

GREEN SWAMP
Critical Area Resource
Management Plan

for the

City of Lake Alfred
SELECTED AREA

City of Lake Alfred, Florida
and the
Central Florida Regional Planning Council

Finalized February 2000
Except Pages 46-60: Finalized 7-16-03

**GREEN SWAMP AREA OF CRITICAL STATE CONCERN
SELECTED AREA PLAN**

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Appendix A, HDR Report, pp. 1-16 with attachments

After page 60

Appendix B:

Green Swamp Agreement and DCA Letter dated 10-4-96 from Secretary Murley

DCA Letter dated 9-16-99 from Rebecca Jetton

DCA Letter dated 10-26-99 from Rebecca Jetton

DCA Letter dated 3-2-2000 from Mike McDaniel

I. INTRODUCTION

Along Interstate 4 between Orlando and Tampa, large green signs with white lettering indicate where the small cities of Central Florida and Polk County are. Most are more than ten miles to the south or thirty miles north. One city, Lake Alfred, is only five miles away, and it has been looking to the north to accommodate the demand for new, high quality residential areas near Interstate 4. People who work in Orlando now live in new subdivisions on the eastern edge of the Green Swamp, through which I-4 passes, and north Lakeland pushes closer from the south and west. Because there is growing demand for additional and different residential products in the I-4 corridor, Lake Alfred entered into an Agreement with the Florida Department of Community Affairs (DCA) in September 1996, which established a framework for the development of a Selected Area Plan (SAP), which is shown in relation to the City in Map 1 on the next page.

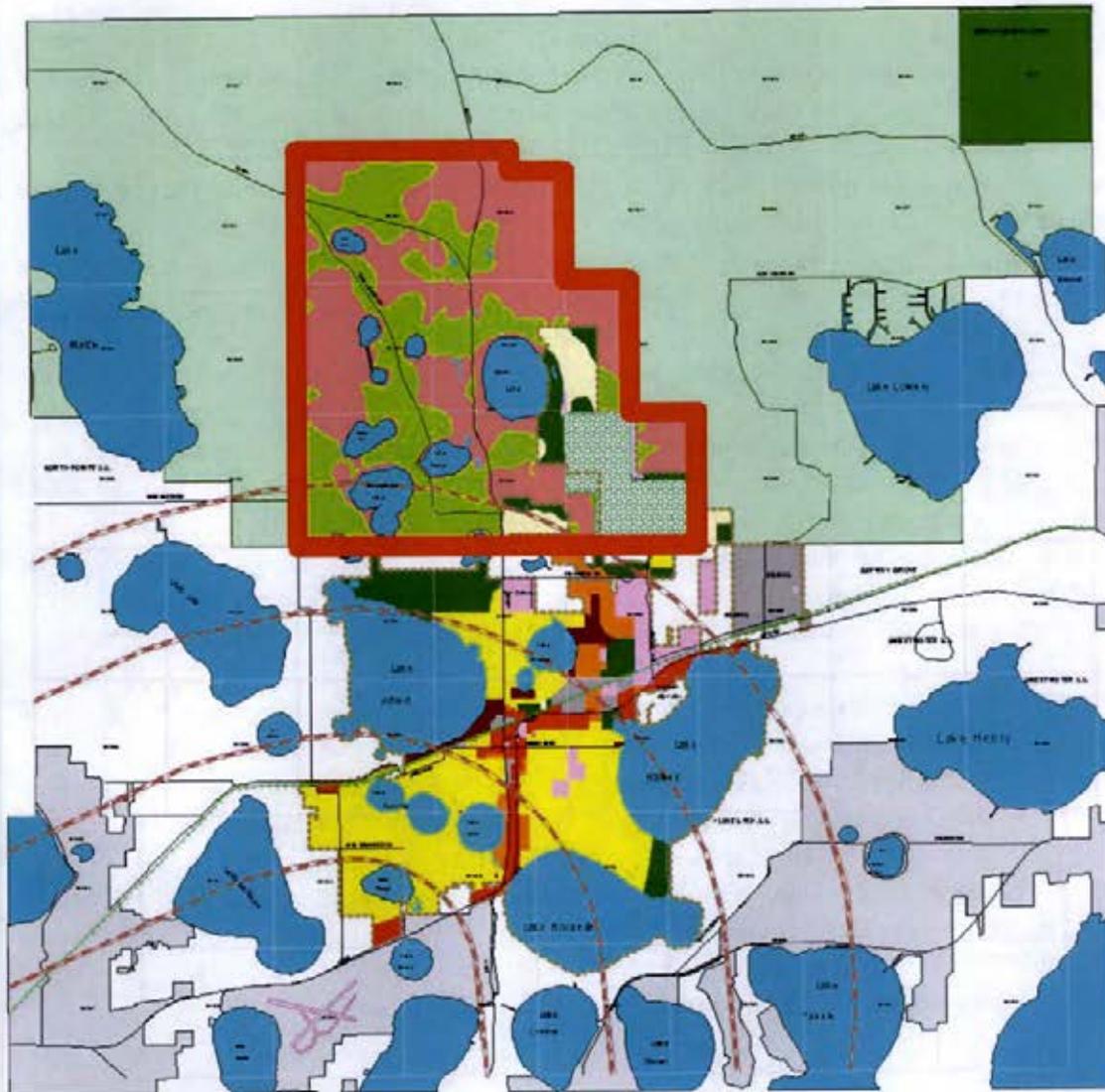
Lake Alfred is a residential community of 3,800 people, located just north of Winter Haven, east of Auburndale and west of Haines City in north-central Polk County. The City is primarily a residential community surrounded by six lakes, four of which are Natural Resources of Regional Significance. The six named lakes within the corporate limits range from 69 acres to 736 acres in surface area. US Highway 17/92 passes through the heart of the commercial center of the City. The total land area of the City is 4,005 acres, of which 1,836 (45%) is dry land. Approximately eighty-six percent (86%) is developed.

Since 1990, the City has grown slowly by Florida Standards at an annual growth rate of less than one percent (1%); however, Lake Alfred is developing a healthy commercial district highlighted by an antique market and expanding retail and restaurant services. It attracted its first national restaurant chain, Hardees, during the last five years, and expects more to come. The City has a stable, growing industrial base fueled by the citrus industry, trucking, a distilling and bottling operations and established contracting businesses.

Lake Alfred is a bedroom community largely for Lakeland and surrounding cities. Because of limited employment opportunities within the City, many residents work elsewhere. The City's residential growth has been slow, but has occurred in areas served by water, sewer and the existing street systems. The City has substantial water and sewer capacity available and an efficient roadway network.

Historically, the area was crisscrossed by trails that traversed or skirted the edges of the great swamp land. A Seminole Indian war fort was located on uplands just south of Lake Alfred. After several name changes, the City was incorporated as Lake Alfred in 1918. It was an early center of the citrus and resort industries, because both flourished on the sandy, upland ridges and nearby lakes. The impact of these industries can still be seen in the pattern of seasonal resort development along U.S. 92 and on the shores of the larger lakes; by the location of the University of Florida Citrus Institute on the eastern edge of Lake Alfred; and by the extensive development of grove land along the ridges north into the Green Swamp.

Lake Alfred Surrounding Area



Prepared by: Central Florida Regional Planning Council
Date: April, 1999

MAP 1



- Airport 5,000' Interval Buffer
- Lake Alfred Spray Field
- Green Swamp Core
- Green Swamp Area of Critical State Concern

- Lake Alfred Future Land Use
- Single Family Residential
 - Multiple Family Residential
 - Commercial
 - Industrial
 - Public Bldg. & Grounds
 - Recreation/Open Space/Parks
 - Conservation

The City occupies a strategic location at the north end of the Winter Haven Ridge where the pattern of upland ridges enters the area designated as the Green Swamp Area of Critical State Concern. The base of the ridge forms an elevated area of approximately two and a half square miles between Lakes Rochelle, Haines and Alfred where the heart of the City is located. The ridge narrows and extends an additional 2.5 miles to the north and northeast and passes west of Lake Gum, which is in the Critical Area.

During the last twenty years, two trends have substantially changed Lake Alfred. First, once flourishing lakeside resort developments have declined to the point that many of the old motels and seasonal housing are deteriorating, experiencing higher vacancy rates, and have been reduced to itinerant lodging. Second, a succession of freezes during the 1980s destroyed most of the groves around Lake Alfred, resulting in the decisions to relocate much of the citrus industry to lands farther south where the risk of freezes is diminished. Consequently, large sections of the uplands north of the City, which extend into the Green Swamp, are vacant grasslands. One large tract of land in the Selected Area identified by the Agreement is used for effluent spray disposal from citrus processing.

The reality of today for Lake Alfred is that it is a bedroom community for the Lakeland-Winter Haven area. The future appears to be to provide housing for people who will work in Tampa and Orlando. The interrelationship of upland ridges and freshwater lakes that attracted native Americans, pioneer settlers, citrus, horticulture and snowbirds now attracts homeowners. The problem facing Lake Alfred is that on the south, east and west the City is hemmed in by lakes, adjacent wetlands, urban development and three other municipalities. Consequently, the City now looks north, at the high sand ridges that extend into the edge of the Green Swamp Area of Critical State Concern, for land that it can serve with water and sewer and where low density, high quality, residential development can occur.

Recently, there have been development activities that establish strong trends for growth of the City to the north. The most northerly parcel of the City along SR 557, a frozen-out grove, was developed into the newest middle school in Polk County. Ownership patterns in the area of the City lend themselves to development, as they are dominated by large tracts of pasture, relatively few landowners and excellent access to the highway (SR 557). City services have capacity and are directly available to most properties. Consequently, the City anticipates that additional subdivisions will be developed in the vicinity of the school. The City has immediate plans to annex properties between the current north limit of the City and the southern boundary of the Green Swamp ACSC. In the future, the City proposes to annex lands then contiguous to the City Limits and inside the boundary of the ACSC.

The Green Swamp:

The Green Swamp is an area of approximately a half million acres. It is a shallow basin between the Lake Wales Ridge, which is marked by U.S. 27 on the east, the Brooksville Ridge on the west along which U.S.19 runs, and it is just north of the Lakeland and Winter Haven Ridges, which end within the Green Swamp ACSC.

The Green Swamp is a fairly intact open space system, existing between two large population centers. It provides recreational opportunities, flood water storage, natural water filtering systems and a diversity of habitats for plants and animals, thus contributing to the preservation of biodiversity to all of central Florida. The Green Swamp is not a typical swamp, as the name might imply, but rather a mosaic of cypress swamps, hardwood forests, and marshes, with interspersed slightly elevated areas of pine flatwoods and sandhills. It is a significant ecological and hydrological resource. Occupying an area of 870 square miles, and contributing to the headwaters of five major river systems (Withlacoochee and Little Withlacoochee, Oklawaha, Hillsborough, Peace and Kissimmee), it is second only to the Florida Everglades in its environmental and hydrologic significance to the State of Florida.

Decades ago the pine and cypress forests of the Green Swamp were clear-cut, because as the settlement of central Florida increased there was a tremendous need for lumber for buildings and wood for fires. So completely was the area cut that there are no old trees to show how young the forests of today are. The pine and cypress forests are growing back, but there is still active forestry in these regenerated areas. Cattle production, mining and other agriculture crop production continue to augment the forestry industry. People live in the swamp, where they hunt, fish and appreciate the nature of the swamp. People outside the area use and drink clean, inexpensive water in comfortable quantities.

In the early 1970's the value of the area was recognized in a temporary State process called the Area of Critical State Concern Program (ACSC). On July 16, 1974, the Governor and Cabinet designated 322,690 acres of the greater "hydrologic" Green Swamp in Lake and Polk Counties as Florida's second Area of Critical State Concern. The Green Swamp was cited as a hydrologic resource of regional and statewide importance, in which the potentiometric high for the Floridan aquifer was located, providing recharge and groundwater pressure that helped maintain free flowing springs and rivers. Concern over previous flooding from severe storms and hurricanes, several large land sale ventures, and the beginning of the Disney entertainment complex to the northeast, provided the catalyst for initiating the process.

Lake Alfred recognizes the critical role the Green Swamp plays in the hydrologic and natural systems of central Florida. The community understands problems associated with development in low-lying areas that interrupt the hydrologic function of the Green Swamp. The challenge facing the City is providing a development plan that will protect those hydrologic and environmental functions, while providing opportunities for compatible development.

The legislative boundary of the Green Swamp Area of Critical State Concern is located one half mile directly north of the City. Lake Alfred's main access route to I-4, SR 557, travels through the Green Swamp. The City considers the vacant land to its north to be appropriate for annexation and development. Due to the close proximity of Lake Alfred's city limits to Winter Haven, Auburndale and Haines City in the other three directions, it is the only area available to Lake Alfred for future expansion, *and* there is no other provider of central water and sewer services to the area.

II. REGULATORY SETTING

On September 13, 1996, the Department of Community Affairs (DCA) signed a Chapter 380.032, *Florida Statutes*, agreement between the Department and the City of Lake Alfred. In general, the Agreement allows the City of Lake Alfred to annex land in a specific and limited area within the Green Swamp Area of Critical State Concern (GSACSC) known as a "Selected Area". Under the Agreement, the City will plan for and regulate residential development up to a density of three dwelling unit per gross acre of uplands that are free from development limitations, limitations which are spelled out in the Agreement. In exchange for the benefit of growing to the north and into the Green Swamp ACSC, the City must prepare a Selected Area Plan (SAP) that identifies, conserves and preserves all wetlands and areas subject to flooding within the Selected Area, in addition to identifying where and under what restrictions residential development may occur.

General minimum standards for all development within the Green Swamp ACSC are established by Rule 28-27.006, *Florida Administrative Code (F.A.C.)*, and the City must plan within the Selected Area in accordance with the Rule. In addition, the Agreement specifically states that "the City must amend both the Future Land Use and Conservation Elements of the City of Lake Alfred Comprehensive Plan to include new policies that meet or exceed the restrictions in the Polk County Comprehensive Plan." Finally, land development regulations for the area will ultimately need to be enacted by the City.

The Agreement:

Recognizing the difficult issues involved in considering residential development within the GSACSC, in 1995 Lake Alfred initiated negotiations with DCA for the consideration of development rights in a limited area of the Critical Area composed of a pattern of sand hills and lakes with wetlands. The area under consideration was less than 5,000 acres.

Prior to annexing any land within the Green Swamp ACSC, the City agreed to prepare a SAP for the land area within it. According to the Agreement, the SAP must include the following important considerations, policies, provisions and regulations:

1. A schedule showing how the City intends to annex and provide municipal service (central water and sewer and paved roads) to the lands within the Green Swamp ACSC within a 20 year period.
2. Prohibitions against any development in flood plains, and the classification of extensive floodplain areas as Conservation on the Future Land Use Map (FLUM).

3. Prohibitions against any development of wetlands and areas largely characterized by wetlands, and a commitment to continue to classify all such lands as Conservation or Preservation on the FLUM.
4. Prohibition against the use of package plants within the ACSC.
5. Golf courses within the boundaries of the ACSC shall be approved on a case-by-case basis according to criteria to be developed in the SAP.
6. Prohibition against any placement of wastewater sludge within the boundaries of the ACSC.
7. Requirements that all residential development at a density greater than one dwelling unit per 10 acres be on municipal sewer and water and served by paved roads.
8. Establishment of upland buffers to ensure that no structure is constructed within fifty (50) feet of a water course or wetland.
9. Policies formulated to protect wetlands, flood plains, and other environmental resources, which meet or exceed policies provided within Exhibit B of the Agreement.
10. In preparing the SAP the City shall further:
 - a) Conduct a survey of habitat and endangered species within the area of the SAP to establish a basis for habitat management for proposed development.
 - b) Identify the need for, intensity, locational standards, and development standards for all commercial development within the SAP.
 - c) Insure that a minimum of thirty percent of the land within the Green Swamp ACSC and within the City of Lake Alfred, will be held in permanent open space, including land located within the 100-year floodplain, all wetlands and areas largely characterized by wetlands, but excluding all surface water courses and lakes. The City, at its option, may allow transfer of density from wetlands at one unit per 20 acres and at one unit per ten acres from the 100-year flood plain.
 - d) The City shall allow development on uplands at a density no greater than three (3) units per acre.
11. The City shall amend the comprehensive Plan in accordance with Section 163.3171 to adopt the provisions of the SAP, and shall amend and adopt Land Development Regulations which are consistent with the Agreement to implement the provisions of the Plan Amendments.

12. Once the City annexes land within the Green Swamp ACSC, no development shall occur in the annexed area until the City has adopted land development regulations, including but not limited to zoning and subdivision regulations, and DCA has approved those regulations in accordance with Chapter 380, F.S.
13. In consideration to the foregoing commitments by the City, DCA undertakes and agrees to the following:
 - a) The Department will find comprehensive plan amendments adopted by the City, which are consistent with the agreement to be "in compliance" with the provisions of Chapter 163, Part II, F.S., so long as the amendments otherwise meet the requirements of Chapter 163 and Chapter 9J-5, F.A.C.
 - b) For lands located within the Green Swamp ACSC, the Department will approve by rule any comprehensive plan amendment and land development regulation which is consistent with the agreement, pursuant to Chapter 380, F.S.

The following is the regulatory setting of the County's Plan; and, the regulatory setting from the Florida Administrative Code.

Polk County Comprehensive Plan:

The Future Land Use Element of the Polk County Comprehensive Plan establishes a Critical Area Resource Management Plan (CARMP), Section 2.132 and a special area overlay for the Green Swamp called the "Rural Special Protection Area (Rural-SPA), Section 2.132 D-E, pages E-1 and pages E7 to E-16, adopted January 31, 1998. The boundaries conform to those of the Green Swamp Area of Critical State Concern designation within Polk County. The Future Land Use Map Series designates and maps the Rural Special Protection Area as all the unincorporated areas within the GSACSC located within Polk County which are not located within the Ridge-SPA or PC-SPA. Within the Green Swamp Area Protection Area, development must conform with the objectives contained in the *Principles for Guiding Development, Rule 28-26.003(1), F.A.C.*

As of adoption of the Critical Area Resource Management Plan, there are two areas currently within the Green Swamp ACSC with adopted Special Protection Area plans that were written and approved under the guidance of the DCA. These two areas are the Ridge Area on US Highway 27 and the Polk City urban area. These two areas have their own set of regulations which are found in Section 2.121-B and C (all). If there is a conflict between the land uses established for either of these areas and the CARMP, the land uses of the two special areas prevails. However, development criteria that is the most stringent shall apply, if there is a conflict between the CARMP and the two special areas.

The Polk County Plan states that the following land use categories shall be permitted within the Rural-SPA: Agriculture/Residential-Rural X, Institution, Leisure/Recreation, Preservation, Commercial Enclave and Conservation-Core. The Conservation Core land use is established to protect the Withlacoochee River basin and immediately surrounding area. None of the core area is within the Lake Alfred Selected Area.

The Rural-SPA establishes general development criteria in Policy 2.132-D8. Residential densities are 1 DU/10 ACRES in the uplands and 1 DU/10 ACRES in wetlands. Wetland densities must be transferred to uplands. There is no provision for this in the Lake Alfred Selected Area because the uplands density is so much higher, at 3 DU/ACRE. Golf courses may be allowed and will be reviewed and approved or conditioned on a case by case basis, as in the Lake Alfred Selected Area. The Rural-SPA states that new roads will not be constructed with public funds, private roads shall not be maintained with public funds and the paving of roads will receive the lowest paving priority for the County. All lots to be platted must be on a paved road meeting county standards.

Floodplains development regulations are in Policy 2.132-E1. There is no development allowed within a floodplain. Density may be transferred from floodplains to contiguous non-floodplain areas with a few provisions attached. The density transfer ratio is 1 DU/10 ACRES and in some cases is even less dense, with only 1 DU/20 ACRES allowed. There is no density transfer allowed in the Lake Alfred Selected Area because the uplands density is so high, at 3 DU/ACRE. Because floodplains have not been mapped, a detailed flood insurance study must be performed when developing in the County portion of the GSACSC. However, in Lake Alfred Selected Area, the floodplains and wetlands have been identified, as well as the developable area, so no further studies are required.

The Rural-SPA further regulates development in wetlands in Policy 2.132-E2. There is no development permitted in wetlands. There are a few exceptions, including if the parcel is completely wetland. Then one dwelling unit can be developed. Residential densities transfer at 1 DU/20 ACRES. There is no provision for this in the Lake Alfred Selected Area because the uplands density is so much higher, at 3 DU/ACRE. Wetlands are to be maintained in their natural and unaltered state. However, controlled burns, selective thinning and ecosystem restoration and maintenance are allowed, provided they are performed in accordance with current Silviculture Best Management Practices published by the Division of Forestry. This is also allowed in the Lake Alfred Selected Area.

Protection of Listed Species regulations are in Policy 2.132-E3. A study is required at a certain threshold: in a development of 100 acres or more, development of more than 10 lots or any non-residential development in excess of five acres. For any species found, a habitat management plan must be prepared. An overall habitat management plan for the GSACSC was to be prepared by July 1, 1995. Density transfers are allowed from habitat areas to non-habitat areas. Probable habitat areas are identified in the Lake Alfred Selected Area and all fall within the wetland and floodplain zones of

protection and buffer zones. However, regulations similar to Polk County's have been included for all probable habitat areas but no transfer of densities is allowed.

These regulations shall apply to that portion of the Green Swamp ACSC that is included in the Lake Alfred Selected Area but does not annex into the City; and for all areas of the Green Swamp ACSC outside the Lake Alfred Selected Area.

The remainder of Polk County's CARMP contains specific regulations regarding stormwater management, wellfields, septic tanks, landscaping, and golf course development criteria. The Lake Alfred Selected Area will be regulated by the City's Unified Land Development Code, which will contain new sections regulating the Green Swamp ACSC. These regulations will be similar to those found in Policies 2.132-E6 through F-17.

Polk County Surface Water Protection Ordinance:

Polk County has two ordinances which regulate development in relationship to surface water quality. These ordinances are the Surface Water Protection Ordinance (Polk County Ordinance No. 89-47) and the Flood Protection and Surface Water Management Ordinance (Polk County Ordinance No. 88-04).

The County's Surface Water Protection Ordinance gives the Polk County Health Unit the authority to approve or deny the installation of on-site disposal systems (septic tanks) beyond the provisions of Chapter 10D-6, F.A.C. The additional provisions contained in this Ordinance require a setback of 150 feet for septic tank absorption fields (drain fields) from the ordinary high water line of surface waters on lands with soils identified in the Polk County Soil Survey as having soil limitation ratings of slight or moderate with respect to septic tanks. If the soil limitation rating is severe for septic tanks, the required setback for the drain field is 200 feet from the ordinary high water line of surface waters. Surface water is defined in the ordinance as watercourses, rivers, streams, lakes, navigable waters and associated tributaries.

In addition to setbacks for septic tank drain fields, the Surface Water Protection Ordinance requires that all new structures shall be located a minimum of fifty feet (50') landward of the ten year floodplain, adjacent to lakes or landward of the 100 year floodplain, whichever is less restrictive.

Polk County Flood Protection and Surface Water Management Ordinance:

The portion of the ordinance dealing with flood protection was initially adopted by the County in 1977 for the purpose of implementing the Federal Flood Insurance Program. This portion of the Ordinance continues to implement the requirements of this program. If a structure is to be placed within an "area of special flood hazard" (100 year floodplain) the floor elevation must be one foot above the 100 year flood elevation.

In addition to the flood protection requirements, this ordinance restricts alteration of wetlands to only 10 percent of the wetland area owned by the applicant/developer. The ordinance defines wetlands as

areas having hydric (wet) soil classifications as identified by the Soil Conservation Service. Jurisdiction of the ordinance is determined by areas having hydric soils and located within areas of special flood hazard as depicted on the Flood Insurance Rate Maps for Polk County.

The enforcement of this ordinance essentially requires that the post development runoff rate from developed property equal the predevelopment runoff rate. The adoption of the Polk County Comprehensive Plan has added the additional requirement that post development runoff volume must match the predevelopment runoff volume.

The ordinance requires that subdivision lots which are located within flood hazard areas must have the required minimum lot size (area) located outside of the floodplain. The ordinance also provides for the transfer of density credits from land located within the flood hazard area to contiguous upland areas. Density may be transferred based on the allowed density within the wetland area provided the overall density allowed for all of the property is met. In order to achieve the transfer, the minimum lot size may be reduced by 35 percent. This provision has been utilized with several subdivisions which have flood areas within the property being subdivided. Floodplain areas are set aside as drainage/conservation easements.

