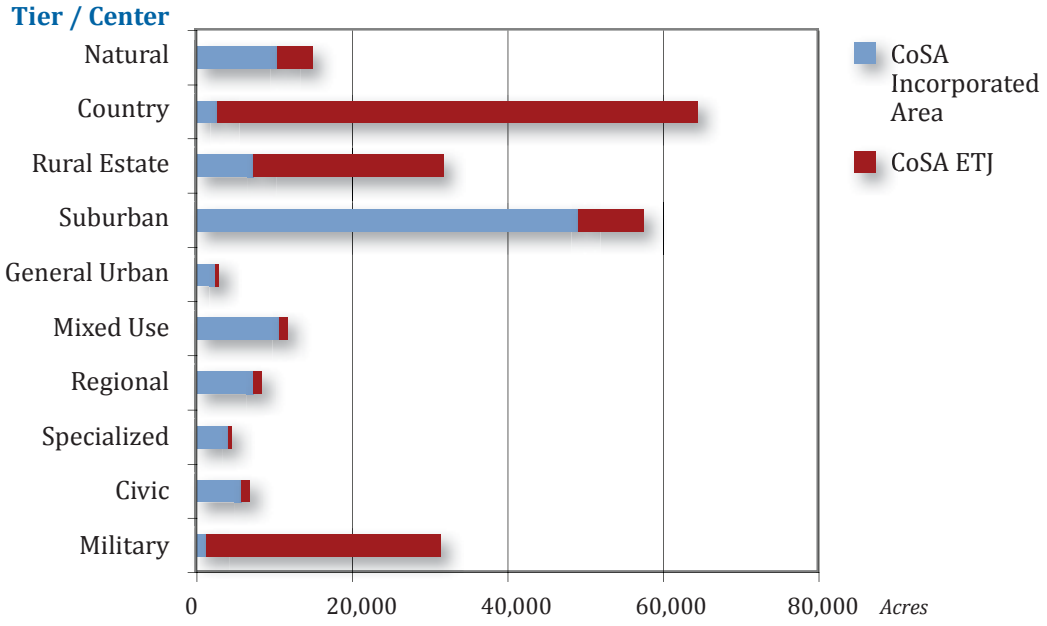
Military Influence Overlay Area

RESIDENTIAL:
Generally: See Compatible Development Guidelines

NON-RESIDENTIAL:
Generally: See Compatible Development Guidelines

RELATED ZONING DISTRICTS: MAOZ, MLOD, MSAO

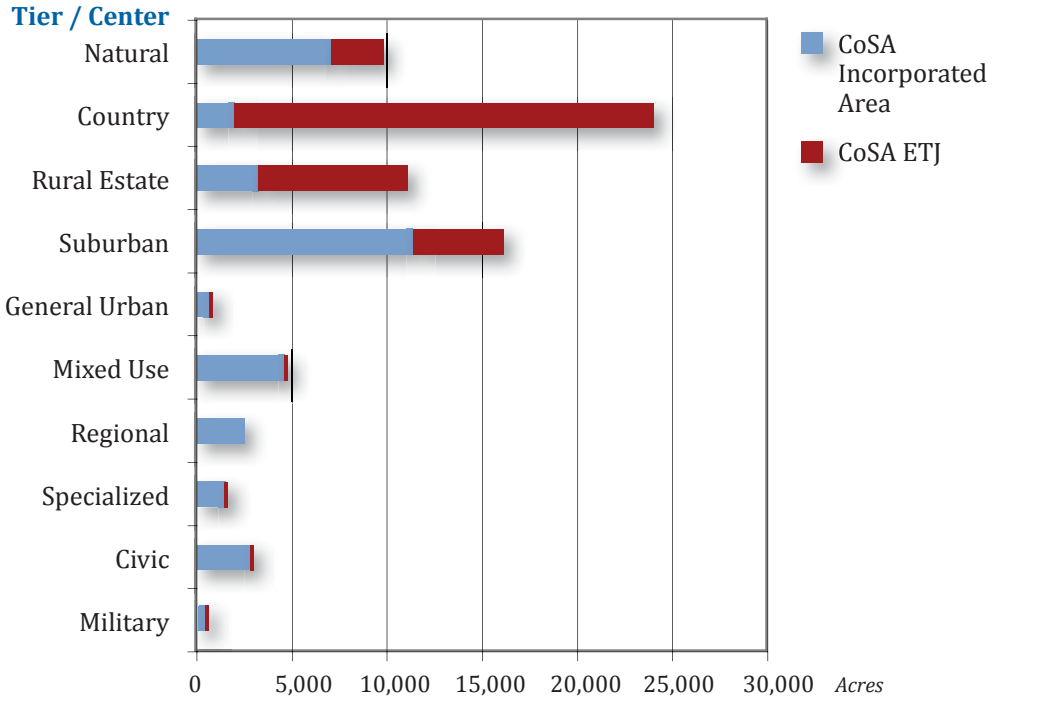
Chart 3.1: Land Use Plan Acreage Allocation by Type



Source: Matrix Design Group, June 2010

Note: All acreage calculations reflect the original tabulation based on Figure 3-1: North Sector Land Use Plan

Chart 3.2: Vacant Designated Land by Type



Source: Matrix Design Group, June 2010

Note: All acreage calculations reflect the original tabulation based on Figure 3-1: North Sector Land Use Plan

North Sector Plan Amendments

The North Sector Plan has been prepared to address the needs of the Planning Area, existing development pattern, considerations of the natural environment and opportunities for growth over the next five to ten years. As such, physical, market and development conditions will continue to evolve within the Planning Area. Over the next five to ten years, any of these variables are expected to undergo any number of changes and can result in plan amendments. Amendments should only be considered after careful review of the request, findings of fact in support of the request, and a public hearing by the Planning Commission (PC) and City Council.

The required findings of fact should include, but may not be limited to:

- *The recommended land use pattern identified in the North Sector Land Use Plan inadequately provides appropriate optional sites for the land use change proposed in the amendment.*
- *The amendment must constitute an overall improvement to the Sector Plan and will not solely benefit a particular landowner or owners at a particular point in time.*
- *The amendment must uphold the vision for the future of the North Sector Plan.*

- *The amendment will not adversely impact a portion of, or the entire Planning Area by:*
  - *Significantly altering acceptable existing land use patterns, especially in established neighborhoods.*
  - *Affecting the existing character (i.e., visual, physical and functional) of the immediate area.*
  - *Creating activities that are not compatible with adjacent neighboring uses and, particularly, the mission of Camp Bullis.*
  - *Significantly alter recreational amenities such as open space, parks, and trails.*

It shall be the burden of the party requesting the amendment to prove that the change constitutes an improvement to the North Sector Plan and that all its goals and strategies have been met under the proposed amendment.

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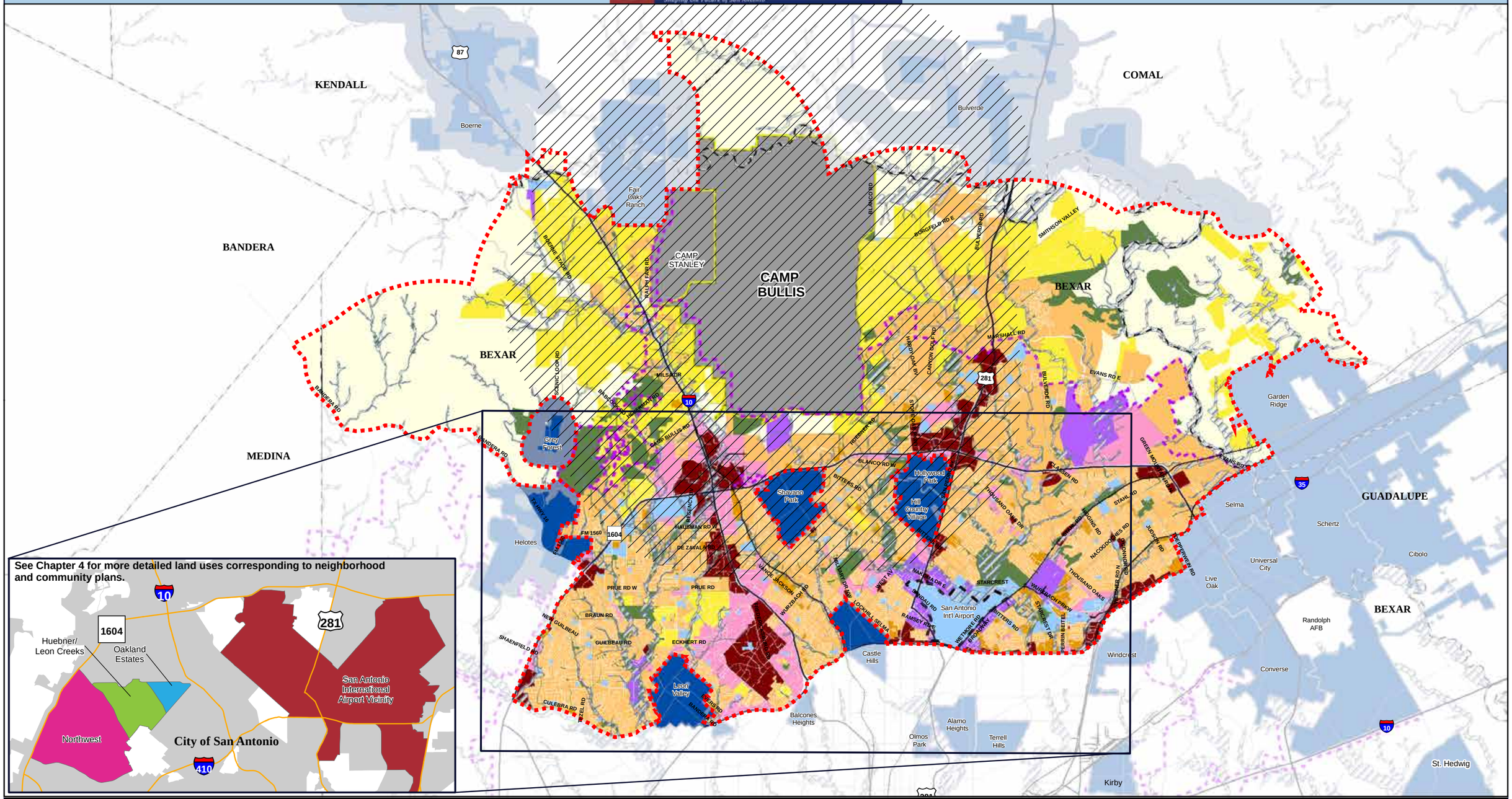
North Sector Plan

Shaping the Future of San Antonio



A comprehensive plan shall not constitute zoning regulations or establish zoning district boundaries.

Future Land Use

- Natural
- Country
- Rural Estate
- Suburban
- General Urban
- Civic
- Military Influence Overlay Area*
- Mixed Use
- Regional
- Specialized
- Military

Neighborhood and Community Plan

- Huebner/ Leon Creeks
- Northwest
- Oakland Estates
- San Antonio International Airport Vicinity

*Note: subject to recommended compatible uses
**Note: refer to the adopted land use plans for these areas

- Floodplain
- North Sector Planning Area
- San Antonio
- Incorporated City
- Incorporated City ETJ
- County
- Airport
- Highway
- Major Road
- Railroad

N W E S

0 1.5 3 Miles

3-1

source: Bexar County, Comal County, Kendall County / 2010; TNRIS / 2009

FLU_20100722_RGR.pdf

North Sector Land Use Plan

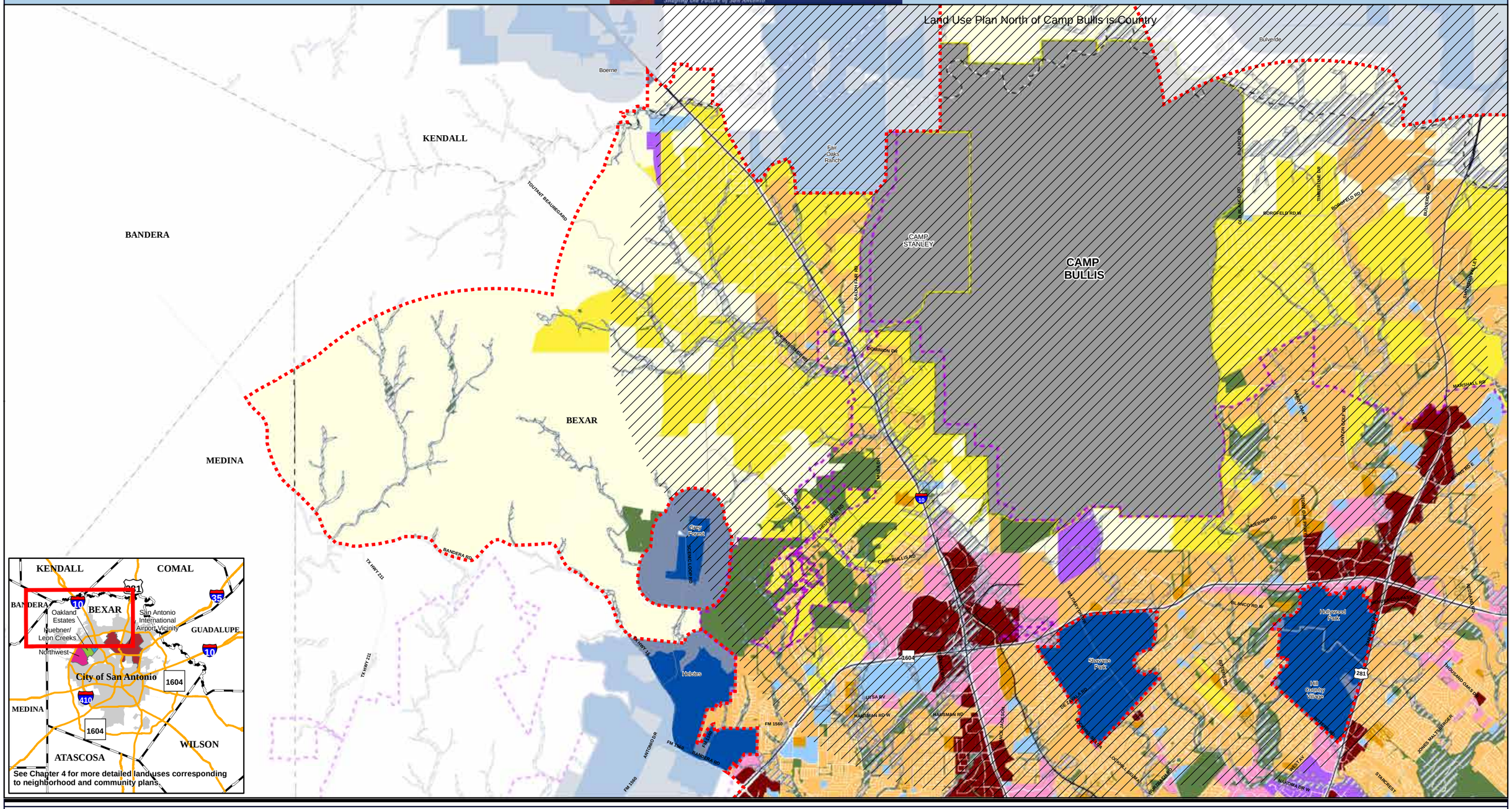
Figure 3-1: North Sector Land Use Plan

11 x 17 Back

North Sector Plan

Shaping the Future of San Antonio

Land Use Plan North of Camp Bullis is Country



See Chapter 4 for more detailed landuses corresponding to neighborhood and community plans.

A comprehensive plan shall not constitute zoning regulations or establish zoning district boundaries.

source: Bexar County, Comal County, Kendall County / 2010; TNRIS / 2009

Future Land Use

- Natural
- Country
- Rural Estate
- Suburban
- General Urban
- Civic
- junk
- Military Influence Overlay Area*
- Mixed Use
- Regional
- Specialized
- Military

Neighborhood and Community Plan

- Huebner/ Leon Creeks
- Northwest
- Oakland Estates
- San Antonio International Airport Vicinity

*Note: subject to recommended compatible uses
**Note: refer to the adopted land use plans for these areas

- Floodplain
- North Sector Planning Area
- San Antonio
- Incorporated City
- Incorporated City ETJ
- County
- Airport
- Highway
- Major Road
- Railroad

N W E S

0 0.875 1.75 Miles

3-2

Northwest Quadrant - North Sector Land Use Plan

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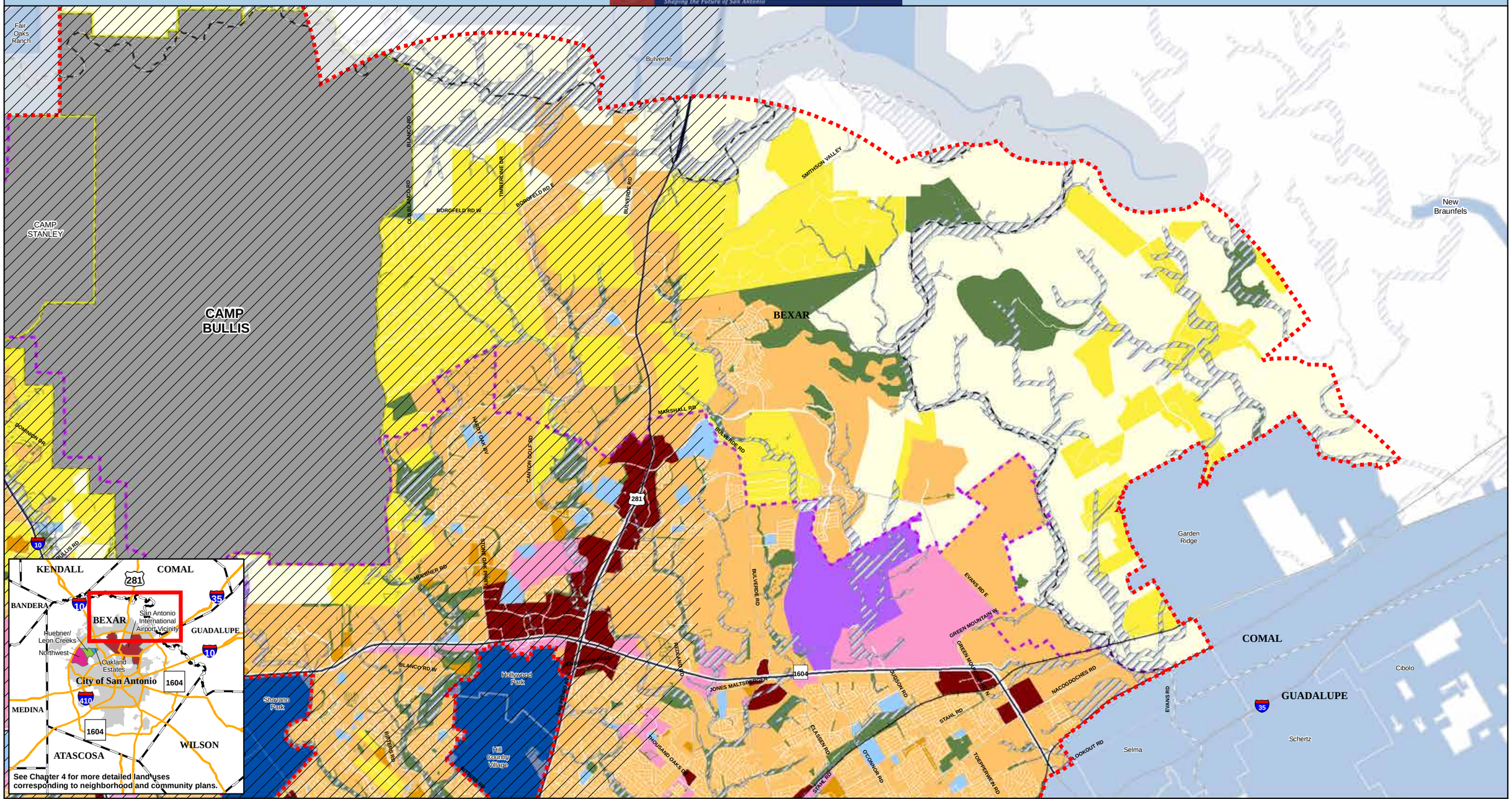
Figure 3-2: Northwest Quadrant - North Sector Land Use Plan

11 x 17 Back



A comprehensive plan shall not constitute zoning regulations or establish zoning district boundaries.

Future Land Use

- Natural
- Country
- Rural Estate
- Suburban
- General Urban
- Civic
- junk
- Military Influence Overlay Area*
- Mixed Use
- Regional
- Specialized
- Military

Neighborhood and Community Plan

- Huebner/ Leon Creeks
- Northwest
- Oakland Estates
- San Antonio International Airport Vicinity

*Note: subject to recommended compatible uses
**Note: refer to the adopted land use plans for these areas

- Floodplain
- North Sector Planning Area
- San Antonio
- Incorporated City
- Incorporated City ETJ
- County
- Airport
- Highway
- Major Road
- Railroad

N W E S

0 0.75 1.5 Miles

3-3

source: Bexar County, Comal County, Kendall County / 2010; TNRIS / 2009

Northeast Quadrant - North Sector Land Use Plan

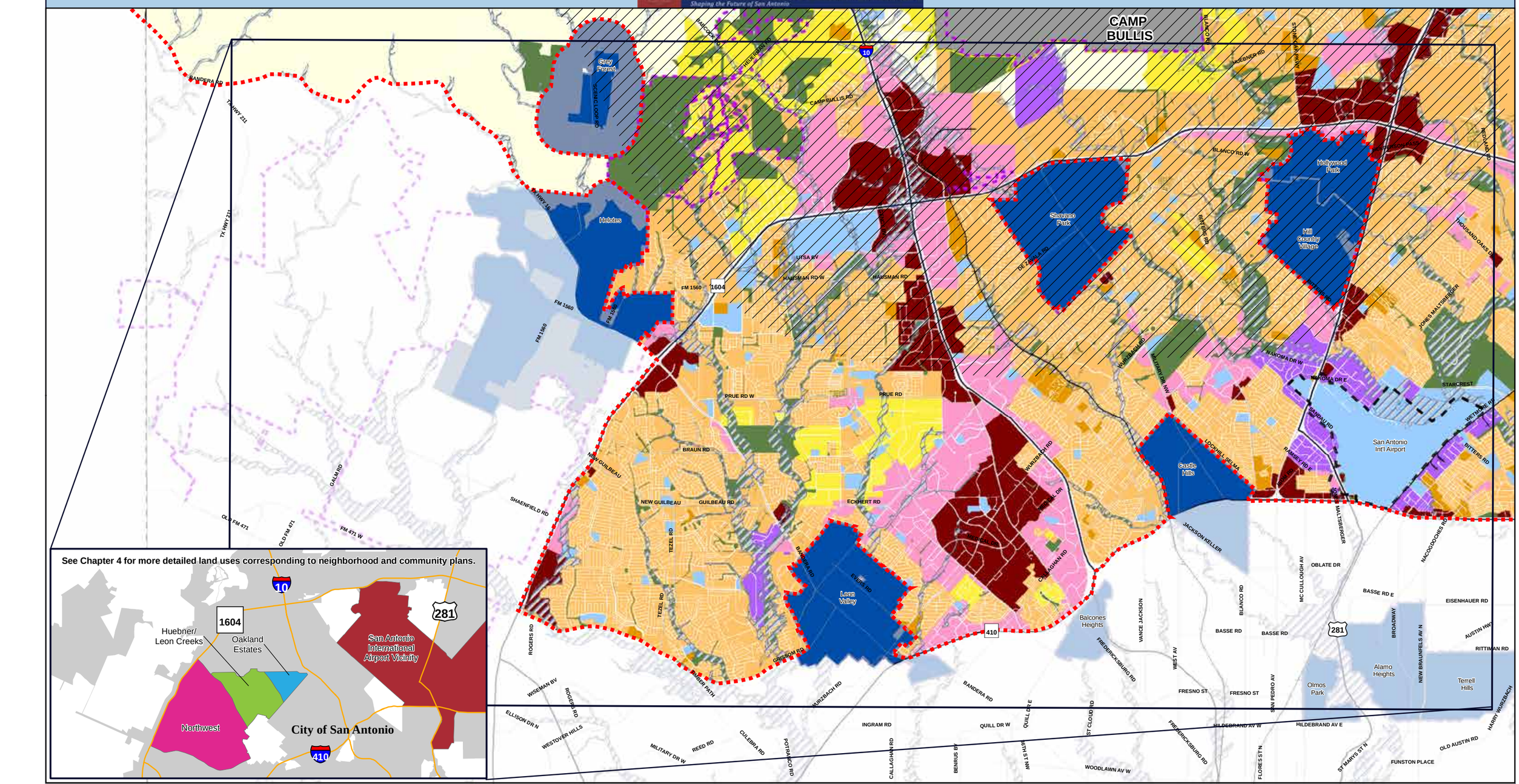
Figure 3-3: Northeast Quadrant - North Sector Land Use Plan

11 x 17 Back

North Sector Plan

Shaping the Future of San Antonio

CITY OF SAN ANTONIO



See Chapter 4 for more detailed land uses corresponding to neighborhood and community plans.

A comprehensive plan shall not constitute zoning regulations or establish zoning district boundaries.

Future Land Use

- Natural
- Country
- Rural Estate
- Suburban
- General Urban
- Civic
- junk
- Military Influence Overlay Area*
- Mixed Use
- Regional
- Specialized
- Military

Neighborhood and Community Plan

- Huebner/ Leon Creeks
- Northwest
- Oakland Estates
- San Antonio International Airport Vicinity

*Note: subject to recommended compatible uses
**Note: refer to the adopted land use plans for these areas

- Floodplain
- North Sector Planning Area
- San Antonio
- Incorporated City
- Incorporated City ETJ
- County
- Airport
- Highway
- Major Road
- Railroad

N W E S

0 0.75 1.5 Miles

3-4

source: Bexar County, Comal County, Kendall County / 2010; TNRIS / 2009

FLU_SW_20100722_RGR.pdf

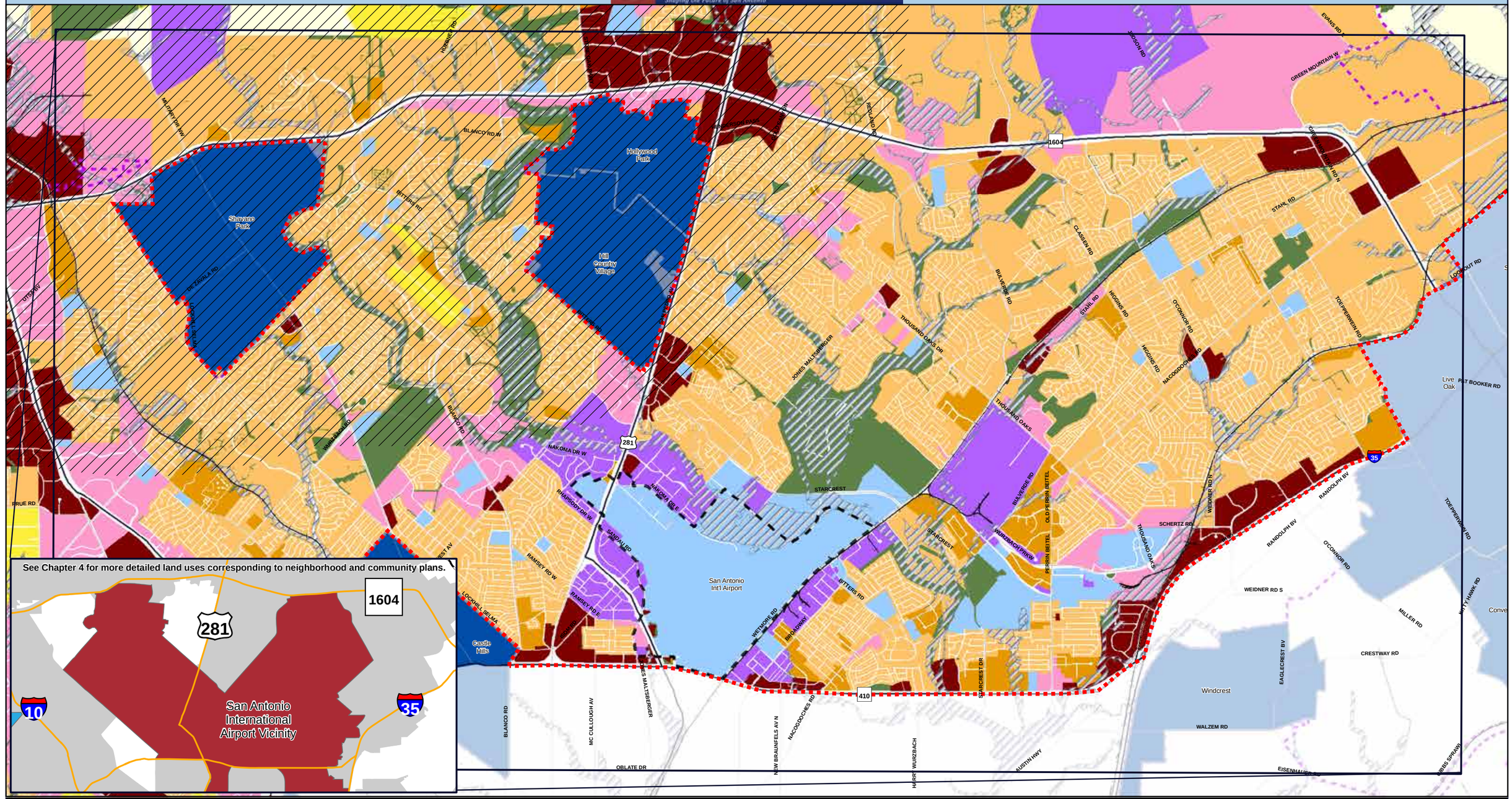
Southwest Quadrant - North Sector Land Use Plan

Figure 3-4: Southwest Quadrant - North Sector Land Use Plan

11 x 17 Back

North Sector Plan

Shaping the Future of San Antonio



See Chapter 4 for more detailed land uses corresponding to neighborhood and community plans.

A comprehensive plan shall not constitute zoning regulations or establish zoning district boundaries.

Future Land Use

- Natural
- Country
- Rural Estate
- Suburban
- General Urban
- Civic
- junk
- Military Influence Overlay Area*
- Mixed Use
- Regional
- Specialized
- Military

Neighborhood and Community Plan

- Huebner/ Leon Creeks
- Northwest
- Oakland Estates
- San Antonio International Airport Vicinity

*Note: subject to recommended compatible uses
**Note: refer to the adopted land use plans for these areas

- Floodplain
- North Sector Planning Area
- San Antonio
- Incorporated City
- Incorporated City ETJ
- County
- Airport
- Highway
- Major Road
- Railroad

N W E S

0 0.5 1 Mile

3-5

source: Bexar County, Comal County, Kendall County / 2010; TNRIS / 2009

Southeast Quadrant - North Sector Land Use Plan

FLU_SE_20100722_RGR.pdf

Figure 3-5: Southeast Quadrant - North Sector Land Use Plan

11 x 17 Back

Military Compatibility

Overview

Camp Bullis and Camp Stanley are contiguous US Army facilities located approximately 21 miles northeast of Fort Sam Houston in the Northwest Quadrant. They each have their own mission and are managed by separate commands. Camp Stanley is a weapons and munitions supply, maintenance, test, and storage facility. The site includes 4,000 acres with 630,000 square feet of storage space and supports a variety of military activities. Camp Stanley's workforce has no active duty military personnel and so it is supported by civil service employees and contractors. Industrial buildings, ammunition storage structures, and small arms ranges to facilitate weapons and ammunition testing for quality assurance purposes are located within the installation.

Camp Bullis occupies approximately 28,000 acres and its primary activities include firing ranges, maneuver areas for Army, Air Force, and Marine combat units, and field training of the various medical units from Fort Sam Houston. The training and maneuver areas cover approximately 22,000 acres and include 26 field training areas, 14 direct fire ranges (largest caliber is 7.62mm), two automated rifle ranges, one automated pistol range, a live-fire convoy range, grenade launcher range, demolition range, land navigation areas, leader reaction courses, rappel towers, obstacle courses, multiple landing zones for helicopters, and four drop zones (three for cargo and one for personnel) as shown on ***Figure 3-6: Camp Bullis Operations and Influences***.

Land Use Compatibility Is Critical For Camp Bullis

The official mission statement of Camp Bullis is "To provide an unparalleled training infrastructure offering quality range, training facilities, and maneuver areas that facilitate tough, realistic training for military and government agencies." In order to accomplish this operational mission, a wide variety of training takes place at Camp Bullis including live-fire weapons, vehicle maneuvering, helicopter flights and air drops, medical simulation and response training, night vision weapons and maneuver training, and fixed-wing aircraft operations from the combat assault landing strip (CALS). Located in the northeastern corner of Camp Bullis, the CALS is utilized by C-130 and C-17 aircraft for takeoff and landing and troop air drops over Camp Bullis. Some of

these operations can be heavily impacted by incompatible land use surrounding the installation. For example, helicopter, fixed-wing aircraft, and weapons firing all have noise contours that extend beyond the boundaries of Camp Bullis. Certain

types of development, such as housing or schools that are not properly constructed with sound attenuation measures can be impacted by this noise, which reduces the quality of life for residents. Likewise, excessive ambient light generated by proximate development at night can have a negative impact on night vision training.

Camp Bullis has faced the issue of residential encroachment up to its fence line. Although most of the development around Camp Bullis is low density residential, it still can impact military operations, or be impacted by these activities. Future development around Camp Bullis should be accommodated to minimize negative impacts to both the military and the public such that the military does not have to reduce its operational training activities.

Communication Among the Military, Counties, and Cities Is Important To Understand Each Entity's Issues and Objectives

It will be important for the military and local jurisdictions to continue the initial collaborations initiated through the preparation of the Camp Bullis Joint Land Use Study (JLUS) to ensure that both can develop and grow compatibly with each other. When the military becomes aware of a new operational mission that will take place at Camp Bullis, it will be their responsibility to inform local jurisdictions of the potential impacts this will have for residents. Similarly, when a jurisdiction becomes aware of a proposed development, or wishes to consider a land use near Camp Bullis that could impact operations or be impacted by operations, it will be their responsibility to share this information. The jurisdictions will also be responsible for communicating such proposals to the public and specifically those property owners expected to be directly or indirectly impacted.

Encroachment Must Be Mitigated To Retain and Expand the Military's Presence In the North Sector and the Region

The 2005 Base Realignment and Closure (BRAC) Committee presented several recommendations that have impacted the San Antonio metropolitan area. The requirement for Fort Sam Houston entails consolidating medical enlisted personnel training for various branches of the military at the installation to create

the world's largest medical education and training institution. The Navy medical training to relocate to Fort Sam Houston brings an average daily student load of 2,700 students, a maximum student load of 3,032 students, and another 29 courses of which 11 are inter-service. The Air Force training to move to Fort Sam Houston includes an average daily student load of 1,667 students, a maximum student load of 2,375 students, and another 73 courses of which 13 are inter-service.

The strategic direction for military compatibility for Camp Bullis is based in large measure on the implementation of the Camp Bullis JLUS. Adopted by the City Council in June 2009, the JLUS provides a comprehensive approach to achieve a compatible land use pattern adjacent and proximate to Camp Bullis to limit the potential for future encroachment. Strategies that were developed focus on the following topical areas:

Acquisition. A land use planning tool used to eliminate land use incompatibilities through market transactions and the local development process.

Bird/Wildlife Aircraft Strike Hazard (BASH). A United States Air Force program aimed at reducing the potential for collisions between military aircraft and birds.

Capital Improvement Plans (CIP). A fiscal detailed planning document used to plan and direct a jurisdiction's or agency's investment in public facilities, including infrastructure.

Communications/Coordination. A series of mechanisms to maintain open and constant communication between all stakeholders.

Comprehensive Master Plan/Sector Plan. A plan that contains overarching goals and policies and a land use framework to guide the physical development of the City.

Habitat Plan. A plan to conserve natural communities at the ecosystem level while accommodating compatible land use.

Legislation. Laws allowing for the use of regulations or tools to guide land use planning around military installations.

Memorandum of Understanding (MOU). An interagency agreement between two or more government entities to establish a formal framework for coordination and cooperation.

Plans and Programs. A document or program that provides goals and alternatives for land use issues such as light or noise trespass.

Real Estate Disclosure. A document that discloses all actual known facts relating to the condition of the property.

Zoning/Building Codes. Zoning is the division of a jurisdiction into districts (zones) within which permissible uses are prescribed and restrictions on building height, bulk, layout and other requirements are defined. Building Codes set forth the minimum requirements deemed necessary to protect the health, safety, and welfare of the public.

Subsequent to its adoption, several tools have been prepared and/or adopted that will assist in the protection of the mission at Camp Bullis and its readiness within the nations' military structure. These include:

Joint Airport Zoning Board (JAZB) Formation. A white paper was prepared (as part of the preparation of the North Sector Plan) and provides the process to stand up a JAZB for the CALS. It is located in the Appendix of this document.

Camp Bullis Bird/Wildlife Aircraft Strike Hazard (BASH) Guidelines. A white paper was prepared (as part of the preparation of the North Sector Plan) and provides an assessment of the potential bird and animal related conflicts and identifies potential active and passive controls within proximity of the CALS and the Nap of the Earth (NOE) rotary wing flight corridor to maintain pilot safety. It is located in the Appendix of this document.

Military Lighting Overlay District (MLOD). The San Antonio City Council approved the expansion of the previously adopted MLOD within the City's boundaries to a five-mile radius around Camp Bullis to limit the impact of outdoor lighting on evening military training operations on the installation.

Military Sound Attenuation Overlay (MSAO). The San Antonio City Council adopted sound attenuation standards for certain noise sensitive land uses within proximity of Camp Bullis within the city limits. Applicable new development is required to utilize building materials with a certain Sound Transmission Class (STC) rating or conduct tests to show a structure achieves an outside to inside noise level reduction of 25 dBA. The STC rating required is determined by the percentage of the total exterior wall area comprised of doors or windows; a greater door / window area would increase the STC rating required. STC is a rating of the sound-insulating properties of built construction derived from measured values of transmission loss.

Military Compatibility Goals and Strategies

Goal MC-1	***Future land uses compatible with the continued operation of Camp Bullis to avoid risks to civilian/military aviators, life, property and the well-being of existing and future residents from hazards associated with fixed-wing and rotary-wing aircraft operations, firing ranges operations and training.***

Strategies:

MC-1.1 Discourage development in areas where the risks to potential health and safety cannot be mitigated to accepted guidelines.

MC-1.2 Review City and Bexar County projects on an annual basis to identify capital improvement plans (CIP) and master infrastructure plans that may impact the mission at Camp Bullis.

Goal MC-2	***Opportunities provided to the City and Bexar County, Camp Bullis, residents, industry, and agencies to collaboratively participate in all phases of the comprehensive master planning, zoning and/or master development plan review process.***

Strategies:

MC-2.1 Coordinate closely with those jurisdictions, agencies, organizations within the Camp Bullis Military Influence Overlay Area (MIOA) to ensure their policies and regulations are consistent with the North Sector Plan.

MC-2.2 Assist property owners within the Camp Bullis MIOA to increase their understanding of the installation's mission, potential impacts associated with military aviation operations, land use constraints, and potential mitigation measures to guide appropriate development.

MC-2.3 Review development proposals to determine their propensity to cause hazards for fixed and rotary wing aircraft take offs and landings as well as in flight, including uses that:

- Release any substance such as steam, dust and smoke into the air which would impair pilot visibility;
- Uses that produce light emissions, glare or distracting lights which could interfere with pilot vision or be mistaken for airfield lighting;
- Sources of electrical emissions which would interfere with aircraft communications or navigation; and
- Uses which directly or indirectly attract large birds or waterfowl to the extent that they would pose a danger to aircraft operation in the vicinity of Camp Bullis.

MC-2.4 Continue to honor the Memorandums of Understanding to foster on-going formal consultation among Camp Bullis, cities and counties regarding issues of mutual concern. This will include:

- Early notification by the City or Bexar County (resulting in notification of area residents) to US Army/Air Force or officials of development applications
- Early notification by US Army/Air Force to City and Bexar County of potential changes in fixed and/or rotary aircraft operations (patterns, number, type, etc.)

MC-2.5 Provide notifications to the US Army/Air Force for review and comment on City or Bexar County land use actions that include, but are not limited to, Comprehensive Plan amendments or updates, zone changes, master development plans, and conditional/specific use permits.

MC-2.6 Maintain close contact with other Bexar County and other local jurisdictions within the Camp Bullis Military Influence Overlay Area (MIOA) to coordinate military compatibility planning and management activities.

MC-2.7 Work with US Army/Air Force officials in identifying strategies to meet the housing needs of Fort Sam Houston personnel during the next update of the City's Housing Master Plan.

MC-2.8 Encourage Real Estate Disclosures (if State law is amended) to ensure appropriate information about the missions and operations at all military installations located within the City and its Extraterritorial Jurisdiction are fully disclosed at the earliest possible point in the interaction / transaction process.

MC-2.9 Cooperate to provide City and Bexar County staff with on-going training opportunities to maintain their awareness of the latest technology and regulations concerning military compatibility issues.

MC-2.10 Consider the projected need for additional infrastructure and other municipal services by the US Army/Air Force in the development of new infrastructure master plans.

Goal MC-3	*Encroachment issues associated with development are mitigated.*

Strategies:

MC-3.1 Require the dedication of avigation easements when development is proposed on property within the safety zones as per JLUS recommendations.

MC-3.2 Monitor the compliance of master development, neighborhood, community, and other functional, and regional plans in the MIOA of the North Sector Plan for compatibility with the military, such as land use density/intensity and arrangement, transportation, dark skies, sound attenuation, and water availability and quality.

MC-3.3 Continue to enforce the requirement that all new development or substantial redevelopment in the MIOA to conform to Federal Aviation Regulations (FAR) Part 77 height limits.

MC-3.4 Continue to enforce the Military Lighting Overlay District (MLOD) such that future development includes provisions for the design of outdoor light fixtures to be directed / shielded downward and screened to avoid nighttime lighting spillover effects on adjacent land uses and nighttime sky conditions.

MC-3.5 Continue to improve and maintain proper lighting at City and Bexar County facilities that assist in reducing undue nuisance light and glare spillage on adjoining areas.

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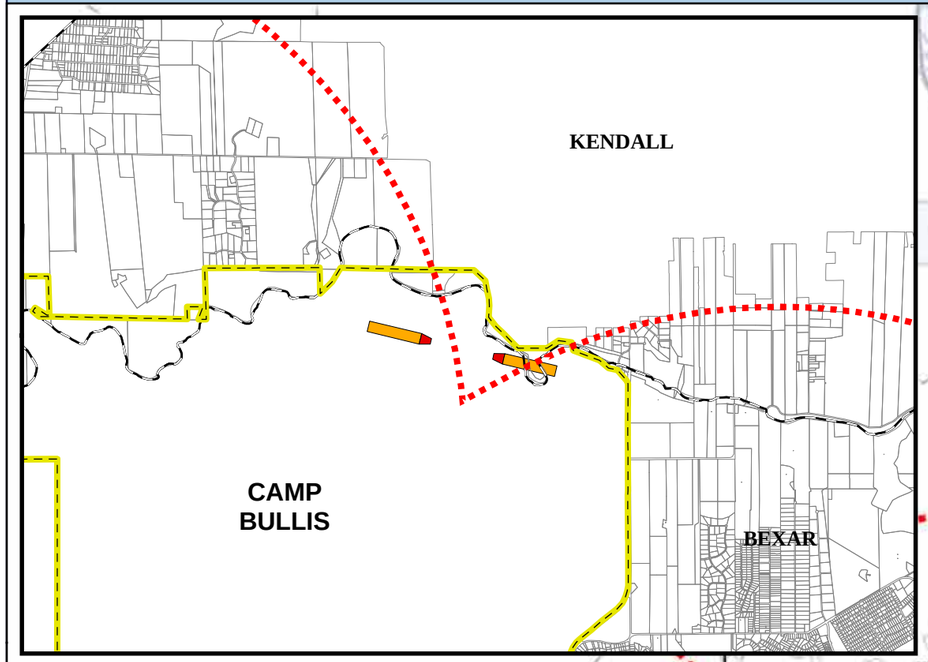


SEE INSET MAP

KENDALL
COMAL
BEXAR
MEDINA
BANDERA

Boerne
Bulverde
Fair Oaks Ranch
Grey Forest
Helotes
Shavano Park
Hollywood Park
Hill Country Village
Castle Hills
Windcrest
Leon Valley
San Antonio Int'l Airport

CAMP STANLEY
CAMP BULLIS

87
281
10
1604
FM 1560
TX HWY 16

BLANCO RD
BORGFELD RD E
BULVERDE RD
SMITHSON VALLEY
BOERNE STAGE RD
RABEH EAR RD
SCENIC LOOP RD
MILSA DR
SAYCOCK RD
HUEBERMAN RD
CAMP BULLIS RD
BANDERA RD
HEIDNER RD
STONE OAK PKWY
HARDY OAK BV
CANYON GOLF RD
MARSHALL RD
EVANS RD E
BLANCO RD W
BITTERS RD
SAN PEDRO AV
THOUSAND OAKS DR
CLASSEN RD
GREEN MOUNTAIN RD N
STAHL RD
HIGGINS RD
NACOGDOCHES RD
O'CONNOR RD
JUDSON RD
DEERPERWEIN RD
WEHNER RD N
REGENCY BV
HAUSMAN RD W
DE ZAVALA RD
PRUE RD W
PRUE RD
BRAUN RD
GUILBEAU RD
ECKHERT RD
NEW GUILBEAU
SHAENFIELD RD
VANCE JACKSON RD
WURZBACH RD
FREDERICKSBURG RD
MILITARY DR W
LOCKHILL SELMA
WEST AV
NAKOMA DR E
STARCREST
WURZBACH PRKW
THOUSAND OAKS
RANDOLPH BLVD
RAMSEY RD E
WETMORE RD
BROADWAY
STARCREST DR
PERRIN BEITEL

Helicopter Operations
- Primary Entry/Exit Point
- Bullis Tactical Route
- Elevations Equal to or Higher Than 1,200 Feet Mean Sea Level
- MEDEVAC Landing Zones
- Helipad (VFR)

CALS Safety Zones
- APZ-LZ
- CZ

Nap of the Earth Flight
- Centerline
- Corridor
- Buffer

UH-60 Helicopter Drop Zone
- Centerline
- Corridor
- Buffer

Small Caliber Noise Contour
- 87 PK15(met)
- 104 PK15(met)

Karst Zone
- Karst Species - Exist
- Karst Species - High Probability

- Area of Influence (3-mile buffer)
- North Sector Planning Area
- San Antonio
- Incorporated City
- Camp Bullis/Stanley

- County
- Airport
- Highway
- Major Road
- Railroad
- Parcel

N W E S

0 1 2 Miles

3-6

source: Bexar County, Comal County, Kendall County / 2010; TNRIS, U.S. Army, U.S. Fish and Wildlife Service / 2009

Camp Bullis Operations and Influences

Operations_and_Influences_20100721_RGR.pdf

Figure 3-6: Camp Bullis Operations and Influences

11x17 back

Military Compatibility Development Guidelines

The Camp Bullis JLUS completed in 2009, identified numerous issues that are primary compatibility concerns within the area surrounding the installation. Among the most common factors causing incompatibility with military airfield and weapons training operations include the:

- *High levels of noise generated by fixed and rotary wing aircraft and firing ranges,*
- *Heights of civilian structures near the installation that create vertical obstructions for flight activities,*
- *Generation of off-installation light pollution that negatively impacts the use of night vision devices (NVD) for military air and ground training.*

The development of land uses that are incompatible with an installation's military mission pose credible threats to that installation's continued existence. The recommended development standards presented below are included to diminish the presence of encroachment for the installation. The Military Compatibility Development Guidelines are organized in a consistent format, which includes identifying the objective, describing recommended development standards, and identifying permissible land uses.

OBJECTIVE 1: To protect the safety of citizens by discouraging high-density development within Accident Potential Zone (APZ) and Combat Assault Landing Strip (CALS) approach and departure routes (Safety MIA).

BACKGROUND: The Clear Zone (CZ) for the existing CALS runway does not extend off base. However the APZ I and APZ II for a future Class A expanded runway[1] would extend beyond the installation. APZ 1 would extend halfway beyond the boundary of Camp Bullis to the east, and APZ II would be located entirely off of the boundary to the east.

RECOMMENDED DEVELOPMENT STANDARDS: The portion of the APZs which extend beyond the boundary of the installation and are located within the three mile area of influence (to be compliant with the provisions of the Regional Military Sustainability Commission territory, if implemented in the future) should be subject to the following standards:

- *Discourage new construction within 150 feet of Camp Bullis' fence line.*
- *Encourage the retention of current agricultural uses and resource protection activities.*
- *Discourage the subdivision of small lots.*
- *Seek opportunities where the transfer of development rights (TDR) can be used.*
- *Seek opportunities where the establishment of limited use easements or conservation easements can be accomplished.*
- *Discourage residential uses within any APZ.*

(1) Although there is possibility to upgrade the CALS to a Class A runway in the future, there is currently no projected timeframe for this to occur nor any plan to do so. The decision to upgrade would need to be preceded by an environmental study, community input, and potential acquisition of easements in those portions of the new APZs that extend off-post.

Recommended Permissible Land Uses:

- *Agricultural (farm, ranch and rural development), Open Space, Resource Protection. Conditionally acceptable uses:*
    - *Office District (1-story height limitation, considered as conditional use)*
    - *Industrial (Light, General, Heavy, Mixed; considered as conditional use)*

Objective 2: To avoid the construction of structures that could interfere with Camp Bullis' fixed and rotary-wing aircraft training and/or are within the Vertical MIA.

Recommended Development Standards:

- *Discourage new construction within 150 feet of Camp Bullis' fence line.*
- *Require building elevations of proposed units with height dimensions to be provided at the time of building permit application.*
- *Allow for the purchase of critically located property by an appropriate governmental entity.*
- *Per FAA requirements, any structure to be placed within three miles of Camp Bullis will not exceed:*
    - *A height of 500 feet AGL at the site of the object.*
    - *A height that is 200 feet AGL or above the established airport elevation, whichever is higher.*
    - *Within three nautical miles of the established reference point of an airport (excluding heliports), with its longest runway more than 3,200 feet in actual length, height increases in the proportion of 100 feet for each additional nautical mile of distance from the airport up to a maximum of 500 feet.*

Recommended Permissible Land Uses:

- *Open Space.*
- *Conservation Area (pursue conservation easements where possible).*
- *Low density Residential not to exceed 35 ft. or 2.5 stories providing it is not located in high dB noise contours.*
- *Community and Neighborhood Commercial Uses (not to exceed 35 feet in height or outdoor lighting restrictions).*
- *Industrial Uses (not to exceed height restrictions or outdoor lighting restrictions).*
- *Racetracks and Emergency Vehicle Training Uses (may be appropriate as long as they do not generate excessive dust, frequency interruptions, or light at night, and are consistent with the North Sector Land Use Plan).*

OBJECTIVE 3: Avoid incompatible development in the CALS approach and departure routes.

RECOMMENDED DEVELOPMENT STANDARDS: These standards pertain to lands in Comal County that are also located within the three mile area of influence.

- *Discourage new construction within 150 feet of Camp Bullis' fence line.*
- *Encourage the continued use of existing compatible land uses (agricultural, open space).*
- *Discourage new development proposed for the areas located to the north and northeast of the boundaries of Camp Bullis, which are currently used for farming or are designated to be retained in their native condition.*
- *Pursue conservation easements (where possible).*
- *Allow for the acquisition of critically located property (by an appropriate governmental entity).*
- *Seek opportunities where the transfer of development rights can be used.*
- *Create conservation area buffer zones that protect the Camp Bullis mission by preventing development.*
- *Discourage residential, industrial, and commercial uses.*

RECOMMENDED PERMISSIBLE LAND USES:

- *Resource protection and open space.*
- *Livestock farming and animal breeding.*
- *Agricultural and forestry related activities.*
- *Fishing activities and related services.*
- *Mining activities and other resources production and extraction as long as they do not generate excess dust, light pollution, or height restrictions.*

Objective 4: To prevent the attraction of birds across fixed and rotary-wing flight routes and to coordinate land uses with the Camp Bullis Bird Air Strike Hazard (BASH) Plan (if authorized and implemented in the future).

Background: The UH-60 flight paths and their noise contours extend beyond Camp Bullis to the southwest over San Antonio lands in the area of influence. In addition, the rotary-wing Nap of the Earth (NOE) route around the perimeter of the Camp and approach and departure paths to/from the CALS are areas of concern.

Recommended Development Standards. In order to manage these issues, the following standards should apply:

- *Recommend no construction within 150 feet of Camp Bullis' fence line.*
- *Recommend denial of all projects that include landfills or uncovered outdoor water storage areas.*
- *All development permits should be determined compatible with the requirements of the Camp Bullis BASH plan (if authorized and implemented in the future) prior to consideration and approval.*

Recommended Permissible Land Uses:

- *Agricultural and open space (may attract birds and if allowed, should be managed to avoid crop flooding, wetlands).*
- *Residential, as long as wells and outdoor water ponds are managed.*
- *Non-residential, providing they do not interfere with aviation related ingress and egress routes.*
- *Conservation easements (pursue where possible).*

OBJECTIVE 5: To mitigate noise concerns and exposure generated by Camp Bullis fixed and rotary-wing aircraft and firing ranges.

BACKGROUND: Both the CALS 65 and 60 decibel contours extend beyond Camp Bullis from the north into Comal County. A majority of the land in this area is in agricultural use.

RECOMMENDED DEVELOPMENT STANDARDS: In order to manage these issues, the following standards should apply:

- *Discourage new construction within 150 feet of Camp Bullis' fence line.*
- *Limit noise sensitive land uses, as designated in the Military Sound Attenuation Overlay District (MSAO), including:*
    - *Single-Family and Multi-family Residential.*
    - *Assisted living facilities, nursing facilities, adult day care and similar congregate living uses.*
    - *Schools-primary, secondary, colleges, and universities, with some exceptions.*
    - *Religious worship and/or study facilities.*
    - *In-patient medical facilities including hospital and residential treatment centers.*
    - *Funeral homes.*
    - *Child care facilities.*
    - *Senior / community centers / libraries.*
    - *Habitable portions of the uses identified above will either:*
    - *Achieve an outside to inside noise reduction of 25 decibels.*
    - *Utilize construction materials to achieve a sound transmission class (STC) rating of 40 for walls and ceilings; a rating ranging from 30 to 40 (based on window / door composition of wall area) for windows and doors; and comply with provisions for air circulation / fresh air without the need to open windows, doors or other exterior openings.*
- *Schools and hospitals should not be located in this area.*

RECOMMENDED PERMISSIBLE LAND USES:

- *Resource and Agricultural (allowed in all noise contours).*
- *The following are acceptable uses within the 65 to 74 dB noise contours:*
    - *Commercial- Neighborhood, Community and Regional.*
    - *Industrial-Heavy, Light, Business Park – providing light and vertical obstructions are not generated.*
    - *Office District (High-Rise, Mid-Rise) – providing vertical obstructions are not generated.*
    - *Conditionally acceptable uses are:*
        - *Residential (Single Family, Mixed) between 1 and 11 units per acre - with the appropriate sound attenuation design or real estate disclosures.*

OBJECTIVE 6: To avoid additional light generation, especially by structures that are located at a higher elevation than Camp Bullis and to reduce light pollution and glare generated by existing and new development that would negatively impact night vision device (NVD) training.

BACKGROUND: The cities of San Antonio and Shavano Park, as well as the counties of Comal and Bexar have all adopted dark sky ordinances to protect the missions at Camp Bullis. Camp Bullis uses night vision devices in training areas near the perimeter of the installation's boundary for both ground and air training operations.

The Light MIA Zone 1 is a one-mile area surrounding Camp Bullis. The Light MIA Zone 1 regulations recommend mitigating point source light at elevations in excess of 1,200 feet. Communities located within the one-mile radius of Camp Bullis include portions of Bexar County directly adjacent to the installation to the northeast, portions of Comal County directly north of Camp Bullis and portions of the City of San Antonio adjacent to the western and southern boundaries of Camp Bullis.

RECOMMENDED DEVELOPMENT STANDARDS: The Light MIA Zone 2 encompasses a five-mile area around the border of Camp Bullis, where ambient light generation should be managed. Light generation from development in these areas should be closely monitored so that it does not interfere with night training. The following standards should apply:

- *Recommend no new construction within 150 feet of Camp Bullis' fence line.*
- *Where possible, limit density within the one mile area of influence to less than or equal to six units per acre, especially near Fair Oaks Ranch and Hollywood Park.*
- *Limit light and glare from existing structures within Comal County, which are sited at a higher elevation than Camp Bullis.*
- *Consider applying high-intensity lights and military filters to block the spectra of ambient light.*
- *Discourage outdoor sports complexes, sports arenas, and similar uses that produce ambient light located within 0.5 miles of the southwest corner of Camp Bullis, where a large amount of field training and night training operations occurs.*

RECOMMENDED PERMISSIBLE LAND USES:

- *Within 0.5 miles of Camp Bullis, the following are compatible land uses:*
  - *Agriculture.*
  - *Heavy Industrial / Light industrial / Business Park.*
  - *Wilderness type parks.*
- *Agriculture, open space and conservation.*
- *Such land uses are compatible as long as they abide by design standards of lighting, are consistent with the standards listed above, and do not exceed vertical height limitations.*

OBJECTIVE 7: To comply with the Endangered Species Act and prevent the reduction of karst invertebrate habitat.

BACKGROUND: Critical karst habitat includes a significant portion of land south of Camp Bullis in Bexar County, Hollywood Park and Shavano Park, within the three mile area of influence (to be compliant with the provisions of the Regional Military Sustainability Commission territory, if implemented in the future).

RECOMMENDED DEVELOPMENT STANDARDS: Strict development limitations should be imposed on areas designated Karst Zone 1 and 2. The following standards should apply:

- *Analysis of project impact to known invertebrate karst species habitat in Karst Zone 1 and Karst Zone 2 (areas which have a high probability of containing suitable habitat for listed invertebrate karst species).*
- *Any development that threatens to destroy critical habitat in Karst Zone 1 and 2 should not be approved. If such a project is approved, mitigation measures preserving habitat may be required.*
- *Encourage new development to be located in Karst Zones 3, 4 and 5 [Karst Zone 3- areas that probably do not contain listed invertebrate karst species; Karst Zone 4 – areas which require further research but are generally equivalent to Zone 3, although they may include areas which could be classified as Zone 2 or Zone 5 as more information becomes available; Karst Zone 5 – areas which do not contain listed invertebrate karst species].*
- *Pursue conservation easements and transfer of development rights, where possible.*

RECOMMENDED PERMISSIBLE USES:

- *Karst Habitat Zones 3 and 4 can tolerate moderate development such as low density residential, mixed-use and commercial provided studies do not demonstrate otherwise.*
- *Karst Habitat Zones 1 and 2 should be designated as a conservation area, proposed development should not be granted approvals, unless permitted by the USFWS.*

OBJECTIVE 8: Avoid Golden-cheeked Warbler endangered species displacement.

