

Land Use Data & Analysis: Addendum

Comprehensive Plan Amendment
for Long Term Master Plan

Plum Creek Envision Alachua Sector Plan

June 2015
(EASP - Data & Analysis - Land Use)

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PREFACE

This Land Use Data & Analysis Addendum amends and supplements the original Section IV.B Land Use Analysis, dated December 2013, in support of Plum Creek's Envision Alachua Sector Plan (EASP) Application for Comprehensive Plan Amendment. The two documents are complementary and should be viewed together. The Land Use Data & Analysis Addendum provides an overview of the revisions to land use designations since the original EASP application (December 2013) and additional land use analysis conducted in support of the application.

The additional land use analysis reflects input from two additional years of the Envision Alachua community planning process (Phase II and Phase III Community Task Force) and economic progress initiatives. Further, the analysis addresses feedback from the EASP Workshop Staff Report (August 2014) and associated four community workshops convened by the Alachua County Board of County Commissioners in September 2014.

The EASP continues to maintain the original vision set forth by Plum Creek and the community to provide an opportunity for accommodating new job centers to address economic development objectives in East County while substantially adding to the inventory of natural lands protected from development.

Since the original application submission, former Area A has been renamed "SR 20 Job Center" and former Area C has been renamed "US 301 Job Center." The former Area B has been removed from the EASP application, renamed "EA-Hawthorne," and will be implemented through annexation and land use approval from the City of Hawthorne through Comprehensive Plan Amendment. Other changes to land uses and property ownership are noted in Section I of this document.

In addition to the Sector Plan application's requirements addressed in the December 2013 Land Use Analysis (existing conditions analysis, framework map and general description of land use and density, principles and guidelines relative to urban form, development patterns and future interrelationships), this addendum includes the following supplemental analysis: land use and development suitability analysis, job centers compact development analysis, comprehensive case study analysis, and East Gainesville land use and vacant lands analysis.

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I. ENVISION ALACHUA FRAMEWORK MAP, JUNE 2015 REVISION

The Envision Alachua Sector Plan (EASP) Framework Map (**Figure 1**, Appendix A) and corresponding land use acreages (**Table 1**) have been revised to reflect Plum Creek ownership as of June 2015, revisions to the land use designations of the original EASP application, and additional land use data and analysis conducted since submission of the December 2013 *Land Use Data & Analysis (Section IV.B, EASP)*. The revised Framework Map and land use distribution are utilized as the foundation for the land use suitability analysis, which is described in this memorandum.

The Framework Map reflects the collaborative work of the citizen-based Envision Alachua community visioning planning process and illustrates land use relationships that will support future economic development in East Alachua County.

Table 1: Envision Alachua Sector Plan Land Use Distribution (Revised June 2015)

Land Use	Acre ^s *	% of Land Use	% of EASP
Conservation Land Use	41,691	--	79.0%
Existing Conservation Easement	22,865	55%	43.3%
New Conservation Easement	18,826	45%	35.7%
Preservation Land Use	3,538	--	6.7%
EOMU Land Use	5,555	--	10.5%
Minimum Open Space	2,175	39%	4.1%
Maximum Development	3,380	61%	6.4%
Rural Land Use	1,961	--	3.7%
Total	52,745	--	100%

**Acreages rounded to the nearest whole number.*

For the purposes of the suitability analysis, the Employment Oriented Mixed Use (EA-EOMU) Land Use depicted on the Framework Map and noted in the table above has been organized into two geographic areas: SR 20 Job Center and US 301 Job Center (**Figure 2**, Appendix A). These two areas are proposed to be the focus of future economic and community development.

Table 2 provides a summary breakdown of the additional acres that will be protected from development through the EASP. In the revised EASP application, 88% of new land uses (new Conservation Easements, Preservation, and Employment Oriented Mixed Use) will be protected from development, and 12% will be developed. For every one (1) acre that is developed, an average of 7.25 additional acres of land will be protected from development. In total, 93.6% of all EASP land will be protected from development.

Table 2: Envision Alachua Sector Plan Acres Protected from Development

Land Use	Acres Currently Protected from Development	New Acres Protected From Development	Max. Acres Developed	No Change in Land Use	Total Acres
EA-Rural	---	---	---	1,961	1,961
EA-Preservation	---	3,538	---	---	3,538
EA-Conservation	22,865	18,826	---	---	41,691
<i>Existing Easements</i>	22,865	---	---	---	22,865
<i>New Easements</i>	---	18,826	---	---	18,826
EA-EOMU	---	2,175	3,380	---	5,555
<i>Minimum Open Space</i>	---	2,175	---	---	2,174
<i>Maximum Development</i>	---	---	3,380	---	3,381
Total	22,865	24,539	3,380	1,961	52,745

II. REGIONAL LAND USE SUITABILITY ANALYSIS

Over the past four years, Plum Creek Timber Company, Inc. (Plum Creek) has convened an ongoing community visioning and planning process, Envision Alachua, to develop a Long Term Master Plan (LTMP) for its property in Alachua County. The LTMP has a 50-year planning horizon and serves the public interest of the citizens of Alachua County by guiding conservation and development practices in a manner that ensures adequate protection of resources while strengthening the economic viability of the eastern portion of Alachua County.

The citizen-based planning process has been distinguished by a program of Task Force work sessions, Community Workshops, Educational Forums, Technical Advisory Group consultation, and a comprehensive project website (www.envisionalachua.com) documenting the evolving vision.

During Phase I of Envision Alachua, the Community Task Force defined the purpose and need of the EASP:

- Address poverty and unemployment in East Gainesville and Hawthorne, and address economic inequity issues that exist between West County and East County, through the location of new job centers in East Alachua County.
- Expand existing conservation easements to protect significantly more land from development than would be protected under the current Comprehensive Plan.

Further, the Task Force identified Plum Creek lands framed by Newnan's Lake, SR 20, SR 26, and US 301/CSX rail in East Alachua County as potential areas of focus for economic development and a range of supporting residential, commercial, educational, recreational, and community uses.

Following the Task Force recommendations, comprehensive alternatives analysis was carried out to assess and confirm the suitability of these East Alachua County lands for conservation, job-creation, and mixed use community development. This analysis was conducted in Phases 1 and 2 of the planning process and is documented in the Phase 1 and Phase 2 Task Force reports, the Land Use Data & Analysis (Section IV.B, EASP, Dec. 2013), and the East Gainesville Analysis (See Appendix C). The alternatives analysis supports the regional suitability of the Envision Alachua Employment Oriented Mixed Use Land Use (EA-EOMU).

In summary, several guiding principles reinforce the suitability of EA-EOMU within the regional context:

Reinforce the Conservation Framework

As noted in the Land Use Data & Analysis, areas for Conservation and Preservation Land Uses have been identified based upon their contribution to regional landscape ecological linkages, contiguity with existing conservation lands, and opportunity to contribute to the conservation and enhancement of natural resources, community watersheds, and natural preserves. Conservation Land Use and landscape linkages

are shown in **Figure 4** in Appendix A and described in *Chapter 2, Section IV.B Land Use Analysis, EASP, Dec. 2013*.

The environmental analysis shows that 33% of the total EASP acreage is wetlands. Of the 5,555 acres designated EA-EOMU, approximately 22% are wetlands (wetland boundaries in SR 20 Job Center were confirmed by BDA in May 2015 (See Environmental Data and Analysis), rendering these lands more suitable for economic and community development than the rest of the property. **Table 3** below summarizes wetland acreage and percent distribution for both the EASP and EA-EOMU.

Table 3: Wetlands Distribution within the EASP and EA-EOMU

	Total Acreage	Total Wetlands Acreage	% Distribution of Wetlands
EASP	52,745	17,200	33%
EOMU	5,555	1,232	22%

With this approach to the regional conservation framework, the proposed EA-EOMU in East County is located within the context of a regionally-significant framework of conservation and silviculture land uses.

In the case of the County's strategic ecosystem policies, the EASP provides more acreage under protection and in a more sustainable pattern than a strict interpretation of the County's plan. There will be no development on EASP lands within nine strategic ecosystems. Within lands mapped as the Lochloosa Creek Flatwoods strategic ecosystem, at least 47% of the uplands will be protected from development. In total, at least 80% of the EASP uplands currently mapped within one of the designated strategic ecosystems will be protected. The Comprehensive Plan allows no more than 50% to be protected from development without landowner consent.

Incorporate Preservation Land Use

The EASP considers the broader, regional landscape setting within which the totality of the lands occur, identification of key environmental linkages in the regional landscape, and identification of significant environmental resources within lands targeted for urban uses for resource protection and management.

Approximately 3,538 acres of land extending north-south over 9.4 miles of the EASP are proposed for preservation land use (EA-PRES) on the Framework Map. The Lochloosa Creek corridor has been designated as EA-PRES and will be placed under a Preservation Management Plan. Additionally, a western branch connecting this area to the Newnans Lake Conservation Area and a southern branch connecting to Phifer Flatwoods are designated EA-PRES. This will provide an additional element of protection to this regionally significant ecological corridor. By protecting the creek and key uplands and wetlands that border this important resource, the LTMP Environmental

Plan connects to and augments existing public lands and helps to protect the long-term health and integrity of this system (See Environmental Data and Analysis).

Utilize Existing Infrastructure for Job Centers

The proposed EA-EOMU in East Alachua County (East County) is served by substantial existing transportation infrastructure, including SR 20, SR 26, and US 301 and the CSX railroad. The presence of this existing infrastructure provides a strong basis for the focus of future economic development in the area. **Figure 3** in Appendix A depicts the Plum Creek EASP property within the County context, including existing infrastructure and commercial, institutional, and environmental assets.

Reinforce & Enhance Local Communities

The proposed EA-EOMU in East County is strategically positioned to support protection and enhancement of existing communities including Windsor, the City of Hawthorne, and East Gainesville. Priorities for Windsor and other rural clusters include maintaining the rural character and the historic fabric of the community and respecting adjacencies with regard to edge conditions (**Figure 5**, Appendix A). Similarly, East Gainesville, with its location between downtown Gainesville and East County, is well positioned for future infill development and economic opportunities (See Appendix C).

Ensure Economic Progress

The proposed EA-EOMU in East County is rooted in the goal of creating a progressive economic and community development model with future opportunities for job creation and institutional partnerships to address poverty and unemployment in East Gainesville and the City of Hawthorne. The economic engine of local institutional and commercial anchors, reinforced by the capacity and quality of existing transportation infrastructure, suggests an opportunity for an “Economic Progress Corridor” along SR 20, linking from east to west, the University of Florida, the City of Gainesville and East Gainesville, Plum Creek lands, and the City of Hawthorne (**Figure 6**, Appendix A).

The undeveloped properties within East Gainesville and the properties within the EASP combine to create a diverse mix of economic development opportunities for Alachua County (East Gainesville Analysis, Appendix C). Vacant/undeveloped parcels in East Gainesville are well suited to infill opportunities. Because these parcels are comparatively dispersed and fragmented by existing development, conservation land, and wetlands, they will redevelop as infill opportunities in response to market demand, regulatory requirements, and the context of surrounding land uses. EASP lands could on the other hand accommodate coordinated, large-scale economic development opportunities in a planned context, maximizing the potential to attract companies which will seed, co-locate, and grow over time in one place.

Provide Site Opportunities of Scale for Job Creation

The proposed EA-EOMU in East County provides an opportunity to establish large-scale, entitled parcels for advanced manufacturing/industrial development. The East Gainesville Analysis (See Appendix C) of existing vacant parcels, which are largely

dispersed and fragmented by existing development, further supports the proposed EA-EOMU as the only area in East Alachua County with parcels of sufficient size, and served by rail and major highways, that can accommodate this job opportunity. The EASP will significantly expand the choices that future employers will have in deciding where to locate their businesses, providing opportunities for larger employers that do not currently exist in the market, and facilitating the goal of economic progress for Alachua County. The opportunity to attract significant additional employment to Alachua County is documented in Section IV.E of the EASP application.

III. ENVISION ALACHUA JOB CENTERS: COMPACT DEVELOPMENT GOALS, VALUES, IMPLICATIONS & BENEFITS

Introduction

The regional suitability and alternatives analysis, as informed by the Community Task Force, established the purpose and need of the EASP: to address the related challenges of poverty and unemployment in East Alachua County through new job creation, coupled with a desire for increased conservation land. Further, the analysis identified land areas for these conservation, economic development, and supporting land uses.

To address this purpose and need, the EASP proposes two (2) job centers in East County on the preferred sites identified by the Community Task Force. In the EASP, these two job centers are called the SR 20 Job Center and the US 301 Job Center.

Within these job centers, the Task Force defined a vision of focused job growth and a mix of land uses to maximize economic development opportunities while minimizing development pressure on surrounding areas. Achieving this vision will require establishing the appropriate size/scale for the job centers, identifying the optimal mix of land uses, and embracing the principles of compact development to ensure vibrant, sustained economic progress in East County.

The purpose of Chapter III is to:

- Describe the values of compact development that define planning and design standards for the EA-EOMU land use,
- Define the optimal scale of a mixed use job center within the EA-EOMU land use as informed by national precedents,
- Identify the implications of compact development within the EA-EOMU land use, and
- Discuss the benefits of compact development for East Alachua County.

Goals of the SR 20 Job Center and US 301 Job Center

The Envision Alachua process has produced a clear vision for responsible compact development in eastern Alachua County, following and exceeding the intent of Florida's Sector Planning statutes. Six percent (6%) of the area covered by the plan will be developed following nationally-recognized standards of sustainable land use planning while the remainder will be dedicated to conservation, preservation, rural/agriculture, and open space. Rigorous analysis of land use options and market conditions has resulted in a sensible, sustainable strategy for the build-out of designated EA-EOMU development areas.

The principal goal for the SR 20 Job Center is to focus the majority of future growth within an urban center in order to maximize economic development potential to address unemployment in East Gainesville while minimizing development pressure on surrounding rural, agricultural, and conservation areas. An employment-driven land use

program is envisioned within the EA-EOMU area of the SR 20 Job Center. Together with the land use plan proposed for EA-Hawthorne, the overall Envision Alachua jobs-to-housing ratio of 3:1 ratio sets this project apart from precedent development communities that are largely driven by residential uses. The long-term vision for the SR 20 Job Center is for a diverse mix of uses within a twenty-first century collaboration cluster including office, research and development, advanced manufacturing, industrial, institutional, commercial, and a range of residential types. These uses also include open space, active and passive parks and recreation spaces, and infrastructure, among others.

The principal goal for the US 301 Job Center is to focus advanced manufacturing and industrial campuses in an area well served by existing transportation infrastructure, specifically US Highway 301 and the CSX rail line. The advanced manufacturing uses (large single users and/or manufacturing campus format) will be complemented by a mix of R&D, office, and institutional uses at lower densities than those in the SR 20 Job Center, as well as residential and associated supporting commercial and civic uses. The US 301 Job Center is envisioned to have a physical and programmatic connection to the SR 20 Job Center.

The vision and goals described above, established by the Envision Alachua Task Force through its extensive public planning process, depend upon certain physical planning and development objectives/parameters. The physical arrangement of uses, and the ways these uses relate and connect to one other, will profoundly affect the degree to which the vision can be realized. From a physical planning perspective, the amount of contiguous land area available to create a viable employment and mixed use center, as well as the ability to access and connect development zones through an efficient circulation system and walkable framework, is of critical importance.

III.A: VALUES & DESIGN STANDARDS FOR COMPACT DEVELOPMENT

From a land planning perspective, the physical pattern of development is defined primarily by three (3) attributes: the mix of land uses, the density of development, and the arrangement of streets.

Compact development generally features a diverse mix of land uses at relatively high densities that are well connected by a fine-grained network of multi-modal streets. Such places support a viable urban, walkable environment in which to live and work, and include varied types of residences, schools, parks, playgrounds, convenient shopping, a variety and concentration of jobs, and the potential to support viable transit alternatives.

Conversely, conventional development tends to foster lower-density single-use districts connected by fewer streets, which end up being wider, faster, and less supportive of alternative transportation modes. Most conventional suburban places segregate residential and commercial uses. Land uses are separated rather than integrated around daily needs and public transportation is minimal, if it exists at all.

Definitions and Benefits of Compact Development

Compact development is a simultaneously straightforward and nuanced concept. Its roots are in a nearly two decade-old partnership of the U.S. Environmental Protection Agency (EPA) and several non-profit and government organizations called the Smart Growth Network. Formed to advocate for development patterns and approaches that boost the economy, protect the environment, and enhance community vitality, the Smart Growth Network developed ten principles for smart growth:

- Mix land uses;
- Take advantage of compact building design;
- Create a range of housing opportunities and choices;
- Create walkable neighborhoods;
- Foster distinctive, attractive communities with a strong sense of place;
- Preserve open space, farmland, natural beauty and critical environmental areas;
- Strengthen and direct development towards existing communities;
- Provide a variety of transportation choices;
- Make development decisions predictable, fair, and cost-effective; and
- Encourage community and stakeholder collaboration in development decisions.

An increasing number of state and local laws throughout the country express the principles of smart growth and compact development, at the same time that the recent recession and an ongoing change in housing and living preferences restructure the real estate market. This confluence of policy, demographics, and economic circumstance is fueling a nationwide boom in compact, walkable, mixed use development. Many jurisdictions and states are adapting smart growth ideas into market-driven strategies for encouraging compact development. Florida's Sector Planning statute (2011) is one such example, with its focus on facilitating the linkage of compact development with land conservation through a procedural framework that engages large landowners, developers, and local governments.

Several national planning and real estate organizations have conducted research to identify and evaluate the benefits of compact development. The Urban Land Institute (ULI) completed several studies in recent years of the relationship between land use patterns and transportation, summarized in the report *Land Use and Driving: The Role Compact Development Can Play in Reducing Greenhouse Gas Emissions* (2010). These studies conclude that compact development is a promising strategy for building more livable, active, and sustainable communities that concentrate employment opportunities and reduce automobile dependence and thereby reduce transportation related greenhouse gas emissions. Additionally, according to the ULI studies, successful compact development can help to realize the following advantages:

- Foster the emergence of vibrant, walkable communities;
- Make active, healthier lifestyles easier to enjoy;
- Conserve ecologically sensitive land by accommodating more people in less space;
- Support transportation alternatives;
- Reduce congestion;
- Lower infrastructure costs for communities, families, and individuals;
- Reduce household expenses related to transportation and energy; and
- Make life more convenient by putting destinations closer together.

Of most immediate concern to the Envision Alachua process are the benefits associated with economic development (See Demographic and Economic Analysis). Compact developments that offer an urban lifestyle and have sufficient density to support transit alternatives are increasingly destinations of choice for large employers. This follows not only the preferences of the workers employers hope to attract, but also a shift in the economic calculus of location choice toward agglomeration. Today's knowledge-driven economic growth sectors require proximity and the opportunities for collaboration it affords. Places that offer this are best positioned to grow jobs in the future.

From the fiscal perspective, compact development optimizes the public return on investment in infrastructure. Dense, mixed use development on a regular street grid spreads the burden of building and maintaining infrastructure among a wider range and greater number of users. When coupled with investment in energy efficient utilities, savings on infrastructure in the long run enable residents, companies, and communities to capture more of the economic value that they create.

The Envision Alachua process seeks to accommodate and maximize the potential for economic growth while preserving the vital ecosystem services provided by the region's wetland systems. Compact development offers the clearest means of achieving these divergent goals, by focusing urban uses in a few select nodes while preserving the contiguity of the adjacent wetland system. Ecologists specializing in wetland health recognize the central importance of contiguity in determining the integrity and health of wetland ecosystems, and recent research has confirmed that the piecemeal "sprawl" development and settlement pattern harms wetlands the most.¹

The Physical Planning & Design Elements of Compact Development

The proposed compact development in EA-EOMU will include employment, community/recreational, and residential uses in close proximity to one another. Higher density development increases the viability of neighborhood commercial uses and

¹ See Keitt et al, "Detecting critical scales in fragmented landscapes," *Conservation ecology* [online], 1(1):4 (1997), accessed at: <http://www.consecol.org/vol1/iss1/art4/>. Also Hogan et al, "Estimating the cumulative ecological effect of local scale landscape changes in South Florida," *Environmental Management* 49 (2012), pp. 502-515.

transit by locating more employees and residents in the urban center. A well-connected street network provides more mobility choices and increases comfort for all modes of transportation, including pedestrians, cyclists, and transit.

Mix of Land Uses (land use and transportation)

One of Envision Alachua's most significant contributions to sustainability can be achieved through a reduction in employees' and residents' Vehicle Miles Traveled (VMT), which is related to carbon emission as well as other pollutants that affect local air quality. Reduced VMT can be realized in large part through an on-site balanced mixed use development program which includes a full range of housing and office types, community facilities, and supporting retail services in an appropriately-sized urban center. A balanced mixed use program is essential not only to reduce VMT, but also to achieve economic and social diversity in a development, including a range of ages and lifestyles.

Density of Development

Density is a key ingredient to enlivening places. Though density is often associated with the skyscrapers of Hong Kong or New York, just as effective density can be found in low- to mid-rise districts like Baldwin Park in Orlando. Increasing the density of residential units and commercial floor area in appropriately-scaled built environment increases the number of people using and interacting in a space. This is attractive to employers and retailers alike, especially given the well-documented and discussed preference of the rising generation of employees – millennials – for mixed use, walkable, dense places offering a range of housing and transportation choices. Density is increasingly seen as a development value even in suburban communities around the country. Medical City at Lake Nona South (FL), a highly successful, mixed use community including an innovation and research and development focus, is a prime example of this new vision of suburban density.

Pattern of Streets (neighborhood connectivity)

A functional urban street network is walkable, allows the area to develop easily, and spreads the traffic loads onto multiple parallel streets rather than concentrating it on a few arterials. A disconnected network has trouble developing past its first generation, due to the challenges of congestion, poor access, and lack of modal choices, among others. In such places, a fragmented local street network is designed to feed neighborhood roads onto a few major arteries, which become auto-dominated and unpleasant places for pedestrians and cyclists.

Places with the most connected street networks tend to be the most valuable. They attract investment and people and, thus, tend to retain their value over time. The “connectedness” allows for better relationships between buildings and the public realm, making the places nicer for people and, consequently, development. The introduction of a connected street network can unlock tremendous potential value, creating the structure for new buildings and spaces that have the qualities people desire. Typically, the bonus is that conventional traffic issues are relieved due to parallel routes, direct access, and more intersections to share the traffic loads.

EA-EOMU Design Standards for Compact Development

Informed by national best practices in compact development, the EASP establishes design principles and standards to guide compact development with the EA-EOMU land use, including the following:

- Site and building design should support a pedestrian-, bicycle- and transit-friendly environment.
- Site design should follow a compact development pattern, with opportunities to work, shop, dine, and recreate near residential neighborhoods.
- Site design and building orientation should create a development that is designed around the pedestrian and bicyclist, creates an environment that promotes walking and bicycling as an alternative means of mobility, accommodates transit, and connects activities within the EA-EOMU.
- The location of residential uses within each Job Center of the EA-EOMU will ensure that a majority of housing is within a 1/2 mile radius of non-retail employment uses.
- The location of employment uses with the EA-EOMU will ensure that a majority of jobs created will be located within a 1/2 mile radius of future transit access for a transit connection to East Gainesville and/or Hawthorne.
- Guidelines for minimum and maximum densities coupled with the development program intensities outlined in the EASP will encourage compact development form.

Additionally, the Land Use Data & Analysis, Section 3.4 (December 2013) defines the physical patterns and elements which will inform development character with the EA-EOMU land use. The section includes general guidelines relative to the future urban form and the interrelationships of future land uses, as well as a general framework of development patterns based on a hierarchy of places and function placemaking components. The patterns related to job centers provide the design basis for EASP policies related to job creation, efficient land use, limiting sprawl, protecting natural areas, and advancing a healthy environment.

III.B: ANALYZING THE OPTIMAL SCALE OF A MIXED USE JOB CENTER

In order to inform the scale of overall development area, density, and mix of land uses for the mixed use core of the SR 20 Job Center, five case studies of successful precedent employment centers were studied, including Research Triangle Park (NC), Lake Nona South (FL), Centennial Park (NC), Wake Forest Innovation Quarter (NC), and University Park (MA) (See Appendix B: Case Studies for more information). These employment centers, which can inform the opportunity within the EA-EOMU, have had success in creating a critical mass of employment, institutional uses, and to a certain extent supporting residential, hotel, and retail users. The case studies are similar in that each is led by employment uses and is primarily a center of research and commerce.

Informed by the case studies, the range of square footage and acreage necessary to support a critical mass of activity in the SR 20 Job Center is described below:

The Job Center Should Support a Baseline of 10,000 Jobs

In reviewing the case studies, the space planned for each employment center (with the exception of MIT University Park which sits on only 30 acres) supports at least 10,000 jobs and in some cases will support many more at build out. Based on this analysis, a mixed use core with 10,000 employees or more would similarly constitute a job center of regional significance. Using a space per employee metric of 275 square feet for office space, the 10,000 jobs would correspond to a minimum of 2,750,000 square feet. Estimating potential additional program for structured parking spaces and supporting service/retail uses, would bring the job center to about 4,000,000 square feet.

The Density of the Office and R&D Users Should Range between 0.35 and 0.65 FAR

The most relevant case studies in terms of density are Lake Nona South's Medical City, Centennial Campus, and Wake Forest Innovation Quarter. The density of non-residential uses at these centers ranges from 0.35 to 0.65 FAR. The range of densities depends on building heights, building site coverage, and parking arrangement. The SR 20 Job Center will most likely develop at the lower end of this range in the early phases, but could potentially achieve the higher end of the range at build out if the development achieves a strong level of a regional/national acceptance.

The Job Center Should Incorporate a Critical Mass of Multifamily Residential Uses

One of the stated goals of the Envision Alachua Task Force and the community is to achieve a mixed use environment where workers can live within a close walk of employment and a variety of activities ranging from commerce to education, recreation, and entertainment, all co-located in close physical proximity. If a mixed use core is to remain vibrant throughout the day, especially after typical business hours, it needs to incorporate multifamily residential uses. While most of the case studies are in their infancy in terms of adding residential uses, the majority are planning thousands of residential units. Based on an analysis of jobs-to-housing ratios and assumptions about multifamily units ranging from 30%-50% of the total EASP residential program (8,700 DUs), the planning team estimates that the mixed use core should accommodate

between 1,500 and 3,000 multifamily units to ensure that over half of the total amount of residential units will be within a half mile walk to jobs.

Table 4 compares the size of relevant job centers showing their total development square footage (including parking structures and supporting service/retail uses), estimated on-site jobs, non-residential density, and total job center gross acreage (including allocated land for major infrastructure and civic uses). The Research Triangle Park (RTP) does not meet the criteria of a clustered core, but rather spreads development across the property's thousands of acres. RTP is currently undergoing an effort to densify parts of the property, which will fundamentally shift its dynamics. On the high end, University Park's location in the heart of Cambridge, Massachusetts's knowledge economy allows it build to a density above 3.00 FAR, which is likely not achievable in Alachua County in the foreseeable future. Lake Nona South, Centennial Park, and Wake Forest Innovation Quarter create an appropriate range of densities to model for the SR 20 Job Center. Using these case studies as a guide, the bottom half of the table shows several tests that model non-residential densities from 0.35 to 0.65 FAR and a range of multifamily residential units to inform the size and scale of the SR 20 Job Center.

Table 4: Sizes of Precedent Job Centers and Envision Alachua Tests

Project	Total Non-Res SF	Jobs	Non-Res Density			Total Job Center Acres
Research Triangle Park	3,000,000	10,900	0.14 FAR	---	---	600 AC
Lake Nona South	7,730,000	24,600	0.35 FAR	---	---	600 AC
Centennial Park (Present)	5,050,000	10,400	0.40 FAR	---	---	360 AC
Wake Forest Inno. Quart. (Planned)	6,820,000	20,700	0.65 FAR	---	---	300 AC
University Park	3,560,000	8,400	3.0 FAR	---	---	32 AC
Envision Alachua Tests	Total Non-Res SF	Jobs	Non-Res Density	Res Density	Res Units	Total Job Center Acres
Test 1	4,070,000	10,000	0.65 FAR	30 DU/AC	1,500	300 AC
Test 2	6,000,000	18,200	0.40 AC	30 DU/AC	2,900	500 AC

Based on the development square footage generated by 10,000 to 18,000 jobs—and allocating land for basic infrastructure, civic uses, and supporting services—a viable mixed use job center should have a development footprint of an estimated 300 to 500 gross contiguous acres. At 300 acres, the job center would accommodate approximately 4,000,000 square feet of non-residential uses at the higher non-residential density of 0.65, as well as 1,500 multifamily units. At 500 acres, the job center would accommodate approximately 6,000,000 square feet of non-residential uses at the lower density of 0.4, along with 3,000 multifamily units. The footprints of the range of job centers discussed in this analysis are depicted to scale relative to the SR 20 Job Center in **Figure 7**, Appendix A.