Polk County Subdivision Regulations:

The County's Subdivision Regulations require that subdivisions retain stormwater runoff. Retention for a 25-year frequency storm is required with provisions for overflow with a positive outfall. If a positive outfall cannot be provided, the retention area must be designed for a 100-year frequency storm. In addition to requirements for stormwater retention, the post-development rate of runoff must equal the rate for runoff prior to the development. The Polk County Comprehensive Plan includes a policy which requires that both post-development runoff rate and volume must equal the pre-development rate and volume. This is also the requirement for projects which are subject to the County's flood Protection and Surface Water Management Ordinance.

In addition to the local permit process, copies of all development orders (permits, rezoning approvals, plats, etc.) issued for property located within the Green Swamp ACSC are sent to the Florida Department of Community Affairs for review, pursuant to the requirements of the approved monitoring procedure.

The Florida Administrative Code: Principles for Guiding Development from Rule 28-27, F.A.C.):

As was mentioned previously, the City must adopt development regulations that incorporate the General Minimum Standards for development of the Green Swamp ACSC. These standards are located in Rule 28-27.008 (1)-(16), F.A.C. The standards are summarized in Chapter 28-26, F.A.C., Rule 28-27.002 (1)-(11), and are as follows:

(1) Objectives to Be Achieved

- a) Minimize the adverse impacts of development on resources of the Floridan Aquifer, wetlands, and flood-detention areas.
- b) Protect the normal quantity, quality and flow of ground water and surface water which are necessary for the protection of resources of state and regional concern.
- c) Protect the water available for aquifer recharge.
- d) Protect the functions of the Green Swamp Potentiometric High of the Floridan Aquifer.
- e) Protect the normal supply of ground and surface water.
- f) Prevent further salt-water intrusion into the Floridan Aquifer.
- g) Protect or improve existing ground and surface-water quality.
- h) Protect the water-retention capabilities of wetlands.
- i) Protect the biological-filtering capabilities of wetlands.
- j) Protect the natural flow regime of drainage basins.
- k) Protect the design capacity of flood-detention areas and the water-management objectives of these areas through the maintenance of hydrologic characteristics of drainage basins.

Summary:

The GSACSC is covered by a rather complete set of State and county plans and regulations. Environmental regulations are dominant at both levels and stress the protection of groundwater and surface water resources, the control and management of storm water, and development management practices that protect wetlands and flood plains. In addition, regulations are in place that insure that activities that would pollute the Floridan Aquifer are not permitted or are strictly controlled.

Central water and sewer systems are not available in the GSACSC, so development is generally limited to one dwelling unit per ten (10) acres and such "convenience commercial use" as may meet rather stringent development standards. All development is serviced by individual wells and septic systems.

After the Lake Alfred Selected Area Plan is approved by the DCA, annexation and development may begin. Polk County's Critical Area Resource Management Plan regulations are in effect until the City begins annexation; and remain in effect if the City extends services to areas not contiguous or annexes areas that cannot be served with municipal water and sewer.

Because Polk County is not a part of the Settlement Agreement between Lake Alfred and the DCA, the City faces the challenge to develop the appropriate goals, objectives and policies with which to amend its Comprehensive Plan, and the regulations to include in the Unified Land Development Code. The

remainder of the Selected Area Plan provides the analysis and recommendations for the planning and regulatory amendments.

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III. RESOURCE ASSESSMENT

Description of the Selected Area:

The Selected Area covers all or portions of eight sections and encompasses approximately 4,860 acres. It is located in north-central Polk County, beginning one half mile north of the present limits of the City of Lake Alfred and extends north to about 1.3 miles south of Interstate 4. State Road 557 runs north-south roughly through the center of the Selected Area and intersects with State Road 557A, which runs northwest to the limit of the Selected Area. Old Lake Alfred Road winds through the western portion of the Selected Area. The Selected Area is located in the Winter Haven Ridge physiographic region and is characterized by rolling topography with dry, sandy uplands broken by extensive basinal wetlands. Soils are chiefly well drained sands and, to a lesser extent, poorly drained sands in the uplands. Very poorly drained mucky sands are found in the wetlands. Upland soils and wetland soils cover approximately 46% and 54%, respectively, of the Selected Area.

The predominant land use in the Selected Area, according to SWFWMD's 1990 land use/land cover mapping, is agricultural, with 32.8% devoted to citrus groves, 11.2% to improved pastureland, and 7.2% to other types of open rural land. Wetlands cover 36.5% and lakes cover 8.9%. Residential and commercial service uses comprise 2.4% of the Selected Area.

The original public lands survey records provide a fairly detailed record of the presettlement (1840's) environmental setting of the Selected Area. These records consist of the surveyor's field notes and a township plat map. According to these records, the uplands consisted of longleaf pine-turkey oak sandhills and, to a lesser extent, pine flatwoods with occasional live oak hammock growth along the lower slopes overlooking some of the larger lakes. In some areas there were isolated patches of scrubby flatwoods. The wetlands consisted of freshwater marshes, more often than not, fringed with a narrow strip of shrubby bay trees, and frequently dotted with scattered baytree islands. Sawgrass was occasionally mentioned as the growth in the marshes, but other marsh species were almost certainly present. The dominant forested wetland was the bay swamp. Mixed bay-cypress swamps were observed throughout the Selected Area and cypress swamps along with bay swamps become the dominant wetland type north of the Selected Area, although some are present today in the northern one-third of the Selected Area.

According to local historical accounts, land use in the Lake Alfred area during the latter half of the 19th century and the early half of the present century was intimately tied to timber removal and naval stores. Citrus production has since become the predominant land use. This land use regime led to the virtual elimination of all but a relative few acres of native upland communities in the Selected Area.

The City, through the Central Florida regional Planning Council, retained HDR Engineering, Inc., to conduct a survey of the Selected Area for listed species and their associated habitats. In addition, HDR

was requested to identify known sites and any areas where archaeological sites may be expected to occur. Field work for the reconnaissance was conducted in September 1997. Applicable portions of the survey have been incorporated into the text of this Selected Area Plan. The survey report is provided in its entirety in Appendix A.

TOPOGRAPHY, FLOODPLAINS AND DRAINAGE BASINS

Topography:

There are a series of 35 foot ridges running generally north and south through the area, and the height of these ridges is significant. Elevations range between 135 and 180 feet above sea level. The ridges have been disturbed by agricultural processes, most notably by the extensive planting of citrus groves. In this region of the County, many of the groves have been abandoned, due to the lack of profitability or severe weather episodes. The high sand ridges are now considered to be prime property for future residential development. This is due to their topographic relief which provides scenic vistas, the well drained soils, and proximity to I-4 and services available in Lake Alfred. The high sand hills are also prime recharge areas, so the type of development must protect the recharge capacity of each site and must be monitored to limit the possibility of contamination of the region's water supply.

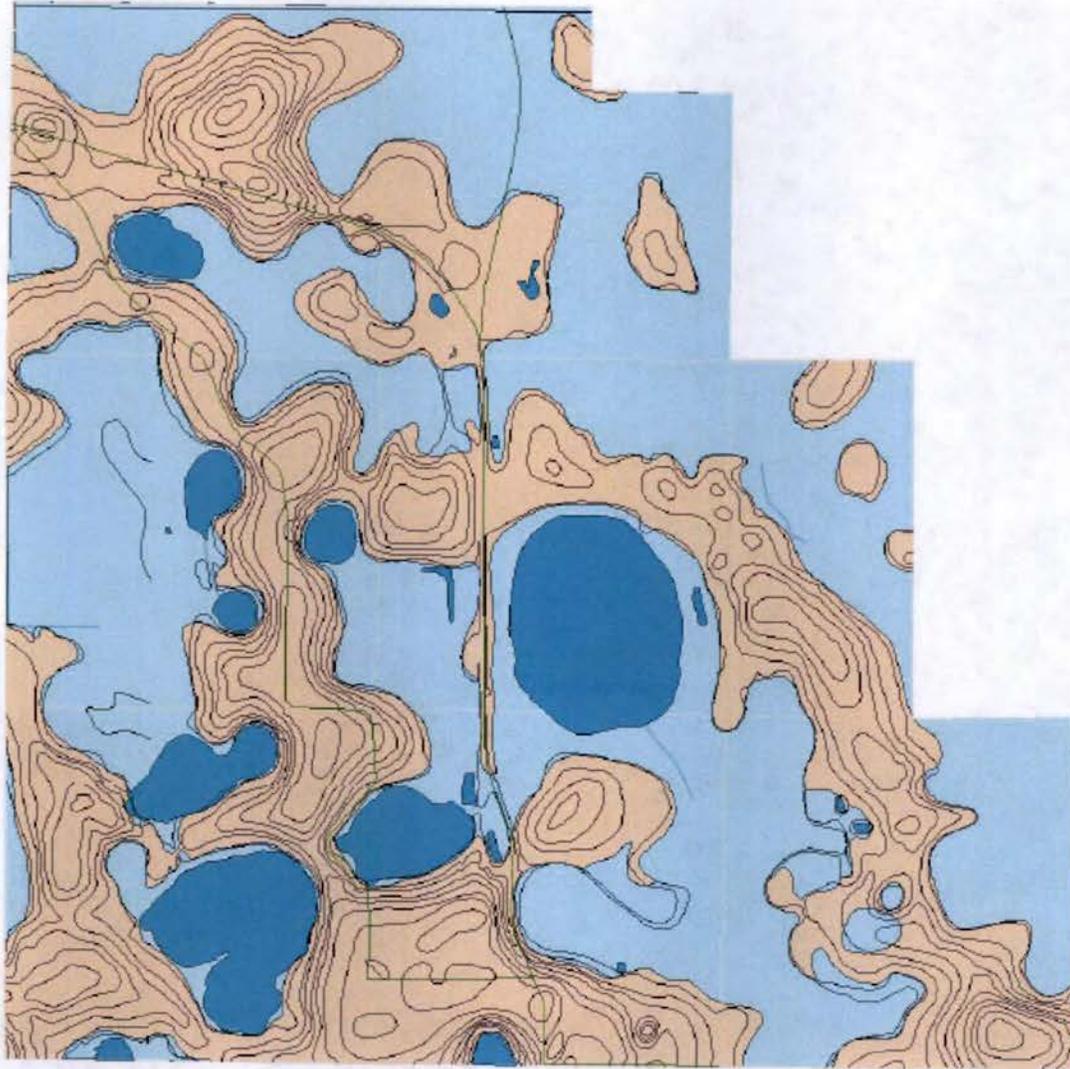
Flood Plains:

The FEMA floodplains and the topography of the area are depicted on **MAP 2**, which shows the topography by five foot contour lines and the 100 year floodplain. Due to the relief within the Selected Area, there is a clear distinction between the upland areas and surrounding floodplains. Although we are used to depicting floodplains in horizontal extent, the important information is elevation. The FEMA floodplains generally follow the 135 foot contour. This elevation is also consistent with the general limits of significant wetlands. Direct observations during February 1998 did not identify flooding incidents above 135'. Development activities should be kept above the 135' elevation.

Drainage Basins:

The City of Lake Alfred is located upon the northern portion of the Winter Haven Ridge. The ridge extends north into the center of the Selected Area and forms a major drainage divide. Wetlands in the eastern portion of the Selected Area extend off site into the Lake Lowery Marsh. The Lake Lowery Marsh discharges variously into the Withlacoochee, Oklawaha, and Peace River basins. Wetlands along the west side of the Selected Area are part of the Lake Mattie Marsh, which is part of the Peace River Basin. The southern portion of the Selected Area drains south into Lake Fannie, which is part of the Winter Haven Chain of Lakes and the Peace River basin. This pattern is consistent with the hydrologic role of the Green Swamp in providing headwater features to five river systems. **MAP 3** depicts the drainage basins.

Topography and 100 Year Floodplain

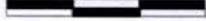


-  Topography (5' contours)
-  Lakes
-  100 Year Floodplain

MAP 2

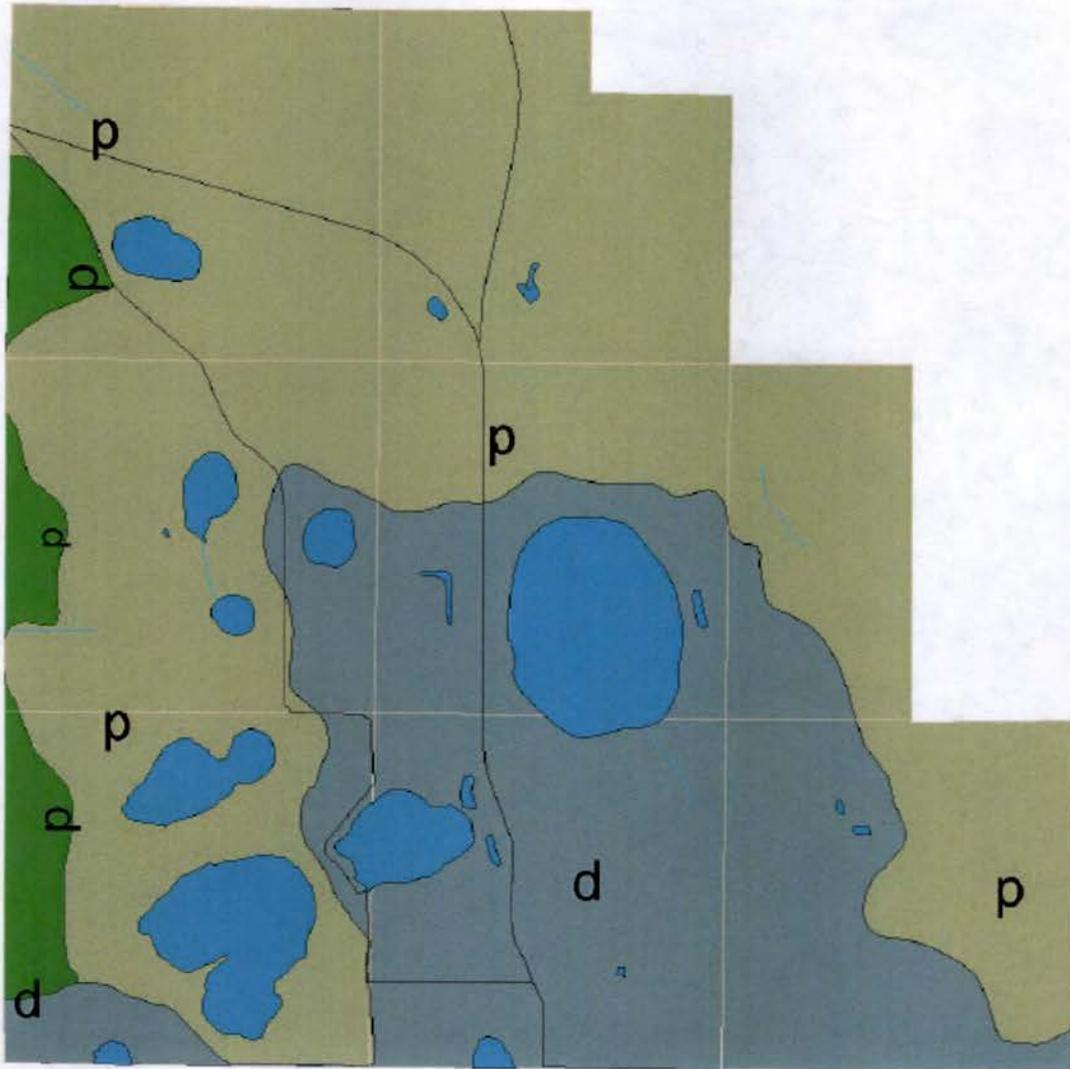


0 1000 2000 3000 Feet



Source: SWFWMD
Polk County Surface Water
Date: June 15, 1998

Drainage Basins



-  Lake Fannie Outlet
-  Lake Mattie Outlet
-  Withlacoochee River Basin

MAP 3



0 1000 2000 3000 Feet



Source: SWFWMD
Date: June 15, 1998

SOILS

Soils:

Soils were identified and their location determined from the 1986 report, *Soil Survey of Polk County*. The data was analyzed by HDR Engineering, Inc., and presented in a report to the City dated January 1998. HDR concluded that the soils in the Selected Area are chiefly well-drained sands, and to a lesser extent, poorly drained sands in the uplands. Very poorly drained mucky sands are found in the wetlands. **MAP 4** depicts soils in the entire Selected Area.

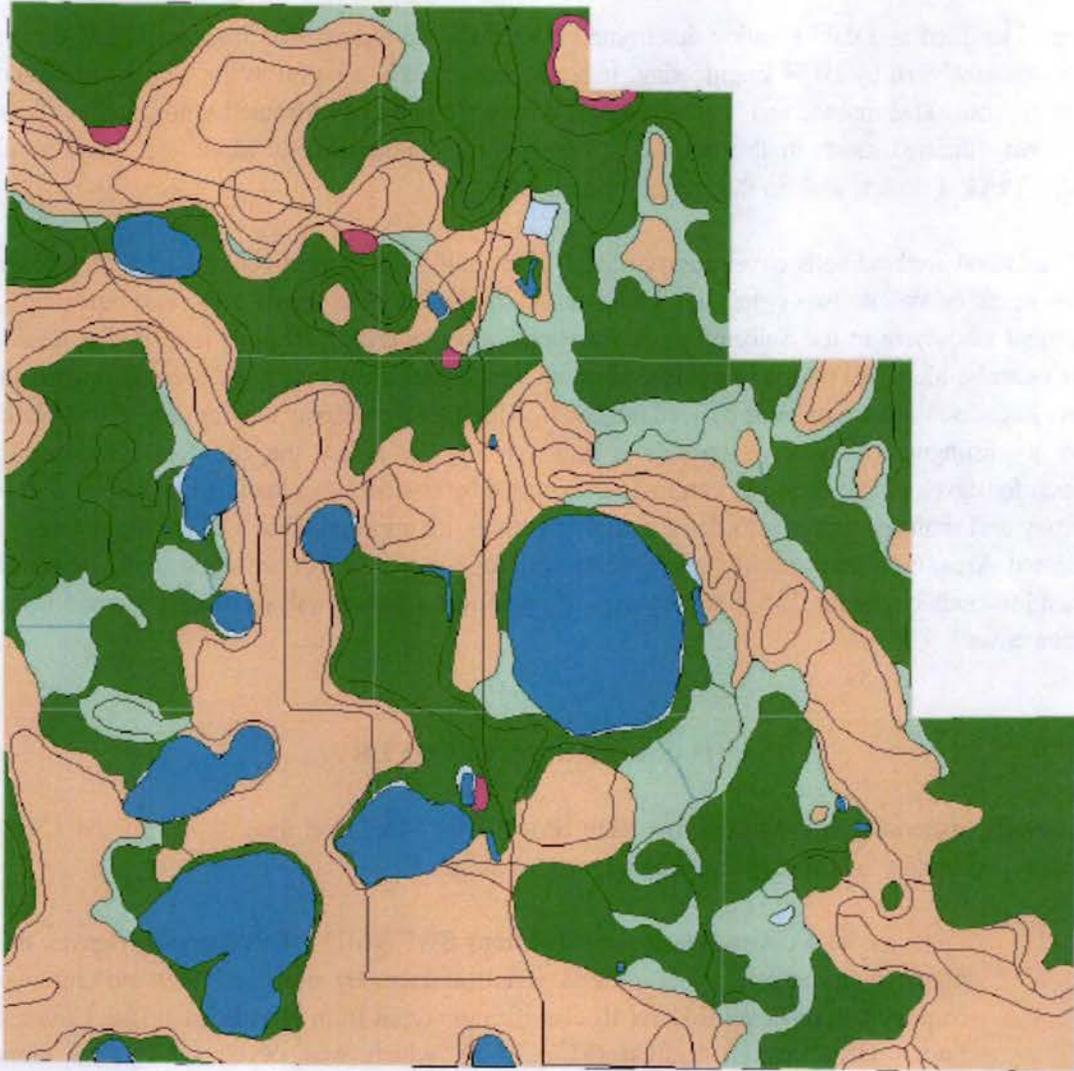
Upland soils and wetland soils cover approximately 46% and 54%, respectively, of the Selected Area. The soils break down into two types: good soils on the high sand hills versus soils with limitations to development elsewhere in the Selected Area. An important feature of the soils map is that *drained wetlands* can be identified on the map. Even though the drained areas may have been used as pasture for many decades, they are marked by wetland soils. Although these areas may appear to be uplands, the way to distinguish them from uplands is they typically lie below the 135 foot contour. The foundation for development decisions can first be identified by combining a knowledge of soils with site topography and drainage patterns to determine if any areas are appropriate to various future uses. In the Selected Area, a pattern quickly emerges showing ridges or hills that are significantly higher and drier than lowlands below the 135 foot contour. The next factor is the analysis of land use and natural vegetative cover.

LAND USE AND LAND COVER

The following materials were utilized by HDR Engineering, Inc., for their report to the City as information sources for the listed species/habitat reconnaissance:

- (1) Land use/land cover digital map files from SWFWMD. This mapping derives from photo-interpretation color, infrared aerial photography flown in 1989 and employs a combination of Level II/Level III classification types from Florida Land Use, Cover and Forms Classification System (FLUCFCS), which was developed by the Florida Department of Transportation (FDOT 1985). This is the common classification system used for land use planning activities in Florida.
- (2) Land cover and vegetation digital map files from Florida Game and Fish. This mapping derives from Landsat (satellite) imagery recorded in 1986.
- (3) Polk County Property Appraiser's November 1996 aerial photographs.
- (4) Field check of certain areas.

Soils



- Very Poorly Drained
- Poorly Drained
- Well Drained
- Historic Water
- Disturbed

MAP 4



0 1000 2000 3000 Feet

Source: SWFWMD
Date: June 15, 1998

MAP 5 depicts land use and cover. In the roughly 4,800 acres of the Selected Area, the following was reported:

Dominate Land Use Types in the Selected Area

| | |
|---|-------------|
| Citrus Groves | 32.8% |
| Improved pasture | 11.2% |
| Open rural land | 7.2% |
| Wetlands | 36.5% |
| Lakes | 8.9% |
| Existing Residential and Commercial Service areas | 2.4% |
| Natural Upland Communities (46.3 acres) | 1.0% |
| Total | 100% |

Dominant Wetland Types

| | |
|---|--------------|
| Freshwater marsh | 17.1% |
| Mixed forested swamp | 15.4% |
| All other type swamps (bay, cypress, river/lake, coniferous, wet prairie) | 4.0% |
| Total of Selected Area | 36.5% |

By color-coordinating the codes into similar uses, this graphic depiction separates developable uplands from native uplands and other natural areas that should *not* be developed. A detailed description of the codes used are as follows:

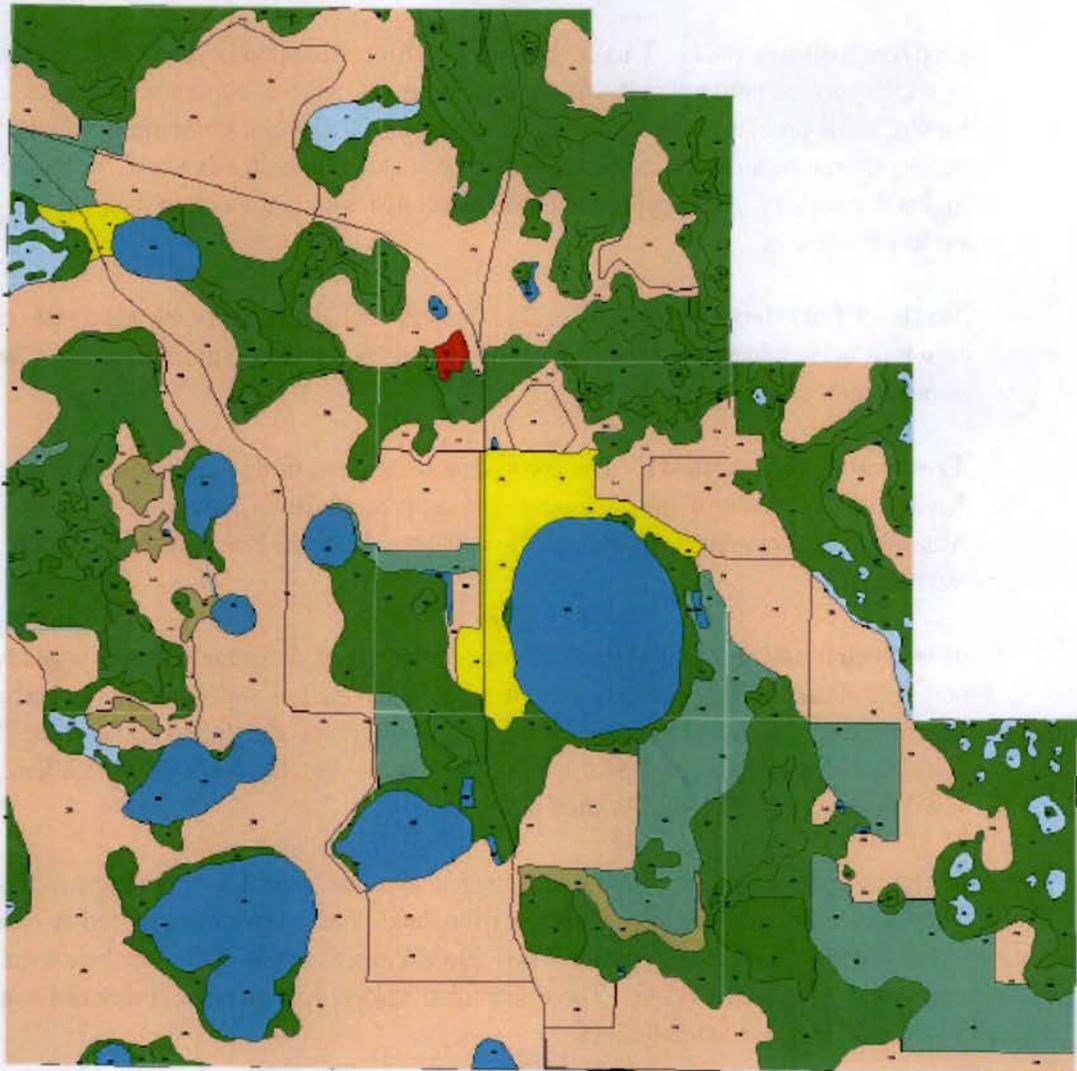
Residential (110): Low density, <less than two dwelling units per acre.