BACKGROUND: Potential Golden-cheeked Warbler habitat covers large areas in each of the jurisdictions within the five mile Military Influence Overlay Area. Camp Bullis remains the primary location for Golden-cheeked Warbler critical habitat. Since the Golden-cheeked Warbler is designated an endangered species, the presence of habitat on Camp Bullis imposes training limitations.

RECOMMENDED DEVELOPMENT STANDARDS: In order to manage these issues, the following standards should apply:

In order to alleviate these restrictions and create more alternatives for the bird, designated off installation habitat areas should be conserved and not developed.

- *Continue to monitor compliance with the Endangered Species Act.*

RECOMMENDED PERMISSIBLE LAND USES:

- *Agricultural.*
- *Open Space.*
- *Conservation.*
- *Recreation.*

OBJECTIVE 9: Avoid constructing roadways and transportation corridors that attract commercial development in areas where high density / intensity development would be incompatible with Camp Bullis' operations.

BACKGROUND: Interstate 10 and Loop 1604 constitute the principal arterial transportation corridors within the five mile Military Influence Overlay Area. These roadways could present development opportunities that conflict with a number of the encroachment issues facing the installation. Of particular concern are the areas surrounding the juncture of IH-10 and Loop 1604 in the City of San Antonio, where there is a great deal of critical Golden-cheeked Warbler and karst habitat located within the UH-60 flight path.

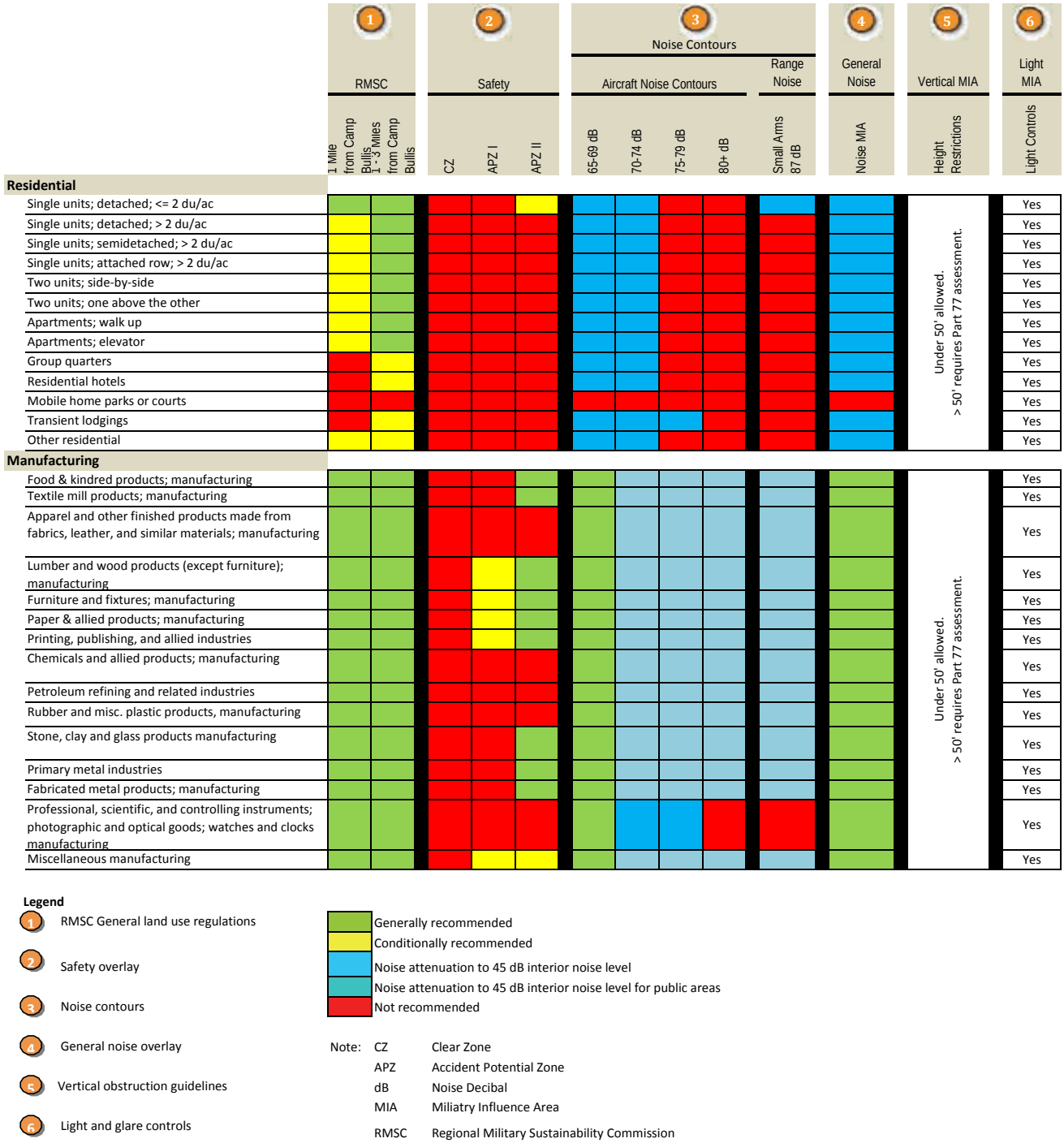
RECOMMENDED DEVELOPMENT STANDARDS: Along these roadways, the following standards should apply:

- *Limit commercial, residential and planned unit development, unless the project is consistent with the North Sector Land Use Plan.*
- *Limit the development of land around the departure and landing areas, including the area around the intersection of Dietz Elkhorn Road/Blanco Road, located on the eastern installation boundary.*

RECOMMENDED PERMISSIBLE LAND USES:

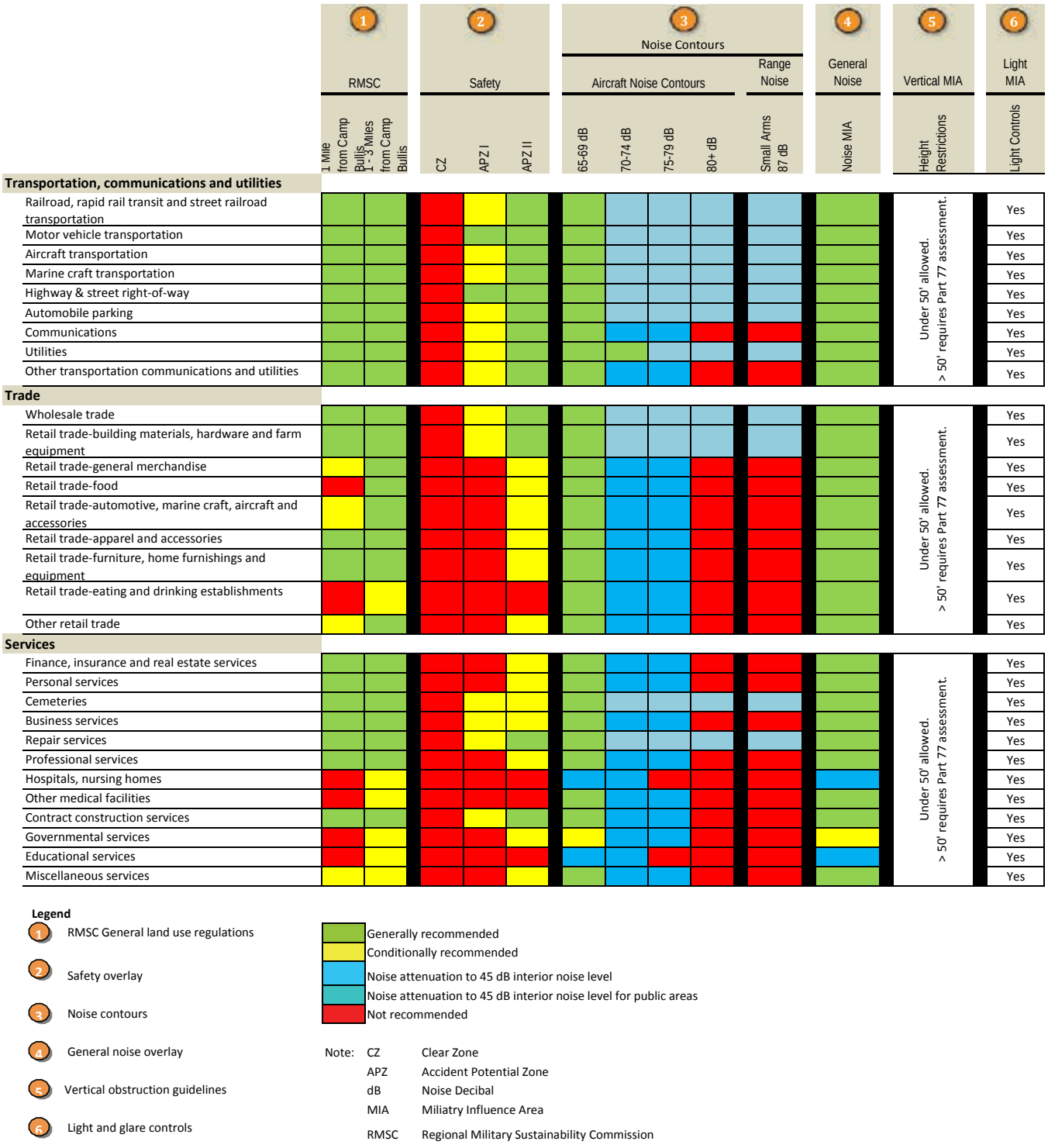
- *Agricultural.*
- *Open Space.*

Table 3.2: Land Use / Noise Compatibility Guidelines



Source: Matrix Design Group, June 2010

Table 3.2: Land Use / Noise Compatibility Guidelines *(continued)*



Legend

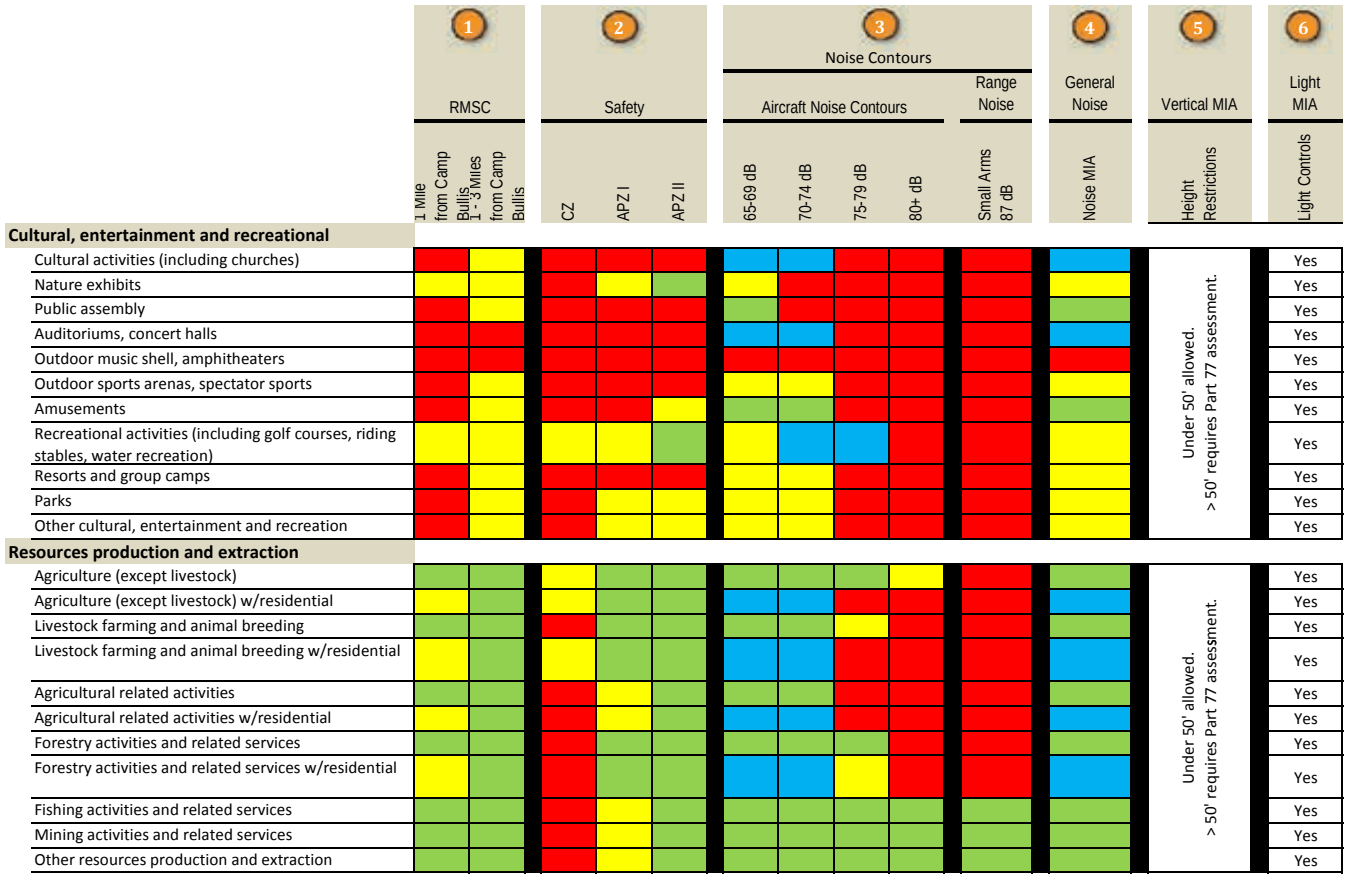
1. RMSC General land use regulations
2. Safety overlay
3. Noise contours
4. General noise overlay
5. Vertical obstruction guidelines
6. Light and glare controls

- Generally recommended
- Conditionally recommended
- Noise attenuation to 45 dB interior noise level
- Noise attenuation to 45 dB interior noise level for public areas
- Not recommended

Note:
- CZ — Clear Zone
- APZ — Accident Potential Zone
- dB — Noise Decibal
- MIA — Miliatry Influence Area
- RMSC — Regional Military Sustainability Commission

Source: Matrix Design Group, June 2010

Table 3.2: Land Use / Noise Compatibility Guidelines *(continued)*



Legend

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- Noise attenuation to 45 dB interior noise level
- Noise attenuation to 45 dB interior noise level for public areas
- Not recommended

Note:
- CZ — Clear Zone
- APZ — Accident Potential Zone
- dB — Noise Decibal
- MIA — Miliatry Influence Area
- RMSC — Regional Military Sustainability Commission

Source: Matrix Design Group, June 2010

Table 3.3: Recommended Zoning and Land Use Compatibility

Zoning Category				Aviation Safety Zones			Noise Zones			
	City of San Antonio	Recommended DU/AC	Recommended Building Height	CZ	APZ I	APZ II	65-69 dB	70-74 dB	75-79 dB	80+ dB
RP	Resource Protection	.01	35 ft / 2.5 stories							
RE	Residential Estate	1	35 ft / 2.5 stories							
R20	Residential Single-Family	2	35 ft / 2.5 stories							
R-6	Residential Single-Family	7	35 ft / 2.5 stories							
RM-6	Residential Mixed	7	35 ft / 2.5 stories							
R-5	Residential Single Family	9	35 ft / 2.5 stories							
RM-5	Residential Mixed	9	35 ft / 2.5 stories							
R-4	Residential Single-Family	11	35 ft / 2.5 stories							
RM-4	Residential Mixed	11	35 ft / 2.5 stories							
R-3	Residential Single-Family	---	35 ft / 3 stories							
MF-18	Limited Density Multi-Family	18	35 feet							
MF-25	Low Density Multi-Family	25	35 feet							
MF-33	Multi-Family	33	45 feet							
MF-40	Multi-Family	40	60 feet							
MF-50	Multi-Family	50	---							
NC	Neighborhood Commercial		25 feet							
O-1	Office District		25 feet							
O-1.5	Mid-Rise Office District		60 feet							
O-2	High-Rise Office District		---							
C-1	Light Commercial		25 feet							
C-2	Commercial		25 feet							
C-2P	Commercial		25 feet							
C-2NA	Commercial, Nonalcoholic Sales		25 feet							
C-3	General Commercial		35 feet							
C-3R	General Commercial,		35 feet							
C-3NA	General Comm., Nonalcoholic Sales		35 feet							
D	Downtown		---							
L	Light Industrial		35 feet							
I-1	General Industrial		60 feet							
I-2	Heavy Industrial		60 feet							
UD	Urban Development	33	35 ft / 2.5 stories							
RD	Rural Development	1	35 ft / 2.5 stories							
FR	Farm & Ranch Development	.04	35 ft / 2.5 stories							
MI-1	Mixed Light Industrial		30 feet							
MI-2	Mixed Heavy Industrial		50 feet							

Generally Recommended

Conditionally Recommended

Not Recommended

Source: Matrix Design Group and City of San Antonio, June 2010

Chapter 4

Adopted Neighborhood and Community Plans

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Chapter 4:
North Sector Adopted Neighborhood and Community Plans

Shaping the Future of San Antonio

The North Sector Adopted Neighborhood and Community Plans chapter provides a summary of the five adopted plans that provide specific land uses within the North Sector, and thus supersede the land use recommendations presented in the North Sector Plan. This chapter is presented in the following five sections:

- *Tanglewoodridge Neighborhood Plan Summary*
- *Northwest Community Plan Summary*
- *Oakland Estates Neighborhood Plan Summary*
- *Huebner / Leon Creeks Community Plan Summary*
- *San Antonio International Airport Vicinity Land Use Plan Summary*

Overview

Tanglewoodridge, Northwest, Oakland Estates, and Huebner/Leon Creeks planning areas are all located within the Southwest Quadrant of the North Sector. The San Antonio International Airport Vicinity Land Use Plan is located within the Southeast Quadrant and a small portion of the Southwest Quadrant. The five adopted plans comprise approximately 15 percent of the North Sector Planning Area.

To view the full text online of each of the adopted neighborhood and community plans, visit the Planning and Development Services Department Neighborhood and Community Plans website at: [http://www.sanantonio.gov/planning/neighborhoods/planning_services.asp].

Tanglewoodridge Neighborhood Plan Summary

The top ten priorities in the Tanglewoodridge Neighborhood Plan, adopted in April 1994, include: crime, code compliance, land use, traffic, zoning, cost of taxes, safety, street maintenance, industry and services. The Tanglewoodridge Planning Area is generally bound by: De Zavala Road to the north; IH-10 and Silicon Drive to the west; Prue Road to the south; and Babcock Road to the west. Crime concerns are addressed in quality of life goals which include making the area a safer place to live with increased police patrols and better traffic control. The North Sector Plan also touches on public safety through emphasizing continuous improvement to emergency and public safety services. The neighborhood plan housing goals and environmental conditions goals stress the need to protect single family homes from commercial encroachment and the utilization of vegetative landscape buffers. Land use goals are to maintain the suburban/country atmosphere and encourage planned development. The North Sector land use goals address compatibility issues and recommend landscape buffers. Transportation goals in the neighborhood plan include provisions of adequate streets and sidewalk, develop adequate transportation services, and minimize through traffic. Similar transportation goals are included in the North Sector Plan.

The Tanglewoodridge Neighborhood Plan was adopted prior to consistency and review requirements in the Unified Development Code (UDC). Therefore, consistency with the 1994 neighborhood land use plan is not required.

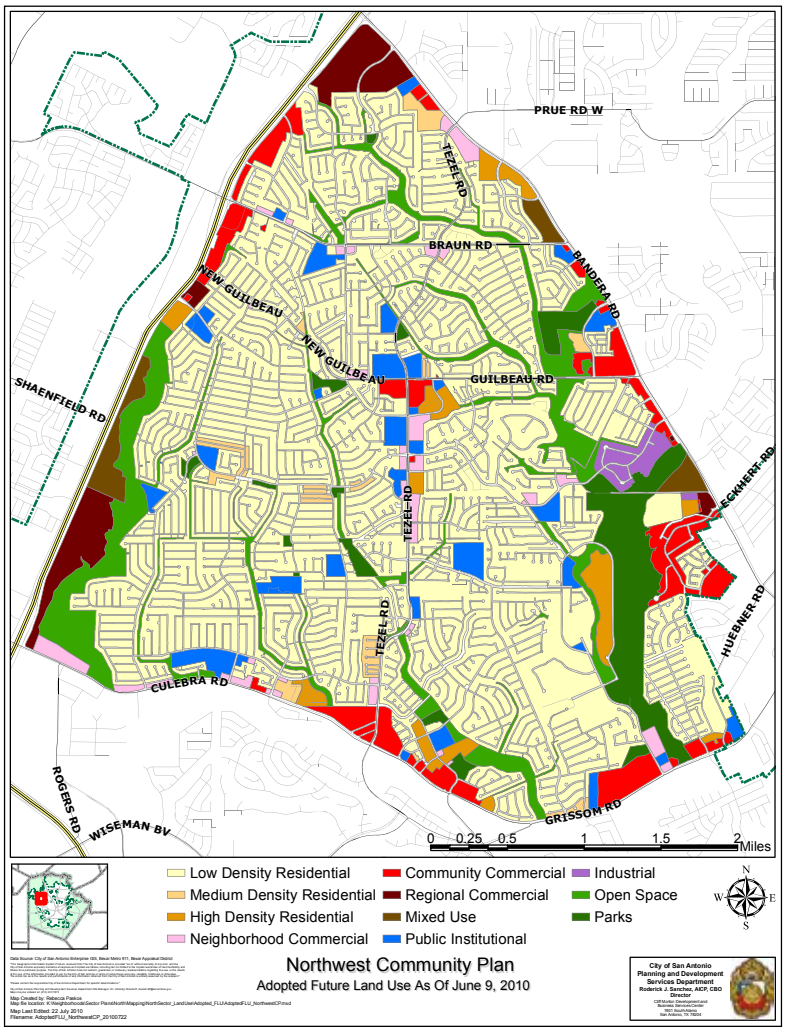
The Tanglewoodridge Neighborhood Plan is available online at [http://www.sanantonio.gov/planning/pdf/neighborhoods/Tanglewoodridge_Neighborhood_Plan.pdf].

Northwest Community Plan Summary

The Northwest Community Plan, adopted in September 1998, presents four key concepts which include: arterial and land development, parks and open spaces, community facilities, and plan implementation. The Northwest Planning Area is generally bound by: Loop 1604 to the west and north; Bandera Road and the City of Leon Valley to the east and north; and Culebra Road to the south. Under the heading of arterial and land development, the key strategies are to discourage commercial strip development and encourage appropriate nodal commercial development. This strategy from the community plan is reiterated in the North Sector Plan in Economic Development Goal ED-1 focusing economic development along recommended routes and activity centers. Nodal commercial development is also encouraged in the future land use plan that recognizes areas for Regional and Mixed Use Centers. Additionally, the preservation, expansion, and development of parks and open space is also a key concept of the community plan. Similarly, the North Sector Plan upholds this strategy in the natural resources goals that recommend protection of steep slopes, soils, natural vistas, tree canopy, endangered species, and water resources. Community Facilities and Education strategies in the North Sector Plan also speak to parkland dedication and funding mechanisms for future parks. Another community facilities strategy in the community plan is to promote a shared facilities approach that combines schools, libraries, parks, and right-of-way (easements). Community Facilities and Education Goal COM-1 restates this strategy for linked community facilities utilizing trail networks and creating partnerships to share facilities. The community plan also states the strategy to maintain and enhance libraries. The North Sector Plan identifies the libraries as cornerstones of North Sector in Community Facilities Goal COM-2.

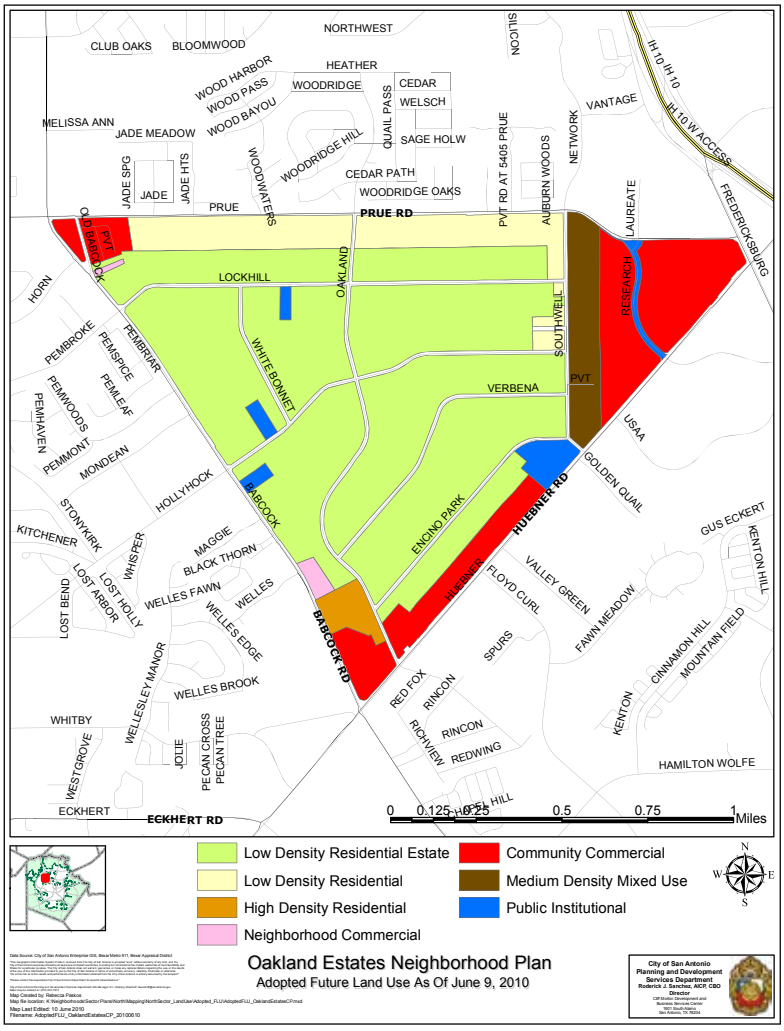
The Northwest Community Plan was updated in May 2004 as part of the five year plan review. The land use plan was the only component of the plan that was updated. The plan will be reviewed again following the adoption of the North Sector Plan for an update to the land use plan to be consistent with the North Sector Land Use Plan.

The Northwest Community Plan adopted in 1998 is available at [http://www.sanantonio.gov/planning/pdf/NorthwestCommunityPlan1998.pdf]. The Northwest Community Plan Update, adopted in 2004, is available online at [http://www.sanantonio.gov/planning/pdf/neighborhoods/northwest.pdf].



Oakland Estates Neighborhood Plan Summary

The Oakland Estates Neighborhood Plan, adopted in August 2000, identifies issues and strategies concerning: zoning and land use, traffic and crime, streets and drainage, and services and utilities. The Oakland Estates Planning Area is generally bound by: Prue Road to the north; Huebner Road to the south and east; and Babcock Road to the south and west. In the statement of purpose in the Neighborhood Plan, the neighborhood presents the desire to preserve the semi-rural and country atmosphere that currently exists in the neighborhood through maintaining low density residential uses and controlling excessive traffic, noise, litter, and dumping. The country-like environment encourages existing and natural landscapes as much as possible with building setbacks that provide a visual buffer and natural vegetation between houses. The neighborhood plan identified speeding and cut-through traffic as major concerns. To alleviate the issue, the plan recommends stop signs, speed humps, and reduced speed limits. When originally constructed, the majority of the houses in Oakland Estates were served by private water wells and septic systems. It appears that a majority of houses now have potable water sources but remain on septic systems. Drainage and water quality concerns are expressed in the Neighborhood Plan.



The North Sector Land Use Plan upholds the desire in Oakland Estates to retain the country-like setting of large, low density residential lots by designating these areas within the Rural Estate Tier. East of Southwell Road, the neighborhood land use is designated Medium Density Mixed Use which allows residential densities up to medium density and commercial uses up to neighborhood commercial. The corresponding sector land use tier designation is the Suburban Tier for this area. Transportation, Infrastructure and Utilities Goal TRAN-7 addresses stormwater and flooding concerns.

The Oakland Estates Neighborhood Plan was updated in April 2007. The land use plan was the only component of the plan that was updated.

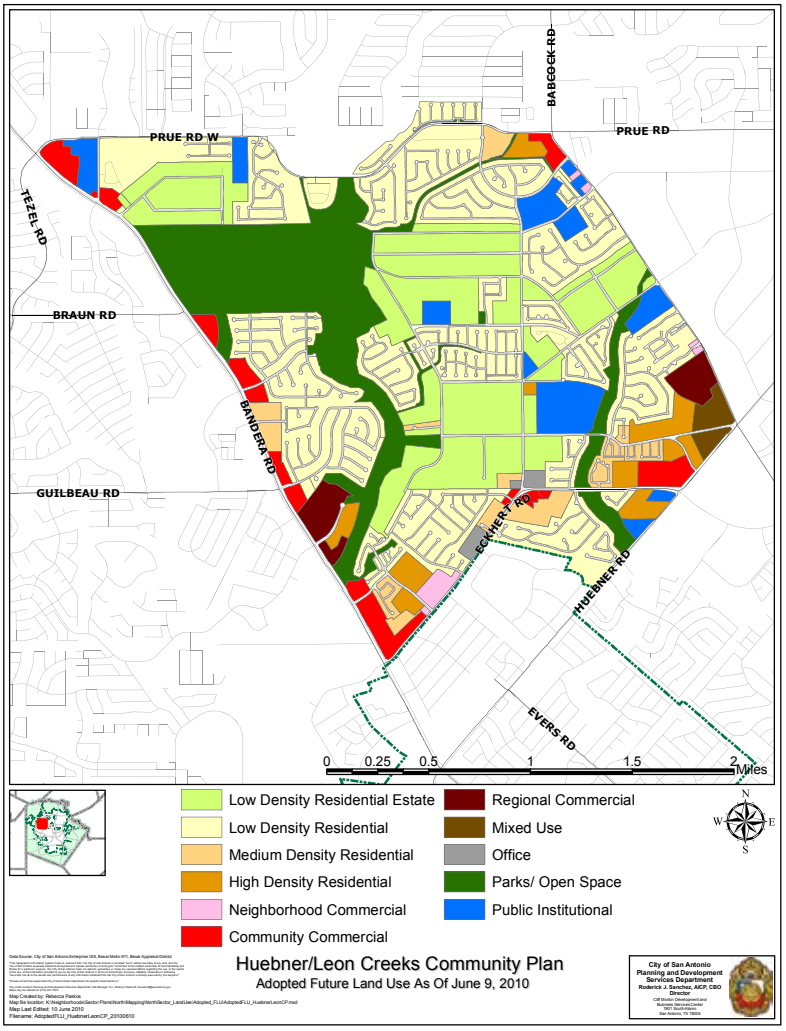
The Oakland Estates Neighborhood Plan, adopted in 2000 is available online at [http://www.sanantonio.gov/planning/pdf/neighborhoods/OaklandEstates/Oakland_Estates_adopted_Aug00.pdf]. The Oakland Estates Neighborhood Plan Update, adopted in 2007, is available online at [http://www.sanantonio.gov/planning/pdf/neighborhoods/OaklandEstates/oaklandestatesfinal.pdf].

Huebner/Leon Creeks Community Plan Summary

City Council adopted the Huebner/Leon Creeks Community Plan in August 2003. The community plan contains several key concepts that are reinforced by the North Sector Plan. The Huebner/Leon Creeks Planning Area is generally bound by: Prue Road to the north; Babcock Road and Huebner Road to the east; the City of Leon Valley and Eckhert Road to the south; and Bandera Road to the west. The people residing within the plan area want to preserve the character and quality of life of the community by promoting street designs, maintaining low density, and creating a nodal pattern. The North Sector Plan is also designed to preserve the area as stated in Land Use and Urban Design Goal LU-2, which encourages the preservation of farm and ranch lands. Land Use and Urban Design Goal LU-3 recommends that high intensity development take place in centers or nodes, which are identified on the future land use plan. The Community Plan mentions the need for improved infrastructure, particularly drainage. Transportation, Infrastructure, and Utilities Goal TRAN-7 of the North Sector Plan states that stormwater runoff is effectively managed to reduce flooding and protect the safety of citizens and property, which reinforces the Community Plan's goals. The Community Plan envisions a multi-modal transportation system in the area. Transportation, Infrastructure, and Utilities Goal TRAN-3 reiterates this goal by recommending that mass transit corridors should exist within the developed southern half of the North Sector and that they are supported through land use planning and increased density at selected locations. The Huebner/Leon Creeks Community Plan's last major key concept (to maintain and increase the amount of parks and open space) is further reinforced by the North Sector Plan's Parks, Natural Environment, and Historic Resources Goal NR-2. The goal addresses the need to protect the natural environment, topography, and vistas by preserving the natural areas along creeks and establishing open space near environmentally sensitive areas.

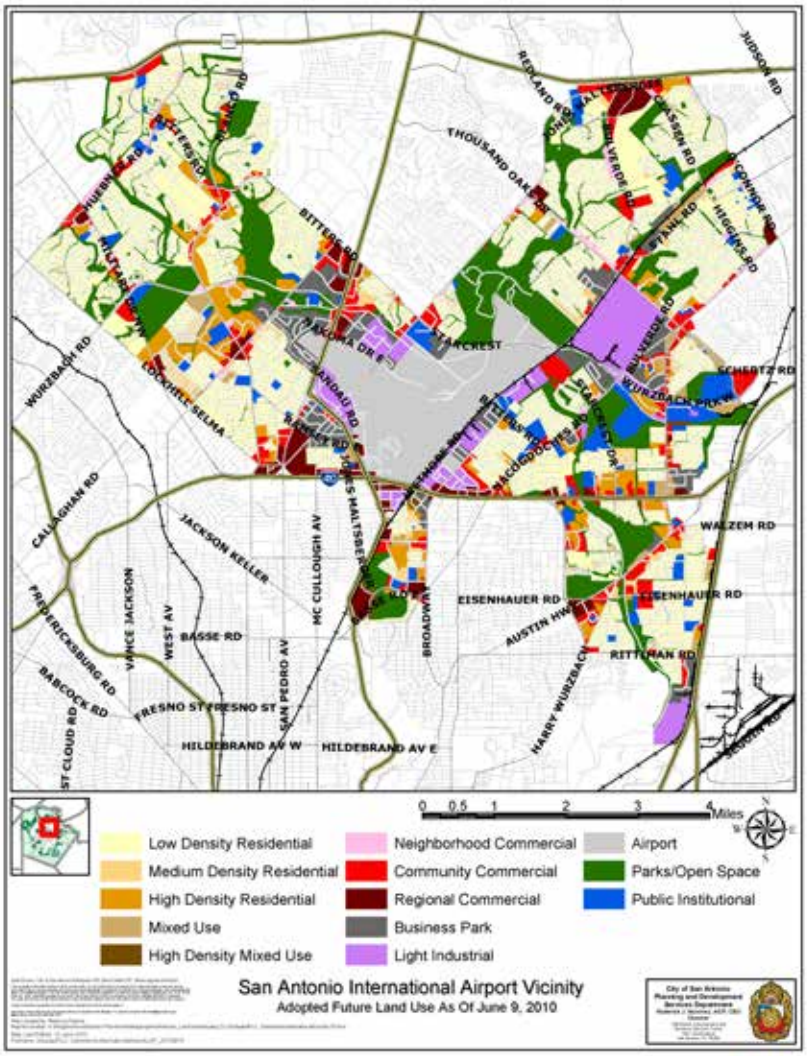
The Huebner/Leon Creeks Community Plan was updated in August 2009 as part of the five year plan review. The land use plan was the only component of the plan that was updated.

The Huebner/Leon Creeks Community Plan, adopted in 2003, is available online at [http://www.sanantonio.gov/planning/huebner_leon_home.asp]. The Huebner / Leon Creek Community Plan Update, adopted in 2009, is available online at [http://www.sanantonio.gov/planning/pdf/huebner_leon_pdfs/Huebner_LeonCreeksCommunityPlanUpdate.pdf].



San Antonio International Airport Vicinity Land Use Plan Summary

The San Antonio International Airport Vicinity Land Use Plan, adopted in May 2010, contains three main chapters: land use, compatibility and redevelopment, and implementation. The San Antonio International Airport Vicinity Planning Area is generally bound by: Huebner Road, Bitters Road, Jones Maltsberger Road, and Loop 1604 on the north; O'Connor Road, Bulverde Road, Nacogdoches Road and IH-35 on the east; Fort Sam Houston, Harry Wurzbach, Broadway, Alamo Heights city limits, US 281, and Loop 410 on the south; and Lockhill-Selma, and NW Military Highway on the west. The first goal of the airport land use plan is to protect the quality of life of residents including health, safety and welfare as per noise and hazards associated with the area. Compatible land uses include an expansion of business park uses in areas surrounding the airport while protecting existing low density residential uses. The North Sector Land Use Plan recognizes these desired uses. The airport land use plan encourages economic growth in the vicinity of the airport that is compatible. Similarly, the North Sector Plan also recommends economic growth and more particularly employment uses in the area of US 281 and Loop 410.



The San Antonio International Airport Vicinity Land Use Plan, adopted in 2010, is available online at [http://www.sanantonio.gov/planning/pdf/SAIT/SAIT_Vicinity_LandUsePlan_05_20_10_doco.pdf].

Neighborhood and Community Plan Land Use Categories

The following text includes summary descriptions of the land use categories included in the adopted neighborhood and community plans in the North Sector planning area. Full descriptions of these categories can be found within the community and neighborhood plans online through the Planning and Development Services Department website at [http://www.sanantonio.gov/planning/neighborhoods/planning_services.asp].

Parks/Open Space includes public and private land uses that encourage outdoor passive or active recreation as well as unimproved land where conservation is promoted and development is not encouraged. Examples include floodplains, utility corridors, City pocket, regional, or linear parks, as well as private parks.

Associated Plans: Huebner/Leon Creeks Community Plan, Northwest Community Plan Community Plan, & Oakland Estates Neighborhood Plan

Low Density Residential Estate Development includes large lot single family detached houses on individual estate-sized lots.

Associated Plans: Huebner/Leon Creeks Community Plan & Oakland Estates Neighborhood Plan

Low-Density Residential is composed of single-family detached houses on individual lots.

Associated Plans: Huebner/Leon Creeks Community Plan, Northwest Community Plan Community Plan, Oakland Estates Neighborhood Plan, & San Antonio International Airport Vicinity Land Use Plan

Medium Density Residential accommodates a range of housing types including single-family attached and detached houses on individual lots, duplexes, triplexes, fourplexes, and low-rise, garden-style apartments with more than four dwelling units per building.

Associated Plans: Huebner/Leon Creeks Community Plan, Northwest Community Plan Community Plan, Oakland Estates Neighborhood Plan, & San Antonio International Airport Vicinity Land Use Plan

High Density Residential includes apartments with more than four dwelling units per building. High density residential provides for compact development including apartments, condominiums, and assisted living facilities.

Associated Plans: Huebner/Leon Creeks Community Plan, Northwest Community Plan Community Plan, Oakland Estates Neighborhood Plan, & San Antonio International Airport Vicinity Land Use Plan

Office provides for medium intensity professional, personal, business, and non-profit uses that provide services to the local community, or house small to medium sized administrative functions. Examples of offices include attorney's offices, dentist's or physician's offices, administrative offices, and training centers.

Associated Plans: Huebner/Leon Creeks Community Plan

Neighborhood Commercial includes smaller intensity commercial uses such as retail or offices, professional services, convenience retail, shop front retail that serves a market equivalent to a neighborhood. Examples include flower shops, small restaurants, lawyer's offices, coffee shops, barbers shops, book stores, dry cleaning, and convenience stores without gasoline.

Associated Plans: Huebner/Leon Creeks Community Plan, Northwest Community Plan Community Plan, Oakland Estates Neighborhood Plan, & San Antonio International Airport Vicinity Land Use Plan

Community Commercial provides for offices, professional services, and retail uses of moderate intensity and impact. Example of uses includes a grocery store, a medical office, music store, shoe store, nursery, or mailing services store.

Associated Plans: Huebner/Leon Creeks Community Plan, Northwest Community Plan Community Plan, Oakland Estates Neighborhood Plan, & San Antonio International Airport Vicinity Land Use Plan

Regional Commercial includes high intensity land uses that draw customers from a larger region. Example of uses include "big box" retail and retail "power centers", shopping malls, movie theaters, wholesale plant nurseries, automotive repair shops, fitness centers, hotels, automobile dealerships, and medical or office complexes that are mid to high rise.

Associated Plans: Huebner/Leon Creeks Community Plan, Northwest Community Plan Community Plan, Oakland Estates Neighborhood Plan, & San Antonio International Airport Vicinity Land Use Plan

Mixed Use (including Medium Density or High Density) allows for a concentrated, well structured, and integrated blend of residential, retail, professional services, office, entertainment, and other land uses. The integration of uses should occur within structures, as well as across the site, with commercial uses situated primarily along the higher order roadways, and on the ground floor level of individual structures.

Associated Plans: Oakland Estates Neighborhood Plan, Huebner/Leon Creeks Community Plan, Northwest Community Plan Community Plan, & San Antonio International Airport Vicinity Land Use Plan

Public/Institutional provides for public, quasi-public, utility company and institutional uses. Examples include public buildings (government, post offices, libraries, social services, police and fire stations), schools, religious facilities, museums, fraternal and service organizations and hospitals.

Associated Plans: Huebner/Leon Creeks Community Plan, Northwest Community Plan, & Oakland Estates Neighborhood Plan

Business Park includes medium to large sized buildings that house professional, administrative, light manufacturing, and/or warehousing functions. Development in this category should take the form of a cohesive, campus setting where buildings are interspersed with open space and connected with pedestrian walkways.

Associated Plans: San Antonio International Airport Vicinity Land Use Plan

Light Industrial includes a mix of manufacturing uses, business park, and limited retail/service uses that serve the industrial uses. Examples of light industrial uses include sporting goods manufacturing, machine shops, clothing manufacturers, sign manufacturers, auto paint and body shops, building contractor's suppliers and warehousing.

Associated Plans: San Antonio International Airport Vicinity Land Use Plan

Airport comprises airport facilities necessary for the operation and development of the airport as well as off-airport property owned by the airport sponsor.

Associated Plans: San Antonio International Airport Vicinity Land Use Plan

Chapter 5

North Sector Action Plan

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Chapter 5: North Sector Action Plan

Shaping the Future of San Antonio

The North Sector Action Plan chapter identifies both high priority and longer term responsibilities for implementation that will achieve the goals and strategies of the North Sector Plan. This chapter is presented in the following two sections:

- *Prioritized Strategy Responsibility Summary*
- *Overall Strategy Responsibility*

Prioritized Strategy Responsibility Summary

A prioritized listing of the top 14 strategies is provided below in ***Table 5.1: Near-Term Strategy Responsibility.*** These strategies have been listed by plan element and do not reflect a prioritized order for implementation.

Table 5.1: Near-Term Strategy Responsibility

Strategy		Responsibility	
No.	**Summary**	**Primary**	**Partner**
Goal TRAN 2: East-west roadway mobility and connectivity that alleviates north-south congestion is established.			
TRAN-2.2	Implement east-west intra-neighborhood collector and local road connectivity	COSA, Property Owners	MPO, NAs, Bexar County
Goal TRAN 3: Mass transit corridors within the developed southern half of the North Sector are supported through land use planning and increased density at selected locations.			
TRAN-3.1	Support SmartWaySA recommendations for high capacity transit	VIA	COSA
Goal HOU 1: Continued support for development of diverse housing stock using infill housing development between Loop 1604 and Loop 410.			
HOU-1.2	Encourage compatible residential growth patterns and transitions	COSA, Consultant	COSA, Consultant
HOU-1.3	Advocate for energy efficiency and to mitigate adverse environmental impacts for new housing	COSA	Homebuilders
Goal ED-1: Compatible economic development along major transportation routes and existing activity centers that do not interfere with the mission of Camp Bullis.			
ED-1.1	Locate higher density residential and compatible employment uses at key nodes	COSA	Land Brokers, AACOG
Goal ED-2: Strong and stable medical and research industries that promote economic stability in the North Sector.			
ED-2.3	Support increased activity of existing businesses	COSA, EDF	NAs, Chambers of Commerce, AACOG

Table 5.1: Near-Term Strategy Responsibility *(continued)*

Strategy		Responsibility	
No.	**Summary**	**Primary**	**Partner**
Goal NR-2: Natural Hill Country features such as steep slopes, soils, native trees and natural vistas are protected.			
NR-2.1	Encourage hillside development that retains natural features	COSA, Bexar County	Developers, Property Owners
Goal NR-5: Historic trails, sites, structures, cemeteries, and ridges are preserved and promoted.			
NR-5.2	Preserve historic trails and scenic corridors	COSA, Bexar County	TPWD
Goal COM-1: Parks, schools, libraries, animal care and other community facilities linked to one another.			
COM-1.4	Incorporate trails, greenways and connective links in open space	COSA, Bexar County	Comal County, Kendall County, Developers
COM-1.8	New animal care facility to reunite lost pets with their owners	COSA, Property Owners	Land Brokerage Community
Goal LU-3: Higher density/intensity tiers are recommended adjacent or proximate to activity centers.			
LU-3.1	Develop vacant infill and underutilized parcels between Loop 1604 and Loop 410	COSA, CRAG	Land Brokerage Community
Goal LU-4: City of San Antonio collaborates with Bexar, Comal, Kendall, and Medina counties to support the North Sector Plan goals within the City's ETJ.			
LU-4.1	Encourage surrounding counties to implement sector land use recommendations	Bexar County, Comal County, Kendall County, Medina County	Comal County, Kendall County, Medina County, AACOG, MPO, COSA
Goal MC-3: Encroachment issues associated with development are mitigated.			
MC-3.1	Require avigation easements for development within CALS safety zones	Property Owners	COSA Bexar County
MC-3.2	Adopted plans within the Camp Bullis MIOA should address military compatibility	Bexar County, Comal County, Kendall County	COSA

Overall Strategy Responsibility

Table 5.2: Overall Strategy Responsibility, presented on the following pages, is organized to address the key considerations described below, to allow immediate/staged implementation by the City of San Antonio and its partners.

- ***Strategy No.:*** *Identifies the strategy by the number presented in Chapter 3: North Sector Plan Elements for consistency.*
- ***Strategy Summary:*** *Provides a summary of the strategy.*
- ***Responsibility:*** *Identifies the city or other entity to undertake the strategy in the Primary and/or Partner role. An acronym list has been prepared to identify these primary or partners and is listed below:*

AACOG	Alamo Area Council of Governments
ACCD	Alamo Community College District
AIA	American Institute of Architects
APA	American Planning Association
ART	Alamo Regional Transit
ASLA	American Society of Landscape Architects
BexarMet	Bexar Metropolitan Water District
BMAC	Bicycle Mobility Advisory Committee
BRWM	Bexar Regional Watershed Management
CAB	Conservation Advisory Board
CDBG	Community Development Block Grant
COSA	City of San Antonio
CRAG	Community Revitalization Action Group
EAA	Edwards Aquifer Authority
EDF	Economic Development Foundation
HUD	US Department of Housing and Urban Development
ISD	Independent School District
ITT	ITT Technical Institute
MPO	San Antonio - Bexar County Metropolitan Planning Organization
NA	Neighborhood Association
NPO	Non-profit Organizations
OST	Old Spanish Trail
PMAC	Pedestrian Mobility Advisory Committee
RECSA	Real Estate Council of San Antonio
SABOR	San Antonio Board of Realtors
SARA	San Antonio Realtors Association
SAWS	San Antonio Water System
STMC	South Texas Medical Center
TCEQ	Texas Commission on Environmental Quality
TPWD	Texas Parks and Wildlife Department
TWFS	Texas Work Force Solutions
TX A&M	Texas A and M University
ULI	Urban Land Institute
USACE	US Army Corps of Engineers
USDA	US Department of Agriculture
USFWS	US Fish and Wildlife Service
UTHSC	University of Texas Health Science Center
UTSA	University of Texas-San Antonio
VIA	VIA Metropolitan Transit

Table 5.2: Overall Strategy Responsibility

Strategy		Responsibility	
No.	Summary	Primary	Partner
TRANSPORTATION STRATEGIES			
TRAN-1.1	Coordinate to model existing and future roadways and intersections level of service	COSA, MPO	TXDOT, Bexar County, CDBG, DPW
TRAN-1.2	Implement Major Thoroughfare Plan recommendations	COSA, Bexar County	MPO
TRAN-1.3	Encourage connected residential street design	COSA	Bexar County
TRAN-2.1	Conduct a transportation network mobility study	MPO	COSA
TRAN-2.2	Implement east-west intra-neighborhood collector and local road connectivity	COSA, Property Owners	MPO, NAs, Bexar County
TRAN-3.1	Support SmartWaySA recommendations for high capacity transit	VIA	COSA, Bexar County
TRAN-3.2	Coordinate transit station area planning with transit-oriented development	VIA	MPO, COSA, ULI
TRAN-3.3	Encourage an Express Route on Loop 1604	VIA, MPO	COSA
TRAN-3.4	Support the provision of commuter connectivity for commuters	AACOG, ART	COSA
TRAN-4.1	Locate park and ride facilities to support near term transit service	VIA	MPO, COSA
TRAN-4.2	Plan for longer term park and ride locations along high capacity transit corridors	VIA, Property Owner	MPO, COSA
TRAN-5.1	Consider bicycle and pedestrian improvements in capital improvement and infrastructure maintenance	COSA, Bexar County	MPO
TRAN-5.2	Promote secondary bicycle and pedestrian connections from neighborhoods to nearby destinations	COSA, Bexar County	MPO
TRAN-5.3	Provide incentives for "Context Sensitive Streets" and cluster development that encourages walkability and bikability	COSA, Bexar County	Developers, Consultant, AIA, ULI, MPO, APA
TRAN-5.4	Form public-private partnerships to enhance connectivity of non-vehicular networks	COSA	NAs, Developers, UTSA
TRAN-5.5	Consider the road diet analysis recommendations and bike facilities to promote bicycle and pedestrian commuting	COSA, MPO	DPW, BMAC, PMAC, Bexar County, Developers
TRAN-5.6	Expand bicycle and pedestrian networks	COSA, MPO	BMAC, PMAC, Bexar County
TRAN-5.7	Implement Regional Bicycle Master Plan	COSA, MPO	Developers

Table 5.2: Overall Strategy Responsibility *(continued)*

Strategy		Responsibility	
No.	**Summary**	**Primary**	**Partner**
UTI-6.1	Enhance communication when proposed expansion of CCNs are proposed	COSA, BexarMet	SAWS, Other Providers
UTI-6.2	Encourage energy efficiency through green building and design	COSA, CPS Energy	AIA, APA, Bexar County
UTI-6.3	Ensure new development meets requirements	COSA	Consultants, Developers
INF-7.1	Manage storm drainage network capacity and transmission capabilities	Bexar County, COSA	BRWM
INF-7.2	Minimize impervious cover and provide a natural water course appearance	COSA	EAA, Bexar County, SAWS
INF-7.3	Continue to require stormwater retention for new development	COSA	Bexar County, SAWS
INF-7.4	Increase inspection and maintenance of retention and detention areas	COSA, SAWS	Bexar County
INF-7.5	Develop watershed management master plans	COSA	Bexar County
INF-7.6	Promote SAFE programs	Bexar County, COSA	BRWM, SAWS
INF-7.7	Create drainage master plan for future drainage infrastructure	COSA, Bexar County	SAWS, BRWM
INF-7.8	Future drainage infrastructure that does not impact historic of environmental areas	COSA	Bexar County, EAA, USFWS
HOUSING STRATEGIES			
HOU-1.1	Promote innovative allowances that expand the variety of housing types and embraces flexible standards	COSA, Bexar County	AIA, ULI, TX A&M, UTSA, APA
HOU-1.2	Encourage compatible residential growth patterns and transitions	COSA, Consultant	Bexar County
HOU-1.3	Advocate for energy efficiency and to mitigate adverse environmental impacts for new housing	COSA	Bexar County, CPS Energy
HOU-1.4	Make public information on equal housing opportunities and rehabilitation grants available	COSA, HUD	RECSA, NPO
HOU-1.5	Encourage the utilization of available local and state funding by residents and developers	COSA HUD	Lending institutions, RECSA
HOU-1.6	Support efforts to organize neighborhood conservation districts	COSA	NAs, NPO
HOU-1.7	Encourage incentive and rebate programs for energy and water efficiency	CPS Energy, SAWS	COSA

Table 5.2: Overall Strategy Responsibility *(continued)*

Strategy		Responsibility	
No.	**Summary**	**Primary**	**Partner**
HOU-2.1	Focus high density residential near activity centers	COSA	Bexar County, Developers
HOU-2.2	Educate and encourage homeowners to use financial mechanisms in areas served by transit	COSA	Lending Institutions, VIA
HOU-2.3	Utilize high density residential as a buffer	COSA	Developers
HOU-2.4	Consider high density housing as a land use transition	COSA	Developers
ECONOMIC DEVELOPMENT STRATEGIES			
ED-1.1	Locate higher density residential and compatible employment uses at key nodes	COSA	Bexar County
ED-1.2	Continue to locate compatible employment uses at the intersections of US 281 and Loop 410	COSA	EDF
ED-1.3	Continue to maintain and revitalize retail and commercial uses	COSA	Chambers of Commerce, Lending institutions
ED-1.4	Work cooperatively to improve the North Sector economic base	COSA, EDF	AACOG, Chambers of Commerce
ED-2.1	Promote medical and research development activity inside Loop 1604	COSA, EDF	UTHSC, STMC
ED-2.2	Actively promote benefits associated with utilizing existing economic incentives	COSA	Chambers of Commerce, Business organizations, EDF
ED-2.3	Support increased activity of existing businesses	COSA, EDF	NAs, Chambers of Commerce, AACOG
ED-2.4	Attract biotechnology and medical industry jobs	UTHSC, TX A&M, ITT, ACCD	TWFS, COSA
ED-3.1	Encourage coordination of non-residential development within Military Influence Areas	COSA, Bexar County	Comal County, Kendall County
ED-3.2	Work with Camp Bullis to use local and regional contractors and services	COSA, EDF	US Army, US Air Force, Embrace BRAC
ED-3.3	Support businesses and suppliers that are compatible with US Army/ Air Force	COSA, EDF	Chambers of Commerce, Embrace BRAC

Table 5.2: Overall Strategy Responsibility *(continued)*

Strategy		Responsibility	
No.	Summary	Primary	Partner
PARKS, NATURAL ENVIRONMENT AND HISTORIC RESOURCE STRATEGIES			
NR-1.1	Develop an Integrated Regional Water Resources(IRWR) Management Program	BRWM	Bexar County, USACE, AACOG
NR-1.2	Prevent non-point source pollution	TCEQ, Bexar County	COSA
NR-1.3	Support low impact development standards within the Recharge and Contributing Zones	COSA, Bexar County	EAA
NR-1.4	Continue to enhance public education campaign to reduce runoff and improve water quality	SAWS, EAA	News and TV Media, COSA, Bexar County
NR-1.5	Preserve water quality	EAA	SAWS
NR-2.1	Encourage hillside development that retains natural features	COSA, Bexar County	Developers, Property Owners
NR-2.2	Preserve and restore natural edges and creeks	COSA, Bexar County	Community Organizations
NR-2.3	Promote best management practices for site grading and drainage to foster sustainable development	COSA, Bexar County	Property Owners
NR-2.4	Encourage pedestrian, bicycle and wildlife access to linear creekways and open space areas	COSA, Bexar County, MPO	BMAC, PMAC, USFWS
NR-2.5	Locate open space and parks adjacent to creeks	COSA, Bexar County	Comal County, Kendall County, CAB, TPWD
NR-2.6	Implement the Parks and Recreation Department System Strategic Plan	COSA	Bexar County
NR 2.7	Encourage the protection and continuity of wildlife corridors	COSA, Bexar County	TPWD, USFWS
NR-3.1	Incorporate low impact development features to reduce onsite retention of stormwater	COSA, Bexar County	SAWS
NR-3.2	Promote the use of green roofs	COSA Bexar County	AIA, Developers, Property Owners
NR-3.3	Monitor the enforcement of the tree ordinance	COSA	Developers
NR-4.1	Pursue funding to acquire endangered species habitat	COSA, Bexar County	Comal County, Kendall County, CAB

Table 5.2: Overall Strategy Responsibility *(continued)*

Strategy		Responsibility	
No.	**Summary**	**Primary**	**Partner**
NR-4.2	Participate in the preparation of the Southern Edwards Plateau Habitat Conservation Plan	COSA, Bexar County, Kendall County, Comal County	USFWS, CAB
NR-4.3	Coordinate to incorporate public facilities and activities within wildlife habitat areas	COSA, Bexar County	Developers
NR-4.4	Educate the general public on endangered species and protection regulations and wildlife corridors	COSA, Bexar County	USFWS, TPWD
NR-5.1	Strive to make rehabilitation the first choice in all public and private projects	COSA, Bexar County	Developers, Property Owners
NR-5.2	Preserve wildlife, historic trail and scenic corridors	COSA, Bexar County	TPWD, OST
NR-5.3	Support voluntary historic farm and ranch preservation	Property Owners	COSA, Bexar County
NR-5.4	Ensure that new development respects Hill Country heritage through preservation of architectural context	COSA, Bexar County	Property Owners, Developers
COMMUNITY FACILITIES STRATEGIES			
COM-1.1	Implement Parks and Recreation Department System Strategic Plan recommendations	COSA	Developers, Consultants
COM-1.2	Implement City's Bicycle Master Plan to connect bicycle facilities	COSA	Developers, Property Owners, BMAC
COM-1.3	Foster collaborative efforts for co-location of community facilities	COSA,	Bexar County, ISD
COM-1.4	Incorporate trails, greenways and connective links in open space	COSA, Bexar County	Comal County, Kendall County, Developers
COM-1.5	Preserve parks, open space and agriculture through TDR	COSA, Bexar County	Comal County, Kendall County
COM-1.6	Encourage private funding for acquisition and long-term operational and maintenance needs for recreational facilities	Corporate Community, Community Organizations	Developers, Property Owners
COM-1.7	Locate a new animal care facility	COSA	
COM-1.8	Locate and construct additional off-leash dog parks	COSA, Bexar County	