III.C: COMPACT DEVELOPMENT IMPLICATIONS FOR ENVISION ALACHUA JOB CENTERS

The Envision Alachua Community Task Force identified a clear purpose and need for the EASP: to address the related challenges of poverty and unemployment in East Alachua County through job creation, coupled with a desire for increased conservation land. Additionally, the Task Force identified compact development as preferential to rural ranchette sprawl in order to maximize economic development and job creation, preserve open space, maintain the largest contiguous wetland areas practicable, and minimize water and energy use. The County's currently adopted future land use designation for the area covered by the EASP permits a residential density of 1 dwelling unit per 5 acres. Sprawl is by definition low-density development on the edges of cities and towns that is poorly planned, land-consumptive, automobile-dependent, and designed without regard to its surroundings.

Achieving the Task Force's goal of maximizing job creation through compact development and viable mixed use job centers of the scale exemplified by successful benchmark projects would not be possible with the existing pattern of dispersed wetlands. As such, filling of select wetlands in the proposed SR 20 Job Center and US 301 Job Center is recommended and limited to the approach described below.

Reasonable alternatives were evaluated as part of this planning process. The proposed approach minimizes wetland impacts while allowing realization of the Task Force's purpose and need.

SR 20 Job Center

The analysis of precedent projects in Chapter III.B indicates that approximately 300 to 500 contiguous acres is the optimal size for a vibrant, viable mixed use job center similar to those found at Research Triangle Park, NC, and Centennial Park, NC, among others. Within 1.25 miles of SR 20 in the location of the SR 20 Job Center, there is a maximum of approximately 130 contiguous upland acres due to the existing pattern of dispersed wetlands. Such development acreage at typical densities (0.35 FAR) would yield about 1,300,000 square feet, or 3,500 jobs – a number well below the purpose and need established by the Task Force and community necessary to create a vital economic center in East Alachua County.

In order to achieve the Task Force's vision for the SR 20 Job Center, filling of select wetlands would be necessary and limited to two primary purposes:

- To enable the creation of concentrated development for large scale, higher density mixed use job centers and
- To ensure road connectivity to and between development areas.

Specific recommendations of the technical consultant team for the SR 20 Job Center include:

- A contiguous area of 300-500 acres will be required to achieve the Task Force's vision of a vibrant mixed use employment core. To realize the goal of viable mixed use job center, approximately 200-300 acres of wetlands (1.2-1.7% of all EASP wetlands) would need to be filled.
- The SR 20 Job Center and the DSAP in which the job center is located should be designed such that there will be no net loss of wetland function.
- To minimize encroachment into wetland areas, existing forestry roadways should be given priority in design, street layout, and siting considerations.

US 301 Job Center

Research of precedent advanced manufacturing employers (See Appendix B: Case Studies) indicates a need for large scale, flexible, rail-served parcels that can readily accommodate facility expansion and manufacturer co-location. In the location of the US 301 Job Center, the existing pattern of dispersed wetlands interrupts the contiguity of parcels required to accommodate large-scale advanced manufacturing employers, as well as rail spur alignments necessary to serve these employers.

In order to achieve the Task Force's vision, filling of select wetlands would be necessary and limited to three primary purposes:

- To create contiguous, rail-served parcels to accommodate large-scale employers,
- To ensure road connectivity to and between development areas, and
- To accommodate rail spur access to manufacturing sites.

Specific recommendations of the technical consultant team for US 301 Job Center include:

- Large, contiguous parcels ranging from 100 to 650 acres, as well as efficient rail access to these parcels, will be required to achieve the Task Force's vision for the US 301 Job Center as a regional, mixed use manufacturing hub. To realize this goal, approximately 150 acres of wetlands (0.9% of EASP wetlands) would need to be filled.
- The US 301 Job Center and the DSAP in which the job center is located should be designed such that there will be no net loss of wetland function.
- To minimize encroachment into wetland areas, existing forestry roadways should be given priority in design, street layout, and siting considerations.

Summary

In total, to achieve the Task Force's vision for compact development and its attendant economic, social, and environmental benefits for both the SR 20 Job Center and US 301 Job Center, approximately 400 acres, or 2.3% of EASP wetlands, would need to be filled.

It is the consensus of the technical advisory team to the Envision Alachua Task Force that the localized ecological impact associated with filling select wetlands will be offset by the economic benefits accruing from the targeted investments in the SR 20 Job Center and US 301 Job Center. Furthermore, trained ecologists consulted by the planning team indicate that there will be considerable ecological benefit created by preserving the contiguity and integrity of larger, richer wetland complexes through permanent easement as proposed in the EASP land use framework.

The State of Florida and regional goals achieved through the EASP are made possible by the efficiencies of energy, land, and water achieved by the functional placemaking components of the EA-EOMU. The concentration of development in key areas in order to accommodate large-scale employment centers and conservation of significant natural lands prevents urban sprawl, supports the creation of compact, mixed-use development, and is of overriding public interest. Therefore, in order to achieve these purposes, limited impacts to natural systems and wetlands within the EA-EOMU may occur.

III.D: BENEFITS OF COMPACT DEVELOPMENT FOR EAST ALACHUA COUNTY

The approach suggested in Section III.C illustrates the potential of larger footprint mixed use centers that will be important to attracting institutional and R&D/office uses of regional significance, without loss of environmental or hydrologic function or connectivity. The potential benefits as they relate to Envision Alachua are discussed in greater detail below.

Economic Benefits of Compact Development

Successful implementation of the compact development model at the SR 20 Job Center and US 301 Job Center will maximize economic progress and job creation potential for Alachua County. Further, the compact development model will optimally address the elements of the purpose and need for the EASP related to poverty and unemployment in East County. The economic benefit of approximately 25,000 new jobs (as projected in the EASP), and diversifying and expanding Alachua County's tax base to improve funding for public services, establishes the overriding public interest for wetland impacts within the EASP EOMU development footprint. As Dr. David Denslow's report further suggests (See Demographic and Economic Analysis), promoting growth of technical and manufacturing employment will help create a larger middle class and reduce the current segregation by income in the County.

Environmental Benefits of Compact Development

As informed by environmental analysis and experience of Breedlove, Dennis, and Associates (See Environmental Data and Analysis, BDA), compact development within the EASP will reinforce the preservation of open space, maintain the largest contiguous wetland areas practicable, and minimize water and energy use. Concentrating the development area will minimize habitat fragmentation, degradation, and isolation of the remaining natural areas. Compact development and open space preservation can also help protect water quality by reducing the amount of paved surfaces and by allowing natural lands to filter runoff before reaching wetlands and surface waters. Additionally, compact development will optimize pedestrian, bicycle, and public transit which can reduce air pollution by reducing automobile mileage and traffic. These numerous public benefits of compact development will justify permitting of select wetland fill as noted above which will be required during implementation of the LTMP over the next 50 years.

Land Use, Urban Form & Mobility Benefits of Compact Development

The preferred vision emerging from the public process driving Envision Alachua assumes compact development in the core of the SR 20 Job Center, and contiguous development of manufacturing sites in the US 301 Job Center. This pattern allows for the development of a regular street grid, standard development parcels, and thus a walkable urban form. It also achieves the overall (EASP and EA-Hawthorne) Envision Alachua 3:1 jobs-to-housing ratio by locating the majority of jobs within the ½ mile walking envelope characteristic of the layout of most mixed use centers, and leverages access to the CSX rail line and U.S. Highway 301 to greatest effect.

A compact development form at the SR 20 Job Center and US 301 Job Center is intended to encourage a walk- and bike-to-work environment and development densities sufficient to support transit. These characteristics are increasingly important in attracting large employers—both because of the preferences of the next-generation workforce and a growing imperative for like-minded, knowledge-economy companies to locate in proximity for collaboration purposes. It is vitally important to establish the physical planning framework that will optimize the economic development potential to improve the quality of life for the region. The availability of contiguous land of appropriate scale, with a connected, walkable, and flexible physical arrangement of uses, will be critical to the realization of viable mixed use employment and manufacturing centers.

Implications of the Status Quo

Without creating contiguous development areas of sufficient scale—which will require select filling of wetlands as described above—the SR 20 Job Center and US 301 Job Center will fail to reach their potential as economic progress engines for Alachua County.

The existing configuration of wetlands precludes achieving the intended compact urban form, limiting the creation of a fully-connected street grid and reducing the size of the mixed use core. It also will result in irregular development parcels which are less conducive to the higher-density, mixed use form that emerged as the Task Force's

preferred approach. The implication is significantly fewer jobs within the ½ mile walking envelope, which will cause the EASP to underperform relative to the jobs and development targets. As such, marginal wetland preservation in SR 20 Job Center and US 301 Job Center (approximately 2% of EASP wetlands) is anticipated to have an outsized negative impact on the economic benefits of development.

The preferred vision and program for development presented in by the compact development model protects the most ecologically valuable wetland systems in the area covered by the Sector Plan. In much the same way that vibrant urban places require compactness, density, and connection, wetlands require contiguity and connection of water areas and flows to provide their many ecosystem services. Conventional patterns of development might appear to honor the landscape in its dispersed character, but can actually inflict greater harm on wetland health in the long run. This can, in turn, threaten human settlements with flooding and habitat degradation. Focusing development in compact, mixed use districts can simultaneously serve human-oriented values of economic development and community safety, as well as ecologically-oriented values of habitat health, at all scales of analysis.

IV. EA-EOMU LAND USE AND DEVELOPMENT SUITABILITY ANALYSIS

The overarching goal of the EA-EOMU land use is to focus future growth in key developable areas to maximize economic development potential while minimizing development pressure on surrounding rural, agricultural, and conservation areas. EA-EOMU land use is assigned to 5,555 acres, or approximately 10.5% of the Envision Alachua Sector Plan total land area of which a maximum of 3,380 acres will be developed.

An employment-driven land use program is envisioned within the EA-EOMU area. This approach is based on the goal that development within the EA-EOMU area should create significant economic progress and opportunities for Alachua County, particularly the communities of Hawthorne and East Gainesville. For this reason, the land use program emphasizes commercial, research, and manufacturing uses as catalysts for the planned development and the region as a whole.

The proposed 2.5:1 EASP jobs-to-housing ratio (overall 3:1 ratio including the proposed EA-Hawthorne) sets this project apart from precedent development communities, which are largely driven by residential uses. The long-term vision is for a diverse mix of uses including office, research and development, advanced manufacturing, industrial, institutional, commercial, and high-to-low density residential development. These uses also include open space, active and passive parks and recreation spaces, agriculture, and infrastructure, among others.

The overall EA-EOMU land use program, developed by the Envision Alachua Task Force in conjunction with the planning team's case study research and knowledge of best practices for planned communities, is summarized in **Table 5** below.

Table 5: 50-Year EA-EOMU Land Use Program

EOMU Land Use	Program	Assumptions
Economic Development		
R&D/Office/Institutional	5,000,000 sf	Estimated 16,000 - 20,000 jobs
Advanced Manufacturing	5,000,000 sf	Estimated 4,000 - 6,000 jobs
Community		
Residential	8,700 units	Net density of 5.0 du/ac; 2.5 jobs per household
Retail/Service	1,200,000 sf	125-150 sf per household
Schools & Civic Uses		Diverse community supporting uses
Major Roads / Infrastructure		10% of non-open space EOMU lands
Environment		
Open Space		Minimum of 39% open space

The land use suitability analysis methodology and scenario that follow explore the conceptual distribution of EA-EOMU land use program between the two geographic areas: SR 20 Job Center and US 301 Job Center.

IV.A CONCEPTUAL LAND USE SCENARIO METHODOLOGY & ASSUMPTIONS

As previously noted, EA-EOMU land use is assigned to 5,555 acres within the Sector Plan. The EA-EOMU acreage can be broken down into several categories as shown in **Figure 8** in Appendix A and **Table 6** below. The SR20 Jobs Center wetlands acreage reflects latest wetland boundary delineation data as provided by BDA in May 2015 (See Environmental Data and Analysis).

Table 6: EA-EOMU Acreage Breakdown by Area

Areas	Total EOMU	Wetlands	75' Wetland Buffers	100' Edge Buffers	Total Wetland & Buffers % of EOMU
SR 20 Job Center	2,540	779	430	71	50%
US 301 Job Center	3,015	453	251	66	26%
Total	5,555	1,232	681	137	37%

Table 7: EA-EOMU Minimum Open Space and Maximum Development Acreage Breakdown by Area

Areas	Total EOMU	Minimum OS %	Minimum OS Acres	Maximum Dev. %	Maximum Dev. Acres
SR 20 Job Center	2,540	50%	1,270	50%	1,270
US 301 Job Center	3,015	30%	905	70%	2,110
Total	5,555	39%	2,175	61%	3,380

Of the total EA-EOMU acreage, 2,050 acres have been categorized as wetlands, wetland buffers, and edges. This analysis suggests existing open space within SR 20 Job Center is about 50% and about 26% in US 301 Job Center. For the purpose of maintaining the existing amount of open space within EA-EOMU, minimum open space requirements for future development in the respective EOMU areas have been established (**Table 7**). These requirements substantially exceed the current Alachua County Comprehensive Plan open space requirement of 20%. Applying these minimum open space requirements to the total EA-EOMU yields a development area of 3,380 acres depicted in orange in **Figure 8** in Appendix A.

The EA-EOMU conceptual land use scenario described in detail in Chapter IV.B assigns land uses to the development areas within the SR 20 Job Center and US 301 Job Center. A series of assumptions has guided this assignment of land uses. These assumptions relate to such elements as the distribution of civic and recreation uses, land allocation for major infrastructure, the definition of density, and the suggestion of a maximum program by land use, as described below.

Civic Land Use Distribution

The suitability analysis assumes that a total of 290 acres of civic and school uses will be incorporated into the EA-EOMU land use. This acreage is embedded within the acreage allocations for residential and non-residential uses noted in the scenario. Of the 290 civic acres, the majority (175 acres) is allocated for primary and secondary education with an additional 100 acres reserved for potential overflow school needs, community college and/or private schools (See Public Infrastructure Analysis Report, CHW).

In addition, the planning team estimates that the EA-EOMU area should include approximately 15 acres to accommodate additional community facilities including library, community centers, government offices, and churches. This figure is derived using square foot per functional population metrics adapted from Arthur Nelson's *Projecting Land-Use and Facility Needs*. The square foot need is translated into acres using a 0.20 FAR, which translates into 1-2 story buildings with surface parking. **Table 8** below suggests potential distribution of the civic and school acreage.

Table 8: Civic Land Use Distribution by Area

Area	Civic Acres
SR 20 Job Center	100
US 301 Job Cen-	190
Total	290

This distribution assumes that the majority of school needs (elementary and middle schools) as well as other critical community services could be accommodated in SR 20 Job Center in proximity to major population cores. Larger users such as a future high school or community college site could be accommodated in US 301 Job Center in the later phases of development.

Major Infrastructure

For the purposes of this suitability analysis, acreage is reserved for major infrastructure rights-of-way that connect development parcels. This land allocation for infrastructure is estimated to be 10% of all developed land area, which means that the acreage will vary based on the overall land use program and density assumptions that drive a particular land use scenario.

Floodplain and Active Recreation

The currently mapped U.S Army Corps of Engineers floodplain covers an additional 317.5 acres (outside of wetlands and buffers) of the EA-EOMU. For the purposes of this suitability analysis, this acreage is allocated within the residential and non-residential land uses for floodplain management.

The recreational needs within the EA-EOMU lands at build-out are estimated to include parks/open space as well as specific recreational facilities. The analysis is based upon standards established by the National Recreation and Parks Association (NRPA). The standards for parks and open space are expressed in acres per 1,000 residents. Based on the NRPA standards, which exceed Alachua County standards, the EA-EOMU lands will need approximately 150 acres of parks and open space including playgrounds, neighborhood parks, and community parks. EA-EOMU will also need to accommodate a portion of the additional 100 acres needed for regional parks and trails that will largely be accommodated within EA-CON. This acreage for active recreation is embedded within the acreage allocations for residential and non-residential uses noted in the scenarios; some activity-based recreation uses may be accommodated within the floodplain or the EA-CON land use. The EASP anticipates development of a regional trail connecting the existing Hawthorne Trail to Windsor/Newnans Lake and potentially to Waldo. **Table 9** below describes the projected community recreation needs in greater detail.

Table 9: Projected Community Recreation Needs

NRPA Standards	Acres per 1,000 Population	Minimum Size	Total Acres	# of Parks
Playgrounds	0.5	2	10	5
Neighborhood Parks	3.5	5	68	14
Community Parks	4	30	77	3
Regional Park	4	180	77	0
Trails	---	---	20	---
Total	---	---	252	21

Source: National Recreation and Parks Association

Wetland Fill and Crossings

The conceptual land use scenario illustrates selective filling of wetlands as introduced in Chapter III. Filling wetlands has been limited to three primary purposes: (1) to enable the creation of concentrated areas for higher density mixed use development, (2) to ensure connectivity to and between development areas, and (3) to accommodate rail spur access to manufacturing sites.

Given the established minimum open space requirement equal to the existing amount of wetlands, wetland buffers, and green edges, wetland filling would not increase the

overall amount of developable area but rather allow for a more compact and pedestrian oriented development form to occur. For example, filling of wetlands is shown in the conceptual land use scenario for the SR 20 Job Center (Chapter IV.B) to illustrate the potential of higher density compact development form in the mixed use center. This approach illustrates the potential of a larger footprint mixed use center that will be important to attracting institutional and R&D/office uses.

Further, the conceptual land use scenario utilizes existing forestry road wetland crossings to the extent practicable and illustrates selective new crossings to optimize the efficiency and connectivity of the internal road network, which would minimize the use of off-site road network. Approximately 15 forestry road wetland crossings currently exist within the EA-EOMU area and 8 over Lochloosa Creek. These existing wetland crossings are illustrated in **Figure 8**, Appendix A. Potential wetland filling is illustrated in the scenarios for US 301 Job Center in order to enable rail spur connections to development parcels.

Definition of Density

For the purposes of this suitability analysis, density is calculated based on all residential units or commercial square footage within a delineated development area. This means that the density calculations include driveways, parking lots, yards, small neighborhood parks, local streets, and stormwater retention (20% of development area) but exclude large parks and recreation areas, major water systems, conservation lands, major roads, infrastructure right-of-way, treatment plants, etc.

Definition of Land Use Acreages

Land use acreages designated for residential and non-residential uses in the scenarios include an allocation for major infrastructure, stormwater facilities, civic and school uses, and floodplain outside of wetlands and wetland buffers; these acreages also include driveways, local streets, parking lots, yards, small neighborhood parks, and storm water retention.

Maximum Program by Land Use

The EA-EOMU suitability analysis includes non-residential uses (R&D/office, advanced manufacturing, and service/retail) and residential uses (mix of housing types ranging from multifamily to single family). The suitability analysis notes a maximum program for each within each area. The maximum programs for the land uses are not intended to be “summed” – they do not constitute a feasible program in aggregate. This maximum program by land use methodology is based upon an understanding that the eventual land use mix will evolve over time in response to community planning goals and market forces.

IV.B CONCEPTUAL LAND USE SCENARIO AND DEVELOPMENT PROGRAM FIT

The following EA-EOMU conceptual land use scenario for the SR 20 Job Center and US 301 Job Center are fundamentally driven by three (3) guiding principles that were developed in collaboration with the Envision Alachua Community Task Force:

- ***More than half of the EA-EOMU land use program should be located in the SR 20 Job Center (highest density job center).***
- ***Job creation and development activity in the near term should be focused on the SR 20 Job Center (no development activity within the US 301 Job Center will occur before 2030).***
- ***The highest density employment and residential uses should be located near existing major infrastructure.***

The specified densities and intensities in the conceptual land use scenario are designed to achieve these goals. The scenario assumes that the entire EA-EOMU can be implemented in the SR 20 Job Center and US 301 Job Center. This approach assumes that high density development will be achievable within the SR 20 Job Center and US 301 Job Center over the next twenty years.

The assignment of EA-EOMU land use program to the SR 20 Job Center and US 301 Job Center is further based upon the following goals:

- Locate a majority of homes within walking distance (1/2 mile) of non-retail employment.
- Locate a majority of the jobs within walking distance of transit that will serve Hawthorne and/or East Gainesville.
- Allocate land to accommodate civic uses and schools relative to on-site population.
- Maintain an overall 2.5:1 jobs-to-household ratio in each job center (overall 3:1 ratio including the proposed EA-Hawthorne)

The EA-EOMU suitability analysis for the SR 20 Job Center and US 301 Job Center includes the following components:

- Description of the vision/intent for the area, including specific case study references (**Appendix B**).
- Summary of the estimated maximum potential development program by land use.
- Conceptual land use scenario depicting land use program distribution and configuration. The scenario is cumulative to the full EA-EOMU program as summarized in **Table 5**.

The EA-EOMU conceptual land use scenario illustrates the land use program distribution and configuration for the SR 20 Job Center and US 301 Job Center. The scenario is based upon the overall EA-EOMU development program (**Table 5**), the Remaining EA-EOMU acreage (**Tables 6 and 7**), and the goals, assumptions, and recommendations from the Envision Alachua community planning process.

IV.B.1: SR 20 Job Center – The R&D, Office & Institutional Center

The SR 20 Job Center is envisioned as the R&D, Office & Institutional Center – a collaborative mixed use R&D cluster that brings together the major drivers of the knowledge economy: higher education, private corporations, and complementary R&D institutes focusing on transformational and translational research. The SR 20 Job Center is characterized by a diverse mix of compact, integrated land uses that include supporting and complementary residential, retail, commercial, and civic/community uses in which people can live-work-learn-play as part of a healthy and eco-friendly “innovation community.”

The SR 20 Job Center is a compact, complete, and connected community that includes the highest density mixed use center (MXD) envisioned within the EA-EOMU land use, with a range of R&D/office, institutional, residential, service/retail, and civic uses that promote sustainable and healthy living. Additional residential and complementary service/retail and civic uses, as well as advanced manufacturing/industrial uses, will be connected to the mixed use center. The SR 20 Job Center will include and be within walking distance of experimental/R&D agricultural research and technology development fields and facilities.

Please refer to Figures 43-45, Section 3.4 of EASP IV.B Land Use Analysis for SR 20 Job Center’s preliminary design vision and concept.

The vision for the SR 20 Job Center can be demonstrated in several precedent research parks, the most notable being Centennial Park – North Carolina State University in Raleigh, North Carolina (See Appendix B: Case Studies). The planning team believes that Centennial Park embodies the vision for the SR 20 Job Center in terms of the dense clustering of activity, the mix of uses, and the level of development intensity. Currently Centennial Park has 2.85 million square feet of users clustered in a 360-acre core with a goal to grow to 3.5 million square feet. This format corresponds to a 0.4 FAR, which is the metric used to model the mixed use center on SR 20 Job Center.

The mix of institutional, private sector research and high-density residential uses at Centennial Park was part of the inspiration for the program allocated to the SR 20 Job Center. To date, tenants as diverse as GlaxoSmithKline, the U.S. Department of Agriculture, and the National Weather Service have located at Centennial Park owing to its high quality environment and the proximity to the world class talent at NC State. A similar blend of institutional, public sector, and private sector research is envisioned for Envision Alachua, with its proximity to the University of Florida and the potential for partnership. To accommodate parking at this level of density, Centennial Park includes

approximately 50% structured parking and 50% surface lots, a balance that could be achieved over time for SR 20 Job Center.

Additional analogues include Lake Nona South in Orlando, Florida, University Park at MIT in Cambridge, Massachusetts, and Chiswick Park in London, UK (See Appendix B: Case Studies). All of these developments have been acclaimed for their ability to mix a variety of office and research uses in high quality physical environments. Similar in scale and program intent, Lake Nona South is a 2,800-acre master planned community made up of several distinct districts including a hospital/medical district, a retail town center, and a residential community (See Appendix B: Case Studies). In total the community is made up of close to 7 million square feet of medical, R&D, and retail space as well as 2,700 residential units. The most distinctive element of Lake Nona South has been its ability to attract several very prominent tenants including Sanford-Burnham Medical Research Institute, the VA Medical Center, and Nemours Children's Hospital among others. The resulting "Medical City" is a 650 acre health and life sciences campus for medical care, research, and education based upon the proven theory that clustering health care and bioscience facilities in proximity to one another will accelerate innovation.

Please see Appendix A, **Figures 9** and **11** which include a map of the Remaining EA-EOMU, conceptual land use scenario, and summary table of the land use program for the SR 20 Job Center.

The SR 20 Job Center conceptual land use scenario is characterized by the following planning and urban design goals and principles:

- Locate the mixed use center (MXD) to be central to the development area and to take advantage of the higher/drier elevation (*Figure 19, Section IV.B Land Use Analysis, EASP, Dec. 2013*).
- Locate employment approximately within 1-mile of SR 20 capitalizing on existing infrastructure and access.
- Include the higher density residential program in the MXD.
- Create pockets of residential of varying mid-to-low densities outside of the MXD and directly adjacent to the employment areas to maximize the amount of homes within ½-mile of employment.
- Cluster lower residential densities within the framework of wetland systems and open space near larger natural amenities such as Lochloosa Creek and Newnans Lake, as well as within proximity to Windsor.
- Selectively fill wetlands to allow for higher density compact development form in the MXD and road crossings (an estimated 250 acres).
- Utilize existing forestry road wetland crossings to the extent possible and selectively create new crossings to achieve sufficient internal connectivity that minimizes the use of off-site road network.
- Utilize an existing forestry road crossing of Lochloosa Creek for internal connectivity between the SR 20 Job Center and US 301 Job Center.

Sample Residential Program

Table 10 and **Figure 12** in Appendix A describe an illustrative mix of residential types that could exist within the SR 20 Job Center. In this high density residential scenario, the MXD consists of both townhomes and mid-rise apartments or condominiums that would be integrated within the office and R&D core of the development. The intent is that multifamily product would be clustered densely in the MXD but would be phased in over time to allow for an orderly absorption schedule.

The residential types within the MXD have an average density of 30 dwelling units per acre. While the multifamily product makes up the majority of the residential units in the SR 20 Job Center, it only represents about 40% of the total residential program within EA-EOMU. Outside of the MXD the product mix includes different single-family lot typologies ranging from a 1/3 acre lot down to a 4,000 sf cottage lot. This product mix is intended to accommodate a wide range of different price points and appeal to a cross section of market audiences. The average density outside the SR 20 Job Center MXD is 5 dwelling units per acre.

Table 10: SR 20 Job Center Sample Residential Product Mix

Residential Type	Net Lot Size SF	# of Units	Product Mix	DU/AC
Residential				
Type A - Cottage (40')	4,000	472	8.0%	5.3
Type B - Cottage (42')	4,200	472	8.0%	5.2
Type C - Cottage (45')	4,500	472	8.0%	5.0
Type D - Single Family (50')	5,000	590	10.0%	4.7
Type E - Single Family (65')	6,500	590	10.0%	4.6
Type F - Single Family (80')	8,000	413	7.0%	4.0
Type G - Single Family (100')	15,000	---	0.0%	2.2
Type TH - Townhomes - MXD Center	---	590	10.0%	14.0
Type M - Multifamily - MXD Center	---	2,301	39.0%	30.0
Total	---	5,900	100.0%	8.0

IV.B.2: US 301 Job Center – The Multi-Use Manufacturing Hub

The US 301 Job Center is envisioned as a multi-use community featuring advanced manufacturing and industrial campuses which leverage the area's connections to US 301 and the CSX railroad tracks. The advanced manufacturing uses will be complemented by a mix of R&D, office, and institutional uses at lower densities than those in SR 20 Job Center, as well as residential and associated supporting commercial and civic uses. The US 301 Job Center is envisioned to have a physical and programmatic connection to the SR 20 Job Center: The R&D, Office & Institutional Center.