Residential (120): Medium density, two - five dwelling units per acre.

Commercial and Services (140): Commercial areas are predominantly associated with the distribution of products and services. The Commercial and services category includes all secondary structures associated with an enterprise in addition to the main building and integral areas assigned to support the base unit.

Classified as one of the three categories above are approximately 120 acres that have been developed in single-family residential uses, plus a popular antique and gifts business known as "The Barn". Residential uses are largely developed along both sides of S.R.557 west of Lake Gum and around the north side of the lake where there are a total of 66 dwelling units. The only break in this pattern are two ranchettes and four farm home sites on Old Lake Alfred Road. "The Barn" occupies approximately twenty acres and includes a family compound of three homes north of the business on a small pond. Finally, the only other development in the Selected Area is the City of Lake Alfred's effluent spray fields, located in the extreme southeastern part of the Selected Area, which occupy 200 acres. The sprayfield is not classified as one of the three categories above.

Land Use and Cover



- | | |
|---|---|
|  Residential |  Open Water |
|  Residential |  Bay Swamp |
|  Commercial and Service |  River/Lake Swamp |
|  Cropland and Pastureland |  Wetland Coniferous Forest |
|  Tree Crop |  Cypress Swamp |
|  255 |  Wetland Forested Mixed |
|  Other Open Lands <Rural> |  Freshwater Marsh |
|  Pine Flatwoods |  Wet Prairie |
|  Mixed Coniferous/Hardwood Forests | |

MAP 5



Source: SWFWMD
Date: June 15, 1998

0 1000 2000 3000 Feet



oriented ridges between two and three feet tall and spaced approximately 30 feet apart from ridge crest to ridge crest. These features are undoubtedly man-made, resulting from a previous land use of undetermined nature. The canopy oaks are relatively mature (older than 25 years) and consist of such xeric species as sand live oak (*Quercus geminata*) and bluejack oak (*Quercus incana*). Peppervine (*ampelopsis arbores*), grape, persimmon (*Diospyros virginiana*), and cherry (*Prunus* sp.) are also common. The canopy was intermittently dense; there were several open sandy patches with mosses and some wiregrass (*Aristida stricta*). Active and abandoned gopher tortoise burrows were observed sporadically within this area.

Planted Slash Pine: This is a 10 to 15 year old even-aged stand of planted slash pine (*Pinus elliotii*) located southwest of Lake Tangerine in a five-acre area identified on the SWFWMD map as pine flatwoods. The understory is sparsely vegetated with a dense pine needle ground cover. Species observed include wax myrtle (*Myrica cerifera*), grape vine (*Vitis rotundifolia*), and soft rush (*Juncus effusus*).

Overgrown Pine Flatwoods: Three patches of overgrown pine flatwoods occur in a 9.7-acre pine stand located west of Tangerine Lake. Due to fire suppression, these areas are approaching mesic hammock both vegetatively and structurally. Slash pine still dominates the canopy of these mature pine forests. The ground cover is blanketed with grape vine. There are patches of saw palmetto and scattered bays (*Magnolia virginiana*), laurel oak (*Quercus laurifolia*), and holly (*Ilex cassine*).

Mesic Oak Hammock: This live oak-dominated hammock is located along the north side of Grassy Lake, in the southwestern portion of the Selected Area. The hammock covers most of a 7.7-acre stand identified as mixed hardwood-coniferous forest on the SWFWMD map. There are large patches of open, leaf litter with no vegetation due to the dense oak canopy (over 80%) and sandy soils. There are clear signs that the hammock had recently provided shade to cattle that grazed the adjacent improved pastures.

LISTED SPECIES

Probability:

"Listed species" include both plant and animal species. Based on community types presented by the natural upland areas, and factoring in the other land uses within the Selected Area, HDR identified all listed species that potentially occur within the Selected Area. A ranking of probability was done. The ranking was based on the following: land use characteristics, Florida Natural Areas Inventory (FNAI) Element Occurrence Records, occurrence of xeric soil sites (for burrowing species and burrow associates), and the known range and habitat requirements of all protected species indigenous to the region.

The results concluded that there was a probability that listed animal species may occur in seven identified natural areas consisting of a very small amount of land, a total of 30.4 acres out of 4,800 acres. Due to the intensive agricultural land uses that dominate the Selected Area, and the suppression of fires, natural plant communities associated with xeric and mesic soils (sandhill, scrub and pine flatwoods) are not present.

Within the 30.4 acres of natural areas specifically identified, two protected species (animal) have been documented, two species probably occur, and six species possibly occur. The following is a list of "listed animal species" and the probability of occurrence in the Selected Area.

Probability of Occurrence

| Common Name | Probability of Occurrence |
|-------------------------------|---------------------------|
| Gopher tortoise | Documented |
| Florida sandhill crane | Documented |
| Eastern indigo snake | Probable |
| Sherman's fox squirrel | Probable |
| Gopher frog | Possible |
| Florida pine snake | Possible |
| Short-tailed snake | Possible |
| Sand skink | Possible |
| Florida burrowing owl | Possible |
| Southeastern American kestrel | Possible |
| Florida mouse | Possible |

Upland Natural Plant Communities

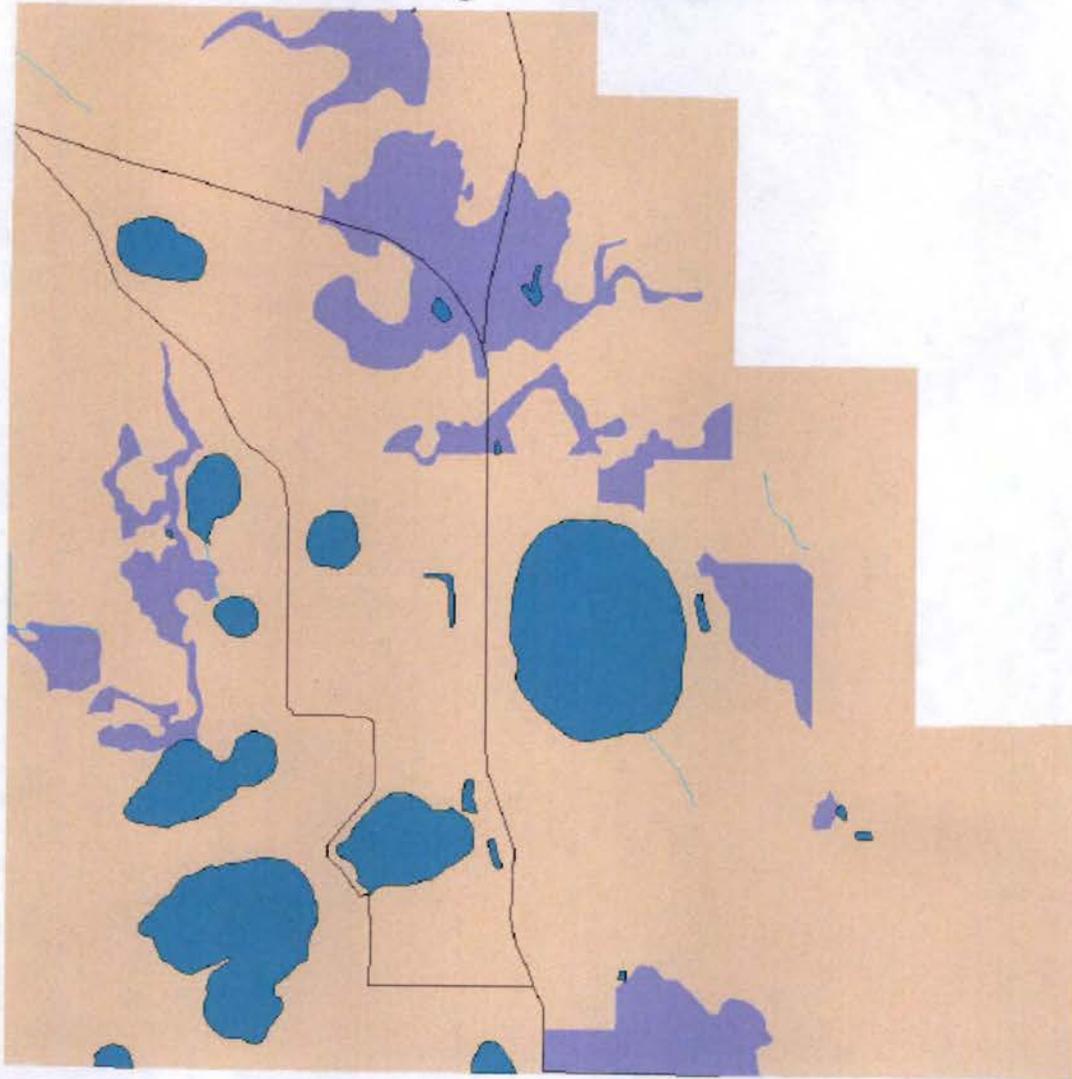
| | |
|--------------------------|-------------------|
| Xeric Oak Hammock | 8 acres |
| Planted Slash Pine | 5 acres |
| Overgrown Pine Flatwoods | 9.7 acres |
| Mesic Oak Hammock | 7.7 acres |
| Total acreage | 30.4 acres |

Florida Sandhill Crane, Florida Burrowing Owl and Southeastern American Kestrel:

Vast expanses of improved pasture and old field, coupled with the large marsh and cypress wetlands, provide suitable foraging habitat for the Florida sandhill crane; and suitable foraging and nesting habitat for the Florida burrowing owl and the southeastern American kestrel. Although no Florida burrowing owls are known to occur in the Selected Area, a recommendation has been made by HDR to re-survey a total of 554 acres for burrowing owls prior to any intensive development. Suitable habitat within the Selected Area for the southeastern American kestrel is conterminous with that of the Florida burrowing

owl. To date, no kestrels have been documented in the Selected Area. Positive verification will require systematic surveys within suitable habitat areas between the months of April and August, and is recommended by HDR. **MAP 6** depicts the potential habitat areas for some species.

Potential Habitat for Burrowing Owl and Kestrel



 Potential Habitat for Burrowing Owl and Kestrel

MAP 6



Source: SWFWMD
Date: June 15, 1998

26

0 1000 2000 3000 Feet

ARCHAEOLOGICAL RESOURCES

Methodology:

HDR consulted the Florida Division of Historical Resources (DHR) to determine whether any known archaeological or historical sites were recorded within the Selected Area. No archaeological sites or historical standing structures have been recorded in the Selected Area. Nor have any archaeological or historical surveys been conducted in or adjacent to the Selected Area.

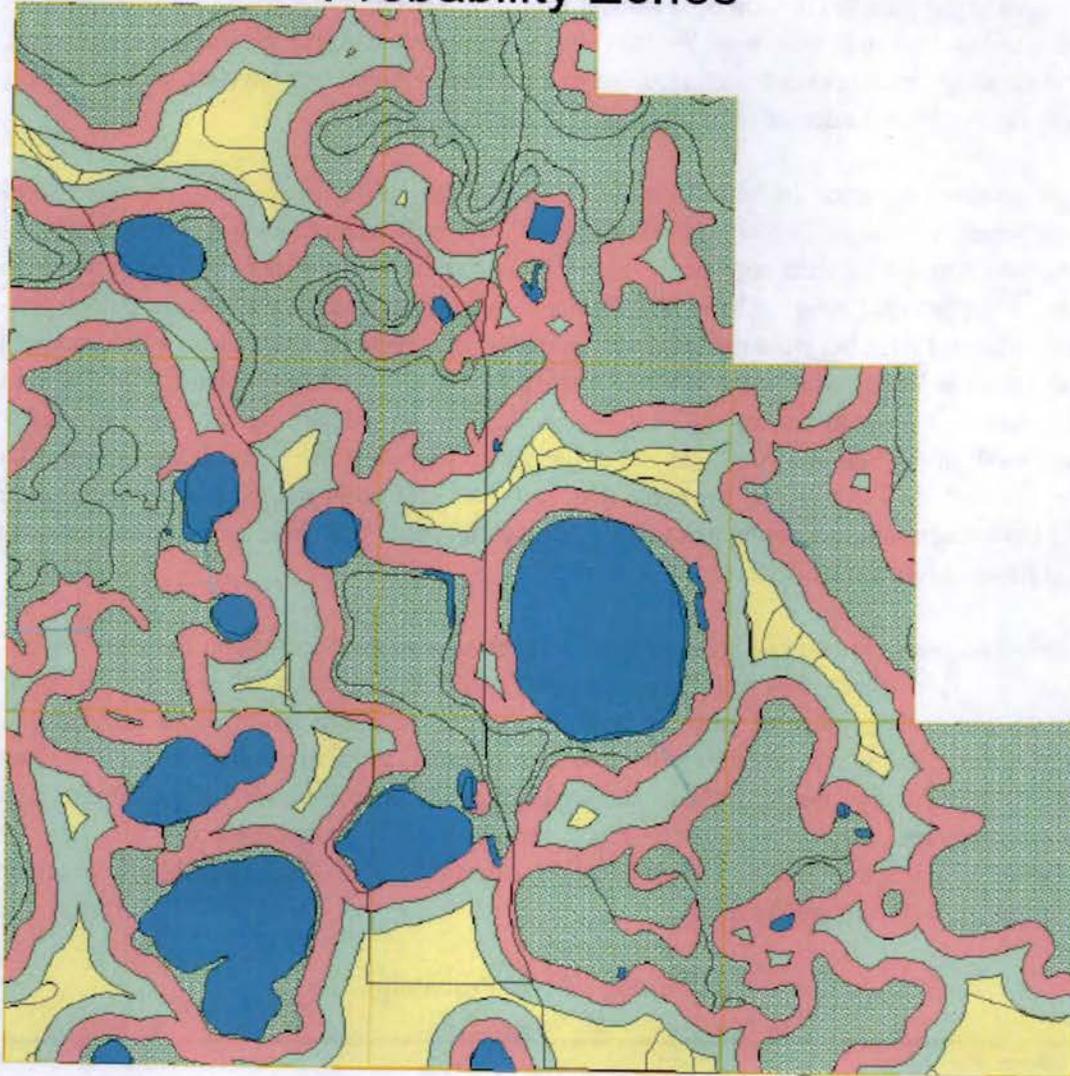
Although no direct evidence of human presence or other cultural landscape features were recorded within the Selected Area, an "Indian old field hammock" (evidently a hammock forest growth overtaking an abandoned Seminole Indian crop field) was recorded on the western shore of Lake Lowery, one mile east of the Selected Area. Abandoned Seminole Indian settlements may also have been present within the Selected Area but were missed by the public lands surveyors whose direct knowledge of the Selected Area was largely confined to lands immediately to either side of section lines. Fort Cummings, a military fort established in January, 1839, was pinpointed on the southern shore of Lake Alfred about 1.7 miles south of the Selected Area. An old military road known as the "Road from Tampa to Lake Monroe" (or the "old Tampa Road") ran east-northeast past Fort Cummings, skirting along the northern shore of Lake Haines, before continuing east. The road approached as close as 3/4 miles south of the Selected Area's southeast corner.

HDR consulted with professional archaeologists who have conducted surveys in the lakes region of Polk County. It has been their experience that prehistoric archaeological sites in sandhill regions identical to those of the Selected Area are typically situated on better drained lands and within 100 meters of a lake, pond, marsh, or other wetland feature. Locally, archaeological artifacts are frequently noted near the margins of the larger lakes and wetlands in the general vicinity of the Selected Area. Within the study area, it is estimated that objects of significance will be found approximately one meter deep. Based upon this information, and using digital soil mapping files, the Selected Area was divided into archaeological site probability zones.

Archaeological Site Probability

| | | |
|----------------------------|---|------------|
| High Probability Areas | Upland soil areas situated within 100 meters of historic wetlands or water bodies (as indicated by very poorly drained soils or existing water bodies). | 20% |
| Moderate Probability Areas | Upland soil areas situated between 100 and 200 meters of historic wetlands or water bodies. | 15% |
| Low Probability Areas | Upland soil areas more than 200 meters from historic wetlands or water bodies. | 10% |
| Total | | 45% |

Archaeological Site Probability Zones



 Historic Surface Water Bodies
 Historic Wetlands

 High Probability Area
 Moderate Probability Area
 Low Probability Area

MAP 7



Source: HDR Engineering
SWFWMD
Date: June 15, 1998

0 1000 2000 3000 Feet


27

Based on the above information, MAP 7 was created by means of digital soil mapping files; a surface walk-over of selected portions of the Selected Area; and inquiries among local residents as to whether they knew of any sites. Given the topographic setting of the Selected Area, with its well-drained uplands and extensive lake and wetland systems, unrecorded sites are undoubtedly present. The total indicates that of all the uplands areas, 45% have some probability of being archaeological sites.

The conversion of the sand hills to citrus, and subsequent removal of mature trees through bulldozing and burning may have had the effect of substantially disturbing the upper meter of the soil profile. This disturbance may have greatly damaged remaining archaeological resources.

SUMMARY OF FINDINGS

The Selected Area covers approximately 4,860 acres north of the City of Lake Alfred and is located within the identified boundary of the Green Swamp Area of Critical State Concern, but not within the "core area". The topography is distinguished by a series of ridges running generally north and south through the area, with elevations of between 135 and 180 feet above sea level. The ridges have been disturbed by agricultural processes, most notably by the extensive planting of citrus groves. The high sand hills are prime recharge areas, so development must be appropriate to the maintenance of the area recharge capacity and regulated to protect the regional water supply. Due to the topographic relief within the Selected Area, there is a clear distinction between the upland areas and surrounding floodplains and wetlands. As a result, development activities should be kept above the 135 foot elevation.

Wetlands in the eastern portion of the Selected Area extend north and northeast into the Lake Lowery Marsh, which discharges variously into the Withlacoochee, Oklawaha, and Peace River basins. Wetlands along the west side of the Selected Area drain west to the Lake Mattie Marsh, which is part of the Peace River Basin. The southern portion of the Selected Area drains south into Lake Fannie, a lake in the Winter Haven Chain and a part of the Peace River Basin. Soils in the Selected Area are chiefly well-drained sands, and to a lesser extent, poorly drained sands in the uplands. Very poorly drained mucky sands are found in the wetlands. Upland soils and wetland soils cover approximately 46% and 54%, respectively, of the Selected Area.

The majority of uplands in the Selected Area have been cleared and are used for agricultural activities. Approximately 120 acres have been developed in single-family residential uses and a popular antique and gifts business known as "The Barn". Residential uses are largely developed along both sides of S.R.557 west of Lake Gum and around the north side of the lake. The only break in this pattern are the two ranchettes and three farm home sites on Old Lake Alfred Road. The Barn occupies approximately twenty acres and includes a family compound of three homes north of the business on a small pond.

Seven patches of uplands were identified as natural plant communities with the probability to support listed species of plants and animals. The areas were evaluated on-site by HDR, which confirmed the

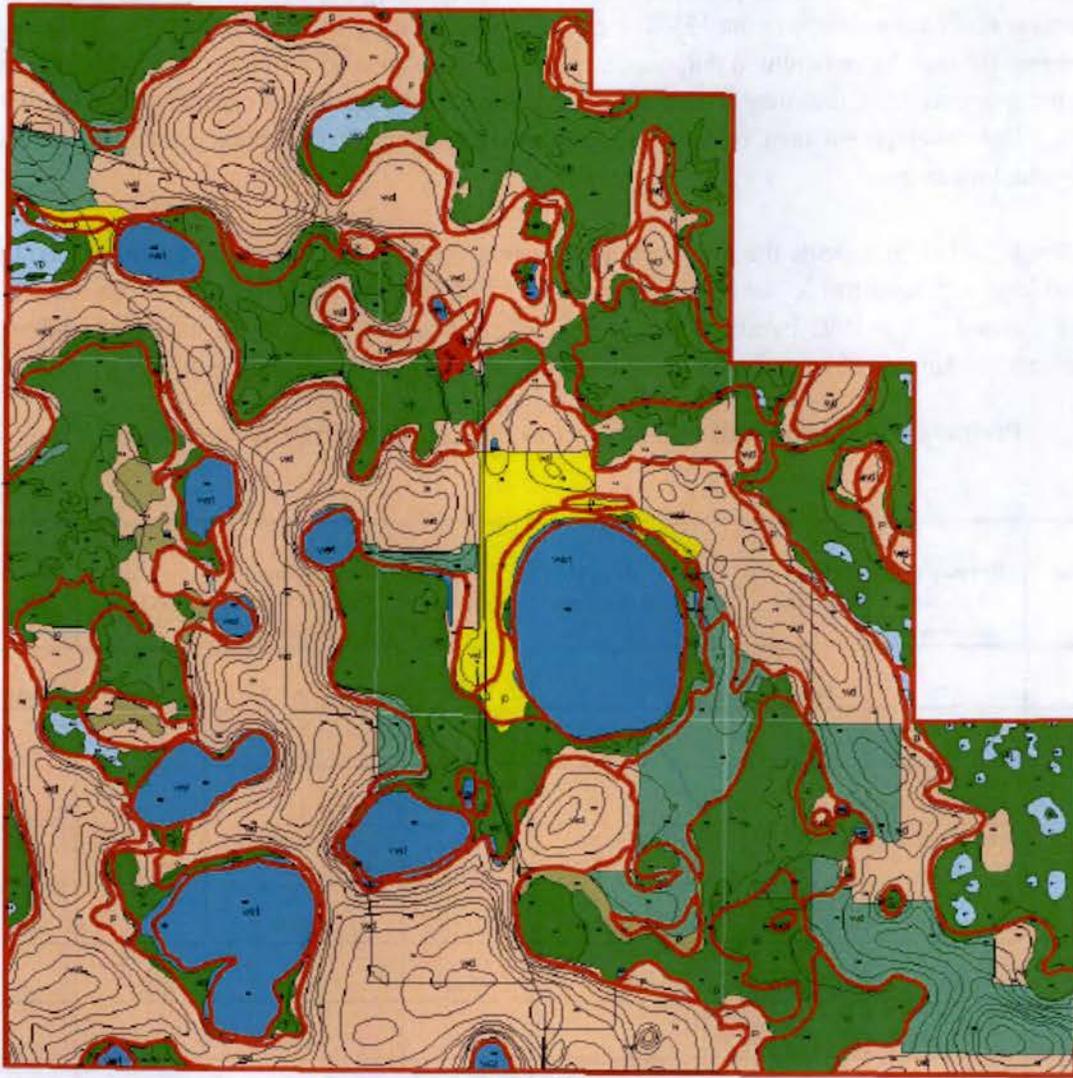
probability, but the total of all seven contains only 30.4 acres out of 4,800 acres. Due to the intensive agricultural land uses that dominate the Selected Area, and suppression of fires, natural plant communities associated with xeric and mesic soils (sandhill, scrub and pine flatwoods) are not present. Within the 30.4 acres of natural areas specifically identified, two protected animal species have been documented, the gopher tortoise and the Florida sandhill crane; two other species, the Eastern indigo snake and Shennan's fox squirrel, *probably* occur, and six species *possibly* occur. In addition, the expanses of improved pasture and old field, coupled with the large marsh and cypress wetlands, provide suitable foraging and nesting habitat for the Florida burrowing owl and the southeastern American kestrel.