Table 5.2: Overall Strategy Responsibility *(continued)*

Strategy		Responsibility	
No.	Summary	Primary	Partner
COM-1.9	Partner with schools to use facilities after hours for public use	Northeast ISD, Northside ISD, Judson ISD, Boerne ISD, Comal ISD	COSA
COM-2.1	Upgrade and augment library facilities	COSA	
COM-2.2	Libraries located near other community facilities	COSA	ISD
COM-3.1	Regional coordination of emergency and public services	COSA, Bexar County	Kendall County, Comal County
COM-3.2	Promote Crime Prevention Through Environmental Design	COSA, Bexar County	Developers
COM-3.3	Promote citizen participation in safety programs	COSA	Bexar County, NAs, Community Organizations
COM-3.4	Locate a new police substation in the North Sector	COSA	Community Organizations
COM-3.5	Public education to understand emergency services	COSA	Bexar County
COM-3.6	Enforce fire code safety through code enforcement	COSA	Volunteer Fire Departments
COM-4.1	Support expansion of UTSA programs	UTSA	COSA, MPO
COM-4.2	Nurture the expansion of existing and addition of new post-secondary institutions	EDF, COSA	Bexar County
COM-4.3	Work to integrate land use and transportation plan for UTSA that supports housing needs	COSA, MPO	UTSA
COM-4.4	Encourage the widening of Hausman Road to support UTSA growth	COSA, MPO, UTSA	TXDOT
COM-5.1	Foster partnerships to match educational curriculum with job skill needs in the City	ISD	TX A&M, ITT, ACCD, UTSA
COM-5.2	Ensure high school students are properly prepared for college coursework	Northeast ISD, Northside ISD, Judson ISD, Boerne ISD, Comal ISD	TX A&M, UTSA, ACCD
COM-6.1	Collaborate on curriculum, after-school, and extended day care programs and day camps	COSA YMCA	For and Non-Profit Childcare Providers
COM-6.2	Foster multi-use campus facilities	COSA	ISD

Table 5.2: Overall Strategy Responsibility *(continued)*

Strategy		Responsibility	
No.	**Summary**	**Primary**	**Partner**
COM-6.3	Encourage site planning of various school types	Northeast ISD, Northside ISD, Judson ISD, Boerne ISD, Comal ISD	COSA, Bexar County
LAND USE STRATEGIES			
LU-1.1	Locate buffers between high density/intensity land uses	COSA	Bexar County
LU-1.2	Promote pedestrian, bicycle, and public transit as alternatives to vehicles	COSA, VIA	TXDOT, MPO, BMAC, PMAC, LoneStar Railroad
LU-1.3	Promote variety of housing types between Loop 1604 and Loop 410	Property Owner COSA	Non-Profit Community Development Corporations
LU-1.4	Maintain existing neighborhoods using available city, county, state, and federal resources	COSA, Bexar County	NAs HUD
LU-1.5	Promote flexibility and innovation in residential, business and recreational land uses	COSA, Consultant	AIA, ULI, Green Spaces Alliance
LU-1.6	Identify and preserve natural resource areas	COSA	Green Spaces Alliance, USFWS, TPWD, CAB
LU-2.1	Protect agricultural land in an environmentally sensitive manner for long-term use	Property Owner	USDA, TX A&M, COSA, CAB
LU-3.1	Develop vacant infill and underutilized parcels between Loop 1604 and Loop 410	COSA	Land Brokerage Community, Developers
LU-3.2	Integrate mixed use areas vertically and horizontally	COSA	Developers, ULI, SABA
LU-3.3	Promote job growth to achieve economic diversity	EDF, COSA	Bexar County, Chambers of Commerce
LU-4.1	Encourage surrounding counties to implement sector land use regulations	Bexar County, Comal County, Kendall County, Medina County	Comal County, Kendall County, Medina County AACOG, MPO, COSA
LU-4.2	Partner to provide planning support and guidance to surrounding counties	MPO, Bexar County	AACOG, MPO, COSA
LU-4.3	Collaborate on regional planning programs	Bexar County, COSA	MPO, AACOG

Table 5.2: Overall Strategy Responsibility *(continued)*

Strategy		Responsibility	
No.	**Summary**	**Primary**	**Partner**
LU-4.4	Work with other incorporated towns and cities in planning contiguous areas	COSA, Adjacent Communities	Northeast Coalition, Other jurisdictions
LU-5.1	Continue to implement standards and guidelines of existing scenic corridors, gateways and overlay districts	COSA	TXDOT
LU-5.2	Encourage development and preservation of diverse and distinctive neighborhoods	COSA	NAs, Bexar County, Developers
LU-5.3	Enhance the built environment through urban design	COSA	TXDOT, Bexar County, Business Alliances, Chambers of Commerce
LU-6.1	Provide incentives for developments with enhanced design components	COSA	ULI, AIA, ASLA, APA
LU-6.2	Create linkages between the seven City Sectors, and create diverse and distinctive places	COSA	Developers Property Owners
LU-6.3	Designate and mark gateway points at major entrances to the Sector/ City	COSA, Consultant	TXDOT, OST
LU-6.4	Maintain a distinct urban edge	COSA, Consultant	
LU-6.5	Encourage visually and functionally compatible development with surrounding neighborhoods	COSA, Consultant	AIA, APA, ASLA
MILITARY COMPATIBILITY STRATEGIES			
MC-1.1	Discourage development in areas at risk for health and safety	COSA, Bexar County	TCEQ
MC-1.2	Annually review CIP projects for potential impact to Camp Bullis' mission	COSA, Bexar County	US Army, US Air Force
MC-2.1	Coordinate among jurisdictions and agencies within the Camp Bullis MIOA	COSA, Bexar County	Comal County, Kendall County
MC-2.2	Educate property owners in the Camp Bullis MIOA of military operations and impacts	COSA	US Army, US Air Force
MC-2.3	Review development proposals for hazards to aircraft operations	COSA, Bexar County	Comal County, Kendall County
MC-2.4	Continue formal consultation mechanism for issues of concern	COSA, Bexar County, Kendall County, Comal County	

Table 5.2: Overall Strategy Responsibility *(continued)*

Strategy		Responsibility	
No.	**Summary**	**Primary**	**Partner**
MC-2.5	Provide notifications for US Army/Air Force	COSA, Bexar County, Kendall County, Comal County	
MC-2.6	Coordinate military compatibility planning and management activities	COSA, Bexar County, Comal County	US Army, US Air Force
MC-2.7	Meet housing needs of personnel at Fort Sam Houston/Camp Bullis	US Army, US Air Force	SARA
MC-2.8	Encourage Real Estate Disclosure for military missions and operations (if state law is amended)	COSA, Bexar County	
MC-2.9	Keep City and Bexar County staff up-to-date on latest military technology and compatibility regulations	US Army, US Air Force	
MC-2.10	Update infrastructure master plans with input of utility needs of US Army/Air Force	SAWS, CPS Energy, Other Providers	Bexar County, COSA
MC-3.1	Require avigation easements for development within CALS safety zones	Property Owners	COSA, Bexar County
MC-3.2	Adopted plans within the Camp Bullis MIOA should address military compatibility	Bexar County, Comal County, Kendall County	COSA
MC-3.3	Continue to enforce the requirement that new development in the MIOA conforms to FAR Part 77 height limits	COSA, Bexar County, Comal County, Kendall County	
MC-3.4	Continue to enforce the Military Lighting Overlay District	COSA	
MC-3.5	Compatible lighting at City and Bexar County facilities	COSA, Bexar County	

Appendix

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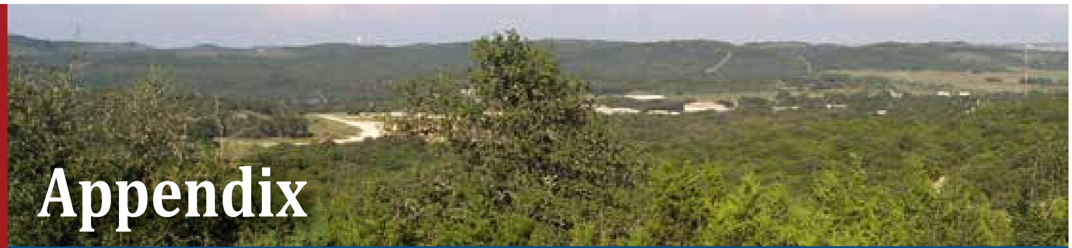
City of San Antonio



Appendix

Shaping the Future of San Antonio

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Ray Lopez, *District 6*

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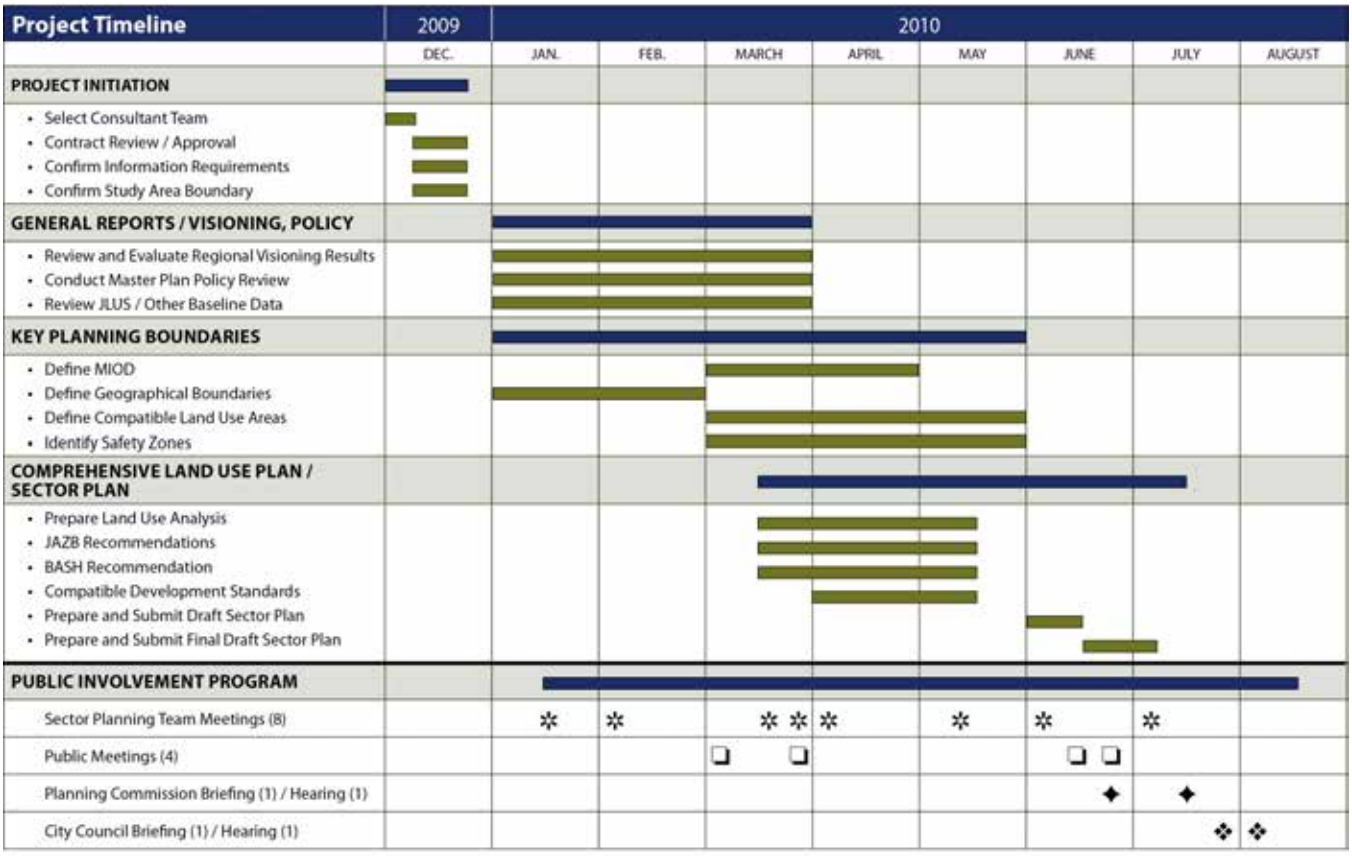
Public Involvement Process

The North Sector Plan was prepared through the use of a communicative planning method utilized by City of San Antonio Planning and Development Services Department staff, other City staff, a Sector Planning Team, a technical committee, private planning and website consultants, and input from the public and other invested stakeholders. A comprehensive public involvement program was executed throughout the seven month planning process as summarized below and illustrated on Chart A-1 : Project Timeline.

- *Planning Team Meetings (8)*
- *Public Meetings (4)*
  - *Postcards and Flyers (3)*
  - *E-mails (450+ per meeting)*
  - *Twitter Postings (3)*
  - *Facebook Postings (3)*
- *Community Meetings (4)*
- *Website (continually updated throughout the process)*
- *Technical Meetings (16)*
- *Planning Commission Briefings/ Hearings (4)*
- *City Council Briefings/Hearings (2)*
- *Press Releases (3)*
- *Television Coverage by Media (4)*

Chart A-1: Project Timeline



Issues and Values

This listing of Issues and Values was identified by a wide cross section of stakeholders during public meetings, planning sector team meetings, and through e-mail and the project website.

Topic	Issues and Values
1. Land Use	• A partnership established among the City and its adjacent counties to support the future land use map within the City's Extraterritorial Jurisdiction (ETJ). • Regulations outside the City limits established • Lack of regulation outside the City limits • Locate single family residential away from industrial uses and retail centers but near parks and open space • Northwest District better left as open space or very low density due to limitations of the terrain and water/sewer availability • Less growth located outside Loop 1604 • Existing growth outside Loop 1604 • Focus new development within Loop 1604 • Encourage infill development not rapid growth of greenfields • Within densely developed areas convert old/vacant housing into open space • Upgrade or retrofit existing apartment houses • UTSA expansion developed sensibly with plenty of bike lanes and no increased congestion • High density mixed use and walkable between the Medical Center and UTSA • Desire to see UTSA expansion /develop sensible – with plenty of bike lanes for students, less congestion • Mixed use nodal centers at 281 and Loop 1604 and IH-10 and Loop 1604 • Locate density near transportation • Focus development near employment centers • Focus new employment centers near developed areas • High density mixed use located near economic centers • Establish compatible land uses to support the Camp Bullis mission • No housing in floodplains • Limit development out of respect for natural environment and limitations of the land • Encourage very low density of 10 or more acres per unit, ranching or open space over the aquifer • Preserve ranches • Lucrative alternatives for property owners to preserve land rather than selling it for development • Desire to see less density, more open space, compatible land use • Appreciates appropriate new development • Make it appropriate-should not be able to skirt the system • New development in area • Land use (compatibility), too much density, need more open space • Commercial/residential buffers needed • Too much space used for retail • Need to balance land uses • Alternative to sprawl is density and alternative to density is sprawl: "we will either have density or sprawl" • Do not allow any billboards-including digital • Uncontrolled/unrestrained development • Inability of property owners to resist money offered by developers • Ownership

Topic	Issues and Values
2. Zoning	• Implementation of new development standards rather than allowing property to vest against new standards • No digital billboards • Less retail commercial zoning • Less dense residential zoning in order to preserve the natural landscape • Military lighting overlay district that is mindful of the need for public safety at night • Mixed use areas bordering UTSA along UTSA Blvd. • Zoning for newly annexed land should be consistent with the future land use plan • Compatible uses • Don't want incompatible uses • Proper/inappropriate zoning • Zoning, too much retail commercial, too much density residential • Lighting for public safety (MLOD a concern) • Densities are restricted by terrain and zoning code • County and ETJ have no regulations and no design/land use – perhaps annex • No county zoning ability • Grandfathered property major issue since they do not have to abide by new standards • To provide for mixed use areas bordering UTSA along UTSA Blvd. • No digital billboards • Do not make it incompatible • Compatible uses
3. Property Rights	• Concept of "Highest and best use" reconcile original intent with future unconstrained ideas - PRO-V-2 • Balance the rights of individual vs. neighbors vs. community - PRO-V-3 • Provide general guidelines of land uses - PRO-V-7 • "If you want to protect your view (or other aspects of the land) – Buy It - PRO-V-10 • Taxes rising and causing families to fracture and divide lands - PRO-I-1 • Value of property is a function of the surrounding lands - PRO-I-2 • Control developers and control development - PRO-I-3
4. Urban Design	• The inclusion of non-vehicular transportation facilities (trails and bike paths) that improve the look and feel of the sector • Office development as a campus style that provides for greater pedestrian, bicyclist, and transit access • A well designed built environment that is environmentally responsive without clear cutting forested areas and blasting hilltops • Retail lot coverage no more than 25% • Industrial lot coverage no more than 40% • Implement low impact development over the aquifer • Do not allow any billboards-including digital • The inclusion of non-vehicular transportation facilities (trails and bike paths) can improve the look and feel of the community • Like the campus style of office development

Topic	Issues and Values
5. Utilities	• Lack of water/sewer infrastructure to support future growth (lack of SAWS service area) • No sewers affect the aquifer • Protect the water aquifer / Recharge Area • Pursue smart ways to utilize and provide utilities • Control rush to obtain CCNs to get utilities prior to development or which drives development • Provide the truth about septic systems – properly operated and maintained • Lack of control or location of transmission lines and associated right of way • Utilities selling power outside of county • Use of eminent domain on lands less densely used • Control storm runoff (flooding & drainage) related to development • Allowing developers to develop islands of homes that become islands when subjected to 100 year floods. • Control expansion of utilities • Utilities / public services, infrastructure, need a smart way to plan the placement of utilities to plan for future growth • Lack of good water connections • Water supply • BexarMet • Storm water - flood prevention
6. Economic Development	• Keep major jobs in other areas • Concerned about more density • Camp Bullis is strongly supported • Would like 100 Acres next to Eisenhower Park • Stormwater is a big issue – do not take away sponges at northern part of the City • Topography, drainage, and rock make development difficult • Too much too fast • Northern area is not a conducive economy – disincentivized • Medical supply loop 281, I-10 corridor is strong • Hendricks Road, Blanco road , Crossroads Road • Perrin Beitel – Thousand Oaks to 410 • Blighted area Nacogdoches is underutilized • Wonderland Mall is getting face lift • Revitalization needs to happen along 410 corridor • The Colonies Mall needs help Keep eye on recharge zone – it's not to pave over • Attract white collar jobs – Medtronic at Rim, NH star – coming too • East side tri-county office park • Tier 1 - UTSA, Texas A&M, Research connected to medical • $45 million – trolley, BRT express • Light rail good – but no related development • Transportation – east-west connectivity is tough • Commercial development difficult due to lack of adequate utility and transportation infrastructure • Put jobs on corridors • Goes where market wants it to go • Regulation should not hinder economic growth and new educational facilities • Staying stagnate with what have, no new companies coming in • Need more commercial, but need to develop consistently Crime – has to be a critical factor

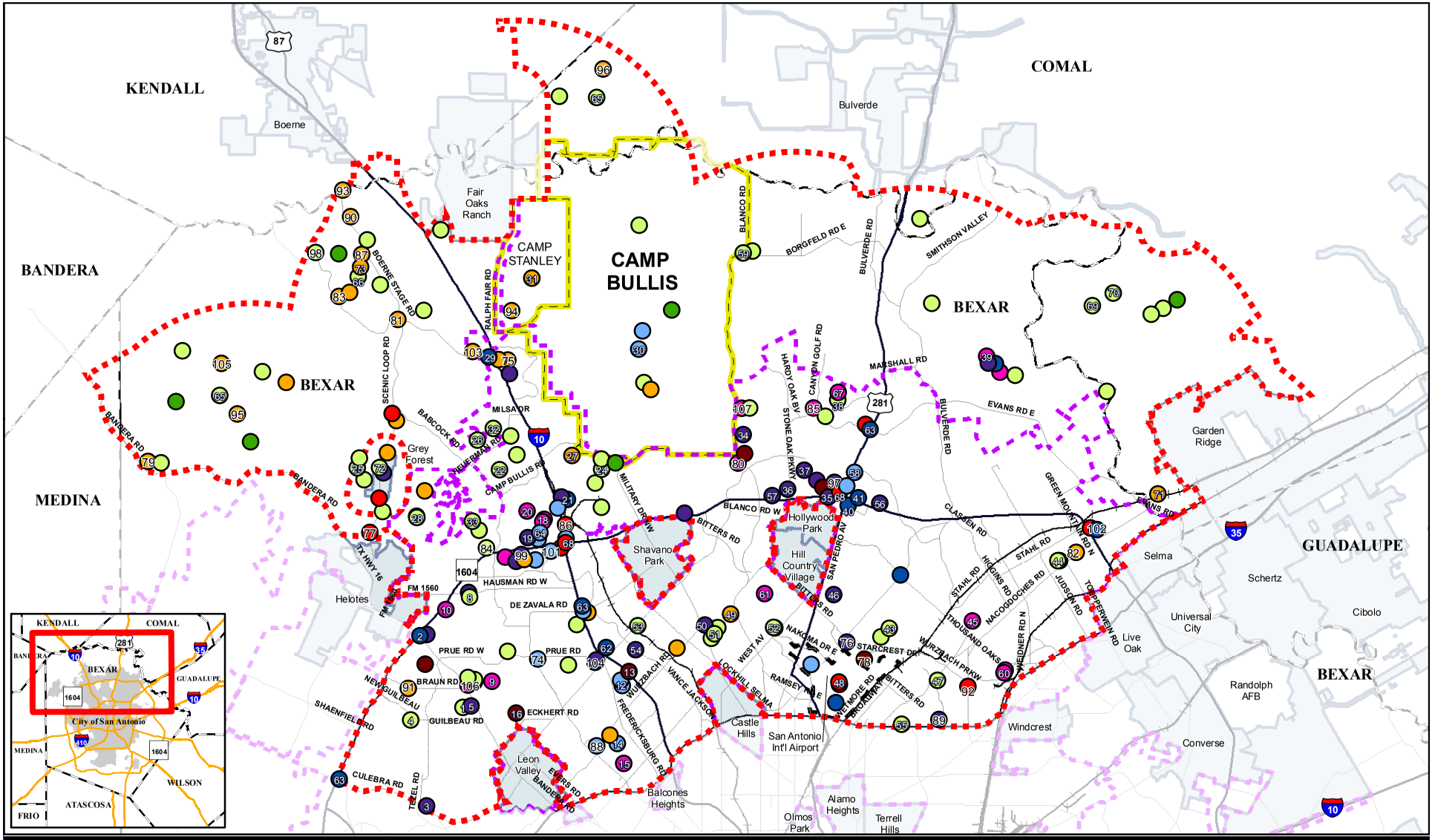
Topic	Issues and Values
7. Housing	• Encroachment of housing and development adjacent to Camp Bullis – developers do not coordinate efforts • Continue to preserve Camp Bullis with low density residential • Desirable place to live – beautiful views, breezes, cooler than other areas of the city • Maintain large lot housing in NE & NW • NW low density due to topography, utilities • Preserve residential • Housing diversity needs to be maintained – not just large lots • Large lots create sprawl and doesn't support transit • Garden homes on larger lots • Cluster homes and more open spaces • Keep low density as foundation • Limit density of housing • Too much cookie cutter homes, but not over recharge zone • Developers do not coordinate high density development - too much high density housing and no open space or inadequate facilities • Wide diversity of housing and values ($100K to $Million), old and new, multi-family and single-family • Maintain the diversity of housing densities • Not a lot of choices – standard single-family or multi-family • Provide diversity of housing – small and big homes • Good quality housing that is affordable which attracts good employment firms • Keep high density along major corridors • Make very dense cores and intersections • Homes are built to last for 20 years • There is affordable housing and also very expensive housing • Affordable housing is an issue – HUD definition • If regulation continues, it will affect affordable of exist • Large multi-family along Evans Road, which is already congested, Stonecreek new multi-family impact • New multi-family with appropriate infrastructure will continue to deteriorate • Too many multi-family apartments near medical – want single-family in order • We have plenty of apartments • Do not rezone for multi-family • No more multifamily housing near Babcock and Camp Bullis Rd • Multi-family is most affordable way to get into school districts • School issue – more apartments means more school demand and it is difficult to manage • Balance single family and multi-family • Better integration of housing in community • Also more congestion on existing congested streets. • I-10 & 281 congested • Traffic associated with ingress and egress from homes which make quality housing areas become undesirable • Preserve trees and open space recreation areas • Linear park corridor • Need to preserve topography • Too many variances for flood permit building in single-family, low density • Connectivity with bike paths within housing. New developers need to provide a well balanced • Over regulations with proportionality of trees preserved ordinance / endangered species recharge. Fees in lieu of detention fees, etc • Land owners adjacent to developed lands • Better housing standards

Topic	Issues and Values
8. Natural Resources	• Water is the biggest issue • Protect creeks, improve tree ordinance, and include more parks • Have developers include more parks in projects • Create more effective tree ordinance • Protect Edwards Aquifer • Get rid of grandfathering • Ensure more inspections taking place, i.e. tree inspections • Build less on steep slopes – no retaining walls • Do not build small, cheap homes over Recharge and Contributing Zone • Have a minimum lot size over Zone, i.e. R-20 • Have larger lot requirement • When obtain green space, install walking trails • Need impervious cover restrictions • County cover limit is lots lower than City's • Need to keep commercial development away from Camp Bullis • La Cantera was a good development – took care of the environment • Saved heritage trees • Saved caves • Created great landscaping • Interior of site is walkable (more pedestrian friendly than most, i.e. the Rim – not walkable) • Need better interior designs of developments • Place parking along outside and development together in interior • No strips like the Rim • Return to live – work concept (ensure each community has a grocery store) • Developers should not be able to count backyards as open space contribution • Maintain less impervious cover – utilize pervious pavement • Make clustered housing a requirement (Kingwood, TX good example) • Need more pocket parks in developed areas • Each development should donate land • Need to have passive recreational uses in parks for kids • Need to have a place to walk to • City needs to be more open to taking on land that HOA wants to donate as park space • Need to have more inspections • Developers need to plant more trees • Enhance tree ordinance • No grandfathering • Encourage ranchers to preserve land in conservation easement • Make development more restrictive • Ensure developers obey the Endangered Species Act • Protect Recharge Zone – it is an asset for the entire region • Need to consider those areas needing less impervious cover • Impose impact fee for any type of development over the Recharge Zone • Strengthen TDR ordinance • Need to create incentives to strengthen recharge zone • Create communities – mixed use – high density – which reduces car trips • Protect flood plains and slopes • No high density development on slopes greater than 15% • Preserve more trees • Strengthen floodplain ordinance

Topic	Issues and Values
8. Natural Resources *(continued)*	• Protect recharge features • Utilize low density residential in area • Utilize TDR • Educate people • Edwards Aquifer Authority going to place impervious cover restriction over Recharge Zone • Need to improve water treatment requirements • Continue Proposition 1 and 3 • Retrofit older developments to treat stormwater – need to encourage • Save trees and vegetation • Saving trees and vegetation • Tree preservation ordinance, not enforced • Control development within the recharge area (EARZ) • Protection of Edwards Aquifer recharge and water supply • More open natural areas for walking/hiking/biking • Few parks and open space • Good water quality • Good rural views • Good air quality • Sustainable development • Air quality, water quality, and aquifer protection • Protect environmental quality (e.g. no blasting of land) • Environmental protection • Environmentally sensitive areas • Edwards Aquifer • Aquifer protection • Endangered species, natural environment • Endangered species • Habitat • Habitat preservation • Trees, which are also an issue because they can hinder development (La Cantera good at developing and yet keeping trees and landscaping) • Rural views • Hill Country (vistas) • Hill country vistas • More open space • Not much parks and open space • Parks • Open space for public parks • Open Space • Air quality

Topic	Issues and Values
9. Historic Preservation	• Extend Scenic/Urban Corridors north and south along IH-10 and 281 • During redevelopments – must retrofit to conform to corridors • Add 1604 to Scenic Corridor list • Address landscaping • Tree preservation (transplants) • Shade parking lots • Need to have all inspectors do their job • Preserve Scenic Loop – 13 miles • Preserve Old Spanish Trail • Value the National Historic Registrar • Maintain historic sites • Need landscaping standards across City to only use natives • Need to stop truck dumpers from dumping fill on sites in area • Need urban design standards in Scenic Corridors • Historic Office needs more clout • Improve process for getting a site designated as historic • Make less complicated • Give County more power • Stage Coach worth preserving • Greg Moss Inn and Herb Farm worth preserving • Identify historic sites and publicize them • Get historic sites listed in National Registrar • Rural views, scenic corridors, caves, bridges, trails, creeks. • Rubber Baron Cave • Scenic loop / Boerne Stage • Leon Springs • CCC Bridge • Maverick Ranch • State HWY 9 • Nivesbach Road • San Saba Trail • Historic ranch near Stone Wall Rd • Babcock scenic drive north of 1604 and south of Scenic Loop / Boerne Stage • Madla Preserve (just west of Rancho Diana) • Cultural heritage

Topic	Issues and Values
10. Community Facilities	• Libraries are cornerstone of communities, although not as important with on-line availability • Need connectivity through area with linear parks • Would like to see pocket parks as a requirement for future residential developments (don't permit buying out) • NW area community Center values schools as a gathering center • Minimal YMCA facilities • Major traffic jam with YMCA during soccer season • 2 Life Time Fitness always full, one near Rim • Ronald Reagan and library dual purpose • Public safety (fire, police, EMS) • Lack of access to healthcare • High emergency response time • City needs to acquire more open space • Support biking facilities to enhance quality of life • Increase/strengthen community facilities for recreation and arts
11. Education	• Fast growth equals more parking, UTSA is transitioning from commuter college to regular college, 30,000 – 40,000 with no dorms • Lack of planning near UTSA creates negative feeling – like it is just a problem • Type of development generated by UTSA – Large amounts of multi-family and large sports complex • Could use a bus shuttle service park and ride to solve UTSA (possibly in another area) dedicated park and ride for UTSA • Traffic issues with UTSA during peek time along 1604 & I-10 & UTSA boulevard, 1604 & 281 • UTSA is important to community - need to be more accessible to community – need transit • Community supports universities to educate youth and adults • Northeast and Northside school districts – fast growing - Good and Bad, it is difficult to keep up with growth regarding facilities • Good property tax and school bond issues pass due to quality schools and importance • Exemplary school, good student / teacher ratios. Plus good facilities, high parent involvement • Most parents have high educational degrees • Maintain and preserve the school districts • Need to acquire land for more schools in future • Support educational institutions to grow and thrive • Protect the development of school districts TMI moved out here due to land and demographics • Large mega schools loose small community sense – students get lost • Not integrated environment – many apartments, need to make more walkable



source: Bexar County, Comal County, Kendall County / 2010; TNRIS / 2009

Community Assets

Planning Area Profile

Demographic Overview

Demographic data shows that the North Sector enjoys relative affluence. This is reflected by its high educational attainment, higher than average household incomes, and lower rates of poverty. The number of families in poverty, however, is increasing at a faster rate than all the sectors combined.

Total Population and Age

The North Sector comprised approximately 33 percent of the total population of all sectors in 2000 and rose to 37 percent in 2008 as shown in ***Table A-1: Age Distribution.*** The total population of the North Sector increased by over 100,000 people (26 percent difference) between 2000 and 2008. The population segments that experienced the greatest increase were persons 35 to 64 (32 percent difference), and 65 and over (35 percent increase). This implies that in the North Sector, the 35 and over segment of the population is growing at a slightly faster rate than the younger segments. The same trend applies to all other sectors as well. The median age of the North Sector is only slightly above the average for all sectors.

Table A-1: Age Distribution

Variable	2000 All Sectors		2000 North		2008 All Sectors		2008 North Sector	
	Population	Percent	Population	Percent	Population	Percent	Population	Percent
17 and under	380,354	28%	118,250	26%	426,439	28%	149,070	26%
18 to 34	346,190	26%	118,958	26%	375,592	25%	136,254	24%
35 to 64	470,645	35%	174,559	39%	559,877	37%	231,280	41%
65 and Over	139,307	10%	37,915	8%	157,323	10%	51,417	9%
Total Population	1,336,496		449,682		1,519,230		568,020	
Persons per Acre	1.90		2.00		2.20		2.50	
Median Age	32.8		34.4		33.9		35.9	
Average Age	34.0		34.1		34.8		35.9	

Sources: 2008 Data derived from Block Group data provided by the Nielsen Company Claritas 2008 PopFacts dataset of projections, which are based on 2000 Census data. 2000 Data derived from Block Group data from 2000 Census. Note: "All Sectors" include only the portions of Bexar County that fall within the sector boundaries. Therefore, "All Sectors" include incorporated cities.

Gender

In the North Sector, women outnumber men. In 2000, the male/female ratio for this sector was 0.93; in 2008, 0.94 as shown in ***Table A-2: Gender Distribution***. These ratios are very similar to the ratios for the population of all sectors. It is also important to note that between 2000 and 2008, the North Sector added population at a faster rate than all sectors combined; in that time period, all sectors combined grew by 182,735 people, while the North Sector alone expanded by 118,338 residents. This means that the North Sector captured nearly 65 percent of the total population gain for all sectors, even though it contained only about a third of the total population for all sectors in 2000.

Table A-2: Gender Distribution

Variable	2000 All Sectors		2000 North Sector		2008 All Sectors		2008 North Sector	
	Population	Percent	Population	Percent	Population	Percent	Population	Percent
Male	649,347	49%	217,162	48%	739,939	49%	274,693	48%
Female	687,148	51%	232,520	52%	779,291	51%	293,327	52%
Male/Female Ratio	0.94		0.93		0.95		0.94	

Sources: 2008 Data derived from Block Group data provided by the Nielsen Company Claritas 2008 PopFacts dataset of projections, which are based on 2000 Census data. 2000 Data derived from Block Group data from 2000 Census. Note: "All Sectors" include only the portions of Bexar County that fall within the sector boundaries. Therefore, "All Sectors" include incorporated cities.

Race and Ethnicity

The North Sector consists of a higher percentage of White non-Latinos, Asians, and other race or ethnic groups than all the sectors overall. The representation of Latinos and African Americans in the North Sector is lower than the citywide average, with the largest group identifying itself as White non-Latino, as shown in ***Table A-3: Racial Ethnic Distribution.*** In contrast, the largest group by a substantial margin across the City as a whole identifies itself as Hispanic/Latino, with White non-Latinos comprising a much smaller share of the total population. However, even in the North Sector, Hispanics/Latinos are the fastest growing segment of the population, and the gap between that segment and White non-Latinos is closing quickly. Latinos increased by over 74,000 between 2000 and 2008 in the North Sector, while White non-Latinos increased by only 26,000. The Latino percentage of population increased from 33 percent in 2000 to 40 percent in 2008. The White population declined from 56 percent in 2000 to 49 percent in 2008.

Table A-3: Racial / Ethnic Distribution

Variable	2000 All Sectors		2000 North		2008 All Sectors		2008 North Sector	
	Population	Percent	Population	Percent	Population	Percent	Population	Percent
Hispanic or Latino	739,755	55.4%	151,385	33.7%	890,262	58.6%	225,414	39.7%
Black or African American	91,711	6.9%	21,329	4.7%	100,675	6.6%	29,222	5.1%
White	463,796	34.7%	256,069	56.9%	470,733	31.0%	281,762	49.6%
Other	16,788	1.3%	7,665	1.7%	22,818	1.5%	11,381	2.0%
Native American	3,248	0.2%	1,209	0.3%	4,751	0.3%	1,884	0.3%
Asian	20,328	1.5%	11,666	2.6%	28,849	1.9%	17,879	3.1%
Native Hawaiian and Other Pacific Islander	869	0.1%	361	0.1%	1,142	0.1%	478	0.1%

Sources: 2008 Data derived from Block Group data provided by the Nielsen Company Claritas 2008 PopFacts dataset of projections, which are based on 2000 Census data. 2000 Data derived from Block Group data from 2000 Census. Note: "All Sectors" include only the portions of Bexar County that fall within the sector boundaries. Therefore, "All Sectors" include incorporated cities.

Educational Attainment

In 2008, the North Sector contained the largest share of college educated persons, representing over 64 percent of people with advanced degrees. In several cases, the percentage of advanced degree attainment is even higher. Among all persons with doctoral degrees, 67 percent live in the North Sector, as shown in ***Table A-4: Educational Attainment.*** The same is true for persons with professional degrees. In 2008, the percentage of persons with college degrees (bachelor, master, doctoral, and professional) age 25 and over was 24 percent for all sectors. In the North Sector, this figure was 40 percent.

Table A-4: Educational Attainment

Variable	2000 All Sectors		2000 North		2008 All Sectors		2008 North Sector	
	Number	Percent	Number	Percent	Number	Percent	Number	Percent
Population Age 25+	813,517		287,646		933,054		363,644	
Less than 9th Grade	93,708	11.5%	7,653	2.7%	97,531	10.5%	9,129	2.5%
Some High School, No Diploma	97,121	11.9%	13,614	4.7%	103,586	11.1%	16,596	4.6%
High School Graduate or Equivalent	196,788	24.2%	52,694	18.3%	220,397	23.6%	64,458	17.7%
Some College, No Degree	193,452	23.8%	80,140	27.9%	226,862	24.3%	100,569	27.7%
Associate Degree	48,326	5.9%	21,786	7.6%	57,910	6.2%	27,499	7.6%
Bachelor's Degree	116,109	14.3%	70,082	24.4%	142,871	15.3%	91,103	25.1%
Master's Degree	45,080	5.5%	27,220	9.5%	55,820	6.0%	35,361	9.7%
Professional School degree	16,571	2.0%	10,452	3.6%	20,373	2.2%	13,701	3.8%
Doctorate Degree	6,361	0.8%	4,004	1.4%	7,804	0.8%	5,228	1.4%

Sources: 2008 Data derived from Block Group data provided by the Nielsen Company Claritas 2008 PopFacts dataset of projections, which are based on 2000 Census data. 2000 Data derived from Block Group data from 2000 Census. Note: "All Sectors" include only the portions of Bexar County that fall within the sector boundaries. Therefore, "All Sectors" include incorporated cities.

Household Income and Poverty

The relative affluence of the North Sector seems to have increased between 2000 and 2008. In 2000, median household income of the North Sector was 11 percent higher than all the sectors combined. In 2008, this figure increased to 29 percent, as shown in ***Table A-5: Household Income and Poverty.*** Approximately 70 percent of households with annual incomes greater than $250,000 for all sectors resided in the North Sector in 2008. Not surprisingly, the poverty rate among families is less than average. In 2000, 4.8 percent of families in the North Sector earned below poverty income, compared to 13 percent for all sectors. However, the family poverty rate in the North Sector has held steady at 4.8 percent between 2000 and 2008, while it dropped slightly among all sectors as a whole, from 13 percent to 12.3 percent.

Table A-5: Household Income and Poverty

Variable	2000 All Sectors		2000 North		2008 All Sectors		2008 North Sector	
	Number	Percent	Number	Percent	Number	Percent	Number	Percent
Total Households	469,048		176,311		535,973		221,374	
Less than $25,000	149,119	31.8%	34,383	19.5%	143,162	26.7%	37,588	17.0%
$25,000-$49,999	148,109	31.6%	51,367	29.1%	156,937	29.3%	56,533	25.5%
$50,000-$99,999	126,243	26.9%	61,112	34.7%	158,240	29.5%	76,137	34.4%
$100,000-$149,999	29,766	6.3%	18,683	10.6%	50,612	9.4%	31,686	14.3%
$150,000-$249,000	11,766	2.5%	7,971	4.5%	19,011	3.5%	13,799	6.2%
$250,000 or More	4,352	0.9%	2,788	1.6%	8,011	1.5%	5,630	2.5%
Median Household Income	$41,809		$46,511		$48,968		$63,266	
Per Capita Income	$18,300		$20,517		$21,448		$30,143	
Total Families	330,364		118,222		377,507		149,158	
Families Below Poverty	42,968	13.0%	5,669	4.8%	46,299	12.3%	7,179	4.8%

Sources: 2008 Data derived from Block Group data provided by the Nielsen Company Claritas 2008 PopFacts dataset of projections, which are based on 2000 Census data. 2000 Data derived from Block Group data from 2000 Census. Note: "All Sectors" include only the portions of Bexar County that fall within the sector boundaries. Therefore, "All Sectors" include incorporated cities.

In summary, the demographic data reveal that the North Sector has a higher percentage of White non-Latinos than any other sector by a substantial margin; residents are prepared to accept and excel in higher wage occupations due to their higher levels of education.

Trends between 2000 and 2008 show that the North Sector is also growing faster than the other sectors as a whole, its ethnic makeup in 2008 appears to track with all sectors, in that Latinos and Hispanics are comprising an increasing percentage of the North Sector's total population.

Land Use and Urban Design

Existing Land Use Pattern

The North Sector contains a variety of land uses, including residential, commercial and industrial. In general, the southern portion has higher density development that transitions from suburban to a rural character in the northern parts of the Sector. Only areas within the City limits have zoning districts, as counties do not have zoning regulatory authority.

There are three major uses in the North Sector: Camp Bullis and Camp Stanley, covering approximately 28,000 acres, roughly ten percent of the North Sector land area, are located in the northwest quadrant; the 2,600-acre San Antonio International Airport is in the northeast quadrant just northeast of the Loop 410/Highway 281 interchange; and the 900-acre South Texas Medical Center lies west of the Loop 410/I-10 interchange.

Low density residential occupies the majority of the northern portion and the North Sector surrounding Camp Bullis. Low density residential is the primary land use along minor and local streets and makes up a large percentage of the acreage in the North Sector. High density residential is generally located in a major cluster around the Medical Center and along major roads, but not substantially outside of Loop 1604. Residential zone districts generally adhere to existing residential areas: low density along local roads and medium and high density interspersed with commercial districts along high-volume roads and in commercial clusters. Planned unit developments are another significant zoning district in the North Sector and are located outside Loop 1604 in more recently developed parts of the City.

Commercial land uses are located along major highways and principal arterials; for example, a significant ribbon of commercially zoned land extends northwest along I-10 from central San Antonio, northeast along Highway 281 from central San Antonio, and east-west along both sides of Loop 1604. Significant clustering of commercial uses also exists in the vicinity of South Texas Medical Center and surrounding the airport.

Industrial uses and zones are primarily located around the airport, specifically along the rail corridor east of the airport in order to provide supportive and compatible uses with aviation.

Park and open space generally follows drainage ways and gulches or is scattered sporadically throughout the North Sector. The majority of park and open space is located in the northern portion of the Sector, around Camp Bullis and near the Sector boundaries.

Existing Entitlements

Nearly 40 percent of the land in the North Sector has been planned and entitled. A total of 288 master development plans have been reviewed and approved within the North Sector, comprising approximately 58,300 acres or 91 square miles of land. In addition, five neighborhood and/or community plans have also been prepared within the North Sector. These plans have, and will continue to provide the land use guidance for approximately 39,500 acres or 62 square miles of land. The majority of these areas are located north of Loop 1604 and east of Camp Bullis.

Limited Area to Plan

Even though the North Sector is nearly 400 square miles in size, a significant portion has already been developed, has been approved for development, or is to remain undeveloped. The exclusionary process identified lands with existing and/or future physical and environmental factors, and removed these lands from consideration. These exclusionary factors were organized into six categories which are summarized below.

- **Military** – *excluded due to military ownership or within military operating areas.*
- **Golden-Cheeked Warbler** – *potential habitat for endangered Golden-Cheeked Warblers.*
- **Planned/Approved Development** – *contains pre-existing development plans.*
- **Ownership** – *owned by Federal, State, or municipal governments.*
- **Land Use** – *contains existing development and/or uses.*
- **Natural** – *includes bodies of water, floodplains, preserved open space, and natural topography that inhibits development.*

Effectively, over 85 percent of the land within North Sector, more than 200,000 acres, falls within at least one of the six exclusionary categories, and was therefore removed from consideration for being highly suitable for future development. Although potential Golden-Cheeked Warbler habitat is not necessarily prohibitive to future development, it lowers the overall development suitability of the land it occupies, and therefore the applicable land was no longer considered highly suitable for future development.

Transportation, Infrastructure, and Utilities

Transportation planning within the San Antonio metropolitan area involves federal, state, regional, and local agencies. The primary agencies that directly impact transportation within the North Sector are: City of San Antonio, Bexar County, Alamo Area Council of Governments, San Antonio-Bexar County Metropolitan Planning Organization, VIA Metropolitan Transit, Alamo Regional Transit Authority, and Texas Department of Transportation.

Major Thoroughfare Plan

The City's Major Thoroughfare Plan (MTP) is a long-range, future transportation plan for the City and Bexar County adopted in 1978. The MTP designates the location, dimensions, and dedication requirements of expressways, primary arterials, and secondary arterials.

The North Sector includes several MTP streets of various classifications totaling approximately 367 miles. Among these 367 miles, there are approximately 319 miles of constructed roads; although it is not known how many of these 319 miles are constructed per MTP standards. Future roads on the MTP accommodate future demand that is primarily driven by development, increase in motor vehicle ownership, and increase in population density.

Transit

The North Sector has several bus routes and stops. With few exceptions, these routes are located south of Loop 1604. In total, throughout the entire North Sector area, there are 35 bus routes in operation that cover approximately 355 linear miles. Additionally, there are three park and rides and two transit stations which include Parkhills Park and Ride, Blossom Park and Ride, University Park and Ride, Medical Center Transit Center, and Ingram Transit Center. Transit facilities immediately adjacent to North Sector boundaries include the North Star Transit Center, which lies near the southern border of North Sector, along Loop 410 just west of San Antonio International Airport. Similarly, Randolph Park & Ride lies along the southeastern border near the IH-35/Loop 410 interchange, and Crossroads Park & Ride is along the southern border at the Loop 410 / IH-10 interchange.

Bicycle and Pedestrian

The City of San Antonio and Bexar County Commissioners Court both adopted the Bicycle Master Plan. The City of San Antonio adopted this plan by ordinance in 2005. The City of San Antonio is currently working on updating the Bicycle Master Plan. The North Sector currently has approximately 40 miles of dedicated bike lanes.

Railroads

The North Sector includes sections of three railroad lines: Kerville Subdivision Austin Subdivision Mainline 1, and Austin Subdivision Mainline 2.

The Kerville subdivision line starts in downtown San Antonio, parallels IH-10, and ends at Loop 1604 near IH-10. Approximately 15 miles of the line lies within Bexar County, of which approximately 60 percent lies within the North Sector. Union Pacific has indicated that the Kerville Subdivision will likely no longer be needed for freight purposes in three to five years, opening up the potential for reuse1. This line appears ideally suited for reuse as a light rail corridor.[2]

Austin Subdivision Mainline 1 line runs from downtown San Antonio parallel to the 281 corridor and then out to New Braunfels. Within Bexar County, this line is approximately 33 miles long with approximately 66 percent inside the North Sector boundary. This line appears to be ideally suited for light rail and commuter rail reuse (Ibid, 38).

Austin Subdivision Mainline 2 line runs from downtown San Antonio parallel to the IH-35 corridor and then out to New Braunfels. Within Bexar County, this line is approximately 34 miles long, of which approximately 33 percent is inside the North Sector boundary. Right now, the line within Bexar County has a heavy industrial character and long distance to residential and commercial developments, therefore reuse options are limited. However, appropriate redevelopment in the future could change that. Long-distance commuter rail appears to be a reuse option.

1 "Freight Rail Corridors Reuse Study," HDR, Pape-Dawson, RJ Rivera, January 2010, 18

2 Ibid, 36

Gas and Electric

The City of San Antonio acquired its electric and gas utilities in 1942 from the American Light and Traction Company, today known as CPS Energy. CPS Energy is the nation's largest municipally owned energy company providing natural gas and electric service.[3]

CPS Energy serves almost the entire North Sector area except for a portion of the most northern section of San Antonio's ETJ in Kendall County. CPS Energy is currently the sole provider of electric service within the service area.

Water Providers

The largest water provider in Bexar County is the San Antonio Water System (SAWS), followed by the Bexar Metropolitan Water District (BexarMet). SAWS serves approximately 80 percent of water utility customers in Bexar County and covers an area of approximately 620 square miles (SAWS 2009 Budget Report). SAWS and BexarMet are also the largest water suppliers in the North Sector.

North Sector water providers include: SAWS, BexarMet, Water Services Inc., Oaks WSC, Aqua Texas Inc., 3009 Water Company, Ace Utility Inc., Lackland Water Company, Dobbins & Schweers, Cadillac Water Corporation, City of Fair Oaks Ranch, City of Selma, City of Garden Ridge, City of Bulverde, City of Leon Valley, City of Shavano Park, and City of Live Oak.

Wastewater Providers

In contrast to water providers, there are fewer providers for wastewater in Bexar County and in the North Sector. The largest provider of wastewater service in the North Sector is SAWS. The service area for SAWS follows natural watersheds because SAWS utilizes gravity as a means to transport wastewater to its three wastewater treatment plants in the south of the County. Bexar Metropolitan Water District does not handle wastewater. North Sector wastewater providers include: SAWS, Leon Springs Utility Company Inc., City of Fair Oaks Ranch, Denton Utility Company, City of Leon Valley, and City of Live Oak.

3 (Appendix from CoSA Bond Report 2007).

Housing

Housing Units

From 2000 to 2008, housing in the North Sector expanded at a faster pace, 20.9 percent, than the overall pace of all the sectors combined, 13 percent. Out of the total number of housing units in all sectors, the North Sector contained 37 percent in 2000, and 41 percent in 2008 as shown in ***Table A-6: Housing Units and Occupancy***. The increase in the North Sector's housing share is the result of its capture of approximately 66 percent of all housing units or 49,304 housing units built between 2000 and 2008 among all Sectors. The Northeast Quadrant experienced the most significant amount of housing growth with a 54.8 percent increase in housing units from 2000 to 2008. The Northwest and Southwest Quadrants also experienced growth that was higher than the sectors overall, 37.5 percent and 18 percent, respectively.

Table A-6: Housing Units and Occupancy

	2000			2008			% Increase of Housing Units
	Housing Units	% Vacant	% Owner Occupied	Housing Units	% Vacant	%Owner Occupied	
All Sectors	500,388	6.3%	57.1%	574,975	6.8%	57.7%	13.0%
North Sector	186,930	5.7%	56.6%	236,234	6.3%	57.6%	20.9%
Northeast Quadrant	10,099	5.2%	89.5%	22,349	6.3%	88.7%	54.8%
Northwest Quadrant	7,661	6.3%	80.2%	12,250	7.4%	82.1%	37.5%
Southeast Quadrant	63,881	5.8%	60.4%	73,078	6.2%	60.6%	12.6%
Southwest Quadrant	105,289	5.6%	55.5%	128,469	6.3%	55.7%	18.0%

Sources: 2008 Data derived from Block Group data provided by the Nielsen Company Claritas 2008 PopFacts dataset of projections, which are based on 2000 Census data. 2000 Data derived from Block Group data from 2000 Census. Note: "All Sectors" include only the portions of Bexar County that fall within the sector boundaries. Therefore, "All Sectors" include incorporated cities.

Housing Type

The North Sector contains a higher percentage of multi-family housing than all sectors combined. The Northeast and Northwest Quadrants have higher percentages of single family housing stock at 89 percent and 80 percent, respectively as shown in ***Table A-7: Housing Type.*** The Southwest Quadrant exhibits the highest percentage, 43 percent, of multi-family housing within the North Sector, followed by the Southeast Quadrant at 36 percent, reflecting the suburban character of the southern half of North Sector.

Table A-7: Housing Type

	1990				2000				Percent Changed			
	Single Family	Multi-family	Manufactured Home	Other	Single Family	Multi-family	Manufactured Home	Other	Single Family	Multi-family	Manufactured Home	Other
All Sectors	173,742 63%	88,381 32%	8,240 3%	3,941 1%	334,584 66%	154.052 30%	19,692 4%	685 0%	92.6%	74.3%	139.0%	-82.6%
North Sector	33,238 51%	30,823 47%	690 1%	391 1%	115,489 61%	70,397 37%	2,375 1%	150 0%	247.5%	128.4%	244.2%	-61.6%
Quadrants												
Northeast Quadrant	1,714 84%	293 14%	22 1%	5 0%	9,164 89%	851 8%	228 2%	0 0%	434.7%	190.4%	936.4%	-100.0%
Northwest Quadrant	1,696 68%	421 17%	345 14%	21 1%	7,053 80%	1,172 13%	581 7%	9 0%	315.9%	178.4%	68.4%	-57.1%
Southeast Quadrant	13,755 61%	8,793 39%	49 0%	106 0%	40,263 63%	22,879 36%	733 1%	99 0%	192.7%	160.2%	1395.9%	-6.6%
Southwest Quadrant	16,252 42%	21,488 56%	274 1%	262 1%	59,214 56%	45,634 43%	833 1%	42 0%	264.3%	112.4%	204.0%	-84.0%

Sources: U.S. Census Bureau, 1990 and 2000

San Antonio's Community Building and Neighborhood Planning Program assists citizens in organizing and registering a Neighborhood Association (NA) for their community. Registered NAs can develop a unified voice for its residents that the City responds to, create neighborhood plans with a consensus on goals and priorities, and be the official point of contact between local citizens and City. For example, registered NAs in San Antonio receive notice of proposed rezoning, plan amendments, and demolitions affecting the area within and near their boundaries.

Approximately 240 of San Antonio's total 400 registered NAs are located within the North Sector's boundaries, spanning most of San Antonio's established residential neighborhoods in the Sector's southern half. Some newer subdivisions in the northern portion of the North Sector lack registered NAs, presumably due to both the proliferation of homeowner's associations in these new neighborhoods and also the relatively low level of community organization present in recently constructed areas.

Occupancy

The percentage of owner-occupied units in the North Sector closely matched that of all sectors. Occupancy from 2000 to 2008 remained nearly the same. There was an approximate 1 percent increase in home ownership in the North Sector overall with the greatest increase, 2 percent, occurring in the Northwest Quadrant coupled with a 1 percent decrease in the Northeast Quadrant. The Northeast and Northwest Quadrants continue to have higher percentages of owner occupied housing than all the sectors combined.

In 2000, the North Sector (for the most part) had lower vacancy rates than all of the sectors combined. In 2008, vacancy rates in the North Sector increased to similar levels of all sectors. The Northwest Quadrant experienced the highest vacancy rate of 7.4 percent compared to the overall sectors rate of 6.8 percent.

Housing Value

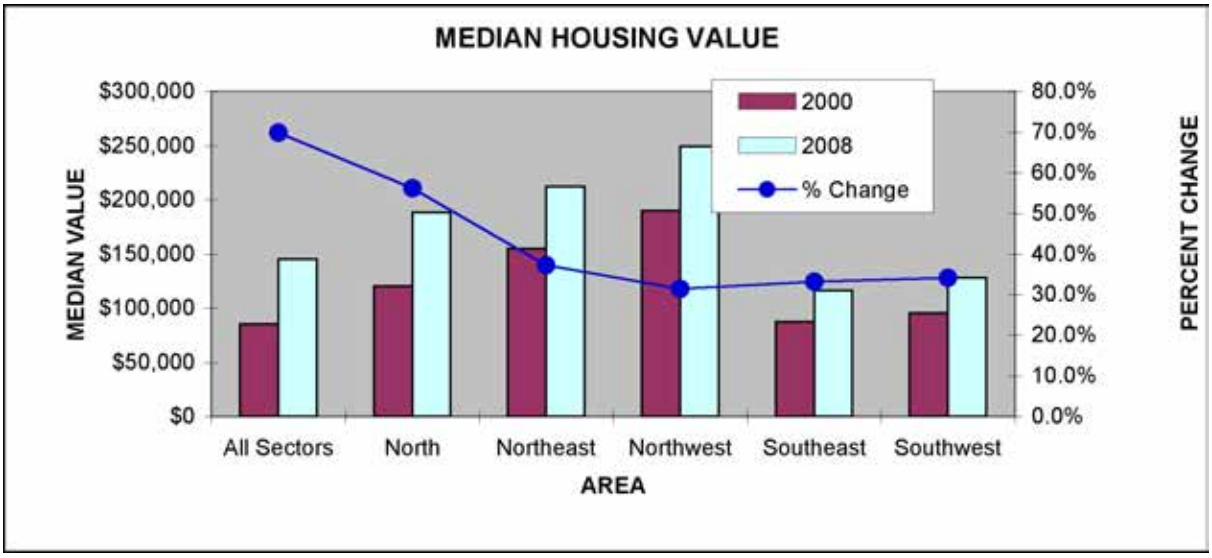
Median housing values in the North Sector are approximately $40,000 higher than all sectors overall as shown in ***Chart A-2: Median Housing Value.*** The highest median housing values in the North Sector are located in the Northwest and the Northeast Quadrants with more than half valued between $200,000 and $499,999 as shown in ***Table A-8: Owner Occupied Median Housing Value***. Median housing values in the Southeast and Southwest Quadrants are generally $100,000 less than the Northwest and Northeast Quadrants; more than half of the homes are valued between $80,000 and $149,999.

Table A-8: Owner Occupied Median Housing Value

		ALL SECTORS	NORTH SECTOR	Northeast	Northwest	Southeast	Southwest
2000	Housing Units	285,473	105,840	8,572	5,758	36,363	55,148
	Median Value	$85,528	$120,508	$154,572	$189,773	$87,432	$95,237
	LESS THAN $80,000	57.4%	24.2%	3.6%	10.8%	30.4%	24.7%
	$80,000 - $149,999	29.9%	51.6%	35.0%	18.4%	55.2%	55.4%
	$150,000 - $199,999	6.2%	12.2%	29.4%	19.1%	9.1%	10.8%
	$200,000 - $299,999	3.9%	7.7%	20.8%	33.4%	3.3%	5.8%
	$300,000 - $499,999	1.8%	3.1%	9.0%	13.4%	1.4%	2.1%
	$500,000 OR MORE	0.9%	1.3%	2.4%	5.7%	0.8%	1.0%
2008	Housing Units	331,815	136,137	9,312	18,578	41,508	67,111
	Median Value	$145,313	$188,282	$212,213	$249,339	$116,456	$127,731
	LESS THAN $80,000	34.9%	7.8%	3.9%	11.0%	9.3%	7.5%
	$80,000 - $149,999	38.4%	44.7%	7.0%	10.0%	55.5%	53.5%
	$150,000 - $199,999	11.1%	19.0%	21.9%	7.9%	20.0%	19.2%
	$200,000 - $299,999	9.3%	17.5%	38.2%	30.0%	11.3%	13.7%
	$300,000 - $499,999	4.1%	7.6%	20.5%	27.6%	2.6%	4.4%
	$500,000 OR MORE	2.1%	3.3%	8.1%	13.5%	1.0%	1.8%
Percent Increase Change of Median Value		69.9%	56.2%	37.3%	31.4%	33.2%	34.1%

Sources: The data in this table are derived from Block Group data provided by the Nielsen Company Claritas 2008 PopFacts dataset of projections, which are based on 2000 Census data. Note: Data is only for areas within Bexar County inclusive of incorporated cities not included as part of the North Sector.

Chart A-2: Median Housing Value



Economic Development

The North Sector has a relatively healthy economy partly due its diversity and the stability of several industries such as health care, education, military, and tourism/hospitality.

Major Employment Centers in the North Sector

The North Sector has several major employers and employment centers, including the South Texas Medical Center, University of Texas at San Antonio, USAA, Valero Energy, Tesoro, NuStar, Kinetic Concepts Inc., West Telemarketing, and San Antonio International Airport.

Major Retail Centers in the North Sector

The North Sector also has several major shopping centers, including The Shops at La Cantera, The Rim Shopping Center, Huebner Oaks Center, Northwoods Shopping Center, Legacy Shopping Center, Blanco Village, Stone Oak Plaza, The Village at the Summit, Village at Stone Oak, Vineyard Shopping Center, and Rolling Oaks Mall.