The vision for the US 301 Job Center is a multi-use manufacturing campus including advanced manufacturing and related uses similar to, for example, the BMW Assembly Plant in Greer, South Carolina and the Clemson University International Center for Automotive Research (CU-ICAR) located in Greenville, SC. The BMW Assembly Plant, which opened over 20 years ago, includes 5 million square feet of space, employs 10,000 individuals from the surrounding areas, and represents a nearly \$7 billion facility investment by BMW. CU-ICAR is a 250-acre advanced technology campus focused on automotive research. It brings together expertise from academia, industry, and government organizations. Located in Greenville, South Carolina, the campus is midway between Charlotte and Atlanta on the I-85 corridor. CU-ICAR capitalizes on the critical mass of auto-related companies in the area. At full build-out, the campus will comprise five "technology neighborhoods," each hosting a number of Clemson education facilities and R&D/office facilities for private operators, such as BMW, Ford, and Michelin.

An additional analogue is Research Triangle Park (RTP) in Durham, North Carolina (See Appendix B: Case Studies). This development is aligned with the vision for the US 301 Job Center less in terms of physical form and layout but more in terms of its ability to attract a diverse mix of sectors including high-tech R&D, agricultural biotechnology, life sciences, information technology, advanced materials, green technology, foundations, and institutions.

Please see Appendix A, **Figures 10-11** which include a map of the Remaining EA-EOMU, conceptual land use scenario, and summary table of a conceptual land use program for the US 301 Job Center.

In addition, the US 301 Job Center is characterized by the following planning and urban design goals and principles:

- Capitalize on access to CSX rail and US 301 by locating advanced manufacturing and industrial land uses along the corridor.
- Locate employment uses within approximately 1-mile of US 301 and CR 1474. Provide manufacturing and R&D adjacency/connection to agriculture.
- Strategically locate commercial (multi-use) development areas to create an activity hub with a horizontal mix of the highest density residential along with R&D and service/retail.

- Selectively fill wetlands to accommodate rail access to manufacturing sites as well as to create opportunities for large-scale manufacturing users (sites > 100 acres, an estimated 150 acres of filled wetlands).
- Create pockets of varying mid-to-low density residential uses in proximity to the employment areas to ensure the majority of homes are within ½-mile walk of employment.
- Envision lower density residential uses adjacent or in proximity to agriculture land use to build on agricultural heritage. In addition, locate lower density residential along Lochloosa Creek to build on the natural extension of the rural character of Windsor.
- Utilize the existing “necklace” of wetlands to serve as a natural transition/buffer from the non-residential to the residential land uses.
- Create an internal road framework interconnecting employment, multi-use, agriculture, and residential to minimize the use of off-site roads.
- Utilize existing forestry road crossings of Lochloosa Creek for internal connectivity to the SR 20 Job Center.

Sample Residential Program

Table 11 and **Figure 13** in Appendix A describe an illustrative mix of product that could exist within the US 301 Job Center. The table shows a commercial (multi-use) hub consisting of townhome product at 10 units per acre. Outside of the commercial hub, the product mix includes different single-family lot typologies ranging from a ½ acre lot down to a 4,000 sf cottage lot. This product mix would accommodate a wide range of different price points and appeal to a cross section of market audiences, but is weighted towards lower density lots in order to counterbalance the higher residential densities existing within SR 20 Job Center. The average density outside of the commercial hub of the US 301 Job Center is 3 dwelling units per acre.

Table 11: US 301 Job Center Sample Residential Product Mix

Residential Type	Net Lot Size SF	# of Units	Product Mix	DU/AC
Residential				
Type A - Cottage (40')	4,000	---	0.0%	5.3
Type B - Cottage (42')	4,200	---	0.0%	5.2
Type C - Cottage (45')	4,500	140	5.0%	5.0
Type D - Single Family (50')	5,000	140	5.0%	4.7
Type E - Single Family (65')	6,500	420	15.0%	4.6
Type F - Single Family (80')	8,000	560	20.0%	4.0
Type G - Single Family (100')	15,000	560	20.0%	2.2
Type H - Single Family (120')	21,600	420	15.0%	1.6
Type TH - Townhomes - Multi Use	---	560	20.0%	10.0
Total	---	2,800	100.0%	3.0

IV.B.3 EA-EOMU Composite Conceptual Land Use Scenario

The composite conceptual land use scenario illustrates the distribution of EA-EOMU land use program between the two geographic areas in the EASP: SR 20 Job Center and US 301 Job Center (**Figure 11**). Based on the guiding principle of locating more than half of the overall EA-EOMU program (**Table 5**) in the SR 20 Job Center, the scenario illustrates the balance of the remaining development program in the US 301 Job Center. Together, the SR 20 Job Center and US 301 Job Center comprise the full EA-EOMU program. Additionally, the composite scenario illustrates the long-term vision and potential connectivity between the two job centers.

The composite scenario depicts an approximately 500-acre mixed use employment core within the SR 20 Job Center. Select wetlands are filled to create a viable, higher density center. The result is a compact and walkable development footprint which accommodates 5.9 million square feet of employment uses (20,000 jobs), 2,900 multifamily residential units, and supporting retail and community uses. The US 301 Job Center concentrates advanced manufacturing uses near existing transportation infrastructure, including US 301 and the CSX rail line. Select wetlands are filled to provide contiguous industrial parcels with efficient rail access. Supporting uses including a smaller mixed use center and residential uses are located adjacent to manufacturing uses in a highly-connected environment.

R&D/Office uses are focused within the SR 20 Job Center (5 million square feet) while advanced manufacturing uses are focused within the US 301 Job Center (5 million square feet). Two-thirds of the residential program (5,900 units) is located in the SR 20 Job Center. The remaining one-third of the residential program (2,800 units) is shown in the US 301 Job Center where the majority of units are projected to be single-family.

In the long-range vision, the SR 20 Job Center and US 301 Job Center are envisioned to be connected via a multi-modal mobility network. This network will utilize existing forest road crossings to provide diverse transportation choices between the two centers, including vehicular connections and a range of bicycle infrastructure, from trails to high-speed cycle tracks. Given the complementary mixed use programs, there is significant opportunity to realize internal capture of traditional vehicle trips and to maximize alternative mobility options within and between the SR 20 Job Center and US 301 Job Center.

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Appendix A:

Figures

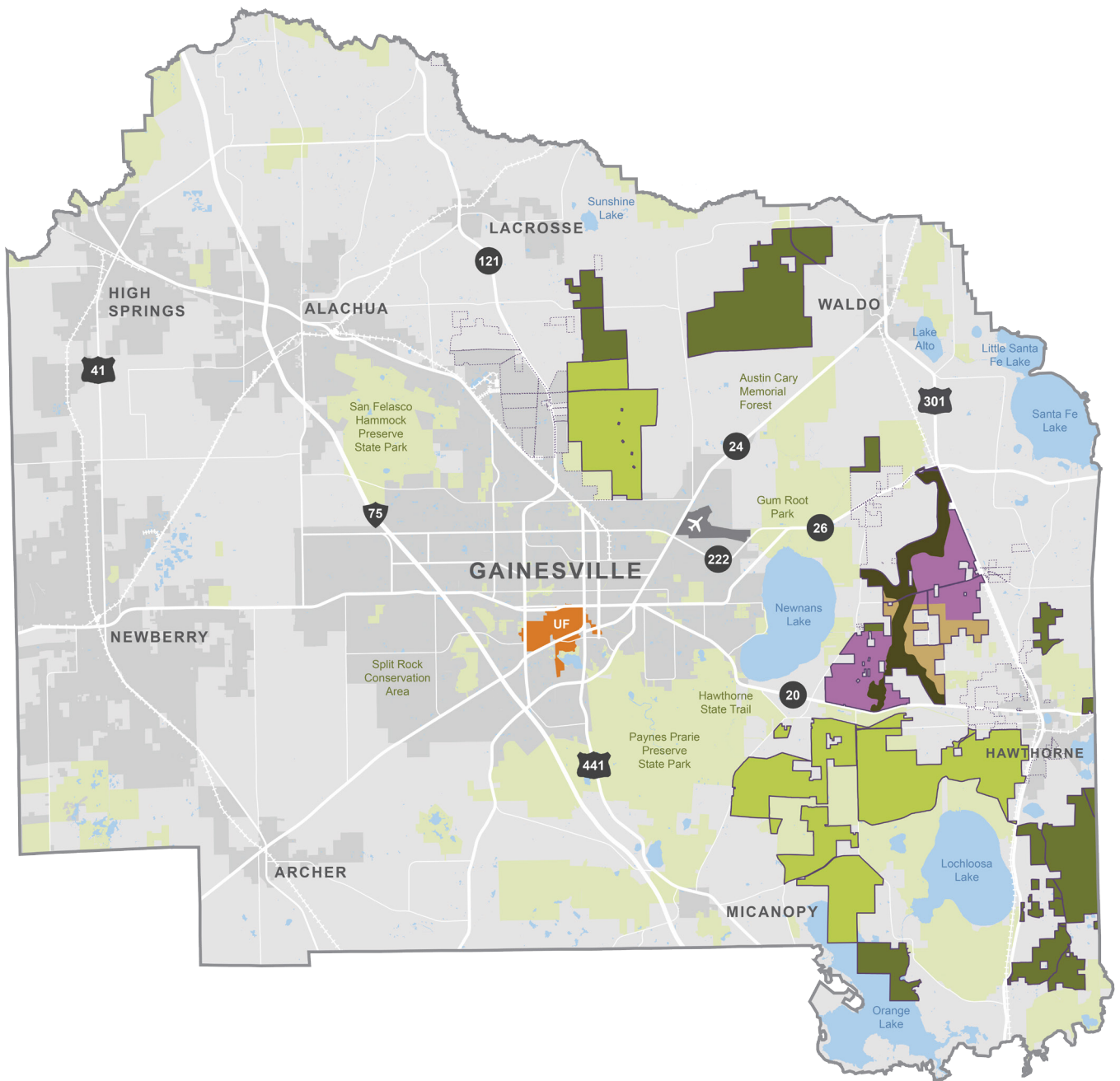
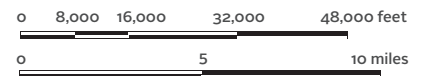


FIGURE 1: ENVISION ALACHUA SECTOR PLAN FRAMEWORK MAP

- ENVISION ALACHUA SECTOR PLAN LANDS (EASP)
- EA-PRES (PRESERVATION LAND USE)
- EA-CON (PROPOSED CONSERVATION LAND USE)
- EA-CON (EXISTING CONSERVATION LAND USE)
- EA-EOMU (EMPLOYMENT ORIENTED MIXED USE) LAND USE
- EA-RUR (RURAL LAND USE)



*Data Source: Alachua County GIS, Plum Creek
June 2015*

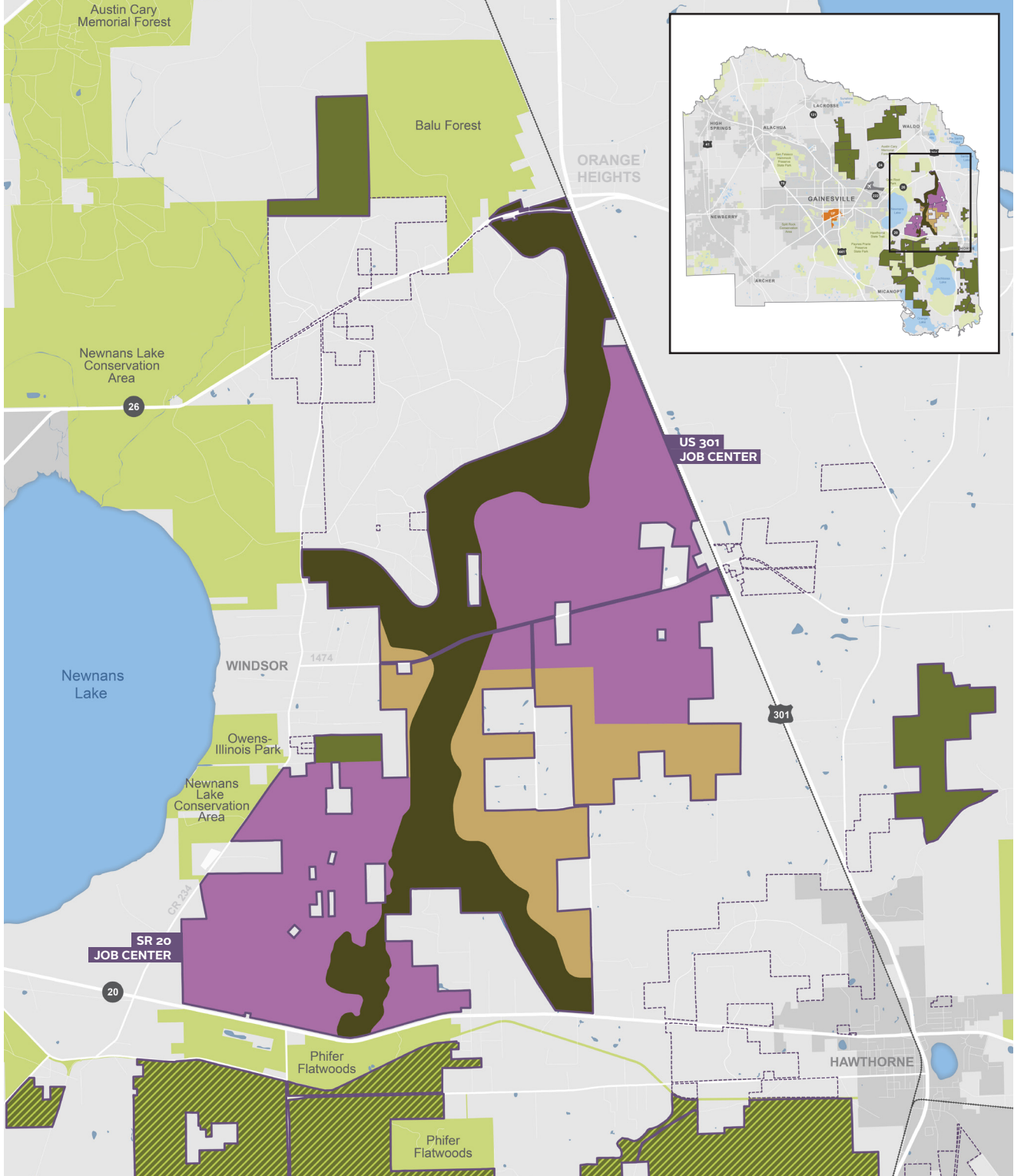
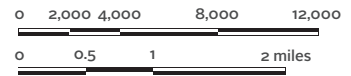


FIGURE 2: ENVISION ALACHUA SECTOR PLAN FRAMEWORK MAP (EAST ALACHUA COUNTY INSET)

- ENVISION ALACHUA SECTOR PLAN LANDS (EASP)
- PLUM CREEK LANDS NOT INCLUDED IN EASP
- EA-PRES (PRESERVATION LAND USE)
- EA-CON (CONSERVATION LAND USE)
- EA-EOMU (EMPLOYMENT ORIENTED MIXED USE) LAND USE
- EA-RUR (RURAL LAND USE)



Data Source: Alachua County GIS, Plum Creek
June 2015

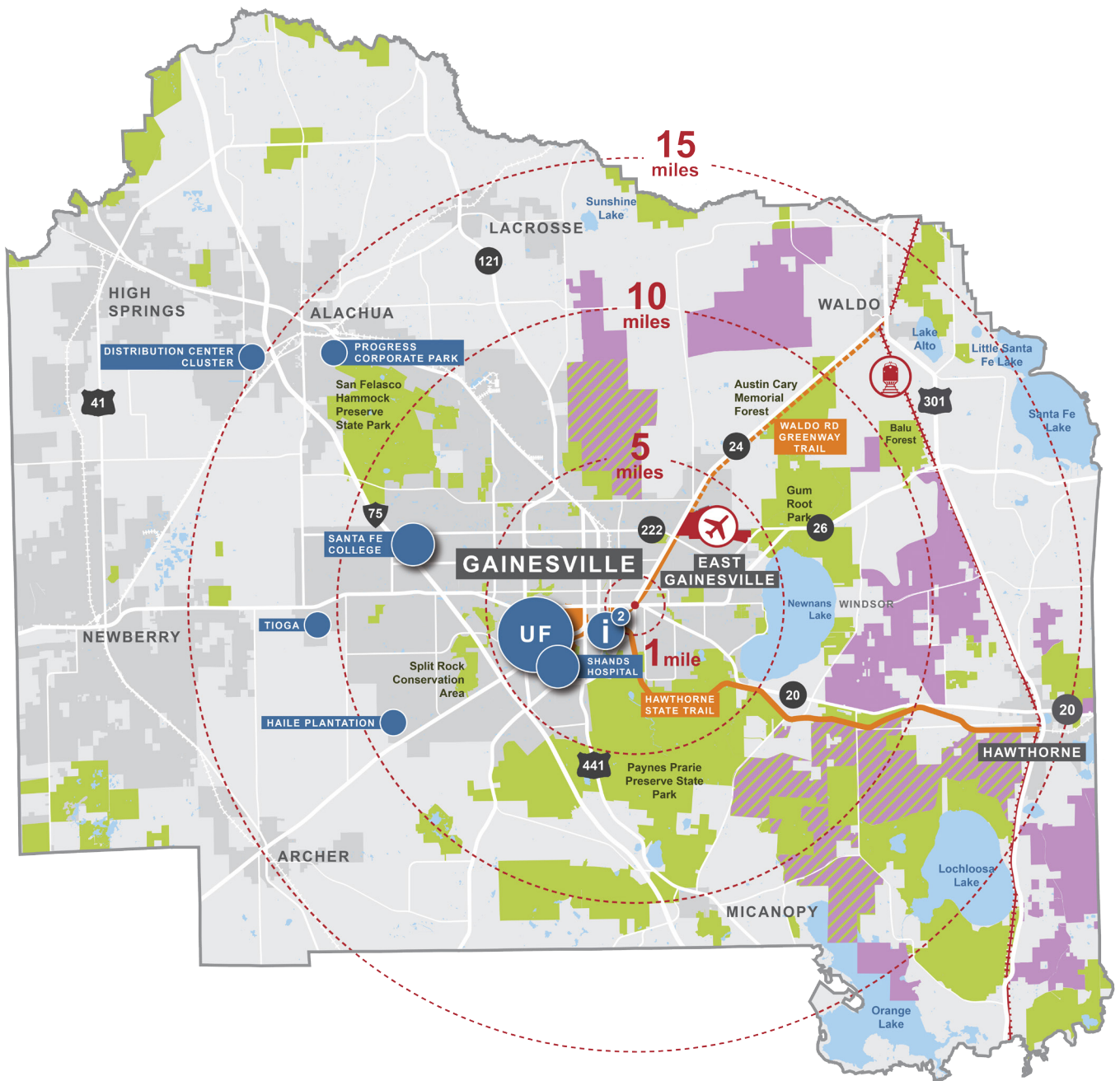


FIGURE 3: ALACHUA COUNTY ANCHORS AND ASSETS

- PLUM CREEK EASP PROPERTY
- EXISTING PLUM CREEK CONSERVATION EASEMENT
- CONSERVATION
- MUNICIPALITIES & URBAN CLUSTER



Data Source: Alachua County GIS, Plum Creek
June 2015



FIGURE 4: ENVISION ALACHUA CONSERVATION AND PRESERVATION LAND USE & LANDSCAPE LINKAGES

- CONSERVATION/PRESERVATION
- EA-EOMU & EA-RUR
- LANDSCAPE LINKAGES
- ENVISION ALACHUA SECTOR PLAN



0 8,000 16,000 32,000 48,000 feet
0 5 10 miles

Data Source: Alachua County GIS, Plum Creek
June 2015

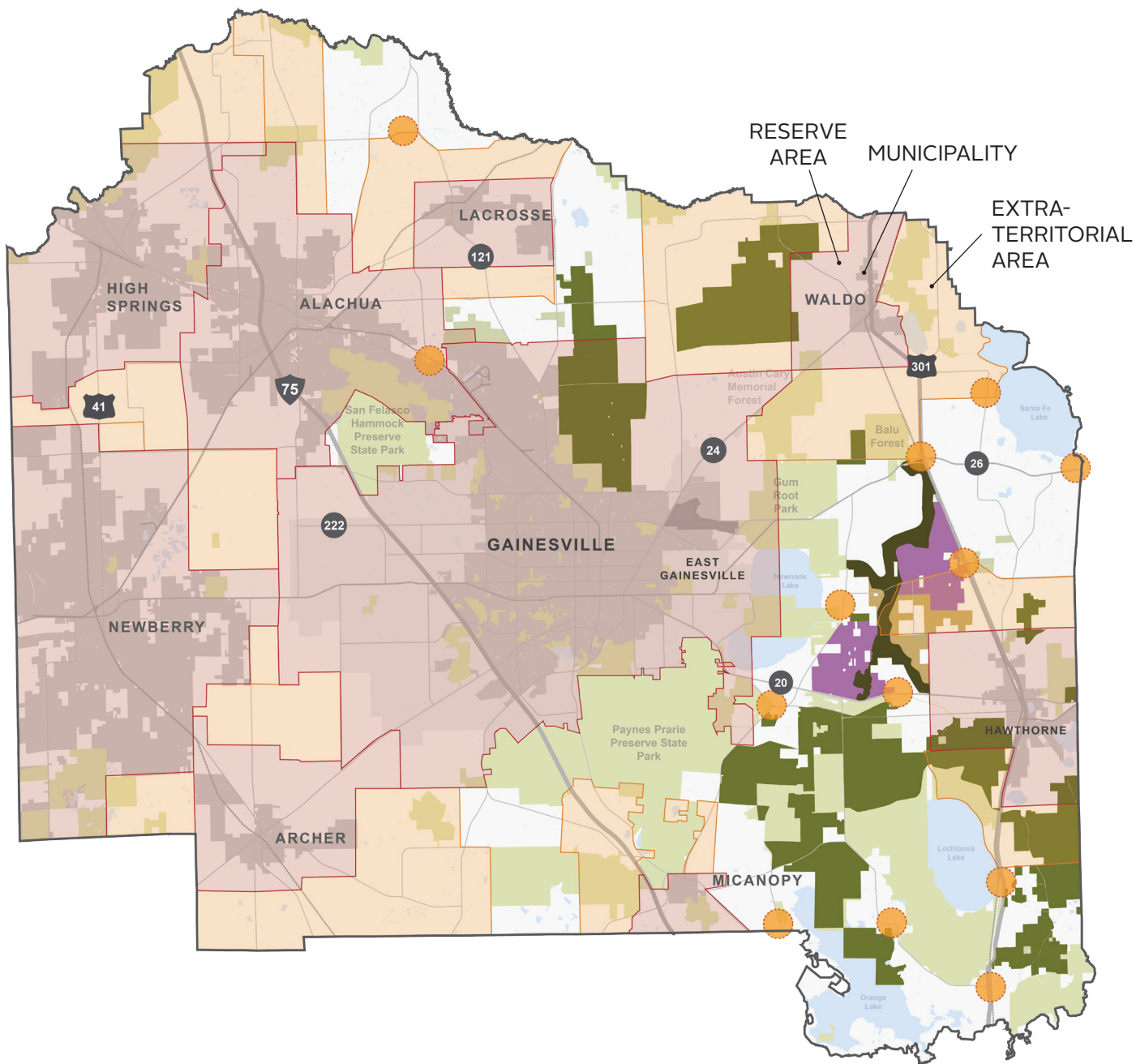


FIGURE 5: ENVISION ALACHUA SECTOR PLAN, ALACHUA COUNTY RESERVE & EXTRA-TERRITORIAL AREAS

- EA-PRES (PRESERVATION LAND USE)
- EA-CON (CONSERVATION LAND USE)
- EA-EOMU (EMPLOYMENT ORIENTED MIXED USE) LAND USE
- EA-RUR (RURAL LAND USE)
- RURAL CLUSTER



0 8,000 16,000 32,000 48,000 feet
0 5 10 miles

Data Sources: MAP 1-Reserve and Extra-Territorial Areas (Alachua County Department of Growth Management), Alachua County GIS, Plum Creek, June 2015

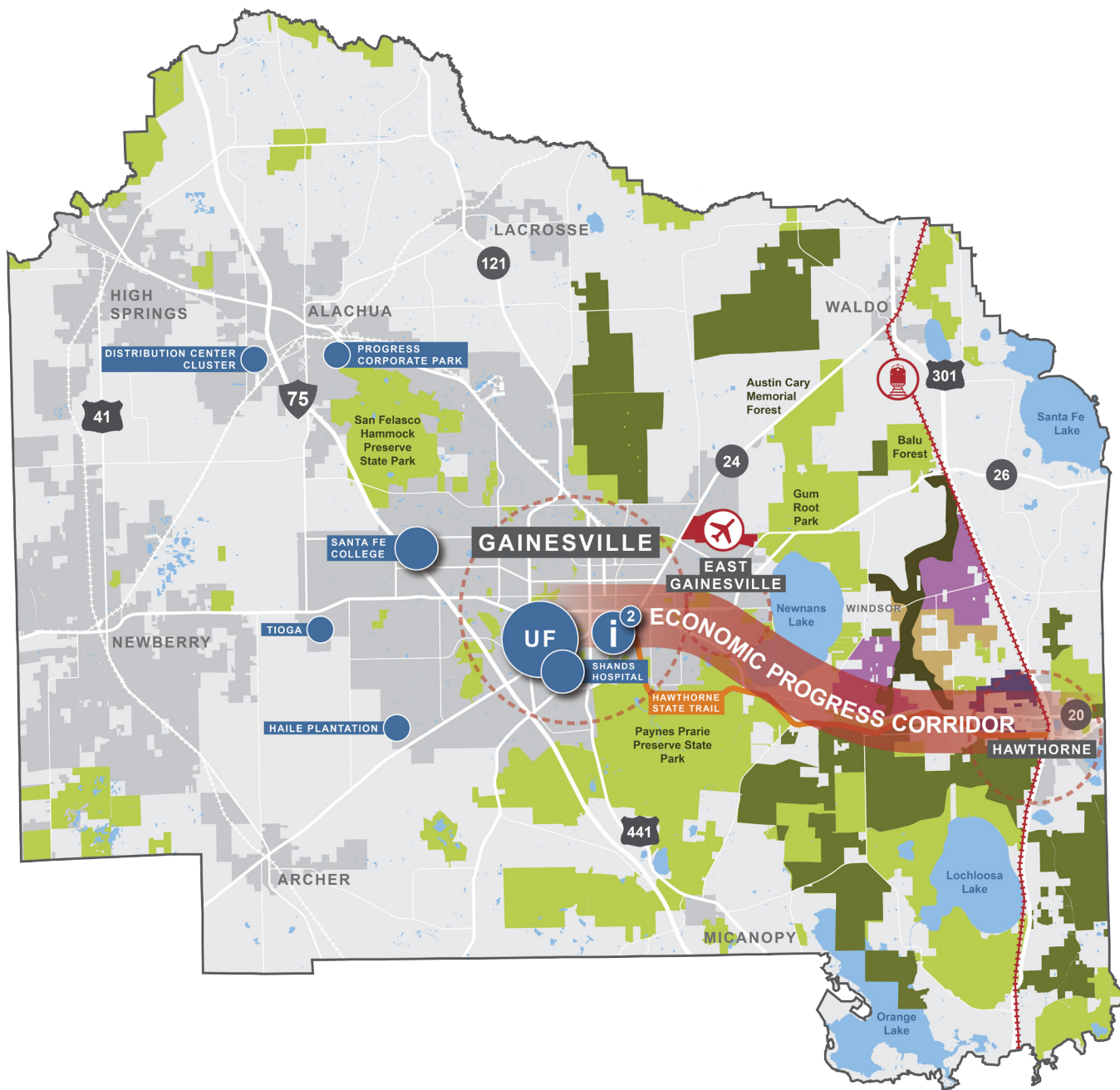


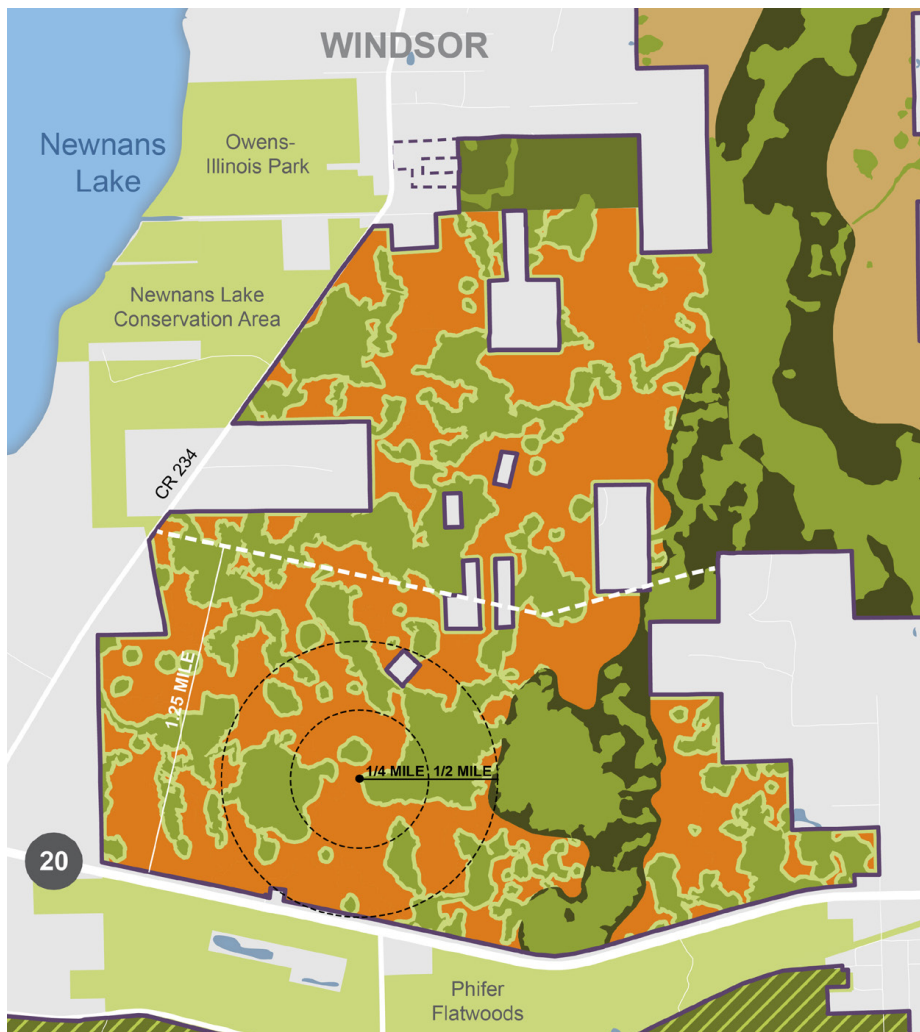
FIGURE 6: ENVISION ALACHUA & EAST ALACHUA COUNTY ECONOMIC PROGRESS CORRIDOR

- MUNICIPALITIES
- CONSERVATION LANDS
- EA-HAWTHORNE
- EA-PRES (PRESERVATION LAND USE)
- EA-CON (CONSERVATION LAND USE)
- EA-EOMU (EMPLOYMENT ORIENTED MIXED USE) LAND USE
- EA-RUR (RURAL LAND USE)