Finally, HDR consulted the Florida Division of Historical Resources (DHR) to determine whether any known archaeological or historical sites were recorded within the Selected Area. No archaeological sites or historical standing structures have been recorded, nor have any archaeological or historical surveys been conducted in or adjacent to the Selected Area. Within the Selected Area, it is estimated that objects of significance will be found approximately one meter deep near the margins of the larger lakes and wetlands.

“DEVELOPMENT LIMITATIONS”

On **MAP 8**, which is entitled “Development Limitations,” all of the factors analyzed and mapped in this section are combined. Wetlands, floodplains, poor soils, and land cover that identifies natural areas and habitat, largely overlay each other and are generally located below the 135 foot elevation. By mapping the data, the picture clearly illustrates the physiographic delineation between upland areas that have been farmed and are now denuded of natural resources, and lowland areas where flood plains, wetlands and valuable habitat resources exist. The uplands are the areas that have few development limitations, while the lowlands demonstrate every reason why development should not occur in them and why preservation and conservation are the most appropriate future uses. Because there are important water quality functions performed by the wetlands and valuable habitat resources in the Selected Area, additional conditions for development will be required to insure that it does not negatively impact them. The remainder of this report establishes the planning goals and objectives, the conditional policies and the development standards that will form the new regulatory framework for the Selected Area.

Development Limitations



- | | | |
|--------------------------|-------------------------------|---------------------------|
| Soils | Residential | Open Water |
| sp = Very Poorly Drained | Commercial Service | Bay Swamp |
| p = Poorly Drained | Cropland and Pastureland | River/Lake Swamp |
| wd = Well Drained | Tree Crop | Wetland Continuous Forest |
| wst = Historic Water | 200 | Cypress Swamp |
| d = Disturbed | Other Open Land - All water | Wetland Forested Flood |
| Topography | Pine Forest | Freshwater Marsh |
| | Mixed Coastal Hardwood Forest | Wet Prairie |

MAP 8



0 1000 2000 3000 Feet

Source: SWFWMD
Date: June 15, 1998

IV. PLANNING ANALYSIS AND DEVELOPMENT STANDARDS

Areas within the Selected Area that are appropriate for residential and service commercial development are refined from the analysis in the previous section of this report and are displayed on **MAP 9**. These areas are generally uplands above the 135 foot elevation. Since early in this century, these lands have been intensively used for agricultural purposes, largely for citrus, but also for range land in the northern part of the Selected Area, thus they are barren of all natural resources with the exception of "burrowing habitat". The development area of the Selected Area is served by the entire existing systems of highways and roadways.

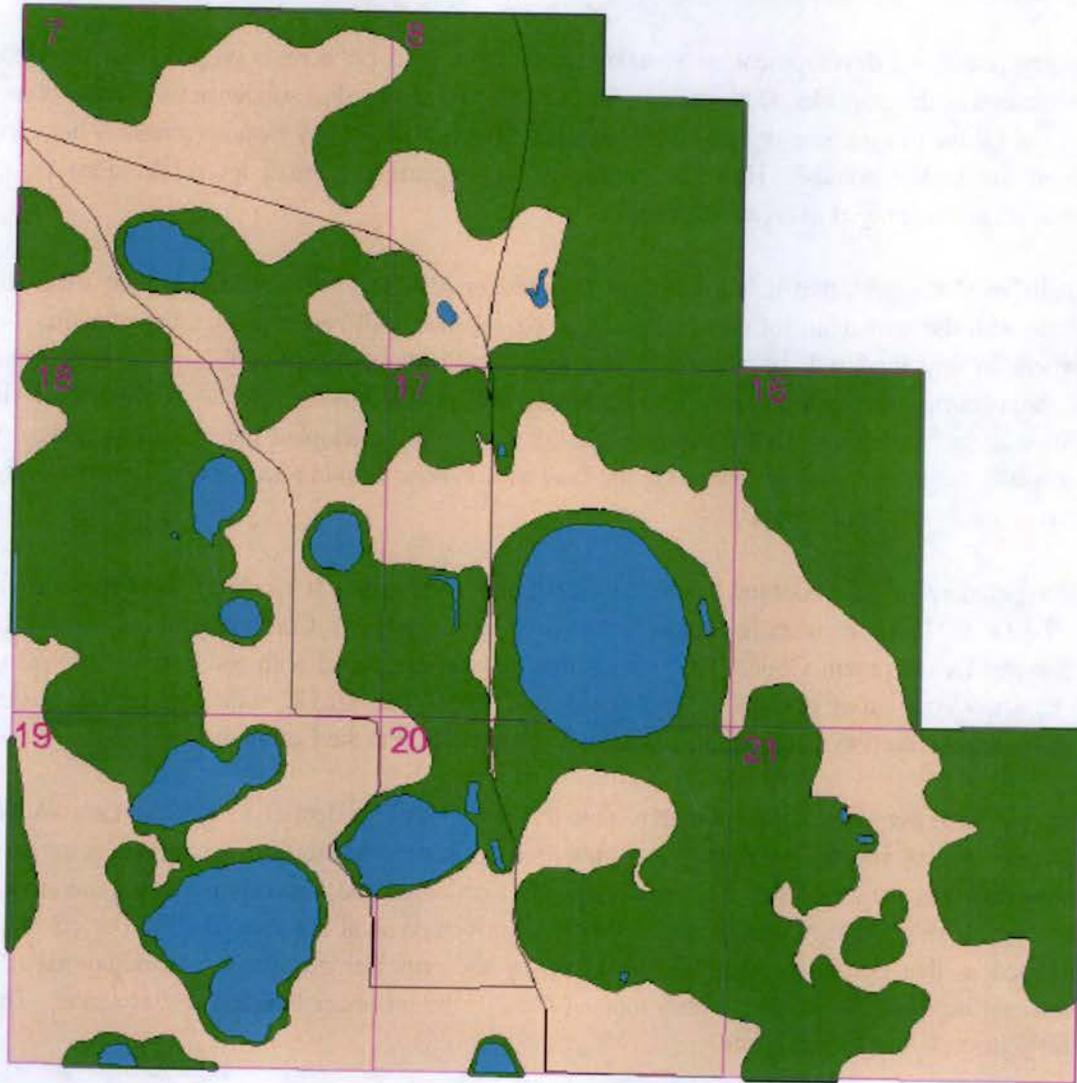
The following table documents the first preliminary estimate of acreage within the Selected Area that classified land as "developable" or "non-developable". The analysis was conducted by the Regional Planning Council in late-1995 by analyzing aerial photographs and a wind shield survey of land uses, and presented in January 1996 to the City and the Polk County Legislative Delegation.

Preliminary Analysis of Land Subject to the Lake Alfred-DCA Agreement

| Section | Developable Uplands (in acres) | % of Upland | Non-Developable Wetlands & Flood Plains (in acres) | % of Wetlands | Non-Developable Surface Water (in acres) | % of Water | Total |
|---------------|--------------------------------|---------------|--|---------------|--|--------------|--------------|
| 7 | 375 | 58.59 | 239 | 37.34 | 26 | 4.06 | 640 |
| 8 (partial) | 223 | 39.82 | 337 | 60.18 | 0 | 0 | 560 |
| 16 (half) | 173 | 54.06 | 147 | 45.94 | 0 | 0 | 320 |
| 17 | 212 | 32.81 | 265 | 41.41 | 165 | 25.78 | 640 |
| 18 | 212 | 33.13 | 386 | 60.31 | 42 | 6.56 | 640 |
| 19 | 397 | 62.03 | 95 | 14.84 | 148 | 23.13 | 640 |
| 20 | 360 | 56.25 | 217 | 33.91 | 63 | 9.84 | 640 |
| 21 | 273 | 42.66 | 367 | 57.34 | 0 | 0 | 640 |
| Totals | 2,223 | 47.10% | 2,053 | 43.50% | 444 | 9.41% | 4,720 |

The detailed analysis conducted as a part of this plan and described in Part III of this report produces only slightly different results. Using the maps that were developed and letting the computer calculate the land areas for water, conservation and development, the following results were obtained. Surface water 430.4 acres, flood plains and wetlands 2,186.3 acres, and uplands 2,245.3 acres for a total Selected Area of 4,859.3 acres.

Developmental Areas



Source: CFRPC
Date: June 15, 1998

 Lakes
Conservation
Developable Areas
7 Section Number of Township 27 South
and Range 26 East

MAP 9



0 1000 2000 3000 Feet

From the totals in the table above and the verification of the areas, there are approximately 2,000 acres that may be developed, with a potential, at three units an acre, of 6,000 single family dwelling units. However, this area is not expected to develop at such a high density. Without the Agreement, the entire Selected Area could only be developed at one dwelling unit per 10 acres, with a potential of about 480 dwelling units.

Low density residential development, at a maximum of three units per acre, is proposed for the lands clearly identified as developable. Development for this area is envisioned as subdivisions of large homes on large lots (a third of an acre or less) with beautiful vistas of the Green Swamp's natural flora and fauna from the high sandhills. However, residential development of small lot subdivisions is not prohibited and is encouraged as an alternative.

The remainder of the land, that is, all wetlands, floodplains, poor soil areas, natural habitat areas and some lands with the probability of containing archeological sites, will be classified Conservation. No development of any kind will be allowed under this classification, except trails, board walks, and perhaps boat ramps to support passive recreation and access to the unique resources of the preservation areas. In addition, a Preservation classification will be adopted into the Comprehensive Plan, especially for the purpose of protecting the land as it is now, limiting access to natural trail ways and unpaved roads and boat ramps.

Separate regulations will be adopted in the *Unified Land Development Code of the City of Lake Alfred (ULDC)*. Those regulations will be compatible with the City's Comprehensive Plan and the Green Swamp Development Code. Those lands that may be developed with residential units will be limited to an overall gross density of three units per acre. The ULDC will also include a new Preservation zoning category compatible with the new classification in the Comprehensive Plan.

Again, for planning purposes, it is important to state that all types of residential development are allowed but with a set of very specific restrictions. A limitation on impervious surface is required, in order to protect the pervious nature of the high sand hills. Lot coverage and impervious surface are strictly defined. For all single family, detached dwellings, lot coverage shall not exceed 30% (lot coverage being defined as that portion of the lot covered up by the principal dwelling). An additional 10% impervious surface will be allowed, with a total of 40% of the lot under building and concrete. That leaves 60% of each lot as open space.

Maximum gross density for the development area of the Selected Area may not exceed 3 dwelling units per acre. Other detached building types, such as clustered development, garden homes and patio homes are encouraged, but the maximum gross density for the entire site may not exceed 3 du/ac. The portion of the uplands that becomes open space may be left open, may be left natural or may be developed with low intensity recreation, such as common recreation areas, playgrounds, and golf courses. However, under the Agreement golf courses are reviewed on a case-by-case basis. The densities and intensities being proposed are not permitted in unincorporated Polk County to the north of the Lake Alfred Selected Area. The proposed densities may only be permitted when the property is annexed into the City.

Small lot subdivisions may be built. However, the maximum gross density of any individual site in single ownership may not be exceeded. As an incentive to leaving large areas open and natural, impervious surface and lot coverage percentages may be greater than 40% depending on lot size and density. Each proposal will be accessed on an individual basis, and as part of the entire Selected Area, so that the minimum amount of overall open space required by the Agreement is never compromised.

Topography, Drainage and Soils:

By overlaying topographic data, drainage basins data and soil data, there is a clear distinction between the upland areas and surrounding floodplains and wetlands. High recharge portions of the Selected Area are clearly delineated. The data confirms that development must be regulated in order to preserve the wetlands and flood plains.

Wetlands and Floodplains

The data collected on wetlands and floodplains confirms the important function of the wetlands in the Selected Area. Wetlands in the eastern portion are connected to the Lake Lowery Marsh, which is the water source for three river basins, the Withlacoochee, Oklawaha, and Peace River basins. Wetlands along the west and south sides of the Selected Area drain ultimately into the Peace River Basin. The Peace River Basin feeds the Peace River, which is the drinking water source for Charlotte Harbor. Therefore, protection of the wetlands is not an option. Protection is imperative.

In addition to the ecological system purpose of the wetlands, the data collected helps reinforce the limitations to development in wetland areas; that is, wetland soils will not support the weight of structures. Soils in the Selected Area are chiefly well-drained sands, and to a lesser extent, poorly drained sands in the uplands. Very poorly drained mucky sands are found in the wetlands. Upland soils and wetland soils cover approximately 46% and 54%, respectively, of the Selected Area.

Land Cover, Habitat and Archeological Values:

Land development in the Selected Area is minor, directly effecting only 120 acres. There are approximately 75 dwelling units and one business in the entire 4,860 acres enclosed in the Selected Area. Land cover is extensive in the lowlands and wetlands, but the majority of uplands in the Selected Area have been cleared and used for agricultural activities and today are occupied by groves, pasture and private and public spray field operations. The function of the lowlands is to provide prolific habitat for a wide range of animals, birds and reptiles. Particular natural plant communities probability support listed species, but the study associated with this SAP only identified a few, namely, the gopher tortoise, Florida sandhill crane, Eastern indigo snake and Sherman's fox squirrel, plus nesting habitat for the Florida burrowing owl and the southeastern American kestrel.

In addition to the classification of the lowlands as Conservation Future Land Use, with their flood plains, wetlands and patches of unique habitat, the planning safeguard that will protect their function as a place

where surface waters are naturally treated, is an upland buffer. The Selected Area Agreement established the minimum width of such a buffer at fifty feet (50'). The analysis contained in this report identifies the 135 foot contour as roughly the edge of the historic wetlands and surface water bodies, and therefore the limit of wetland soils. As such, it provides a reasonable basis for establishing the limit of the area that deserves preservation and conservation, and the point of departure between lowlands and uplands. From the contour, fifty feet (50') upland should be the location of the buffer, which should be preserved, if it has abundant native vegetation, or treated with supplemental plantings of native trees and large shrubs, if they have been removed. The buffer serves two purposes, it insures that some pretreatment of storm water runoff occurs prior to it entering the wetlands; and, it provides an upland foraging and nesting area for wetland species that require it. For the entire Selected Area, the upland fifty foot (50') buffer would only occupy 238.7 acres.

Beyond the natural upland buffer, all development that is adjacent to the buffer will be required to maintain some, reasonable "structural setback". At three dwelling units per acre, detached, single-family residences will be built on lots more than 140 feet deep. Given the general parameters of forty percent (40%) combined lot coverage and impervious surface, the structural setback will be fifty feet (50), which in fact will normally be a rear yard setback. The combination of the buffer and the structural setback will provide one hundred feet (100') from the edge of the historic wetlands or water bodies to the structure. Although this may seem a significant width, it will not limit development density and it provides only about one-third of the width of the highest archeological probability zone. Generally, the standard for archeological excavation will be that single-family detached house are exempt, but that any multi-story, attached development will require an on-site investigation before permit approval.

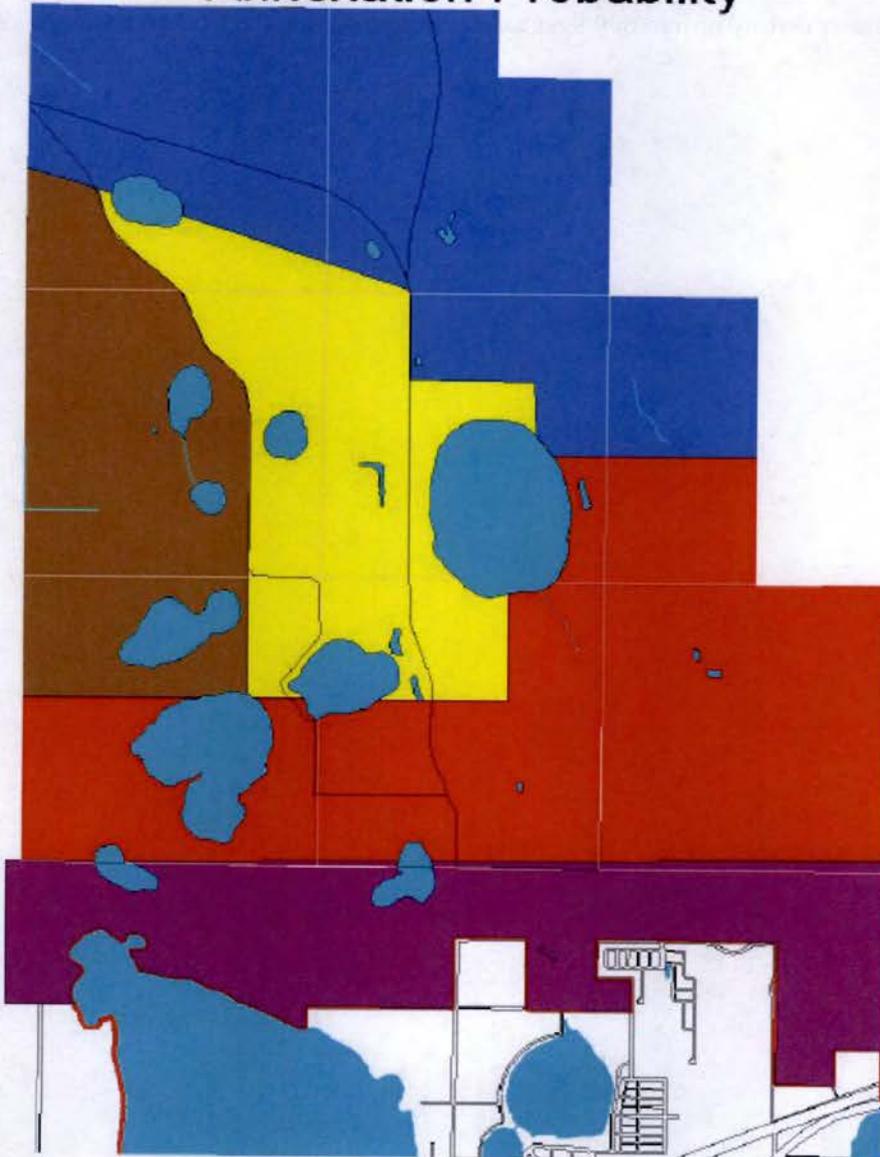
Annexation and Provision of Utilities

In accordance with the Agreement, no development will be allowed at a density greater than one unit per ten acres in the GSACSC unless roads are paved, and water and sanitary sewer service is available. If services are available, the area may be development at three units per acre. The City has demonstrated that there is capacity in both the water and wastewater plants to serve the designated area of the GSACSC and has been designated as the provider for the portion of the GSACSC that the Agreement covers. The provision of utilities will be development driven; that is, building permits will not be issued unless utilities are available. However, the City reserves the right to run lines into the unincorporated area the five mile maximum, as allowed by State statute.

The portion of the GSACSC that is the subject of this Agreement and this plan is not currently contiguous to the City limits of the City of Lake Alfred. Prior to any annexation of the GSACSC, a portion of the territory that lies between the current City limits and the GSACSC must come into the City to create a link. Paved roads and water lines presently exist in the intermediate territory; sewer lines will be extended and will be available for annexed parcels. MAP 10 depicts the most probable scenario of future annexations. After a portion of the intermediary territory is annexed, the next most likely area to annex in will be Area 1, shown in red on the map.

If a current homeowner or vacant land owner wishes to obtain city utility services to develop under the County's provisions (one unit per 10 acres), and if the parcel is not contiguous to the City limits, an annexation agreement is required, with the parties agreeing to voluntary annexation when the parcel becomes contiguous to the City limits. An annexation agreement does not give the developer the right to develop at a greater density or intensity than would be permitted in the County, which is one unit per 10 acres.

Annexation Probability



- 1st Area of Annexation 1-5 years
- 2nd Area of Annexation 5-10 years
- 3rd Area of Annexation 10-15 years
- 4th Area of Annexation 15-20 years
- Intermediate Area

City of Lake Alfred's Incorporated Limits

MAP 10

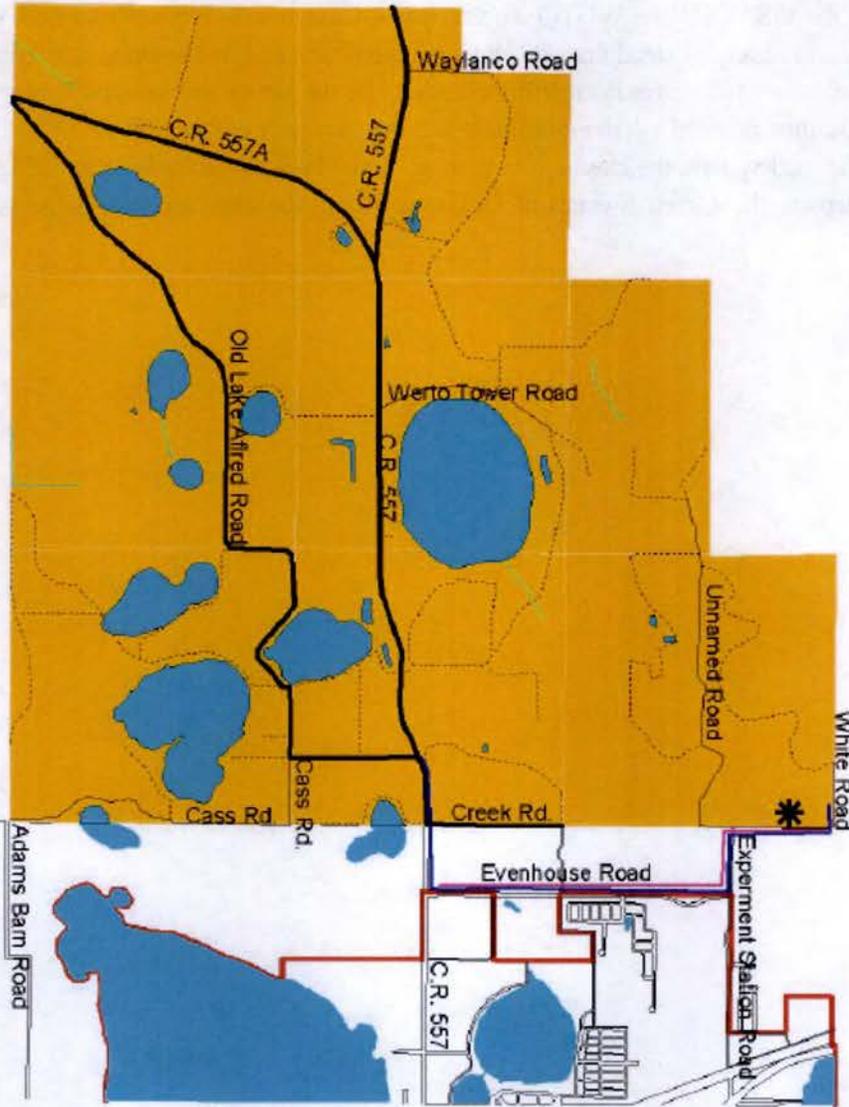


Source: SWFWMD
Date: June 15, 1998

0 1500 3000 4500 Feet

It is difficult to estimate a schedule of provision of utilities for the GSACSC. The paved roads that are currently in place are CR 557, CR 557A, Old Lake Alfred Road, which run the length of the portion of the GSACSC that is the subject of the Agreement, and Creek Road, which runs east and west along a portion of the southern boundary of the GSACSC. Dirt roads that are currently maintained by the county and within the GSACSC are WGTO Tower Road, Cass Road, White Road and Waylance Road. The City will, in general, extend lines up all paved roads first and in a south to north direction, as needed. In addition, water and sewer lines will most likely be run up those same roads first. The City or a developer might then proceed to pave dirt roads and the City may extend utilities in that direction. **MAP 11** depicts the road system, the existing utility lines, and where the utility lines most likely will be run. **MAP 12** depicts the Green Swamp in its entirety, with the area specific to the Agreement highlighted.