Sales Tax. A total of nine major shopping centers serve the retail and commercial needs of the North Sector and are located along IH-10, Loop 1604, and US 281. The major shopping centers include The Shops at La Cantera, The Rim Shopping Center, Huebner Oaks Center, , Legacy Shopping Center, Blanco Village, Stone Oak Plaza, The Village at the Summit, Village at Stone Oak, Vineyard Shopping Center, and Rolling Oaks Mall.

Table A-9: Employment

Variable	2000 All Sectors		2000 North Sector		2008 All Sectors		2008 North Sector	
	Number	Percent	Number	Percent	Number	Percent	Number	Percent
Population Age 16+	997,072		344,332		1,138,434		435,191	
Not in Labor Force	367,213		95,359		405,385		119,837	
Employed	593,964		240,239		693,503		304,605	
Unemployed	35,896	5.7%	8,733	3.6%	39,547	5.4%	10,749	3.4%

2008 Data derived from Block Group data provided by the Nielsen Company Claritas 2008 PopFacts dataset of projections, which are based on 2000 Census data. 2000 data derived from Block Group data from 2000 Census. Note: "All Sectors" include only the portions of Bexar County that fall within the sector boundaries. Therefore, "All Sectors" include incorporated cities.

Employment

In 2000, 40 percent of employed persons in all sectors as a whole lived in the North Sector. In 2008, this figure was 44 percent, even though the North Sector only contains just over 38 percent of the population, as shown in ***Table A-9: Employment.*** This disproportionately high share of employed persons relative to population means that the North Sector enjoys an unemployment rate that is lower than average for all sectors. In 2008, the unemployment rate for all sectors was 5.4 percent while for the North Sector unemployment was 3.4 percent.

Entice Appropriate Job Growth. The City of San Antonio utilizes a host of incentives to induce economic retention and expansion efforts. Within the North Sector these include the following:

Tax Abatement. The adoption of the Inner City Reinvestment Policy (ICRIP) has focused incentives to promote growth and development in the heart of the City. While the majority of the North Sector is located in Tier 3, there are currently two areas within the North Sector that are located within Tier 2 and are eligible for a 10-year tax abatement term at a maximum of 75 percent (the remainder of the Sector is eligible for a six-year term at a maximum of 50 percent). The amount of abatement is based on the investment in real and personal property, targeted industry/job creation, wage rates, and employee health care benefits. These two areas include the San Antonio International Airport and the South Texas Medical Center.

Texas Enterprise Zone: There are several areas within the North Sector that exhibit census tract block groups where at least 20 percent of the resident incomes are at or below 100 percent of the federal poverty level. As such, they qualify as State Enterprise Zone areas. The benefits of locating a project in these areas includes eligibility for state sales and use tax refunds on taxes paid for equipment and machinery, materials used in building a new structure, taxable services, and electricity/natural gas use. Additionally, projects may also be eligible for state franchise tax credits based on job creation and capital investment.

Foreign Trade Zones (FTZ): The North Sector has one existing FTZ site (Airport Cargo Facilities) and two subzones (Colin Medical and R.G. Barry) within FTZ No. 80. Locating in an FTZ is advantageous in that duties can be reduced/eliminated or deferred so that the import/export of foreign goods can be delivered to the zone without up front costs being paid.

Military

The Department of Defense (DoD) has a significant economic impact on San Antonio. The DoD spends $13.3 billion annually in San Antonio. San Antonio has four military installations: 1) Randolph Air Force Base, 2) Fort Sam Houston 3) Brooks City-Base (the Former Brooks Air Force Base) and 4) Lackland Air Force Base. Fort Sam Houston includes Camp Bullis and Brooke Army Medical Center (BAMC). Camp Bullis and Camp Stanley are located in the North Sector providing military readiness facilities for different branches of the United States Armed Forces.

One of the most anticipated economic development initiatives is the expansion of Fort Sam Houston. By 2011, Fort Sam Houston will house almost all military personnel involved in combat medic training in the nation. Training will be held at both Fort Sam Houston and at Camp Bullis. A total of 12,500 new personnel along with their families are expected.

Parks, Natural Environment, and Historic Resources

The North Sector, which covers the northern part of Bexar County, is characteristic of the Texas Hill Country and includes endangered species, the Edwards Aquifer Contributing and Recharge Zones, the Edwards Plateau, and often-sought view sheds. The North Sector contains a majority of the environmentally sensitive areas in Bexar County.

Trees

One environmental feature of the North Sector is the incredible amount of tree canopy found in the area. San Antonio and its ETJ currently have 38 percent overall tree canopy. Wildlife utilize tree canopy for protection, foraging, and habitat. Trees also help keep air quality high by sequestering many pollutants from the atmosphere, including nitrogen dioxide (NO_2), sulfur dioxide (SO_2), ozone (O_3), carbon monoxide (CO), and particulate matter of ten microns or less (PM_{10}).

Threatened and Endangered Species

Bexar County contains several federally listed threatened and endangered species. Endangered species known to exist in the North Sector include two small song birds, the Golden-cheeked Warbler and Black-Capped vireo, six endangered plant species, and nine karst invertebrates often referred to as “cave bugs”.

Potential habitat for these species can generally be found in the North Sector due to the geology and vegetation of the Edwards Plateau. Golden-cheeked Warblers utilize heavily wooded areas along steep slopes, drainages, and upland areas with a thick tree canopy. The canopy is comprised of both mature Ashe Junipers (cedars) and hardwoods. Black-capped Vireos tend to occupy recently disturbed areas that are relatively open and contain a shrubby component. The Black-capped Vireo nests and raises its young in Texas in the spring and migrates south to tropical areas usually beginning in August. The main threat to the Vireo is loss of habitat and secondly, nest-site parasitism from cowbirds who lay their eggs in Vireo nests. Like the Vireo, the Golden-cheeked Warbler nests in Bexar County in the spring and then migrates south to tropical climates in the fall. The principal threat to the Warbler is also habitat loss.

Karstic limestone outcroppings on the Edwards Plateau usually include karst features, which provide habitat for karst invertebrate species. Frequently, karst invertebrates in Bexar County are single-cave endemic, which means they are found nowhere else but in that single feature. The invertebrates cannot relocate or be relocated to other karst features. If the karst feature is disturbed by development, direct/indirect contamination, or changes to water flow/water availability, the species may be lost at that location. Additionally, karst invertebrates are an indicator of water quality and quantity.

Edwards Aquifer

The Edwards Aquifer, of which the Contributing and Recharge Zones are partially located in the North Sector, is an immense underground reservoir that stores and transports water. Rainfall and streams seep into cracks, fissures, fractures, sinks holes, solution cavities, caves, and other karst features eventually reaching the aquifer. The Edwards Aquifer produces many springs that feed creeks, streams, waterfalls, and rivers throughout Bexar County and Central Texas. In addition, the Edwards Aquifer is able to supply most of Central Texas with drinking water.

Watersheds, Rivers, and Streams (Stormwater)

Bexar County is comprised of 5 different watersheds, four of which are located in the North Sector: Leon Creek, Salado Creek, Cibolo Creek, and San Antonio River. Each watershed contains several waterways and floodplains.

San Antonio has a history of flooding. Flash floods are a serious problem in flood prone areas, including parts of the North Sector. Average annual rainfall can range from 15 inches to 33 inches, which can cause unpredictable droughts and also sporadic flash floods (Texas Parks and Wildlife Department Wildlife Action Plan, 2005). A major cause of flash floods is impervious cover, which impedes rainwater from draining into the ground causing it to run across surfaces and pool in low lying areas. There are approximately 65 low water crossing locations in the North Sector.

Topography

A topography map is a detailed map depicting elevation changes, or relief, and includes the highest points, the steepest slopes, the flattest areas, and valleys in a particular area. The steepest slopes in Bexar County are located in the North Sector. Development on steep slopes can be very costly, environmentally damaging, and if done improperly, very dangerous.

Soils

The landscape of the North Sector is rocky and rugged and is dominated by Ashe juniper and various oaks. The sector contains a range of soils from neutral to slightly acidic sands and sandy loams to thin, rocky calcareous clays and clay loams.

Most of the soils within this area are not recommended for development of single-family homes of three stories or less built on concrete slab. Due to the rocky nature of the area, the soils are also not recommended as farmland for food, feed, fiber, forage, or oilseed crops. Most appropriate uses of the land include cattle ranching, hunting leases, and conservation.

Air Quality

Ground-level ozone is the greatest challenge to maintaining excellent air quality in the San Antonio region. Air pollution affects each sector equally. Ozone forms readily in the atmosphere during warm, sunny days when sunlight and chemicals from burning fuels and vapors react together. Common sources of emissions include power generation, industrial processes, natural gas furnaces, gasoline stations, motor vehicles, airplanes, trains, boats, petroleum storage tanks, and oil refineries (www.tceq.state.tx.us). Cement quarries, cars and trucks traveling the roadways, and coal-fired power generation are the largest contributors to air pollution in Bexar County. Ozone pollution affects the health of all individuals, particularly sensitive groups such as people with lung diseases, children, older adults, and all ages who exercise or work vigorously outdoors.

The federal ozone standard was last set in 2008 by the Environmental Protection Agency (EPA) at 75 parts per billion (ppb). The standard was created to protect human health and the environment. ***Table A-10: Air Quality,*** shows the ppb readings taken at air monitoring sites over the past three years that were used in the regulatory three-year average. At this time, San Antonio meets the goal and remains in attainment. If, however, the EPA decides to lower the standard again, San Antonio may find itself in non-attainment. Non-attainment could possibly bring about regulations and restrictions to economic, industrial, and transportation interests in the area.

Table A-10: Air Quality

San Antonio	Fourth Highest Average			
Monitoring Site	2007	2008	2009 as of 9:19 am CDT 12/22/2009	Current Three-Year Average (ppb)
San Antonio Northwest C23	71	78	75	**74**
Camp Bullis C58	74	74	73	**73**
Calaveras Lake C59	67	73	62	**67**
Heritage Middle School C622	66	72	62	**66**
CPS Pecan Valley C678	65	75	68	**69**

Community Facilities and Education

Active and Passive Recreation

The North Sector contains a total of 60 sites designated as public parks or open space, of which, 35 are parks and 25 are open space areas. These sites include city and county parks, greenways, and natural areas, totaling approximately 7,300 acres (2,456 acres of parkland and 4,989 acres of open space) and comprising roughly 43 percent of the total inventory of park and open space within the entire City (17,349 acres). Based on an existing population (568,020), a current level of service of approximately 4.3 acres of parkland per 1,000 residents and 8.7 acres of open space per 1,000 residents is provided. It should be noted that a large inventory of private parks and open space exists within each quadrant of the North Sector which would significantly add to the overall totals. ***Tables A-12: Number of Parks and Acreage in North Sector Quadrants*** and ***A-13: Number of Open Space Areas and Acreage in North Sector Quadrants*** show that the Southeast Quadrant contains the most park acreage and least amount of open space, while the Northwest Quadrant contains the most open space and the Northeast Quadrant contains the least amount of park acreage.

Table A-11: North Sector Parks identifies the parks and acreage within each North Sector quadrant.

Table A-11: North Sector Parks

Quadrant	Total Number of Parks	Total Acreage
Northwest	9	3,133
Northeast	5	725
Southwest	15	1,738
Southeast	11	1,739
NORTH SECTOR	41	7,284
CITY OF SAN ANTONIO	227	17,349

Table A-12: Number of Parks and Acreage in North Sector Quadrants

Type of Park	Northwest Quadrant		Northeast Quadrant		Southwest Quadrant		Southeast Quadrant		Total Acreage
	#	Acres	#	Acres	#	Acres	#	Acres	
Neighborhood	0	0	0	0	9	97.6	5	155.3	252.9
Community	0	0	1	64.7	10	214.8	2	17.6	297.1
Large Urban	0	0	0	0	3	514.6	4	1,223.5	1,738.1
Sports Complex	1	167.8	0	0	0	0	0	0	167.8
TOTAL	1	167.8	1	64.7	22	827.0	11	1,396.4	2,455.9

Source: Matrix Design Group, June 2010

Table A-13: Number of Open Space Areas and Acreage in North Sector Quadrants

Type of Open Space	Northwest Quadrant		Northeast Quadrant		Southwest Quadrant		Southeast Quadrant		Total Acreage
	#	Acres	#	Acres	#	Acres	#	Acres	
Greenway	0	0	1	76.7	6	534.3	4	267.0	878.0
Natural Area	8	3,109.4	2	534.0	3	385.5	0	0	4,028.9
Historic Resource	0	0	0	0	0	0	1	82.3	82.3
TOTAL	8	3,109.4	3	610.7	9	919.8	5	349.3	4,989.2

Source: Matrix Design Group, June 2010

Emergency Services

All areas of the North Sector within San Antonio's city limits are served by San Antonio's police, fire, and emergency medical services (EMS). Areas outside of San Antonio's city limits are served by various agencies.

Hospitals/Clinics

The majority of the North Sector hospitals, approximately fourteen, are located in the South Texas Medical Center. However, there are other hospitals and clinics located within other areas of the Sector. The Northwest Quadrant does not currently contain any hospitals or clinics. The Northeast Quadrant contains five hospitals and five clinics. The Southwest Quadrant, as mentioned, contains fourteen hospitals within the Medical Center, two other hospitals located outside of the Medical Center, and approximately sixty-five clinics. The Southeast Quadrant contains two hospitals and approximately forty-five clinics.

Libraries

The North Sector is currently served by eight City of San Antonio public libraries and one is currently under construction. The majority of libraries are located inside Loop 1604 in the southwest and southeast quadrants. The Cody, John Igo, Great Northwest and Maverick Branches are located within the southwest quadrant. The Brook Hollow, Thousand Oaks, and Semmes Branches are located within the southeast quadrant. The Bannwolf Library at Reagan High School and the soon to be completed Parman Branch are located in the northeast quadrant.

Primary and Secondary Schools

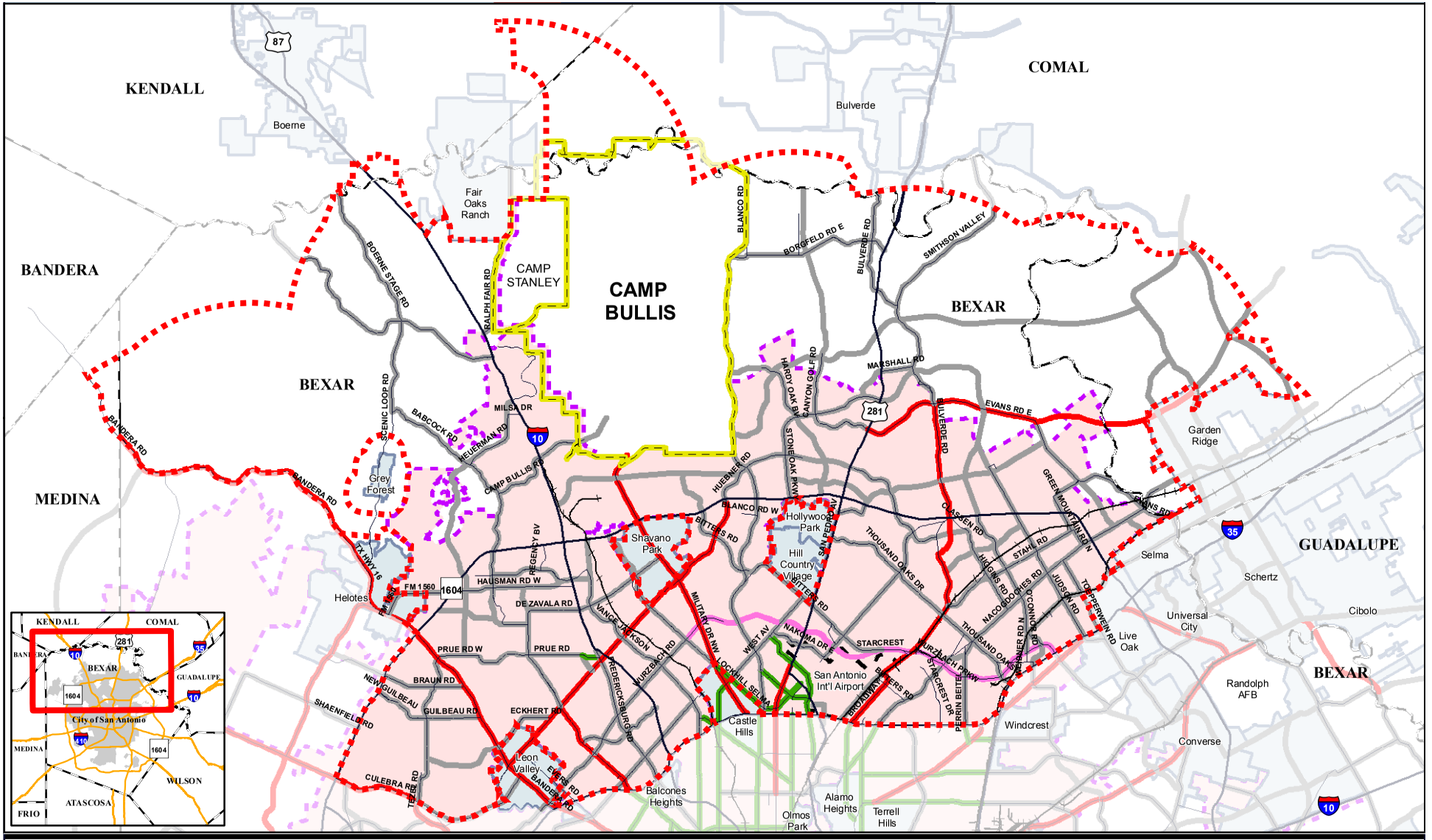
Seven independent school districts (ISD) provide public education to residents of the North Sector. Northside and Northeast Independent School Districts are the largest school districts within the Sector. There are approximately 102 elementary schools, 42 high schools, and 19 middle schools within the Sector. The schools consist of approximately 8 charter schools, 46 private schools, 110 public schools, and 2 trade schools.

Higher Education and Technical Schools

In the North Sector there are two universities (University of Texas San Antonio [UTSA] and University of Texas [UT]Health Science Center San Antonio), and two trade schools (Hallmark, and ITT Technical Institute). UTSA currently has a 2009 enrollment of over 28,000. The UT Health Science Center San Antonio has over 3,000 students.

Map Atlas

List of Maps



Major Thoroughfare Plan

- Primary Arterial Type A (120' ROW)
- Secondary Arterial Type A (86' ROW)
- Secondary Arterial Type B (70'-86' ROW)
- Super Arterial Type A (200'-250' ROW)

- North Sector Planning Area
- San Antonio
- Incorporated City
- Camp Bullis/Stanley

- County
- Airport
- Highway
- Major Road
- Railroad

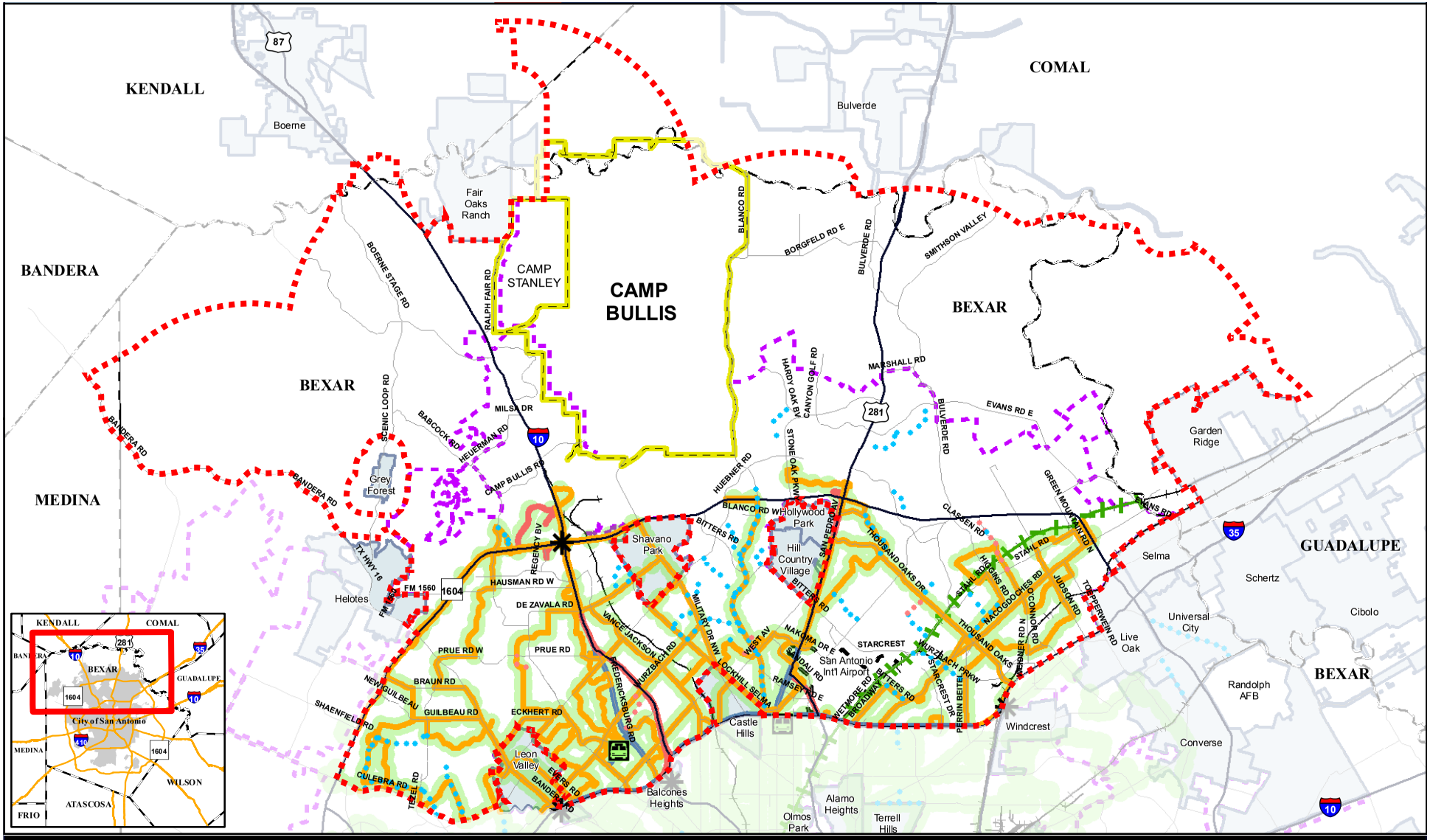
N W E S

0 1 2 4 Miles

A-2

source: Bexar County, Comal County, Kendall County / 2010; TNRIS / 2009

North Sector Vehicular and Aviation Transportation System



VIA Facility
- Park and Ride
- VIA Transit Center
- 0.25 Mile VIA Service Area
- Proposed Commuter Rail

VIA Bus Route
- Express
- Frequent
- Metro
- Skip

Bicycle Facilities
Type
- Bike Lane
- Bike Route

- North Sector Planning Area
- San Antonio
- Incorporated City
- Camp Bullis/Stanley

- County
- Airport
- Highway
- Major Road
- Railroad

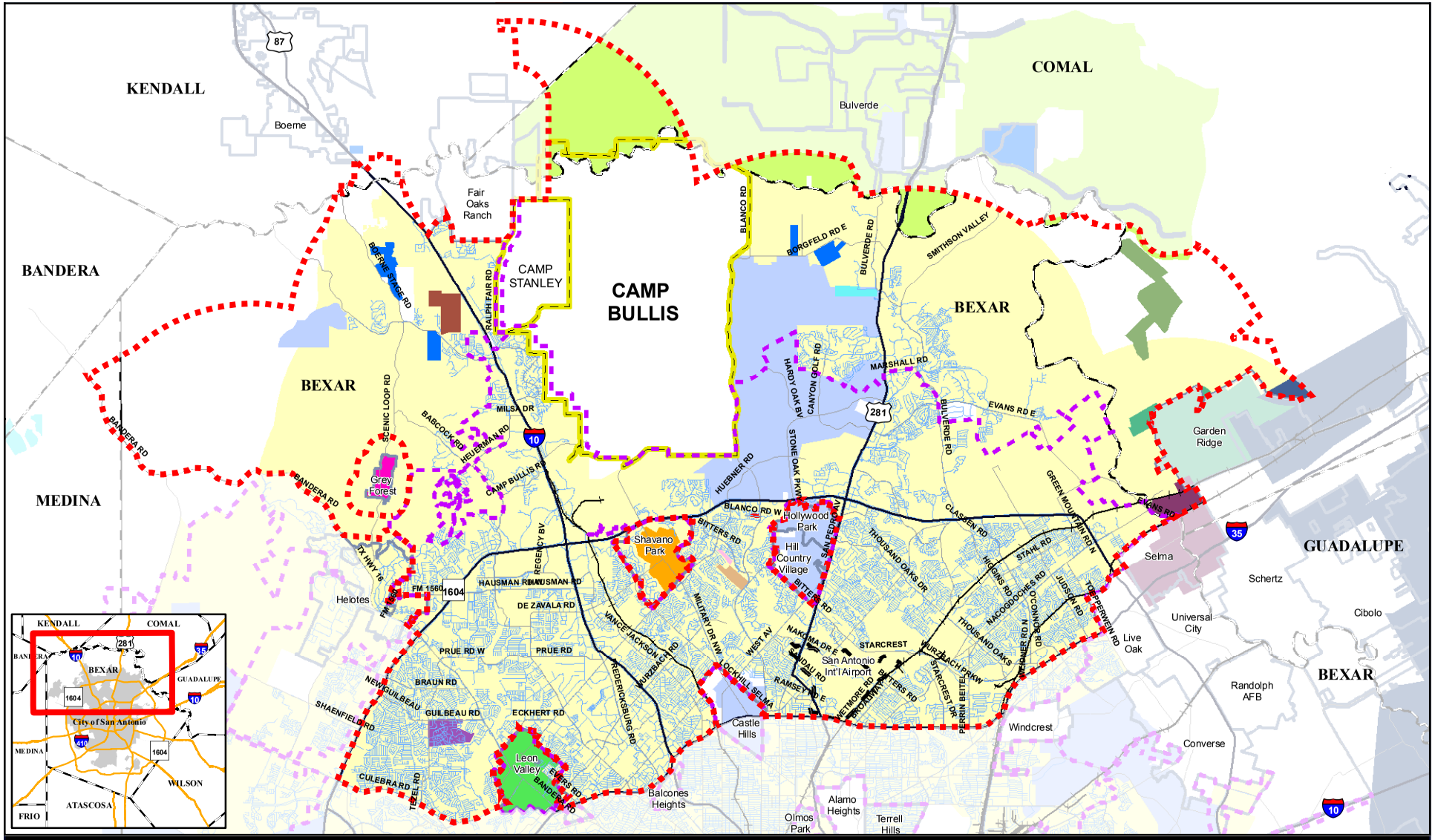
N W E S

0 1 2 4 Miles

A-3

source: Bexar County, Comal County, Kendall County / 2010; TNRIS / 2009

North Sector Mass Transit and Non-Vehicular Transportation System



Water Purveyor CCN

- 3009 Water Company
- Ace Utilities
- Aqua Texas
- Bexar Metro Water Dist.
- Cadillac Water Corp.
- City of Bulverde
- City of Garden Ridge
- City of Grey Forest
- City of Leon Valley
- City of Selma
- City of Shavano Park
- Dobbins & Schweers
- Green Valley SUD
- Lackland Water Co.
- The Oaks WSC
- SAWS
- Water Services Inc.
- SAWS Water Line
- North Sector Planning Area
- San Antonio
- Incorporated City
- Camp Bullis/Stanley
- County
- Airport
- Highway
- Major Road
- Railroad

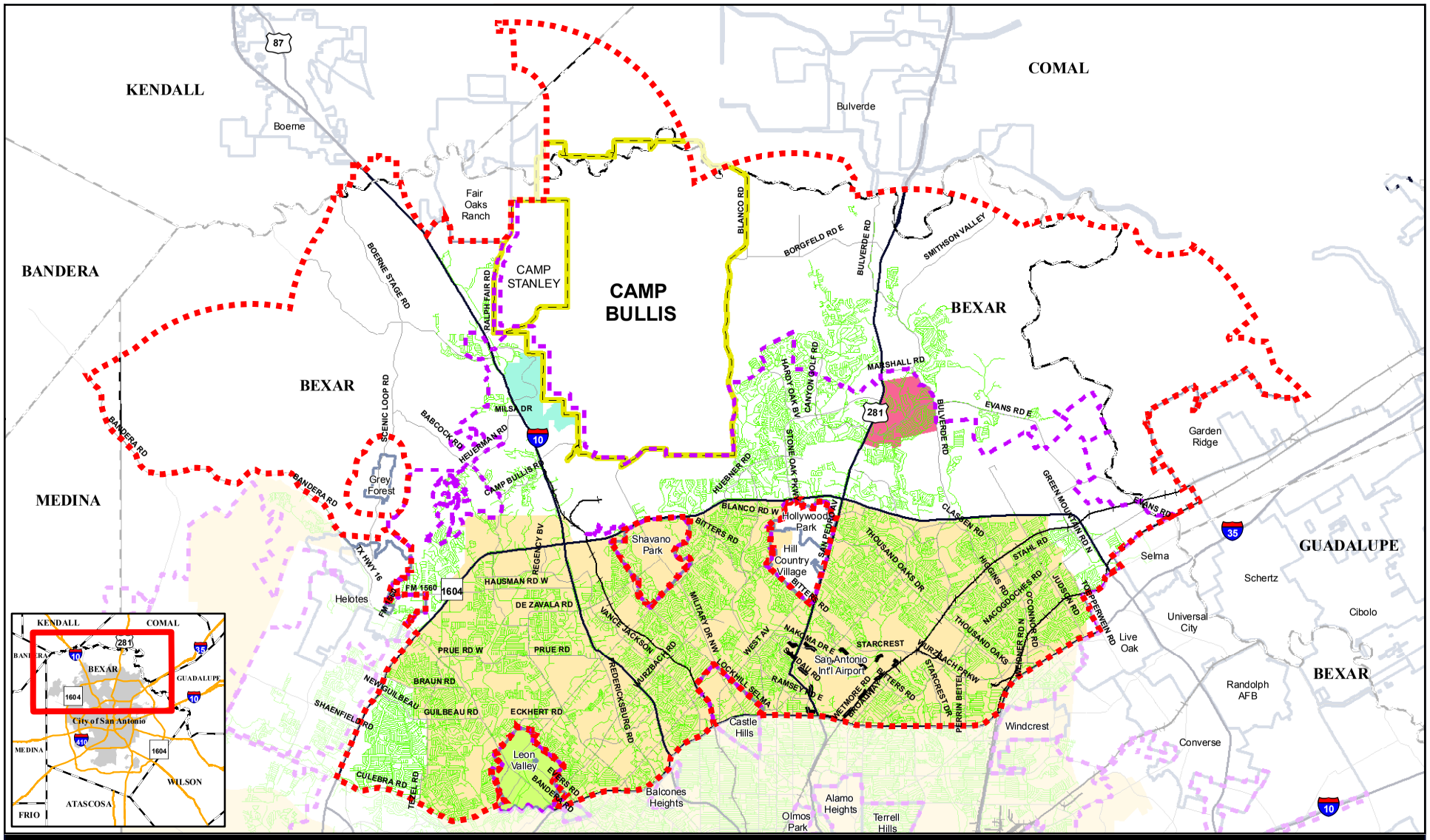
source: Bexar County, Comal County, Kendall County / 2010; TNRIS / 2009

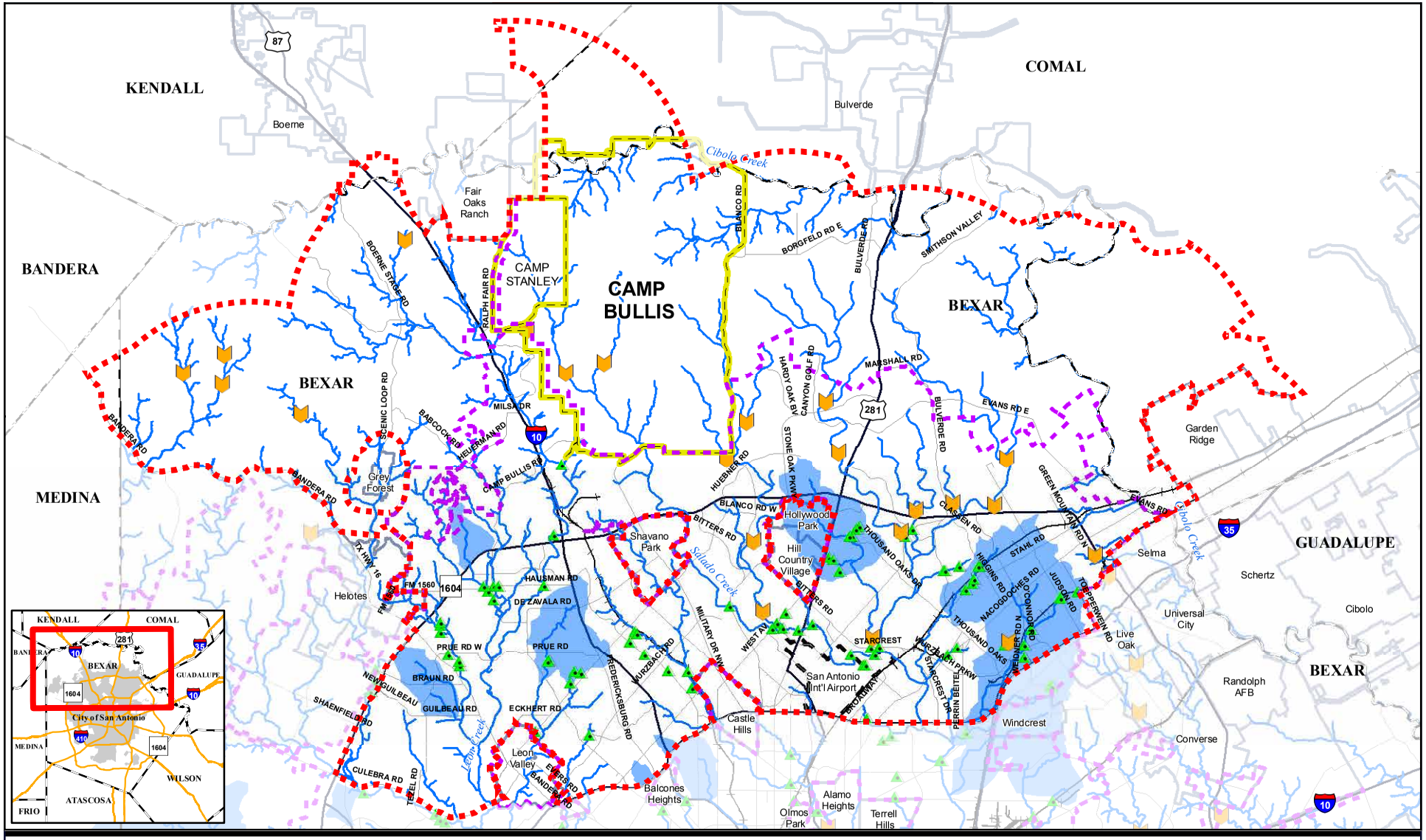
N W E S

0 1 2 4 Miles

A-4

North Sector Water Service


KENDALL
COMAL
BANDERA
BEXAR
MEDINA
GUADALUPE
Boerne
Bulverde
Fair Oaks Ranch
CAMP STANLEY
CAMP BULLIS
Garden Ridge
Grey Forest
Helotes
Shavano Park
Hollywood Park
Hill Country Village
Selma
Schertz
Universal City
Cibolo
Live Oak
Randolph AFB
Windcrest
Converse
Castle Hills
Leon Valley
Balcones Heights
Alamo Heights
Olmos Park
Terrell Hills
San Antonio Int'l Airport
BLANCO RD
BORGFELD RD E
BULVERDE RD
SMITHSON VALLEY
BOERNE STAGE RD
RALPH FAIR RD
SCENIC LOOP RD
BABCOCK RD
HEUERMAN RD
MILSA DR
CAMP BULLIS RD
BANDERA RD
HUEBNER RD
STONE OAK PKWY
CANYON GOLF RD
HARDY OAK BV
MARSHALL RD
EVANS RD E
GREEN MOUNTAIN RD N
EVANS RD
BLANCO RD W
BITTERS RD
THOUSAND OAKS DR
OLASEN RD
STAHL RD
HIGGINS RD
NACOGDOCHES RD
O'CONNOR RD
JUDSON RD
TOM PERWEIN RD
HAUSMAN RD W
DE ZAVALA RD
REGENCY BV
VANCE JACKSON
MILITARY DR NW
WEST AV
NAKOMA DR E
STARCREST
WURZBACH RD
WURZBACH PKWY
STARCREST DR
PERRIN BEITEL
THOUSAND OAKS
FISHER RD N
PRUE RD W
PRUE RD
BRAUN RD
NEW GUILBEAU
GUILBEAU RD
ECKHERT RD
SHAENFIELD RD
FREDERICKSBURG RD
ROCKHILL SELMA
RAMSEY RD E
WETMORE RD
BROOKHOLLOW
CULEBRA RD
TEZEL RD
EVERS RD
TX HWY 16
FM 1560
1604
281
10
35
87
Wastewater Purveyor CCN
City of Leon Valley
Denton Utility Co.
Leon Springs Utility Co.
SAWS
SAWS Sewer Line
North Sector Planning Area
San Antonio
Incorporated City
Camp Bullis/Stanley
County
Airport
Highway
Major Road
Railroad
N
W
E
S
0 1 2 4
Miles
A-5
source: Bexar County, Comal County, Kendall County / 2010; TNRIS / 2009
North Sector Wastewater Service



Dam
Low Water Crossing
Stream
Mandatory Detention Area

North Sector Planning Area
San Antonio
Incorporated City
Camp Bullis/Stanley

County
Airport
Highway
Major Road
Railroad

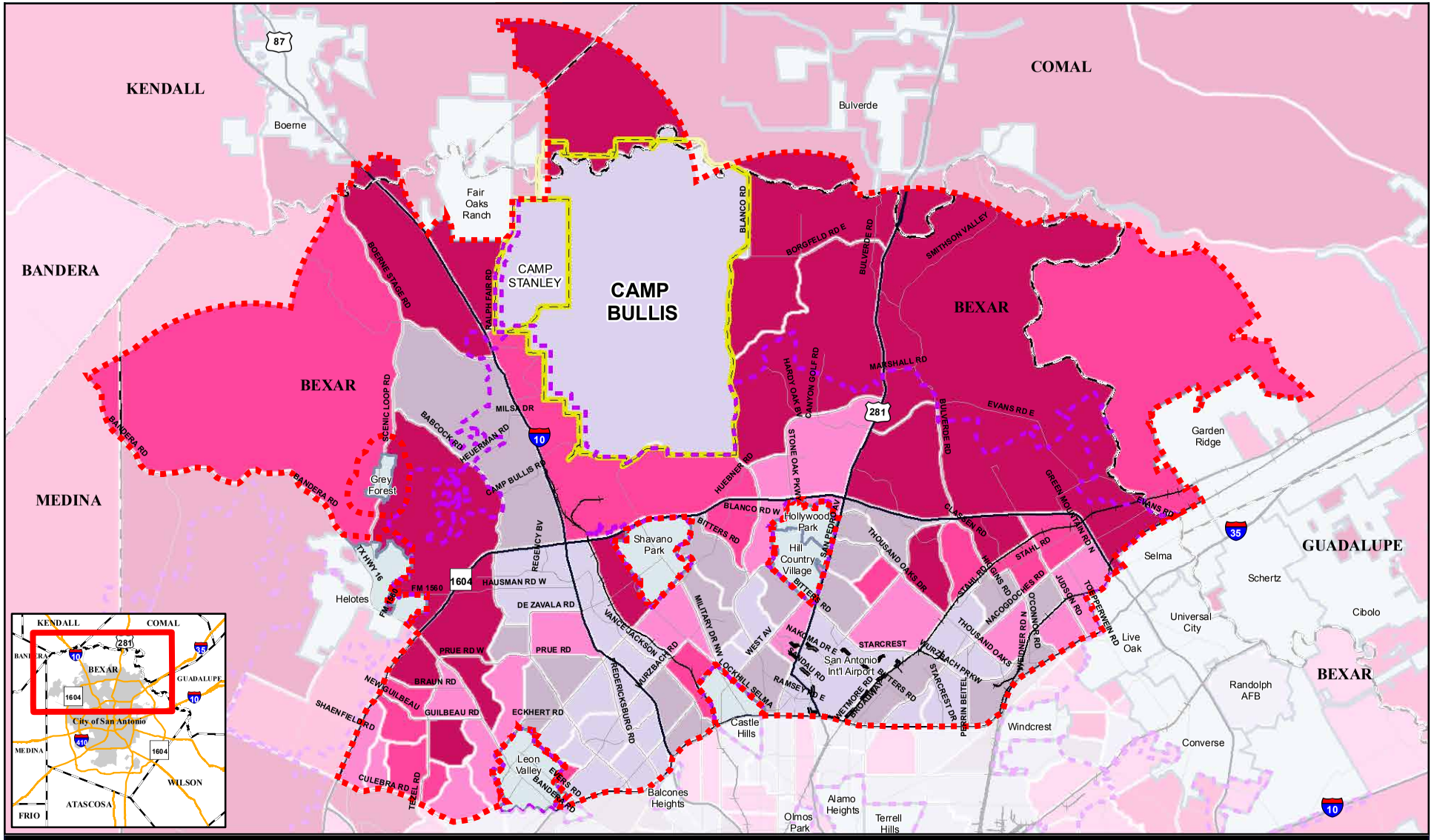
N
W
E
S

0 1 2 4 Miles

A-6

source: Bexar County, Comal County, Kendall County / 2010; TNRIS / 2009

Stormwater Facilities



2009 Percent Owner Occupied Housing Units

- 80.1% to 100.0%
- 70.1% to 80.0%
- 60.1% to 70.0%
- 45.1% to 60.0%
- 0 to 45.0%
- Zero Population

- North Sector Planning Area
- San Antonio
- Incorporated City
- Camp Bullis/Stanley

- County
- Airport
- Highway
- Major Road
- Railroad

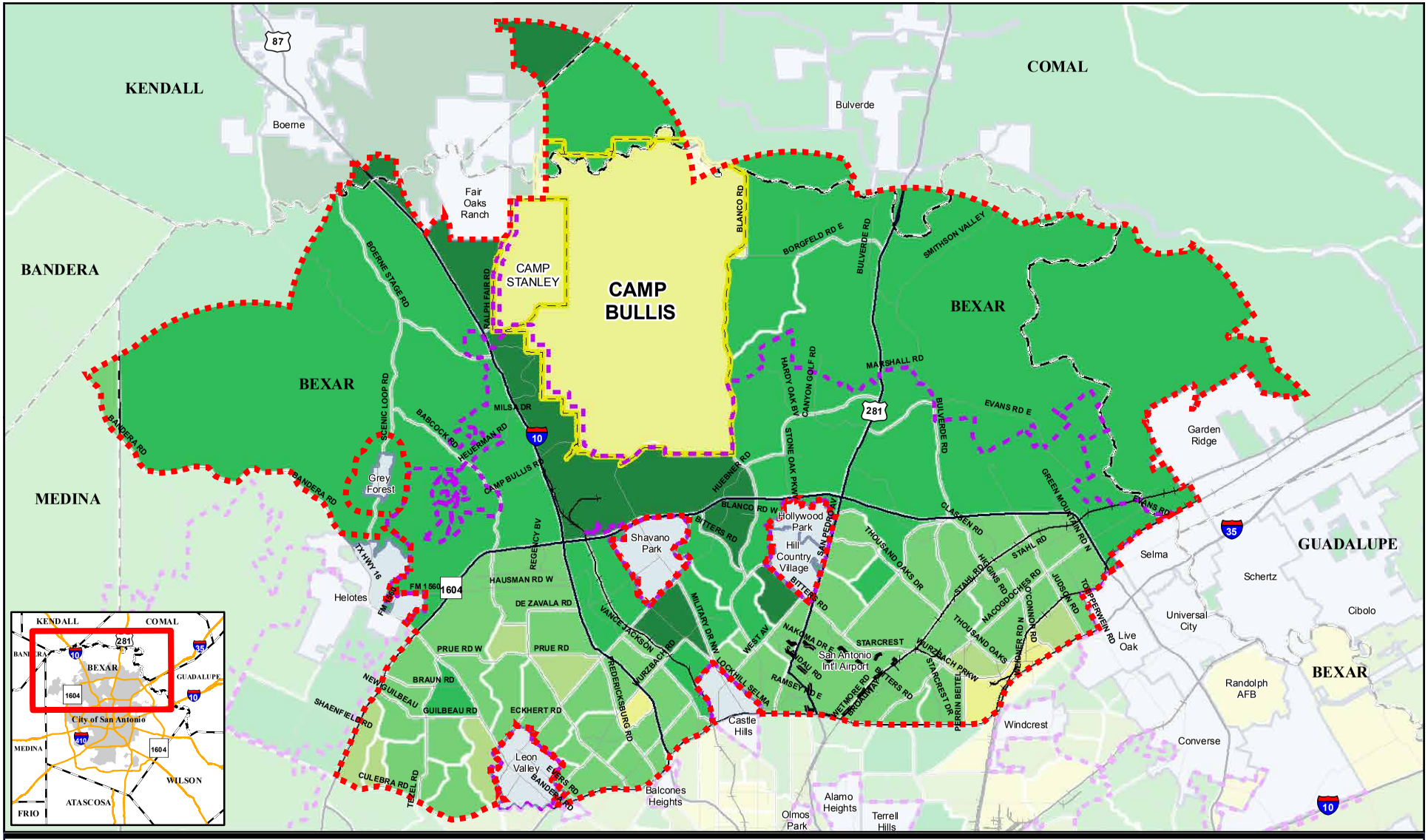
N W E S

0 1 2 4 Miles

A-7

source: Bexar County, Comal County, Kendall County / 2010; TNRIS / 2009; ESRI / 2009

Housing Ownership



2009 Median Home Value

- More than $250,000
- $150,001 to $250,000
- $100,001 to $150,000
- $75,001 to $100,000
- 0 to $75,000
- Zero Population

- North Sector Planning Area
- San Antonio
- Incorporated City
- Camp Bullis/Stanley

- County
- Airport
- Highway
- Major Road
- Railroad

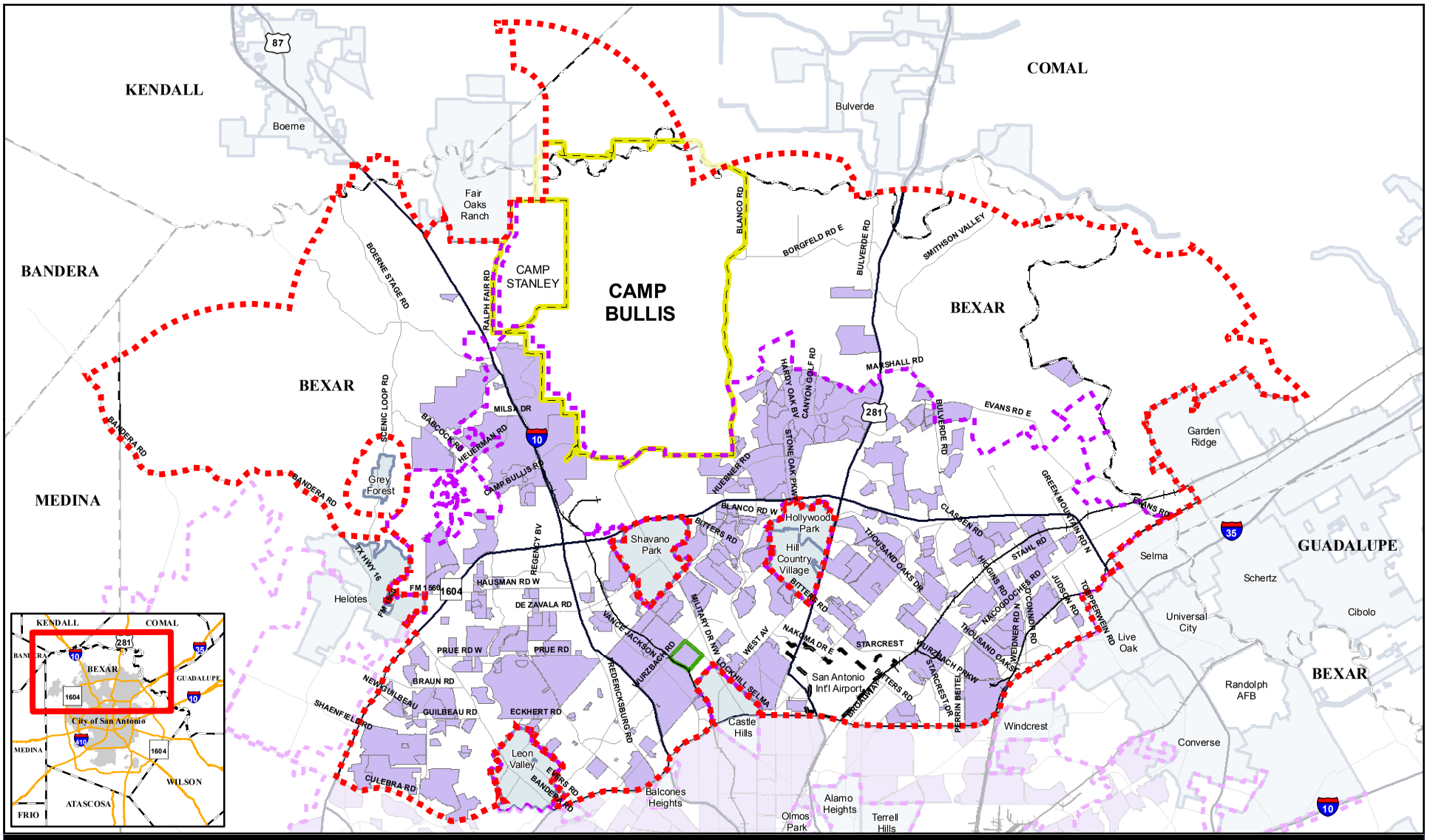
N W E S

0 1 2 4 Miles

A-8

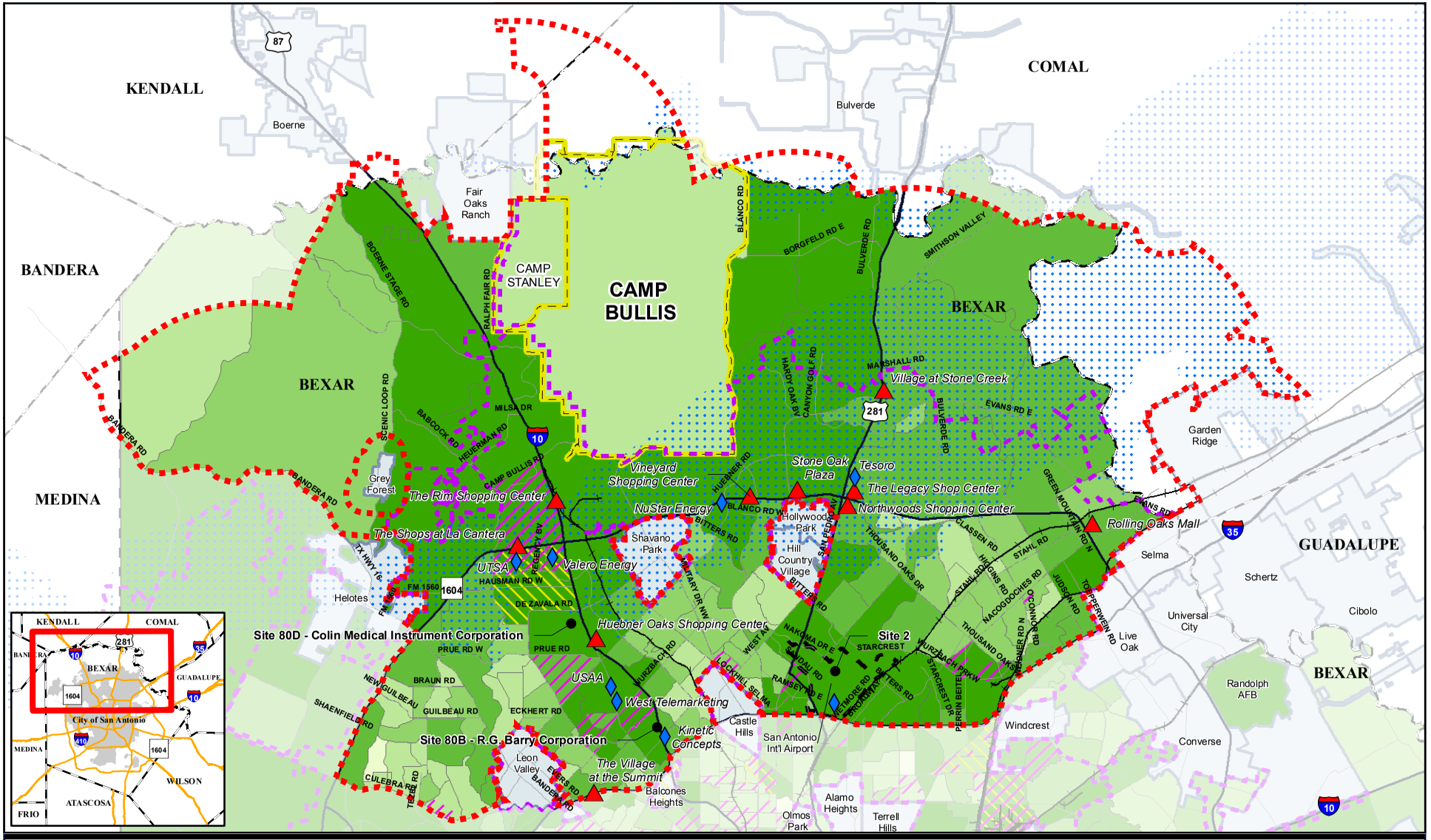
source: Bexar County, Comal County, Kendall County / 2010; TNRIS / 2009; ESRI / 2009

Housing Value



source: Bexar County, Comal County, Kendall County / 2010; TNRIS / 2009

North Sector Neighborhood Organizations



- Major Retail Outlet
- Major Employer
- Foreign Trade Zone Site
- Texas Enterprise Zone (Eligible Areas)
- Qualified HUB Zone
- Edwards Aquifer Recharge Zone

2035 Job Density (employees/square mile)

- <100
- 100-500
- 500-1000
- 1000-2500
- >2500

- North Sector Planning Area
- San Antonio
- Incorporated City
- Camp Bullis/Stanley
- County
- Airport
- Highway
- Major Road
- Railroad

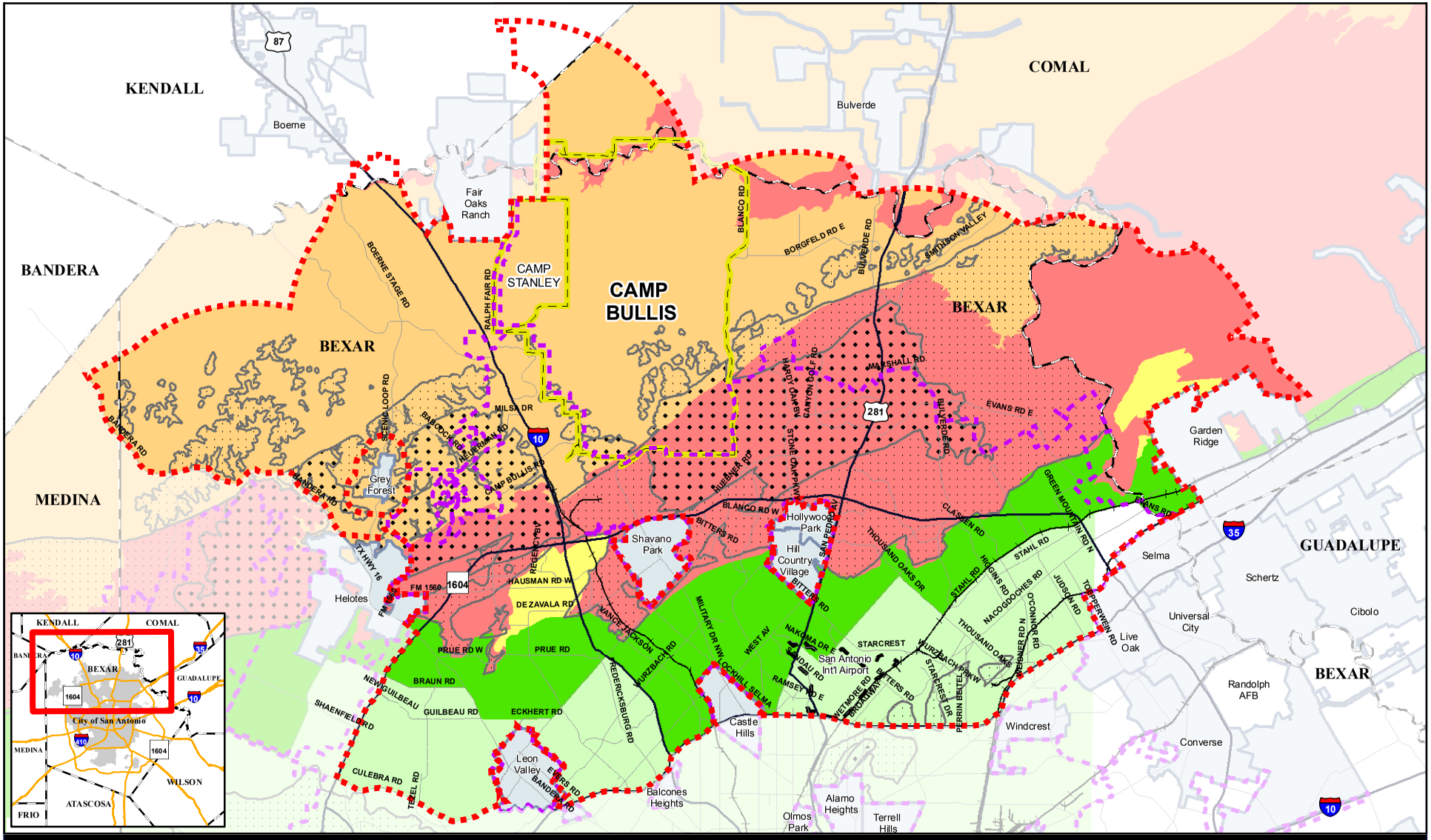
N W E S

0 1 2 4 Miles

A-10

source: Bexar County, Comal County, Kendall County / 2010; TNRIS / 2009

North Sector Economic Development Plan



Aquifer
- Edwards Aquifer Recharge Zone
- Edwards Aquifer Contributing Zone
- Edwards Aquifer Contributing Zone within the Transition Zone
- Edwards Aquifer Transition Zone
- Artesian Zone