0 8,000 16,000 32,000 48,000 feet
0 5 10 miles

Data Sources: Alachua County GIS, Plum Creek
June 2015



**SIZE OF MIXED USE CENTER
(TO SCALE)**

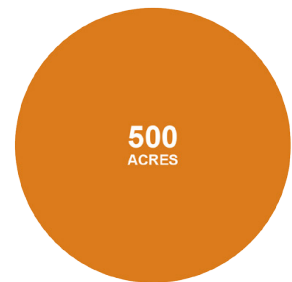
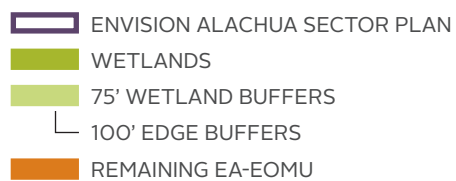


FIGURE 7: SR 20 JOB CENTER SCALE COMPARISON



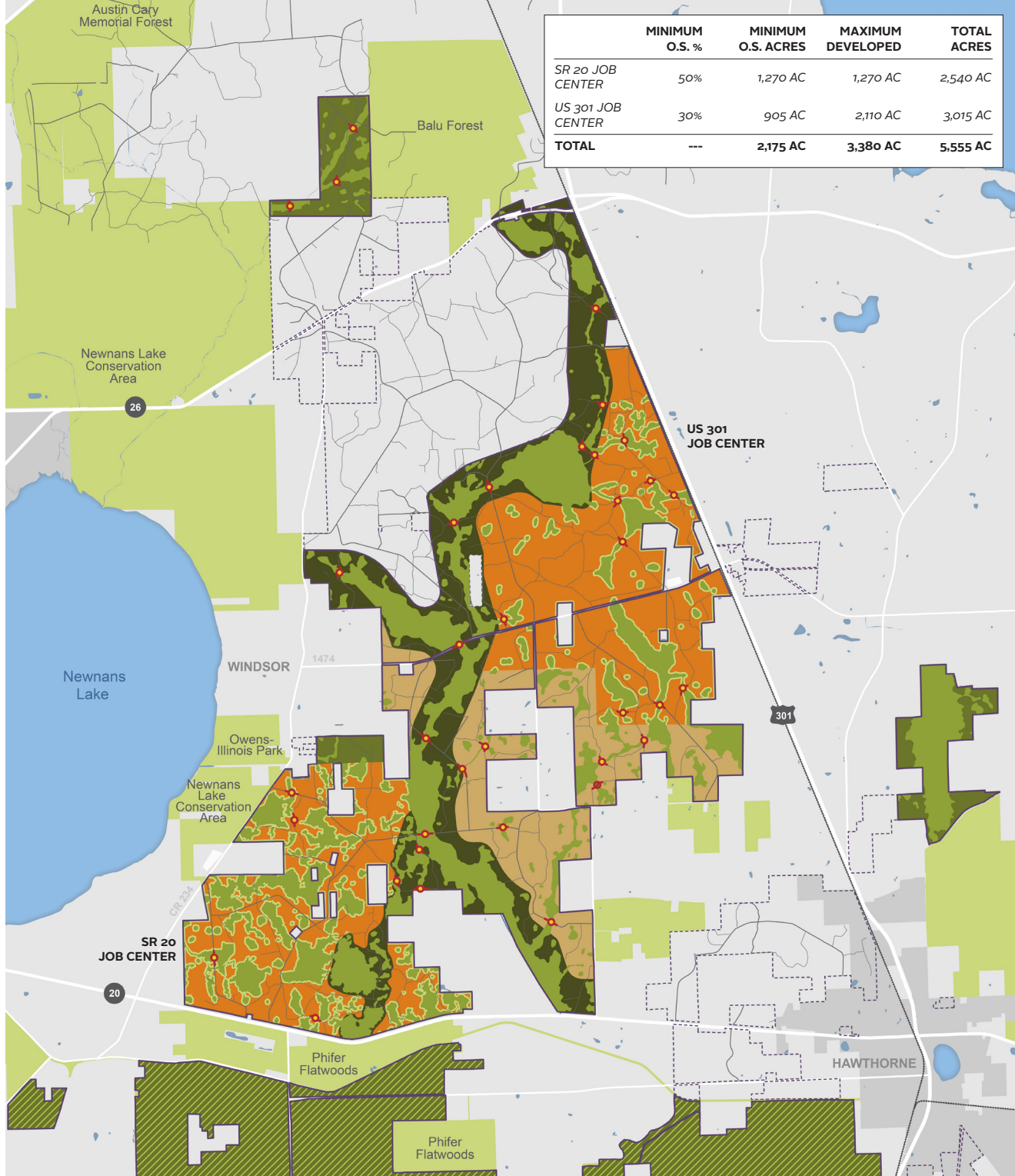
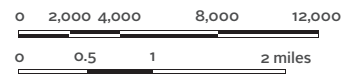


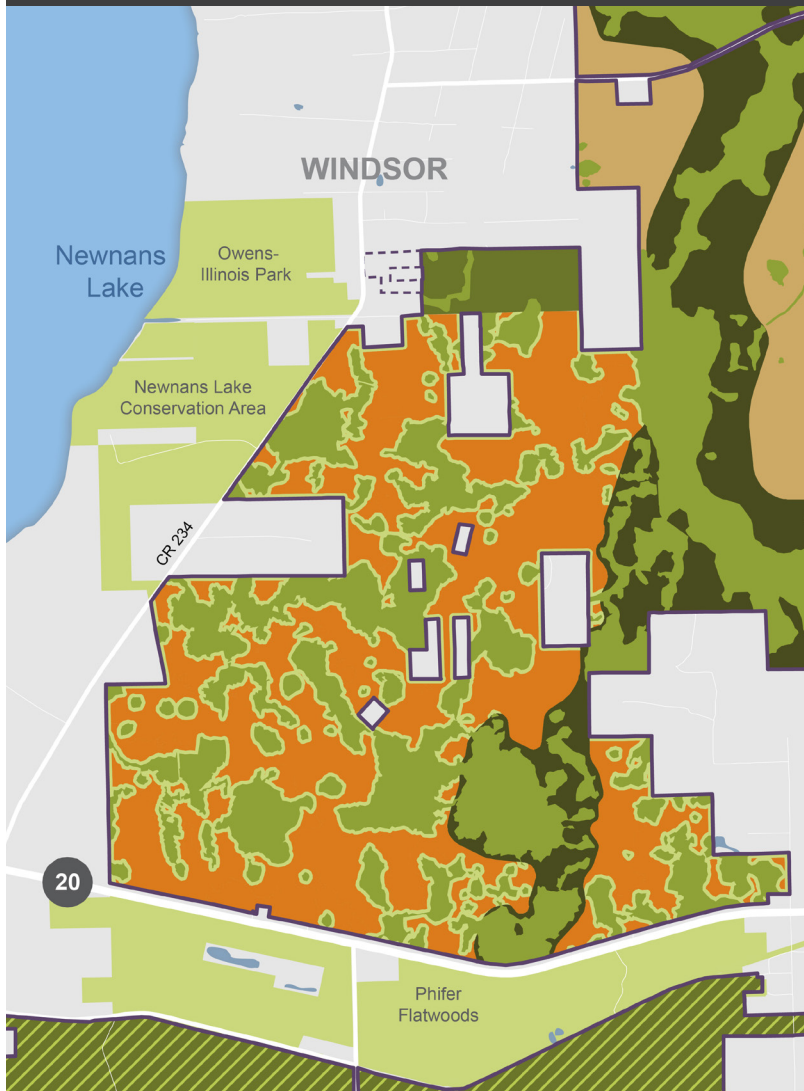
FIGURE 8: EA-EOMU MINIMUM OPEN SPACE & MAXIMUM DEVELOPMENT ANALYSIS

- ENVISION ALACHUA SECTOR PLAN
- WETLANDS
- 75' WETLAND BUFFERS
- 100' EDGE BUFFERS
- REMAINING EA-EOMU
- EXISTING WETLAND FORESTRY ROAD CROSSING



Data Source: Alachua County GIS, Plum Creek
June 2015

FIGURE 9: SR 20 JOB CENTER MAXIMUM DEVELOPMENT PROGRAM & FIT



The R&D/Office and Institutional Center

- Highest density mixed use center (MXD): R&D/office, institutional, residential, retail/service, and civic uses
- Additional residential and complementary retail/service and civic uses
- Advanced manufacturing/industrial uses complementary to mixed use center
- Connected to agriculture uses
- Similar to:
 - Lake Nona South/Medical City, FL
 - Centennial Park, NC
 - University Park, MA
 - Chiswick Park, UK
 - The Woodlands, TX

EOMU Acreage Breakdown

Total EOMU Area (2,540 AC)

- Open Space (50%)

Wetlands (770 AC)

Buffers & Edges (500 AC)

= Remaining EOMU* (1,270 AC)

Maximum Development by Land Use

Non-Residential	6,500,000 SF
Residential	7,000 DUs

FIGURE 10: US 301 JOB CENTER MAXIMUM DEVELOPMENT PROGRAM & FIT





The Multi-Use Manufacturing Hub

- Advanced manufacturing/industrial campuses leveraging connections to US 301 and CSX railroad
- Medium-to-low density R&D, office, and institutional uses
- Medium-to-low density residential, complementary commercial and civic uses
- Connected to R&D/Office/Institutional center
- Similar to:
 - Research Triangle Park, NC
 - Clemson ICAR Research Facility, SC
 - BMW USA Assembly Plant, SC
 - Baldwin Park, FL

EOMU Acreage Breakdown

Total EOMU Area (3,015 AC)

- Minimum Open Space (30%)

- Wetlands (453 AC) 
- Buffers & Edges (317 AC) 
- Other Open Space* (135 AC) N/A

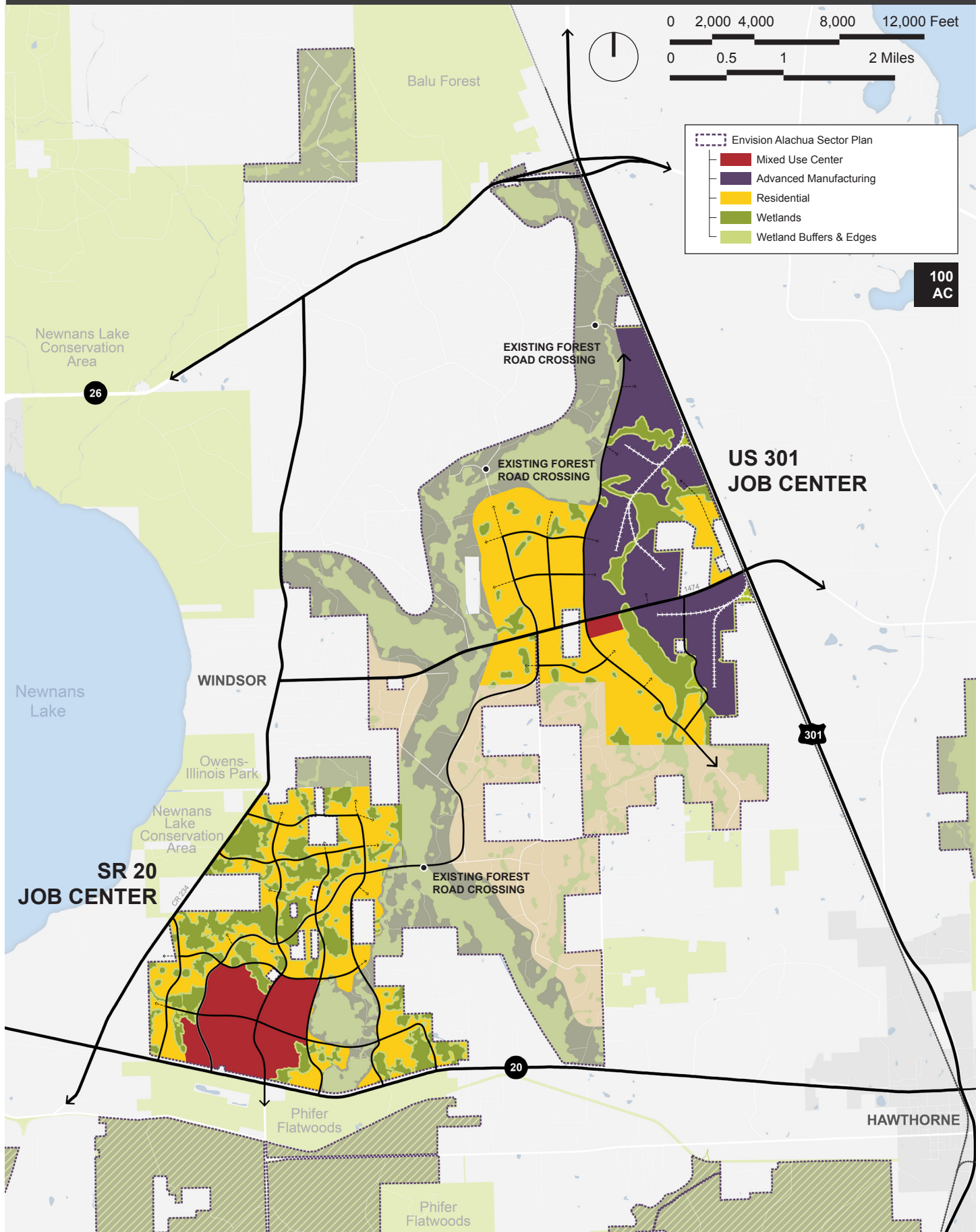
= Remaining EOMU (2,110 AC) 

Maximum Development by Land Use

Non-Residential	8,000,000 SF
Residential	5,000 DUs

*Additional open space added to achieve 30% minimum open space requirement for the US 301 Job Center as outlined in EASP policies.

FIGURE 11: CONCEPTUAL LAND USE SCENARIO & DEVELOPMENT PROGRAM FIT



Some of the open space within the development areas (approximately 400 acres) is not illustrated.

SR 20 JOB CENTER CONCEPTUAL LAND USE SCENARIO & DEVELOPMENT PROGRAM FIT

Land Use	SF/DUs	Average Density	Acreage*
Mixed Use Center (MXD)	5.9M SF/2,900 DUs	---	500 AC
<i>R&D/Office</i>	<i>5,000,000 SF</i>	<i>0.40 FAR</i>	<i>350 AC</i>
<i>Retail/Service</i>	<i>900,000 SF</i>	<i>1.0 FAR</i>	<i>20 AC</i>
<i>Residential (Multifamily)</i>	<i>2,900 DUs</i>	<i>30.0 DU/AC</i>	<i>130 AC</i>
Residential (Outside MXD)	3,000 DUs	5.0 DU/AC	950 AC
Subtotals	5,900 DUs/ 5.9M SF	---	1,450 AC
Open Space (included in land use acreages)	---	---	250 AC
Developed Area	---	---	1,200 AC

US 301 JOB CENTER CONCEPTUAL LAND USE SCENARIO & DEVELOPMENT PROGRAM FIT

Land Use	SF/DUs	Average Density	Acreage*
<i>Advanced Manufacturing</i>	<i>5,000,000 SF</i>	<i>0.15 FAR</i>	<i>1,150 AC</i>
<i>Retail/Service</i>	<i>300,000 SF</i>	<i>0.25 FAR</i>	<i>40 AC</i>
<i>Residential</i>	<i>2,800 DUs</i>	<i>3.0 DU/AC</i>	<i>1,050 AC</i>
Subtotals	2,800 DUs/ 5.3M SF	---	2,240 AC
Open Space (included in land use acreages)	---	---	150 AC
Developed Area	---	---	2,090 AC

Development Totals	8,700 DUs/ 11.2M SF	---	3,290 AC
---------------------------	----------------------------	------------	-----------------

Notes:

- All land use acreages include the following: infrastructure, stormwater facilities, additional floodplain (outside of wetlands), additional open space to meet minimum requirements, and civic land uses.
- Average densities as defined in Chapter IV.A and Chapter 3.3, IV.B Land Use Data & Analysis, EASP December 2013.

FIGURE 12: SR 20 Job Center Sample Residential Density Product Mix



SINGLE FAMILY (DETACHED)
60-120' LOTS

Description:
This single family product represents the lowest density unit typology in the SR 20 Job Center. This density is primarily reserved for inner site areas near Lochoosa Creek and Windsor.

< Lake Nona - Orlando, FL

2-5
DU/AC

35%
OF UNITS



COTTAGE STYLE (DETACHED)
40-50' LOTS

Description:
The medium density lot sizes allow for full-sized single family product within a tight-knit urban fabric in proximity to mixed use and employment uses.

< Holiday Neighborhood - Boulder, CO

5-6
DU/AC

16%
OF UNITS



TOWNHOMES (ATTACHED)

Description:
This higher density single family product (attached) is located within/ near the mixed use center in the SR 20 Job Center.

< Baldwin Park - Orlando, FL

15
DU/AC

10%
OF UNITS



TOWN CENTER MULTIFAMILY

Description:
The highest density residential product within the SR 20 Job Center; located within mixed-use center with potentially ground floor retail.

< The Woodlands Town Center, TX

30-40
DU/AC

39%
OF UNITS

FIGURE 13: US 301 Job Center Sample Residential Density Product Mix



SINGLE FAMILY (DETACHED)
50-120' LOTS

Description:
This single family product represents the lowest density unit type in the US 301 Job Center. This designation is primarily reserved for inner site areas and near Lochoosa Creek.

< Lake Nona - Orlando, FL

1-5
DU/AC

75%
OF UNITS



COTTAGE STYLE (DETACHED)
40-45' LOTS

Description:
The medium density lot sizes allow for full-sized single family product within a tight-knit urban fabric in proximity to commercial and employment uses.

< Holiday Neighborhood - Boulder, CO

5-6
DU/AC

5%
OF UNITS



TOWNHOMES (ATTACHED)

Description:
Highest density residential product within the US 301 Job Center; located near/within the commercial hubs with potential for live/work uses.

< Baldwin Park, FL

10
DU/AC

20%
OF UNITS

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Appendix B:

Case Studies

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Case Studies Summary Table

R&D/OFFICE/INSTITUTIONAL	ACRES	PROGRAM	DENSITY
CENTENNIAL PARK, NCSU RALEIGH, NORTH CAROLINA	1,227	3,500,000 SF	0.66 FAR
LAKE NONA SOUTH ORLANDO, FLORIDA	2,800	6,770,000 SF 2,700 DUs	0.25 FAR 3-4 DU/AC
CHISWICK PARK LONDON, UNITED KINGDOM	34	1,800,000 SF	1.25 FAR
CLEMSON UNIVERSITY ICAR CAMPUS GREENVILLE, SOUTH CAROLINA	250	3,000,000 SF	0.30 FAR
RESEARCH TRIANGLE PARK DURHAM, NORTH CAROLINA	7,000	22,500,000 SF	0.10-0.15 FAR
WAKE FOREST INNOVATION QUARTER WINSTON-SALEM, NORTH CAROLINA	300	6,820,000 SF	0.60 FAR
PROGRESS PARK ALACHUA, FLORIDA	190	500,000 SF	0.10 FAR
ADVANCED MANUFACTURING	ACRES	PROGRAM	DENSITY
ADVANCED MANUFACTURING PARK ROTHERHAM, UNITED KINGDOM	100	1,400,000 SF	0.32 FAR
JETPLEX INDUSTRIAL PARK HUNTSVILLE, ALABAMA	1,470	1,750,000 SF	0.15 FAR
TRUMPF LASER MANUFACTURING PLANT DITZINGEN, GERMANY	100	1,500,000 SF	1.0 FAR
VOLKSWAGEN MANUFACTURING PLANT CHATTANOOGA, TENNESSEE	1,400	2,500,000 SF	---
BMW ASSEMBLY PLANT GREER, SOUTH CAROLINA	1,150	5,000,000 SF	---
CATERPILLAR MANUFACTURING FACILITY ATHENS, GEORGIA	240	850,000 SF	0.10 FAR
JACKSONVILLE INTERNATIONAL TRADEPORT JACKSONVILLE, FLORIDA	425	3,500,000 SF	0.15 FAR
MIXED USE	ACRES	PROGRAM	DENSITY
UNIVERSITY PARK, MIT CAMBRIDGE, MASSACHUSETTS	27	2,300,000 SF 670 DUs	2.6 FAR 25 DU/AC
THE WOODLANDS TOWN CENTER RESIDENTIAL THE WOODLANDS, TEXAS	1,300	7,000 DUs	10-50 DU/AC
UC DAVIS, WEST VILLAGE DAVIS, CALIFORNIA	205	105,000 SF 2,455 DUs	0.5-1.0 FAR 15 DU/AC
HOLIDAY NEIGHBORHOOD BOULDER, COLORADO	27	333 DUs	12 DU/AC
BALDWIN PARK BALDWIN PARK, FLORIDA	1,093	9,500,000 SF 3,600 DUs	0.25-0.5 FAR 5-20 DU/AC

Centennial Park - North Carolina State University

Raleigh, NC



Image Credit: North Carolina State University

1,227
acres

3,500,000
square feet

0.40
FAR (est.)

11,000 staff & students

3-5 stories average building height

Residential: ~1,500 Units (including student housing)

Institutional/Office/R&D: >3,500,000 SF

Open Space: 25%

Expected Completion: 2035

DESCRIPTION

Centennial Park is a mixed use institutional, commercial, and research park built and operated by North Carolina State University in Raleigh, NC. The park hosts several notable tenants, such as GlaxoSmithKline, Grifols, the U.S. Department of Agriculture, the National Weather Service, and the Green Energy Corporation. At full build-out, NCSU expects the total institutional/office/R&D program to reach 9,000,000 SF and serve 30,000 tenants, students, and staff.

In addition to several academic, non-profit, government, and private research facilities, the campus includes:

- James B. Hunt Jr. Library
- Veterinary Medical Center
- Technology incubator
- Residential complex, Student dormitories
- Wetland park
- Public fishing pier and lake
- 18-hole golf course

Source: North Carolina State University



Image Credit: Google Aerial Photography



Image Credit: North Carolina State University

Lake Nona South

Orlando, FL



2,800 acres	6,770,000 square feet	0.25 FAR (est.)
	2,700 units	3-4 DU/acre (est.)

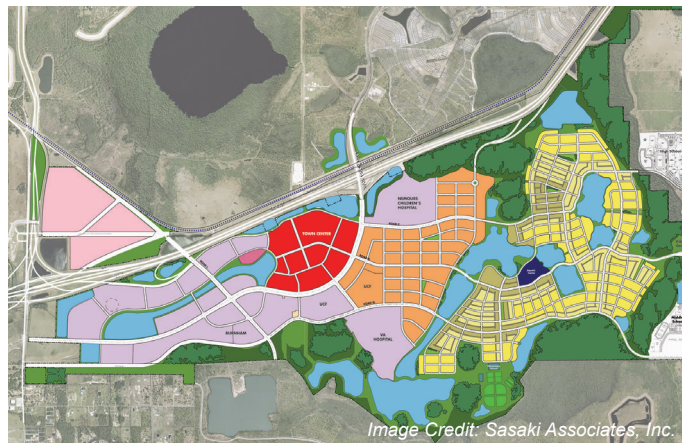
Office/Medical: 5,820,000 SF
Retail: 950,000 SF
Open Space: 40%

DESCRIPTION

Lake Nona South is a 2,800-acre mixed use master planned community within the city limits of Orlando that is home to education and recreational facilities, a medical city, diverse workspaces, retail centers, entertainment choices and a multitude of residential options.

The major commercial/institutional anchor of Lake Nona is Medical City. Medical City currently encompasses 650 acres of the total Lake Nona development area, and is comprised of 5 major regional hospitals:

- University of Central Florida Health Sciences Campus
- Sanford-Burnham Medical Research Institute
- VA Medical Center
- Nemours Children's Hospital
- University of Florida Academic & Research Center



Source: Lake Nona website

Chiswick Park

London, UK



Image Credit: Chiswick Park

34
acres

1,800,000
square feet (office)

1.25
FAR (est.)

12,000 Occupants
4-5 Stories (average building height)
25% Open Space
1,700 Structured parking spaces

DESCRIPTION

The vision for Chiswick Park called for a new way of working within the inner ring of the city's suburbs. The Park is tied closely to commuter transit lines and major highways, and focuses on creating a high-end office experience for tenants.

Over 40 national and international companies rent office space within the park's 11 buildings. Chiswick Park is designed to incorporate a full spectrum of professional and lifestyle amenities. The office buildings are clustered around a central open space promoting informal gathering and collaboration in addition to providing shared access to a variety of amenities. Such amenities include retail, cafe, and restaurant spaces, entertainment and sports programming, professional development classes, guest speakers, clubs, and other social events.

The facilities at Chiswick Park sit within a highly natural landscape and are designed with many green and energy-efficient technologies, including full exterior sun-shading.



Image Credit: Google Aerial Photography



Image Credit: Chiswick Park

Source: Chiswick Park

Clemson University International Center for Automotive Research Greenville, SC



Image Credit: CUICAR, Clemson University

250
acres

3,000,000
square feet (at buildout)

0.30
FAR (est.)

DESCRIPTION

Clemson University began development on the International Center for Automotive Research campus in Greenville, SC to capitalize on the abundance of automotive sciences thought leadership congregated in the area. The campus is situated in close proximity to over 150 auto-related companies and positioned within a metropolitan area that is retaining and attracting new talent year after year.

At full build-out, the campus will comprise five “Technology Neighborhoods”, each hosting a number of Clemson education facilities and R&D/office facilities for private operators, such as BMW, Ford, and Michelin. In addition to working spaces, each neighborhood will offer amenities such as collaboration spaces, cafes, retail areas, and access to the site’s natural features.



Image Credit: CUICAR, Clemson University



Image Credit: CUICAR, Clemson University

Source: CUICAR, Clemson University

Research Triangle Park

Durham, NC



Image Credit: Google Aerial Photography

7,000
acres

22,500,000
square feet

0.10-0.15
FAR (est.)