Utilities



-  Proposed Water & Sewer Lines
-  Maintained Dirt Road by County
-  Unmaintained Dirt Road
-  Existing Sewer Line
-  Existing Water Line
-  City Limits
-  * Public School Site - 35 acres

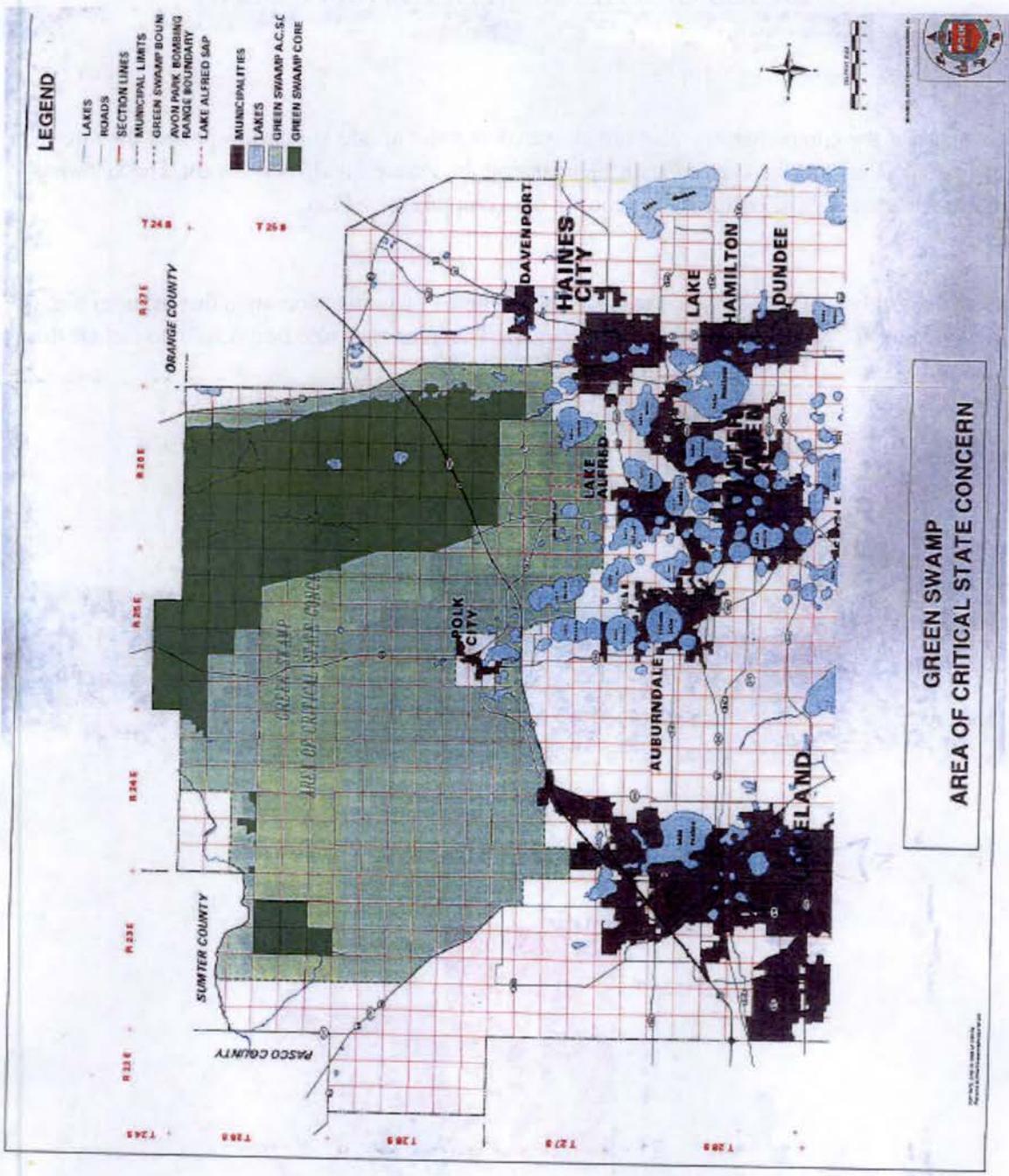
MAP 11



0 1200 2400 3600 Feet



Source: City of Lake Alfred
Date: October 11, 1999



3. The City of Lake Alfred shall establish development standards to ensure the protection and conservation of environmentally sensitive land within the City and within the Green Swamp ACSC. The City shall amend the Unified Land Development Code by adopting land development regulations that are consistent with the Green Swamp Agreement between the City and the DCA and which implement the provisions of the Comprehensive Plan.
4. No residential development at a density greater than one unit per ten acres shall occur in the annexed area within the Green Swamp ACSC until the City has extended municipal services to the area, including paved roads, potable water service and sanitary sewer service. Within the Green Swamp ACSC, all residential development at a density greater than one dwelling unit per 10 acres and all commercial development shall be on municipal sewer and water and served by paved roads.
5. The City shall prohibit any development in floodplains and wetlands within the Green Swamp ACSC.
6. The City shall insure that a minimum of 30% of the land within the Green Swamp ACSC that annexes into the City of Lake Alfred will be held in permanent open space: including land located within the 100-year floodplain, all wetlands and areas largely characterized by wetlands, but excluding all surface water courses and lakes. Said lands shall be classified as Conservation or Preservation on the Future Land Use Map (FLUM) and on all other maps.
7. Wetland systems shall not be used for stormwater treatment or storage within the Green Swamp ACSC.
8. No parcel within the Green Swamp ACSC shall be created after the date of this amendment which consists entirely of 100-year floodplains, unless accompanied by a deed restriction which prohibits any future development on the parcel.
9. The City hereby establishes within the Green Swamp ACSC a fifty (50) foot wide upland buffer from the 135 foot elevation contour in which no structure may be placed.
10. The City shall prohibit any and all use of package plants within the Green Swamp ACSC. A package plant is defined as having less than 100,000 gallons per day capacity.
11. The City shall prohibit any and all placement of wastewater sludge within the Green Swamp ACSC.
12. The City shall prohibit all Industrial development, peat and lime rock mining and sand mining.
13. The City shall require a 75 foot minimum setback between the drain field and all wetlands when onsite sewage disposal systems are used; and a minimum lot size of one acre is required. Inspection and pump-out at five year intervals is required.

14. All development in the Green Swamp ACSC shall be agricultural, residential, commercial or recreational in nature. Commercial Uses permitted in this area shall be low impact, low intensity, commercial and institutional uses intended to serve residents within the Green Swamp ACSC of the City. All recreation uses, other than passive recreation uses, shall be limited to low impact, low intensity public or private recreation uses that do not require impervious surface coverage of more than 10% of the lot. Alternative paving techniques shall be used to achieve this goal.
15. Within the Green Swamp ACSC, the City shall allow residential development on uplands at an overall site density no greater than three (3) dwelling units per gross acre.
16. For all single family, detached dwellings within the Green Swamp ACSC, lot coverage and impervious surface are restricted in order to achieve the overall goal of 60% open space on the development sites situated on the high sand hills in the Green Swamp ACSC. Lot coverage by the principal dwelling shall not exceed 30%. Impervious surface coverage of a lot shall not exceed 40%, which shall include the principal dwelling, all paved areas, accessory structures and swimming pools.
17. The City shall adopt regulations for all commercial development within the Green Swamp ACSC; to limit the intensity of development, to establish locational standards to limit areas where commercial development can occur, and to establish development standards that strictly regulate the commercial uses allowed as well as sets limits for size, setbacks and lot coverage of commercial uses. Specific regulations for commercial development within the Green Swamp ACSC are adopted in the Unified Land Development Code of the City. Commercial development is only allowed on land assigned the future land use classification of "Commercial", per Policy 2.10 of the Future Land Use Element. For all vacant, annexed land, owners seeking the Commercial classification must file for an amendment to the Future Land Use Map of the City and undergo review by both the City and the DCA.
18. Golf Courses within the Green Swamp ACSC shall be approved on a case by case basis pursuant to specified approval criteria.
19. Impervious surfaces within the Green Swamp ACSC shall be kept to a minimum by limiting paved areas and encouraging alternatives to impervious paving surfaces.
20. Stormwater retention facilities must retain the first three inches of run off from substantially paved areas.
21. Pollution abatement requirements shall be the first inch (or 2.5 times the impervious area) of run off for the developed site, with this volume being recovered within 72 hours.
22. Xeriscaping, the use of Florida native plants and the use of irrigation systems that conserve water shall be encouraged within the Green Swamp ACSC for all landscaped areas including residential and commercial development, golf courses and publicly owned spaces.

VI. PROVISIONS INCLUDED IN THE UNIFIED LAND DEVELOPMENT CODE OF THE CITY OF LAKE ALFRED

A list of provisions for the Unified Land Development Code (ULDC) is included in this Section VI.

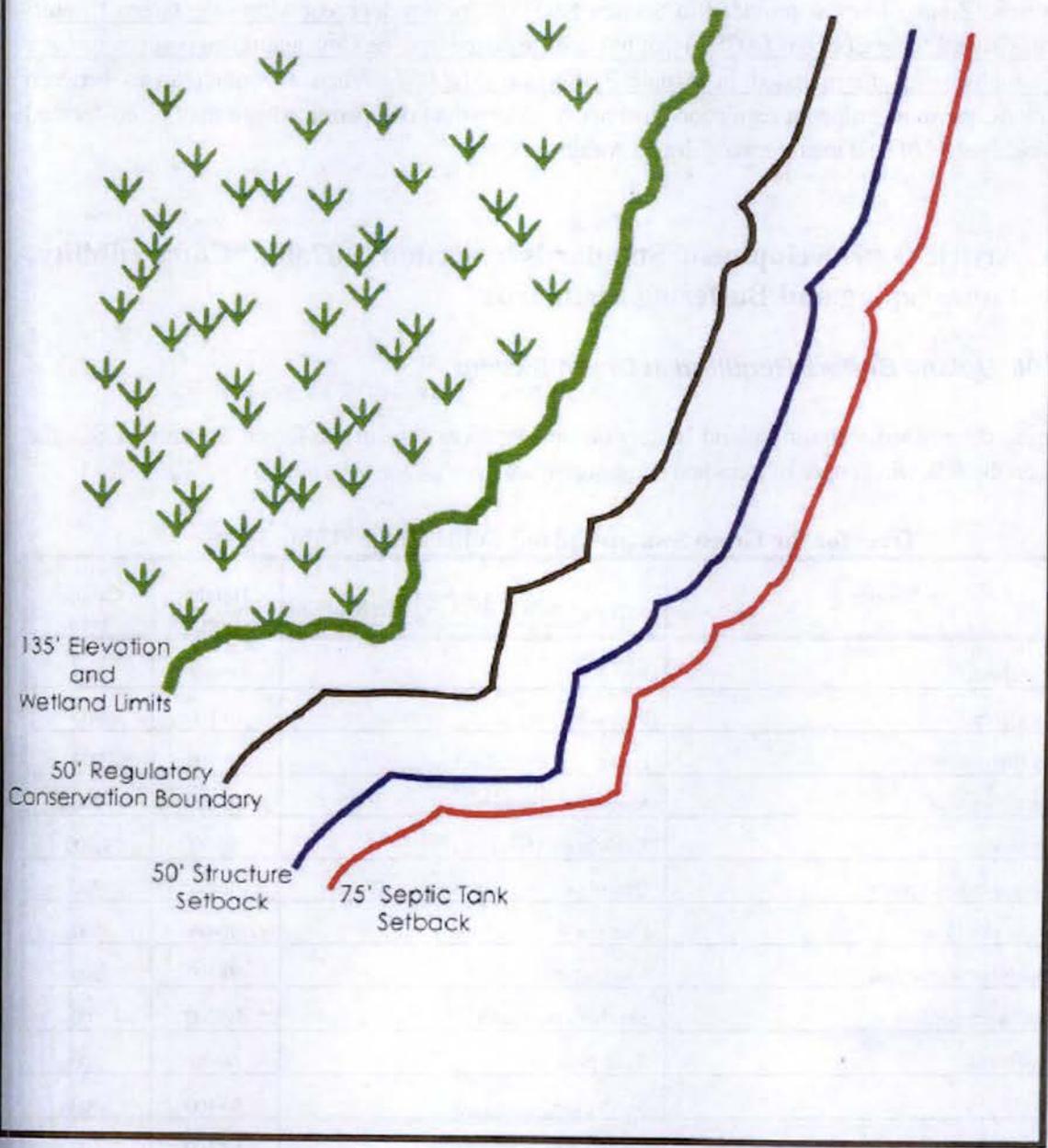
Articles of the ULDC of the City of Lake Alfred are amended to regulate development in the Green Swamp Area of Critical State Concern, which include Article 3, "Development Design and Improvement Standards"; Article 5, "Resource Protection Standards"; and Article 9, "Definitions."

Per the Agreement between the City and the DCA, at the time of the first annexation that includes some portion of the Green Swamp ACSC, the Unified Land Development Code and the Comprehensive Plan maps will be amended to include the Green Swamp. At that time, the Official Zoning Map will be amended to include the Selected Area of the Green Swamp ACSC.

Per the Agreement between the City and the DCA, the development regulations will be in place, as reviewed and approved under the 380 Agreement by the DCA, before development can occur.

The following regulations have been added to the City's Unified Land Development Code.

Regulatory Setbacks from the Wetlands of the Lake Alfred SAP



I. Article 2 “Regulations for Specific Districts,” Section 2.01.00

2.01.00 General Provisions

The purpose of this Section is to set forth the general provisions concerning land use. The provisions established herein shall regulate land use, density and intensity, establish building lot and yard requirements, establish land use districts that identify the location of land uses in the City of Lake Alfred, establish standards for land use in the City, and provide for a map locating the permitted land uses in the City. All land in Lake Alfred shall be subject to the provisions of this Section, and shall be shown on the Official Zoning Map as provided in Section 8.05.00. For development within the Green Swamp Area of Critical State Concern (ACSC) that has been annexed into the City, additional regulations have been adopted and are included in Article 3, Section 3.08.00. When a conflict arises between regulations, the more stringent regulation shall apply. More than one permitted use may be co-located on a single parcel of land in any zoning district within the City.

II. Article 3 “Development Standards”; Section 3.07.00, “Compatibility, Landscaping and Buffering Standards”

3.07.08 Upland Buffers Required in Green Swamp

For areas determined to be in upland buffers on development sites in the Green Swamp ACSC, the tables on the following pages of trees and shrubs apply.

Trees for the Green Swamp Upland Buffer Zone: Table 3.07F

| Species | Common Name | Height (feet) | Canopy (s.f.) |
|---------------------------|------------------------|---------------|---------------|
| Acer Rubrum | Red maple | 35-50 | 500 |
| Carya glabra | Pignut hickory | 80-100 | 700 |
| Carya Illinoensis | Pecan | 60-100 | 700 |
| Carya tomentosa | Mockernut hickory | 80-100 | 700 |
| Celtis laevigata | Sugarberry (Hackberry) | 40-60 | 1,300 |
| Cinnamomum camphora | Camphor | 40-50 | 700 |
| Fraxinus caroliniana | Pop ash | 40-60 | 500 |
| Liquidambar styraciflua | Sweetgum | 60-100 | 500 |
| Magnolia grandiflora | Southern magnolia | 50-100 | 500 |
| Pinus clausa | Sand pine | 60-80 | 500 |
| Pinus elliotii | Slash pine | 80-100 | 500 |
| Pinus elliotii var. densa | South Florida pine | 80-100 | 500 |

| | | | |
|------------------------------|-------------------|--------|-------|
| <i>Pinus palustris</i> | Longleaf pine | 80-100 | 500 |
| <i>Platanus occidentalis</i> | Sycamore | 50-80 | 700 |
| <i>Quercus laurifolia</i> | Laurel oak | 60-100 | 970 |
| <i>Quercus nigra</i> | Water oak | 60-100 | 700 |
| <i>Quercus virginiana</i> | Live oak | 50-60 | 2,000 |
| <i>Tilia Caroliniana</i> | Carolina basswood | 50-60 | 500 |
| <i>Ulmus slata</i> | Winged elm | 20-25 | 500 |
| <i>Ulmus americana</i> | Florida elm | 80-100 | 700 |

Shrubs for the Green Swamp Upland Buffer Zone: Table 3.07G

| Species | Common Name | Species | Common Name |
|--------------------------------------|-------------------------|---------------------------------------|---------------------------|
| <i>Abelia grandiflora</i> | Glossy abelia | <i>Jasminum pubescens</i> | Downy jasmine |
| <i>Baccharis halimifolia</i> | Groundsel tree saltbush | <i>Juniperus "Pfitzeriana"</i> | Pfitzer juniper |
| <i>Befaria racemosa</i> | Tarflower | <i>Juniperus conferta "compacta"</i> | Dwarf shore juniper |
| <i>Bumelia tenax</i> | Silver buckthorn | <i>Juniperus squamata "expansa"</i> | |
| <i>Camellia japonica</i> | Camellia | <i>Leucophyllum frutescens</i> | Texas sage |
| <i>Cornus</i> | Boxwood beauty | <i>Ligustrum japonicum</i> | Ligustrum |
| <i>Cortaderia selloana</i> | Pampas grass | <i>Lyonia ferruginea</i> | Rusty lyonia |
| <i>Cycas revoluta</i> | King sago | <i>Lyonia lucida</i> | Shiny lyonia/fetterbush |
| <i>Duranta repens</i> | Golden dewdrop | <i>Myrica cerifera</i> | Wax myrtle |
| <i>Garberia heterophylla</i> | Garberia | <i>Persea humilis</i> | Silk bay |
| <i>Gardenia jasminoides</i> | Gardenia | <i>Photinia glabra</i> | Red tip |
| <i>Hydrangea macrophylla</i> | Hydrangea | <i>Pittosporum tobira</i> | Green pittosporum |
| <i>Hypericum hypericoides</i> | St. Andrew's cross | <i>Pittosporum tobira "compacta"</i> | Compact pittosporum |
| <i>Hypericum reductum</i> | St. John's wort | <i>Pittosporum tobira "variegata"</i> | Variegated pittosporum |
| <i>Ilex cornuta "Bufordii"</i> | Buford holly | <i>Raphiolepis indica</i> | India hawthorn |
| <i>Ilex cornuta "Dwarf Bufordii"</i> | Dwarf Buford holly | <i>Rhododendron "Duc de Rohan"</i> | Azalea, "Duc de Rohan" |
| <i>Ilex cornuta "rotunda"</i> | Rotunda holly | <i>Rhododendron simsii</i> | Indian azalea |
| <i>Ilex glabra</i> | Gallberry | <i>Rhododendron serrulatum</i> | Swamp azalea |
| <i>Ilex opaca arenicola</i> | Scrub holly | <i>Serenoa repens</i> | Saw palmetto |
| <i>Ilex vomitoria "nana"</i> | Shillings holly | <i>Thryallis glauca</i> | Thryallis, Shower-of-gold |
| <i>Ilex vomitoria "Pendula"</i> | Weeping yaupon holly | <i>Vaccinium darrowi</i> | Little blueberry |
| <i>Illicium anisatum</i> | Japanese anise | <i>Viburnum obovatum</i> | Blackhaw |
| <i>Illicium floridanum</i> | Star anise | <i>Viburnum odoratissimum</i> | Sweet viburnum |
| <i>Illicium parviflorum</i> | Florida anise | <i>Viburnum suspensum</i> | Sandlankwa viburnum |

Principal uses and structures permitted in the Green Swamp ACSC include: residential, public utilities, such as potable water, sanitary sewer, power and telephone/cable facilities uses and structures; and recreational uses and structures. Accessory uses and structures customarily incidental and subordinate to permitted principal uses are allowed (see Article 2, Section 2.05.00).

3.08.02.01 Single Family Detached

- (A) All types, models and configurations of single family detached, residential development are permitted. Lot coverage and impervious surface are restricted as follows, in order to achieve the overall goal of 60% open space on the development sites situated on the high sand hills in the Green Swamp ACSC.
 - (1) Lot coverage by the principal dwelling shall not exceed 30% .
 - (2) Impervious surface coverage of a lot shall not exceed 40%, which shall include the principal dwelling, all paved areas, accessory structures and swimming pools.

3.08.02.02 Residential Cluster Development

- (A) Single family detached units may be clustered at densities up to five (5) dwelling units per net acre, but the gross density for the development site may not exceed three (3) dwelling units per gross developable acre. The minimum floor area of each dwelling unit shall be 1,200 square feet. For those developing Residential Cluster Developments in the Green Swamp ACSC, the development standards of R-1AAA Cluster must be used.
- (B) The Subdivision Plat and the Site Development Plan for attached residential cluster development in the Green Swamp ACSC shall specify the location and net density of the clustered residential development and shall clearly specify the remaining portion of the site as perpetual open space. The open space portion of the site must remain natural and may also be developed in a limited range of outdoor recreation uses, such as, parks and playgrounds, exercise courses and trails, bridle paths and riding stables, and golf courses. The area of the site shall be annotated as "perpetual open space" (POS); zoned Preservation (PRES), Conservation (CN) or Public Recreation (PR); shown as such on the Subdivision Plat or the Site Development Plan; and specified in a Development Agreement. Golf courses however, are subject to stringent review on a case-by-case basis, in accordance with the provisions of 3.08.04.02 below.
- (C) Whenever residential dwelling units are clustered on a portion of a development site at net densities exceeding three (3) dwelling units per acre, the portion of the upland site from which the density has been transferred shall *not be developed* with additional residential units *at any time in the future* and shall therefore remain open space in

perpetuity. The open space portion of the site shall be annotated as "perpetual open space" (POS); shall be zoned Preservation (PRES), Conservation (CN) or Public Recreation (PR); and shown as such on the Subdivision Plat and the Site Development Plan. This regulation shall be specified in a Development Agreement between the developer, the City and any established homeowners' association. The perpetual open space shall be a recorded deed restriction that runs with the land and shall be recorded against every dwelling unit of the residential cluster development and shall be enforceable by the homeowners' association, the City or any other affected party.

- (1) Perpetual open space may be dedicated to the City, if the City is willing to accept the dedication and the perpetual responsibility for maintenance of the land and whatever facilities may be located upon it.
- (2) Perpetual open space may remain in the ownership of a homeowners' association, which shall be responsible in perpetuity for maintenance of the land and whatever facilities may be located upon it.
- (3) Perpetual open space may be placed in a *Conservation Easement*, which shall, at a minimum: remove all development rights to the land; indicate the maintenance measures that are established; and, identify the individual, entity or agency responsible for the enforcement of the easement.

3.08.02.03 Small Lot Subdivisions

- (A) Small lot subdivisions are permitted to a maximum density of five (5) dwelling units per acre; however, the gross density for the development site may not exceed three (3) dwelling units per acre. The minimum floor area of each dwelling shall be 1,200 square feet. For those developing small lot subdivisions in the Green Swamp ACSC, the development standards of R-1AAA Cluster must be used.
- (B) The Subdivision Plat for small lot subdivision in the Green Swamp ACSC shall specify the location and net density of the dwelling units and shall clearly specify the remaining portion of the site as perpetual open space. The open space portion of the site must remain natural and may also be developed in a limited range of outdoor recreation uses, such as, parks and playgrounds, exercise courses and trails, bridle paths and riding stables, and golf courses. The open space portion of the site shall be annotated as "perpetual open space" (POS); shall be zoned Preservation (PRES), Conservation (CN) or Public Recreation (PR); shown as such on the Subdivision Plan or the Site Development Plan; and specified in a Development Agreement. Golf courses however, are subject to stringent review on a case-by-case basis, in accordance with the provisions of 3.08.04.02 below.

- (C) Combined impervious surface and lot coverage shall not exceed 40%.
- (D) Whenever a small lot subdivision is developed at a net density exceeding three (3) dwelling units per acre, the portion of the upland site from which the density has been transferred shall *not be developed* with additional residential units *at any time in the future* and shall therefore remain open space in perpetuity. The open space portion of the site shall be annotated as "perpetual open space" (POS); shall be zoned Preservation (PRES), Conservation (CN) or Public Recreation (PR); and shown as such on the Subdivision Plat and the Site Development Plan. This regulation shall be specified in a Development Agreement between the developer, the City and any established homeowners' association. The perpetual open space shall be a recorded deed restriction that runs with the land and shall be recorded against every dwelling unit of the development and shall be enforceable by the homeowners' association, the City or any other affected party.
 - (1) Perpetual open space may be dedicated to the City, if the City is willing to accept the dedication and the perpetual responsibility for maintenance of the land and whatever facilities may be located upon it.
 - (2) Perpetual open space may remain in the ownership of a homeowners association, which shall be responsible in perpetuity for maintenance of the land and whatever facilities may be located upon it.
 - (3) Perpetual open space may be placed in a *Conservation Easement*, which shall, at a minimum: remove all development rights to the land; indicate the maintenance measures that are established; and, identify the individual, entity or agency responsible for the enforcement of the easement.

3.08.03 Development Standards

Before property can be zoned in the Green Swamp ACSC, land owners must file for an amendment to the Future Land Use Map of the City and undergo review by both the City and the Department of Community Affairs (DCA), and found in compliance by the DCA per Chapter 163, Florida Statutes. Prior to the issuance of a Building Permit for any development in the Green Swamp ACSC, development plans must be submitted to DCA and found in compliance with the regulations adopted by the City per the 380 Agreement with the City that is in accordance with 380.032 F.S. The following development standards apply.

- (A) The maximum gross density of residential development areas within the Green Swamp ACSC is three (3) dwelling units per acre. For regulations governing nonresidential uses, see paragraph 3.08.04 below.
- (B) Based on the high probability of wetlands, floodplains, endangered species and habitat, and historic archeological sites below 135 feet M.S.L., that elevation is the base line for

development and *no development shall occur at an elevation lower than the 135 feet M.S.L.* Furthermore, there is no development right to lands below 135 feet M.S.L.