Karst Zone
- Karst Species - Exist
- Karst Species - High Probability

- North Sector Planning Area
- San Antonio
- Incorporated City
- Camp Bullis/Stanley

- County
- Airport
- Highway
- Major Road
- Railroad

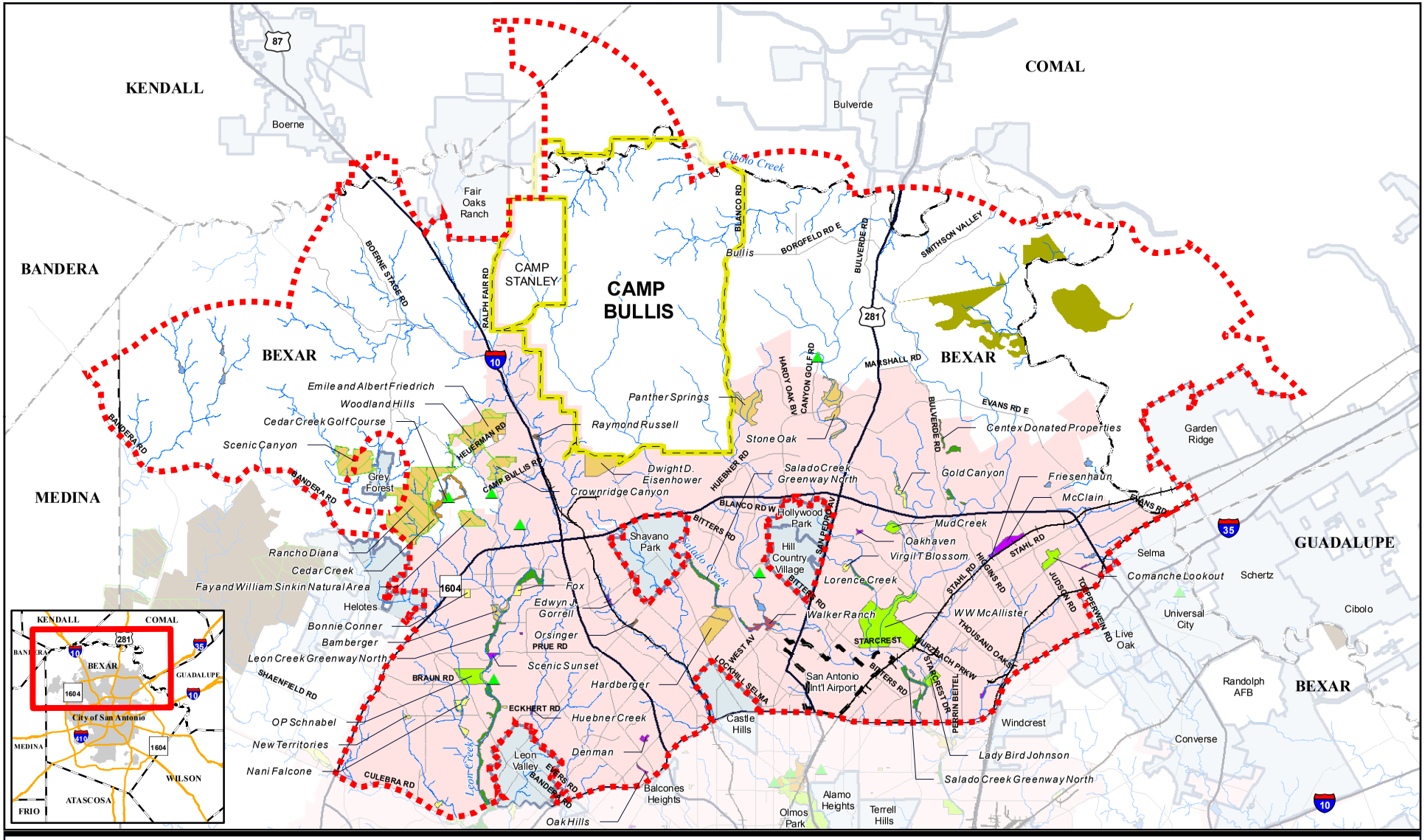
N W E S

0 1 2 4 Miles

A-11

source: Bexar County, Comal County, Kendall County / 2010; TNRIS / 2009

North Sector Aquifer and Karst Zones



Golf Course
Stream
Protected Lands
Lake
Proposition 1 Lands
Proposition 3 Lands

Parks
Large Urban
Community
Neighborhood
Greenway
Natural Area
Historic Resource
Sports Complex
Not Designated

North Sector Planning Area
San Antonio
Incorporated City
Camp Bullis/Stanley

County
Airport
Highway
Major Road
Railroad

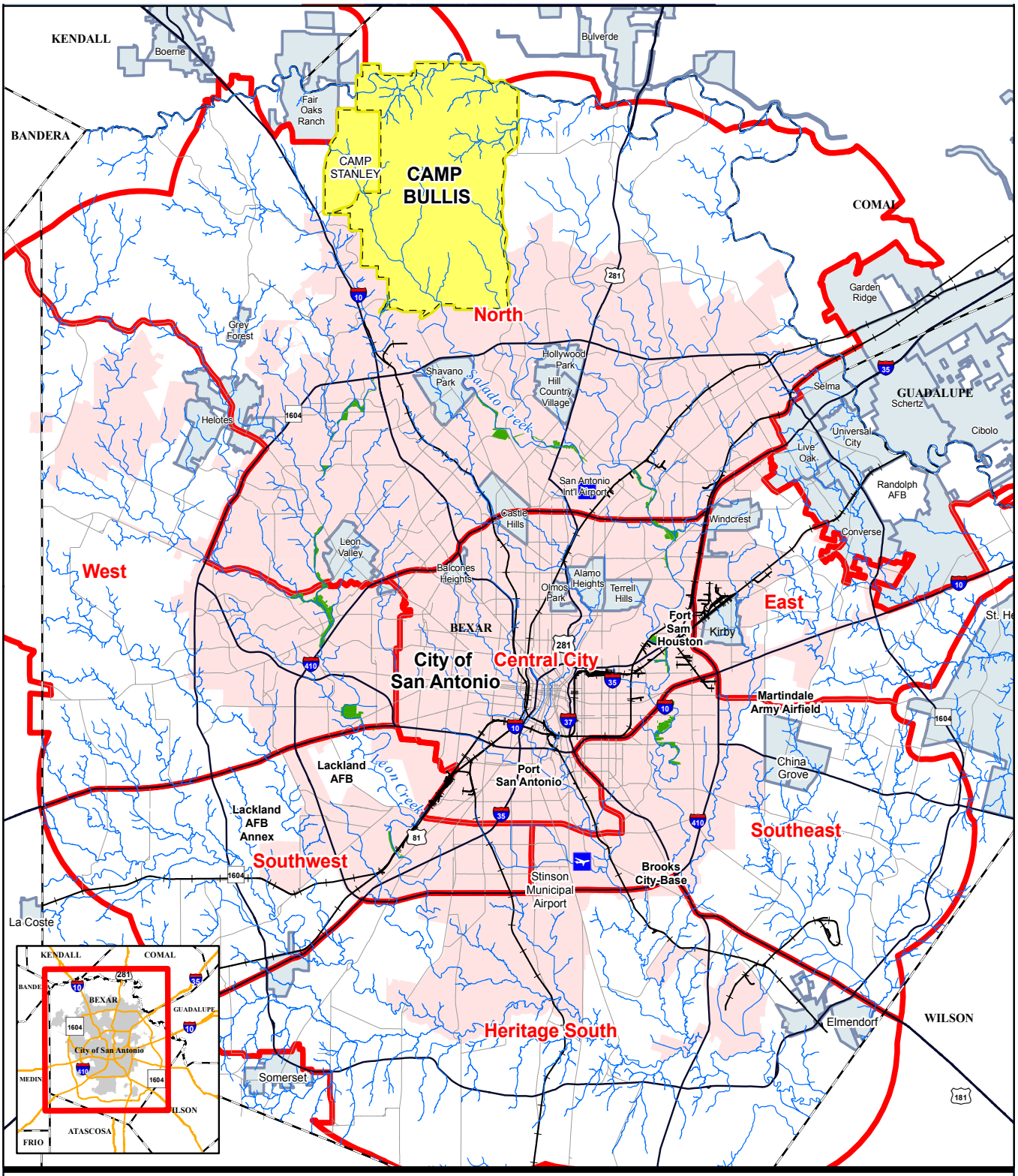
N
W E
S

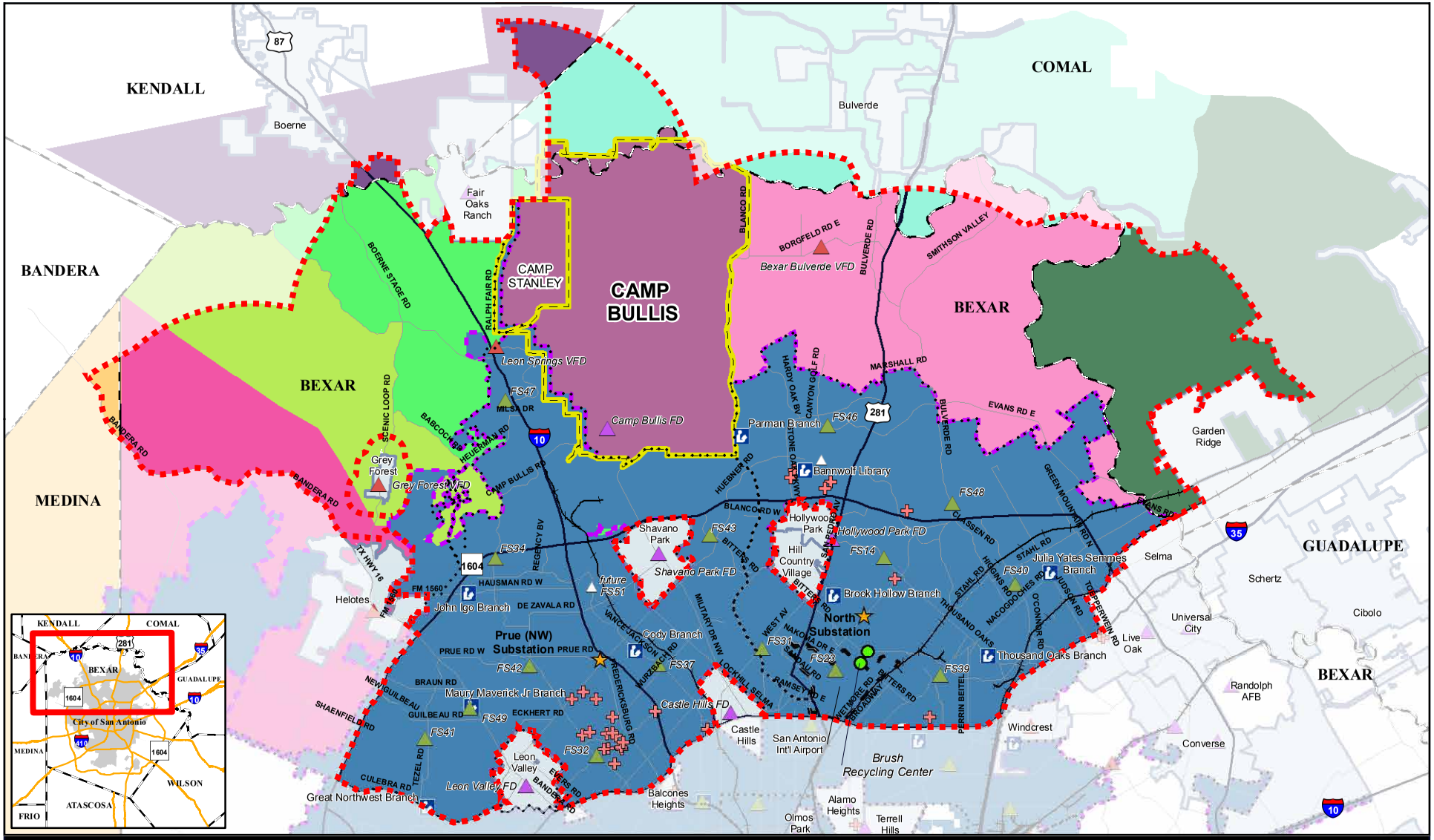
0 1 2 4
Miles

A-12

source: Bexar County, Comal County, Kendall County / 2010; TNRIS / 2009

North Sector Parks, Natural Environment, and Historic Resources


KENDALL
Boerne
Bulverde
Fair Oaks Ranch
BANDERA
CAMP STANLEY
CAMP BULLIS
COMAL
North
Garden Ridge
Grey Forest
Hollywood Park
Shavano Park
Salado Creek
Hill Country Village
Selma
GUADALUPE
Schertz
Helotes
1604
Universal City
Cibolo
Live Oak
San Antonio Int'l Airport
Randolph AFB
Castle Hills
Windcrest
Converse
Leon Valley
West
Balcones Heights
Alamo Heights
Olmos Park
Terrell Hills
East
BEXAR
Fort Sam Houston
Kirby
City of San Antonio
Central City
Martindale Army Airfield
Lackland AFB
Port San Antonio
China Grove
Leon Creek
Lackland AFB Annex
Southeast
Southwest
Stinson Municipal Airport
Brooks City-Base
La Coste
Elmendorf
WILSON
Heritage South
Somerset
Stream
Linear Creekway
Sector Plan Boundary
San Antonio
Incorporated City
Camp Bullis/Stanley
County
Highway
Major Road
Railroad
Airport
0 1.25 2.5 5 Miles
A-13
source: Bexar County, Comal County, Kendall County / 2010; TNRIS / 2009
Linear Creekways



Community Facility
- Library
- Hospital
- Solid Waste Transfer Station / Recycling Center
- Police Stations

SAPD Service Areas

Fire Station
- San Antonio Fire Station
- Other Fire Station
- Volunteer Fire Station
- Future Fire Station

Emergency Service District
- Bexar County, BC3
- Bexar County, BC4
- Bexar County, BC7
- Bexar County, BC8
- Camp Bullis/Stanley

- Comal County, CC5 AND CC1
- Comal County, CC6
- Kendall County
- Medina County
- City of San Antonio

- North Sector Planning Area
- San Antonio
- Incorporated City
- Camp Bullis/Stanley

- County
- Airport
- Highway
- Major Road
- Railroad

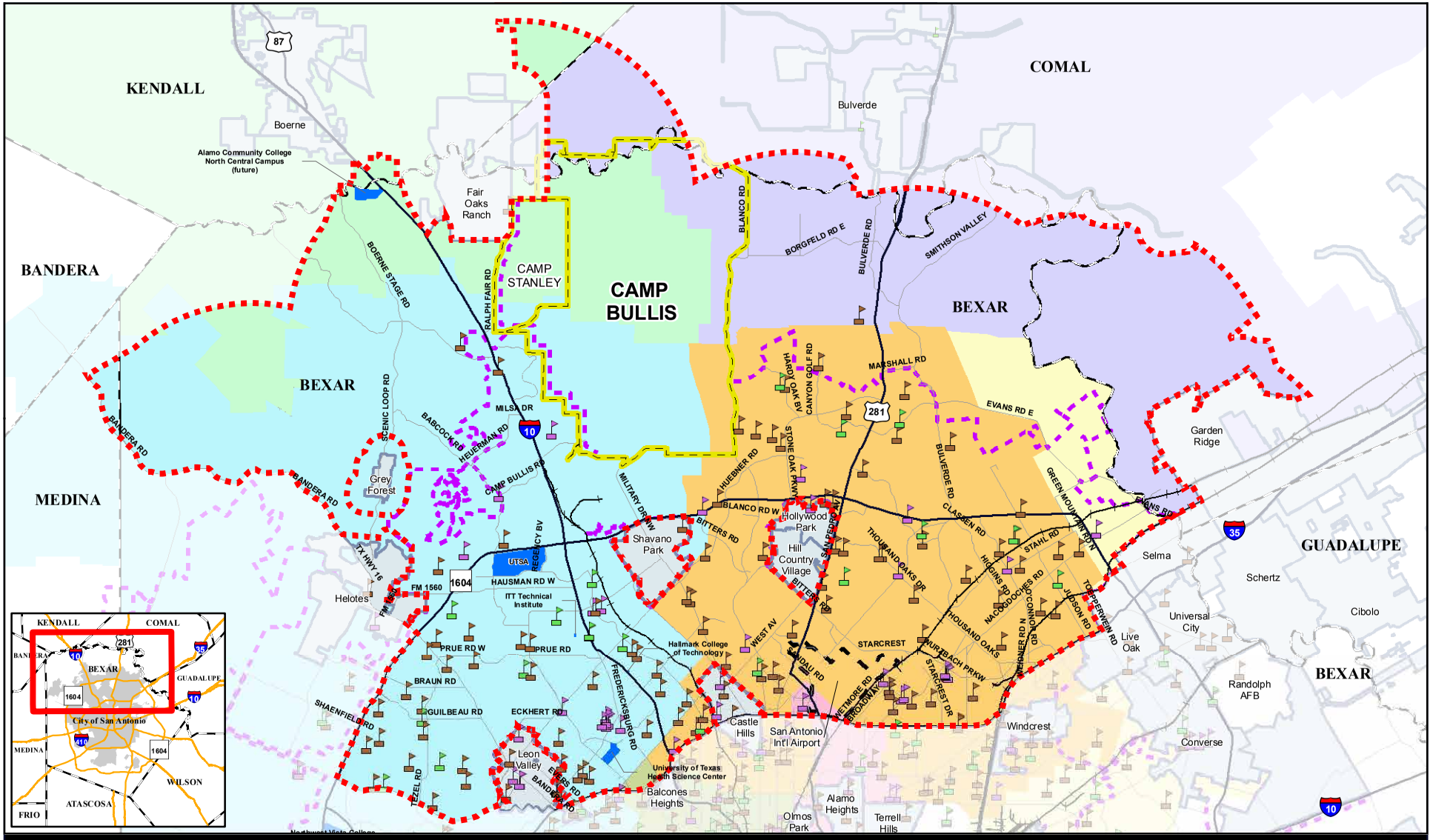
N W E S

0 1 2 4 Miles

A-14

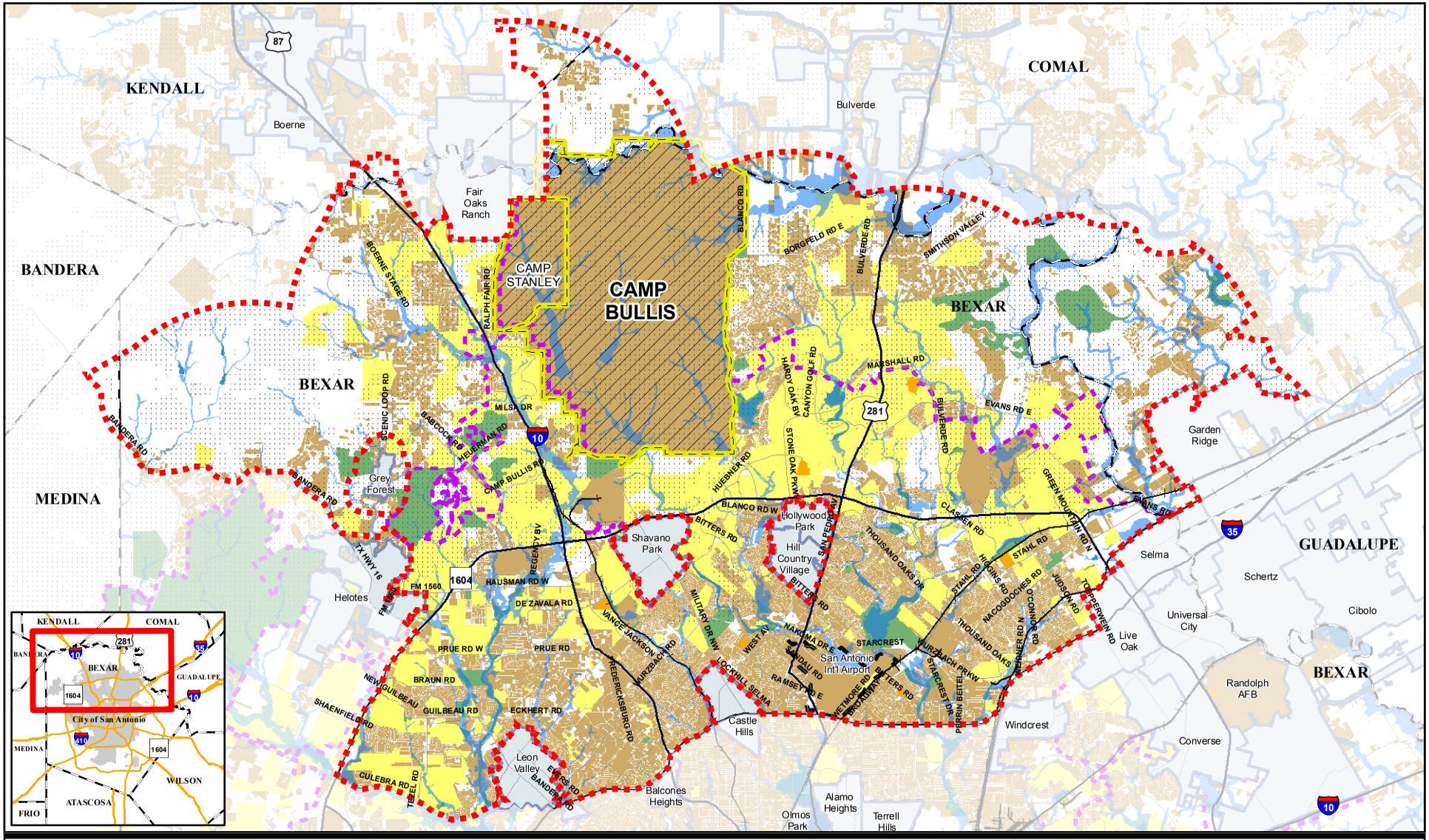
source: Bexar County, Comal County, Kendall County / 2010; TNRIS / 2009

North Sector Community Facilities



source: Bexar County, Comal County, Kendall County / 2010; TNRIS / 2009

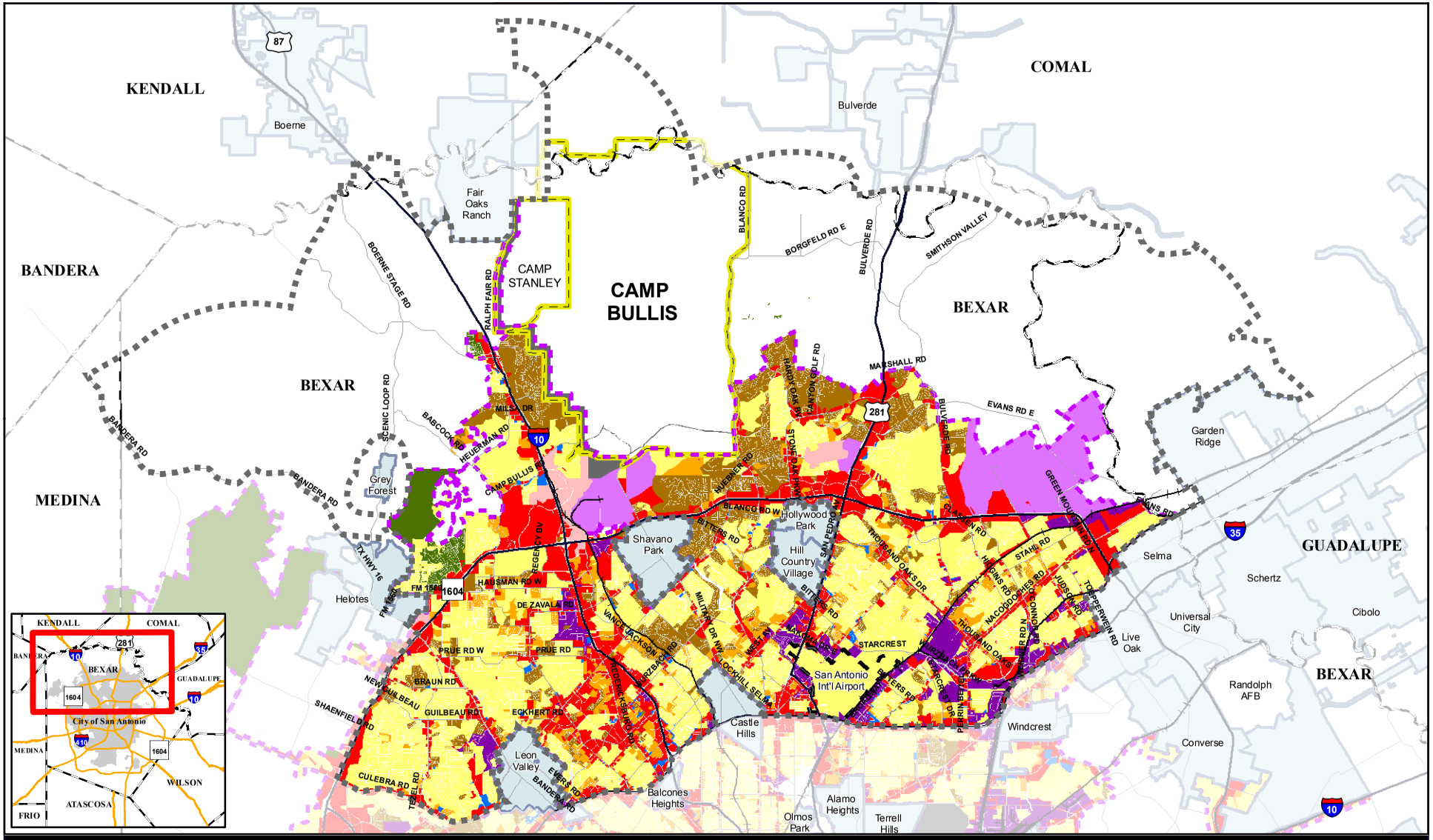
North Sector Education Facilities



A-16

source: Bexar County, Comal County, Kendall County / 2010; TNRIS / 2009

North Sector Land Use Suitability



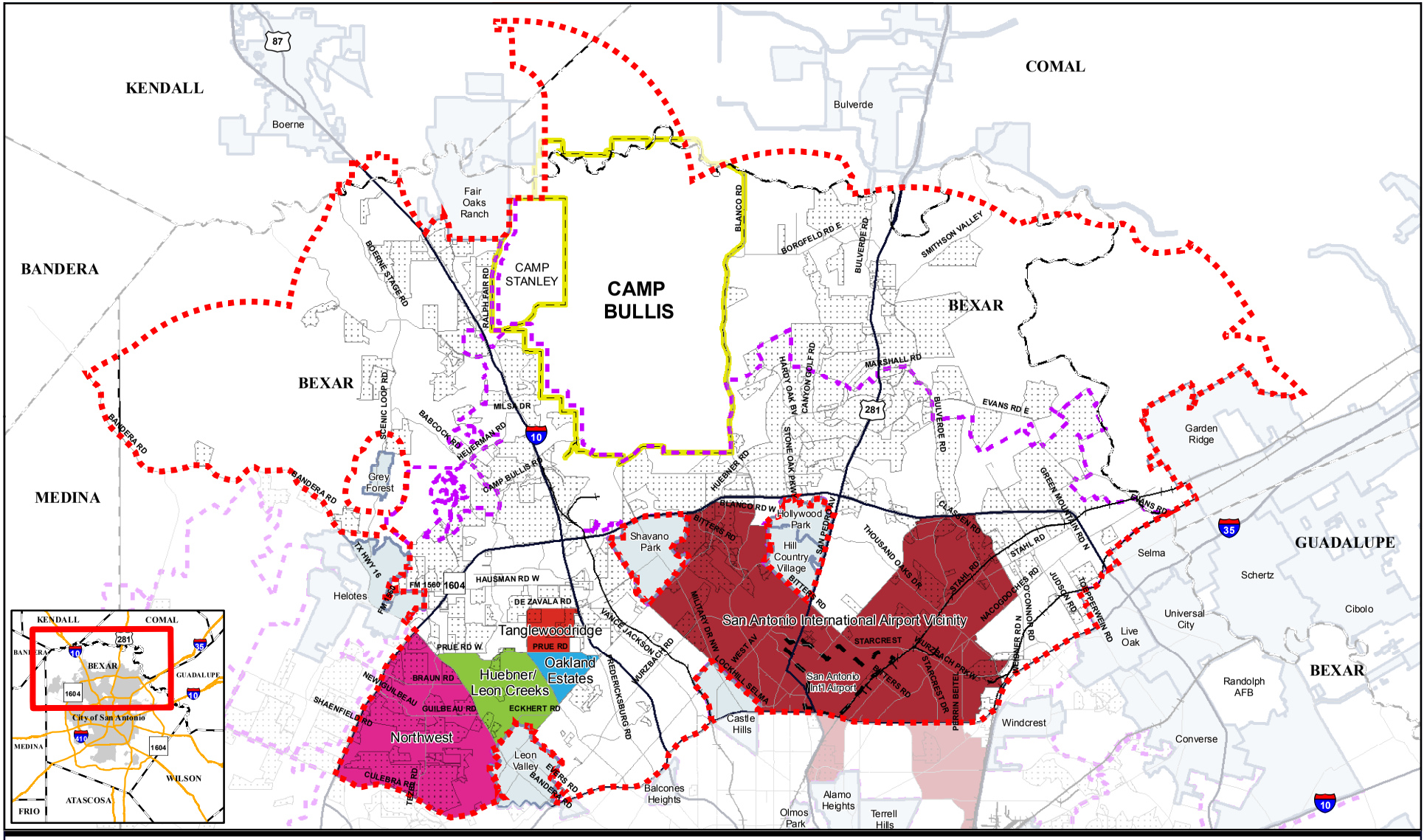
Zoning

- Development Reserve
- Single Family Residential
- Multifamily Residential
- Planned Unit Development
- Mixed Use
- Commercial
- Office & Business Park
- Industrial
- Military Reservation
- Quarry
- North Sector Planning Area
- San Antonio
- Incorporated City
- Camp Bullis/Stanley
- County
- Airport
- Highway
- Major Road
- Railroad

source: Bexar County, Comal County, Kendall County / 2010; TNRIS / 2009

A-17

Existing Zoning



Planned/Approved Master Development Plan

Neighborhood and Community Plan
- Huebner/ Leon Creeks
- Northwest
- Oakland Estates
- San Antonio International Airport Vicinity
- Tanglewoodridge

- North Sector Planning Area
- San Antonio
- Incorporated City
- Camp Bullis/Stanley

- County
- Airport
- Highway
- Major Road
- Railroad

A-18

source: Bexar County, Comal County, Kendall County / 2010; TNRIS / 2009

North Sector Neighborhood and Community Plans and Master Development Plans

Camp Bullis Bird/Wildlife Aircraft Strike Hazard (BASH) Guidelines

The Camp Bullis Bird / Wildlife Aircraft Strike Hazard (BASH) Guidelines provide information and actions to reduce the incidences of wildlife strikes on fixed and rotary-wing aircraft. This document is presented in the six identified sections below:

- *A. Overview*
- *B. Aircraft Operations*
- *C. Land Uses*
- *D. Wildlife and Birds On / Around Camp Bullis*
- *E. Airfield Hazard Control Methods*
- *F. BASH Plan Actions*

Section A - Overview

Bird / Wildlife Aircraft Strikes

According to Bird Strike Committee USA, bird and other wildlife strikes to aircraft annually cause well over $600 million in damage to United States (U.S.) civil and military aviation. Furthermore, these strikes put the lives of aircraft crew members, their passengers, and people on the ground at risk. Over 219 people have been killed worldwide as a result of wildlife strikes since 1988. Additional facts related to bird and animal strikes:

- *The average number of bird strikes at the San Antonio International Airport ranges from 25 to 35 each year; however, pilots have begun to report more bird strikes. Consequently, that number increased to 47 strikes in 2008.*
- *The airport had an average of 260 daily domestic and international departures and arrivals in 2008 and served 8,358,515 passengers.*
- *Over 5,000 bird strikes were reported by the U.S. Air Force in 2007.*
- *Over 780 civil aircraft collisions with deer and 280 collisions with coyotes were reported in the USA, 1990-2008.*
- *About 90 percent of all bird strikes in the U.S. are by species federally protected under the Migratory Bird Treaty Act.*
- *From 1990-2009, 381 different species of birds were involved in strikes with civil aircraft in USA that were reported to the Federal Aviation Administration (FAA).*

Based on information provided by Army and Air Force aviation operations personnel involved with aviation operations at Camp Bullis, no major incidents have occurred involving bird or wildlife striking aircraft. However, as detailed later in this document, a large number of bird species are located at Camp Bullis and the surrounding areas. Between March 2006 and June 2008, there were a reported 40 bird strikes at the San Antonio International Airport,

which is located in the City of San Antonio approximately nine miles southeast of Camp Bullis. There were also three reported mammal strikes in that period.

The primary concern for Camp Bullis is bird activity, more so than ground-based wildlife, interfering with air operations. Although strikes have not impacted aircraft operations at Camp Bullis to this point, it is important to remain vigilant and to ensure development in local communities does not change the environment so that bird and wildlife strikes become an impact to the Camp Bullis mission.

Source: www.birdstrike.org; "Bird Strikes Up At SA Int'l – Safety Advocate Says Not Enough Being Done to Mitigate Wildlife Hazards," April Molina, KSAT 12 News, November 24, 2009; Richard Johnson, Public Information Officer, San Antonio International Airport, January 28, 2010; www.sanantonio.gov/AVIATION/info_fastfacts.asp

Camp Bullis Area

Camp Bullis is comprised of approximately 28,000 acres and is located about 21 miles northwest of Fort Sam Houston (FSH) (see Figure 1-1). It is generally bound by Interstate-10 (I-10) to the west, Farm-to-Market Road 2696/Blanco Road to the east, Loop 1604 to the south, and West Ammann Road to the north. The training area is situated on the edge of the Edwards Plateau Land Resource Area in a hilly region known as the Texas Hill Country, which is locally called the Balcones Canyonlands. Topography of Camp Bullis consists of numerous hills and valleys that are drained by intermittent streams which flow east and south. The installation is used for firing ranges, maneuver areas for Army, Air Force, and Marine combat units, and for field training of the various medical units from Fort Sam Houston. To support its training mission, the training area supports small arms and large caliber firing ranges, ground and air operations night training (through the use of night vision equipment), air combat drop zones, and fixed-wing (airplane) and rotary-wing (helicopter) training. Air operations include the use of multiple landing zones (LZ) for helicopters, low-level helicopter flight corridors, and air combat drop zones (three for cargo and one for personnel).

Fort Sam Houston comprises approximately 3,000 acres in a highly urbanized part of San Antonio, severely limiting the ability to conduct on-site field training, especially during the night. Camp Bullis provides nearly 22,000 acres of invaluable field training and maneuver areas for Fort Sam Houston and multi-service medical training.

Immediately adjacent to the Camp Bullis west boundary is Camp Stanley, a sub-installation of the McAlester Army Ammunition Plant. Camp Stanley has restricted access due to explosive ordnance storage and testing missions. Camp Stanley is independent of Camp Bullis and Fort Sam Houston.

Source: Integrated Natural Resources Management Plan for Fort Sam Houston & Camp Bullis Military Reservation San Antonio, Texas, October 1, 2007; Camp Bullis Joint Land Use Study, June 2009

Camp Bullis History

In 1890, the Army Post at San Antonio was renamed Fort Sam Houston. At the time, it was one of the largest garrison sites for the U.S. Army, but lacked an adequate firing range and maneuver area. The Leon Springs Military Reservation was established on 17,273 acres, to the north of San Antonio. In 1917, Camp Bullis was established and added 16,000 additional acres

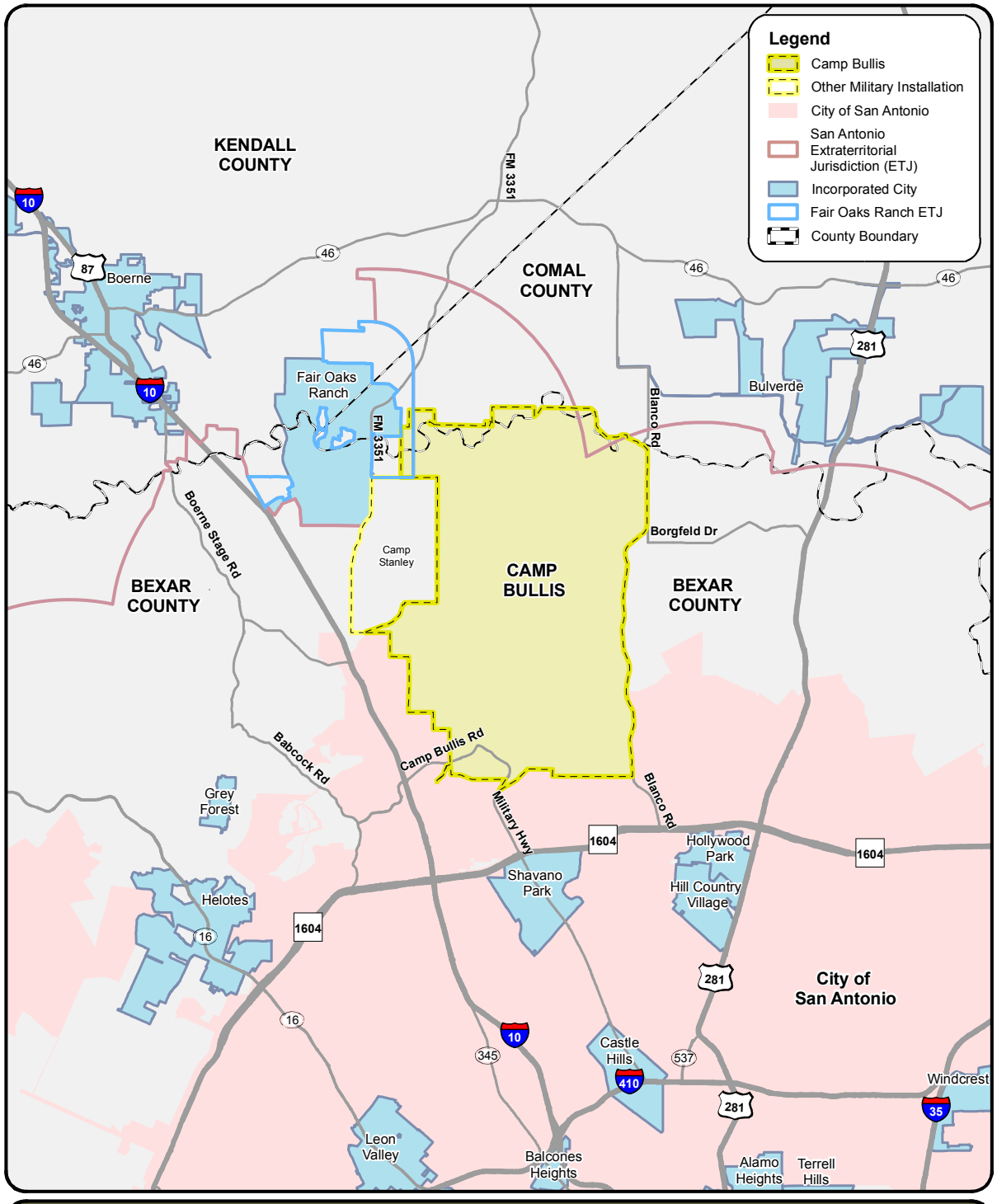


Figure 1-1

Camp Bullis

to the Leon Springs Military Reservation. The original purpose of Camp Bullis was to train soldiers when the threat of war in Europe was growing. Although no units were stationed at Camp Bullis during World War I, it provided small arms and rifle firing ranges, as well as maneuver areas for troops stationed at Fort Sam Houston, which did not have the capacity for large-area training. In total, the government owned or leased over 33,000 acres at the time. Following World War I, Camp Stanley was used primarily for storage and testing of ordnance materials, while Camp Bullis was used as a site for demobilization.

As the years passed, Camp Stanley and Camp Bullis became permanent fixtures for the Army and the installations were equipped with cantonment areas and new construction and development projects. The relocation of the old arsenal from downtown San Antonio to Camp Stanley in 1931 essentially stopped the use of the camp for soldier training. Camp Bullis continued to be improved and used by various units and groups as a training site through World War II.

During and following World War II, many changing medical needs in the Army brought several new activities and missions to Fort Sam Houston and Camp Bullis. New medical training missions were brought to Camp Bullis and the Brooke Army Medical Center was established at Fort Sam Houston. Training included basic training for Army nurses, combat obstacle courses for stretcher field training and combat medicine, as well as small arms. Camp Bullis was used for medical, combat, and security training throughout the Korean and Vietnam Wars. The Air Force Security Police Training Site, known as Victor Base, was built in 1977, and the Air Force was the largest single user of Camp Bullis until 1987. Since then, the Army has become the primary user of Camp Bullis as a military training site.

Source: Camp Bullis Joint Land Use Study, June 2009

Units

Fort Sam Houston, Lackland Air Force Base, and Randolph Air Force Base comprise Joint Base San Antonio, the largest installation in the military and one of 12 joint bases mandated by the 2005 Base Realignment and Closure (BRAC). As the primary training site for Fort Sam Houston, Camp Bullis is under the control of the Commanding General of Fort Sam Houston, U.S. Army Medical Department Center & School (AMEDD C&S), which provides overall leadership, management, and oversight for Camp Bullis activities and the installation. As a joint base, installation management for both Fort Sam Houston and Camp Bullis is provided by the Air Force's Air Education and Training Command (AETC), specifically the 502d Mission Support Group based at Fort Sam Houston. This group is one of three mission support groups under the 502d Air Base Wing responsible for Joint Base San Antonio.

Although the operation of Camp Bullis is under the command of the Fort Sam Houston Garrison Commander located 21 miles to the southeast, the relationship strives to be seamless, making the physical separation between Fort Sam Houston and Camp Bullis transparent. The personnel assigned to the various functions of the Camp Bullis staff are employees of their parent directorates based at Fort Sam Houston, but their place of duty is Camp Bullis with the Camp Bullis Garrison Manager maintaining operational control.

Source: Camp Bullis Joint Land Use Study, June 2009; www.af.mil

Mission

The official mission statement of Camp Bullis is: "To provide an unparalleled training infrastructure offering quality range, training facilities, and maneuver areas that facilitate tough, realistic training for military and government agencies." Camp Bullis currently supports training for several branches of the military, including the U.S. Army, Air Force, and the National Guard, as well as for other federal and local agencies, such as the U.S. Secret Service, U.S. Marshals Service, and the San Antonio Police Department. The installation supported 705,309 person-days of training in Fiscal Year (FY) 2005, with a daily average of 1,932. In FY08, 150,852 personnel were trained at Camp Bullis. The anticipated growth of personnel (in response to BRAC, Army Modular Force [AMF], and other activities) is expected to change these training numbers to 1,000,000 person-days annually and a 2,740 daily average. This is also expected to result in an increase in the number of air operations occurring at Camp Bullis.

Source: Camp Bullis Joint Land Use Study, June 2009

Section B - Aircraft Operations

Fixed-Wing: Combat Assault Landing Strip

Camp Bullis currently has one airfield, the Combat Assault Landing strip (CALS), which measures 3,500 feet long and 100 feet wide. The CALS has turnaround areas, a parallel taxiway, and all required safety clearances. Constructed in 1982 of compacted earth, it is located in the far northeastern portion of Camp Bullis in close proximity to the northern and eastern fence lines of the installation (see Figure 1-2). The CALS is used primarily by Air Force C-130 Hercules aircraft, but is also capable of supporting the C-17 Globemaster. The airfield supports Joint Training Exercises (JTX) conducted by the Army and Air Force by accommodating the take-off and landing of fixed-wing cargo aircraft. This airstrip allows the Army and Air Force to meet their training requirements to practice combat assault operations, loading and deploying troops, and tactical landings on an unimproved airstrip, providing realism to military preparedness training. The Camp Bullis CALS is the only certified combat assault landing strip in the state of Texas. In 2008, there were a total of 20 flight operations using he Camp Bulis CALS. This number is limited due to the extensive coordination needed for crash fire rescue support. Because Fort Sam Houston/Camp Bullis does not currently maintain the crash fire rescue equipment required to support C-130 landings at the Camp Bullis CALS, the only crash fire rescue equipment/crew that will provide support is the Air Force crew at Randolph Air Force Base (AFB). The number of CALS operations could reportedly double if the Fort Sam Houston Fire Department obtains the needed equipment.

As shown in Figure 1-2, the CALS is oriented northwest to southeast. Flight patterns are designed to work in coordination with the San Antonio International Airport traffic pattern.

The 400-acre Airborne Operations Drop Zone (DZ Hall) is located in the north-central portion of the camp, and is 2,700 yards long. Although there have been nighttime drops into this area, the majority of the drops are during the daytime. DZ Hall is approved for both personnel and equipment drops. DZ Buck is in maneuver area 2C, and DZ Turkey is located in maneuver area 1B. These are approved for equipment drops only. DZ Cougar is in maneuver area 1A and

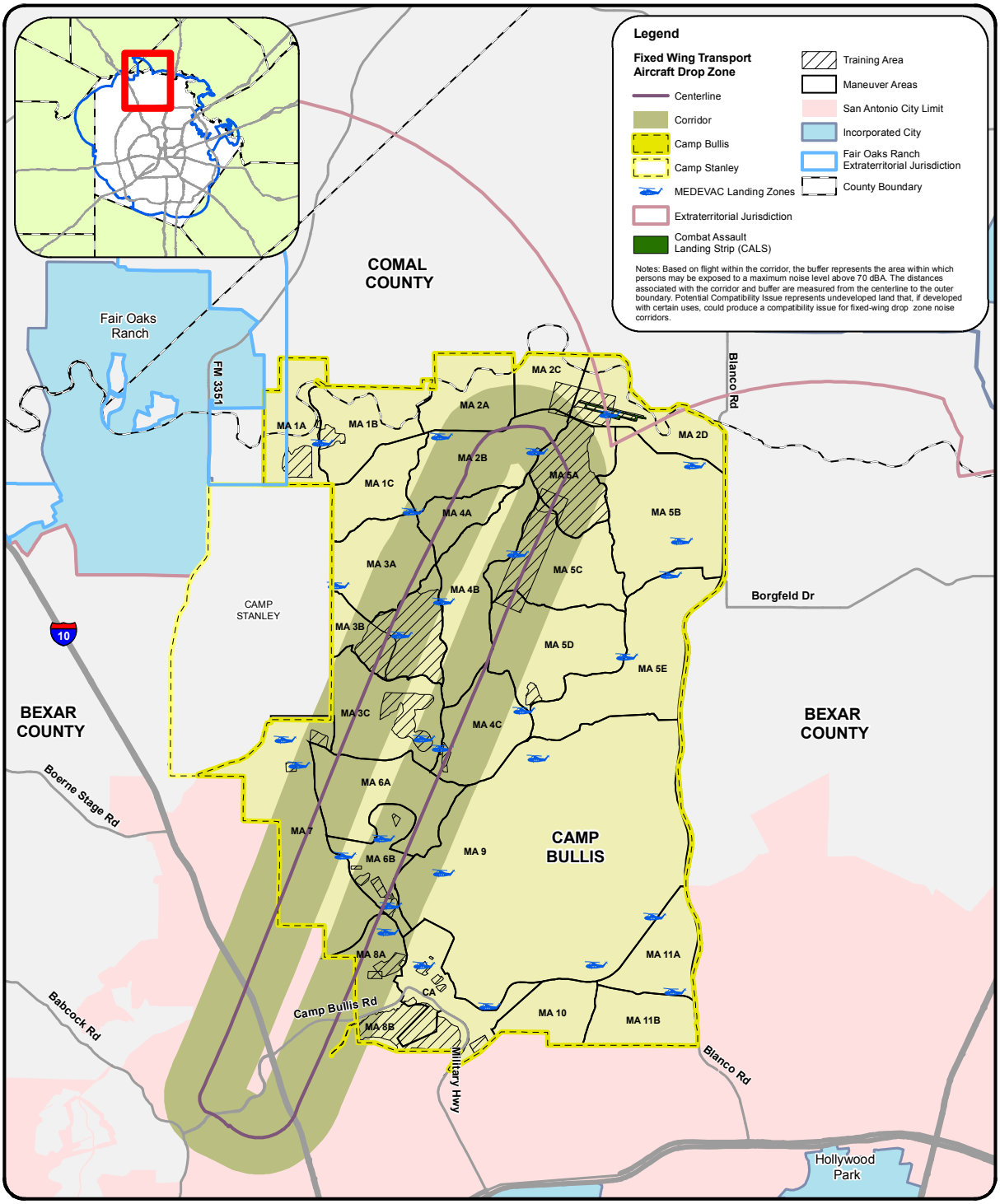


Figure 1-2
Camp Bullis Fixed Wing Flight Corridor

is approved for equipment drops only. This DZ is limited to rotary-wing aircraft performing parachute drops.

Source: Integrated Natural Resources Management Plan for Fort Sam Houston & Camp Bullis Military Reservation San Antonio, Texas, October 1, 2007; Camp Bullis Joint Land Use Study, June 2009

Rotary-Wing

The primary rotary-wing aircraft used at Camp Bullis for flight training and air-drop operations is the UH-60 Blackhawk helicopter. Other helicopters occasionally used include the UH-1 Iroquois, OH-58 Kiowa, AH-1 Cobra, and the AH-64 Apache. Helicopter flights operating at Camp Bullis originate primarily from Martindale Army Airfield (AAF) located southeast of Fort Sam Houston. Martindale AAF Flight Operations indicate that there are approximately 5 to 10 helicopter training flights at Camp Bullis each week. There are five designated ingress and egress points for helicopters – the northwest corner near the City of Fair Oaks Ranch (County Line Road – West), the northeast corner along Blanco Road (County Line Road – East), the south-central boundary southeast of the cantonment area (Military Highway), the southwestern corner just west of the cantonment area (Bullis Road), and the southeastern corner vicinity of the installation boundary and Blanco Road. Within the Camp Bullis boundaries, there are 29 medical evacuation LZs, which are located at key locations across the training area (see Figure 1-3). Helicopter missions occur in both daytime and nighttime and include aerial reconnaissance, medical evacuation (medevac) by helicopter air ambulance, point-to-point flights, combat air drops of paratroopers, and nap of the earth (NOE) flights where helicopters practice flying at high-speed and at tree-top level, using valleys and hills to hide from visual observation, radar, and hostile fire. The NOE flight corridor extends from the cantonment area north along the installation's west boundary, along the north boundary, and south along the east boundary to the northern extent of the impact area/no fly zone. According to Martindale AAF Flight Operations, the Cibolo Creek Bed on Camp Bullis' north boundary is the primary section of this corridor.

Source: Integrated Natural Resources Management Plan for Fort Sam Houston & Camp Bullis Military Reservation San Antonio, Texas, October 1, 2007; Camp Bullis Joint Land Use Study, June 2009; CPT Jeremy Eubanks, Martindale AAF, April 20, 2010

Section C - Land Uses

In the Vicinity of Camp Bullis

The general land use surrounding Camp Bullis used to be primarily rural, but it has become predominantly urbanized through residential development and the expansion of San Antonio's suburbs. Limited industrial use is present along the southern edge, but the overwhelming use is residential. Higher density residential use comprises the west and east sides of the installation. The northern boundary is the only portion that remains relatively undeveloped, with a combination of open agricultural range land and only one or two small planned subdivisions.

Camp Bullis was originally established in response to a need for training land away from a

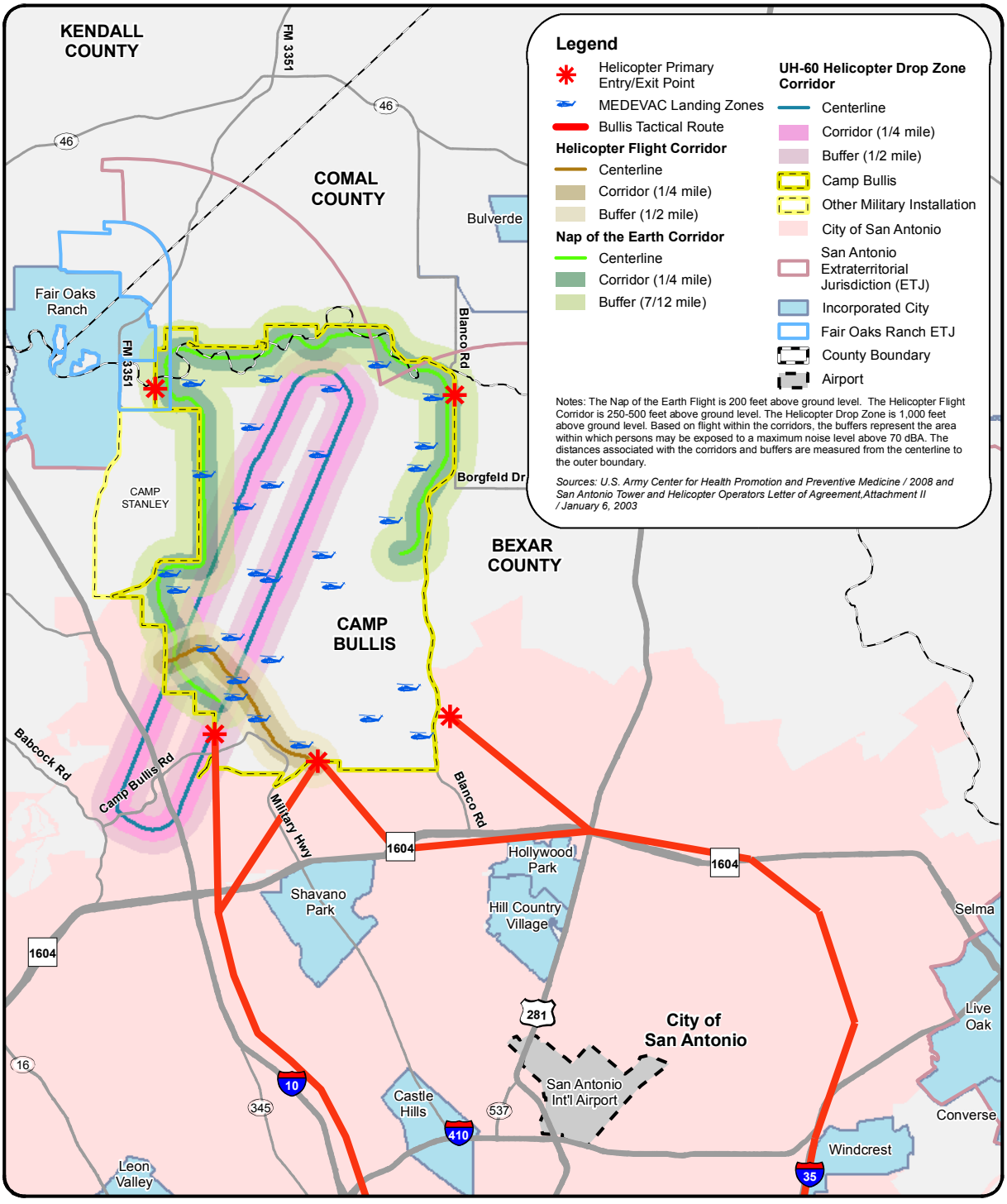


Figure 1-3
Helicopter Flight Details

growing San Antonio. Currently, it is located in one of the highest residential growth corridors in the San Antonio metropolitan statistical area. Much of the area surrounding Camp Bullis has seen housing growth between 1980 and 1990 of up to 100 percent. This area has substantial capacity for more development, and this trend is anticipated to continue. The smaller communities located in the vicinity of Camp Bullis are rural in nature but are also becoming more urbanized. Although residential development is the primary development in the area, commercial development is likely to follow.

Two of the larger subdivision developments in the area, Roger's Ranch and Greystone, are located to the south of Camp Bullis. The Dominion subdivision abuts the Camp Bullis southwestern boundary. On the southwest corner of the installation is Forest Crest, and Stone Oak is the large housing development on the east side of Camp Bullis.

Directly along the southwest boundary of Camp Bullis is Eisenhower Park, a 320-acre City Natural Resource Park owned and managed by the City of San Antonio providing hiking, primitive camping, picnicking and nature study. To the south and east of Camp Bullis are several large quarries, a cemetery, and small areas of commercial development along the major roadways.

Relationship to BASH

A number of variables factor into determining whether a specific land use will result in BASH issues. Therefore, the location in relation to air operations and the unique development aspects of each land use must be assessed on a case-by-case basis. It is important to note that a BASH issue may be a natural or a man-made bird attractant and may be directly related to a component of the primary land/property use (i.e., stormwater retention ponds in a residential development) or to amenities associated with a land use (i.e., water hazards on a golf course). There are some land uses that have a higher probability than others to attract birds. These uses include, but are not limited to agriculture, conservation, open space, public/semi public, rural residential, and vacant/undeveloped.

Development near the CALS, the CALS flight patterns, established LZs near the Camp Bullis boundary and along the NOE rotary-wing flight corridor can impact aircraft operations. Wildlife habitat and bird attractants may be associated with construction projects or jobsites. Construction areas tend to provide gravel and sand for birds to ingest to aid in digestion of food. Construction equipment staging areas oftentimes will not be mowed or trimmed, resulting in growth of high grasses and broadleaf plants providing excellent cover for birds. Although construction sites are usually temporary, they can be very attractive to wildlife, especially during times when construction activities are not occurring, and can consequently impact aviation activities.

Bird and wildlife attractants may also be present on developed properties where grass is not trimmed along fences and in drainage ways. This enables habitat which provides cover for various species of wildlife. Uncovered dumpsters provide opportunities for scavenging and can attract birds and mammals.

Active and inert landfills can pose compatibility issues to aircraft operations since these operations have the potential to attract wildlife, specifically birds.

Additional attractants include golf courses, wetlands, and agricultural land uses. Golf courses, junk yards, and other uses with large open areas near Camp Bullis also have a potential to accumulate standing water during and after periods of rain. The standing water, temporary or permanent, can be significant bird attractants.

Section D - Wildlife and Birds On/Around Camp Bullis

Mammals

Approximately 57 species of mammals are known, or thought, to occur on the installation. Some of the intermediate to larger mammals include coyotes (Canis latrans), gray foxes (Urocyon cinereoargenteus), and white-tailed deer (Odocoileus virginianus).

A number of small mammals (i.e., rabbits) and rodents (several varieties of mice and rats) exist in undeveloped and built-up areas around Camp Bullis. These animals are the food supply for larger carnivores, including the ringtail cat (Bassariscus astutus), striped skunk (Mephitis mephitis), eastern and western spotted skunks (Spilogale putorius and S. gracilis, respectively), gray fox, bobcat (Lynx rufus), and coyote.

The abundance of prey on the Edwards Plateau occasionally attracts some larger predators such as the mountain lion (Felis concolor) and ocelot (Felis pardalis).

The white-tailed deer (Odocoileus virginianus), axis deer (Axis axis), Feral Hog (Sus scrofa), and Catalina Goat (Capra sp.) are four ungulates that reside on Camp Bullis. The axis deer is an exotic species from India and Ceylon that escaped from private ranches and now lives in the wild, both the feral hog and the Catalina goat are ranch escapees as well.