170 tenants (52,000 employees)

2-3 stories (average height)

High-tech R&D, agricultural biotechnology, life sciences, information technology, clean/green technologies, foundations, institutions, scientific associations

DESCRIPTION

Opened in 1959, Research Triangle Park (RTP) was the first major university-driven research park in the United States. The park's moniker is a result of its location at the intersection of three major 'brain-hub' cities in central North Carolina—Raleigh, Durham, and Chapel Hill. Today, RTP serves as one of the most successful research parks in the world, and over the past 50+ years, it has grown to stretch across 7,000 acres and host over 150 corporations and organizations.

Today, RTP exists as a lower density collection of large single-use office facilities, each standing on its own surrounded by significant open space and surface parking. In an effort to modernize the facilities, RTP issued a new master plan in 2012 that calls for a densification of its existing layout and character. The new plan enables RTP to triple the number of employees currently working in the Park, quadruple the amount of office/R&D square footage, and introduce a new mix of uses including high-density residential product.

Source: RTP website, 2012 RTP Master Plan



Image Credit: Research Triangle Park



Image Credit: inhabitat.com

Wake Forest Innovation Quarter

Winston-Salem, NC

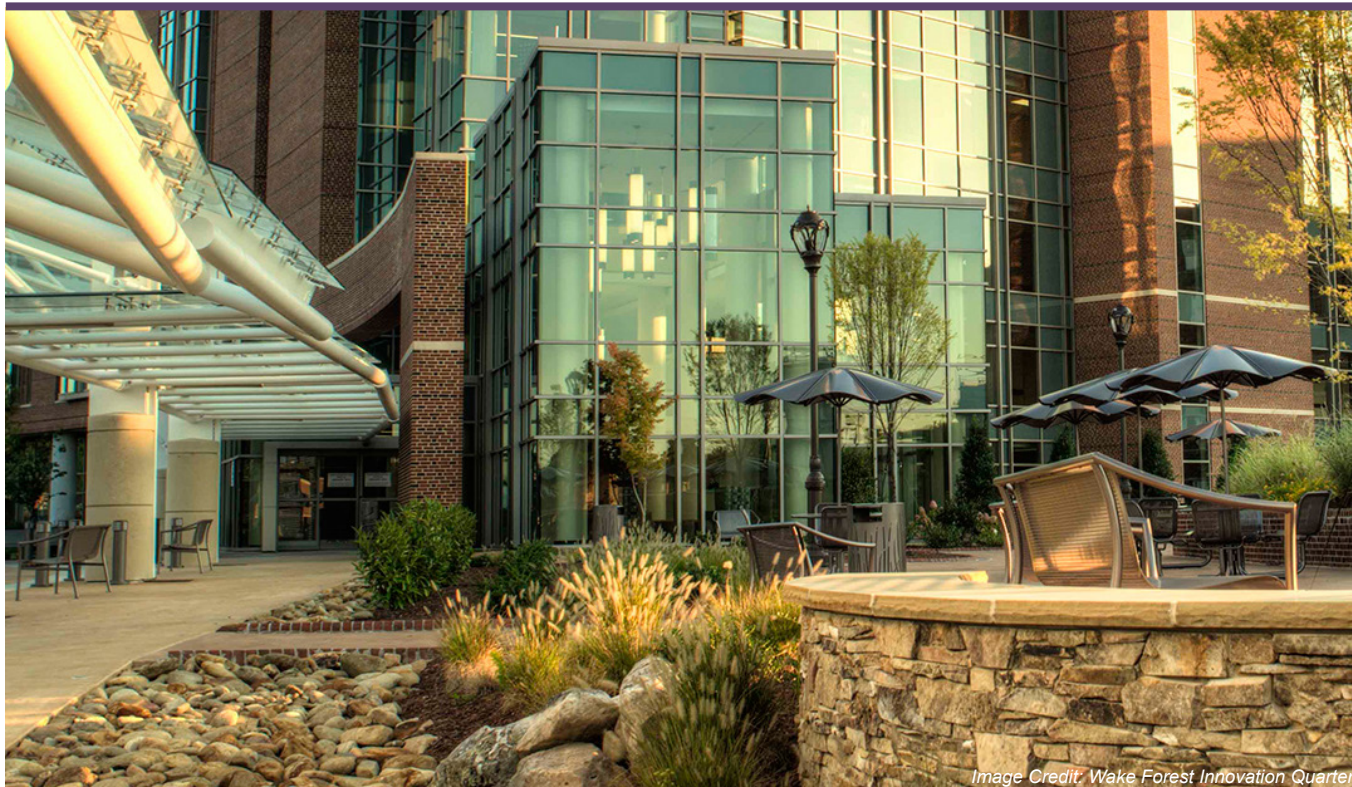


Image Credit: Wake Forest Innovation Quarter

300
acres

6,820,000
square feet

0.60
FAR (est.)

DESCRIPTION

Wake Forest Innovation Quarter (formerly known as Piedmont Triad Research Park) was founded twenty years ago as a small research and development campus, specializing in biotechnology and pharmacology. Over the years, the campus has come to host outposts for many of the area's schools of medicine, biomedical sciences, and information technology.

While still under development, the Innovation Quarter is today home to many public, private, and nonprofit operators focusing on biomedical innovation. The master plan for this growing urban area projects significant growth in activity and employment within the Innovation Quarter and calls for high density, mixed use development to capitalize on the growing demand. The vision calls for more office space for private tenants, educational facilities for local institutions, incubator facilities for fostering innovative companies and ideas, and significant public amenities for tenants and visitors.

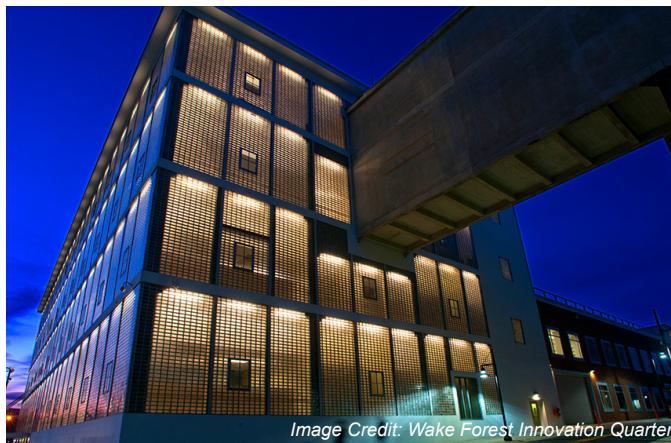


Image Credit: Wake Forest Innovation Quarter



Image Credit: Wake Forest Innovation Quarter

Source: Wake Forest Innovation Quarter

Progress Park

Alachua, FL

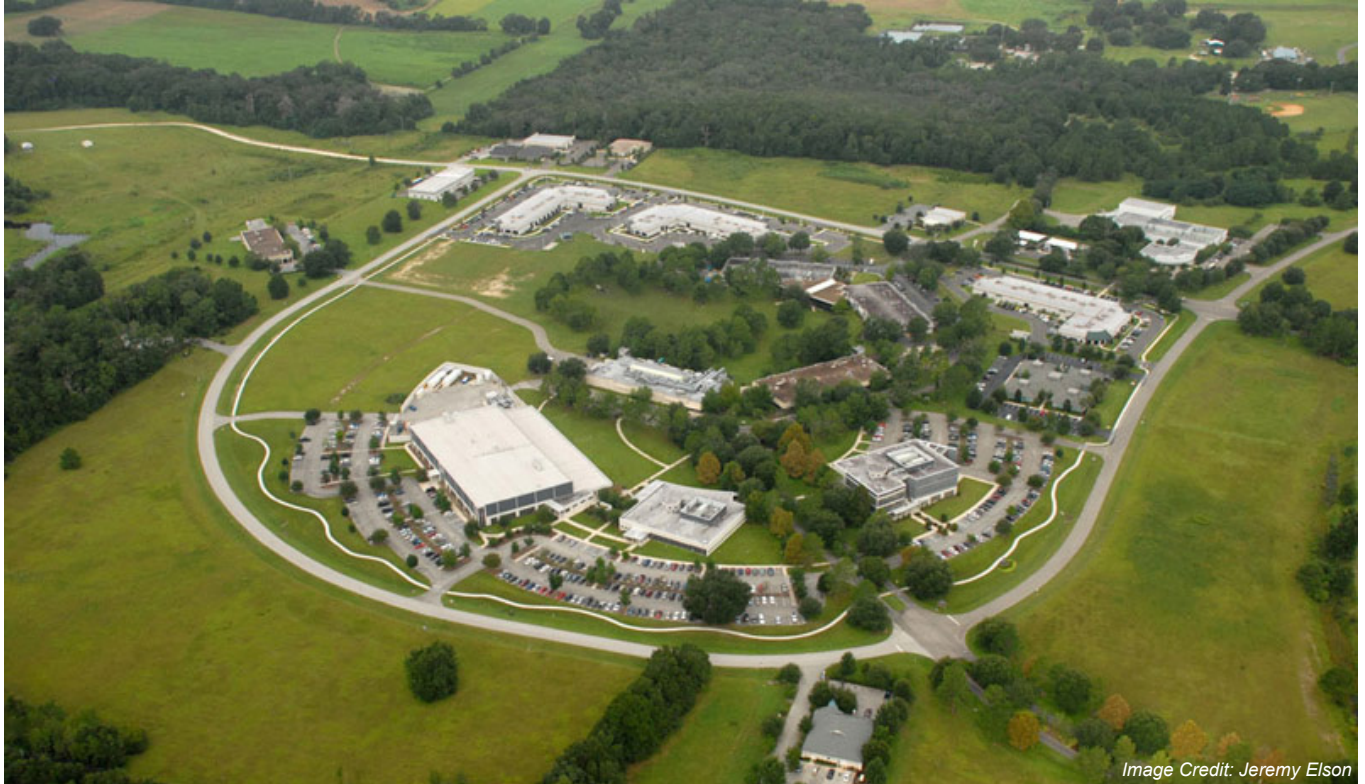


Image Credit: Jeremy Elson

190
acres

500,000
square feet (est.)

~0.10
FAR (est.)

DESCRIPTION

Progress Park is home to many bioscience, technology, and commercial operators working in Alachua County. The park is a popular destination for offices within the county due to its ties with the University of Florida and Santa Fe College and the close proximity to regional roadways, rail lines, and the nearby Gainesville Regional Airport.

Currently, the park hosts over 30 companies and approximately 1,200 workers. Expansion plans are underway to support projected growth to the southwest of the park's current footprint.

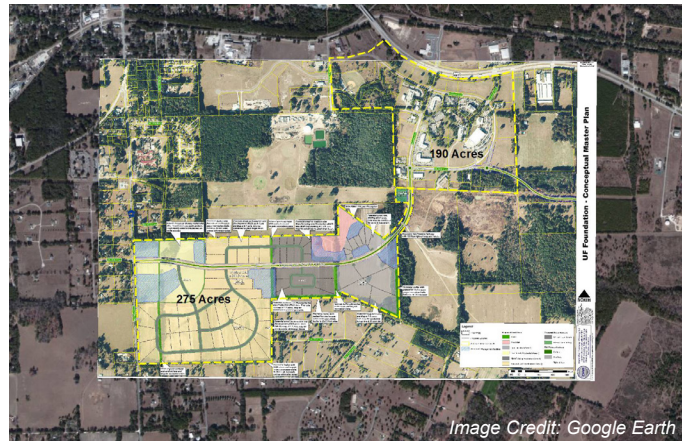


Image Credit: Google Earth



Image Credit: onedio.com

Source: Progress Park

Advanced Manufacturing Park

Rotherham, UK



100
acres

1,400,000
square feet

0.32
FAR (est.)

1-2 stories average building height
700 employees

Office/Administrative: 400,000 SF
Manufacturing: 1,000,000 SF

DESCRIPTION

The Advanced Manufacturing Park (AMP) is a 100-acre site on the Rotherham-Sheffield border in South Yorkshire. It is a joint venture between public and private sector organizations. The AMP's goal is to capitalise on the advanced engineering and manufacturing expertise within the region, and to further strengthen that capability in order for the region's companies to remain globally competitive in the 21st century.

The compact form and relatively higher density of the AMP distinguishes the park from the more traditionally low-density model that has developed across the world. At its hub, the AMP has some of the world's leading materials and manufacturing technologies organizations: the University of Sheffield Advanced Manufacturing Research Centre with Boeing (AMRC), Rolls-Royce Factory of the Future, Castings Technology International (CTi), TWI Technology Centre (Yorkshire) and the new Nuclear AMRC.

Source: AMP website



Jetplex Industrial Park

Huntsville, AL

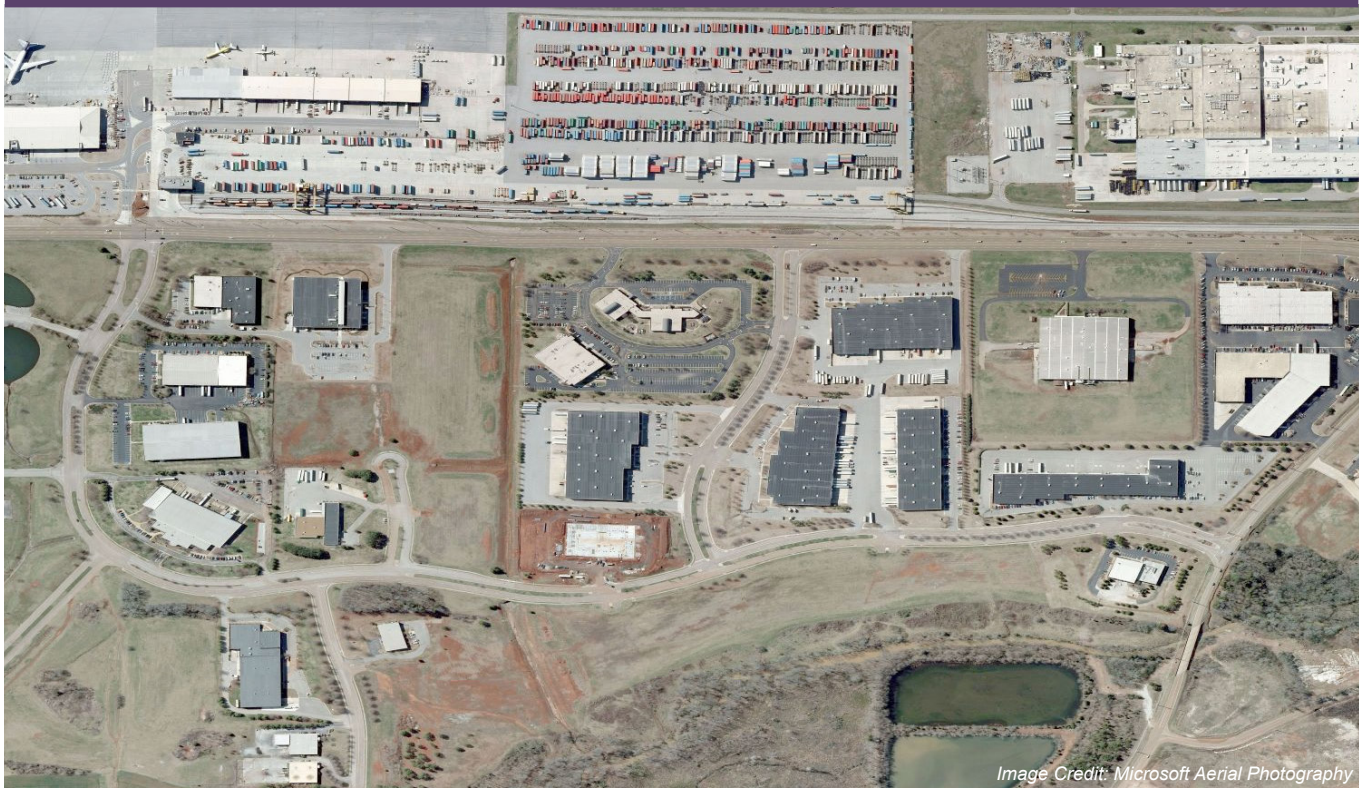


Image Credit: Microsoft Aerial Photography

1,470
acres

1,750,000
square feet (manufacturing/warehousing)

0.15
FAR (est.)

Jetplex Industrial Park is located adjacent to the Huntsville International Airport and offers Foreign Trade Zone #83, the International Intermodal Center, U.S. Customs Port of Entry and interstate access via I-565. The Huntsville-Madison County Airport Authority manages the Park, which contains 1,470 acres and 54 corporate tenants. Jetplex Park is home to several electronics companies such as Boeing and Raytheon, electronics manufacturer LG Electronics and Siemens VDO Automotive.

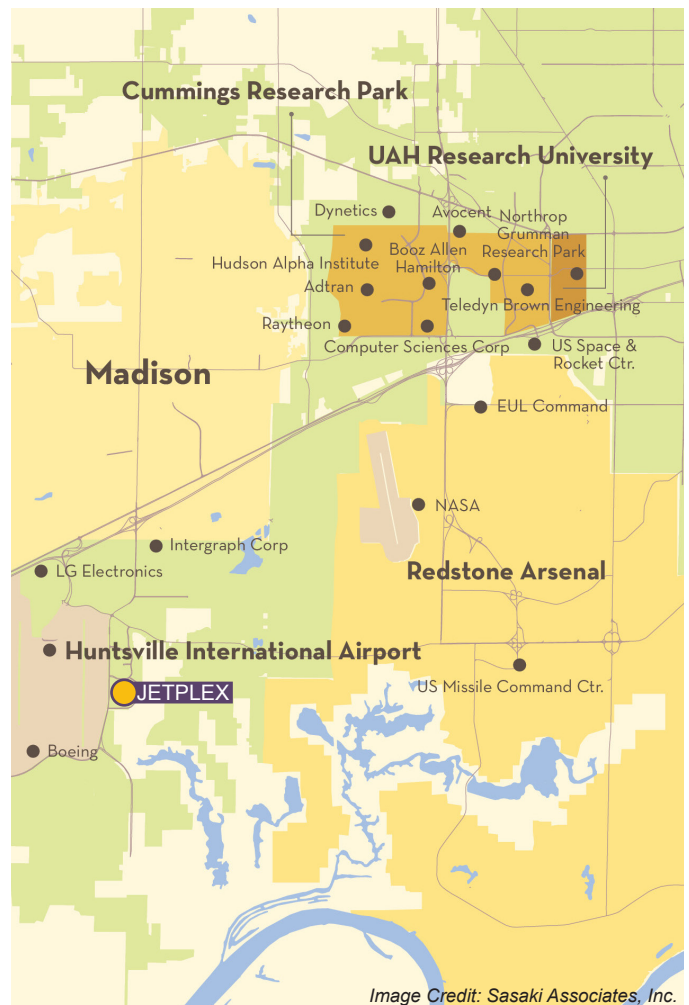


Image Credit: Sasaki Associates, Inc.

Source: Huntsville, AL website

Trumpf Laser Manufacturing Plant

Ditzingen, Germany



100
acres

1,500,000
square feet (office/R&D)

1.0
FAR (est.)

2,500 Employees

DESCRIPTION

The Trumpf Company's Ditzingen Laser factory is an advanced manufacturing facility that has been closely integrated within an existing residential, commercial, and agricultural landscape in southern Germany.

The core tenets of the master plan called for an integration of facility operations and operators—closing the divide between white-collar management and more traditionally blue-collar machine operators and technicians. The campus is arranged to facilitate close interaction between R&D and production operations. The campus is revered for its significant and award-winning industrial architecture.

The entire campus is connected by a system of underground tunnel infrastructure, which enables goods, employees, and customers to move throughout and in adverse weather. New or renovated buildings simply plug into this expanding network marked by a primary east-west tunnel axis which connects both the west and east campus under the street.

Source: Barkow Leibinger



Volkswagen Manufacturing Plant

Chattanooga, TN



Image Credit: volkswagenag.com

1,400
acres

2,500,000
square feet (manufacturing)

The new VW plant location was selected as a result of Chattanooga's position in the region as a major hub of advanced manufacturing and commerce, the close adjacency of the land to major infrastructure such as rail and state highways. The facility has brought 2,000 new jobs to Chattanooga directly, and an additional 9,500 jobs are expected to be created by suppliers.

The state-of-the-art Volkswagen's plant includes environmental/ecological features such as on-site protected wetlands, creek restoration, and the protection/recreation of native wildlife habitats. These features, along with the several designations of easements, offer extensive conservation lands to the Chattanooga community.

The facility includes various amenities for employee wellness, including an on-site fitness center that includes rehabilitation, a nearby child-care facility, and a VW Academy for apprenticeships and vocational training.



Image Credit: inhabitat.com



Image Credit: green.autoblog.com

Source: Volkswagen, Autoblog

BMW Assembly Plant

Greer, SC



1,150
acres

5,000,000
square feet (manufacturing, other)

The BMW USA assembly plant in Greer, South Carolina opened its doors in 1992, and since then has assembled over two million vehicles—producing more than 1,000 a day. The plant has undergone numerous expansions and upgrades over the last two decades, allowing for greater production capacity and creating an ever-larger impact on the local economy and local employment. Currently, the plant employs 10,000 individuals from the surrounding area. To date, the company has invested nearly \$7 billion in the South Carolina plant.

The facility comprises over 5 million square feet and spans over 1,150 acres, settled between Interstate 85, two state highways, a rail line, and a small airport. The plant was built and upgraded with a number of environmental and sustainability features in mind, including a landfill methane “gas-to-energy” program that provides the plant with over half its total energy needs. In addition to the manufacturing facilities, the BMW campus includes a health center, a museum, and an energy center.



Source: BMW USA, South Carolina Dept. of Commerce

Caterpillar Manufacturing Facility

Athens, GA



Image Credit: equipmentworld.com

240
acres

850,000
square feet

~0.10
FAR (est.)

DESCRIPTION

Caterpillar's Athens, GA facility is located 60 miles northeast of downtown Atlanta, and is responsible for the manufacturing and assembly of the company's "small-track" bulldozers and mini hydraulic excavators. Having opened and fully staffed in 2014/2015, the facility came online with over \$200 million in capital investment and the help of approximately \$75 million in state and local incentives. Caterpillar expects the facility will create 1,400 jobs directly by 2018, and projects as many as 2,800 additional jobs to be created locally by suppliers who locate near the new plant.

The facility occupies a large 240-acre parcel along two major state highways and in close proximity to rail lines. The large property offers the company significant opportunity for expansion in the future.

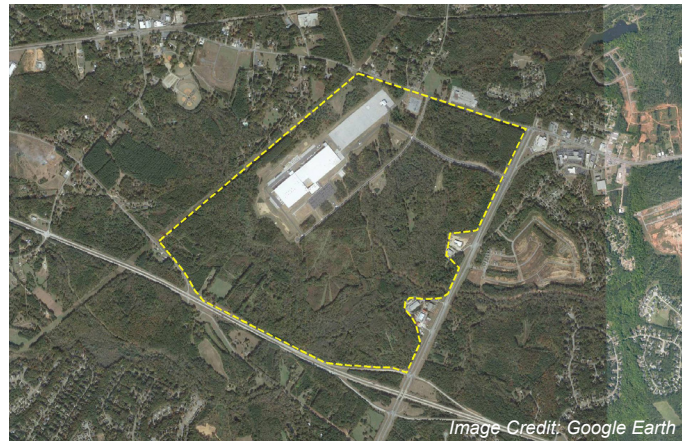


Image Credit: Google Earth



OnlineAthens

Source: Caterpillar, Atlanta Journal-Constitution, Online Athens

Jacksonville International Tradeport

Jacksonville, FL



Image Credit: cbre.us

425
acres

3,500,000
square feet (est.)

~0.15
FAR (est.)

DESCRIPTION

Jacksonville International Tradeport, situated just south of the Jacksonville International Airport, is a 425-acre industrial park housing distribution and warehouse facilities for many national and international companies. The park provides close adjacency to major road and air infrastructure and provides a variety of parcel and facility sizes for tenants to choose from.



Image Credit: Google Earth



Image Credit: jacksonville.com

Source: Jackson Shaw

University Park, MIT

Cambridge, MA



Image Credit: Sasaki Associates, Inc.

27 acres	2,300,000 square feet	2.6 FAR (est.)
	670 units	25 DU/acre (est.)

Hotel/Retail: 250,000 SF
Structured Parking Spaces: 2,800
5-7 Stories, average building height
10% Open Space

DESCRIPTION

University Park at MIT is a vibrant 27-acre development located directly adjacent to the MIT Campus. The project successfully integrates scientific research facilities with 670 high density residential units, a hotel, a full-size urban supermarket, a variety of retail amenities, and an expansive central community park.

University Park was born out of a public-private partnership between MIT and the private developer/property manager, Forest City. Today, the project continues to serve as a successful model of urban mixed use development worldwide.

The development includes a 1.3 million square feet of advanced research and laboratory space for rent, as well as a variety of rental housing products, including studio, one, two, and three bedroom apartments, townhouses; and high-rise luxury units.

Source: Forest City



Image Credit: Forest City



Image Credit: Forest City

The Woodlands Town Center Residential

The Woodlands, TX



Image Credit: Google Street View

1,300
acres

7,000
units

10-50
DU/acre (est.)

DESCRIPTION

The Woodlands is a large, diverse, and highly successful master planned community north of Houston, TX. Founded nearly 40 years ago—the community continues to rapidly grow its residential and commercial components.

The residential areas of The Woodlands consist of 8 neighborhoods or “villages” as they are called. These villages are comprised of a variety of housing types, patterns, and densities—from the multifamily apartment and condominium buildings in and around the town center, to the large-lot single family products concentrated within the older villages of The Woodlands.

Considered the “downtown” of The Woodlands, Town Center represents 1,300 acres of mixed use shopping, restaurants, entertainment and high density living. Town Center brings an urban feel to the otherwise mostly residential focus of The Woodlands with a more compact form of streets, shops, restaurants, hotels, office buildings, lofts, town homes, and condominiums.



Image Credit: Google Street View



Image Credit: Sasaki Associates, Inc.

Source: The Woodlands website

UC Davis - West Village

Davis, CA

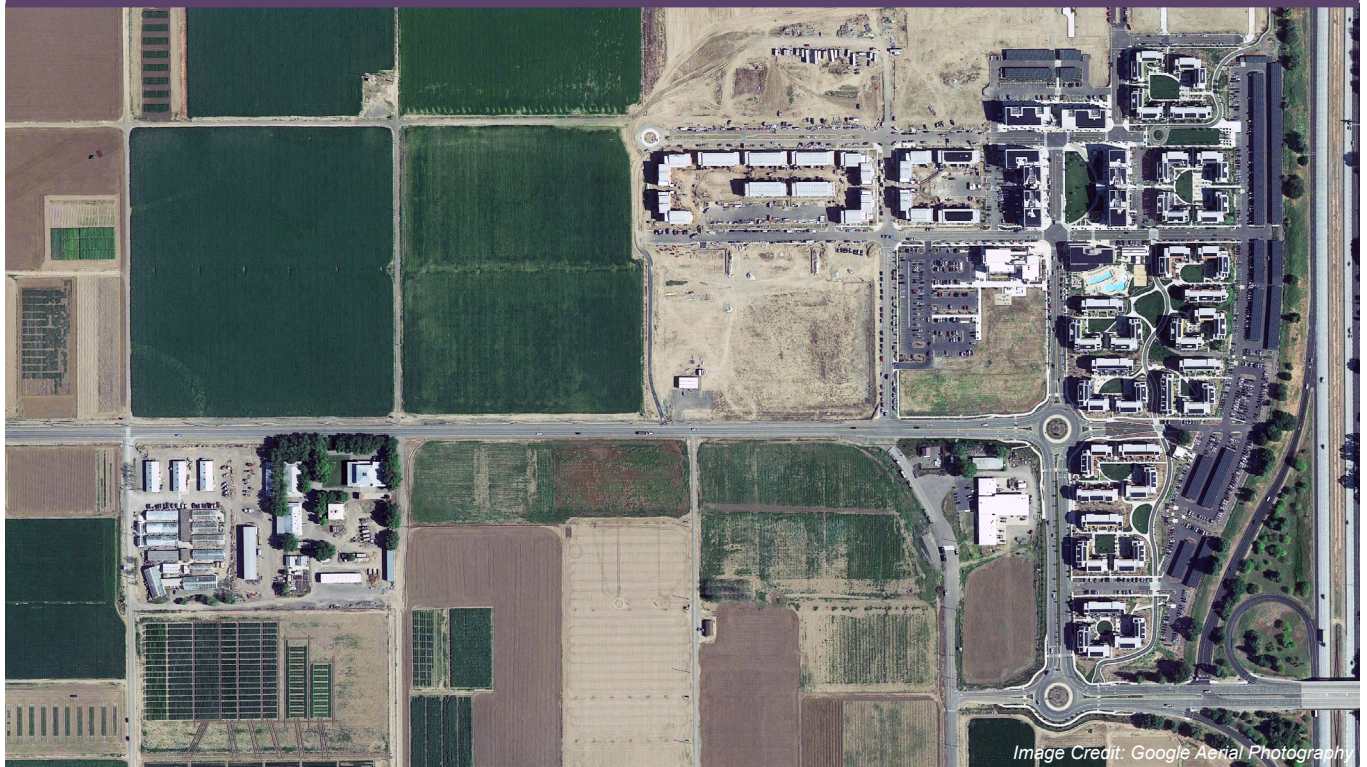


Image Credit: Google Aerial Photography

205 acres	105,000 square feet	0.5-1.0 FAR (est.)
	2,455 units	15 DU/acre (est.)