- (1) To insure the conservation and protection of all floodplain areas, wetlands areas and areas largely characterized by wetlands, and lands below 135 feet M.S.L. shall be classified and zoned Preservation (PR) or Conservation (CN) on the Future Land Use Map (FLUM) and on all other planning and zoning maps of the City.
 - (2) Land containing "upland natural plant communities" as defined in *The Green Swamp Critical Area Resource Management Plan for the City of Lake Alfred Selected Area, pages 22-24*, lie above 135 feet M.S.L., but shall be classified and zoned Preservation. Since they lie above 135 feet M.S.L., the development density of three (3) dwelling unit per acre associated with these special areas shall be included in the calculation of gross density permitted for the development site in which they are located.
 - (3) No density credit is given for lands that are wetlands, floodplains, lakes, rivers or streams, nor for lands classified Conservation or Preservation lying below 135 feet M.S.L. There shall be no right to transfer density from lands below 135 feet M.S.L. to developable lands above that elevation within the same ownership nor from one owner to another on the same parcel or on different parcels. Within the Green Swamp ACSC, density may only be counted at a maximum of three (3) dwelling units per acre on that portion of a parcel that is identified as upland and above the 135 feet elevation. A general location of such lands is shown in *The Green Swamp Critical Area Resource Management Plan for the City of Lake Alfred Selected Area*, specifically those areas labeled "Developable" on Map 9.
- (C) No structure shall be placed at an elevation lower than the 135 feet M.S.L. nor within 100 feet of any wetland or water course.
 - (D) The use of package plants within the Green Swamp ACSC is strictly prohibited.
 - (E) The City shall require a 75 foot minimum setback between the drain field and all wetlands when onsite sewage disposal systems are used; and a minimum lot size of one acre is required. Inspection and pump-out at five year intervals is required.
 - (F) The placement of wastewater sludge within the boundaries of the Green Swamp ACSC is strictly prohibited.
 - (G) Wetlands shall be maintained in their natural and unaltered state. However, controlled burns, selective thinning, and ecosystem restoration and maintenance activities may be conducted within the wetlands, provided they are performed in accordance with current *Silviculture Best Management Practices*, published by the Florida Division of Forestry. Any isolated wetland of less than one acre shall be exempt from these requirements.

- (H) Impervious surfaces shall be kept to a minimum. Paving stones or open blocks rather than conventional paving are encouraged; as well as any other building innovations that reduce the amount of overall impervious surface.
- (I) Recharge Standard: Single family detached homes developed without a subdivision plat are exempt from this standard. Subdivisions and any development other than residential must comply with this standard.
- (1) Projects or portions of projects in Most Effective Recharge Areas must retain three inches of runoff from directly connected impervious areas within the project. Applicants may instead demonstrate that the post-development recharge will be equal to or greater than the pre-development recharge.
 - (2) "Most Effective Recharge Areas" are defined as those areas with soils classified by the Soil Conservation Service as Type "A" Hydrologic Soil Group.
 - (3) "Directly connected impervious areas" are defined as those impervious areas which are connected to the surface water management system by a drainage improvement such as a ditch, storm sewer, paved channel or other man-made conveyance.
 - (4) Stormwater must be infiltrated into the soil or evaporated such that the storage volume is recovered within 14 days following a storm event.
 - (5) Pollution abatement requirements shall be the first inch (or 2.5 times the impervious area) of run off for the developed site, or as per the Water Management district, with this volume being recovered within 72 hours.
- (J) The City has conducted a survey of endangered species, both vegetative and animal, and mapped probable areas of habitat within the Selected Area Plan (SAP) in the Green Swamp ACSC, in order to establish a basis for habitat management. This data is on file with the City, and shall be considered the base data when any development is proposed within the Green Swamp ACSC and within the SAP.
- (K) Xeric landscaping and minimum irrigation systems are required, to reduce the effects of stormwater runoff, pollution of groundwater and surface water sources and to foster potable water conservation. See Article 3, Section 3.07.07, "Xeriscaping" for a description of xeric landscaping techniques.
- (L) To insure that natural systems are not disrupted by development, development may not fragment conservation and preservation areas below 135 M.S.L. A clear connection between adjacent conservation and preservation areas must remain intact or be created if none currently exists.

- (M) To insure that wildlife corridor connections in the uplands are not disrupted, and to preserve the natural systems within the uplands of a developable area, open space areas within a development shall be designed adjacent and connected to the surrounding open space areas of all other developments.
- (N) To insure that agricultural areas and uses are not impacted by development, development may not be located adjacent to agricultural areas. A buffer of open space shall be provided by uplands developers between their development and agriculture where ever a developable area is adjacent to an agricultural use. Open space areas within a development are to be designed adjacent and connected to the surrounding open space areas of all other developments. The buffer area may be rented out as pasture land for horses, cattle, or similar grazing animals by the owner of the land, such as the homeowners' association or the City, at a minimum of one acre of pasture per animal. The buffer area may be planted and farmed with nonmotorized equipment and without the spraying of airborne pesticides or fertilizers or other contaminants that could cause harm to the people in the adjacent development.
- (O) The type of development known as Planned Unit Development or "PUDs", and regulated in Article 7, Section 7.04.00 in the Unified Land Development Code, shall not be allowed in the Green Swamp ACSC.
- (P) Within the Green Swamp ACSC, local roads within subdivisions shall be kept to as small a width as possible, in order to keep overall impervious surfaces to a minimum. The City desires street widths to be a maximum of 18 feet and designed in accordance with the following referenced guide: *Best Development Practices*, by Reid Ewing, Joint Center for Environmental and Urban Problems, Prepared for the Florida Department of Community Affairs, May 1995.
- (Q) The lowest floor level of any habitable structure must be built a minimum of one foot above the 100-year flood level, as determined by and in accordance with FEMA regulations.
- (R) Water reuse lines shall be installed for irrigation purposes in both common areas and for homeowner use at the time of development, as capacity will allow.

3.08.03.01 Upland Buffer

- (1) An *Upland Buffer*, 100 feet in width shall be surveyed or otherwise identified upland from the 135 feet M.S.L., and shall be maintained as a natural zone to minimize the impact of development on the habitat and the environmentally sensitive lands below that elevation. In addition, the *upland buffer* is to provide upland habitat that is necessary for bird and animal foraging and nesting; and to prevent the runoff of contaminants into wetlands and lakes.
 - (a) When the growth of natural plants, ground cover and grasses in the upland buffer is sparse, it may be supplemented by planting the species of trees and shrubs from the lists found in Article 3, Section 3.07.08, Table 3.07F and 3.07G. "Listed Species for Green Swamp Upland Buffer Zone."

- (b) If the topography of the upland buffer on the parcel is greater than a 6% slope, then a berm shall be placed between the dwelling unit and the upland buffer zone, on the building side of the buffer and at the boundary of the buffer, to prevent fertilizer contaminated runoff from inundating the buffer zone.
 - (c) This *upland buffer* shall be planted and maintained by the developer, a land manager, a homeowners association, or the homeowner, whichever may be specified in a deed or subdivision restriction or other instrument addressing the creation, ownership and maintenance of the upland buffer.
- (2) The *upland buffer* is in addition to and shall not be a part of any required rear, side or front yard setback.
 - (3) The combination of the *upland buffer* and the rear, side or front yard setback, whichever is adjacent to the upland buffer, shall be a minimum of one hundred (100) feet from the principal structure.
 - (4) The *upland buffer* may be offered or dedicated to the City of Lake Alfred at the City's option and with the City's consent to accept ownership and/or maintenance.
 - (5) In the case where a structure is served by a septic system rather than sanitary sewer, the setback to any part of the septic system shall be the *upland buffer* plus seventy-five (75) feet.

3.08.04 Nonresidential Land Uses

Nonresidential land uses such as proposed institutional, utility and golf courses may be allowed in limited areas of the Green Swamp ACSC. All proposals require review by the Planning Board and approval by the City Commission in accordance with the detailed provisions of Article 7. Prohibited uses include all Industrial uses, major Institutional and utility uses such as hospital, airport/aviation, correctional facility, electric power plant, jail, and sewage disposal facility, as well as peat and lime rock mining and sand mining.

Institutional and utility uses may only be development on land assigned the future land use classification of "Public Buildings and Grounds," per Policy 2.11 of the Future Land Use Element. Golf course development is only allowed on land assigned the future land use classification of "Recreation and Open Space," per Policy 2.12 of the Future Land Use Element. For annexed land, owners with existing uses seeking the Commercial, Public Buildings and Grounds or Recreation and Open Space classification must file for an amendment to the Future Land Use Map of the City and undergo review by both the City and the DCA, and found in compliance by the DCA, prior to applying for a Conditional Use Permit.

3.08.04.01 Commercial

- (A) When Commercial uses existing before these regulations were adopted annex into the City, the use shall be mapped as "Commercial" on the future land use map. Commercial uses may not change or be expanded without review by the City. An existing commercial use proposed to be expanded or changed within the boundaries of the Green Swamp ACSC is a Conditional Use and shall be applied for, reviewed and approved, first by the City in accordance with the provisions of Article 7, and then by DCA.
- (B) When reviewing all requests for change of use or expansion of use for commercial uses, the City shall be subject to the Green Swamp regulations for commercial uses adopted in the Comprehensive Plan, Objective 2.3 "Residential and Commercial Development Standards" and its Policies 2.3.1 through 2.3.9.

3.08.04.02 Golf Course

A golf course proposed within the boundaries of the Green Swamp ACSC is a Conditional Use and shall be reviewed and approved first in accordance with the provisions of Article 7, then by DCA. The following standards and criteria are strict requirements of golf course development in the Green Swamp ACSC, shall be reviewed by the City in its approvals, and are subject to separate enforcement by DCA.

- (A) An approved Integrated Chemical and Pesticide Management Plan has been prepared, which demonstrates that the minimum amount of pesticides, herbicides and fertilizers possible shall be used on the course.
- (B) The developer has committed to a quarterly groundwater quality monitoring program of indefinite duration.
- (C) A detailed landscape plan shall be prepared that demonstrates the maximum feasible use of Xeric vegetation throughout the course.
- (D) Use of irrigation shall be the minimum required for tees and greens and shall be eliminated through golf course and system design wherever possible.
- (E) Stormwater runoff shall be captured, retained and treated on-site and shall not flow into wetlands, floodplains, lakes or rivers.
- (F) Paved areas may be constructed with pervious pavement or similar products to minimize runoff and maximize aquifer recharge.

- (G) Permanent structures on the golf course shall be kept to the absolute minimum required for convenience, shelter and maintenance to reduce runoff and maximize aquifer recharge. All clubhouses, restaurants and pro shops must be shown on a master plan and shall be reviewed and approved as part of the review of the golf course. These areas shall be mapped as Recreation and Open Space as part of the golf course. Impervious surfaces must be kept at a minimum by using alternate paving techniques for all parking areas.

3.08.05 Archeological Resource Protection

- (A) The combination of the buffer and the structural setback will provide 100 feet from the edge of the historic wetlands of water bodies to any new structure. Although this may seem a significant width, it will not limit development density and it provides only about one-third of the width of the highest archeological probability zone.
- (B) Generally, the standard for archeological excavation will be that single-family detached houses are exempt, but that any multi-story and attached development will require an on-site investigation before permit approval.

3.08.06 Wildlife Management Plan Required

- (A) For all land located within the seven identified natural areas of the Lake Alfred Green Swamp SAP, which are high probability areas for wildlife, a wildlife management plan must be submitted and approved by the City before any development can occur. [Requirement of DCA per letter dated 9-16-99.] The seven areas are identified on Page 9, Figure 3 "Map Depicting Natural Vegetative Communities" of the March 1998 HDR Engineering, Inc., *Cultural Resource and Listed Species/Habitat Reconnaissance*. The seven areas are described on page 7, Section 4.2, "Results", which is on file with the City of Lake Alfred.
- (B) The wildlife management plan shall be developed and paid for by the applicant for development.

3.08.07 Survey for Florida Burrowing Owl Required

- (A) Within the 554 acres identified in the Lake Alfred Green Swamp SAP, a resurvey will be required on a parcel-by-parcel basis at the time when specific development approval is requested, for the Florida Burrowing Owl. [Requirement of DCA per letter dated 9-16-99]
- (B) This survey shall be conducted between April and August of any given year.
- (C) If owls are found, a Wildlife Management Plan must be submitted and approved by the City before any development can occur.
- (D) This survey and wildlife management plan shall be developed and paid for by the applicant for

development.

3.08.08 Lake Grassy Floodplain Study Required

- (A) Because no development shall occur below the 135 foot elevation line within the Green Swamp ACSC of Lake Alfred, no additional floodplain studies are required for proposed development within the Lake Alfred Green Swamp area. There is one exception, however, and that is the immediate area around Lake Grassy in Section 19. [Requirement of DCA per letter dated 9-16-99]
- (B) Around Lake Grassy, a detailed flood study shall be performed for all subdivision proposals and other proposed development which have five (5) acres or more within the unnumbered one hundred year floodplain.
- (C) The study shall be conducted in accordance with the Flood Study Guidelines and Specifications for Flood Contractors. The purpose of the study is to more clearly delineate the floodplain.
- (D) This survey and study shall be developed and paid for by the applicant for development.

IV. Article 5, "Resource Protection Standards"; New Section 5.07.00.

5.07.00 Green Swamp Wetlands and Floodplains and Lakes

Pursuant to the Agreement between the City, the DCA and the County, development within the Green Swamp "Area of Critical State Concern" (ACSC) is regulated by the Agreement. Further regulations are found in Article 3, Section 3.08.00.

- (A) There shall be no development within any wetlands or floodplain within the Green Swamp ACSC.
- (B) The wetlands and floodplains within the Green Swamp ACSC are mapped so that the boundaries are clearly identifiable.
- (C) Within the Green Swamp ACSC there shall be a 100 foot buffer between all *wetlands* and structures. This buffer may be considered as part of a setback, but may not contain any structures of any kind, including accessory structures.
- (D) Within the Green Swamp ACSC there shall be a 100 foot buffer between all *floodplains* and structures. This buffer may be considered as part of a setback, but may not contain any structures of any kind, including accessory structures, and must be planted in native species.

- (E) Within the Green Swamp ACSC the 100 foot buffer shall remain natural but if planted, shall be planted with native species, in order to encourage the establishment of wildlife habitat. This buffer shall be planted by the developer as a condition of the building permit, and shall be maintained by the home owner.
- (F) Within the Green Swamp ACSC there shall be a 50 foot buffer area from the water's edge to a point 50 feet landward of the Ordinary High Water Line, thus creating a 100 foot setback between lakeshore and structures, at a minimum. This buffer may be considered as part of a setback, and may not contain any structures or accessory structures, other than docks or elevated walkways as usually found along shorelines for lake access. See "Shoreline Protection Zone" text, section 5.04.03 of this Article for City-wide regulations.

V. Additions to Article 9, "Definitions"

DCA or FDCA: The Florida Department of Community Affairs.

DCA Field Office: Established in 1992, the DCA field office was located in Bartow. All proposed development within the Green Swamp Area of Critical State Concern was reviewed and monitored by this office until its closing in 1999. After its closing, all reviews will be handled at DCA in Tallahassee.

Green Swamp Area of Critical State Concern (Green Swamp ACSC): An area delineated by Statute in the State of Florida that is considered to be extremely sensitive to development; and the development of which may be harmful to the health of the citizens of the State.

Green Swamp Area of Critical State Concern (Green Swamp ACSC) Agreement: An agreement between the City of Lake Alfred and the State of Florida, executed on 9-13-96, to allow residential development and a small amount of commercial and institutional uses development, at a density greater than that permitted for the rest of the Green Swamp ACSC.

Green Swamp Critical Area Resource Management Plan - Selected Area Plan and associated maps: the data base for a development area in the Green Swamp ACSC, directly north of the 1999 city limits of Lake Alfred. The data serves as the basis for development of lands in that designated area that are annexed into the City. A tally of units shall be kept, to ensure that 30% of the entire area designated as the Lake Alfred Selected Area remains in perpetual open space.

Impervious Surface: Impervious surfaces shall include all land paved with concrete or asphalt that is used for off-street parking, driveways, sidewalks, patios, swimming pools, service areas and the like; and is any material that will not allow rainfall to percolate into the soil, such as concrete and asphalt.

Lot coverage maximum: The "maximum lot coverage" is the maximum percentage of a building lot

that can be covered by principal and accessory buildings.

Minimum Floor Area: The sum of gross horizontal area of the several stories of the building measured from the exterior faces of the exterior walls or from the centerline of party walls. Included shall be any basement floor, interior balconies and mezzanines, elevator shafts and stairwells, and enclosed porches. Attached, enclosed garages are not a part of the calculation of minimum floor area.

Most Effective Recharge Areas: are areas with soils classified by the Soil Conservation Service as Type A Hydrologic Soil Group.

Package Plant: A package plant is a sewer treatment plant with less than 100,000 gallons per day capacity.

Perpetual Open Space: The portion of a site from which the density has been transferred and which shall *not be developed* with additional residential units *at any time in the future* and shall therefore remain open space in perpetuity.

Seven identified natural areas of the Lake Alfred Green Swamp Critical Area Resource Management Plan SAP: These seven areas in the Green Swamp ACSC directly north of Lake Alfred are high probability areas for wildlife. A wildlife management plan must be submitted and approved by the City before any development can occur in these seven areas. [Requirement of DCA per letter to the City dated 9-16-99.] The March 1998 HDR Engineering, Inc., *Cultural Resource and Listed Species/Habitat Reconnaissance*, page 7, Section 4.2, "Results" states: "Both the SWFWMD land use/land cover map and the GFC habitat map revealed five patches of upland that were characterized as natural plant communities. In addition to these, two patches of overgrown scrub (or xeric hammock) were identified on the blue line aerials and ground-truthed in the field." The seven areas are identified on Page 9, Figure 3 "Map Depicting Natural Vegetative Communities" of the above mentioned report, which is on file with the City of Lake Alfred.

Small Lot Subdivision: Small lot subdivisions are subdivisions that have a maximum density of six (6) dwelling units per acre. However, in the Green Swamp ACSC, the maximum density is three (3) dwelling units per acre or five (5) dwelling units in cluster development.

Xeriscaping: Xeriscaping is a method of landscaping that conserves water and protects the environment by using mostly native plants, an efficient watering system, mulches, property maintenance and less lawn. The key to xeriscaping is to cluster plants according to similar sunlight and water needs, creating landscape "zones." Typically, xeriscaping reduces watering costs by 20 to 50 percent per month. Reducing the amount of watering reduces the amount of runoff from the property, which reduces the amount of pollutants, including fertilizer, that leaves the homeowner's property.

100-year flood: A flood so severe that it would only occur once in one hundred years. **100-year floodplain:** The high water mark for the 100-year flood for a lake or river. In the City, no principal or permanent structures may be constructed in the 100-year floodplain.

**City of Lake Alfred Annexation Tract
Cultural Resource and Listed Species/Habitat Reconnaissance**

Prepared for:

**CENTRAL FLORIDA REGIONAL PLANNING COUNCIL
Bartow, Florida**

By:

HDR ENGINEERING, INC.

March 1998

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1.0 Introduction

This report documents the results of a listed species/habitat and archaeological site reconnaissance of a large tract of land proposed for eventual annexation by the City of Lake Alfred. The annexation tract, referred to hereafter as the "project area," is located within the Green Swamp Area of Critical State Concern (GSACSC). The Florida Department of Community Affairs (DCA) has specific regulatory authority under Section 380.032, Florida Statutes, over Areas of Critical State Concern. The reconnaissance that is the subject of this report was stipulated in an agreement between the City of Lake Alfred and DCA, executed on September 13, 1996. The agreement, in particular, required that, prior to annexing any land within the GSACSC, the City prepare a Selected Area Plan in consultation with DCA and in accordance with provisions of Chapters 163 and 380, Florida Statutes. The Plan is intended to provide for the planning and regulation by the City of development within GSACSC lands. The Plan is required to include provisions that prohibit development within "wetlands and areas largely characterized as wetlands." In preparing the Plan, the City was requested to conduct a survey of endangered species and their habitat as a basis for habitat management for proposed development.

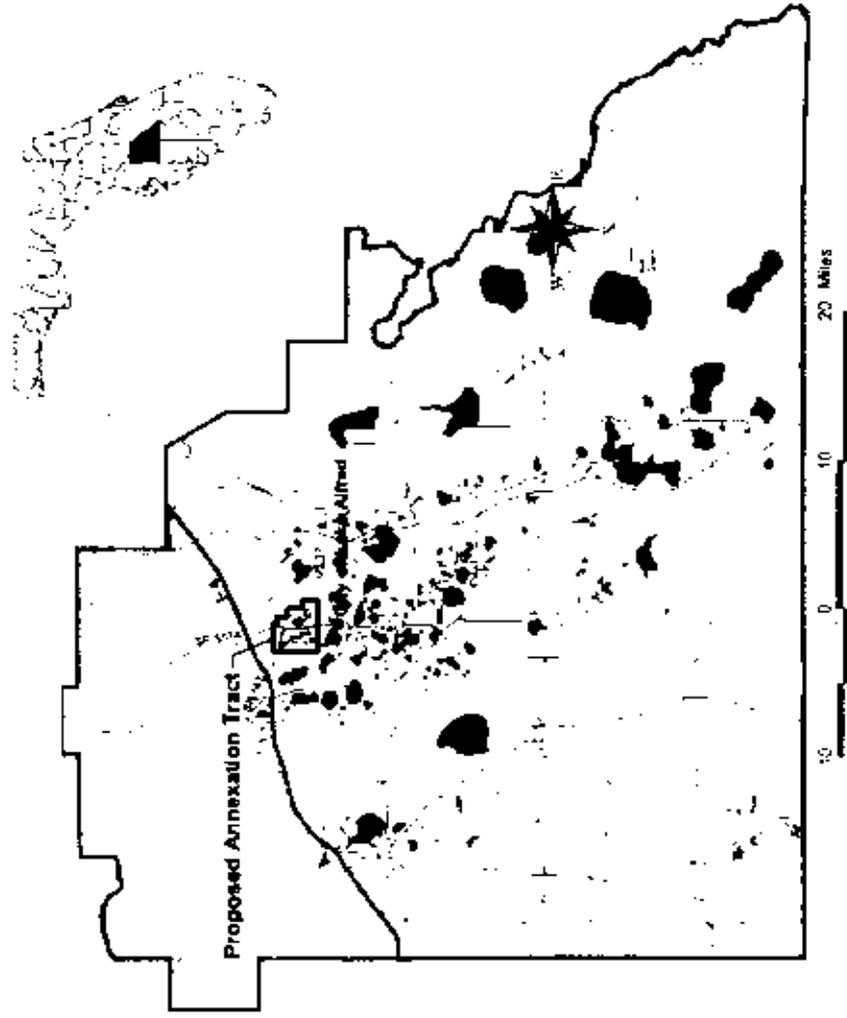
In the Scope of Work developed by the Central Florida Regional Planning Council (CFRPC), HDR was tasked with conducting a survey of the project area for listed species and their associated habitats. More specifically, HDR was requested to conduct a survey of species and habitat in the upland portions of the project area, and identify any species that may reside in wetland or water course areas and that requires uplands as part of their habitat. In addition, HDR was requested to identify known sites and any areas where archaeological sites may be expected to occur.

Field work for the reconnaissance was conducted by HDR's wildlife biologist Dave Sumpter and archaeologist Barry Wharton over a two-day period in September, 1997.

2.0 Description of the Project Area

The project area, which covers all or portions of eight sections and encompasses approximately 4,860 acres, is located in north-central Polk County about a half mile north of the City of Lake Alfred and 1.3 miles south of Interstate 4 (Figure 1). State Road 557 enters the northwestern portion of the project area and courses southeast to its junction with State Road 557A, which enters the project area from the north. State Road 557 then turns south and exits the southern portion of the project area. Old Lake Alfred Road winds through the northwestern portion of the project area. The project area is located in the Winter Haven Ridge physiographic region and is characterized by rolling topography with dry, sandy uplands broken by extensive basinal wetlands. Elevations range between 135 and 180 feet above sea level. Soils are chiefly well drained sands and, to a lesser extent, poorly drained sands in the uplands. Very poorly drained mucky sands are found in the wetlands. Upland soils and wetland soils cover approximately 46% and 54%, respectively, of the project area.