Camp Bullis supports a variety of wildlife that are considered game animals. These animals currently are or recently have been hunted or trapped. Some of the game animals identified on Camp Bullis include white-tail deer, axis deer, feral hog, Catalina goat, cottontail rabbit, black-tailed jackrabbit, fox squirrel, ring-tailed cat, and raccoon.

Source: Integrated Natural Resources Management Plan for Fort Sam Houston & Camp Bullis Military Reservation San Antonio, Texas, October 1, 2007

Birds

As of 2000, the San Antonio Audubon Society (SAAS) lists 426 species of birds that are known to occur in Bexar County, which is almost half of all species that occur in North America. The reason for this species diversity is Bexar County's location at the juncture of three differing ecological regions: the Edwards Plateau; the Blackland Prairie – a tall grass prairie in its natural state; and the South Texas Plains – originally a grassland savanna but now a brushland considered a part of the Tamaulipan Biotic Province. Historically, 143 species have been known to nest in Bexar County; however, now only 114 species are known to nest. While Camp Bullis has not accomplished a complete bird survey, incidental sightings indicate at least an estimated 203 species as occurring on the camp. Some of the common birds include the scissor-tailed flycatcher (Muscivora forficata), mockingbird (Mimus polyglottos), American robin (Turdus migratorius), cardinal (Richmondena cardinalis), eastern bluebird (Sialia sialis),

tufted titmouse (Parus bicolor), sparrows, finches, warblers, and vireos. Most Fringillids (i.e., sparrows and finches) are not hazardous to aircraft operations, but occasional large flocks can be encountered, particularly during migration. These birds are seedeaters as a rule, and most prefer weedy, brushy, or forested areas.

A total of 157 species of birds were observed on Camp Bullis during surveys for the Golden-cheeked Warbler and Black-capped Vireo. Of the 157 species, 45 species are known to nest at Camp Bullis, 21 species may nest, and the remaining 91 are mostly migratory. The most abundant group is the warbler, with 18 species including two nesting and 16 migrant species. Of special significance are bird species that breed in temperate North America and winter in the tropics (referred to as neotropical migrants). Much of the recent research has documented a decline of many species of neotropical migrants, partly due to destruction and fragmentation of summer breeding habitat. On Camp Bullis, 80 species (51 percent) surveyed were neotropcial migrant land birds. Twenty-eight (35 percent) of these migrants nest or potentially nest at Camp Bullis, and the remainder are seen only during migration. These 28 species comprise 42 percent of the 66 species that nest or potentially nest on Camp Bullis.

Raptors known to nest on Camp Bullis are the red-tailed hawk (Buteo jamaicensis), eastern screech owl (Otus asio), and great horned owl (Bubo virginianus), while the red-shouldered hawk (Buteo lineatus), Cooper's hawk (Accipiter gentilis), and barred owl (Strix varia) may nest. Other raptors observed foraging over the installation include the barn owl (Tyto alba), Harris hawk (Parabuteo unicinctus), turkey vulture (Cathartes aura), black vulture (Coragyps atratus), and the American kestrel (Falco sparverius). These birds can be particularly hazardous to aircraft because of their size and widespread distribution. Raptors are known to use thermals to their advantage in search of prey. These birds become active during mid-morning and remain aloft until late afternoon.

Although Camp Bullis lacks true aquatic habitat, some shorebirds frequenting the installation include the green-backed heron (Butorides striatus) and the killdeer (Charadrius vociferus). Other aquatic species observed on Camp Bullis include migrant species such as the eared grebe (Colymbus nigricollis californicus), pied-billed grebe (Podilymbus podiceps) and double-crested cormorant (Phalacrocorax auritus), and species that nest or may nest such as the great-blue heron (Ardea herodias).

The diversity of waterfowl using the installation is fairly substantial, despite their relatively low abundance. A few of the common waterfowl species identified on Camp Bullis are wood duck (Aix sponsa), green-winged teal (Anas carolinensis), pintail (Anas acuta tzitzihoa), American widgeon (Mareca americana), canvasback (Aythy valisineria), and ruddy duck (Erismatur jamaicensis rudida) (Bruns 1999). Common waterfowl that use the wastewater treatment areas include American coots (Fulica americana) and mallards (Anas platyrhynchos).

Several upland gamebirds are found on Camp Bullis including the Rio Grande turkey (a subspecies of the wild turkey; Meleagris gallopavo), mourning doves (Zenaida macroura), and bobwhite (Colinus virginianus). Doves may be a threat to aircraft operations as these birds are seedeaters and are attracted to seed-producing weeds, grasses, and shrubs. The Rio Grande turkey is the major upland game species inhabiting Camp Bullis. All of these species are attracted to agricultural land use and areas with permanent surface water; since this

combination of habitat is uncommon on Camp Bullis, populations fluctuate annually depending on the availability of food.

Source: Integrated Natural Resources Management Plan for Fort Sam Houston & Camp Bullis Military Reservation San Antonio, Texas, October 1, 2007; Air Force Pamphlet 91-212 "Bird/Wildlife Aircraft Strike Hazard (BASH) Management Techniques", February 1, 2004

Section E - Airfield Hazard Control Methods

Active and passive techniques can successfully reduce threats from hazardous wildlife populations. These techniques vary in cost and effectiveness. Active control involves causing wildlife to disperse from an airfield or LZ to give short-term relief from an immediate safety hazard. Passive techniques are more long-term in nature. They involve managing the airdrome to eliminate or reduce those conditions birds and other wildlife find attractive.

Active Controls

Birds and other hazardous wildlife in the air around or on runways, taxiways, or infields create a potential safety hazard and should be dispersed before flying operations can safely continue. Birds move quickly and unpredictably. Even when left in a "safe" portion of the airfield, they can move and create an immediate hazard. They may also act as decoys attracting additional birds. No single method of dispersal works for all problems. Using a combination of different dispersal tools, also known as integrated pest management, provides the best line of defense for immediate hazards.

The key to active wildlife dispersal is perseverance. When birds or other wildlife are strongly attracted to an airfield or LZ, several teams may be required to provide continual harassment. Usually, a single trip around the airfield/LZ will not remove all the birds. Some examples of active controls include:

- ***Pyrotechnics.*** *Pyrotechnics are noise-producing devices, which are effective in bird dispersal. These include 12-guage (ga) shotgun systems, pistol systems, 15mm bangers or screamers or other off-the-shelf noise generating systems.*
- ***Bioacoustics.*** *This dispersal technique uses broadcasts of recorded bird distress calls. Depending on the species, the calls may create differing responses; some will come to the calls while others may depart the area. For this reason, the sound source must be properly placed so the birds fly away from the runway. These include the use of vehicle-mounted sound systems producing 30 to 50 watts of distortion-free sound in 90 to 100 decibel (db) with a frequency response between 12,000 and 14,000 Hertz (Hz).*

  NOTE: If the use of pyrotechnics or bioacoustics will have an impact upon a federally listed threatened or endangered species, the U.S. Fish and Wildlife Service (USFWS) must be consulted prior to use.
- ***Depredation.*** *In cases where some species grow accustomed to bioacoustic and pyrotechnic techniques, a few birds may have to be taken via lethal means to reinforce the idea that a significant danger exists. A federal depredation permit, available from the USFWS is required before killing any protected birds.*

NOTE: Some states may require additional permits for the take of State protected species. These may be coordinated with the USFWS, as well.

Pyrotechnics, bioacoustics, depredation, and other methods have been effective in dispersing wildlife from airfields. When used together, or in an alternating manner, these techniques remain more effective over a longer period.

- ***Propane Gas Cannons**. These devices should be operated, especially at dawn and dusk, as birds come in to feed or roost.*
- ***Falconry**. A falconry program is not limited to the use of falcons only but can incorporate several species of birds of prey. Falcons trained for airfield bird dispersal may be effective when used in combination with other frightening techniques.*
- ***Dogs**. The use of Border Collies or other breeds of dogs to disperse geese has been effective under certain circumstances.*
- ***Radio Controlled Crafts**. Use of radio controlled aircraft, dune buggies, or boats to disperse birds have shown significant results.*
- ***All-Terrain Vehicle (ATV).** Use of all terrain vehicles in the airfield environment has proven useful in dispersing birds and other wildlife from the aircraft operating area.*

  NOTE: A depredation permit is not required for non-lethal harassment of migratory birds on the airfield in accordance with 50 Code of Federal Regulations (CFR) 21.41 Migratory Bird Depredation Permits.

Some examples of ineffective active controls include:

- *Stuffed owls and rubber snakes have been advertised to rid hangars and buildings of birds.*
- *Rotating lights have brought conflicting results; but are generally considered ineffective. Birds quickly habituate to these devices, and the problem remains unsolved.*
- *Eyespots on aircraft components are being studied in the United States and other countries. Early results suggest the addition of eyespots does not significantly reduce the BASH potential.*
- *Ultra-sonic devices have thus far proven unsuccessful in deterring wildlife from colliding with aircraft as very few bird species can hear ultra-sonic sound.*

Source: Air Force Pamphlet 91-212 "Bird/Wildlife Aircraft Strike Hazard (BASH) Management Techniques", February 1, 2004

Passive Controls

The most permanent methods of discouraging birds from using airfields involve removing attractive habitat features. Some examples of passive controls include:

Managing Grass

- ***Grass Height.*** *Maintain grass height at 7-14 inches while ensuring faster growing weeds are cut before they go to seed. This will discourage seed eating birds from using the airfield since most grass seeds found on the airfield/LZ are a less desirable food than available weed seeds. Grass kept at this height discourages flocking species from foraging on the airfield/LZ because reduced visibility disrupts inter-flock communication and flock integrity by reducing the ability to detect predators. Mowing of grass should be done far enough in advance of scheduled air operations such that birds attracted by dislodged insects will not present hazards to the air operations.*
- ***Herbicides and Growth Retardants.*** *Keep broad-leafed weeds to a minimum on the airfield. Broad-leafed weeds attract a variety of birds, may produce seeds or berries, and may limit grass growth.*
- ***Planting Bare Areas.*** *Reduce bare areas as birds frequently use them to pick up grit and as resting sites on the airfield. Birds need grit, or very small rocks, to crush seeds, allowing digestion of the seeds.*
- ***Fertilizing****. Fertilize as needed to stimulate grasses and promote a uniform cover.*
- ***Native Vegetation****. In areas where turf growth is not supported, it may be advisable to allow native vegetation to remain in a natural state (above or below the prescribed height of 7-14 inches) as disturbance may provide exotic conditions attractive to some forms of wildlife. The natural state must not supply attractive habitat for wildlife or obstruct views of the airfield/LZ from the tower. Another consideration for airfields/LZs in low-moisture environments is to consider de-vegetation as an option.*
- ***Removal of Edge Effects****. The greatest numbers of species are found where vegetation types change from forests to brush, or brush to grass (edge effects). Also, single trees, fence posts, snags or open spaces may provide perches or nesting areas for hawks, owls, or other bird species. Remove food, nesting or den building vegetation most attractive to particular species of birds and beasts.*
- ***Controlling Drainage.*** *Fresh water is one of the most important wildlife attractants, especially in arid regions. Standing water creates a source of drinking water and a breeding place for insects, amphibians and other food sources for birds. Make drainage ditches as deep as possible to limit the surface area of the water and still allow proper drainage according to civil engineering requirements. Wading birds are less likely to use deep drainage ditches. Grade the banks of the drainage ditches to allow mowing up to the edge of the ditch. Keep drainpipes, culverts, and screens clear of debris so drainage is not impeded. Maintain roadways and paths to eliminate standing water in pot-holes, ruts and swales.*

Locating Wastewater Treatment Facilities

- *Waterfowl are often attracted to wastewater holding ponds. Birds use the water for resting and sometimes as a food source. Wastewater lagoons are most attractive in arid climates. Ponds designed with steep sides, little surface area, and no vegetation reduces the attraction to birds.*
- *Locate ponds as far from the runway/LZ and associated traffic patterns as possible and place them so birds moving from off-base areas to the ponds do not cross the runways.*

Managing Sanitary Landfills

Municipal solid waste landfills are the most significant attractant to hazardous bird species. Operate disposal sites according to FAA guidelines and state and federal laws. If an existing landfill impacts aircraft operations, make the site as unattractive to birds as possible. Methods of achieving this include, but are not limited to:

- *Maintain a small working face to minimize exposed wastes*
- *Incinerate waste*
- *Operate the landfill as a pit or trench to limit access to birds*
- *Dump waste at night or during non-flying periods*
- *Cover waste material immediately*
- *Discourage gulls and other birds with overhead wire barriers*
- *Relocate putrescible wastes to a more remote landfill*
- *Use bioacoustics and pyrotechnics to frighten birds away*

Managing Agricultural Activities.

Harvesting and planting schedules can also affect the numbers of attracted birds. When a hay crop is harvested, large numbers of invertebrates may be exposed on the ground, which could provide an intense bird attractant. Therefore, harvesting of crops in close proximity to airfields, LZs, or low-level flight operations should be planned so that those crops are not harvested too close to the time when air operations are scheduled to occur.

Agricultural activities should also consider the local flying schedule. Planting, cultivating, harvesting, or burning may temporarily increase bird attractants; therefore, these activities should be done on weekends or other periods of reduced flying.

Source: Air Force Pamphlet 91-212 "Bird/Wildlife Aircraft Strike Hazard (BASH) Management Techniques", February 1, 2004

Section F - BASH Plan Actions

The following are guidelines for the mitigation of the potential BASH threat at Camp Bullis.

City of San Antonio and Surrounding Counties

- *Establish a monitoring plan for areas off of Camp Bullis but where bird and wildlife may impact aircraft operations. These areas include non-military lands in close proximity to the CALS and lands where NOE flights occur – adjacent to the Camp Bullis southwest, north, and northeast boundaries. Also at the far southeast corner of the installation, the Compass LZ Instrument Flight Rules imaginary surfaces extend outside of the installation. The first phase of the monitoring plan should include a study of these lands to determine the current state of potential BASH hazards.*
- *Develop informational materials to educate local landowners and developers of the relationship between land uses and BASH threats. These materials should highlight the importance of maintaining a safe environment for fixed- and rotary-wing aircraft to operate in, as well as the serious consequences of bird / wildlife strikes with aircraft. A key element of these materials would be explaining the mission of Camp Bullis as a training area for all branches of the U.S. Armed Forces and other organizations, as well as the importance of the camp in supporting the Fort Sam Houston mission.*

Review all development applications:

- *for site design to limit their potential to increase the BASH threat at Camp Bullis.*
- *for building design to ensure new or remodeled buildings do not provide attractants to birds.*
- *for infrastructure design to ensure open water, ponds, drainage ditches, stormwater ponds, and poorly drained areas are designed in such a way so as to not attract birds.*
- *to ensure no waste storage or landfills are located in close proximity to the CALS, rotary-wing LZs, or in a location that could impact established aircraft flight patterns.*
- *to ensure no open sewage treatment facilities are planned.*
- *to ensure bodies of standing water are limited.*

Agriculture:

- *Limit planting of hay, alfalfa, soy, fall rye, wheat, barley, and other cereals on lands identified as potentially impacting aircraft operations at Camp Bullis.*
- *Where possible, require night-time plowing or other harvesting controls.*
- *Do not allow standing bales.*

Construction:

- *Require construction equipment staging sites and construction sites take appropriate actions to ensure they do not provide a habitat for birds (i.e., standing water ruts and potholes are eliminated, trash is policed, dumpsters covered, gravel/sand piles are covered, grass is mowed, etc.).*

- *All new construction projects should include the stipulation that all silt fences be maintained by regular mowing with weedeaters. Vegetation should not be treated with a herbicide since it serves as a filter for removal of sediments from stormwater and also minimizes soil erosion.*

Camp Bullis/Fort Sam Houston

- *Establish a bird and wildlife monitoring plan for Camp Bullis focused on camp aircraft operations areas.*
- *Develop a training program for Camp Bullis staff and users of the CALS and rotary-wing LZs to recognize and report threats to aircraft operations.*
- *Establish a BASH reaction team equipped with appropriate active control equipment to mitigate noted on-site BASH situations/threats. Include members of the military services that use the CALS and rotary-wing LZs.*
- *Establish a Camp Bullis BASH team responsible for managing the environment, habitats, and vegetation around the CALS, rotary-wing LZs, and established flight corridors (passive actions).*
- *Assign a staff person the task of developing and maintaining a daily monitoring log to gain an understanding of the wildlife on Camp Bullis as it pertains to aircraft operations areas.*
- *Review the impact of mammals on aircraft operations at the CALS and rotary-wing LZs. Should a significant threat be posed by any species, it may become necessary to manage those mammal populations. Coordinate with the City of San Antonio, USFWS, and Texas Parks and Wildlife Department for action.*
- *Partner with the USFWS, Texas Parks and Wildlife Department, Bexar County Environmental Services Division, and Comal County Engineer's Office to ensure BASH actions meet all current legal requirements.*

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Camp Bullis Joint Airport Zoning Board (JAZB) Draft Ordinance

AN ORDINANCE OF THE CAMP BULLIS JOINT AIRPORT ZONING BOARD (JAZB) IN ACCORDANCE WITH STATE LAW REGULATING AND RESTRICTING THE HEIGHT OF STRUCTURES AND OBJECTS OF NATURAL GROWTH, AND OTHERWISE REGULATING THE USE OF PROPERTY IN THE VICINITY OF CAMP BULLIS, TEXAS BY CREATING THE APPROPRIATE ZONES AND ESTABLISHING THE BOUNDARIES THEREOF; PROVIDING FOR RESTRICTIONS OF SUCH ZONES AND THE ENFORCEMENT OF SUCH RESTRICTIONS; DEFINING CERTAIN TERMS USED HEREIN; REFERRING TO THE CAMP BULLIS COMPATIBLE LAND USE ZONING MAP AND TABLE 1, PROHIBITED OR REGULATED LAND USES, BOTH OF WHICH ARE INCORPORATED HEREIN AND MADE A PART OF THESE REGULATIONS BY REFERENCE; PROVIDING FOR A BOARD OF ADJUSTMENT, ENFORCEMENT AND IMPOSING PENALTIES.

WHEREAS, these regulations are adopted pursuant to the authority conferred by the Airport Zoning Act, Texas Local Government Code, §§ 241.001, et seq;

WHEREAS, the Bexar County Commissioners Court has established the Camp Bullis Joint Airport Zoning Board (JAZB) and conferred upon it the powers authorized by the Airport Zoning Act, Texas Local Government Code Annotated §§ 241.001, et seq; and

WHEREAS, the Camp Bullis JAZB has determined that an obstruction has the potential for endangering the lives and property of users of Camp Bullis, and property or occupants of land in its vicinity; that an obstruction may affect existing and future instrument approach minimums of Camp Bullis, and that an obstruction may reduce the size of areas available for the landing, take-off and maneuvering of fixed and rotary-wing aircraft, and that excessive noise levels generated by airport operations disrupt activities and impair the welfare, use and enjoyment of land by the occupants, thus tending to destroy or impair the utility of Camp Bullis, and the public investment therein; and

WHEREAS, the Camp Bullis JAZB has declared that:

1. Camp Bullis fulfills an essential flight training role for the Department of Defense;
2. the creation or establishment of an obstruction or the encroachment of noise sensitive or otherwise incompatible land uses within certain areas set forth herein has the potential of being a nuisance and may injure the owners, occupiers or user of land in the region surrounding Camp Bullis;
3. it is necessary in the interest of public health, public safety, and general welfare that the creation or establishment of obstructions or potential incompatible land uses that are a hazard to air navigation or the public health and safety be prevented; and
4. the prevention of these obstructions should be accomplished, to the extent legally possible, by the exercise of the police power without compensation.

WHEREAS, it is further declared by the Camp Bullis JAZB that the prevention of the creation or establishment of hazards to air navigation, the elimination, removal, alteration or mitigation of

hazards to air navigation, the marking and lighting of obstructions or the prevention of other potential incompatible land uses are public purposes for which a political subdivision may raise and expend public funds and acquire land or interest in land.

THEREFORE, BE IT ORDAINED BY THE JOINT AIRPORT ZONING BOARD OF THE COMMISSIONERS COURT OF THE COUNTY OF BEXAR, TEXAS:

Section 1. Short Title

These regulations shall be known and may be cited as the "Camp Bullis Compatible Land Use Zoning Regulations."

Section 2. Definitions

As used in these regulations, unless the context otherwise requires:

A. **Accident Potential Zone (APZ)** – An area of land adjacent to each end of an airport runway where, within the airfield environs, an accident is most likely to take place and how large an impact area is likely to result from any single accident. The dimensions have been determined by the analysis of the DOD accident history.

1. **Clear Zone** – A high crash potential area that is a trapezoidal area that extends directly beyond the end of the runway and outward along the extended runway center line for a distance of 500 feet. The Clear Zone is 250 feet in width at the terminus of the runway and 500 feet at its outer edge.

2. **APZ-Landing Zone** – The land use control area immediately beyond the clear zone of an airfield or landing zone (LZ) that possesses a significant potential for accidents; therefore, land use is a concern. For Air Force and Army operations, this land area measures 500 feet wide and 2,500 long situated along the runway's centerline.

B. **Administrative Agency** – The appropriate person or office of a political subdivision which is responsible for the administration and enforcement of the regulations prescribed herein. The administrative agency is set forth in Section 3 of these regulations.

C. **Airport** – Refers to the Combat Assault Landing Strip (CALS) at Camp Bullis, Texas, including the ultimate development of that facility.

D. **Airport Elevation** – The established elevation of the highest point on the usable land area measured in feet above mean sea level (MSL).

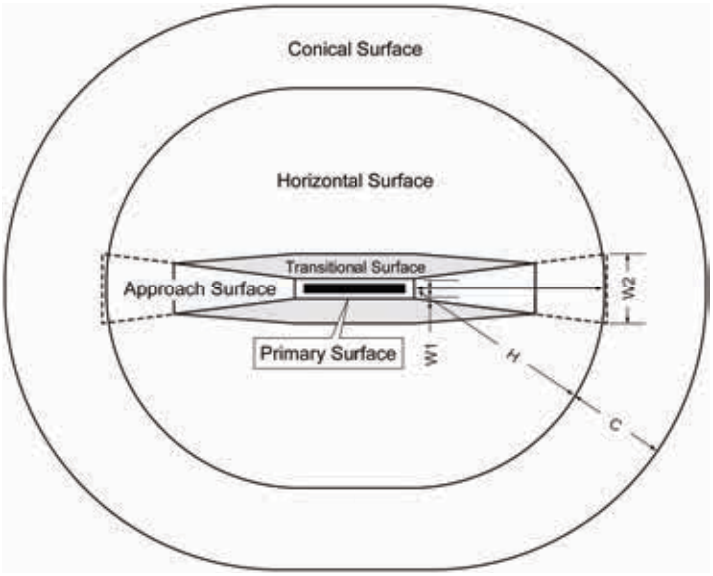
E. **Airport Hazard** – Means any structure or tree or use of land which obstructs air space required for the flight of fixed and / or rotary-wing aircraft or which obstructs or interferes with the control or tracking and / or data acquisition in the landing, taking off or flight of an aircraft, or at any installation or facility relating to flight, and tracking and / or data acquisition of the flight craft; is hazardous, interferes with or obstructs such landing, taking off or flight of an aircraft or which is hazardous to or interferes with tracking and/or data acquisition pertaining to flight and flight vehicles.

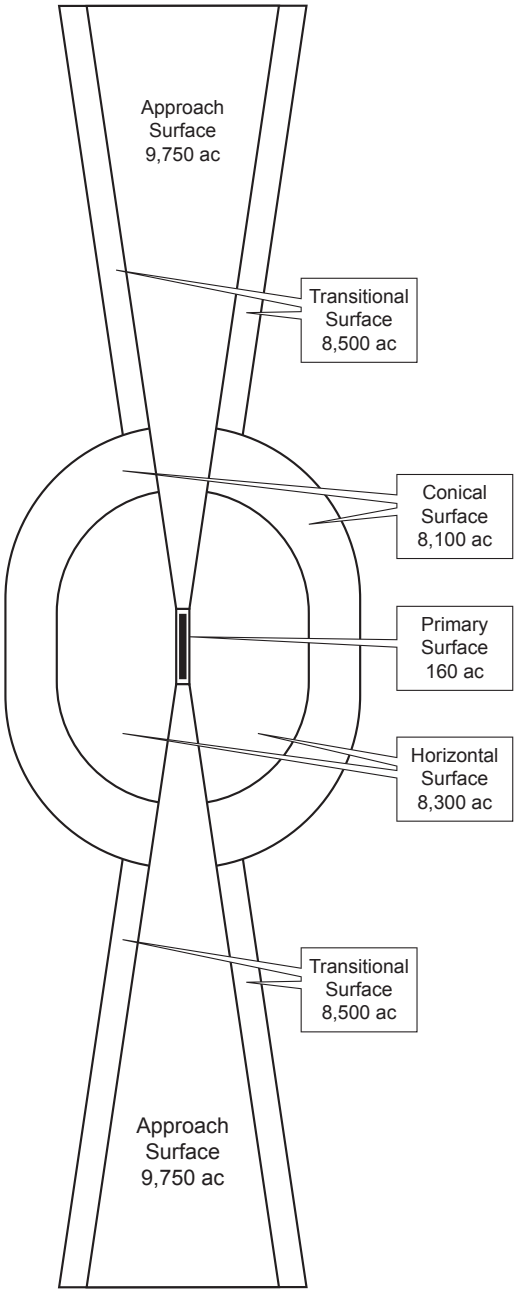
F. **Airport Hazard Area** – Means any area of land or water upon which an airport hazard might be established if not prevented as provided in these regulations.

G. Airport Noise Zones – Means any area of land or water between designated noise contours on a noise exposure map where an incompatible use might be established if not prevented as provided in these regulations.

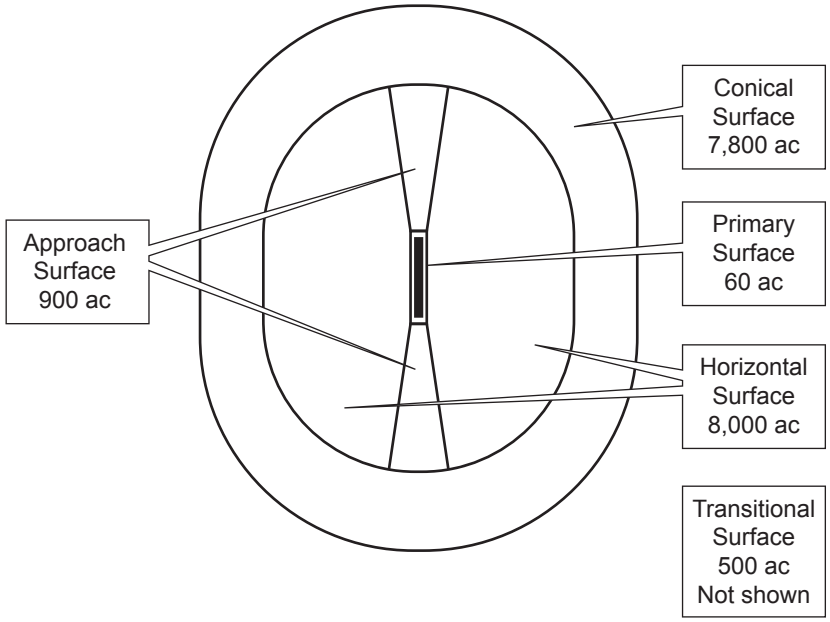
H. Airport Reference Point – Means the point established as the approximate geographic center of the airport landing area and so designated.

I. Approach Surface – A surface longitudinally centered on the extending outward and upward from the end of the primary surface and at the same slope as the approach zone height limitation slope set forth in Section 4 of these regulations. In plan the perimeter of the approach surface coincides with the perimeter of the approach zone.





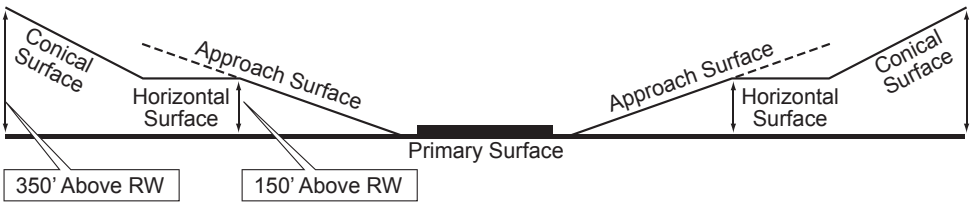
J. **Approach, Transitional, Horizontal, and Conical Zones** – These zones are set forth in Section 3 of these regulations.



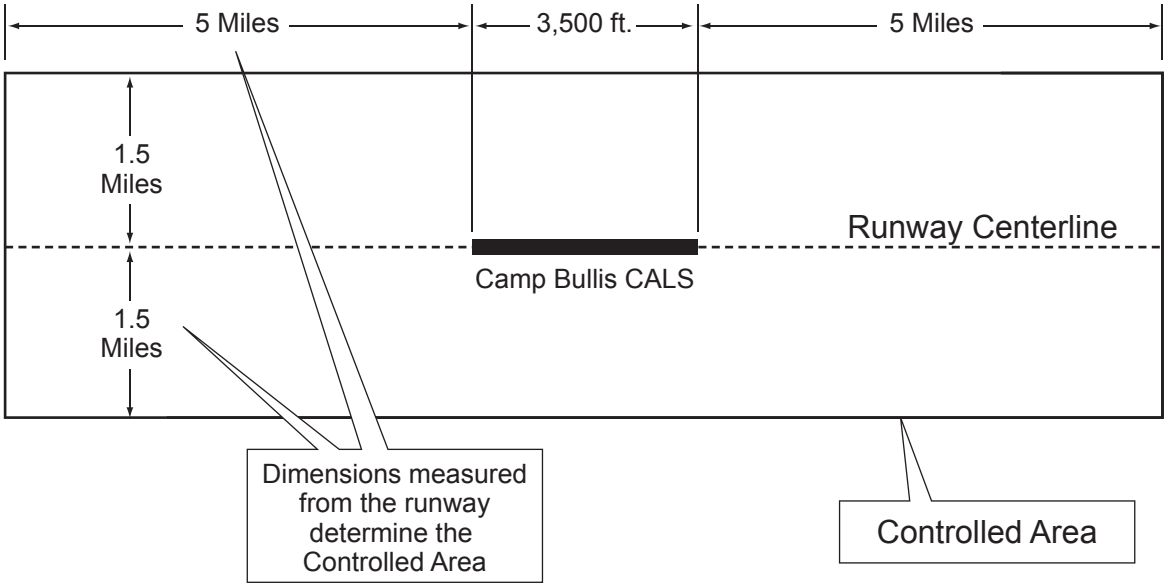
K. **Board of Adjustment** – A board so designated by these regulations as provided in Texas Local Government Code, §§241.032. Provisions for the board of adjustment are set forth in Section 8 of these regulations.

L. **Compatible Land Use** – Any use of land adjacent to or in the immediate vicinity of the airport that does not endanger the health, safety, or welfare of the owners, occupants, or users of the land because of levels of noise or vibrations or the risk of personal injury or property damage created by the operations of the airport, including the taking off, landing or flight of aircraft.

M. **Conical Surface** – A surface extending outward and upward from the periphery of the horizontal surface at a slope of twenty (20) to one (1) for a horizontal distance of seven-thousand (7,000) feet.



N. Controlled Compatible Land Use Area – Established by the Texas Local Government Code. Annotated, § 241.031. An area of land located outside airport boundaries and within a rectangle bounded by lines no farther than one and one-half (1 ½) statute miles from the centerline of an instrument or primary runway and lines located no farther than five (5) miles from each end of the paved surface of an instrument or primary runway.



O. Decibel (db) – The physical unit commonly used to describe noise levels; a unit for describing the amplitude of sound, as it is heard by the human ear.

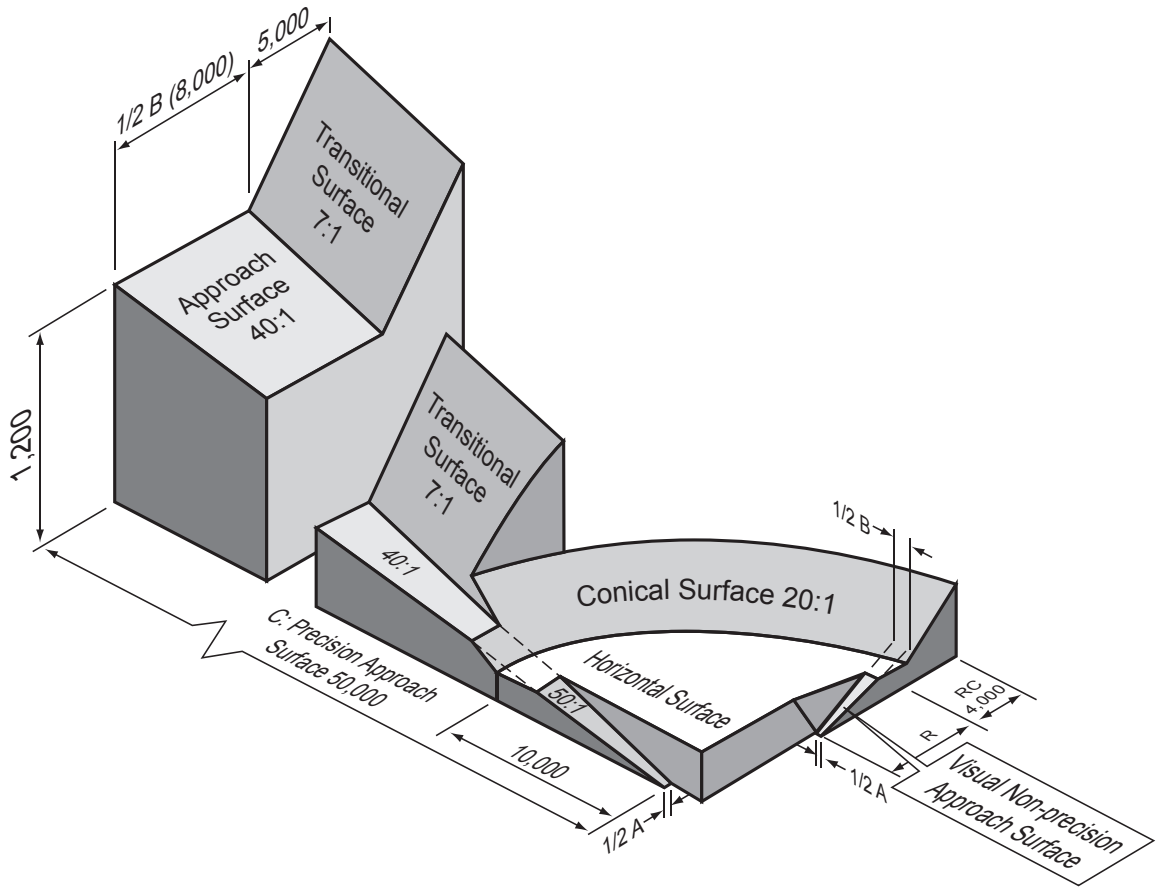
P. Hazard to Air Navigation – An obstruction determined to have a substantial adverse effect on the safe and efficient utilization of the navigable airspace.

Q. Height – For the purpose of determining the height limits in all zones set forth in these regulations and shown on the Camp Bullis Compatible Land Use Zoning Map, the datum shall be mean sea level elevation.

R. Horizontal Surface – A horizontal plane one-hundred-fifty (150) feet above the established airport elevation, the perimeter of which in plainview coincides with the perimeter of the horizontal zone.

S. Joint Airport Zoning Board (JAZB) – Means a board consisting of eleven (11) members, two (2) members each appointed by the City Council's of the cities of Fair Oaks Ranch, and Bulverde, Texas; and two (2) members each appointed by the Commissioners Courts of Bexar County, Comal County, and Kendall County, Texas. The ten (10) members so appointed shall elect an eleventh (11) member who shall serve as chairman of said Camp Bullis Joint Airport Zoning board. A Base representative for Camp Bullis shall be appointed as an Ad Hoc member.

T. Landing Area – Means the surface area of the airport used for the landing, take-off, or taxiing of aircraft.



U. Ldn (Yearly Day-Night Average Sound Level) – The 24-hour average sound level, in decibels, for the period from midnight to midnight, obtained after the addition of ten decibels to sound levels for the periods between 10:00 P.M. and 7:00 a.m. the following day, averaged over a span of one year. A mathematical definition of Ldn can be found in Federal Aviation Regulation Part 150; Subpart A150.201.

V. Noise Contour – A noise impact line constructed by connecting points of equal noise level measured in decibels Ldn, on a map.

W. Noise Exposure Map – A scaled, geographic depiction of an airport, its noise contours and surrounding area.

X. Noise Level Reduction (NLR) – The amount of reduction in noise for any given point as achieved through the incorporation of noise attenuation measures incorporated into the design and construction of buildings. These reductions may be incorporated during initial construction or as additional construction for existing buildings.

Y. Nonconforming Use – Any use of land which is inconsistent with the provisions of these regulations and which is existing as of the effective date of these regulations.

Z. Non-precision Instrument Runway – A runway having an existing instrument approach procedure utilizing air navigation facilities with only horizontal guidance, or approach procedure has been approved or planned.

AA. Obstruction – Any structure, growth, or other object, including a mobile object, which exceeds a height set forth in Section 5 of these regulations.

AB. Person – An individual, firm, partnership, cooperation, company, association, joint stock association, or body politic, and includes a trustee, receiver, assignee, administrator, executor, guardian, or other representative.

AC. Primary Surface – A surface longitudinally centered on a runway. When the runway has a specially prepared hard surface, the primary surface extends two-hundred (200) feet beyond each end of that runway; but when the runway has no specially hard surface, or planned hard surface, the primary surface ends at each end of that runway. The width of the primary surface of a runway will be that width prescribed in Part 77 of the Federal Aviation Regulations (FAR) for the most precise approach existing or planned for either end of that runway. The elevation of a point on the primary surface is the same as the elevation of the nearest point on the runway centerline. The width of the primary surface for other than a utility runway is one-thousand (1,000) feet for a non-precision instrument runway having non-precision instrument approach with visibility minimums as low as three-fourths of a statute mile, and for precision instrument runways.

AD. Runway – A defined area on an airport prepared for landing and take-off of aircraft along its length.

AE. Sound Level (also Noise Level) – In decibels, the quantity measured by an instrument satisfying requirements of American National Standard Specification for Sound Level Meters SI.4-1971, or the latest revision thereof. Unless explicitly described otherwise, the sound level shall be the frequency-weighted sound pressure level obtained with the frequency weighted A and the standardized dynamic characteristic SLOW. In this order, the sound level is to be understood to be the A-weighted sound level matter is relatively less sensitive to low frequency sound, somewhat in the way the ear is progressively less sensitive to sounds of frequency below 1000 Hertz (cycles per sound).

AF. Sound Transmission Class (STC) – A single-figure rating of the sound insulating properties of a partition as determined by methods described in "Determination of Sound Transmission Class", American Society of Testing and Materials designation E413-73.

AG. Standard Land Use Coding Manual (SLUCM) – A standard system for identifying and coding land use activities. "Standard Land Use Coding Manual", Urban Renewal Administration/ Housing and Home Finance Agency and Bureau of Public Roads, Department of Commerce, First Edition, 1965.

AH. Structure – An object, including a mobile object, constructed or installed by man, including, but not limited to, buildings, towers, antennae, communication towers, cranes, smokestacks, earth formations, wind power generation structures, and overhead transmission lines.

AI. Transitional Surfaces – These surfaces extend outward at ninety (90) degree angles to the runway centerline and the runway centerline extended at a slope of seven (7) feet horizontally for each foot vertically from the sides of the primary and approach surfaces to where they intersect the horizontal surface.

AJ. Tree – Any object of natural growth.

AK. Visual Runway – A runway intended solely for the operation of aircraft using visual approach procedures.

AL. Zoning Board of Adjustment – An established board consisting of eleven (11) members appointed by the City Council of the City of San Antonio, Texas as provided by Texas Local Government Code Annotated, § 241.032 .

Section 3. Administrative Agency

It shall be the duty of the Director of Development Services, City of San Antonio, to administer and enforce the regulations prescribed herein and is hereby designated as the administrative agency.

Section 4. Airport Noise Zones

A. Creation of Airport Zones

In order to carry out the provisions of these regulations, there are hereby created and established certain Airport Zones for the purposes of regulating and developing uses of land within each zone that do not endanger the health, safety, and general welfare of the owners, occupants, or users of the land because of noise or vibrations or the risk of personal injury or property damage created by the operations of the airport, including the taking off and landing of aircraft.

1. The controlled compatible land use area is hereby divided into five (5) zones, shown on the Camp Bullis Compatible Land Use Zoning Map. These zones are as defined in the current Camp Bullis Joint Land Use Study.
2. Airport Noise Zone One (NZ-1) is that area within the controlled area and outside the 65 dB Ldn noise contour.
3. Airport Noise Zone Two (NZ-2) is that area within the controlled area between the 65 dB Ldn and 70 dB Ldn noise contours.
4. Airport Noise Zone Three (NZ-3) is that area within the controlled area between the 70 dB Ldn and 75 dB Ldn noise contours.
5. Airport Noise Zone Four (NZ-4) is that area within the controlled area between the 75 dB Ldn and 80 dB Ldn noise contours.
6. Airport Noise Zone Five (NZ-5) is that area within the controlled area of the 80 dB Ldn and above noise contours.

Each Airport Noise Zone shall correspond as nearly as is practical to the different noise contours within the controlled area for Camp Bullis. These noise contours are plotted in increments of five (5) dB Ldn on the Airport Noise Exposure Map and said noise contours hereby establish the boundaries of the Airport Noise Zones. Figure 1 illustrates the contours and is made a part hereof.

B. Boundaries

Where uncertainty exists as to the boundaries of the Camp Bullis Compatible Land Use Zoning Map, the following rules shall apply:

1. Boundaries shall be scaled from the nearest physical feature shown on the map.

2. Distances not specifically indicated on the original the Camp Bullis Compatible Land Use Zoning Map shall be determined by a scaled measurement on the map.

3. Where physical features on the ground differ from the information shown on the the Camp Bullis Compatible Land Use Zoning Map or when there arises a question as to how or where a parcel of property is zoned and such questions cannot be resolved by the application of the rules above, the land shall be classified as within the least restrictive the Camp Bullis Compatible Land Use zone.

4. Where a parcel of land lies within more than one (1) Airport Noise Zone or an Accident Potential Zone as herein described, the zone within which each portion of the property is located shall apply individually to each portion of the development.

C. Use Restrictions

Notwithstanding any other provisions of these regulations, no use may be made of land or water within any zone established by these regulations in such a manner as to create electrical interference with navigational signals or radio communication between the airport and aircraft, make it difficult for pilots to distinguish between airport lights and others, result in glare in the eyes of pilots using the airport, interfere with pilots' night vision equipment using the airport, impair visibility in the vicinity of the airport, create potential bird strike hazards, or otherwise in any way endanger or interfere with the landing, taking off or maneuvering of aircraft intending to use the airport.

Incompatible uses and uses requiring either specific acreage density for development or minimum specified construction standards for noise reduction within structures that are within specific zones are hereby established as shown in Table 1, Land Use Compatibility Guidelines (attached). The entry in Table 1 with the greatest accuracy for defining a land use shall be controlling for purposes of this regulation. Table 1 and all amendments and footnotes thereto are hereby incorporated by reference into this regulation.

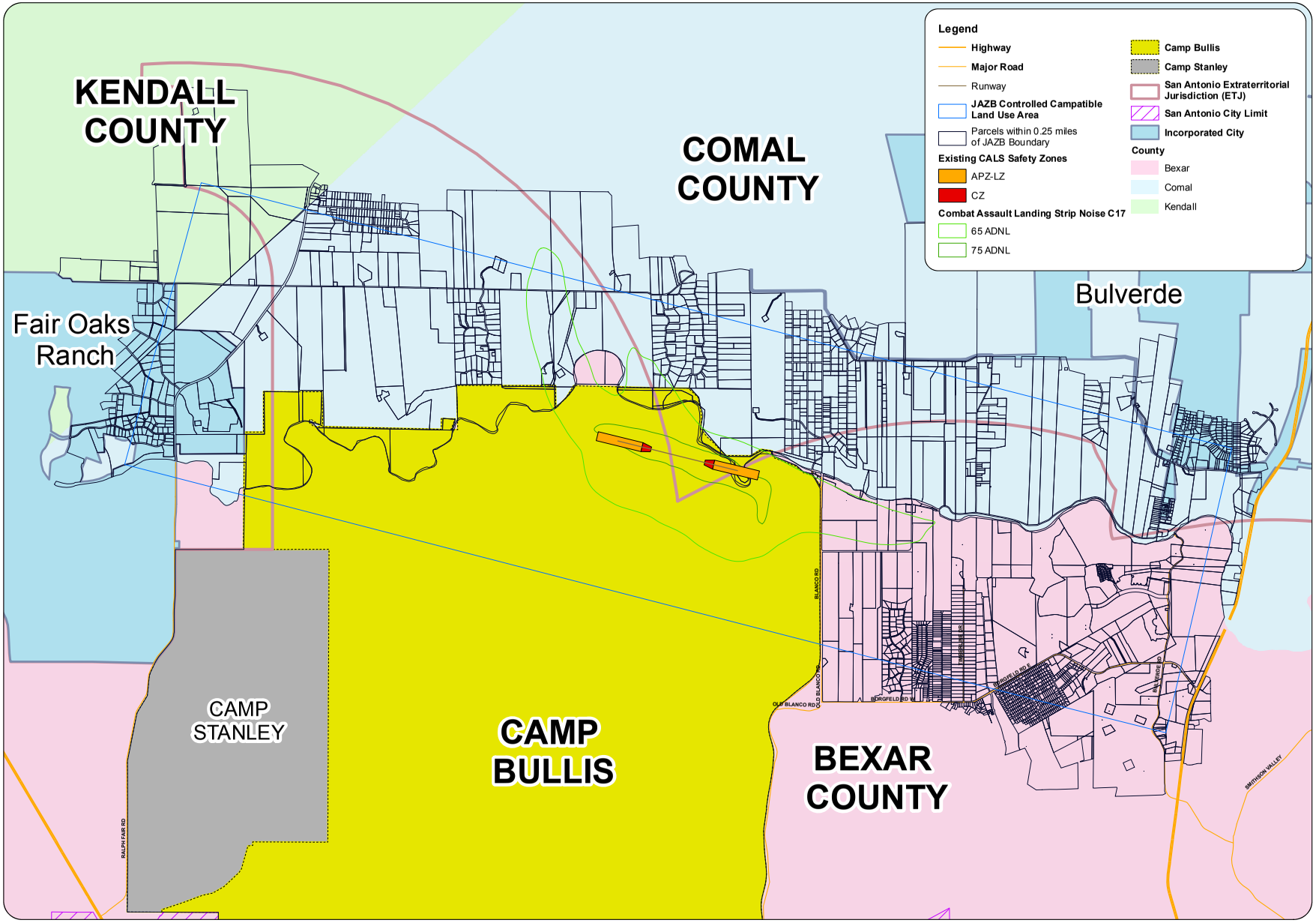


Figure 1
JAZB Controlled Compatible Land Use Area - Parcel Based

Section 5. Airport Hazard Abatement Zones and Height Limitations

In order to carry out the hazard abatement provisions of these regulations, there are hereby created and established certain zones which include all of the land lying beneath the approach surfaces, transition surfaces, horizontal surface and conical surface as they apply to Camp Bullis, Texas. Such zones are shown on the Camp Bullis Compatible Land Use Zoning Map. An area located in more than one of the following zones is considered to be only in the zone with the more restrictive height limitation.

Except as otherwise provided in these regulations, no structure shall be erected, altered, or maintained, and no tree shall be allowed to grow in any zone created by these regulations to a height in excess of applicable height limits herein established for such zone. Such applicable height limitations are hereby established for each of the zones in question as follows:

A. Approach Zones

1. **Combat Assault Landing Strip (CALS)** - Approach zone is established beneath the approach surface at the end of CALS on Camp Bullis of non-precision instrument landings and take-offs with visibility minimums as low as three-fourths statute mile. The inner edge of the approach zone shall have a width of two-hundred-fifty (250) feet which coincides with the width of the primary surface at a distance of two-hundred (200) feet beyond the end of the runway, widening thereafter uniformly to a width of one-thousand-two–hundred-fifty (1,250) feet at a horizontal distance of five-thousand (5,000) feet beyond the end of the primary surface, its centerline being the continuation of the centerline of the runway.

   Height Limitations – One (1) foot in height for each twenty (20) feet in horizontal distance beginning at the end of and at the elevation of the primary surface and extending to a point two-thousand-five-hundred (2,500) feet from the end of the primary surface. Then continuing horizontally until it reaches five-thousand (5,000) feet.

B. Transition Zones - Transition zones are hereby established beneath the transition surfaces adjacent to the runway and approach surfaces as indicated on the zoning map. Transition surfaces, symmetrically located on either side of the runway, have variable widths as shown on the zoning map. Transitional surfaces extend outward and upward at right angles to the runway centerline and the runway centerline extended at a slope of seven (7) to one (1) from the sides of the primary surface and from the sides of the approach surfaces.

Height Limitations – Slopes seven (7) feet outward for each foot upward beginning-at the sides and at the same elevation as the primary surface and the approach surface, and extending to a height of one-hundred-fifty (150) feet above the airport elevation which is fifty (50) feet above mean sea level.

C. **Horizontal Zone** - The area beneath a horizontal plane one-hundred-fifty (150) feet above the established airport elevation, the perimeter of which is constructed by swinging arcs of five-thousand (5,000) feet radii from the center of each end of the primary surface of CALS and connecting the adjacent arcs by lines tangent to those arcs.

Height Limitations – Established at one-hundred-fifty (150) feet above the airport elevation, or a height of two hundred (200) feet above mean sea level.

D. **Conical Zone** - The area beneath the conical surface extending outward and upward from the periphery of the horizontal surface at a slope of twenty (20) to one (1) for a horizontal distance of one-thousand-two–hundred-fifty (1,250) feet.

Height Limitations – Slopes twenty (20) feet outward for each foot upward beginning at the periphery of the horizontal zone and at one-hundred and fifty (150) feet above the airport elevation and extending to a height of five-hundred (500) feet above the airport elevation which is five-hundred-fifty (550) feet above mean sea level.

E. **Excepted Height Limitations** - Nothing in these regulations shall be construed as prohibiting the growth, construction, or maintenance of any tree or structure to a height up to fifty (50) feet above the surface of the land.

Section 6. Permits

Before any new structure or use which could be defined as an airport hazard or incompatible land use under this regulation may be constructed or established, and before any such existing use or structure may be increased in height or otherwise altered, a permit to do so must be secured by the owner involved or their agent. All permit applications shall be made to the administrative agency.

Application shall be made and permit procured from the administrative agency created hereunder in each of the following instances and subject to the following conditions:

A. Where it is desired to erect or locate structures, to increase the height of existing structures, or to plant or transplant trees within the controlled compatible land use area to a height in excess of ten feet below the height limit herein provided (Section 5) with respect thereto.

B. Where it is desired to replace, substantially alter or repair, rebuild, or relocate any nonconforming structure or tree within the controlled compatible land use area, provided however, that whenever the JAZB determines that a nonconforming structure within the controlled compatible land use area has been abandoned or more than 80% torn down, destroyed, deteriorated or decayed, no permit shall be granted.

C. No permit shall be granted that would allow the establishment or creation of an airport hazard or that would permit a nonconforming structure or tree or nonconforming use to be made or to become higher or to become a greater airport hazard.

D. In granting any permit, the administrative agency may, if it deems such action advisable to effectuate the purpose of this regulation and reasonable in the circumstances, so condition such permit as to require the owner of a structure or tree in question to permit

Camp Bullis, the Federal Aviation Administration or Bexar County, Comal County, Kendall County, City of Fair Oaks Ranch and City of Bulverde at its own expense, to install, operate and maintain thereon such markers and lights as may be necessary to indicate to flyers the presence of an airport hazard.

E. Whenever any person prior to erection, alteration or relocation of structures or planting or transplanting of trees within the controlled compatible land use area makes a report of the contemplated erection, alteration or relocation of structures or the contemplated planting or transplanting of trees within said controlled compatible land use area, to the JAZB, the JAZB shall promptly investigate and determine whether or not there would be a violation of the ordinance, and if a violation is found, the committee shall so advise such person who shall thereupon alter his plans so as to meet the requirements of these regulations.

If the administrative agency issues a permit erroneously allowing the beginning of erection of any structure or tree, such permit shall not constitute a variance or be construed in any manner to allow any person to penetrate the imaginary surfaces established. It will remain incumbent on the sponsor, building, property owner or their agents, as the case may be, to prevent the creation of any object or use that will cause an airport hazard within the meaning of these regulations.

Each application for a permit shall indicate the purpose for which the permit is desired, with sufficient particularity to permit it to be determined whether the resulting use, structure, or tree would conform to the regulations herein prescribed. If such determination is in the affirmative, the permit shall be granted. No permit for a use inconsistent with the provisions of these regulations shall be granted unless a variance has been approved in accordance with Section 8.

In the area lying within the limits of the horizontal zone and conical zone, no permit shall be required for any tree or structure less than seventy-five (75) feet of vertical height above the ground, except when, because of terrain, land contour, or topographic features, such tree or structure would extend above the height limits prescribed for such zones.

In areas lying within the limits of the approach zones, but at a horizontal distance of not less than four-thousand-two-hundred (4,200) feet from each end of the runways, no permit shall be required for any tree or structure less than seventy-five (75) feet of vertical height above the ground, except when such tree or structure would extend above the height limit prescribed for such approach zones. Nothing contained in any of the foregoing exceptions shall be construed as permitting or intending to permit any construction, or alteration of any structure, or growth of any tree in excess of any of the height limits established by these regulations.

Nonconforming Uses Abandoned Or Destroyed - Whenever the Joint Airport Zoning Board, Building Official, or representatives of the Bexar County Commissioners, in consultation with the Commanding Officer of Camp Bullis, determines that a nonconforming use, hazardous structure or tree has been abandoned for a set time period or more than eighty (80) percent torn down, physically deteriorated, or decayed, no permit shall be granted that would allow such structure or tree to exceed the applicable height limit or otherwise deviate from the zoning regulations. Abandonment of a non-conforming use occurs after twelve (12) months of inactivity, or non-use.

Section 7. Nonconforming Uses

The regulations prescribed herein shall not be construed as to require changes in the use of any land or other change or alteration of any structure not conforming to these regulations as of the effective date of these regulations or otherwise interfere with the continuance of any nonconforming use. Nothing contained herein shall be construed as to require any change in the construction, alteration, or intended use of any nonconforming structure, the construction of which was begun prior to the effective date of these regulations and is diligently prosecuted.

Section 8. Variances

Any person who desires to use their property in violation of any of the regulations contained herein may apply to the board of adjustment for a variance. Such variances may be allowed where it is duly found that a literal application or enforcement of these regulations will result in practical difficulty or unnecessary hardship and the granting of relief would result in substantial justice, not be contrary to the public interest, and be in accordance with the spirit of these regulations. Any variance granted may, at the discretion of the board of adjustment, impose any reasonable conditions as may be necessary to accomplish the purpose of these regulations.

Any person who desires to erect, substantially change, or increase the height of any structure or establish or allow the growth of any tree which would exceed the height limitations set forth in Section 5 of these regulations or change the use of property in such a way as to create a hazardous condition as described in Section 4 of these regulations must apply to the board of adjustment and receive a variance. The application for variance must be accompanied by a determination from the Federal Aviation Administration under 14 C.F.R. Part 77 as to the effect of the proposal on the operation of air navigation facilities and the safe, efficient use of navigable airspace.

Such variances shall be allowed where it is duly found that a literal application or enforcement of the regulations will result in practical difficulty or unnecessary hardship and the granting of relief would result in substantial justice, not be contrary to the public interest or impede the military missions, and be in accordance with the spirit of these regulations.

Section 9. Board of Adjustment

A. The Board of Adjustment of Bexar County is hereby designated as the board of adjustment for the purposes of these regulations and shall have and exercise the following powers:

    1. hear and decide appeals from any order, requirement, decision, or determination made by the Administrative Agency in the administration or enforcement of these regulations;

2. hear and decide special exceptions to the terms of these regulations when the board is required to do so; and

3. hear and decide specific variances.

B. The board of adjustment shall be comprised of eleven (11) members and shall adopt rules for its governance and procedures in harmony with the provisions of these regulations.

Meetings of the board of adjustment shall be held at the call of the chairman and at such times as the board of adjustment may determine. The chairman, or in his/her absence the acting chairman, may administer oaths and compel the attendance of witnesses. All hearings of the board of adjustment shall be public. The board of adjustment shall keep minutes of its proceedings showing the vote of each member upon each question or if any member is absent or fails to vote, indicating such fact and shall keep records of its examinations and other official actions, all of which shall immediately be filed in the office of the board of adjustment. All such records shall be public records.

C. The board of adjustments shall make written findings of fact and conclusions of law stating the facts upon which it relied when making its legal conclusions in reversing, affirming, or modifying any order, requirement, decision, or determination which comes before it under the provisions of these regulations.

D. The concurring vote of nine (9) members of the board of adjustment shall be necessary to reverse any order, requirement, decision, or determination of the administrative agency, to decide in favor of the applicant on any matter upon which it is required to pass under these regulations, or to effect any variation in these regulations.

Section 10. Appeals

A. Any person aggrieved, or any taxpayer affected, by any decision of the administrative agency made in his administration of these regulations may appeal to the board of adjustment if that person or taxpayer is of the opinion that a decision of the administrative agency is an improper application of these regulations. This same right of appeal is extended to the governing bodies of the Bexar County, Comal County, Kendall County, City of Fair Oaks Ranch, and City of Bulverde Texas, and to the Camp Bullis Joint Airport Zoning Board.

B. All appeals hereunder must be taken within a reasonable time as provided by the rules of the board of adjustment by filing a notice of appeal with the board of adjustment and the administrative agency specifying the grounds for the appeal. The administrative agency shall forthwith transmit to the board of adjustment all papers constituting the record upon which the action appealed was taken.

C. An appeal shall stay all proceedings in furtherance of the action appealed unless the administrative agency certifies in writing to the board of adjustment that by reason of the facts stated in the certificate, a stay would, in the opinion of the administrative agency, cause imminent peril to life or property. In such case, proceedings shall not be stayed except by order of the board of adjustment on notice to the administrative agency and on due cause shown.

D. The board of adjustment shall fix a reasonable time for hearing appeals, give public notice and due notice to the parties in interest, and decide the same within a reasonable time. Upon the hearing, any party may appear in person, by agent, and/or by attorney.

E. The board of adjustment may reverse or affirm, in whole or in part, or modify the administrative agency's order, requirement, decision, or determination from which an appeal is taken and make the correct order, requirement, decision, or determination, and for this purpose the board of adjustment has the same authority as the administrative agency.