Retail/office: 45,000 SF
Community College: 60,000 SF
Recreation: 22 acres'

R&D facilities, Agricultural research fields, Academic buildings, Student housing, Student life facilities, Private research facilities

DESCRIPTION

The leading college of its kind in the nation, the College of Agricultural and Environmental Sciences at UC Davis addresses critical issues related to agriculture, food systems, the environment, and human and social sciences through research, undergraduate and graduate education, and internationally recognized outreach programs.

West Village is one of the newest mixed use districts within the UC Davis campus. The district includes a variety of commercial and institutional programs, as well as housing for faculty, staff, and students—all directly adjacent to the school's agricultural research fields. Amenities include significant recreation fields and parks, a fully integrated community bikeway, a village square, and solar-canopied parking.

Source: UC Davis College of Agricultural & Environmental Sciences



Image Credit: UC Davis



Image Credit: UC Davis

Holiday Neighborhood

Boulder, CO



27
acres

333
units

12
DU/acre (est.)

Retail: 5,000 SF

DESCRIPTION

The Holiday neighborhood project is a redevelopment effort that has turned a greyfield site in Boulder, CO into a low-rise, mixed use/residential community that is transit-supportive, energy efficient, and affordable.

Holiday is located in the northern section of Boulder and surrounded by conventional post-war suburban development. The planning goals for this new community included the creation of a more responsible development pattern that provides easy access to jobs, urban agriculture, shopping and entertainment while remaining affordable for families in the region.

The community takes advantage of existing major roadways, as well as Boulder's extensive bike and bus infrastructure. The community provides a wide variety of housing types and styles—such as single family, townhouse, artist live/work, and cohousing units, as well as a mix of land uses and services. The community puts an emphasis on shared community amenities including community agriculture.

Source: www.terrain.org, ULI case study



Baldwin Park

Orlando, FL



Image Credit: Google Street View

1,093 acres	9,500,000 square feet	0.25-0.5 FAR (est.)
	3,600 units	5-20 DU/acre (est.)

8,000 residents
125 businesses
Open Space: 400 acres (35%)

DESCRIPTION

One of the largest infill redevelopment projects in the United States, Baldwin Park is located on the site of the former Orlando Naval Training Center (NTC). At full completion, the 1,093-acre Baldwin Park will contain approximately 3,600 homes and 950,000 square feet of retail and office space.

The retail and office components of Baldwin Park are largely concentrated within the mixed-use center to the southwest of Lake Baldwin. The core of the development features several blocks of medium-density commercial space, including high-end retail shops, restaurants, and condominium units. Baldwin Park currently features more than 400 acres of parks, lakes, and open space, and has become a gathering place for the Orlando community.

The development is closely adjacent to several regional draws, including Winter Park to the north, and the Orlando International Airport and theme parks to the south.

Sources: Baldwin Park website, 2008 ULI case study



Image Credit: Google Street View

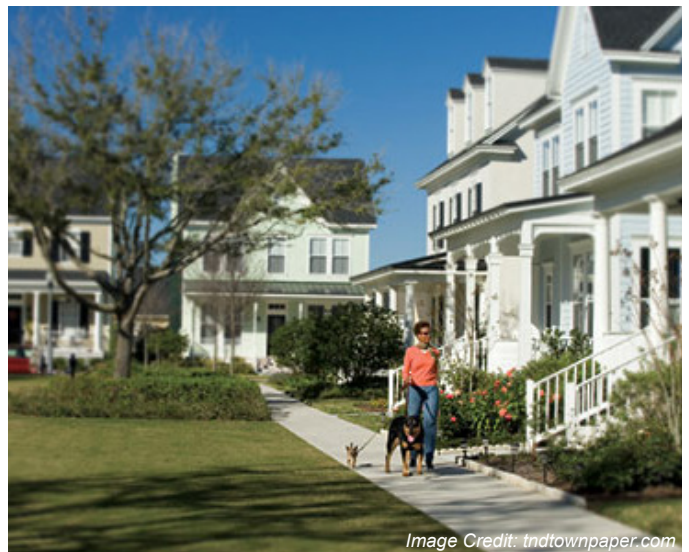


Image Credit: tndtownpaper.com

Appendix C:

East Gainesville Analysis

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INTRODUCTION

As part of the comprehensive planning process for the Envision Alachua Sector Plan, Sasaki Associates, on behalf of Plum Creek, analyzed the existing land uses and public and/or vacant lands within East Gainesville. The analysis and associated mapping utilizes GIS data from several sources, including Alachua County, St. Johns River Water Management District (SJRWMD), FEMA, and Florida Natural Areas Inventory. Specific data sources are listed below and referenced on each analysis map on the following pages.

Data Type	Source
<i>Parcels</i>	Alachua County Parcels provided by Property Appraiser for Alachua County, FL (03-10-2015)
<i>Existing Land Use</i>	Alachua County Parcels provided by Property Appraiser for Alachua County, LU field (12-14), FL (03-10-2015)
<i>Zoning</i>	Alachua County Zoning and City of Gainesville Zoning layers provided by Alachua County GIS (03-26-2015)
<i>Future Land Use</i>	Alachua County Future Land Use and City of Gainesville Future Land Use layers provided by Alachua County GIS (03-26-2015)
<i>Urban Reserves</i>	Urban Reserves layer provided by Alachua County GIS (06-27-2014)
<i>Urban Clusters</i>	Urban Cluster layer provided by Alachua County GIS (03-26-2015)
<i>Wetlands</i>	St. Johns River Water Management District - Land Cover / Land Use/Wetland Categories- 2009 - SJRWMD layer
<i>Wetland Buffers</i>	75' buffers generated by Sasaki Associates
<i>100-Year Flood Areas</i>	FEMA 2013 Flood Data
<i>Conservation Areas</i>	Florida Natural Areas Inventory - Florida Conservation Lands (FLMA) (12-2014)

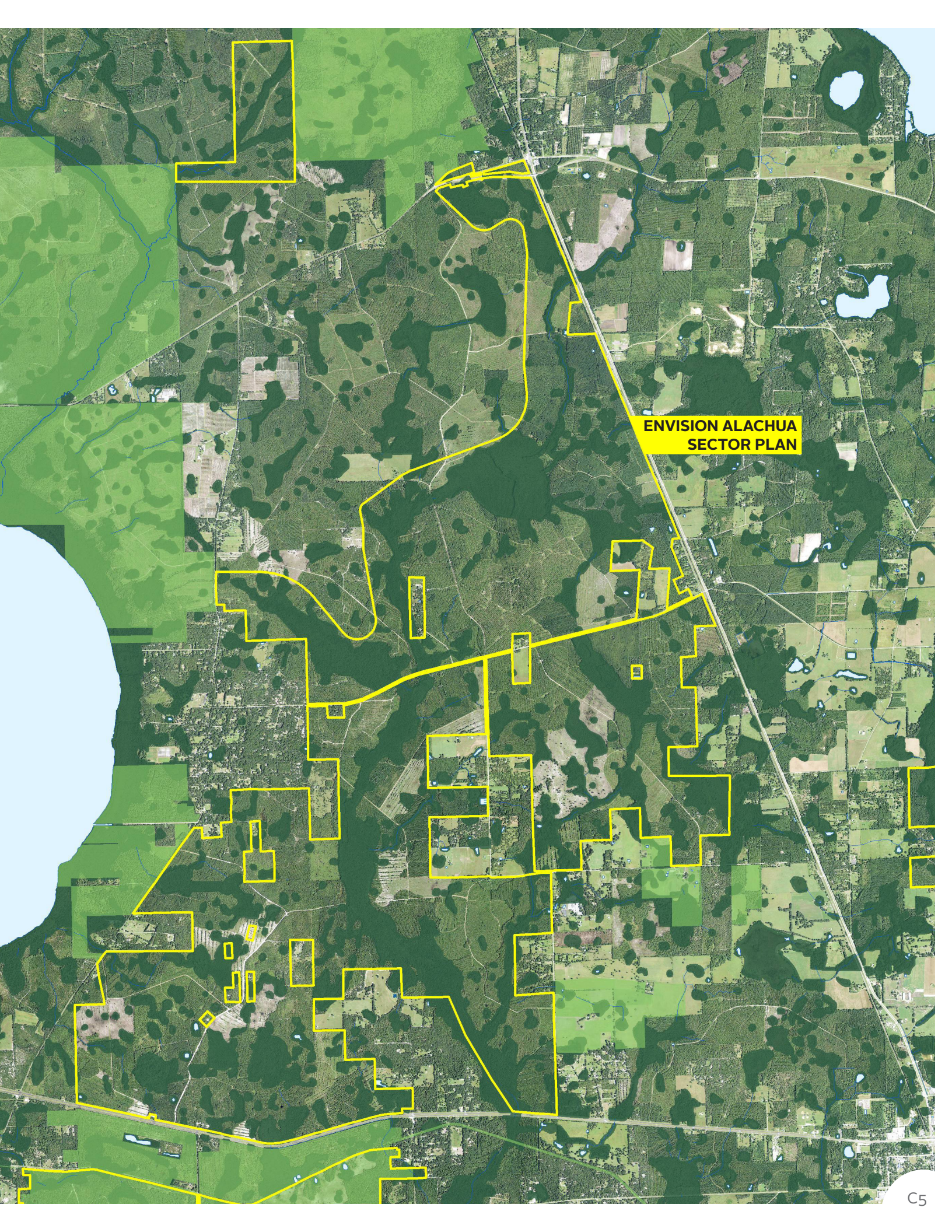


EAST GAINESVILLE STUDY AREA

Ne Newnans
La Lake

East Gainesville Context

This context map illustrates the geographic relationship and comparative overall size of the East Gainesville study area and Plum Creek's properties in East County (Envision Alachua). The East Gainesville study area, outlined in red, is approximately 11,370 acres. The Envision Alachua Sector Plan Employment Oriented Mixed Use lands (June 2014) encompass approximately 11,390 acres. Locations of parcels greater than 20 acres, Florida Conservation Lands, and wetlands are shown. The analysis maps on the following pages describe in greater detail the study area delineation, land uses, regulatory context, and ownership.



**ENVISION ALACHUA
SECTOR PLAN**

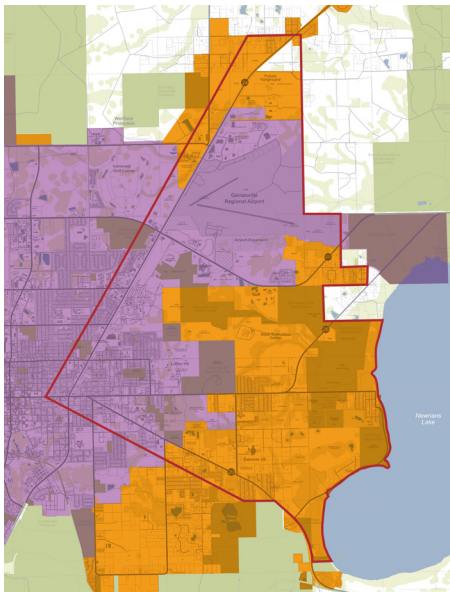
East Gainesville Study Area

The study area for the East Gainesville analysis was determined based upon the existing regulatory, environmental, and infrastructure context. The edges of Newnans Lake and Paynes Prairie along with the City of Gainesville's municipal boundary and existing urban reserve area as described in the Alachua County Comprehensive Plan served to define the eastern boundary of the study area. The western and southwestern boundaries were established by identifying a .25-mile offset from the framing roads SR 20 and SR 24.

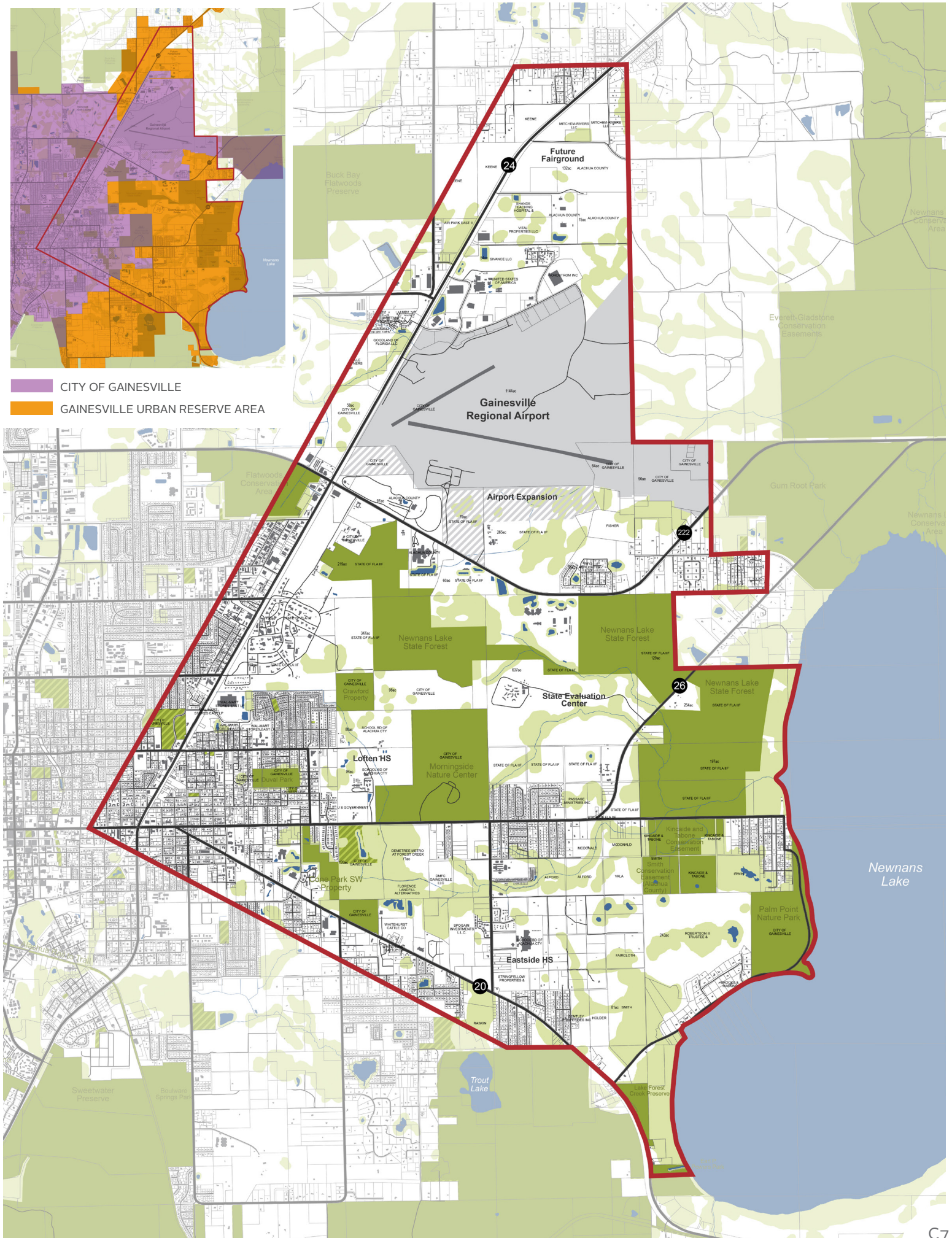
The areas toward the west of the study area, near the convergence of SR 20, University Avenue, and SR 24, are largely developed. Lands located in the eastern portion of the study area are characterized by conservation lands and larger wetland systems (approximately 3,900 acres or 35%). Lands located in the middle of the study area are comprised of larger scale public properties, private undeveloped parcels, and agriculture parcels. For the purposes of this analysis, where conservation and wetland areas overlap, conservation areas are depicted. To the north of SR 222, the Gainesville Regional Airport and its related uses characterize the built environment. Between SR 222 and the airport, the future airport expansion area is depicted with a gray hatch.



Data Sources: Alachua County GIS, Plum Creek, June 2014



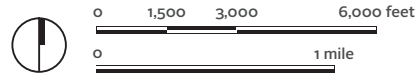
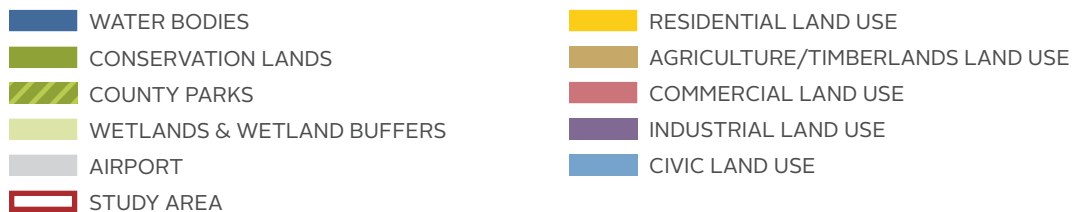
CITY OF GAINESVILLE
GAINESVILLE URBAN RESERVE AREA



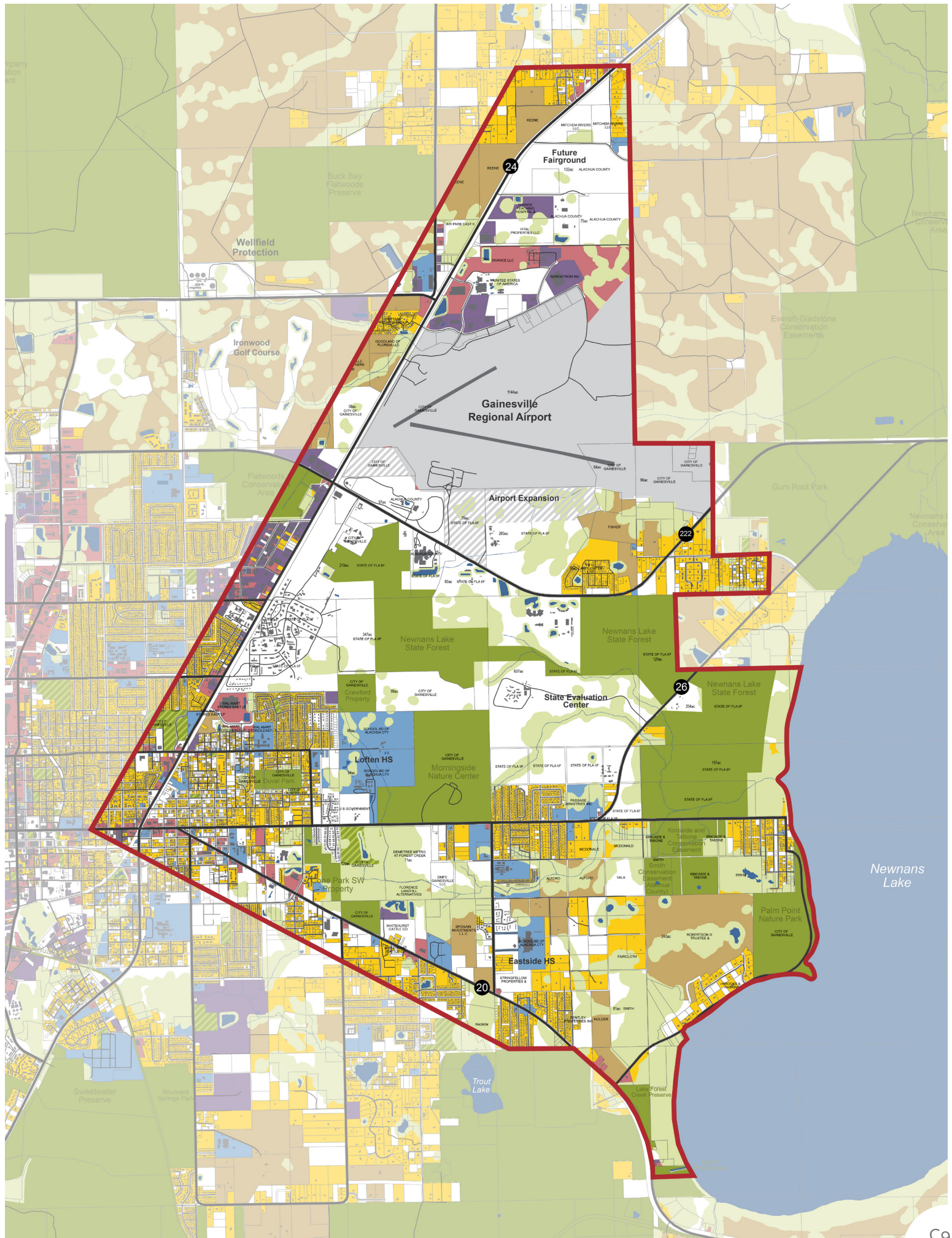
Existing Land Uses

For the purposes of this analysis, development infill opportunity areas within the East Gainesville study area are derived through analysis of environmental conditions, existing and neighboring land uses, and ownership patterns (public vs. private). The distribution of existing land uses within the study area generally responds to the location of existing population centers such as downtown Gainesville, infrastructure, and the natural environment. The highest intensity of land use is located along major roadways, including SR 20, University Avenue, and SR 24. Commercial clusters follow these routes, particularly in the western portion of the study area, closer to downtown. Heading east along University Avenue and SR 20, land uses transition to a lower density residential focus with supporting civic uses (schools, fire stations, churches, etc.) framed by larger conservation areas and wetland systems.

A concentration of industrial uses, including East Gainesville's Industrial Park, is located along SR 24, bracketed by SR 222 and NE 23rd Avenue. To the north, the Gainesville Regional Airport is surrounded by supporting industrial and commercial uses. Agriculture uses are located primarily to the northwest and southeast of the study area. Remaining larger public properties and vacant/undeveloped parcels are represented in white.

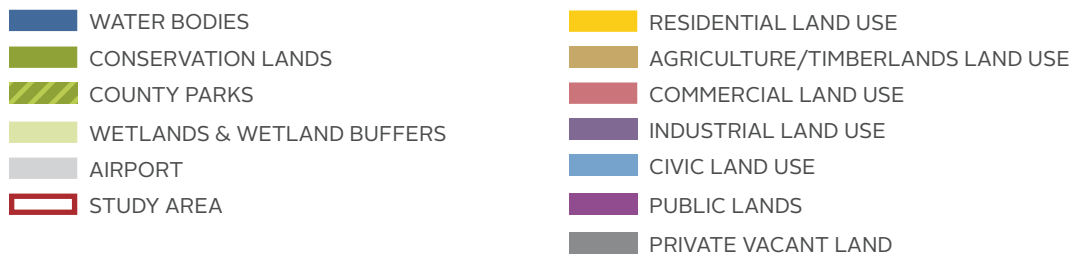


Data Sources: Alachua County GIS, Plum Creek, June 2014

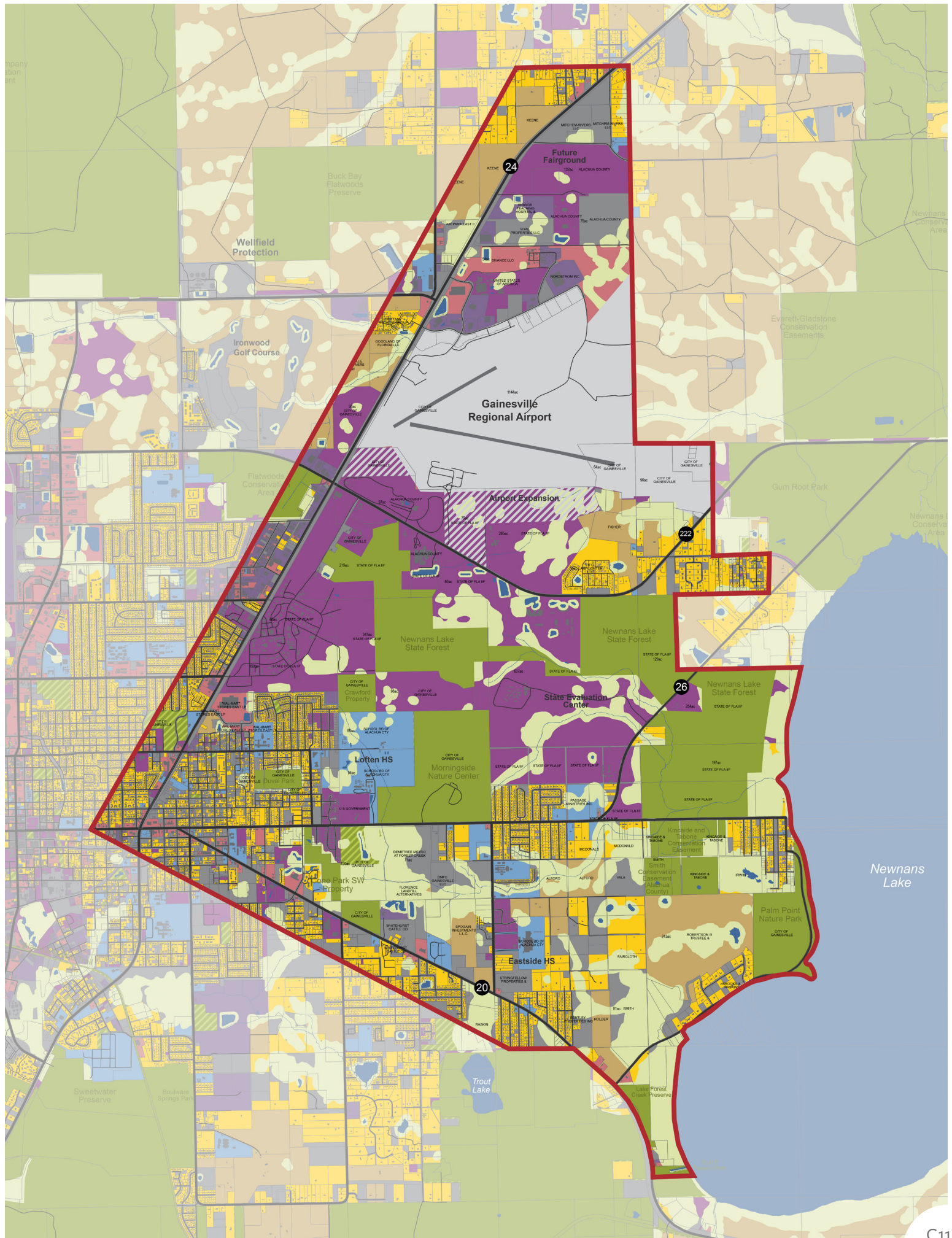


Public Lands

Larger publicly-owned lands, in addition to those included under civic and open space/conservation uses, are indicated in purple. The majority of publicly-owned land is generally located adjacent to the Gainesville Regional Airport, along SR 222, and between SR 222 and University Avenue. The largest developed public parcels/uses within the study area include the Tacachale Center (270 ac), the State Evaluation and Treatment Center (320 ac), and State of Florida Materials Research Park (140 ac). Some parcels of publicly owned land are currently vacant/undeveloped, including the airport expansion area depicted with a purple hatch. It is anticipated that the current Fairgrounds along SR 222 will be relocated to the large public property along SR 24 north of the airport, labeled “Future Fairground.”