FIGURE 1
LAKE ALFRED ANNEXATION TRACT
PROJECT LOCATION



Land use in the project area, according to SWFWMD's 1990 land use/land cover mapping, is prevalently agricultural, with 32.8% devoted to citrus groves, 11.2% to improved pastureland, and 7.2% to other types of open rural land. Wetlands cover 36.5% and lakes cover 8.9% of the project area. Small areas identified as residential and commercial/service uses comprise another 2.4% of the project area. Natural upland communities covered only 1.0% of the project area (46.3 acres). The dominant wetland types represented are freshwater marsh (17.1%) and mixed forested swamps (15.4%), complemented by small amounts of bay swamp, cypress swamp, river/lake swamp, coniferous (cypress-pine) swamp, and wet prairie, collectively covering 4.0% of the project area.

The original public lands survey records, which are archived at the Florida Department of Environmental Protection's Division of State Lands in the Bureau of Survey and Mapping's Title and Land Records Section, provide a fairly detailed record of the presettlement (1840s) environmental setting of the project area. These records consist of the surveyor's field notes and a township plat map. According to these records, the uplands consisted of longleaf pine-turkey oak sandhills and, to a lesser extent, pine flatwoods, with occasional live oak hammock growth along the lower slopes overlooking some of the larger lakes, and isolated patches of scrubby flatwoods. The wetlands consisted of freshwater marshes, more often than not fringed with a narrow strip of shrubby bay trees, and frequently dotted with scattered bay tree islands. Sawgrass was occasionally mentioned as the growth in the marshes, but other marsh species were almost certainly also present. The dominant forested wetland was the bay swamp. Mixed bay-cypress swamps were observed throughout the project area. Cypress swamps, although present in the northern one-third of the project area along with bay swamps, become the dominant wetland type north of the project area. The project area's numerous lakes were simply characterized as "open ponds."

Although no direct evidence of human presence or other cultural landscape features was recorded within the project area, an "Indian old field hammock" (evidently a hammock forest growth overtaking an abandoned Seminole Indian crop field) was recorded on the western shore of Lake Lowery, one mile east of the project area. Abandoned Seminole Indian settlements may also have been present within the project area but were missed by the public lands surveyors (whose direct knowledge of the project area was largely confined to lands immediately to either side of section lines). Fort Cummings, a military fort established in January, 1839, was pinpointed on the southern shore of Lake Alfred about 1.7 miles south of the project area. An old military road known as the "Road from Tampa to Lake Monroe" (or the "old Tampa Road") ran east-northeast past Fort Cummings, skirting along the northern shore of Lake Haines, before continuing points east. The road approached as close as 3/4 miles south of the project area's southeast corner.

According to local histories, land use in the Lake Alfred area during the latter half of the 19th century and the early half of the present century was intimately tied to timber removal and naval stores (Hetherington 1971, McNeely 1961). Citrus production and improved pasture have since become the predominant land uses in the project region. This land use regime led to the virtual elimination of all but a relative few acres of native upland communities in the project area.

ARCHAEOLOGICAL SITE PROBABILITY ZONES

Prehistoric archaeological sites in sandhill regions identical to those of the project area are typically situated on better drained lands within 100 meters of a lake, pond, marsh, or other wetland feature. Locally, archaeological artifacts are frequently noted near the margins of the larger lakes and wetlands in the general vicinity of the project area. Based upon this information, and using digital soil mapping files, the project area was divided into archaeological site probability zones.

HIGH PROBABILITY AREAS consist of upland soil areas situated within 100 meters of historic wetlands or water bodies (as indicated by very poorly drained soils or existing water bodies).

MODERATE PROBABILITY AREAS consist of upland soil areas situated between 100 and 200 meters of historic wetlands or water bodies.

LOW PROBABILITY AREAS consist of upland soil areas more than 200 meters from historic wetlands or water bodies.

3.0 Cultural Resource Reconnaissance

3.1 Materials and Methods

HDR consulted the Florida Division of Historical Resources (DHR) to determine whether any known archaeological or historical sites were recorded within the project area. According to a letter received from DHR's Master Site File dated April 15, 1997, no archaeological sites or historical standing structures have been recorded in the project area. Nor have any archaeological or historical surveys been conducted in or adjacent to the project area. HDR consulted with professional archaeologists who have conducted surveys in the lakes region of Polk County. In a letter received from Joan Deming of Archaeological Consultants, Inc. (ACI), it has been ACI's experience that prehistoric archaeological sites in sandhill regions identical to those of the project area "tend to be situated on the better drained lands proximate to (within 100 m[eters]) a lake, pond, marsh, or other wetland feature." The sites generally consist of "small artifact assemblages ... of limited geographical extent. Depths of the archaeological deposits are often quite deep, extending below one meter." Archaeologist Bob Austin, with Janus Archaeological Research, mirrored that assessment (Bob Austin, pers. comm., October 1997). Telephone interviews with local avocational historians (Betty Fisher and Medora Van Fleet) indicated that through the years archaeological artifacts were frequently noted near the margins of the larger lakes and wetlands in the general vicinity of the project area. The project area is situated very near the peripheries of three archaeological regions: East and Central Florida, Central Peninsular Gulf Coast, and the Okeechobee basin (Milanich 1994). Given this setting, sites dating to the post-Archaic periods may be expected to contain cultural materials that are affiliated with any or all of these three regions.

Based on the above information, an archaeological probability map of the project area was created by means of digital soil mapping files. Several steps were involved. First, historic wetlands and surface waterbodies consisting of all areas of very poorly drained soils or open water areas depicted on the soils mapping were delineated. Comparison with the original public lands survey data indicated that the geographical extent of very poorly drained soils and open water areas were a reasonably accurate approximation of the historic extent of wetlands and lakes of the project area. Next, three probability areas were defined and delineated: high, moderate, and low. High probability areas were defined as upland soil areas situated within 100 meters of historic wetlands or waterbodies; moderate probability areas were defined as upland soil areas situated between 100 and 200 meters of historic wetlands or waterbodies; and low probability areas were defined as upland soil areas situated beyond 200 meters of historic wetlands or waterbodies. Using the digital soil mapping files, the three probability areas were identified and a digital map was generated.

In addition to the digital map analysis of archaeological probability zones, HDR conducted a surface walk-over of selected portions of the project area, emphasizing uplands proximate to wetlands and lakes, during the field visits in September, 1997. HDR also inquired among local residents whether they knew of any archaeological sites.

3.2 Results

No archaeological or historical remains were noted during the field reconnaissance. However, given the topographic setting of the project area, with its well drained uplands and extensive lake and wetland systems, unrecorded archaeological sites are undoubtedly present. The results of the archaeological probability analysis indicate that an estimated 20 percent of the project area's uplands consists of high probability areas for archaeological sites, 15 percent consists of moderate probability areas, and 10 percent consists of low probability zones (Figure 2).

4.0 Listed Species/Habitat Reconnaissance

4.1 Materials and Methods

The following materials were utilized as information sources for the listed species/habitat reconnaissance:

- (1) Land use/land cover digital map files from Southwest Florida Water Management District (SWFWMD). This mapping derives from photointerpretation of 1:40,000-scale color infrared aerial photography flown in November-December 1989 and employs a combination of Level II/Level III classification types from the Florida Land Use, Cover Use, Cover and Forms Classification System (FLUCFCS) which was developed by the Florida Department of Transportation (FDOT 1985).
- (2) Land cover and vegetation digital map files from the Florida Game and Fresh Water Fish Commission (GFC). This mapping derives from Landsat Thematic Mapper Imagery recorded on April 2, 1986 for the region encompassing the Lake Alfred Annexation project area. It is commonly referred to as a wildlife habitat map.
- (3) Polk County Property Appraiser's Office 1:4800-scale blue-line aerial photographs flown in November, 1996 Aerial photographs. These maps were of particular value in identifying any major changes in land use/land cover that may have occurred since the SWFWMD and GFC imagery.
- (4) *The Soil Survey of Polk County Soil Survey* (Ford et al., 1986).
- (5) Florida Natural Area Inventory (FNAI) Element Occurrence Records (Appendix A).

The digital map files were used to generate land use/land cover and wildlife habitat maps of the project area. Uplands with natural plant community land use/land cover classifications, which in the project area consisted of pine flatwoods and coniferous/hardwood forest (according to the SWFWMD map files) were identified and compared against the Polk County aerial photographs. All such uplands identified on the digital maps that were also evident on the county aeriels were visited in the field and observations on wildlife utilization and habitat value were recorded.

Based on community types represented by the natural upland areas, and factoring in the other land uses within the project area, HDR identified all listed species that potentially occur within the project area. In addition, their probability of occurrence was assigned to one of three ordinal ranks: (1) species known to occur, (2) species likely to occur, and (3) species unlikely to occur. The ranking was based on land use characteristics, FNAI Element Occurrence Records, occurrence of xeric soil sites (for burrowing species and burrow associates), and the known range and habitat requirements of all protected species indigenous to the region. Information regarding listed species potential occurrence and habitat utilization is summarized in Table 1.

4.2 Results

FNAI. There are four Element Occurrence Records documented by the Florida Natural Area Inventory (these records are reproduced in Appendix A). None are within the Project Area. There are two Southern bald eagle (*Haliaeetus leucocephalus*) nests east of the site (T27S/R26E: Section 9 and Section 22). A sand skink (*Neoseps reynoldsi*) was documented southeast of the Project Area (T28S/R26E: Section 27). A gopher tortoise (*Gopherus polyphemus*) was documented southeast of the site (T8S/R26E: Section 27).

Upland Natural Plant Community Descriptions. Both the SWFWMD land use/land cover map and the GFC habitat map revealed five patches of upland that were characterized as natural plant communities. Natural vegetative communities extracted from the SWFWMD land use/land cover map are depicted in Figure 3. In addition to these, two patches of overgrown scrub (or xeric hammock) were identified on the blue line aerials and ground-truthed in the field.

- (1) **Xeric Oak Hammock.** This area was not delineated on either of the coverages. The hammock consists of a narrow band of live oak (*Quercus virginiana*) dominated forest that extends along the western edge of a large mixed forested wetland located northwest of Tangerine Lake, in the west-central portion of the project area. The stand covers an estimated two to three acres. The oak has formed a dense canopy (approx. 85% closure) of relatively even height (approx 20 feet). The shrub strata is a monospecific stand of saw palmetto (*Serenoa repens*) with an occasional briar (*Smilax laurifolia*). No herbaceous vegetation is present due to the dense canopy and saw palmetto. The soils are sandy and well drained.
- (2) **Planted Slash Pine.** This is a 10 to 15 year old even-age stand of planted slash pine (*Pinus elliotti*) located southwest of Lake Tangerine in a five-acre area identified on the SWFWMD land use/land cover map as pine flatwoods. The same area was delineated as pine forest on the GFC wildlife habitat map. The understory can be characterized as sparsely vegetated with a dense pine needle ground cover. Species observed include wax myrtle (*Myrica cerifera*), grape vine (*Vitis rotundifolia*), and soft rush (*Juncus effusus*).

¹These numbers correspond to the number on the polygon shown in Figure 3

Table 1. Listed Species Utilization of Upland Communities.

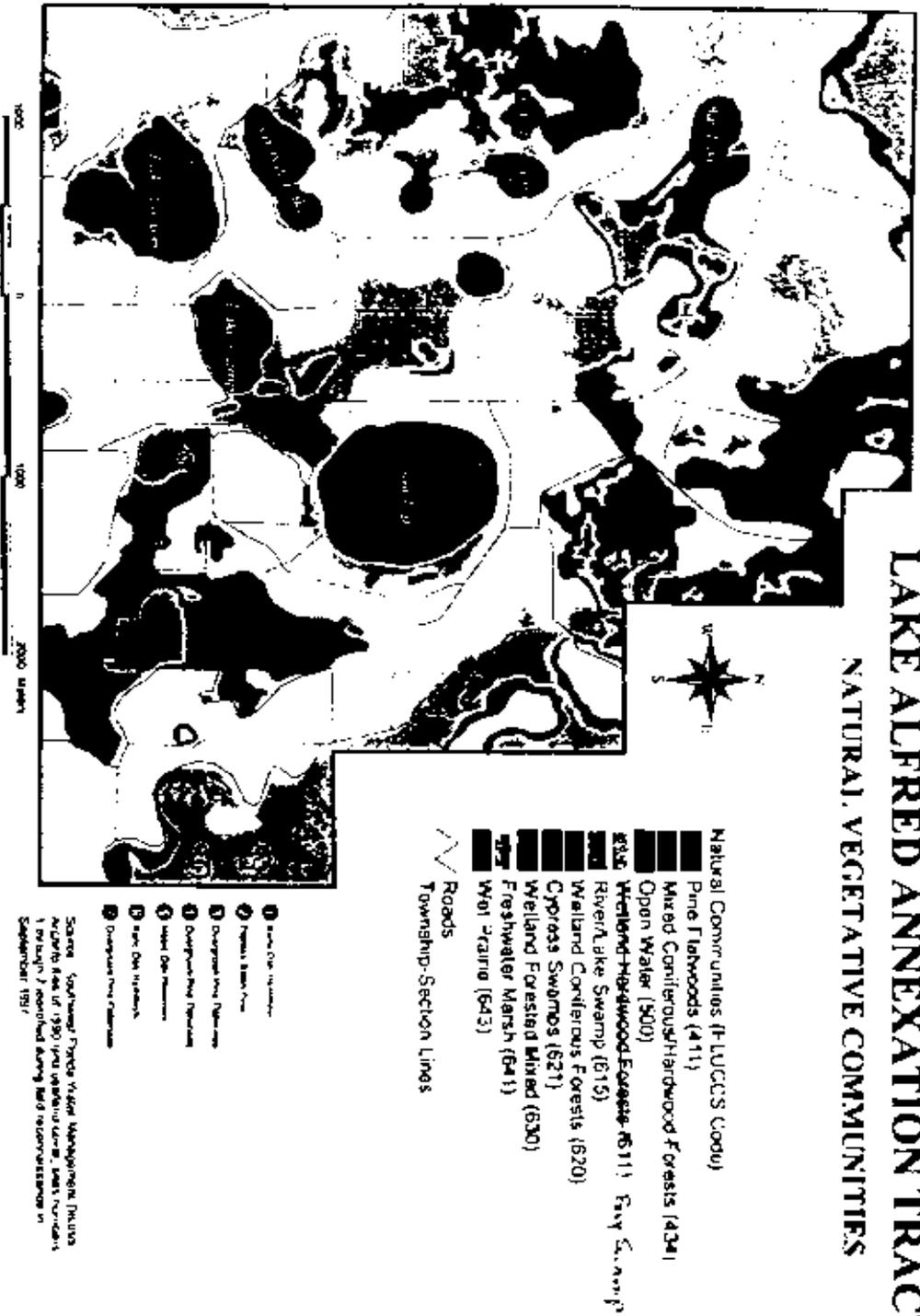
| Protected Status | Common Name | Scientific Name | Habitats Used Within the Project Area | Probability of Occurrence |
|------------------|-------------------------------|---------------------------------------|--|---------------------------|
| SSC | Gopher tortoise | <i>Gopherus polyphemus</i> | Remnant populations occur within hammock communities. | Documented |
| SSC | Gopher frog | <i>Rana capito</i> | Tortoise habitat adjacent to ephemeral marshes/wet prairies | Possible |
| FT, ST | Eastern indigo snake | <i>Drymarchon c. couperi</i> | Large contiguous natural plant communities; xeric, fire maintained communities. | Probable |
| SSC | Florida pine snake | <i>Pituophis m. mugitus</i> | Xeric communities with gopher tortoise | Possible |
| ST | Short-tailed snake | <i>Stilosoma extenuata</i> | Xeric areas. | Possible |
| FT, ST | Sand skink | <i>Neoseps reynoldsi</i> | Sandy, open areas in xeric communities. | Possible |
| FT | Florida sandhill crane | <i>Grus canadensis pratensis</i> | Improved pasture. | Documented. |
| SSC | Florida burrowing owl | <i>Speotyto cunicularia floridana</i> | Xeric soils in mowed, or close cropped pasture. | Possible |
| ST | Southeastern American kestrel | <i>Falco sparverius palms</i> | Forage in open areas; nest in woodpecker holes in dead trees adjacent to open areas. | Possible |
| SSC | Florida mouse | <i>Peromyscus floridanus</i> | Gopher tortoise habitat | Possible |
| SSC | Sherman's fox squirrel | <i>Sciurus niger shermani</i> | Open oak and pine forests. | Probable |

¹ Florida Game and Fresh Water Fish Commission:
SE = Endangered; ST = Threatened; SSC = Species of Special Concern

² United States Fish and Wildlife Service:
FE = Endangered, FT = Threatened.

* = documented on site

FIGURE 3
LAKE ALFRED ANNEXATION TRACT
NATURAL VEGETATIVE COMMUNITIES



- (3), (4), & (7) Overgrown Pine Flatwoods. Three patches of overgrown pine flatwoods occur in a 9.7-acre pine stand located west of Tangerine Lake. These areas are designated pine flatwoods in the SWFWMD land use/land cover map and pine forest in the GFC wildlife habitat map. Due to fire suppression, these areas are approaching mesic hammock both vegetatively and structurally. Slash pine still dominates the canopy of these mature pine forests. The ground cover is blanketed with grape vine. There are patches of saw palmetto and scattered bays (*Magnolia virginiana*), laurel oak (*Quercus laurifolia*), and holly (*Ilex cassine*).
- (5) Mesic Oak Hammock. This live oak-dominated hammock is located along the north side of Grassy Lake, in the southwestern portion of the project area. The hammock covers most of a 7.7-acre stand identified as mixed hardwood-coniferous forest on the SWFWMD land use/land cover map and both pine forest and hardwood hammock and forest on the GFC wildlife habitat map. There are large patches of open, leaf litter with no vegetation due to the dense oak canopy (over 30%) and sandy soils. There are clear signs that the hammock had until recently provided shade to cattle that grazed the adjacent improved pastures.
- (6) Xeric Oak Hammock. This area was incorrectly identified as other open (rural) lands on the SWFWMD map and shrub and brush on the GFC map. The site, which covers an estimated five acres, is located south of Gum Lake and southeast of Lake Camp. The site exhibits an unusual micro-topography consisting of several north-south oriented ridges between two and three feet tall and spaced approximately 30 feet apart from ridge crest to ridge crest. These features are undoubtedly man-made, resulting from a previous land use of undetermined nature. The canopy oaks are relatively mature (older than 25 years) and consist of such xeric species as sand live oak (*Quercus geminata*) and bluejack oak (*Quercus incana*). Peppervine (*Ampelopsis arborea*), grape, persimmon (*Diospyros virginiana*), and cherry (*Prunus* sp.) are also common. The canopy was intermittently dense; there were several open sandy patches with mosses and some wiregrass (*Aristida stricta*). Active and abandoned gopher tortoise burrows were observed sporadically within this area, most often associated with these open areas.

Potential Listed Species Utilization Within the Project Area's Uplands. Due to the intensive agricultural and residential land uses that dominate the project area, potential upland listed species are predominantly those species that use ruderal communities, most notably the improved pastures. Furthermore, without exception, fire has been suppressed in the natural plant communities described above. As a consequence, the habitat characteristics that are required for listed species that typically occur in natural plant communities associated with xeric and mesic soils (sandhill, scrub, and pine flatwoods) are not present.

Within the project area's uplands, two protected species have been documented, two species probably occur, and six species possible occur (Table 1).

The gopher tortoise (*Gopherus polyphemus*) has been documented within the region by FNAJ. Active tortoise burrows were observed during site reconnaissance in the oak

hammock and xeric hammock areas (sites 5 and 6, above). Due to fire suppression in these hammocks, tortoise populations within these areas are likely to be on the decline. More specifically, fire suppression has led to the establishment of dense canopies, and as a consequence, very little suitable tortoise forage is present. It is unlikely that any of these areas contain viable populations of gopher tortoise (30 individuals at a minimum) and without management strategies directed at enhancing these areas for tortoise, their numbers will continue to decline.

Commensurate with the projected decline of the gopher tortoise, a decline in suitable habitat for several protected species that are known to be gopher tortoise burrow associates is also projected. Among the burrow associates are the gopher frog (*Rana capito*), eastern indigo snake (*Drymarchon c. couperi*), Florida pine snake (*Pituophis m. mugitus*), and Florida mouse (*Peromyscus floridanus*). Additionally, sandhill is the preferred habitat for short-tailed snake (*Silosoma extenuata*)

The gopher frog prefers sandhill habitat with gopher tortoise burrows adjacent to temporary ponds void of predatory fish. They also occur in flatwoods, sand pine scrub, and xeric hammocks, and in ruderal successional stages of these plant communities. The oak hammock (site 5, above) is the best candidate for gopher frog.

The eastern indigo snake uses most natural habitats ranging from forested wetlands to xeric scrub and sandhill. They have large active home ranges sometimes in excess of 250 acres (Moler, 1985) and thus require large expanses of contiguous suitable habitat. The uplands described above are all adjacent to large expanses of forested wetland and as a consequence could possibly contain indigo snakes.

Florida pine snakes seem to prefer pocket gopher burrows, but also utilize tortoise burrows (Franz, 1986). Pine snakes occupy xeric sites, including pine flatwoods on well drained soils and old fields on former sandhill sites. Radio-telemetry studies in sandhill habitats in northern Florida indicate that this species prefers old fields over forested communities with a heavy hammock-like growth (Franz, 1986). In Franz' study, however, there were burrows observed in the old fields. The old fields in the Lake Alfred Annexation project area have been intensively managed for years for citrus production and very few (if any) tortoise remain. It is therefore unlikely that pine snakes occur within the project area.

The short-tailed snake is almost exclusively found in sandhill communities. It is occasionally found in upland hammock and scrub areas that are situated adjacent to sandhills. The xeric hammock (site 6, above) is the most suitable site for short-tail snakes.

Florida mice are narrowly restricted to fire-maintained, xeric, upland vegetation occurring on deep, well-drained sandy soils (Layne, 1990). Specific plant communities located within the project area that may contain Florida mice are upland hammock, live oak hammock, and pine flatwoods. Due to the patchiness of suitable habitat, fire suppression, and the general lack of tortoise, Florida mice are unlikely in the project area.

It is highly unlikely that the sand skink (*Norseps reynoldsi*) still occurs within the project area. They prefer scrub, scrubby flatwoods, and sandhill. They require loose sand and sunny exposures (Christman, 1992). None of these habitats remain within the project area and sandy soils with sunny exposures are rare.

The Sherman's fox squirrel (*Sciurus niger shermani*) prefers fire maintained flatwoods and sandhills. The most likely areas for fox squirrel in the project area would be near the residential areas where trees have been left standing and in oak hammock and xeric hammock areas described above (sites 5 and 6, respectively).

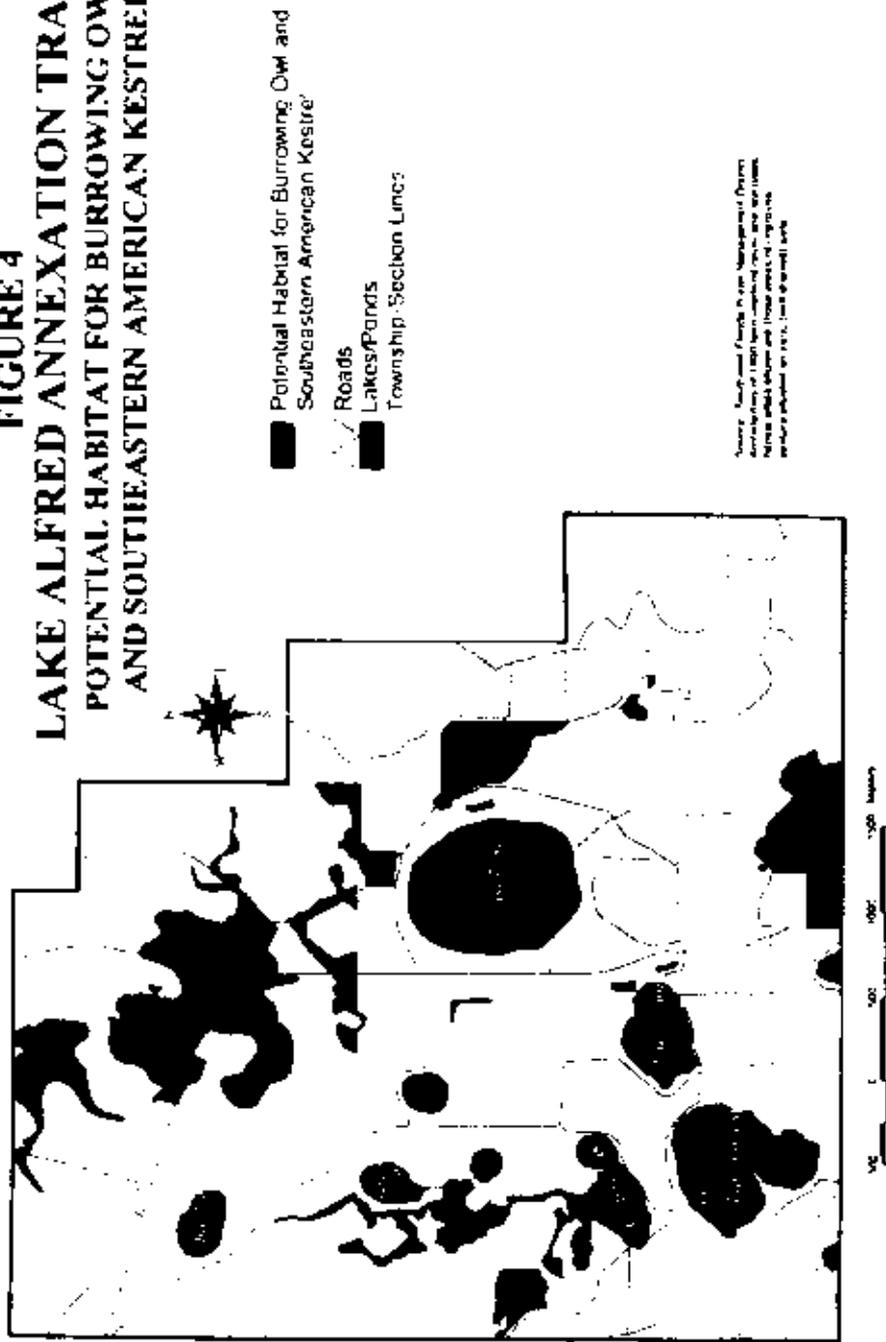
The vast expanses of improved pasture and old field coupled the large marsh and cypress wetland systems that are present throughout a large portion of the project area provide suitable foraging habitat for Florida sandhill crane (*Grus canadensis preterus*) and suitable foraging and nesting habitat for the Florida burrowing owl (*Speotyto cunicularia floridana*) and the southeastern American kestrel (*Falco sparverius pascuis*).