Section 11. Judicial Review

Any person aggrieved or any taxpayer affected by any decision of the board of adjustment may present to a court of record a petition stating that the decision of the board of adjustment is illegal and specifying the grounds of the illegality, as provided by the Airport Zoning Act, Texas Local Government Code Annotated, §§ 241.041.

Section 12. Enforcement and Remedies

The governing bodies of Bexar County, Comal County, Kendall County, City of Fair Oaks Ranch, and City of Bulverde Texas, or the Camp Bullis Joint Airport Zoning Board may institute in a court of competent jurisdiction an action to prevent, restrain, correct, or abate any violation of these regulations or of any order or ruling made in connection with their administration or enforcement including, but not limited to, an action for injunctive relief.

Section 13. Penalties

Each violation of these regulations or of any regulation order, or ruling promulgated hereunder shall constitute a misdemeanor and upon conviction shall be punishable by a fine of not more than $100.00 and each day a violation continues to exist shall constitute a separate offense.

Section 14. Conflicting Regulations

Where there exists a conflict between any of the regulations or limitations prescribed herein and any other regulations applicable to the same area, whether the conflict be with respect to the use of land, the height of structures or trees, or any other matter, the more stringent limitation or requirement shall govern and prevail.

Section 15. Severability

If any of the provisions of these regulations or the application thereof to any person or circumstances is held invalid, such invalidity shall not affect other provisions or applications of the ordinance which can be given effect without the invalid provision or application, and to this end the provisions of these regulations are declared to be severable.

Section 16. Adherence with State Laws

Any actions brought forth by any person or taxpayer as a result of the administration, enforcement, or the contesting these regulations will be in accordance with the provisions of Texas Local Government Code, §§241.001 and other applicable State laws.

Section 17. Effective Date

WHEREAS, the immediate operation of the provisions of these regulations is necessary for the preservation of the public health, public safety, and general welfare, an emergency is hereby declared to exist, and these regulations shall be in full force and effect from and after its passage by the Camp Bullis Joint Airport Zoning Board and publication and posting as required by law.

Adopted by the Camp Bullis Joint Airport Zoning Board this _____ day of _____, 20___

_____

Chairperson, Camp Bullis Joint Airport Zoning Board

_____	_____
Member	Member
_____	_____
Member	Member
_____	_____
Member	Member
_____	_____
Member	Member
_____	_____
Member	Member
_____	_____
Member	Member

Attest: _____

Secretary of Bexar County, Texas

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Camp Bullis Rotary-Wing Safety Zones

Camp Bullis Mission

Fort Sam Houston comprises approximately 3,000 acres in a highly urbanized part of San Antonio, severely limiting the ability to conduct on-site field training, especially during the night. Camp Bullis provides nearly 22,000 acres of invaluable field training and maneuver areas for Fort Sam Houston and multi-service medical training.

Source: Camp Bullis Joint Land Use Study, June 2009

Aircraft Operations

Overview

Air operations on the installation include the use of multiple landing zones (LZ) for helicopters, low-level helicopter flight corridors, and air combat drop zones (three for cargo and one for personnel). The UH-60 Blackhawk helicopter is the primary rotary-wing aircraft used at Camp Bullis in support of flight training and air-drop operations. The UH-1 Iroquois, OH-58 Kiowa, AH-1 Cobra, and the AH-64 Apache are also occasionally used. Helicopter flights operating at Camp Bullis originate primarily from Martindale Army Airfield (AAF) located southeast of Fort Sam Houston. According to Martindale AAF flight operations, approximately 5 to 10 rotary-wing training flights / missions per week are flown at Camp Bullis.

Helicopter Operations at Camp Bullis

Helicopter missions occur in both daytime and nighttime (with use of night vision devices) and include aerial reconnaissance, medical evacuation (medevac) by helicopter air ambulance, point-to-point flights, combat air drops of paratroopers, and nap of the earth (NOE) flights. NOE flights are typically at high-speed as close to the earth's surface as vegetation, obstacles, or ambient light will permit (i.e., at tree-top level). Real world medevac operations are currently performed by the not-for-profit entity, San Antonio Airlife. The Army previously conducted the air medevac mission out of Fort Sam Houston; however, this support ceased when the Army medevac unit transitioned to providing support for military operations elsewhere. There is a small Army National Guard medevac unit based out of Martindale AAF; but San Antonio Airlife is currently the primary air ambulance service provider for Camp Bullis.

Helicopters in the Helicopter Drop Zone operate at altitudes of approximately 1,000 feet Above Ground Level (AGL), and the drop zone extends from a northeast to southwest direction. The zone terminates approximately three miles beyond the southwestern boundary of Camp Bullis.

The NOE Flight Corridor extends from the cantonment area north along the installation's west boundary, along the north boundary, and south along the east boundary to the

northern extent of the impact area/no fly zone. However, the primary path followed for NOE is along the northern boundary and the Cibolo Creek Bed. This training is typically conducted at altitudes of approximately 25 feet AGL above the highest obstacle along the route.

The Helicopter Flight Corridor includes flights between 250 and 500 feet AGL, which are conducted in the southwestern portion of Camp Bullis in the vicinity of the cantonment area.

There are five designated ingress and egress points for helicopters (see Figure 1-1):

1. northwest corner near the City of Fair Oaks Ranch (County Line Road – West),
2. northeast corner along Blanco Road (County Line Road – East),
3. south-central boundary southeast of the cantonment area (Military Highway),
4. southwestern corner just west of the cantonment area (Bullis Road), and
5. southeastern corner vicinity of the installation boundary and Blanco Road.

Within the Camp Bullis boundaries, there are 29 LZs, which are located at key locations across the training area.

Helicopter Support and Flight Routes

The majority of helicopter support for training at Camp Bullis is provided by the Texas Army National Guard located at Martindale Army Airfield (AAF), southeast of Fort Sam Houston. Helicopters from Martindale AAF fly into Camp Bullis up to six times a week for day and night training missions. This usually includes one to three UH-60 helicopters per mission. A Letter of Agreement (LOA) between the San Antonio International Airport (SAI) and the Texas Army National Guard at Martindale AAF prescribes operating procedures for Army helicopters flying between Camp Bullis and Martindale. Per the LOA, two different routes (Bullis Tactical Route and Interstate 10 [I-10] Route) are used to move between the installations, which follow San Antonio's major highways and attempt to avoid overflight of residential areas.

As a consideration to local communities and to comply with Title 14 of the Code of Federal Regulations (CFR) Part 91 General Operating and Flight Rules, Texas Army National Guard helicopters fly at or above 500 feet AGL when outside of Camp Bullis. This also allows them to avoid civilian medical, media, and safety helicopter traffic. According to 14 CFR Part 91, over any congested area of a city, town, or settlement, or over any open air assembly of persons, the minimum altitude for helicopters is 1,000 feet above the highest obstacle within a horizontal radius of 2,000 feet of the aircraft. National Guard Supplement 1 to Army Regulation 95-1, Flight Regulations, allows for a 500-foot AGL slant range over congested areas when aircraft are at 500 feet AGL. For flights over areas that are not considered congested, helicopters must maintain an altitude of 500 feet AGL, except over open water or sparsely populated areas. In those cases, the aircraft may not be operated closer than 500 feet to any person, vessel, vehicle, or structure (§ 91.119 Minimum safe altitudes: General). To avoid SAI commercial traffic, they also do not fly above 1,900 feet

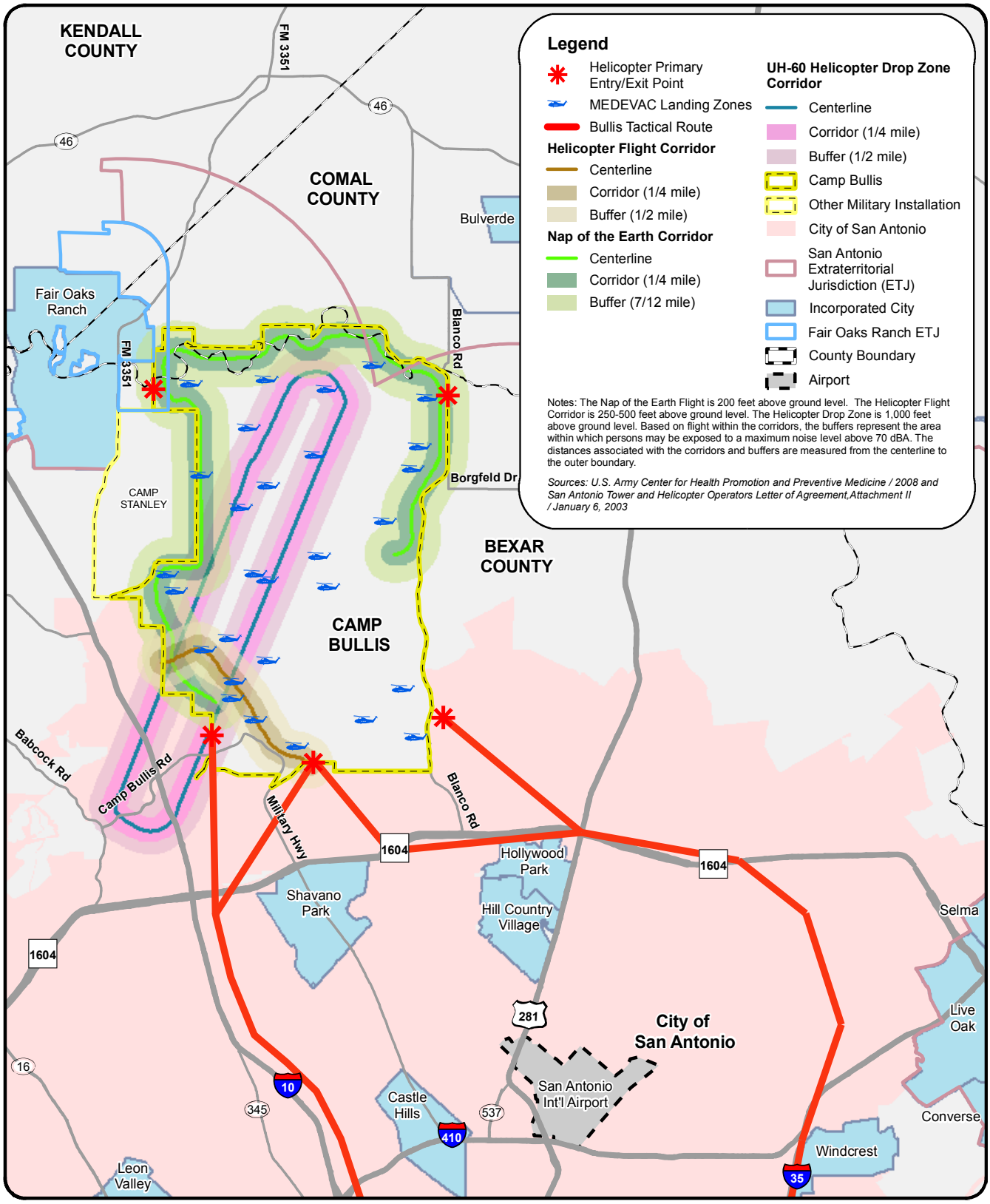

Figure 1-1
Helicopter Noise Corridors

mean sea level (MSL). As a means of comparison, Martindale AAF sits at 674 feet MSL. The routes prescribed in the LOA are general routes that are subject to deviation based on factors such as weather, wind, and operational requirements. Within the Camp Bullis boundaries, Army National Guard helicopters are authorized to operate at or below 200 feet AGL.

The Bullis Tactical Route begins at Martindale AAF and is described in the LOA as follows:

a. Departing Martindale AAF proceed directly to the intersection of I-35 and Loop 410 at or below 1,900 feet MSL. Helicopters should remain as high as possible (not to exceed 1,900 feet MSL), and avoid residentially developed areas in order to minimize noise pollution. Proceed along I-35 / I-410 north until reaching CP WINDSOR (intersection I-410 and I-35). Follow the railroad track / dry creek bed to intercept Loop 1604 at CP JUDSON (intersection Bulverde Road and Loop 1604) (south of rock quarry), then proceed west over Loop 1604 to south Camp Bullis as indicated. Helicopters flying to north Camp Bullis may depart the route at CP FIESTA (intersection Highway 281 and Loop 1604) as indicated proceeding directly to the east of Camp Bullis remaining clear of the range impact area and residential areas.

b. Returning to Martindale AAF, the route is reverse of (a) above.

The I-10 Route begins at Camp Bullis and is described in the LOA as follows:

a. Recovering to Martindale AAF, from the intersection of I-10W and northwest Loop 1604, maintain at or below 1,900 feet MSL. Helicopters should remain as high as possible (not to exceed 1,900 feet MSL), and avoid residentially developed areas in order to minimize noise pollution. Proceed along I-10 east-southeast bound, over CP CROSSROAD (intersection of I-10 and I-410), until reaching the intersection of I-10 and I-35 downtown. Proceed east, over CP DOWNTOWN (vicinity intersection I-10 and Spur 537), along I-35 until reaching the intersection of I-35 and I-410 at Salado Park. Then proceed directly to Martindale AAF.

b. Departing Martindale AAF, the route is reverse of (a) above.

Active duty helicopters also train at and support operations at Camp Bullis. These aircraft can arrive from a variety of installations other than Martindale AAF, and there are no established tactical routes for these flights.

The approach and departure procedures are described as follows:

a. Pilots entering the airspace from installations other than Fort Sam Houston or Martindale AAF must share the airspace with other civilian aircraft and fly to Camp Bullis under the direction of the civilian control towers.

b. When these helicopters get close to Camp Bullis, they make radio contact with Camp Bullis range control to coordinate for, gain entry to, and maneuver within the installation's airspace. Flights from outside facilities are difficult to map since they do not fly over established routes like those noted in the SAI / Texas Army National Guard LOA.

Aircraft Operations Safety

Helicopter routes outside of and within the Camp Bullis boundaries are not exact. As noted above, deviations from the routes shown on Figure 1-1 may be made for any number of reasons. These include, but are not limited to weather, heavy winds, operational requirements, obstacles, other aircraft in the airspace, safety requirements, etc. For this reason, it is important that safety zones be established to support rotary-wing flight operations. Since Army helicopter flights are controlled by civilian air traffic controllers up to the Camp Bullis boundary, the safety zones are primarily focused along the boundaries of the installation where NOE training takes place, where the drop zone flight paths extend into City of San Antonio lands, and where ingress / egress points have been established with the Texas Army National Guard.

Flight Paths / Corridors

Nap of the Earth

By definition, NOE flights follow the terrain. Although helicopters flying this method should remain within the confines of Camp Bullis, there may be instances where crossing outside of the installation boundary is necessary (i.e., safety, weather, emergencies, etc.). In these situations, a safety buffer would be beneficial for the safety of the helicopter crew and passengers, as well as for people on the ground. As an action step, a 1/4-mile safety buffer should be established from the installation boundary along the NOE Flight Corridor. This would provide for emergency situations where a landing on property outside of the installation is needed.

Drop Zone Flight Paths

Helicopters performing air drop operations fly at approximately 1,000 feet AGL, which provides sufficient clearance from existing development and structures. Approximately 75 percent of the drop zone corridor is over Camp Bullis. The remaining 25 percent of the corridor is over City of San Antonio lands southwest of the installation. Safety zones beneath the off-installation portion of the corridor could include land use regulations restricting establishment of landfills, water bodies that could attract birds, or development of facilities that are extremely tall, produce steam / smoke, or release decorative objects (i.e., party balloons, large helium-filled balloons promoting attractions / merchandise / housing tied to commercial roofs, etc).

Designated Ingress / Egress Points

Similar to the flight routes / corridors described previously, the designated ingress / egress points located generally at the corners of the installation are not exact. Helicopters do not necessarily pass directly over a specific point on the ground. Also, the altitudes at which aircraft cross into / out of Camp Bullis vary. Consequently, in the interest of safety, zones measuring 1/4 mile in radius should be established. Land use regulations restricting the establishment of landfills, water bodies that could attract birds, or development of facilities that are extremely tall or produce steam / smoke, or the release of decorative objects would ensure a safe approach and departure.

Landing Zones / Helipads

In addition to the air operations noted above, safety zones related to the 29 LZs need to be evaluated. United Facilities Criteria (UFC) 3-260-01, Airfield and Heliport Planning and Design, November 17, 2008, provides standardized airfield, heliport, and airspace criteria for the geometric layout, design, and construction of runways, helipads, taxiways, aprons, and related permanent facilities to meet sustained operations at Department of Defense military facilities in the United States. For the purposes of this document and related helicopter safety zones, the UFC provides imaginary surface dimensions and details for the Visual Flight Rules (VFR) helipads. Helipads allow for a helicopter hovering, landing, and takeoff. Except at facilities where helicopter runways are provided, helipads are the landing and takeoff locations for helicopters. The following details safety zones and imaginary surfaces for the Army and Air Force standard VFR helipad. Figure 1-2 illustrates the VFR helipads at Camp Bullis.

VFR Helipads

To ensure safe helicopter approaches and departures from a helipad while operating under VFR, the UFC calls for obstacle-free areas extending from the center of the helipad and along the approach-departure axis outward to 1,350 feet. This distance includes the helipad's primary surface, Clear Zone (CZ), and Accident Potential Zone I (APZ I) (see Figure 1-2). . The approach-departure clearance surface extends from the edge of the helipad's primary surface at a slope ratio of 8 (horizontal): 1 (vertical). This slope equates to a height of 150 feet at the furthest extents of the approach-departure clearance surface.

Of the 29 established LZs on Camp Bullis, the only LZ with safety zones not completely located within the installation boundary is the Compass Course LZ, which is located in the installation's southeast corner, south of the firing ranges. This LZ is 1,297 feet from the boundary and Blanco Road. A helicopter approaching from or departing to the east will be at a height of 143 feet at the installation boundary. Based on the requirements listed in the UFC, APZ I / the approach-departure clearance surface extends 53 feet outside of the installation boundary, which can be potentially problematic for aircraft approaching from or departing to the east from Compass LZ . Figure 1-3 illustrates the extents of the VFR APZ I / the approach-departure clearance surface for the LZs proximate to the Camp Bullis perimeter.

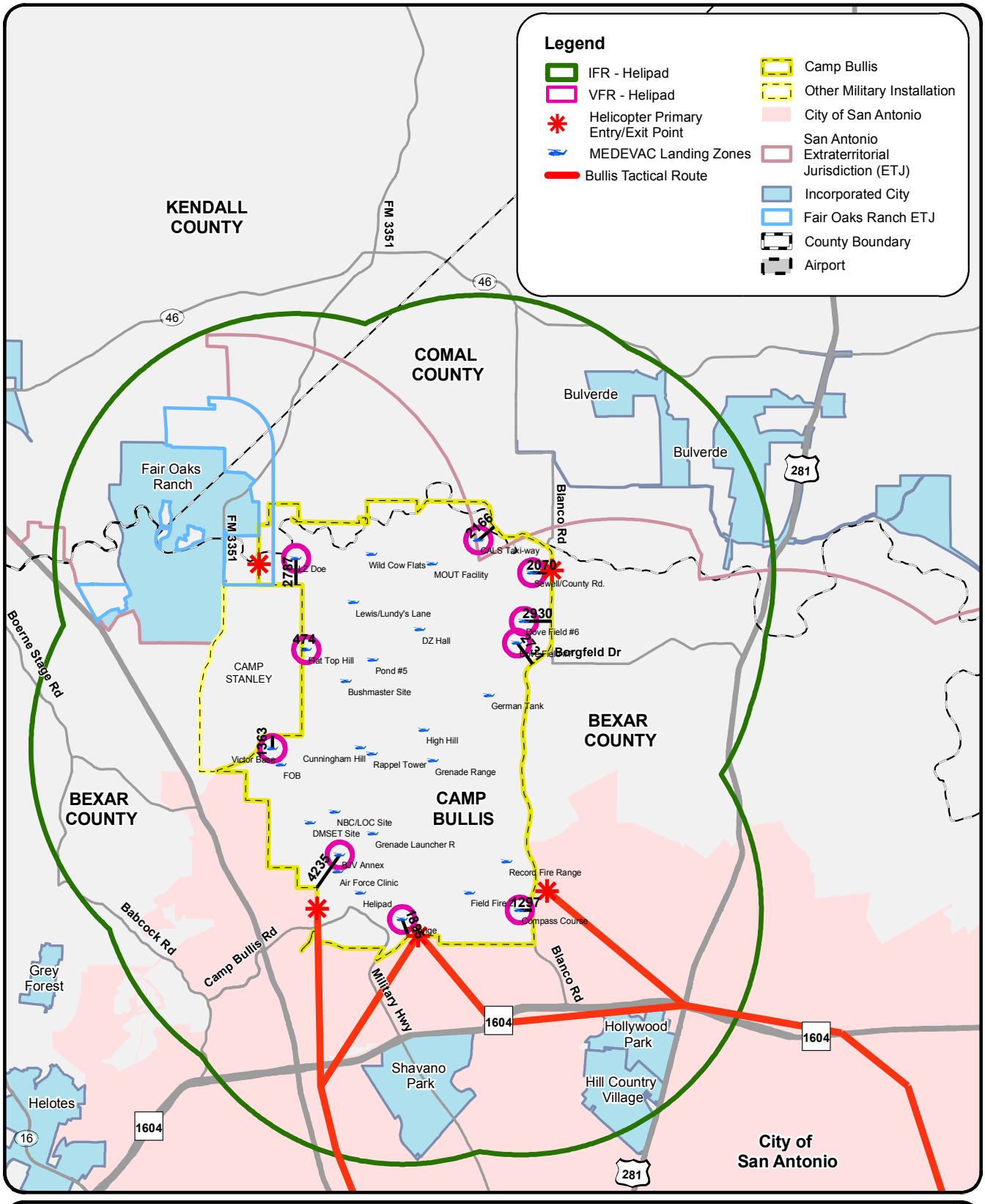

Figure 1-2
Helipad IFR and VFR

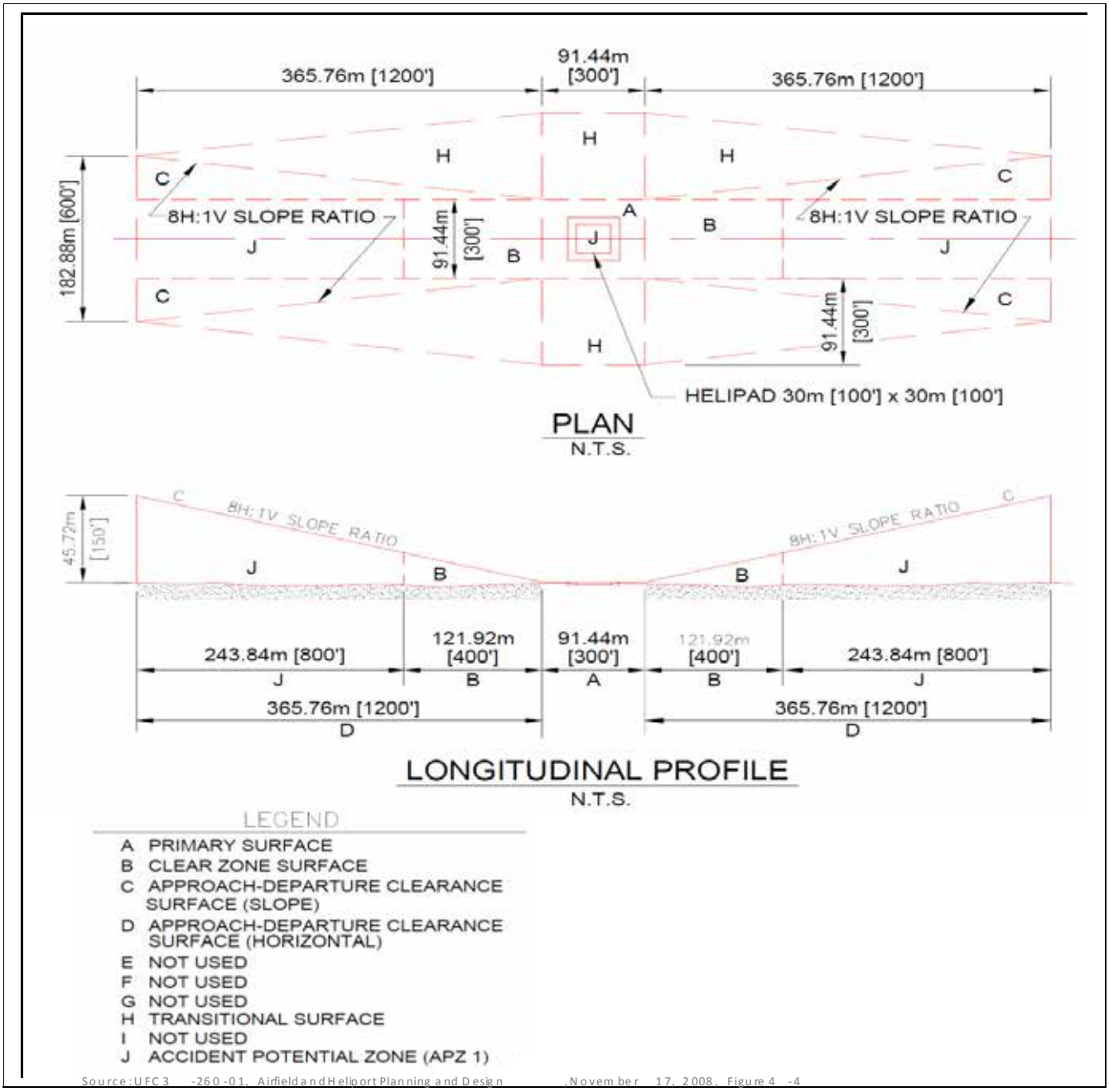

Figure 1-3 VFR Helicopter Helipad Safety and Imaginary Surfaces

Camp Bullis Joint Land Use Study (JLUS) Implementation Plan Compatibility Standards Report Per Texas House Bill 2919

Introduction

In 2009, the Legislature of the State of Texas passed House Bill 2919 (HB 2919) in an effort to increase the compatibility of civilian development surrounding military installations. The law prescribes methods for increasing coordination between local jurisdictions and military installations. It also puts in place requirements demonstrating how communities should make decisions about the types of land uses that are approved within certain proximity of a military installation.

The Camp Bullis Regional Sustainability Commission's requirement to develop Compatible Development Standards (CDS) defines the parameters of HB 2919 and provides interpretations that are relevant to the specific communities surrounding Camp Bullis. In addition, this report outlines the specific Compatible Development Standards that the Camp Bullis Regional Compatibility Commission could use in the evaluation of proposed plans, regulations and structures within the area of concern.

Purpose

In order to ensure that current military facilities remain in use for military, national security, and international training purposes, it is essential that the jurisdictions surrounding military installations encourage compatible development and use, develop and enforce adequate regulation to prevent incompatibilities with military missions that interfere with the proper continued use of those areas as secure locations for military installations and missions; and the effective operation of the military installations and missions. With this goal in mind, the intended purpose of HB 2919 is to:

1. promote the public health, safety, and general welfare;
2. protect and preserve places and areas of military and national security importance and significance;
3. protect critical military missions and operations related to those missions; and
4. ensure state and national security.

Bill Summary

HB 2919 modifies the Texas Local Government Code in two ways. Primarily, it requires defense communities (as defined by the amendments) to engage in consultation with Base Defense Authorities. The first part of the law does not apply to the Camp Bullis region and therefore will not be discussed here. Secondly, the law allows defense communities (as defined by the amendments) to create Regional Military Sustainability Commissions (RMSC) and endows those commissions with certain planning rights and responsibilities.

Regional Military Sustainability Commission

Applies to:

- A defense community constituted by a county with unincorporated area located within five miles of the boundary line of a military installation and a municipality of 1.1 million or more with extraterritorial jurisdiction located within five miles of an installation's boundary line, with certain exceptions.

In the case of Camp Bullis, the defense community is comprised of:

- Bexar County
- Comal County
- City of San Antonio

Process for Establishing a Regional Military Sustainability Commission (RMSC)[1]:

Step 1: Each participating governmental entity must hold two public hearings to consider the creation of the proposed commission.[2]

- Hearings must not be earlier than the 60th day or later than the 30th day before the date the governing body of each participating governmental entity establishes a regional military sustainability commission.
- Each governing body is required to prominently post notice of the hearing in the administrative offices of the governmental entity and publish notice of the hearing in a newspaper of general circulation, if any, in the proposed territory at least seven days before each public hearing,.
- The notice must:
  - *state the date, time, and place for the public hearing;*
  - *identify the boundaries of the proposed territory, including a map of the proposed territory; and*
  - *provide a description of the proposed commission's functions.*

1 *Section 397A.001 and Sections 397A.002-397A.050*
2 *Section 397A.053*

Step 2: Establish and fund a regional military sustainability commission to regulate development in the area that surrounds a military installation according to the following guidelines:

- The regional military sustainability commission may not be composed of more than nine members.
- Participating governmental entities may, by joint agreement, determine the number, qualifications, and method of selecting members of a commission.
- A member of a commission may not be an elected official of a participating county or municipality.[3]
- Defense communities may not establish more than one commission in a county.

RMSC's Territory

- A commission's territory consists of the unincorporated area located within two miles of the boundary line of a military installation designated as the commission's territory when the commission is established.
- If a military installation is engaged in flight training at the time a commission is established under this section, the commission's territory consists of the unincorporated area located within three miles of the boundary line of the military installation.

In the case of Camp Bullis, which is a military installation engaged in flight training, the commission's territory would consist of the unincorporated areas that are both located within an extraterritorial jurisdiction and are located within three miles of the boundary line of the military installation.

In a legal opinion issued by the City of San Antonio, the City Attorney's office defined the Regional Military Sustainability Commission's "territory" as the area which is located within three miles of Camp Bullis, is in the same county as the active military installation (Bexar and Comal) and in the extraterritorial jurisdiction of the City of San Antonio. 397A.052 (a) and (d).

Therefore, in keeping with this interpretation of HB 2919 the RMSC's Area of Influence (AOI) encompasses the following jurisdictions, as shown on Figure 1:

- Bexar County
- Comal County

3 *Section 397A.054*

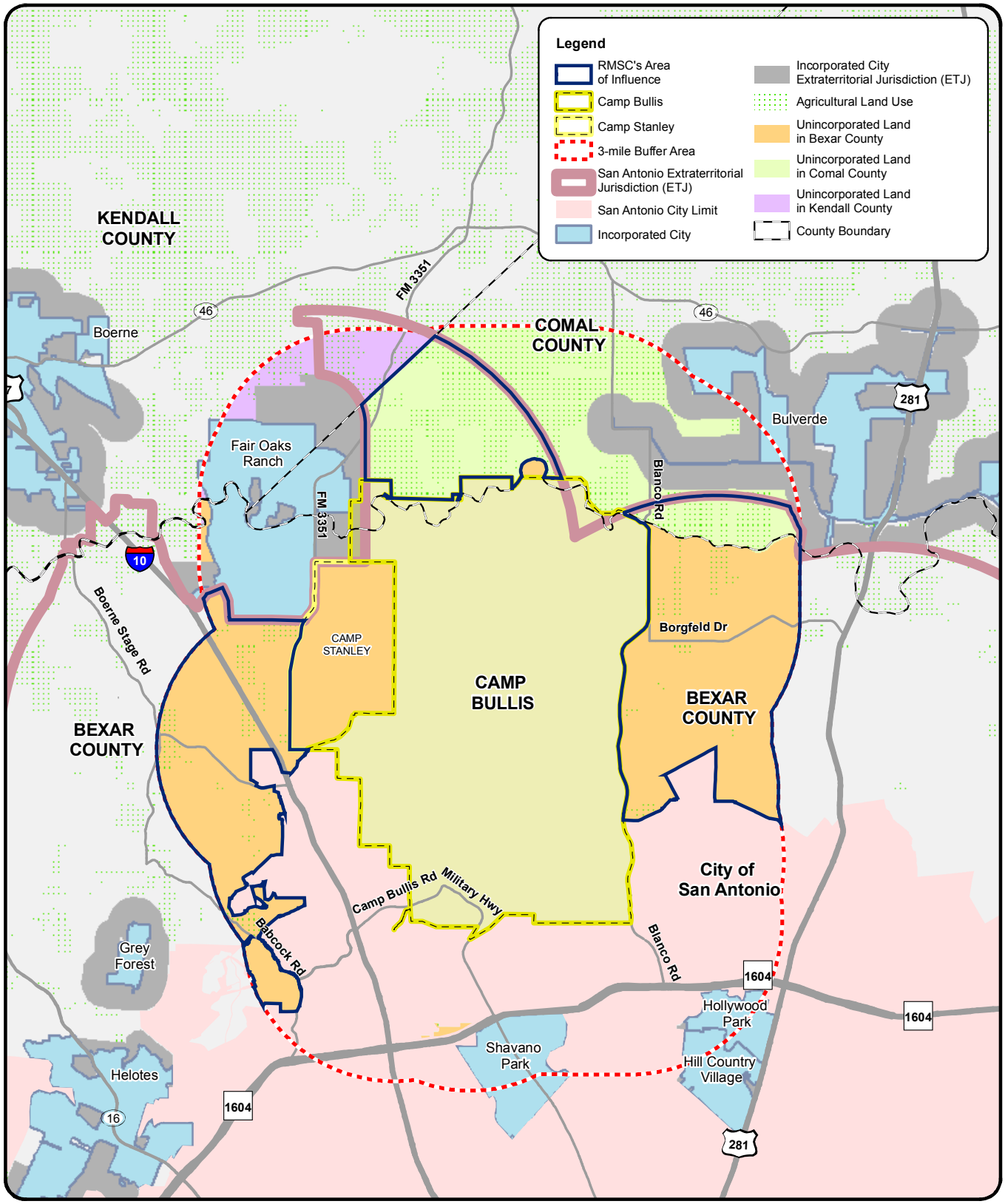

Figure 1
Camp Bullis Regional Military Sustainability Commission's (RMSC) Area of Influence

RMSC Requirements

- Recommend compatible development standards[4] for the commission's territory, subject to approval by a majority vote of each participating governmental entity.
- The commission must consider, as part of the regional compatible development standards, standards required by the Federal Aviation Administration regulations for military installations that service aircraft and helicopters.
- The commission shall submit the proposed compatible development standards to the participating governmental entities for approval.
- Before taking action to approve or reject the compatible development standards proposed by the commission, the participating governmental entities shall:
  - *provide notice of the commission's proposed compatible development standards to property owners in the commission's territory, as determined by the most recent county tax roll.*
  - *publish notice of the commission's proposed compatible development standards in a newspaper of general circulation, if any, in the commission's territory*[5]
- The compatible development standards are final after approval by a majority vote of each participating governmental entity.
- Notice of the final compatible development standards must be provided to all appropriate taxing entities for filing in the real property records of the county.
- The commission may include, in the proposed compatible development standards, a recommendation to a participating governmental entity to purchase property in the commission's territory as practical to protect a critical military mission.
- The governing body of the participating governmental entity, on receipt of an application for a permit for a new project in the territory, must review the application and request a report from the commission regarding the proposed project's compatibility with the military installation's mission and related operations.
- Establish an advisory committee, composed of members representing both the military installation and landowners within commission territory, and to consult with that committee in its review of an application.
  - *Three of the members appointed to the committee must represent the military installation for which the commission is established and three members must represent landowners in the area surrounding the military installation.*
- Review the compatibility of the new project with the military installation's military missions and related operations based on the commission's compatible development standards.

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4 Section 397A.056

5 The failure of notice to reach each property owner under Subsection (b) does not invalidate compatible development standards adopted under this section.

- Required to submit a report of its findings, including a recommendation regarding compatibility, to the reviewing governmental entity[6] not later than the 30th calendar day after the date the request was made.
    - *The report must include an estimate of the fiscal impact on the affected property of any recommendations submitted by the commission, if the fiscal impact is determinable based on the project description and other information provided by the developer.*

RMSC Authorities

- The reviewing governmental entity can disapprove the permit application based on a recommendation of the commission and a landowner to appeal all or part of the report or permit application decision to a district court, which may reverse or modify the report or permit application.
- The commission can apply for, contract for, receive, and expend for its purposes, a grant or funds from any source, and it authorizes a participating governmental entity to appropriate funds to the commission.
- A participating governmental entity can withdraw from a regional military sustainability commission. For the continuance of a commission and its development standards (in the event of closure of the military installation) the surrounding area remains regulated by the commission.

(Source: Legislative Reference Library http://www.lrl.state.tx.us/)

Compatible Development Standards (CDS)

Per HB 2919, the Compatible Development Standards (CDS) must be coordinated with:

a. the county plan for growth and development of the participating county or a county located in the Regional Military Sustainability Commission 's territory;

b. the comprehensive plan of the participating municipality;

c. the most recent Joint Land Use Study (JLUS), if the commission makes a finding that the conclusions of the study accurately reflect circumstances in the territory; and

d. standards required by the Federal Aviation Administration regulations for military installations that service aircraft and helicopters.

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6 *The reviewing governmental entity may not take action on the permit application until it receives the report of the commission. If the commission finds that the proposed new project is not compatible with the military installation's missions and recommends denial of the permit application, the reviewing governmental entity may disapprove the permit application.*

On annexation of an area in the commission's territory for full or limited purposes by a municipality, the area is removed from the commission's territory. If the municipality deannexes the area, the area is included in the commission's territory.

On receipt of an application for a permit for a new project in the commission 's territory, the governing body of the participating governmental entity shall review the application and request a report from the commission regarding the proposed

Per the regulations, the planning documents for each of the participating jurisdictions will have to be factored into the CDS. The Camp Bullis JLUS, completed in 2009, provides a recent and accurate assessment of the various local planning regulations that apply to the area in question and identifies the specific compatibility concerns relating to Camp Bullis. The CDS will correspond directly with the recommendations developed in the JLUS.

Community Plans

Bexar County Development Standards

Bexar County has adopted development standards for subdividing property into two or more parcels. Minimum standards are set for the provision of potable water, wastewater disposal, and building setbacks. The main purpose of the development standards is to ensure adequate access to water and to establish construction standards. Compatibility issues such as notification of property owners purchasing within proximity to a military installation or sound attenuation standards are not addressed.

Comal County Development Standards

Comal County's minimum lot size is 1 acre for new subdivisions when public water is provided, and 5.01 acres when individual wells are required. Lot size limitations are expected to change as additional water supply and sewage collection and treatment become available. Similar to Bexar County, development standards do not address sound attenuation or require real estate sales disclosure pertaining to proximate military activities.

City of San Antonio Comprehensive Plan

The City has not adopted a city-wide land use plan, but has prepared neighborhood, community, and corridor plans. The City is currently in the process of preparing sector plans, which will collectively comprise the city-wide land use plan. Many of these plans include proposed land uses and zoning districts. Comprehensive plan policies include the following: addressing Growth Management, Economic Development, Community Services, Neighborhoods, Natural Resources and Urban Design. Land use plans have been prepared for the San Antonio International Airport Area and the Stinson Airport Vicinity. Many neighborhood plans and several community plans have also been adopted; however there are also many master development plans that have been prepared within the area surrounding Camp Bullis. The comprehensive plan policies are a conditional planning tool.

Federal Aviation Act (FAA) Standards

The focus of the FAA Part 77 is to establish standards used to determine obstructions within navigable airspace, typically within a certain distance from an airport or airfield. It defines an obstruction to air navigation as an object that is of "greater height than any of the following heights or surfaces:

- A height of 500 feet AGL at the site of the object.

- A height that is 200 feet AGL or above the established airport elevation, whichever is higher, within 3 nautical miles of the established reference point of an airport, excluding heliports, with its longest runway more than 3,200 feet in actual length, and that height increases in the proportion of 100 feet for each additional nautical mile of distance from the airport up to maximum of 500 feet.
- A height within a terminal obstacle clearance area, including an initial approach segment, a departure area, and a circling approach area, which would result in the vertical distance between any point on the object and an established minimum instrument flight altitude within that area or segment to be less than the required clearance.
- A height within an en route obstacle clearance area, including turn and termination areas, of a Federal airway or approved off-airway route that would increase the minimum obstacle clearance altitude.
- The surface of a takeoff and landing area of an airport or any imaginary surface established under 77.25, 77.28, or 77.29. However, no part of the take-off or landing area itself will be considered an obstruction. (For additional information on FAA Part 77, please see Appendix E.)

Compatibility Issues identified in the Joint Land Use Study

The Camp Bullis JLUS, completed in 2009, identified the following issues listed below to be primary compatibility concerns within the overall JLUS study area. Among the most common factors causing incompatibility with military airfield and weapons training installations are the high levels of noise created by aircraft and firing ranges, heights of civilian structures near the installation, as well as off-installation light pollution that negatively impacts the use of night vision devices (NVD) for military air and ground training. The development of land uses incompatible with the installation's military mission threatens that installation's continued existence. The compatibility factors discussed in the Camp Bullis JLUS include:

- Land Use
- Safety Zones
- Vertical Obstructions
- Infrastructure Extensions
- Noise
- Vibration
- Light and Glare
- Frequency Spectrum Impedance and Interference
- Public Trespassing
- Legislative Initiatives
- Interagency Coordination
- Water Quality
- Threatened and Endangered Species
- Competition for Land, Air and Sea Spaces

- Frequency Spectrum Capacity
- Ground Transportation Capacity

Compatibility Development Standards

A regulation or compatible development standard does not apply to[7]:

1. A tract of land used for a single-family residence that is located outside the boundaries of a platted subdivision;
2. A tract of land in agricultural use;
3. An activity or a structure or appurtenance on a tract of land in agricultural use; or
4. An area designated as part of the commission's territory that is subject to the jurisdiction of a regulatory agency[8], and that, on the effective date of the Act adding this chapter, is:
   A. within the boundaries of a project[9] and any revision to the project that has accrued rights;
   B. the subject of a permit[10] issued by or a permit application filed with a regulatory agency; or
   C. subject to a plan for development or plat application filed with a regulatory agency.

As per HB 2919, the above stated requirements for lands, permits, projects, plans for development and plat applications overseen by the following agencies cannot be regulated by the RMSC:

- Bexar County
- San Antonio Water System
- State of Texas Fish and Wildlife
- US Fish and Wildlife Service
- Edwards Aquifer
- School Districts
  - *Northside Independent School District*
  - *North East Independent School District*
  - *Boerne Independent School District*
  - *Comal Independent School District*

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7 Section 397A.051
8 "Regulatory agency" means the governing body of, or a bureau, department, division, board, commission, or other agency of, a political subdivision acting in its capacity of processing, approving, or issuing a permit. (Section 245.001)
9 "Project" means an endeavor over which a regulatory agency exerts its jurisdiction and for which one or more permits are required to initiate, continue, or complete the endeavor. (Section 245.001)
10 "Permit" means a license, certificate, approval, registration, consent, permit, contract or other agreement for construction related to, or provision of, service from a water or wastewater utility owned, operated, or controlled by a regulatory agency, or other form of authorization required by law, rule, regulation, order, or ordinance that a person must obtain to perform an action or initiate, continue, or complete a project for which the permit is sought. (Section 245.001)

OBJECTIVE 1: To protect the safety of citizens by discouraging high-density development within Accident Potential Zone (APZ) and Combat Assault Landing Strip (CALS) approach and departure routes (Safety MIA).

BACKGROUND: As shown on Figure 2, the Clear Zone (CZ) for the existing CALS runway does not extend off base. However the APZ I and APZ II for a future Class A expanded runway[1] would extend beyond the installation. APZ 1 would extend halfway beyond the boundary of Camp Bullis to the east, and APZ II would be located entirely off of the boundary to the east.

RECOMMENDED DEVELOPMENT STANDARDS: The portion of the APZs which extend beyond the boundary of the installation and are located within the three mile area of influence (to be compliant with the provisions of the Regional Military Sustainability Commission territory, if implemented in the future) should be subject to the following standards:

- *Discourage new construction within 150 feet of Camp Bullis' fence line.*
- *Encourage the retention of current agricultural uses and resource protection activities.*
- *Discourage the subdivision of small lots.*
- *Seek opportunities where the transfer of development rights (TDR) can be used.*
- *Seek opportunities where the establishment of limited use easements or conservation easements can be accomplished.*
- *Discourage residential uses within any APZ.*

RECOMMENDED PERMISSIBLE LAND USES:

- *Agricultural (farm, ranch and rural development), Open Space, Resource Protection. Conditionally acceptable uses:*
    - *Office District (1-story height limitation, considered as conditional use)*
    - *Industrial (Light, General, Heavy, Mixed; considered as conditional use)*

(1) Although there is possibility to upgrade the CALS to a Class A runway in the future, there is currently no projected timeframe for this to occur nor any plan to do so. The decision to upgrade would need to be preceded by an environmental study, community input, and potential acquisition of easements in those portions of the new APZs that extend off-post.

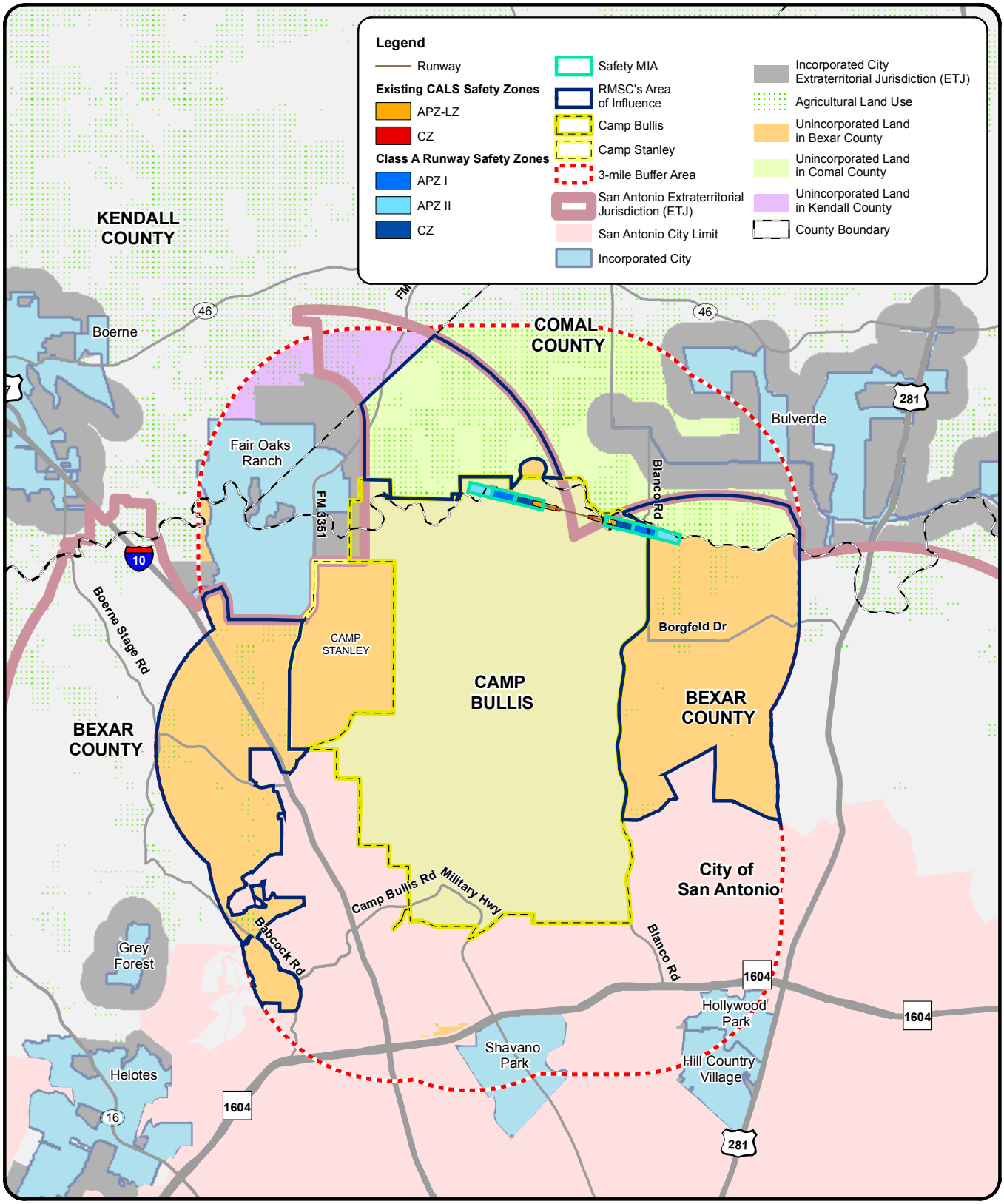

Figure 2

Safety Issues in the RMSC's Area of Influence

OBJECTIVE 2: To avoid the construction of structures that could interfere with Camp Bullis' fixed and rotary-wing aircraft training and/or are within the Vertical MIA, as shown on Figure 3.

RECOMMENDED DEVELOPMENT STANDARDS:

- *Discourage new construction within 150 feet of Camp Bullis' fence line.*
- *Require building elevations of proposed units with height dimensions to be provided at the time of building permit application.*
- *Allow for the purchase of critically located property by an appropriate governmental entity.*
- *Per FAA requirements, any structure to be placed within three miles of Camp Bullis will not exceed:*
    - *A height of 500 feet AGL at the site of the object.*
    - *A height that is 200 feet AGL or above the established airport elevation, whichever is higher.*
    - *Within three nautical miles of the established reference point of an airport (excluding heliports), with its longest runway more than 3,200 feet in actual length, height increases in the proportion of 100 feet for each additional nautical mile of distance from the airport up to a maximum of 500 feet.*

RECOMMENDED PERMISSIBLE LAND USES:

- *Open Space.*
- *Conservation Area (pursue conservation easements where possible).*
- *Low density Residential not to exceed 35 ft. or 2.5 stories providing it is not located in high dB noise contours.*
- *Community and Neighborhood Commercial Uses (not to exceed 35 feet in height or outdoor lighting restrictions).*
- *Industrial Uses (not to exceed height restrictions or outdoor lighting restrictions).*
- *Racetracks and Emergency Vehicle Training Uses (may be appropriate as long as they do not generate excessive dust, frequency interruptions, or light at night, and are consistent with the North Sector Land Use Plan).*

OBJECTIVE 3: Avoid incompatible development in the CALS approach and departure routes.

RECOMMENDED DEVELOPMENT STANDARDS: These standards pertain to lands in Comal County that are also located within the three mile area of influence.

- *Discourage new construction within 150 feet of Camp Bullis' fence line.*
- *Encourage the continued use of existing compatible land uses (agricultural, open space).*
- *Discourage new development proposed for the areas located to the north and northeast of the boundaries of Camp Bullis, which are currently used for farming or are designated to be retained in their native condition.*

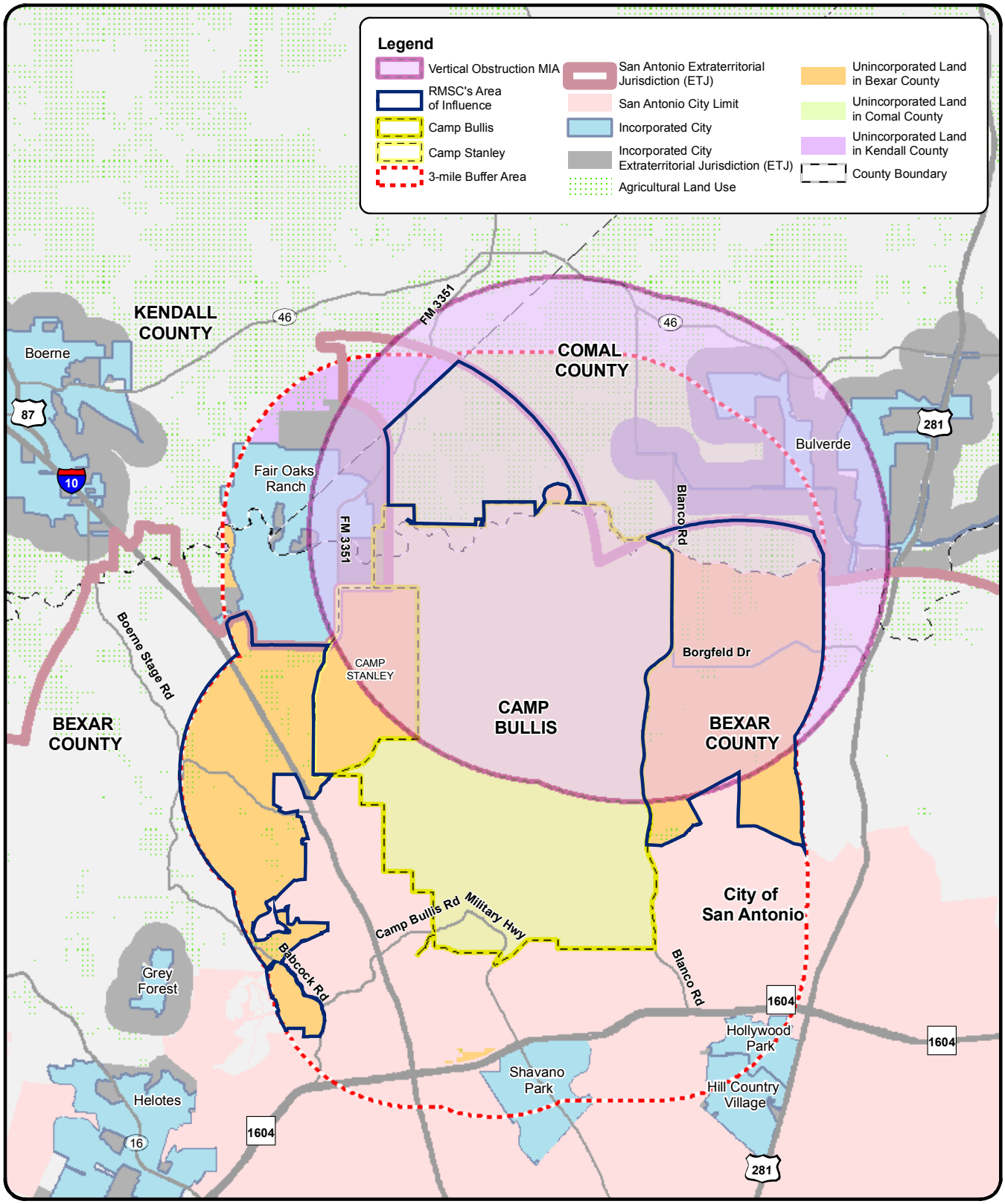

Figure 3
Vertical Obstruction in the RMSC's Area of Concern

- *Pursue conservation easements (where possible).*
- *Allow for the acquisition of critically located property (by an appropriate governmental entity).*
- *Seek opportunities where the transfer of development rights can be used.*
- *Create conservation area buffer zones that protect the Camp Bullis mission by preventing development.*
- *Discourage residential, industrial, and commercial uses.*

RECOMMENDED PERMISSIBLE LAND USES:

- *Resource protection and open space.*
- *Livestock farming and animal breeding.*
- *Agricultural and forestry related activities.*
- *Fishing activities and related services.*
- *Mining activities and other resources production and extraction as long as they do not generate excess dust, light pollution, or height restrictions.*

Objective 4: To prevent the attraction of birds across fixed and rotary-wing flight routes and to coordinate land uses with the Camp Bullis Bird Air Strike Hazard (BASH) Plan (if authorized and implemented in the future).

BACKGROUND: As shown on Figure 4, the UH-60 flight paths and their noise contours extend beyond Camp Bullis to the southwest over San Antonio lands in the area of influence. In addition, the rotary-wing Nap of the Earth (NOE) route around the perimeter of the Camp and approach and departure paths to/from the CALS are areas of concern.

RECOMMENDED DEVELOPMENT STANDARDS. In order to manage these issues, the following standards should apply:

- *Recommend no construction within 150 feet of Camp Bullis' fence line.*
- *Recommend denial of all projects that include landfills or uncovered outdoor water storage areas.*
- *All development permits should be determined compatible with the requirements of the Camp Bullis BASH plan (if authorized and implemented in the future) prior to consideration and approval.*

RECOMMENDED PERMISSIBLE LAND USES:

- *Agricultural and open space (may attract birds and if allowed, should be managed to avoid crop flooding, wetlands).*
- *Residential, as long as wells and outdoor water ponds are managed.*
- *Non-residential, providing they do not interfere with aviation related ingress and egress routes.*
- *Conservation easements (pursue where possible).*

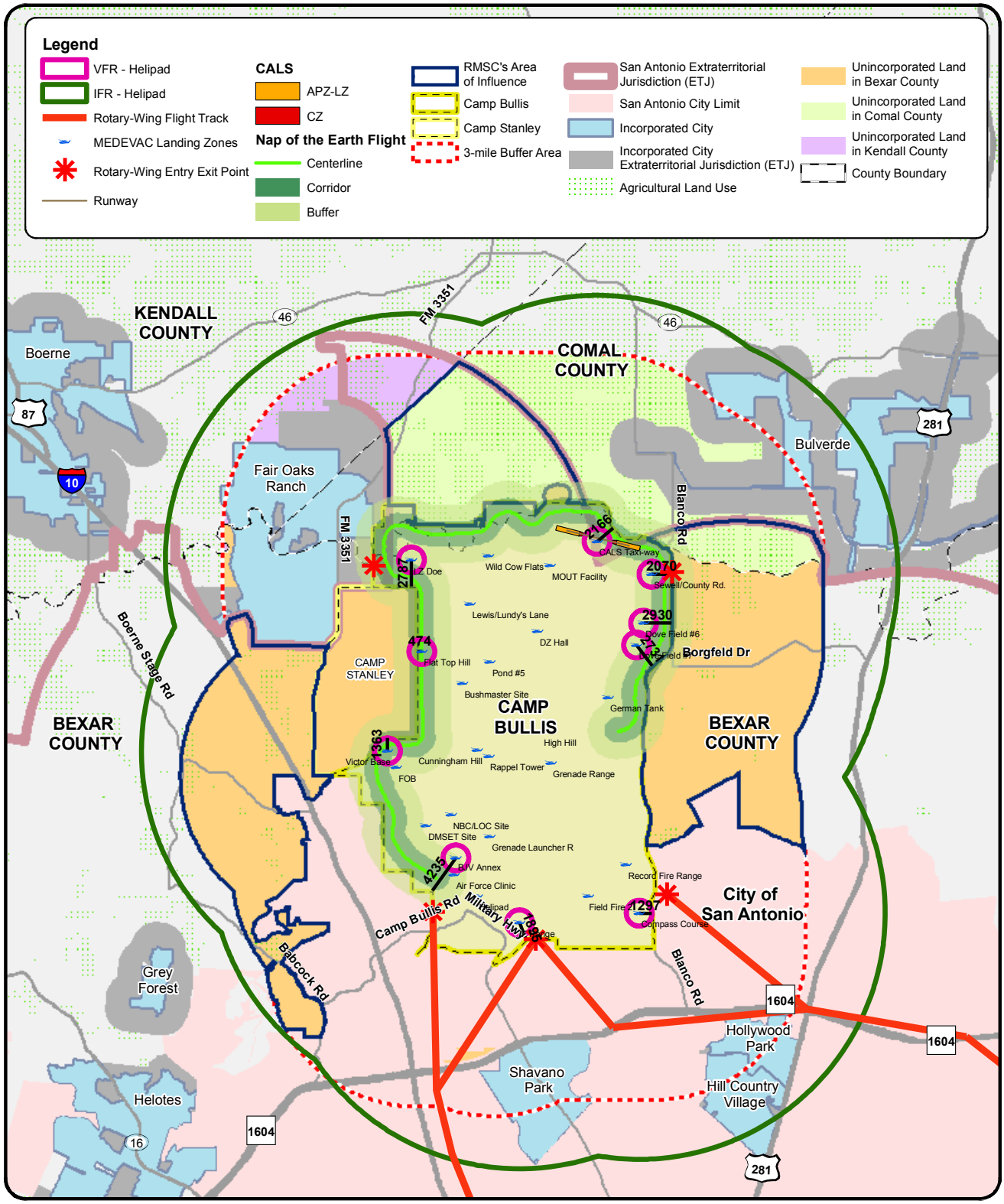

Figure 4

BASH Areas of Concern

OBJECTIVE 5: To mitigate noise concerns and exposure generated by Camp Bullis fixed and rotary-wing aircraft and firing ranges.