Data Sources: Alachua County GIS, Plum Creek, June 2014

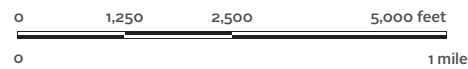
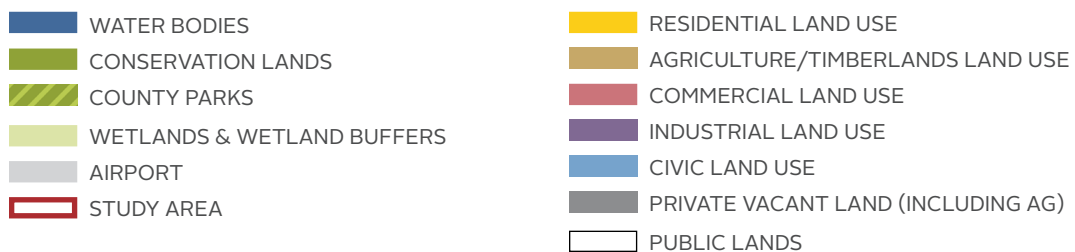


Public Lands (Focus Area)

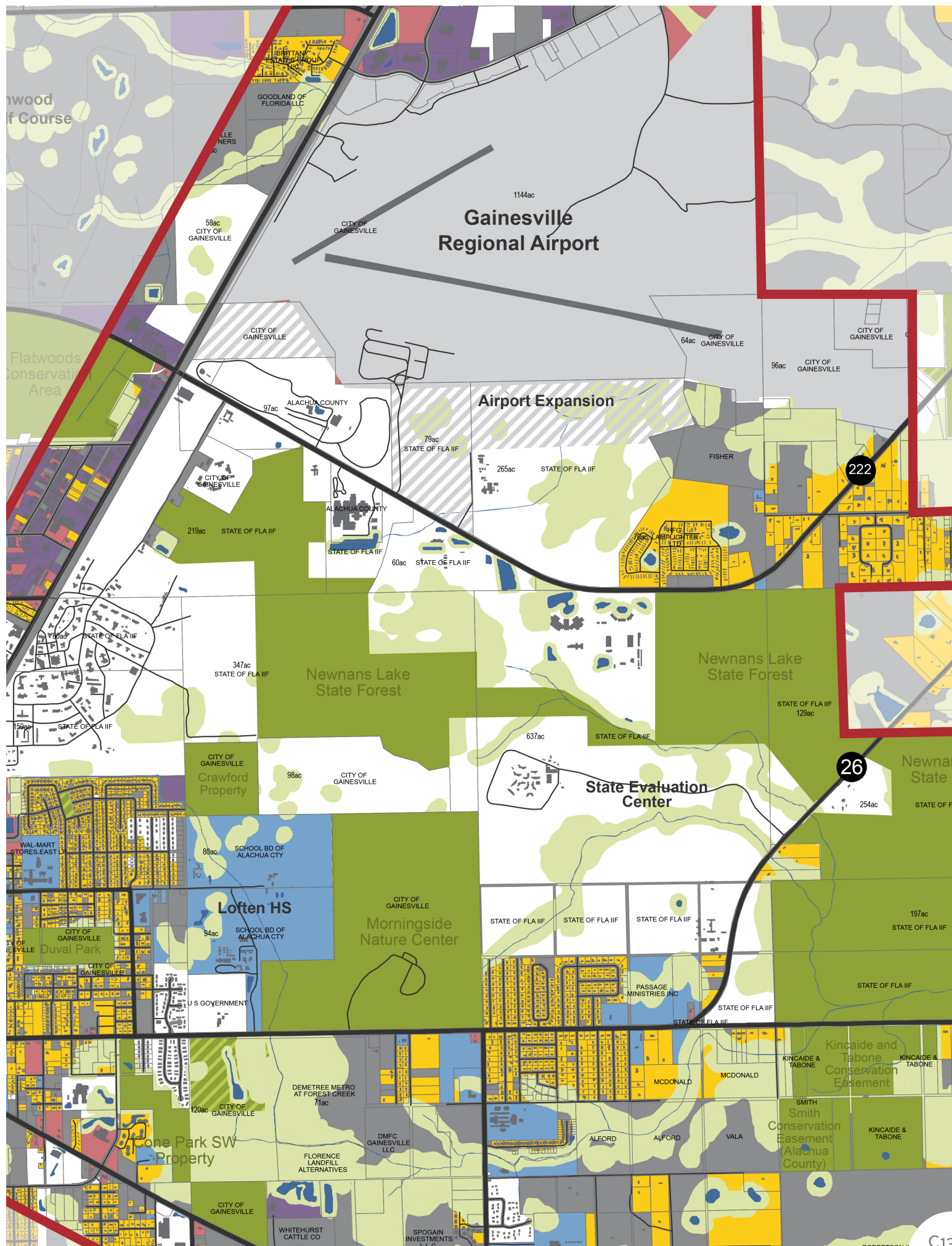
The map to the right is a close-up view of the larger publicly-owned lands shown in white rather than purple. It depicts the portion of the study area with the largest concentration of publicly-owned lands, located south of Gainesville Regional Airport framed by SR 222, University Avenue, and SR 26. The area is characterized by significant conservation lands, including Newnans State Forest and the Morningside Nature Center, as well as numerous wetland systems.

Developed public lands include the Tacachale Center along SR 24, the Alachua County Jail, Fairgrounds, State of Florida Materials Research Park along SR 222, and the State Evaluation Center and the Correction Department Work Camp on SR 26. Additional lands located off SR 222 have been designated for future airport expansion. Comparatively higher density residential uses abut public lands in the western portion of the study area near the “5 Corners” intersection, while lower density residential development frames public lands to the east along University Avenue and SR 222.

The remaining vacant/undeveloped parcels, given their size and physical arrangement relative to existing natural systems, conservation land, and low-density residential development, could be well suited to infill redevelopment opportunities on a case by case basis.

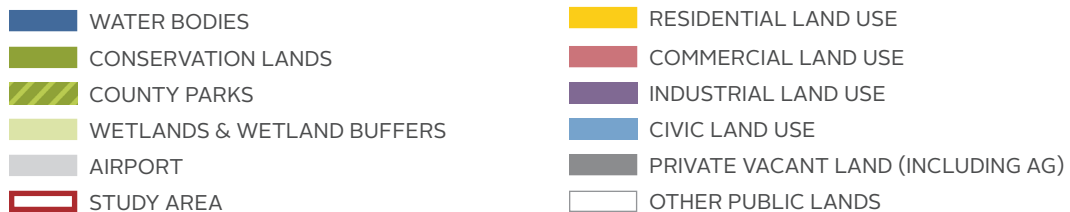


Data Sources: Alachua County GIS, Plum Creek, June 2014

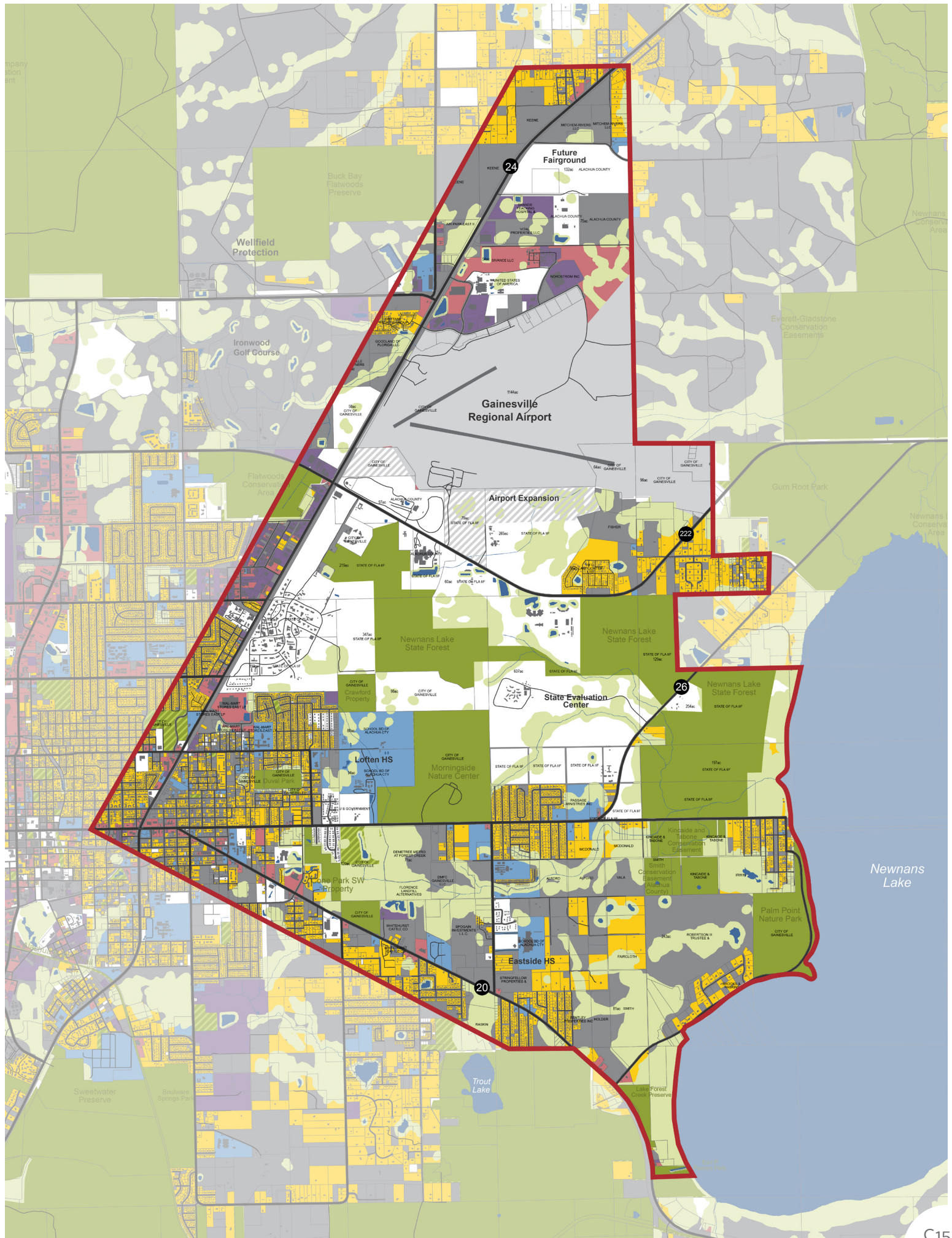


Private Vacant Lands and Agriculture

This map shows privately-owned vacant parcels (outside of registered existing land uses) and agriculture/timberlands together as dark grey. These areas total 2,150 acres. Parcel sizes range from 0.02 to 50 acres with the exception of one 250-acre site. Toward the western portion of the study area, privately-owned vacant parcels are smaller in scale due to the higher intensity of existing development. There are several vacant parcels of varying sizes located along and between University Avenue and SR 20. These parcels are generally fragmented in character, separated by wetland systems and surrounded by existing low-density residential development. In addition, several parcels currently in agricultural use are located to the west and north of the airport along SR 24. Conservation areas and wetlands comprise approximately 40% of the lands within these two land use categories.



Data Sources: Alachua County GIS, Plum Creek, June 2014



Zoning





























The East Gainesville analysis includes a review of existing zoning. The map to the right is based upon Alachua County GIS data layers. The primary uses include Public Service and Operations Uses (light blue), Agricultural (light green), Residential (yellow), and Airport (light grey), and General Industry (purple). The existing pattern of land uses previously described largely corresponds to the zoning districts, including predominantly agriculture use to the west of Newnans Lake, public, airport support, and industrial uses to the north and west, and low-density residential along SR 20.


























 Gainesville Municipal Boundary

County Parcels (December 2014)






 County Parcels
































City of Gainesville Zoning

	(AP) County Administrative/Professional
	(A) County Agriculture
	(BP) County Business/Professional
	(BR) County Business, Retail Sales/Service
	(BH) County Highway Oriented Business
	(C-1) County Conservation
	(R-1B) County Single Family Residential
	(RM) County Manufacturing/Mobile Home Park
	(MP) County Manufacturing/Processing
	(MS) County Manufacturing/Services
	(R-2) County Multi-family Residential
	(R-2A) County Multi-family Residential
	(R-3) County Multi-family Residential
	(PD) County Planned Development
	(RE-1) County Residential Estate
	(R-1C) County Single Family Residential
	(R-1A) County Single Family Residential
	(AF) Airport Facility
	(AGR) Agriculture
	(BA) Automotive-Oriented Business
	(BI) Business Industrial
	(BT) Tourist-Oriented Business
	(BUS) General Business
	(CCD) Central City District
	(CON) Conservation
	(CP) Corporate Park
	(ED) Education
	(I1) Limited Industrial

	(I2) General Industrial
	(MD) Medical Services
	(MH) Mobile Home Residential
	(MU1) Mixed Use Low Intensity
	(MU2) Mixed Use Low Intensity
	(OF) General Office
	(OR) Office Residential
	(PD) Planned Development
	(PS) Public Services and Operations
	(RC) Residential Conservation
	(RH1) Residential High Density
	(RH2) Residential High Density
	(RMF5) Multi-Family Medium Density Residential
	(RMF6) Multi-Family Medium Density Residential
	(RMF7) Multi-Family Medium Density Residential
	(RMF8) Multi-Family Medium Density Residential
	(RMU) Residential Mixed Use
	(RSF1) Single Family Residential
	(RSF2) Single Family Residential
	(RSF3) Single Family Residential
	(RSF4) Single Family Residential
	(RSFR) Single Family Rural Residential
	(UMU1) Urban Mixed Use
	(UMU2) Urban Mixed Use
	(W) Warehousing and Wholesaling

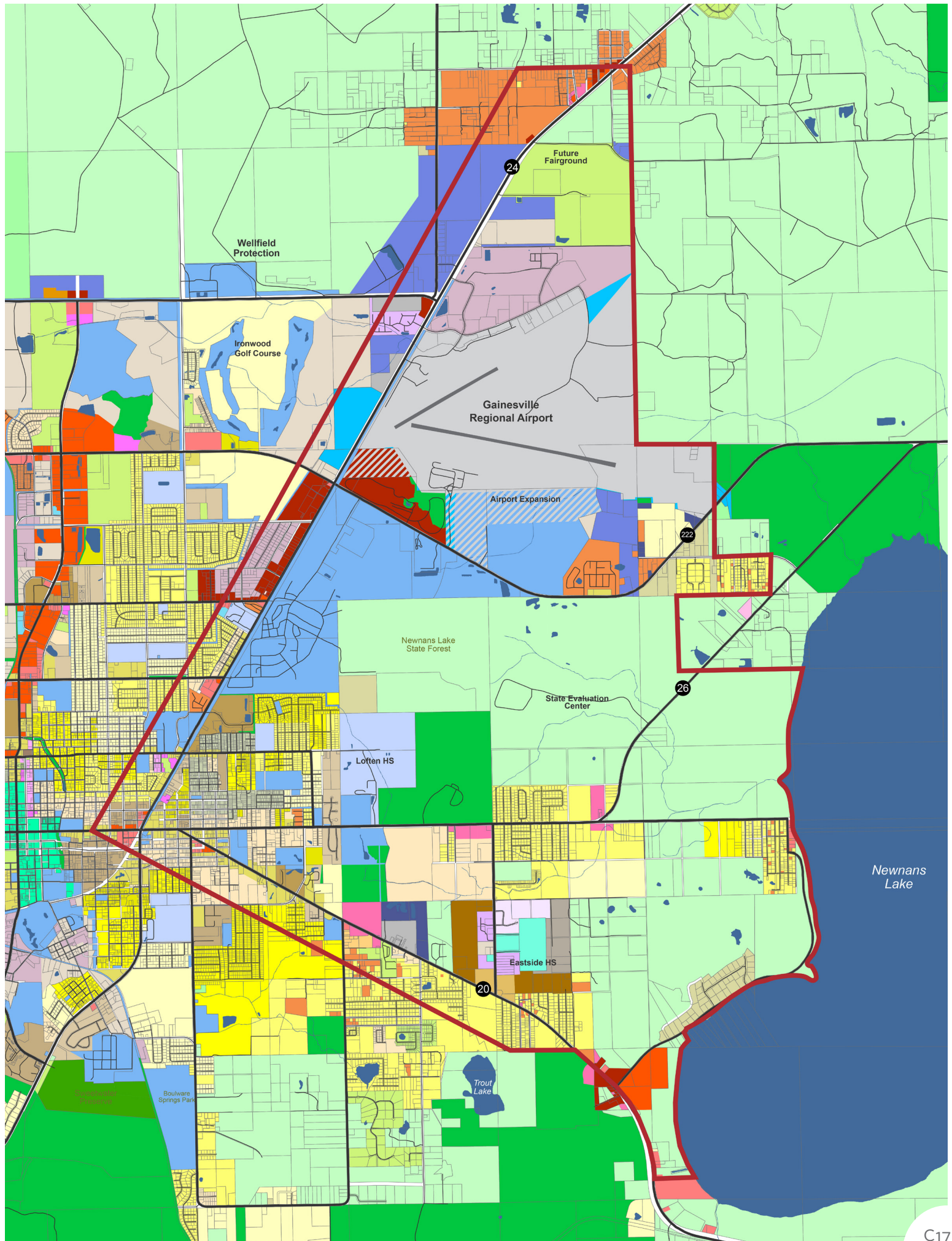
Alachua County Zoning

	(A) Agricultural
	(P) Preservation
	(A-RB) Agricultural-Rural Business
	(AP) Administrative/Professional
	(BA) Automotive Oriented Business

	(BH) Highway Oriented Business
	(BP) Business/Professional
	(BR) Business, Retail Sales/Service
	(BR-1) Business, Retail Sales/Service
	(BW) Wholesale/Warehousing
	(C-1) Conservation
	(HM) Hospital/Medical
	(MB) Business, Marine
	(ML) Light Industrial
	(MP) Manufacturing/Processing
	(MS) Manufacturing/Services
	(PD) Planned Development
	(R-1A) Single Family Residential
	(R-1AA) Single Family Residential
	(R-1B) Single Family Residential
	(R-1C) Single Family Residential
	(R-2) Multi-family Residential
	(R-2A) Multi-family Residential
	(R-3) Multi-family Residential
	(RE) Residential-Estate
	(RE-1) Residential-Estate
	(RM) Manufacturing/Mobile Home Park
	(RM-1) Travel Trailer Park
	(RP) Residential/Professional
	Institutional (EAC)
	Mixed Use (EAC)
	Mixed Use Employment (EAC)
	Mixed Use Low Density Res (EAC)
	Mixed Use Med Density Res (EAC)
	Mixed Use Med High Density Res (EAC)
	Mixed Use Neighborhood Conv Center (EAC)

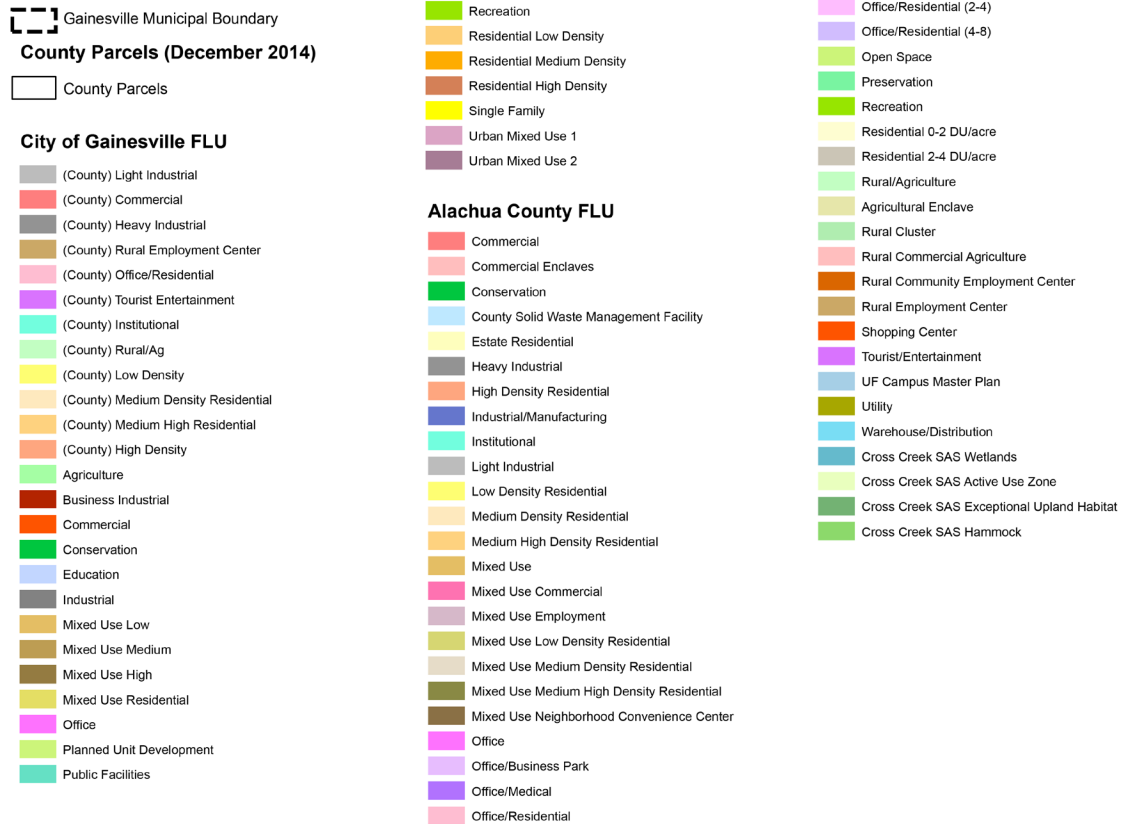


Data Sources: Alachua County GIS, Plum Creek, June 2014

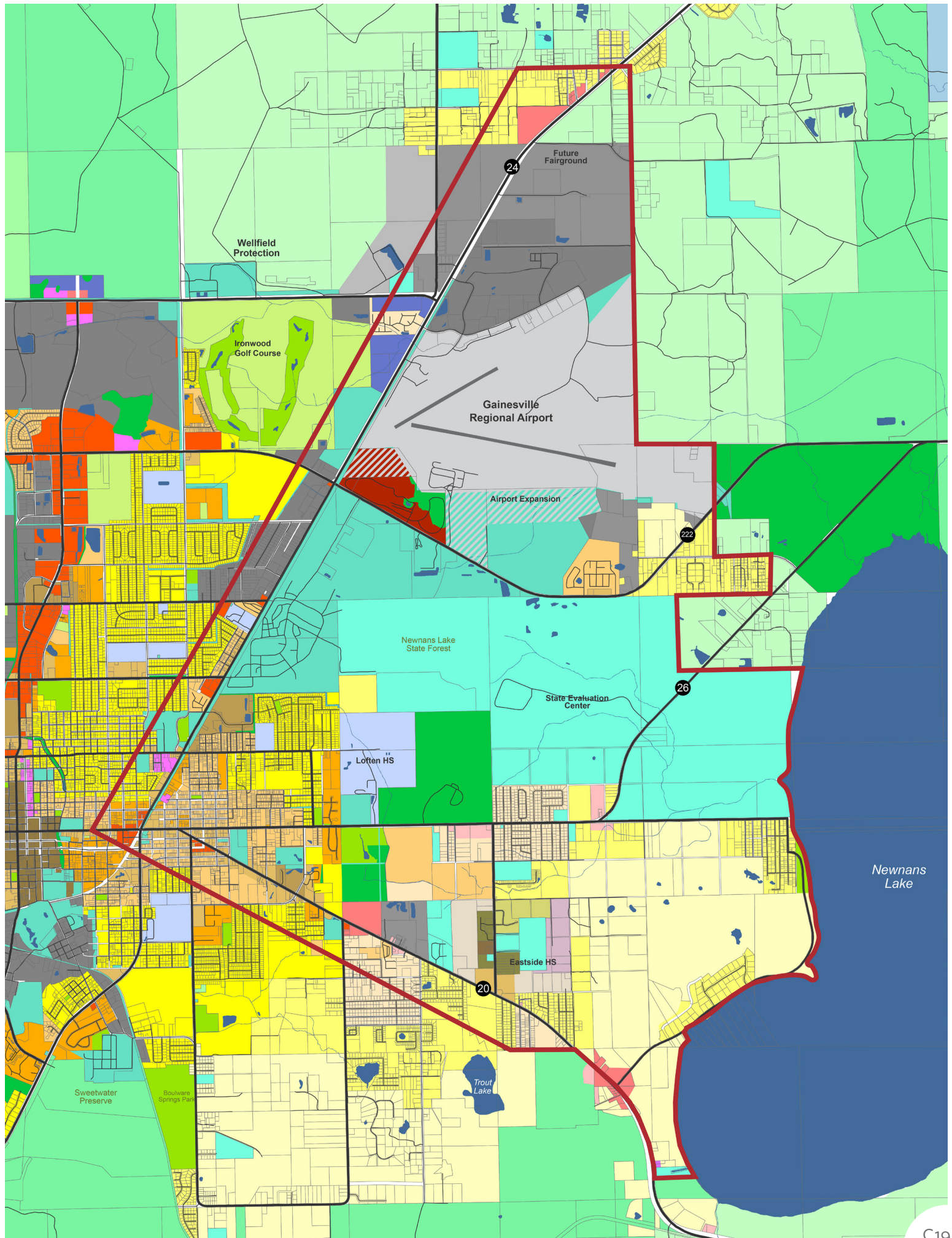


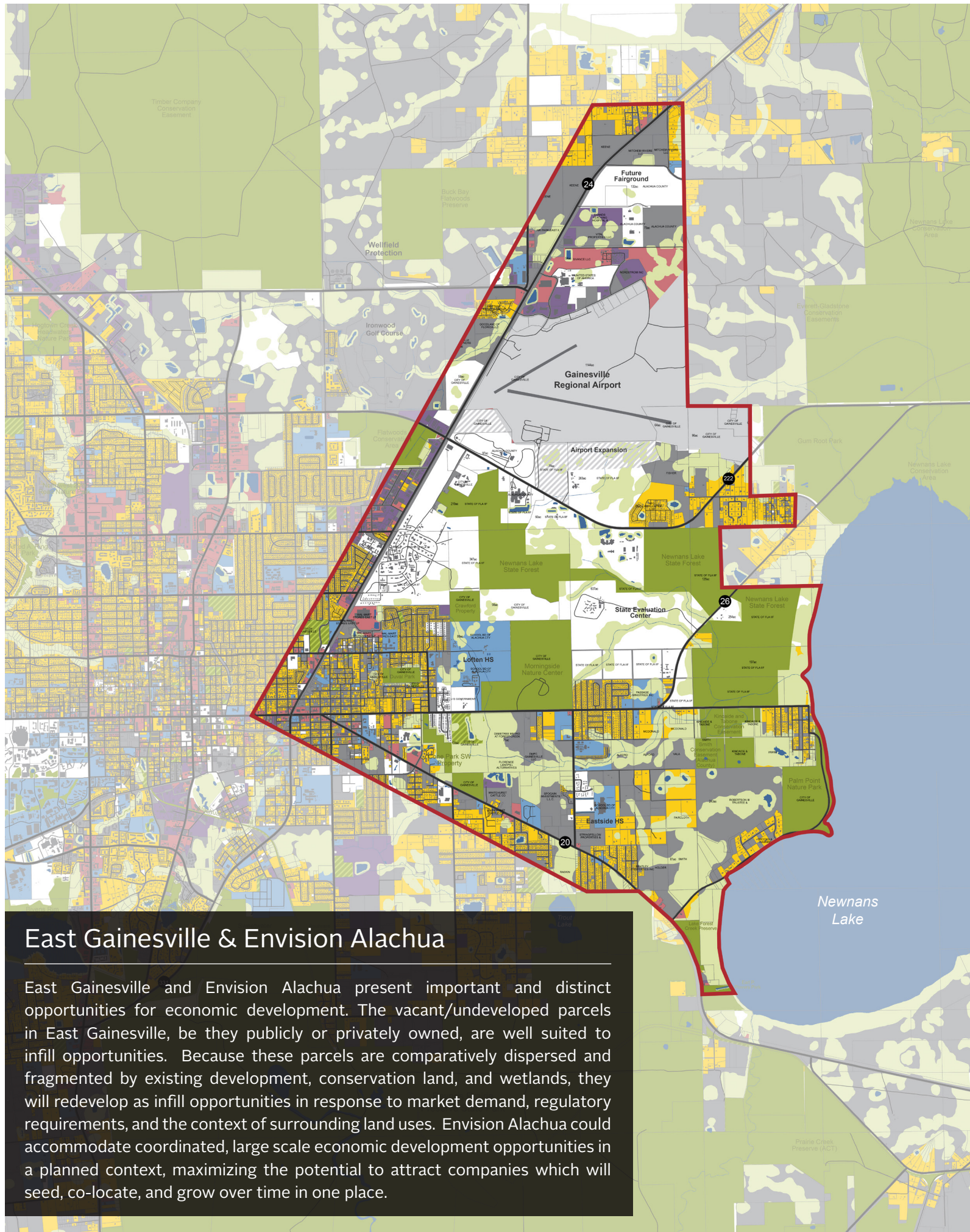
Future Land Use Map

The future land use map to the right depicts urban development through 2030 in City of Gainesville and Alachua County. The concentration of publicly owned land framed by SR 222, University Avenue, and SR 26 is shown as Public Facilities and medium-to-low density residential. The future land use map also shows an expansion of Light and Heavy Industry to the north of the Gainesville Regional Airport, and conversion of the Fairground property to Business Industrial land use.