BACKGROUND: As shown on Figure 5, both the CALS 65 and 60 decibel contours extend beyond Camp Bullis from the north into Comal County. A majority of the land in this area is in agricultural use.

RECOMMENDED DEVELOPMENT STANDARDS: In order to manage these issues, the following standards should apply:

- *Discourage new construction within 150 feet of Camp Bullis' fence line.*
- *Limit noise sensitive land uses, as designated in the Military Sound Attenuation Overlay District (MSAO), including:*
    - *Single-Family and Multi-family Residential.*
    - *Assisted living facilities, nursing facilities, adult day care and similar congregate living uses.*
    - *Schools-primary, secondary, colleges, and universities, with some exceptions.*
    - *Religious worship and/or study facilities.*
    - *In-patient medical facilities including hospital and residential treatment centers.*
    - *Funeral homes.*
    - *Child care facilities.*
    - *Senior / community centers / libraries.*
    - *Habitable portions of the uses identified above will either:*
    - *Achieve an outside to inside noise reduction of 25 decibels.*
    - *Utilize construction materials to achieve a sound transmission class (STC) rating of 40 for walls and ceilings; a rating ranging from 30 to 40 (based on window / door composition of wall area) for windows and doors; and comply with provisions for air circulation / fresh air without the need to open windows, doors or other exterior openings.*
- *Schools and hospitals should not be located in this area.*

RECOMMENDED PERMISSIBLE LAND USES:

- *Resource and Agricultural (allowed in all noise contours).*
- *The following are acceptable uses within the 65 to 74 dB noise contours:*
    - *Commercial- Neighborhood, Community and Regional.*
    - *Industrial-Heavy, Light, Business Park – providing light and vertical obstructions are not generated.*
    - *Office District (High-Rise, Mid-Rise) – providing vertical obstructions are not generated.*
    - *Conditionally acceptable uses are:*
        - *Residential (Single Family, Mixed) between 1 and 11 units per acre - with the appropriate sound attenuation design or real estate disclosures.*

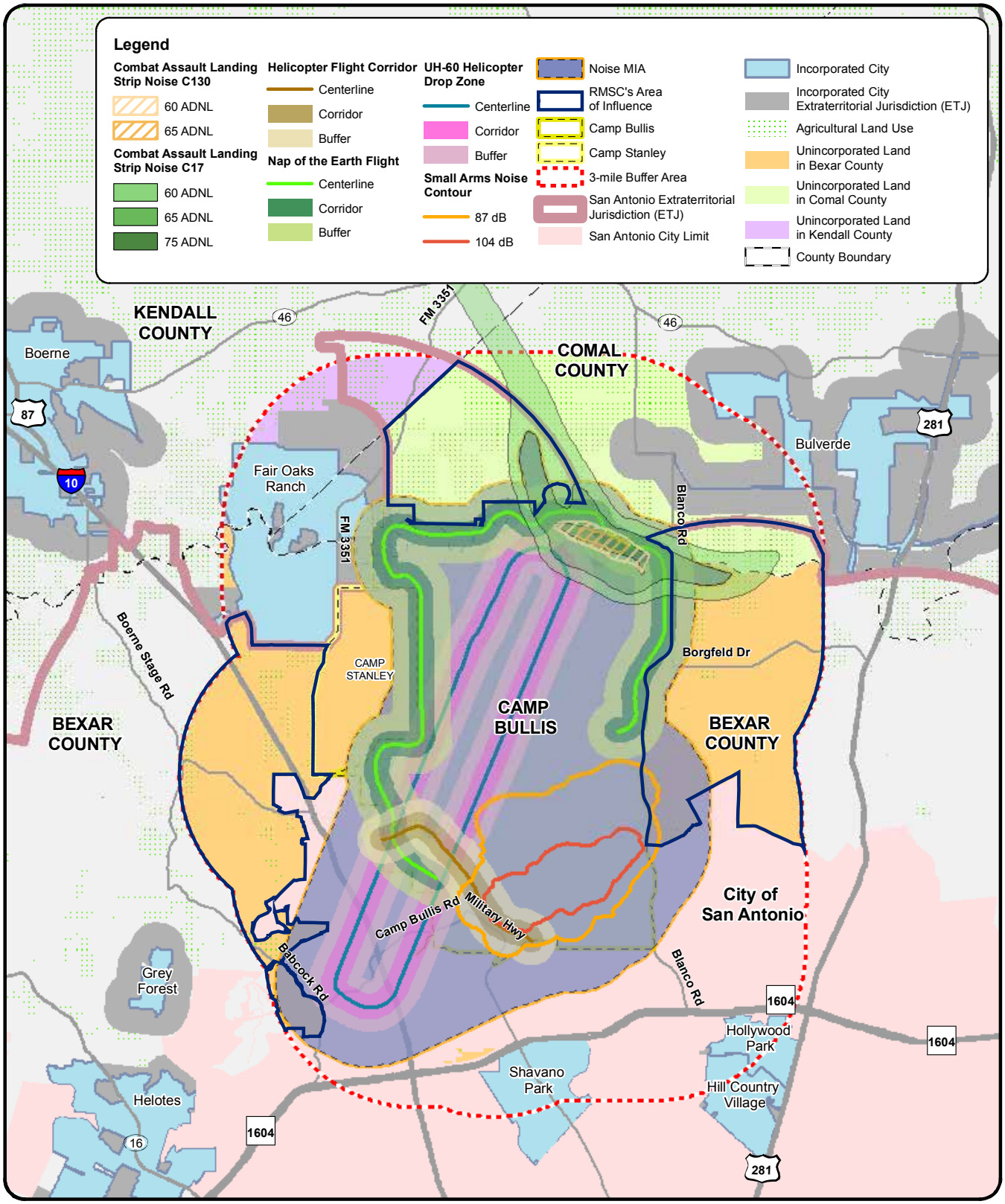

Figure 5
Noise Issues and Flight Paths in the RMSC's Area of Influence

OBJECTIVE 6: To avoid additional light generation, especially by structures that are located at a higher elevation than Camp Bullis and to reduce light pollution and glare generated by existing and new development that would negatively impact night vision device (NVD) training.

BACKGROUND: The cities of San Antonio and Shavano Park, as well as the counties of Comal and Bexar have all adopted dark sky ordinances to protect the missions at Camp Bullis. Camp Bullis uses night vision devices in training areas near the perimeter of the installation's boundary for both ground and air training operations.

As shown on Figure 6, the Light MIA Zone 1 is a one-mile area surrounding Camp Bullis. The Light MIA Zone 1 regulations recommend mitigating point source light at elevations in excess of 1,200 feet. Communities located within the one-mile radius of Camp Bullis include portions of Bexar County directly adjacent to the installation to the northeast, portions of Comal County directly north of Camp Bullis and portions of the City of San Antonio adjacent to the western and southern boundaries of Camp Bullis.

RECOMMENDED DEVELOPMENT STANDARDS: The Light MIA Zone 2 encompasses a five-mile area around the border of Camp Bullis, where ambient light generation should be managed. Light generation from development in these areas should be closely monitored so that it does not interfere with night training. The following standards should apply:

- *Recommend no new construction within 150 feet of Camp Bullis' fence line.*
- *Where possible, limit density within the one mile area of influence to less than or equal to six units per acre, especially near Fair Oaks Ranch and Hollywood Park.*
- *Limit light and glare from existing structures within Comal County, which are sited at a higher elevation than Camp Bullis.*
- *Consider applying high-intensity lights and military filters to block the spectra of ambient light.*
- *Discourage outdoor sports complexes, sports arenas, and similar uses that produce ambient light located within 0.5 miles of the southwest corner of Camp Bullis, where a large amount of field training and night training operations occurs.*

RECOMMENDED PERMISSIBLE LAND USES:

- *Within 0.5 miles of Camp Bullis, the following are compatible land uses:*
    - *Agriculture.*
    - *Heavy Industrial / Light industrial / Business Park.*
    - *Wilderness type parks.*
- *Agriculture, open space and conservation.*
- *Such land uses are compatible as long as they abide by design standards of lighting, are consistent with the standards listed above, and do not exceed vertical height limitations.*

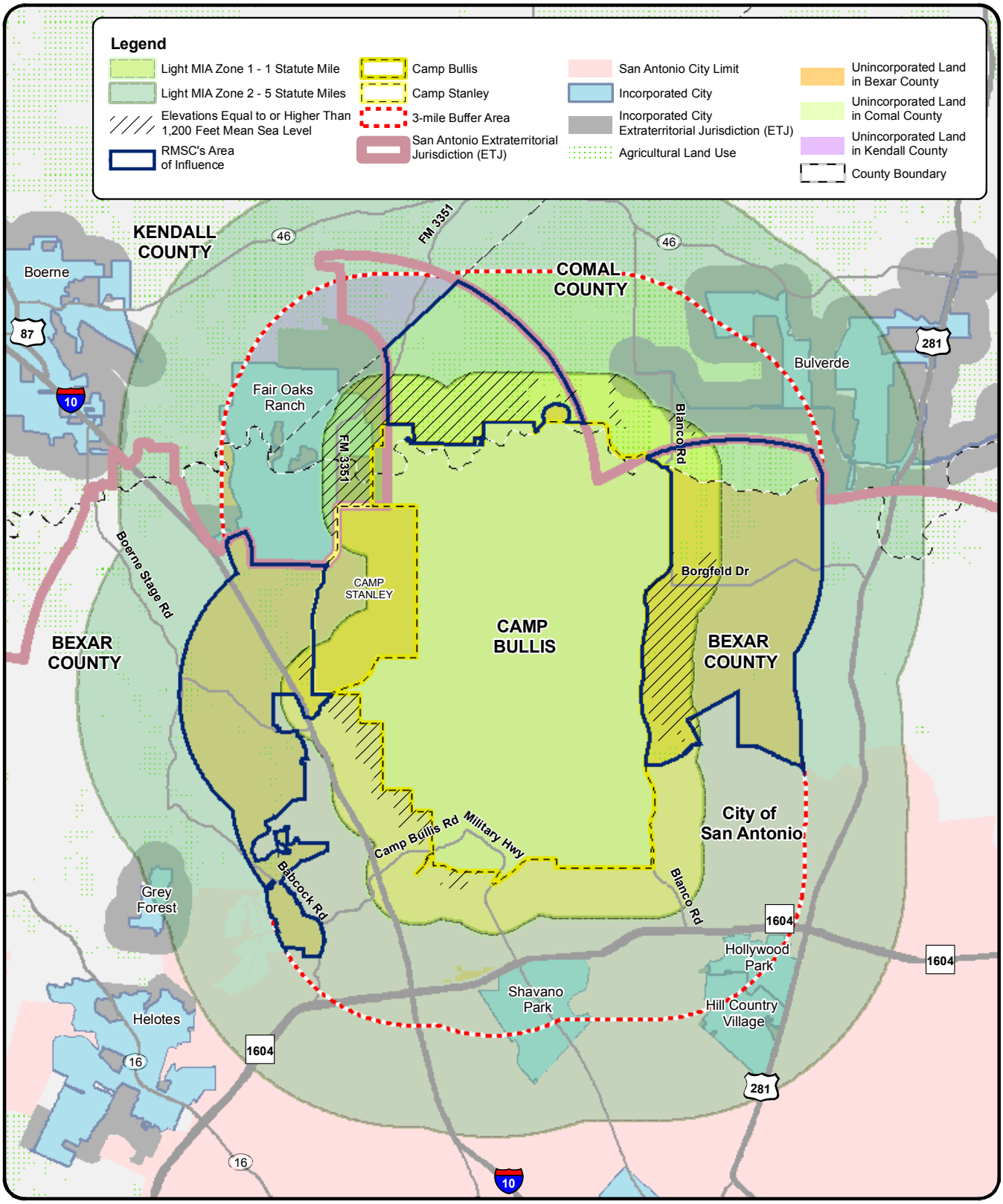

Figure 6
Light Issues in the RMSC's Area of Influence

OBJECTIVE 7: To comply with the Endangered Species Act and prevent the reduction of karst invertebrate habitat.

BACKGROUND: As shown in Figure 7, critical karst habitat includes a significant portion of land south of Camp Bullis in Bexar County, Hollywood Park and Shavano Park, within the three mile area of influence (to be compliant with the provisions of the Regional Military Sustainability Commission territory, if implemented in the future).

RECOMMENDED DEVELOPMENT STANDARDS: Strict development limitations should be imposed on areas designated Karst Zone 1 and 2. The following standards should apply:

- *Analysis of project impact to known invertebrate karst species habitat in Karst Zone 1 and Karst Zone 2 (areas which have a high probability of containing suitable habitat for listed invertebrate karst species).*
- *Any development that threatens to destroy critical habitat in Karst Zone 1 and 2 should not be approved. If such a project is approved, mitigation measures preserving habitat may be required.*
- *Encourage new development to be located in Karst Zones 3, 4 and 5 [Karst Zone 3- areas that probably do not contain listed invertebrate karst species; Karst Zone 4 – areas which require further research but are generally equivalent to Zone 3, although they may include areas which could be classified as Zone 2 or Zone 5 as more information becomes available; Karst Zone 5 – areas which do not contain listed invertebrate karst species].*
- *Pursue conservation easements and transfer of development rights, where possible.*

RECOMMENDED PERMISSIBLE USES:

- *Karst Habitat Zones 3 and 4 can tolerate moderate development such as low density residential, mixed-use and commercial provided studies do not demonstrate otherwise.*
- *Karst Habitat Zones 1 and 2 should be designated as a conservation area, proposed development should not be granted approvals, unless permitted by the USFWS.*

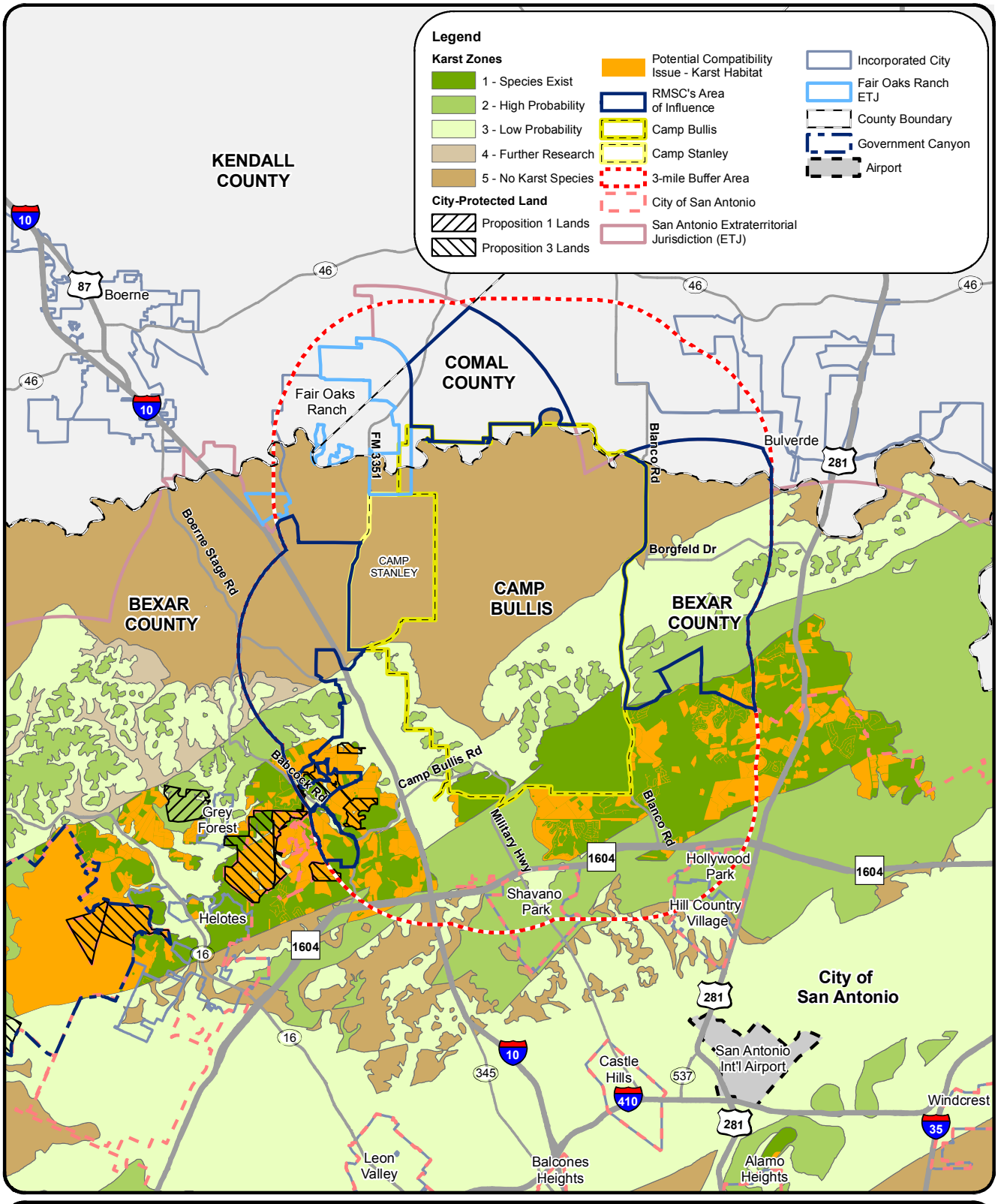

Figure 7

Karst Habitat in the RMSC's Area of Influence

OBJECTIVE 8: Avoid Golden-cheeked Warbler endangered species displacement.

BACKGROUND: As shown on Figure 8, potential Golden-cheeked Warbler habitat covers large areas in each of the jurisdictions within the five mile Military Influence Overlay Area. Camp Bullis remains the primary location for Golden-cheeked Warbler critical habitat. Since the Golden-cheeked Warbler is designated an endangered species, the presence of habitat on Camp Bullis imposes training limitations.

RECOMMENDED DEVELOPMENT STANDARDS: In order to manage these issues, the following standards should apply:

In order to alleviate these restrictions and create more alternatives for the bird, designated off installation habitat areas should be conserved and not developed.

- *Continue to monitor compliance with the Endangered Species Act.*

RECOMMENDED PERMISSIBLE LAND USES:

- *Agricultural.*
- *Open Space.*
- *Conservation.*
- *Recreation.*

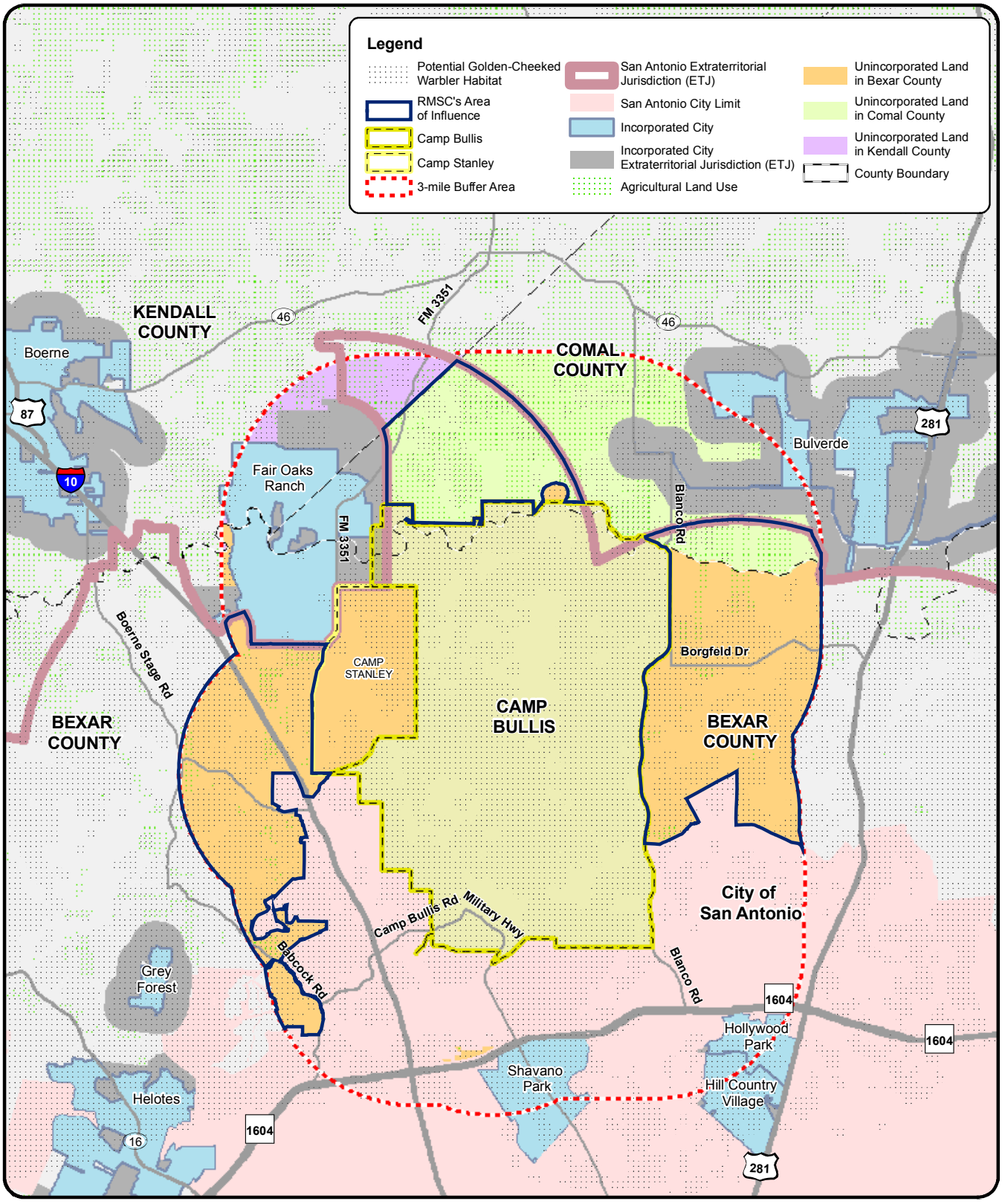

Figure 8
Warbler Habitat in the RMSC's Area of Influence

OBJECTIVE 9: Avoid constructing roadways and transportation corridors that attract commercial development in areas where high density / intensity development would be incompatible with Camp Bullis' operations.

BACKGROUND: As shown on Figure 9, Interstate 10 and Loop 1604 constitute the principal arterial transportation corridors within the five mile Military Influence Overlay Area. These roadways could present development opportunities that conflict with a number of the encroachment issues facing the installation. Of particular concern are the areas surrounding the juncture of IH-10 and Loop 1604 in the City of San Antonio, where there is a great deal of critical Golden-cheeked Warbler and karst habitat located within the UH-60 flight path.

RECOMMENDED DEVELOPMENT STANDARDS: Along these roadways, the following standards should apply:

- *Limit commercial, residential and planned unit development, unless the project is consistent with the North Sector Land Use Plan.*
- *Limit the development of land around the departure and landing areas, including the area around the intersection of Dietz Elkhorn Road/Blanco Road, located on the eastern installation boundary.*

RECOMMENDED PERMISSIBLE LAND USES:

- *Agricultural.*
- *Open Space.*

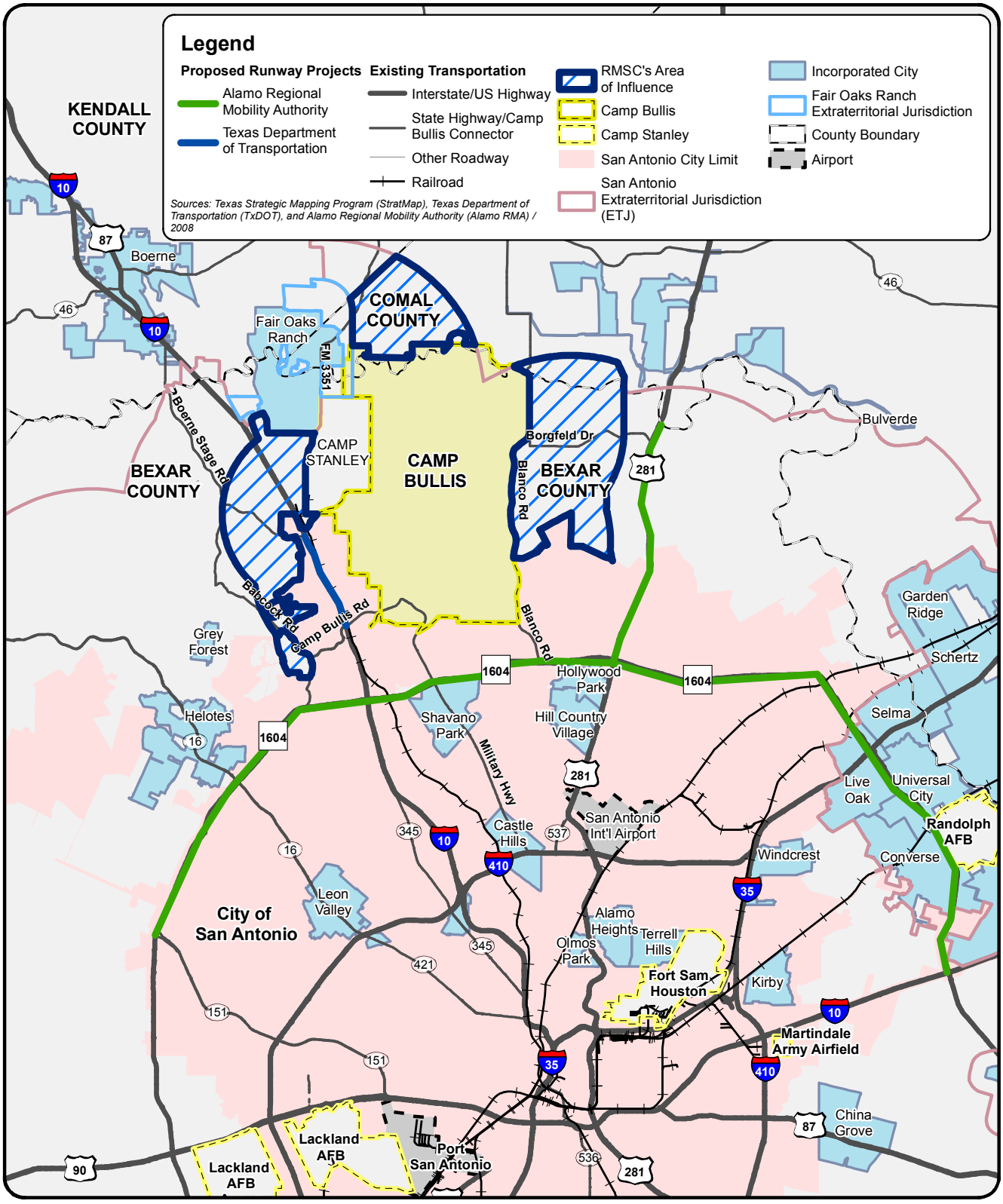

Figure 9
Roadway Issues in the RMSC's Area of Influence

Table 1: Recommended Zoning and Land Use Compatibility

Zoning Category				Aviation Safety Zones			Noise Zones			
City of San Antonio		Recommended DU/AC	Recommended Building Height	CZ	APZ I	APZ II	65-69 dB	70-74 dB	75-79 dB	80+ dB
RP	Resource Protection	.01	35 ft / 2.5 stories							
RE	Residential Estate	1	35 ft / 2.5 stories							
R20	Residential Single-Family	2	35 ft / 2.5 stories							
R-6	Residential Single-Family	7	35 ft / 2.5 stories							
RM-6	Residential Mixed	7	35 ft / 2.5 stories							
R-5	Residential Single-Family	9	35 ft / 2.5 stories							
RM-5	Residential Mixed	9	35 ft / 2.5 stories							
R-4	Residential Single-Family	11	35 ft / 2.5 stories							
RM-4	Residential Mixed	11	35 ft / 2.5 stories							
R-3	Residential Single-Family	---	35 ft / 3 stories							
MF-18	Limited Density Multi-Family	18	35 feet							
MF-25	Low Density Multi-Family	25	35 feet							
MF-33	Multi-Family	33	45 feet							
MF-40	Multi-Family	40	60 feet							
MF-50	Multi-Family	50	---							
NC	Neighborhood Commercial		25 feet							
O-1	Office District		25 feet							
O-1.5	Mid-Rise Office District		60 feet							
O-2	High-Rise Office District		---							
C-1	Light Commercial		25 feet							
C-2	Commercial		25 feet							
C-2P	Commercial		25 feet							
C-2NA	Commercial, Nonalcoholic Sales		25 feet							
C-3	General Commercial		35 feet							
C-3R	General Commercial,		35 feet							
C-3NA	General Comm., Nonalcoholic Sales		35 feet							
D	Downtown		---							
L	Light Industrial		35 feet							
I-1	General Industrial		60 feet							
I-2	Heavy Industrial		60 feet							
UD	Urban Development	33	35 ft / 2.5 stories							
RD	Rural Development	1	35 ft / 2.5 stories							
FR	Farm & Ranch Development	.04	35 ft / 2.5 stories							
MI-1	Mixed Light Industrial		30 feet							
MI-2	Mixed Heavy Industrial		50 feet							

Generally Recommended

Conditionally Recommended

Not Recommended

Source: Matrix Design Group and City of San Antonio, June 2010

Definitions

"Agricultural use" means use or activity involving agriculture.

"Agriculture" means:

A. cultivating the soil to produce crops for human food, animal feed, seed for planting, or the production of fibers;

B. practicing floriculture, viticulture, silviculture, or horticulture;

C. raising, feeding, or keeping animals for breeding purposes or for the production of food, fiber, leather, pelts, or other tangible products having commercial value;

D. planting cover crops, including cover crops cultivated for transplantation, or leaving land idle for the purpose of participating in a government program or normal crop or livestock rotation procedure; or

E. engaging in wildlife management.

"Business day" means any day other than a Saturday, Sunday, or state or federal holiday.

"Chapter 245" is the Chapter of the Texas Local Government Code titled "Issuance of Local Permits".

"Defense Community" is a county with unincorporated area located within five miles of the boundary line of a military installation, and a municipality with a population of 1.1 million or more and with extraterritorial jurisdiction located within five miles of the boundary line of a military installation, each of which, with respect to the same military installation, constitutes a defense community as defined by Section 397.001.

"New project" means a project, as that term is defined by Section 245.001, for which an application for a permit that will establish a vesting date under Chapter 245 has not been submitted to project.

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Acronyms

A

AACOG	Alamo Area Council of Governments
AMF	Army Modular Force
Alamo RMA	Alamo Regional Mobility Authority

B

BexarMet	Bexar Metropolitan Water District
BMAC	Bicycle Mobility Advisory Committee
BRAC	Base Realignment and Closure
BRT	bus rapid transit

C

CCN	Certificate of Convenience and Necessity
CIP	capital improvement plans
CPTED	Crime Prevention Through Environmental Design
CRAG	Community Revitalization Action Group

D

DOD	Department of Defense
Du/Ac	dwelling unit per acre

E

EA	environmental assessment
EAA	Edwards Aquifer Authority
EDF	Economic Development Foundation
EPA	Environmental Protection Agency
ETJ	extraterritorial jurisdiction

F

FAR	Federal Aviation Regulations
far	floor area ratio
FEMA	Federal Emergency Management Agency
FTZ	foreign trade zone

G

GIS	Geographic Information Systems

H

HOV	high occupancy vehicle
HUBZone	historically underutilized business zone
HUD	Housing and Urban Development

I

ICRIP	Inner City Reinvestment Infill Policy

J

JAZB	Joint Airport Zoning Board

M

MIA	military influence area
MLOD	military lighting overlay district
MPO	Metropolitan Planning Organization

MSAO	Military Sound Attenuation Overlay
MTP	Major Thoroughfare Plan

N

NA	Neighborhood Association

P

PC	Planning Commission
PM^{10}	particulate matter (ten microns or less)
PDSD	Planning and Development Services Department
PUD	Planned Unit Development

R

RHCP	Regional Habitat Conservation Plan
ROW	right-of-way

S

SAFE	San Antonio Flood Emergency
SAFFE	San Antonio Fear Free Environment
SAWS	San Antonio Water System

T

TCEQ	Texas Commission on Environmental Quality
TDOT	Texas Department of Transportation
TDR	Transfer of Development Rights
TOD	transit oriented development
TIRZ	tax increment reinvestment zone
TWB	Texas Water Board

U

UDC	Unified Develpment Code
USFWS	US Fish and Wildlife Service

Glossary

Abut
To lie adjacent to another object or to share a boundary.

Adjacent
A condition where two (2) properties, either lots and/or parcels, are located near or close to one another, but not necessarily touching and are separated by a dissimilar type of man made condition or natural feature including, but not limited to a roadway or street, right-of-way, or railroad line, or any stream, river, channel, lake or other body of water. While an adjacent condition may or may not imply contact, it always exhibits the absence of anything of the same kind between two properties.

Arterial Roadway
A route used primarily for the movement of traffic, which may be both local and non-local in nature. Various classifications include:

Primary Arterial
A major thoroughfare, with limited at-grade access, which expands and links to the expressway system and is designed primarily for the movement of through traffic between activity centers of medium intensity.

Secondary Arterial
A major thoroughfare, with limited at-grade access which supports the primary arterial system by providing essential system linkages to expressways, primary arterials, and medium intensity activity centers.

Base Realignment and Closure (BRAC)
A process of the United States federal government directed by the Department of Defense and Congress to close certain excess military installations and realign equipment, personnel, supplies, and other resources to various operating bases. It is aimed at consolidating military forces, increasing efficiency, and reducing costs.

Bicycle Master Plan
A document aimed at comprehensively planning for the expansion of bicycle facilities, paths, and trails, and connecting those facilities to existing infrastructure as well as ensuring its implementation in new developments. It integrates with roadway maintenance programs and identifies which projects should include bicycle infrastructure, and when they should be funded.

Buffer / Buffering
A neutral zone between two incompatible uses that is implemented to reduce the chances of conflict, such as open space between industrial uses and residential areas. This can include fences and berms as well as shrubbery and trees.

Building Articulation and Massing
Building articulation refers to the various design elements on the façade of a building that can be observed from the street, such as building materials, corner treatments, cornices, architectural details, etc. Building massing is the physical area that a building occupies in three dimensional space, and is a function of its setbacks, height, width, depth.

Bus Rapid Transit (BRT)
BRT is a term applied to bus lines that receive a wide variety to treatments aimed at providing faster, more efficient service than a regular bus line. Such treatments can include dedicated bus lanes, grade separation, special vehicles, enhanced scheduling, and many more. The general idea behind BRT is to create bus lines that approach the service quality of rail transit.

Capital Improvement Plans (CIP)
A CIP is a short to medium range plan used by a municipality or district to identify needed capital projects and equipment purchases and prioritize and schedule them according to necessity and available financial resources.

Census Tract
Small areas into which large cities and adjacent areas have been divided for statistical purposes. Each census tract is based upon an average population of four thousand people.

Centers and Tiers
Different land use classifications according to type of use (office, residential, mixed use, etc.), development intensity (density, building massing), and service area (regional, local, neighborhood).

Certificate of Convenience and Necessity (CCN)
A CCN is issued by the Texas Commission of Environmental Quality to an entity providing retail water or sewer service in an "uncertified" area. The purpose of obtaining a CCN is to protect these service areas from encroaching utilities.

Cluster Development
A design technique that concentrates buildings in specific areas on the site to allow the remaining land to be used for recreation, common open space, and/or preservation of environmentally sensitive features.

Collector Streets
A street that carries traffic from minor streets to the major system of arterial streets and highways.

Community Facilities
Services or conveniences provided for or available to a community. Examples include parks, libraries, fire/police stations, etc.

Community Park
A publicly owned park that is usually in the range of 25 to 50 acres. These parks are larger than neighborhood parks, and provide more amenities and services, but are smaller in size and service area than regional parks.

Community Revitalization Action Group (CRAG) Boundaries
The inner-city area defined by the Community Revitalization Action Group as the San Antonio city limits prior to 1940, which is a 36 square mile area, with the center being the dome of the San Fernando Cathedral. The area is bounded by Hildebrand Avenue to the north, Division Street to the south, Rio Grande Street to the east, and 24th Street to the west.

Commuter Rail
Short-haul passenger rail service that is provided between a central city and its outlying suburbs or nearby towns. It is usually provided to people who travel on a daily basis.
Comprehensive Planning Program
The process that San Antonio follows in developing, adopting, and implementing comprehensive plans.

Conditional/Special Use Permits
A permit issued by the City to a landowner or developer that authorizes land uses in zoning districts that are otherwise not automatically allowed. Usually, this authorization comes with certain conditions attached that must be fulfilled by the landowner or developer as part of the agreement.

Conservation District
Is an overlay district that includes the application of neighborhood based or context-sensitive design standards, individually tailored to address specific development or redevelopment issues.

Context Sensitive Street
A roadway that is designed, operated, and maintained in a manner that considers not only regional transportation goals, but also the local context in which the street exists. Such streets respond to adjacent land uses and surrounding neighborhoods and generally respect traditional street design objectives for safety, efficiency, capacity, and maintenance.

Corridor
A generally linear transportation route that is dominated by one or more main lines for transport, such as a rail lines or highways. The corridor can also include the origins and destinations that are linked together. When referring to a land use, it is a generally linear are where a certain type of development occurs, for example a commercial corridor. These often follow major roadways.

Crime Prevention Through Environmental Design (CPTED)
The practice of influencing and deterring criminal behavior through the layout of the built environment, such as ensuring plenty of window frontage facing the streets so that the impression of surveillance is preserved, or encouraging mixed uses so that there is activity on the street during most times of the day and night.

Curb Cut
An opening in the curb where vehicles may enter or leave the roadway. Where there is no curb, the point at which the driveway meets the roadway pavement is considered the curb cut.

Density
The number of families, individuals, dwelling units, or housing structures per unit of land. Typically used to quantify residential subdivisions, and is expressed as dwelling units per acre (du/ac).

Density Bonus
An increase in the allowed density that a developer may build to above and beyond the normal level of density permitted by the zoning code, usually in exchange for some exaction from the developer, such as green building, providing affordable units, upgrading public facilities, etc.

Design Guidelines
Design guidelines are intended to provide a framework of design criteria within which physical planning can take place. The guidelines provide suggestions for the design of new homes/businesses and repair/rehabilitation of existing homes/businesses in order to maintain the overall character of the neighborhood. Generally, character-defining elements such as front porches, roof slopes, etc. are emphasized in residential guidelines while setbacks, canopies and signage may be emphasized in commercial guidelines.

Dwelling
A building or portion of a building designed exclusively for residential occupancy, but not including motels and hotels.

Dwelling Unit
A building or portion or a building designed exclusively for residential occupancy by one family and provided with sanitation and cooking facilities.

Dwelling Unit Per Acre (du/ac)
A measure of residential density that expresses the number of households that exist within a geographic area divided by the total number of acres in that area. A higher level means more residential density.

Edwards Aquifer
A unique groundwater system serving the water needs of almost two million people in south central Texas, which lies on the eastern edge of the Edwards Plateau.

Edwards Aquifer Contributing Zone
The area that extends 40 miles north along the length of the Edwards Aquifer Recharge Zone, and is where shed water flows near the surface to the Recharge Zone.

Edwards Aquifer Recharge Zone
The area where surface water enters the Edwards Aquifer, which follows the Balcones Fault line.

Edwards Plateau
The region in west-central Texas which is bounded by the Balcones Fault to the south and east, the Llano Uplift and the Llano Estacado to the north, and the Pecos River and the Chihuahuan Desert to the west.

Egress
An exit.

Electric Streetcar
A type of rail vehicle that is of lighter weight and construction than a conventional train, designed for passenger use on short-haul trips within and among nearby cities and towns. Streetcars usually have more frequent stops and headways than conventional trains, and carry fewer passengers. Electrified streetcars operate using electric motors, with the electricity usually provided by overhead electrical wires.

Encroachment
The entry of development into an area that was previously occupied solely by another use, usually one that is incompatible with the encroaching use. An example of this is the spread of residential sprawl toward an airport or military base.

Entitlement
The right to build granted by an agreement or permit issued by the city to a developer. The process of receiving a permit to build is called the entitlement process.

Environmental Assessment
A study for the purpose of identifying the social and environmental costs and benefits of a project or proposal, as well as the magnitude of those impacts.

Equal Housing Opportunity
Policies adopted by the federal government to ensure that all Americans have equal access to the housing of their choice.

Extraterritorial Jurisdiction (ETJ)
State law authorizes San Antonio to regulate specific functions within an area extending five miles beyond its own boundaries. These functions include signs, platting, and the subdivision of land.

FAR Part 77 Height Limits
Refers to Federal Regulation 49 CFR Part 77 which deals with objects affecting navigable airspace and establishes standards, height limits, and notification requirements for said objects.

Floor Area Ratio (FAR)
A measurement, often used for the purposes of limiting building size in zoning ordinances, that is an expression of the total floor area of a building divided by the total land area of the parcel(s) that the building is constructed upon. For example, a building with 10,000 square feet built on a 5,000 square foot piece of property would have a FAR of 2.0.

Foreign Trade Zone (FTZ)
These areas are created in the United States to provide special customs procedures to US plants engaged in international trade-related activities. Duty-free treatment is accorded items that are processed in FTZs and then re-exported, and duty payment is deferred on items until they are brought out of the FTZ for sale in the US market.

Green Building
Development that has minimal environmental impact, is energy and water efficient, utilizes existing infrastructure where possible and uses recycled or recyclable material to create healthier indoor and outdoor environments.

Green roof
A roof of a building that is partially or completely covered by vegetation for the purpose of providing open space, sequestering carbon dioxide, preventing stormwater runoff, and various other benefits.

Greenway
A greenway is a long, narrow strip of land that is comprised of park or open space, such as a creek or gulch. Greenways can often be used for transportation if they contain trails, bike paths, or rail lines.

Heat Island Effect
Heat islands are created in urban areas where the temperature is significantly hotter than surrounding rural areas. This issue often arises due to high levels of concrete and other hard materials in urban areas that absorb heat.

High Capacity Transit
This type of transit differs from normal transit primarily in that it can move larger volumes of passengers at faster speeds. This can be achieved through dedicated right of way, grade separation, more frequent service, higher capacity modes of transit such as rail, and less frequent stops.

Historic Resource
A historic building, structure, site, or district that is significant in history, architecture, archaeology, engineering, or culture that is eligible for listing on a National or State register of Historic Places.

Household
Consists of all the people who occupy a housing unit (as defined by the census bureau).

Housing Master Plan
A comprehensive document that lays out a vision for meeting the housing needs of all of San Antonio's citizens, adopted in 2001.

Housing Unit
A house, an apartment, a mobile home or trailer, a group of rooms, or a single room that is occupied as separate living quarters, or if vacant, is intended for occupancy as separate living quarters (as defined by the census bureau).

High Occupancy Vehicle (HOV) Lanes
Highway or arterial street lanes that are dedicated for the exclusive or near-exclusive use of vehicles containing more than one person.

HUBZone
A historically underutilized business zone that is the target of programs administered by the US Small Business Administration designed to promote job growth, capital investment, and economic development.

Impervious Cover
Ground cover that does not let rain or stormwater penetrate and seep into the soil, but instead forces the water to flow downhill or stand in pools.

Infill Development
New buildings constructed on vacant lots or open sites in an area that is predominantly developed.

In-Lieu Fees
Fees that are exacted from a developer to mitigate the developer's inability or unwillingness to do something normally required by the City.

Inner City Reinvestment Infill Policy (ICRIP)
This policy coordinates public initiatives within targeted areas in order to stimulate private investment in walkable urban communities that are the building blocks of a sustainable region.

Intensity
A term used to express the amount of development located within a particular lot utilized for commercial, office, industrial or civic use. Typically expressed as Floor Area Ratio (FAR).

Joint Airport Zoning Board (JAZB)
An entity created by counties and municipalities with jurisdiction within 1.5 miles of either side of an airport runway or 5 miles of each end of a runway. The board has the authority to adopt, administer, and enforce the airport hazard area zoning and compatible land use zoning regulations.

Karst Invertebrate
Invertebrates that inhabit underground caves and mesocaverns in karst limestone. In Bexar County, Texas, nine of these species are listed as endangered.

Karst Zone
Landscape shaped by the dissolution of a layer or layers of soluble bedrock, usually carbonate rock such as limestone or dolomite.

Land Use
The manner in which land is used. For example, low-density residential land uses primarily include single-family houses.

Large Urban Park
One of the types of parks defined by San Antonio's park hierarchy, these parks serve a broader area than community or neighborhood parks, and can include major facilities such as pools and recreation centers.

Light Rail
A type of urban rail transit that has slower speeds and lower capacities than heavy rail systems, but are larger and faster than streetcars. Light Rail is usually electric, and can operate it its own right of way like heavy rail, or in mixed traffic like a streetcar.

Linear Parks
Provides a physical link between two or more areas. Linear park trails can accommodate bicycling, hiking, jogging, and walking. The width of a linear park system is important because the amount of land included in the corridor is intended to reflect a park-like environment.

Live/Work Units
Living units which also are zoned to allow small businesses to operate from a portion of the structure, generally identified by small retail or service oriented businesses or artist studies.

Local Street
A roadway, often a residential street, designed to provide direct access to individual homes, shops, abutting land, and similar minor traffic destinations. Through traffic is usually not a priority.

Military Influence Area (MIA)
An area surrounding Camp Bullis that has potential to impact military operations if encroaching land uses are constructed upon it. The four military influence areas are defined by four compatibility issue categories: noise, vertical obstruction, light, and safety. For example, the light MIA contains territory that could impact base operations if land uses that produce a lot of glare or night-time light are constructed on it.

Military Lighting Overlay District (MLOD)
A zoning overlay district applied to property in vicinity of Camp Bullis that regulates outdoor lighting in order to protect night-time training activities at the military installation.

Military Readiness
The ability of forces, units, weapon systems, or equipment to deliver the outputs for which they were designed, including the ability to deploy and employ without unacceptable delays.

Mission Verde Plan
San Antonio's plan to develop a more sustainable economy, with a special focus on energy.

Mixed Use
Development that incorporates two or more of the following major land use types; residential, office or retail within a single project.

National Night Out
An event held to raise awareness of police programs in communities such as drug prevention, neighborhood watch, and other anti-crime efforts. It is held the first Tuesday of August, or the first Tuesday of October in Texas to escape hot weather. It has been held annually since 1984 and initially consisted of lights-on vigils, but has since expanded to include block parties, festivals, and other events.

Natural Area
An area left in as near of a natural condition as possible, with minimal impact from humans.

Neighborhood Park
One of the smallest parks in San Antonio's hierarchy of parks, both in scope and size. It is typically 3-10 acres, and is designed to serve only the local neighborhood and therefore has little or no off-street parking or facilities.

Neighborhood Watch
A neighborhood watch (also called a crime watch or neighborhood crime watch) is an organized group of citizens devoted to crime and vandalism prevention within a neighborhood.

Node
A center of activity or development, often located at a major intersection.

Open Space
Land and/or water area with its surface open to the sky or predominantly undeveloped, which is set aside to serve the purposes of providing park and recreation opportunities, conserving valuable resources, and structuring urban development and form.

Overlay District
A zoning district which is designed to be applied on top of a base zoning district, and applies more restrictions above and beyond what the base district would require.

Parks and Recreation Department System Strategic Plan
A plan document intended to provide guidance on future decisions concerning operations, capital improvement needs, and programs for San Antonio's parks and recreation facilities.

Particulate Matter (ten microns or less) (PM10)
Particulate matter in the air less than ten microns, which is the general threshold at which particles can enter the deepest parts of the lung.

Planned Unit Development (PUD)
A zoning category that allows innovation in development by the suspension of standard zoning to be replaced by negotiated agreements between the developer and the city.

Planning Commission
Created by ordinance with the responsibility for reviewing and approving applications for the division and development of land and recommends amendments and additions to the master plan.

Quadrant
A quarter section of the North Sector, either northwest, northeast, southwest, or southeast.

Redevelopment
The demolition of an old building or use on a site and construction of a new use and/or building, or the renovation, improvement and/or restoration of an existing structure.

Regional Habitat Conservation Plan (RHCP)
A plan to provide for the conservation of protected and endangered species within a municipality's jurisdiction. Participation is generally voluntary.

Rehabilitation
The restoration or repair of dilapidated housing or other types of structures to make habitable or usable again.

Rehabilitation Grants and Programs
Monetary grants and loans provided by municipal, state, and federal governments for the purpose of enabling and encouraging the rehabilitation of housing stock.

Revitalization
The restoration of physical activity or vitality or economic activity to a neighborhood or district.

Right-of-Way (ROW)
A strip of land that is dedicated for the purpose of transportation, such as land for a highway, road, or rail line.

Riparian
Relating to the interface between land and a river or stream. For example, a riverbank.

Road Diet Analysis
A consideration to convert an existing four-lane undivided roadway to a two-lane roadway, including a two-way left turn lane, by removing a travel lane in each direction. The remaining roadway width can be converted to bike lanes, on-street parking or sidewalks.

Roundabout
A raised traffic island, usually landscaped, located in the middle of an intersection of arterial streets. Similar to a traffic circle but located in a busier intersection at a larger scale. Traffic circulates counter-clockwise around the island. Cars in the roundabout have the right-of-way, while cars entering must yield. Traffic slows but does not stop because left turns are not possible.

Sector
One of seven planning areas defined by the City of San Antonio for its own comprehensive plan.

Setback
The required or actual placement of a building a specified distance away from a road, property line or other structure.

Single Family Detached Dwelling
A dwelling that is designed to be occupied by only one family and surrounded by open space or yards and is not attached to any other dwelling.

Site Grading
The process of ensuring that the slope of land on a site is appropriate for constructing a foundation, or providing infrastructure such as water, sanitation, and/or stormwater sewer.

Site Plan
Plans that provide a bird's-eye perspective on how structures, parking lots, and other facilities would be situated on a site.

Sports Complex
An amenity that can be found in certain types of larger parks in San Antonio that provide sports facilities such as indoor courts.

Stakeholder
A person or a formal/informal group having a direct or indirect interest, involvement or investment in the outcome of a defined process, action or issue.

State Franchise Tax Credit
A credit for a tax that is imposed on a corporation by the State of Texas.

Stormwater Features
The use of natural and/or man-made landforms, topography and/or structures to direct the flow and retain/detain precipitation that cannot be absorbed into the land, allowing for a controlled release into designated streams, channels or impoundments. Such features may include, but are not limited to play fields that can serve as retention ponds or park layouts that utilize natural looking drainage corridors.

Strategic Historic Preservation Plan
A long-term plan creating a vision for strengthening and enhancing the City's current historic preservation program.

Streetscape
The visual character of a street as determined by elements such as structures, greenery, driveways, open space, view, and other natural and man-made components.

Subdivision Designs
The design and layout of the multiple smaller parcels that result from the division of a single large parcel.

Suitability Analysis
The analysis and classification of land according to its suitability and readiness to accommodate new development.

Tax Abatement
A reduction of real estate taxes due over a period of time.

Tax Increment Reinvestment Zone (TIRZ)
A geographically defined area with a special mechanism for funding capital improvements that involves establishing a benchmark level of property taxes during the creation of the zone, and devoting any additional property taxes generated through redevelopment toward capital improvements for a specified period of time.

Texas Enterprise Zone
The Texas Enterprise Zone Program is an economic development tool for local communities to partner with the State of Texas to promote job creation and capital investment in economically distressed areas of the state.

Townhome
A single family dwelling in a row of at least three such units in which each unit has its own front and rear access to the outside and each unit is separated from another unit by one or more common fire resistant walls.

Transfer of Development Rights (TDR)
TDR programs allow developers to relinquish the development rights on a certain piece of property and sell or otherwise transfer them to another piece of property in the form of density bonuses.

Transit Oriented Development (TOD)
Development that is located within proximity to a transit station that recognizes that context, and is designed to maximize access public transport and encourage ridership.

Watercourse
A natural or artificial channel through which water flows.

Wetland
An area of low-lying soil that is saturated with water either permanently or seasonally.

Zoning
Regulates density and land use. Zoning is a key tool for carrying out planning policy.

Zoning Application
An application petitioning for an amendment of the City's official zoning map, such as a request to rezone a piece of property.

Zoning Ordinance
Rules and regulations that govern the way land is zoned (separated according to land uses) in a city.

Planning Commission Resolution

RESOLUTION NO. 10 - 7 - 42

RECOMMENDING THE NORTH SECTOR PLAN, AN APPROXIMATELY 383 SQUARE MILE AREA BOUNDED BY LOOP 410, GRISSOM ROAD, AND CULEBRA ROAD TO THE SOUTH; LOOP 1604 AND TEXAS HIGHWAY 16/ BANDERA ROAD TO THE WEST; A MEANDERING LINE FOLLOWING THE CITY OF SAN ANTONIO EXTRA-TERRITORIAL JURISDICTION NORTHERN BOUNDARY TO THE NORTH; AND A MEANDERING LINE FOLLOWING THE CITY OF SAN ANTONIO EXTRA-TERRITORIAL JURISDICTION EASTERN BOUNDARY, IH-35, AND TOEPPERWEIN ROAD TO THE EAST TO CITY COUNCIL TO BECOME A COMPONENT OF THE CITY'S COMPREHENSIVE MASTER PLAN, AS IT CONFORMS TO THE APPROVAL CRITERIA SET FORTH IN THE UNIFIED DEVELOPMENT CODE, §35-420, PERTAINING TO "COMPREHENSIVE, NEIGHBORHOOD, COMMUNITY AND PERIMETER PLANS."

WHEREAS, the 1997 Master Plan Neighborhood Goal 2 calls for strengthening neighborhood plans; and

WHEREAS, the San Antonio Planning Commission has approved the 2009 Comprehensive Planning Program; and

WHEREAS, the *Unified Development Code* (adopted May 3, 2001), Section 35-420, sets forth provisions for the development and approval of Comprehensive, Neighborhood, Community and Perimeter Plans; and

WHEREAS, the San Antonio Planning Commission has reviewed the North Sector Plan and found the plan to be consistent with City policies, plans and regulations and in conformance with the *Unified Development Code*, Section 35-420, therefore meeting all requirements; and

WHEREAS, a public hearing was held on July 14, 2010 and July 28, 2010.

NOW, THEREFORE, BE IT RESOLVED BY THE PLANNING COMMISSION OF THE CITY OF SAN ANTONIO:

SECTION 1: The North Sector Plan attached hereto and incorporated herein by reference is to be submitted to the City Council with this Commission's recommendation for approval by the City Council that it be adopted as a component to the City's Comprehensive Master Plan.

PASSED AND APPROVED ON THIS 28th DAY OF JULY 2010.

Approved:

Amelia Hartman, Chair
San Antonio Planning Commission

Attest:

Executive Secretary
San Antonio Planning Commission

City Council Ordinance

SG/cla
08/05/2010
P-1

THE NORTH SECTOR PLAN

AN ORDINANCE 2010-08-05-0672

ADOPTING THE NORTH SECTOR PLAN AS A COMPONENT OF THE MASTER PLAN OF THE CITY IN AN AREA BOUNDED BY: LOOP 410, GRISSOM ROAD, AND CULEBRA ROAD TO THE SOUTH; LOOP 1604 AND TEXAS HIGHWAY 16/ BANDERA ROAD TO THE WEST; A MEANDERING LINE FOLLOWING THE CITY OF SAN ANTONIO EXTRA-TERRITORIAL JURISDICTION NORTHERN BOUNDARY TO THE NORTH; AND A MEANDERING LINE FOLLOWING THE CITY OF SAN ANTONIO EXTRA-TERRITORIAL JURISDICTION EASTERN BOUNDARY, IH-35, AND TOEPPERWEIN ROAD TO THE EAST.

WHEREAS, the North Sector Plan includes approximately 400 square miles and 568,000 residents and is bounded by: Loop 410, Grissom Road, and Culebra Road to the south; Loop 1604 and Texas Highway 16/ Bandera Road to the west; a meandering line following the City of San Antonio Extra-territorial Jurisdiction northern boundary to the north; and a meandering line following the City of San Antonio Extra-territorial Jurisdiction eastern boundary, IH-35, and Toepperwein Road to the east; and

WHEREAS, the planning process was initiated in January 2010, a Planning Team was established, and eight Planning Team Meetings, four Public Meetings, and six Community Meetings were held; and

WHEREAS, the San Antonio Planning Commission reviewed the North Sector Plan on July 14 and July 28, 2010, and found the plan to be consistent with City policies, plans and regulations and in conformance with the *Unified Development Code*, §35-420, therefore meeting all requirements; and

WHEREAS, a public hearing was held on July 14 and July 28, 2010, and the Planning Commission recommended that the City Council adopt the North Sector Plan as an addendum to the neighborhood component of the Master Plan adopted May 29, 1997; **NOW THEREFORE;**

BE IT ORDAINED BY THE CITY COUNCIL OF THE CITY OF SAN ANTONIO:

SECTION 1. The North Sector Plan is hereby adopted as a component of the Master Plan of the City of San Antonio for an area of approximately four hundred square miles bounded by: Loop 410, Grissom Road, and Culebra Road to the south; Loop 1604 and Texas Highway 16/ Bandera Road to the west; a meandering line following the City of San Antonio Extra-territorial Jurisdiction northern boundary to the north; and a meandering line following the City of San Antonio Extra-territorial Jurisdiction eastern boundary, IH-35, and Toepperwein Road to the east. A copy of the plan is attached hereto and incorporated herein by reference for all purposes as **Attachment "I".**

SECTION 2. This ordinance shall take effect on August 15, 2010.

PASSED AND APPROVED on this 5th day of August 2010.

M A Y O R
Julián Castro

ATTEST:

Leticia M. Vacek, City Clerk

APPROVED AS TO FORM:

for Michael Bernard, City Attorney

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FOR ADDITIONAL INFORMATION CONTACT:

City of San Antonio
Planning and Development Services Department
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