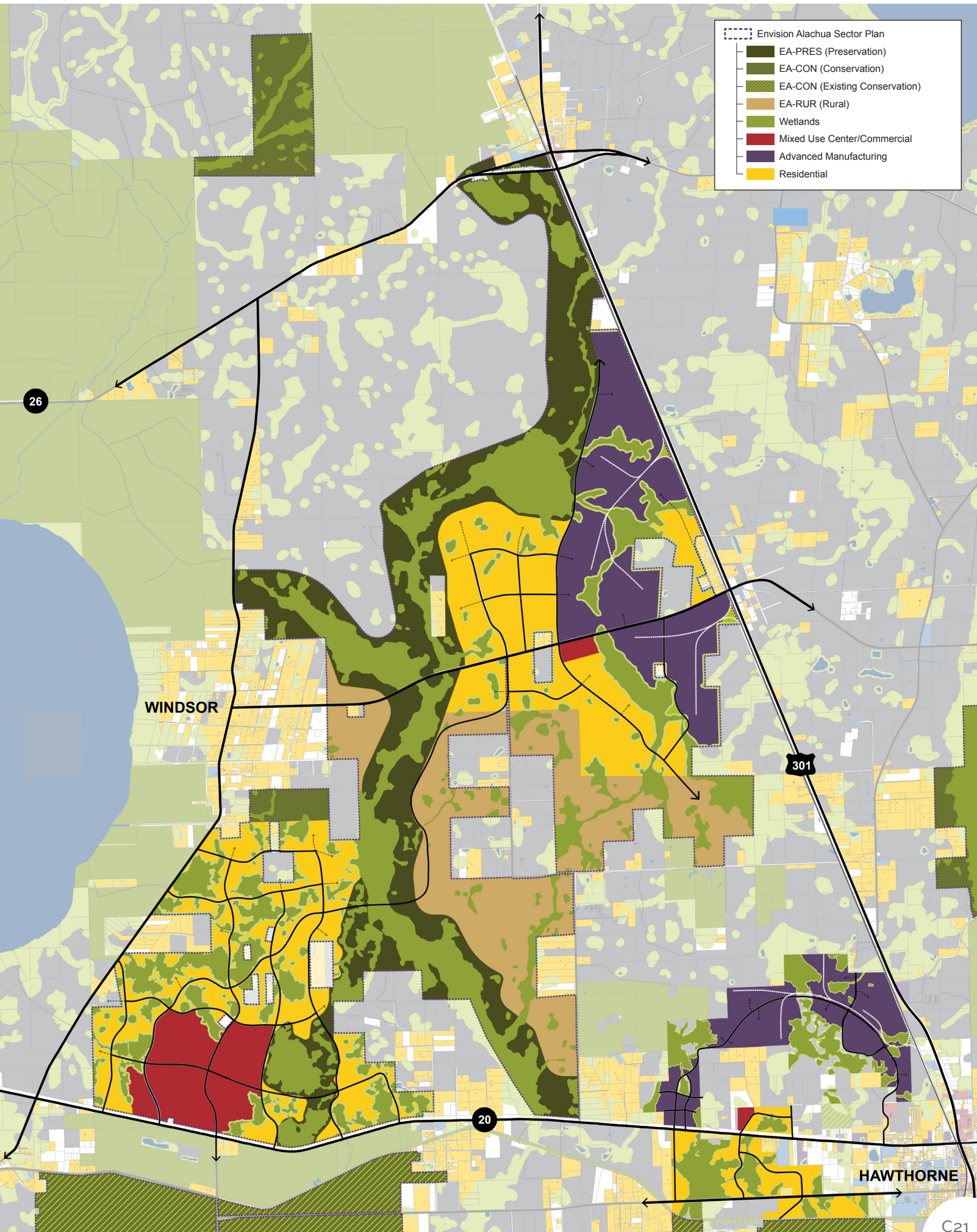
Data Sources: Alachua County GIS, Plum Creek, June 2014





East Gainesville & Envision Alachua

East Gainesville and Envision Alachua present important and distinct opportunities for economic development. The vacant/undeveloped parcels in East Gainesville, be they publicly or privately owned, are well suited to infill opportunities. Because these parcels are comparatively dispersed and fragmented by existing development, conservation land, and wetlands, they will redevelop as infill opportunities in response to market demand, regulatory requirements, and the context of surrounding land uses. Envision Alachua could accommodate coordinated, large scale economic development opportunities in a planned context, maximizing the potential to attract companies which will seed, co-locate, and grow over time in one place.



DEVELOPMENT SITE SELECTION CRITERIA

This section summarizes the typical site selection criteria used by companies that are considering a relocation or expansion of their facilities. Making the right decision is often vital to the long-term success of the organization. The costs associated with relocation have significant economic consequences; because the risks can be high, decision makers are highly selective in the site selection process. Although each industry and company will prioritize its site selection criteria in a manner which reflects its unique business requirements, a general understanding of these criteria is helpful in assessing if, and potentially where, new economic growth may occur. It is also helpful to consider these criteria when evaluating the different site characteristics of properties in East Gainesville and properties within Plum Creek's Envision Alachua Sector Plan (EASP) Employment Oriented Mixed Use (EA-EOMU) areas.

Regional Criteria

The first evaluation is made at a macro level to filter those regions which have the necessary fundamentals to accommodate growth and support possible future expansion. Industries will use these criteria to rank various regions or districts before fine tuning their search within specific markets. In general, these regional criteria would apply equally to all sites within Alachua County and the greater Gainesville market area and include the following:

Availability of Labor and Materials: The availability of a skilled and educated workforce that can be recruited to grow the industry is vital. Often, a diverse labor market is also important as the job requirements can vary from industries looking for intellectual capital from highly skilled, college educated recruits to positions in manufacturing, assembly, or distribution which require far less education. Equally important to those industries in manufacturing and assembly is the cost effective transport of goods.

Pro Economic Development Environment: Industry will consider the overall business climate and economic development attitudes in a region. A pro economic development environment is reassuring to a company that is preparing to risk significant corporate assets in relocation. It signals that there is a certain amount

of public support for economic growth, which can minimize a company's risks and cost of doing business. In large relocations or expansions, industries will often request specific economic initiatives from the state, county, or municipality to help lower their costs, in exchange for the creation of new jobs. Regions which have a lower tax structure and overall lower cost of living are attractive to large employers. Additionally, regions which have historically demonstrated strong leadership among elected officials and civic and business leaders are considered more favorably.

Regional Infrastructure and Utilities: Efficient and well-maintained infrastructure is vitally important to industry and is a prerequisite for most business relocations. Proximity to regional / international airports and access to high-speed rail, interstate highways, and a harbor can all be major factors, depending upon the industry needs. Aside from the traditional distribution of goods and materials, industries are becoming more collaborative, which places greater emphasis on their ability to efficiently move specialized labor between regions via air travel. The region must also have adequate utility services and access to energy sources that provide operational flexibility.

Site Availability: Prior to making a decision on which region in which to focus their search, those involved in the site search will make a preliminary assessment of the number of sites within the region that may be viable for development.

Specific Site Selection Criteria

Once a particular region has been targeted, the focus shifts to a micro-level evaluation of potential sites that may satisfy the relocation or expansion. The undeveloped properties in East Gainesville and the properties contained within Plum Creek's EASP satisfy different criteria and present different opportunities for future economic growth. Growth within these two areas of Alachua County is not mutually exclusive, and certain industries may prefer sites within each area for different reasons. The decision criteria go far beyond the ability to physically accommodate a building program; other criteria within that area may render the site undesirable. Specific site selection criteria that would be considered at this stage include:

Proximity to labor and materials: Companies will usually begin to focus their site selection process by searching for sites that have the best proximity to their workforce, thereby minimizing commuting times. The ability to walk / bike to work and access to public transit are major advantages and many employers will seek sites which provide integrated live-work-learn- play environments. Such mixed-use employment centers are highly desired by many of the fastest growing sectors of the economy and offer a quality of life balance that has become a priority consideration for employee recruitment and retention. Industries in the manufacturing and light assembly sectors will look for sites with convenient access to their labor and materials used in the production of their particular products.

Permits / Approvals: The development of a new facility can entail significant risks. Companies are typically risk adverse and will focus on sites that minimize the risks associated with development of new facilities. The greatest risks are typically at the front end during the permit and approval process where there is greater exposure to political risks, neighborhood opposition, or legal challenges to necessary permits. These particular risks are often greater at infill locations where land use conflicts with abutters or nearby neighborhoods are more likely, and the community is less receptive to impacts associated with new development. Larger properties which have been master planned, evaluated through a comprehensive planning process, and required to mitigate development impacts represent lower approval risks and are consequently more desirable. Properties which already have the necessary permits and approvals in place to develop the program will move to the top of the list as viable sites. Specific approvals for building permits and site plan approval may still be required for construction, but all discretionary permits to develop must be obtained in advance. The timeframe necessary to complete the permitting process is also important since companies often have a scheduled move-in date that must be met in order to avoid costly delays in their operation and production. Companies will place as much of the permit and approval risk onto the development entity that owns the site.

Experienced Master Developer: Companies will perform considerable due diligence on the development entity that will be responsible for managing the permitting and development process for their relocation. Even in self-develop situations, a company typically will not close on a property until all of the permits have been obtained. Preferred sites are typically those controlled by experienced development entities with the financial capacity to manage the process and fund the necessary transportation, environmental, and other mitigation requirements as a result of their development.

Accessibility: In addition to the presence of regional transportation networks discussed above, companies will evaluate specific sites for their local accessibility. Sites which have sufficient roadway capacity at full-build out and provide efficient access to major arterial roadways provide obvious advantages. Additionally, sites that provide alternate means to get employees to and from the site such as public transportation and bike and walking paths are highly desirable. Larger industrial users will require direct access to major roadways. Rail access is a major advantage and nearby airports are requirements for specific industries.

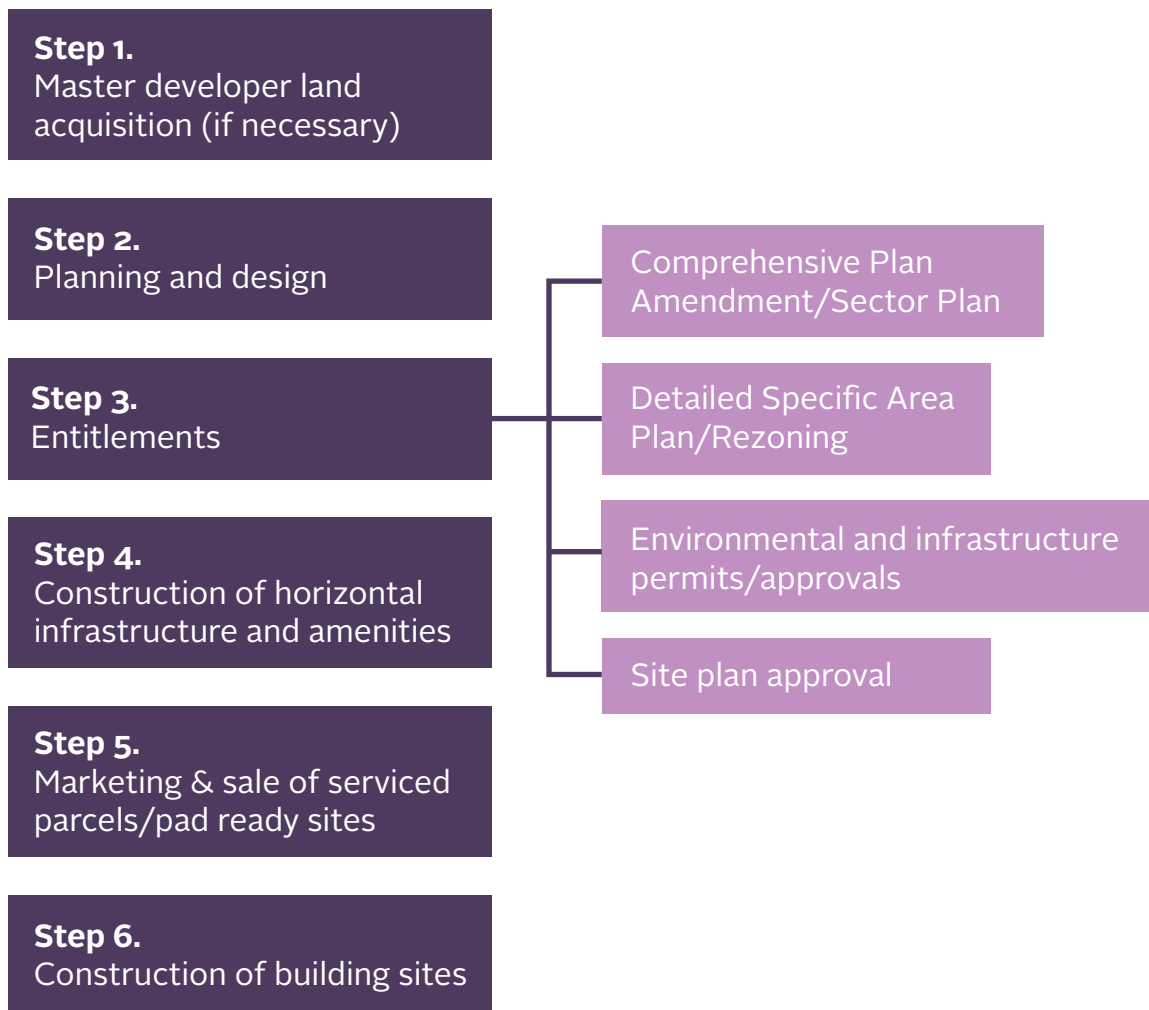
Adjacencies to Related Uses and Research: Many companies, especially those in the technology, science, engineering, and research sectors prefer to locate their new facilities in proximity to companies related to their industry or institutions that are engaged in related research. These adjacencies allow for efficient collaboration on research topics and sharing of costly research facilities, and create a certain synergy among professionals engaged in like-minded industries. Such employment centers are often located in proximity to colleges and universities where industry can collaborate with professors and graduate students on research efforts and companies can benefit from an educated and skilled workforce. This has become a development prototype desired by employers in markets that have the fundamentals to support these research parks and mixed-use employment centers. These centers typically require large contiguous land areas that can provide for future expansion of facilities and have been master planned and supported with infrastructure by a single development entity that can market the vision directly to end users. Public amenities such as parks, trails, civic buildings, and convenience retail and residential neighborhoods are strategically located within, and in proximity to, these mixed-use employment centers. This creates an integrated live-work-learn-play lifestyle for area residents.

Land Characteristics: Physical land characteristics are evaluated to determine if there are any characteristics about the site that will result in construction premiums in order to develop the building program. Each site will have its own set of environmental issues which must be evaluated including wetlands, soils, floodplains, contamination, endangered species habitat, and groundwater conditions. All of these factors can influence the site's feasibility and development costs. Certain sites may require structured parking to be constructed in order to accommodate the program, which will significantly impact development feasibility.

Land Acquisition Costs: The ability to minimize land costs is an obvious initial consideration for any company considering relocation. Aside from the actual cost of the land, costs associated with off-site mitigation of development impacts and construction cost premiums will be attributed as land costs and affect feasibility. Companies will evaluate creative options to finance these upfront costs and explore options ranging from outright ownership to long-term ground leases. Furthermore, companies often seek to protect their long-term ability to expand by controlling adjacent lands, either through ownership or options to purchase. Property owners that have the site flexibility, financial capacity, and long-term investment objectives are often able to provide more creative solutions to address these concerns.

Site Flexibility: As previously discussed, companies involved in a relocation effort will prefer sites that offer the flexibility to expand or adjust their operations as their business needs evolve. Consequently, larger sites usually have an advantage in providing expansion opportunities and lowering the risk of having to locate future expansion off-site. Larger, more flexible sites also provide the ability to integrate a mix of uses through a comprehensive master plan where industries may, if desired, locate their office, R&D, manufacturing, assembly, or distribution facilities in proximity to each other.

Typical Land Development Process



CONCLUSION

New development can be expected to occur on available sites within both East Gainesville and Plum Creek's EASP, as each of these areas contains sites with varying characteristics. The primary criteria that differentiate Plum Creek's EASP proposal from undeveloped properties in East Gainesville include:

Scale: The EASP includes approximately 60,000 acres of land under the singular ownership of Plum Creek, which is unprecedented in Alachua County. Because of its scale, the EASP is able to take a more comprehensive approach that protects environmentally sensitive lands and wildlife corridors, integrates a complementary mix of uses, and offers prospective employers maximum flexibility with regard to future expansions. This flexibility makes the EA-EOMU areas attractive to large employers that are often the catalytic tenants that can energize a region's economy as well as existing institutional prospects such as various departments within local educational institutions (University of Florida, Santa Fe College) that are looking to expand their facilities. Infill sites within East Gainesville are more constrained by parcel size, neighboring developments, or conservation lands.

Ownership: Singular ownership of such a large property by a master developer with the financial capacity of Plum Creek is a significant differentiator. This reduces many of the risks associated with new development. Plum Creek has the financial depth and development experience to implement the infrastructure, mitigate development impacts, and minimize the plan's exposure to economic cycles. In contrast, the ownership patterns within East Gainesville are more fragmented; most of the larger, undeveloped sites are owned by various public entities and in some form of public use. Prior to these lands being considered as viable future development sites, the public owner must first determine them to be surplus lands and offer them to other public entities for possible acquisition and repurposing. Consequently, the eventual ownership and timing of disposition of these properties is highly uncertain, making their consideration for any near-term redevelopment more speculative.

Permits / Approvals: Plum Creek has already committed significant time and resources toward regional planning and obtaining the necessary permits and approvals for development. Upon approval of the EASP, Plum Creek intends to file the necessary detailed specific area plans (DSAP) and proceed with permitting to complete the entitlement process. This will be followed by the design, engineering, and permitting of infrastructure and site plans for the initial phases of development. Finally, Plum Creek is prepared to construct the infrastructure, extend utilities, and improve building sites in order to market pad-ready sites to prospective employers. This will position the initial phase of Plum Creek properties to be competitive for new relocation requirements in Alachua County.

Mixed Use: By integrating public amenities, retail, restaurants, recreational facilities, and civic uses in proximity to employment centers, residents and employees will experience conveniences to their daily lifestyle that is difficult to duplicate in East Gainesville, or elsewhere in Alachua County. By providing a diverse mix of housing types in proximity to employment, a significant percent of Gainesville's future residents will be able to walk, bike, or at least enjoy a short commute to work. These are important factors when prospective employers consider the overall work environment for their employees.

Rail Access: The US 301 Job Center has a significant advantage for industrial development with direct access to rail service and U.S. Highway 301. This direct access is a major asset and cannot be recreated within other areas of East Gainesville.

The undeveloped properties within East Gainesville and the properties within Plum Creek's EASP combine to create a diverse mix of new economic development opportunities for Alachua County. The properties that are eventually selected for development, and their timing, will largely depend upon the specific site selection criteria used by companies that have targeted this region for relocation or expansion. The master planning of the Plum Creek EASP will significantly expand the choices that future employers and institutions will have in making site selection decisions, provide opportunities for larger employers that do not currently exist in the market, and facilitate the economic goals, objectives, and policies contained in the Alachua County Comprehensive Plan.

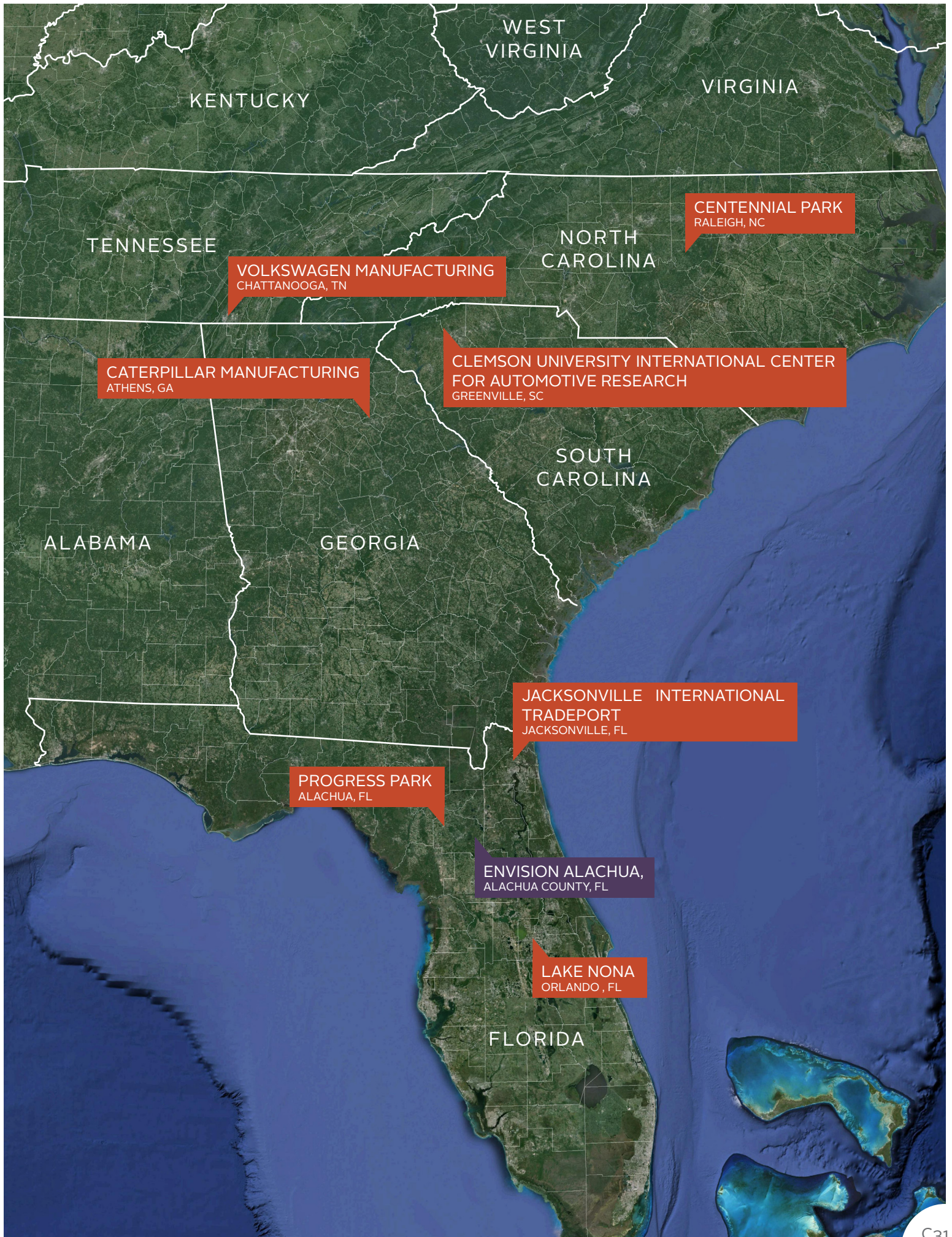
CASE STUDIES: COMMERCIAL/INDUSTRIAL USERS

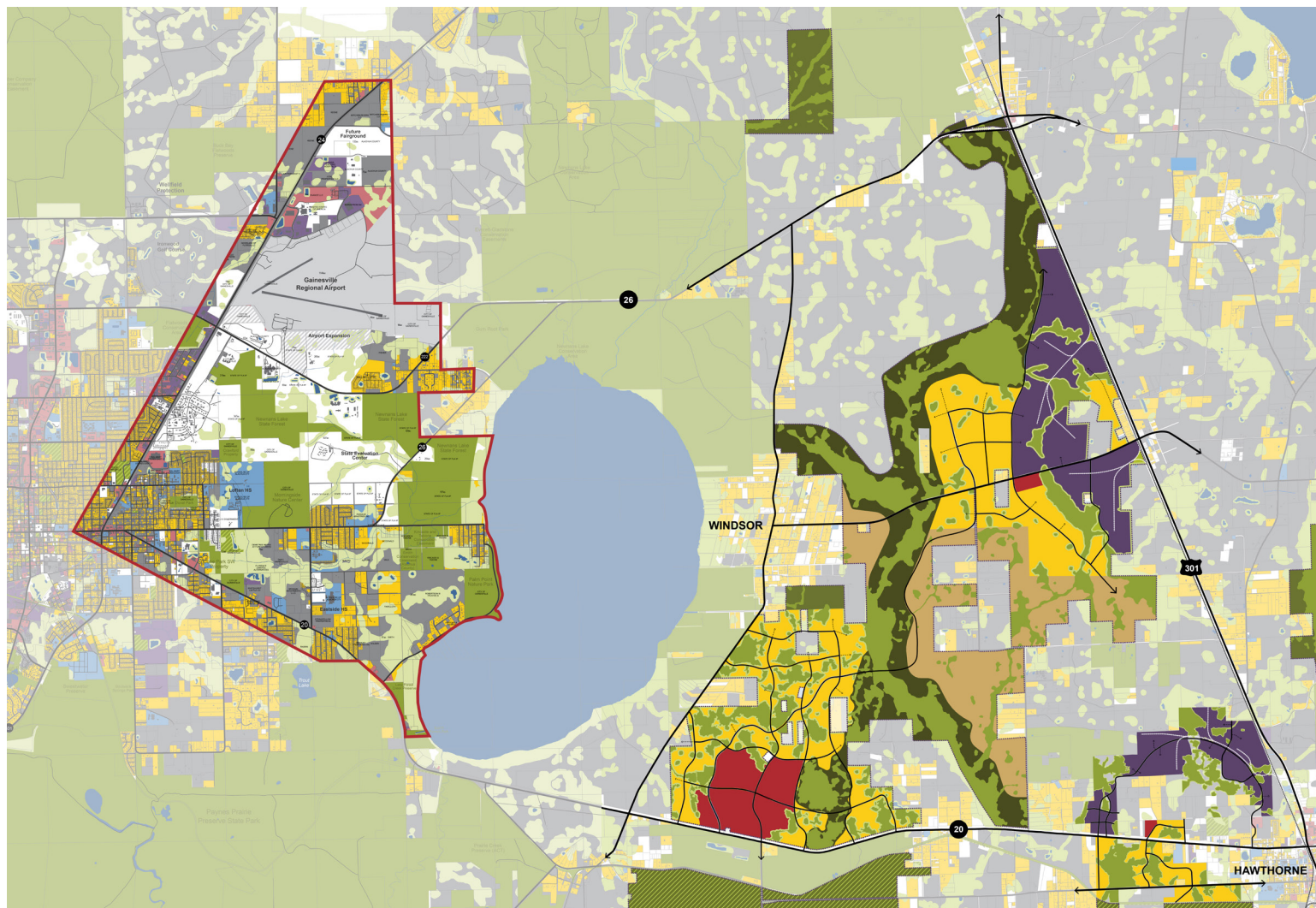
This section features several case studies of commercial/industrial uses located throughout the United States. The intent of the case studies is to share a range of successful economic development approaches, which have been considered by Plum Creek as potential precedents in planning for Envision Alachua.

The case studies are diverse in their scale and approach, including mixed-use environments such as Centennial Park and Lake Nona with ties to higher education institutions, large-scale industrial operations such as the Volkswagen and Caterpillar manufacturing facilities, and integrated bio-science and technology parks such as Progress Park. Each case study includes a data related to land area, development program, and density, as well as a narrative description and representative imagery. A scale comparison of each case study relative to the East Gainesville study area and Envision Alachua is provided to illustrate the relative site size.

	ACRES	SQ. FT. (B-O SF)	KEY INDUSTRIES
Lake Nona South & Medical City Orlando, FL	2,800	(6.7 M)	Medical Office, Healthcare, Research
Caterpillar Manufacturing Facility Athens, GA	240	850 K	Manufacturing
Volkswagen Manufacturing Plant Chattanooga, TN	1,400	2.5 M	Manufacturing
Clemson University International Center for Automotive Research - Everett, WA	250	(3 M)	Office, Research, Institutional
Progress Park Alachua, FL	190	500 K* (3.5 M)	Office, Research
Centennial Research Park Raleigh, NC	1,227	4 M (9 M)	Office, Research, Institutional
Jacksonville International Tradeport Jacksonville, FL	425	3.5 M*	Distribution, Logistics, Warehouse

**Estimated square footage*





East Gainesville Existing Land Uses & Envision Alachua Development Scenario

Case Studies (scaled to map above)

Lake Nona South



Centennial Park



Caterpillar Manufacturing Facility



Jacksonville International Tradeport



Volkswagen Manufacturing Facility



Progress Park





Prepared by Sasaki Associates, Inc. for
Plum Creek in support of the Envision
Alachua Sector Plan Application.