The Florida sandhill crane nests in wetlands dominated by pickerelweed (*Pontederia cordata*) and maidencane (*Panicum hemitomon*). Most of its foraging activities occur in pastures and prairies that are abundant throughout the project area (Nesbitt, 1996). The most critical pastures are those adjacent to the nest wetlands. These are critical to young cranes' first independent foraging activities. Although no nesting activities are presently known to occur in the project area, sandhill cranes were documented foraging in the improved pastures and are likely to frequently forage within the limits of the project area.

The Florida burrowing owl excavates its burrows in open, well-drained, treeless areas where herbaceous ground cover is short (Millsap, 1996). Xeric soils in improved pasture provide the best opportunities for burrowing owls (Figure 4). Although no burrowing owls are known to occur in the project area, it is believed that their range and population have actually increased due to the extensive amount of land clearing and wetland drainage that has occurred in Florida. If this is true, then the burrowing owl is capable of colonizing suitable habitats that were not in use historically. Therefore, suitable habitat, as shown in Figure 4, which encompasses approximately 554 acres, should be re-surveyed prior to any intensive development.

The southeastern American kestrel is virtually indistinguishable from the overwintering American kestrel (*Falco sparverius*) and can only be positively verified through documentation of its presence between the months of April and August. Kestrels are secondary cavity-nesters that depend on cavity excavators for the production of nest sites. Therefore, snags (standing dead trees) are a necessary habitat component for kestrels. Kestrels prefer open areas such as the fields and open pastures that occur within the project area (Nesbitt, 1996). To date, no kestrels have been documented in the project area. Positive verification will require systematic surveys within suitable habitat areas between the months of April and August as recommended by Stry (1993). Suitable habitat within the project area for the southeastern American kestrel is coterminous with that of the Florida burrowing owl (Figure 4).

FIGURE 4
LAKE ALFRED ANNEXATION TRACT
POTENTIAL HABITAT FOR BURROWING OWL
AND SOUTHEASTERN AMERICAN KESTREL



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APPENDIX A

Florida Natural Area Inventory Element Occurrence Records

FLORIDA NATURAL AREAS INVENTORY

1016 Thomasville Road, Suite 200-C Tallahassee, Florida 32303 (904) 224-8207

5 May 1997

Michelle M. Morris, Environmental Scientist
HDR Engineering, Inc.
5100 W Kennedy Boulevard, Suite 300
Tampa, FL 33609-1840

Dear Ms. Morris,

This letter is in reference to your request for information from the Florida Natural Areas Inventory (FNAI). Your data request of 17 April 1997 specified a tract of land in Township 27S, Range 26E, Section(s) 7, 8, 16-22 in Polk County. This site is found on the Gum Lake and Winter Haven USGS 7.5 minute quadrangle.

A search of our maps and computerized database indicates that currently we have the following "Element Occurrence Records" mapped within a 1 mile radius of this area:

| Scientific Name | Common Name | Global Rank | State Rank | Fed. Status | Spec. Status | Notes |
|---------------------------------|----------------|-------------|------------|-------------|--------------|---|
| <i>Cephaelis polyphylla</i> | purple anemone | G3 | S3 | N | LS | In general area, no precise location, see record. |
| <i>Nesoyge repens</i> | swamp spiker | G1 | S2 | LT | LT | In general area, no precise location, see record. |
| <i>Habeortia truncatipetala</i> | bold eagle | G4 | S3 | LT | LT | Two locations on or very near site, see records. |

The 1993 Green Swamp Conservation and Recreation Lands (CARL) land acquisition project, managed by the Florida Dept. of Environmental Protection, Div. of State Lands, is located on site.

The enclosed EORs represent the special elements that occur on the project site. Also enclosed is an element rank explanation sheet defining the FNAI Global/State Ranking and Federal/State legal status of each element.

We strongly suggest that a site specific survey be conducted on this property to determine the current presence or absence of rare, threatened or endangered species. This survey should be conducted by individuals familiar with Florida's flora and fauna. For your convenience, a summary of the elements recorded for Polk County and a matrix giving seasonal and habitat distributions for the species are enclosed.

The quantity and quality of data collected by the Florida Natural Areas Inventory are dependent on the research and observations of many individuals and organizations. In most cases, this information is not the result of comprehensive or site specific field surveys. Many natural areas in Florida have

The Nature Conservancy and the Florida Department of Environmental Protection

Michele M. Morris
5 May 1997
Page 2

never been thoroughly surveyed, and new species of plants and animals are still being discovered. For these reasons, FNAI cannot provide a definitive statement on the presence, absence or condition of biological elements in any part of Florida. Florida Natural Areas Inventory reports summarize the existing information known to FNAI at the time of the request. They should never be regarded as final statements on the elements or areas being considered, nor should they be substituted for on-site surveys required for environmental assessments.

Information provided by this database may not be published without prior written notification to the Florida Natural Areas Inventory, and FNAI must be credited as an information source in these publications. FNAI data may not be resold for profit.

If I can be of further assistance, please call me at (904) 224-8207.

Sincerely,


Barbara Lenczewski, Ph.D.
Environmental Reviewer

enclosures

ENCLOSURE 1/2

FLORIDA NATURAL AREAS INVENTORY - ELEMENT OCCURRENCE RECORD
05/05/97

scientific name: GOPHERUS POLYPHEMUS
common name: GOPHER TORTOISE

rank: G3 federal status: N
rank: S3 state status: LS

date last observed:
county name: Polk

quad name: WINTER HAVEN

township and range: 028S026E section: 27 precision: G
town/range comments:

general desc.:

EO data: 3 SPEC. (AMNH-5758-60), COLLECTOR N/A, DATE N/A.

managed area name:

owner:
owner comments:

best source: AMNH SPEC.

monum.: 581

data sens.:

FLORIDA NATURAL AREAS INVENTORY - ELEMENT OCCURRENCE RECORD
05/05/97

scientific name: NEOSEPS REYNOLDSI
common name: SAND SKINK

grank: G2 federal status: LT
srank: S2 state status: LT

date last observed:
county name: Polk

quad name: WINTER HAVEN

township and range: 028S026E section: 27 precision: G
town/range comments:

general desc.:

EO data: 10 SPEC. (AMNH-73772-73, 73920-27), COLLECTOR N/A, DATE N/A.

managed area name:

owner:
owner comments:

best source: AMNH SPEC.

eonum.: 099

data sens.:

FLORIDA NATURAL AREAS INVENTORY - ELEMENT OCCURRENCE RECORD
05/05/97

scientific name: HALIAEETUS LEUCOCEPHALUS
common name: BALD EAGLE

grank: G4 federal status: LT
srnk: S3 state status: LT

date last observed: 1991
county name: Polk

quad name: GUM LAKE

township and range: 027S026E section: 09 precision: M
town/range comments: NW4

general desc.:

EO data: NEST; 1991: ACTIVE, PRODUCED 0 YOUNG; 1990: PRODUCED 1
YOUNG; 1989: INACTIVE; 1988: PRODUCED 2 YOUNG; 1987: ACTIVE,
PRODUCED 0 YOUNG; 1986: PRODUCED 2 YOUNG; 1985: PRODUCED 2
YOUNG.

managed area name:

owner:
owner comments:

best source: FLORIDA GAME AND FRESH WATER FISH COMMISSION. 1992. BALD
EAGLE NESTING DATA.

eonun.: 534

data sens.:

FLORIDA NATURAL AREAS INVENTORY - ELEMENT OCCURRENCE RECORD
05/05/97

scientific name: HALIAEETUS LEUCOCEPHALUS
common name: BALD EAGLE

rank: G4 federal status: LT
rank: S3 state status: LT

date last observed: 1988
county name: Polk

quad name: GUM LAKE

township and range: 0275026E section: 22 precision: M
town/range comments: NE4

general desc.:

EO data: NEST; 1991: USED BY OWL; 1990: 1990-89: INACTIVE; 1988:
ACTIVE, PRODUCED 0 YOUNG; 1987: ACTIVE, PRODUCED 0 YOUNG.

managed area name:

owner:
owner comments:

best source: FLORIDA GAME AND FRESH WATER FISH COMMISSION. 1992. BALD
EAGLE NESTING DATA.

conum.: 535

data sens.:



STATE OF FLORIDA
DEPARTMENT OF COMMUNITY AFFAIRS

EMERGENCY MANAGEMENT • HOUSING AND COMMUNITY DEVELOPMENT • RESOURCE PLANNING AND MANAGEMENT

LAWTON CHILDS
Governor

October 4, 1996

JAMES F. MURLEY
Secretary

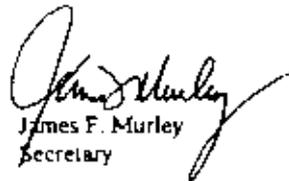
Honorable Richard Foster, Mayor
City of Lake Alfred
155 E. Pamela Street
Lake Alfred, Florida 33850

Dear Mayor Foster:

I am pleased to forward the executed Chapter 380.032, Florida Statutes, agreement between the Department and the City of Lake Alfred. I appreciate your efforts in the development of the agreement. Staff in the Bartow Field Office will continue to work closely with you and the Central Florida Regional Planning Council in implementing the agreement through the comprehensive plan amendment process.

Please do not hesitate to contact Rebecca Jetton in the Bartow Field Office at (941) 534-7290 for any further assistance you may require from the Department.

Sincerely,


James F. Murley
Secretary

enclosure

JFM/jb

- cc. without enclosure
Senator Rick Dantzler
Representative Dean Saunders
Representative Lori Edwards
Neil Combee, Chairman, Polk County BOCC
Douglas Leonard, Executive Director, CFRPC
Jim Drumm, City Manager

AGREEMENT

between the

CITY OF LAKE ALFRED

AND THE

FLORIDA DEPARTMENT OF COMMUNITY AFFAIRS

THIS AGREEMENT is entered into between the City of Lake Alfred, Florida, (hereinafter referred to as "City") and the Florida Department of Community Affairs (hereinafter referred to as "DCA"), concerning the planning, control and regulation of a certain area within the Green Swamp Area of Critical State Concern (GSACSC) depicted on Exhibit A attached to this Agreement, based upon the following facts:

- The Department is the state land planning agency with specific regulatory authority under Chapters 163 and 380, Florida Statutes (F.S.), for the implementation of the Local Government Comprehensive Planning Act and the Area of Critical State Concern Program, and
- Section 380.032, F.S., empowers the Department to enter into agreements to effectuate the provisions of the Area of Critical State Concern Program and the parties agree this agreement will effectuate the purposes of Chapter 380, including protection of natural resources and the environment, protection of water resources, and the facilitation of orderly well-planned development.
- Lake Alfred is a political subdivision of the State of Florida located within Polk County, specifically, an incorporated municipality, and is responsible for land use planning and development controls within its borders, and desires to annex land within the Green Swamp.
- The City proposes to annex lands contiguous to the City Limits and outside the boundary of the GSACSC. Such annexations, although outside the boundary of the GSACSC, will prepare the way for the City to annex lands within the Critical Area.
- The City proposes, in the future, to annex lands then contiguous to the City Limits and inside the boundary of the GSACSC, specifically, an area lying in Sections 8, 16, 17, 18, 19, 20, and 21, Township 27 South, Range 26 East in Polk County, and generally depicted on Exhibit A.
- The parties wish to enter into this Agreement in order to clarify the development that will be permissible in areas to be annexed by the City, in particular the areas which are presently within the GSACSC.

THEREFORE, the parties agree as follows,

- 1 When the City annexes land which is contiguous to the present boundaries of the City but not located within the boundaries of the GSACSC, it shall do so in a pattern that is compact and in all respects consistent with Chapter 171, F.S.
- 2 For each annexed parcel outside the GSACSC, the City shall amend its Comprehensive Plan in a timely manner consistent with Chapter 163, F.S. and Rule 9J-5, F.A.C.
- 3 When the City annexes land within the GSACSC, it shall do so in a pattern that is compact and in all respects consistent with Chapter 171, F.S.
- 4 For the first annexation of land within the GSACSC, the City shall amend its Comprehensive Plan in a timely manner consistent with Chapters 163 and 380, F.S., and Chapter 9J-5, F.A.C., with the following specific conditions:
 - a Amend the Future Land Use Map series, the environmental map series (wetlands, floodplains, soils and habitat), and the infrastructure map series (traffic circulation, water and sewer, drainage and recreation/open space) to include the newly annexed land.
 - b Amend the Future Land Use and Conservation Elements of the City of Lake Alfred Comprehensive Plan to include new policies that meet or exceed the restrictions in the Polk County comprehensive plan for development in the GSACSC.
 - c Amend the Infrastructure Element, the Traffic Circulation Element, and the Capital Improvements Element to include new policies that specifically address the development proposed within the GSACSC, which shall at a minimum include a capital improvements budget showing the concurrent provision of public services required by the development; the timing of said improvements, and the source of funds for the public portion of the investment.
- 5 For subsequent annexations of lands within the GSACSC, the City shall amend the future land use map (FLUM) series in its Comprehensive Plan, consistent with the requirements of Chapters 163 and 380, F.S., and Chapter 9J-5, F.A.C., to include the annexed land.
- 6 Prior to annexing any land within the GSACSC, the City shall, in consultation with DCA, prepare a Selected Area Plan (SAP) for the land area within the GSACSC shown on Exhibit A, in accordance with the provisions of Chapters 163 and 380, F.S. Said SAP shall provide for the planning and regulation by the City of development within said land within the Area of Critical State Concern and shall include the following:
 - a A schedule showing how the City intends to annex and provide municipal service (central water and sewer and paved roads) to the lands depicted in Exhibit A over

a 20 year period

- b Prohibitions against any development in flood plains, and the classification of extensive floodplain areas as Conservation on the Future Land Use Map (FLUM)
- c Prohibitions against any development of wetlands and areas largely characterized by wetlands, and a commitment to continue to classify all such lands as Conservation or Preservation on the FLUM
- d Prohibition against the use of package plants within the GSACSC
- e Golf courses within the boundaries of the GSACSC shall be approved on a case-by-case basis according to criteria to be developed in the SAP
- f Prohibition against any placement of wastewater sludge within the boundaries of the GSACSC
- g Requirements that all residential development at a density greater than one dwelling unit per 10 acres be on municipal sewer and water and served by paved roads
- h Establishment of upland buffers to ensure that no structure is constructed within fifty (50) feet of a water course or wetland
- i Policies formulated to protect wetlands, flood plains, and other environmental resources, which policies shall meet or exceed those policies set out in Exhibit B attached hereto and made a part of this agreement.

7 In preparing the SAP, the City shall further

- a Conduct a survey of habitat and endangered species within the area of the SAP to establish a basis for habitat management for proposed development
- b Identify the need for, intensity, locational standards, and development standards for all commercial development within the SAP
- c Insure that a minimum of thirty percent of the land within the GSACSC will be held in permanent open space, including land located within the 100 year floodplain, all wetlands and areas largely characterized by wetlands, but excluding all surface water courses and lakes. The City, at its option, may allow transfer of density from wetlands at one unit per 20 acres and at one unit per ten acres from the 100 year flood plain. The City shall allow development on uplands at a density no greater than three (3) units per acre

8 The City shall amend the Comprehensive Plan in accordance with Section 163.3171 to

adopt the provisions of the SAP, and shall amend and adopt Land Development Regulations which are consistent with this agreement to implement the provisions of the Plan Amendments.

9. Once the City annexes land within the GSACSC, no development shall occur in the annexed area until the City has adopted land development regulations, including but not limited to zoning and subdivision regulations, and DCA has approved those regulations in accordance with Chapter 380, F.S.
10. In consideration of the foregoing commitments by the City, DCA undertakes and agrees to the following:
- a. The Department will find comprehensive plan amendments adopted by the City which are consistent with this agreement to be "in compliance" with the provisions of Chapter 163, Part II, F.S., so long as such amendments otherwise meet the requirements of Chapter 163 and Chapter 9J-5, F.A.C.
 - b. For lands located within the GSACSC, the Department will approve by rule any comprehensive plan amendment and land development regulation which is consistent with this agreement, pursuant to Chapter 380, Florida Statutes.

IN WITNESS WHEREOF, the parties, by their duly authorized representatives, have executed this Agreement as of the later date indicated below:

CITY OF LAKE ALFRED, FLORIDA,
a political subdivision of the State of Florida

By: *Richard Foster*
Printed Name: Richard Foster
Title: Mayor
Date: 7/15/96

ATTEST:

Shirley McArthur
Clerk

FLORIDA DEPARTMENT OF COMMUNITY AFFAIRS,
an agency and instrumentality of the State of Florida

By: *James F. Murley*
James F. Murley, Secretary
Date: 9-13-96

Linda Meyer
Witness

Sworn to and subscribed before me this 13th day of Sept., 1996, at Leon County, Florida,
by James F. Murley who
is personally known to me. *James D. Long* (Notary)

 JAMES D. LONG
NOTARY PUBLIC
COMMISSION # 221213 EXPIRES
OCTOBER 16, 1998
STATE OF FLORIDA

These shall be part of the FPA. All other projects

EXHIBIT B

The following natural resource protection policies will be included

FLOODPLAINS -

- a. No parcel shall be created after (date of amendment) which consists entirely of 100-year floodplains, unless accompanied by a deed restriction which prohibits any future development on the parcel
- b. A detailed flood insurance study shall be performed for all subdivision proposals and other proposed development which have five (5) acres or more in the 100-year floodplain. The construction of a single-family residence on a parcel of land containing five (5) or more acres which is not part of a subdivision or which is part of a subdivision in existence on the effective date of this plan is exempt from this requirement. Phases of a larger development, if the larger development meets the five (5) acre criterion, are not exempt from this requirement. If existing subdivisions are proposed for replatting, the replatted portion shall be required to comply with this requirement if the replatted portion meets the five (5) acre criterion. Subdivisions which contain 10 lots or less shall be exempt from these requirements. The study shall be performed in accordance with the Flood Insurance Study Guidelines and Specifications for Flood Contractors (FEMA Publication 37)

WETLAND DEVELOPMENT CRITERIA -- Development within a wetland, as determined by appropriate regulatory agencies having the authority to designate areas as wetlands and exercise jurisdiction over the wetlands so designated, shall conform to the following criteria

- a. Where impacts to wetlands cannot be avoided, impacts shall be minimized and shall be mitigated by wetlands compensation or wetland enhancement. Where impacts to wetlands are unavoidable and when properly mitigated, as determined by agencies having jurisdiction, after the issuance of a development order, the following shall be allowed
 - (a) access to the site,
 - (b) internal traffic circulation, where other alternatives do not exist, and for purposes of public safety,
 - (c) utility transmission and collection lines,
 - (d) pre-treated stormwater management,
 - (e) mining that meets state and federal regulations, and
 - (f) for the purpose of preventing all beneficial use of the property from being precluded, as provided for above
- b. Commercial and industrial development shall locate on the non-wetland portion of the development site



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September 16, 1999

Mr. Douglas Leonard, Executive Director
Central Florida Regional Planning Council
555 East Church Street
Bartow, Florida 33830

Re: City of Lake Alfred Proposed Selected Area Plan (SAP) for portions
of the Green Swamp Area of Critical State Concern

Dear Mr. Leonard:

As you have requested, the Department has conducted a second review of the draft Lake Alfred Selected Area Plan (SAP) with emphasis on adequacy of the natural resource data to meet the data and analysis requirements of Chapter 9J-5, Florida Administrative Code (F.A.C.), for land use planning purposes. This SAP is being prepared in response to the Chapter 380.32, Florida Statutes (FS) Agreement that the Department executed with the City in 1996 regarding annexation of portions of the Green Swamp Area Critical State Concern (GSACSC) by the City of Lake Alfred. According to the Agreement, the City would develop an SAP, based on appropriate data and analysis prior to annexing any land within the Green Swamp.

The data presented in the draft SAP includes a survey of listed species and associated habitats. The survey adequately identifies the listed species that exist and potentially could exist as well the various types of habitats existing on site. No additional studies need to be completed at this time. Please note that the SAP must require a Wildlife Management Plan for development proposed for land located within the seven identified natural areas. The data includes a recommendation from your biological consultant stating that a re-survey of 554 acres for burrowing owls during the months of April through August based upon the possible occurrence of the Florida Burrowing Owl should be conducted. This re-survey could be required parcel by parcel at the time when specific development approval is requested for a specific parcel of land within the study area.

The data presented in the draft SAP with regard to archeological assessment and the identification of lakes, bays, wetlands, soils, minerals, and floodplain adequately identifies the extent, quality and location of these resources. The data indicates that all development would occur above the 135 foot elevation and therefore no additional floodplain studies would be required. This is an acceptable procedure except for the immediate area around Lake Grassy in Section 19. Within this section, a detailed flood study shall be performed for all subdivision proposals and other proposed

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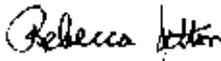
GREEN SWAMP
Area of Critical State Concern Field Office
205 East Main Street, Suite 104
Bartow, Florida 33830-1441

Doug Leonard
September 15, 1999
Page Two

development which have 5 acres or more within the unnumbered one hundred year floodplain (this is a requirement for all development within GSACSC meeting the acreage threshold). The study shall be conducted in accordance with the Flood Study Guidelines and Specifications for Flood contractors. The purpose of the study is to more clearly delineate the floodplain. When your first Comprehensive Plan Amendment is submitted, the Department will expect a policy requiring the study for this area.

While this letter recognizes the sufficiency of the natural resources data that you have submitted, our letter of November 19, 1998 represents the Department's position on the goals, objectives and policies that were submitted with the data and analysis. As we further review the proposed SAP, it is more evident, as we have previously discussed, that the best vehicle to implement this SAP is a Joint Planning Area agreement (JPA) with Polk County. I know the County, at the time this Agreement was being entered into by the Department and City, was not interested in the development of a joint planning area to cover the area subject to this agreement. The Department encourages the City to raise this matter again with the County to determine whether they would now be interested in the development of a JPA for the area. The Department will be happy to play a role in this process and will participate in any meetings set up by the City to discuss this matter with the County leaders and staff. We look forward to meeting with staff of both local governments to facilitate the accomplishment of this goal. If the Department can provide any further assistance to you in this matter, please call me at (941) 534-7290. We look forward to working with the City, County, and entities involved to bring this matter to a closure.

Sincerely,



Rebecca Jetton
Planning Manager

cc: Jim Bell, Polk County
Merle Bishop, Polk County
Jim Drum, City of Lake Alfred
John Baker, Department of Community Affairs



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October 26, 1999

Mr. Doug Leonard, Director
Central Florida Regional Planning Council
555 East Church Street
Bartow, Florida 33830

Re: Lake Alfred

Dear Mr. Leonard:

The Department has conducted a courtesy review of the Lake Alfred Selected Area Plan's (SAP) data and analysis with emphasis on the adequacy of the natural resource data to meet the data and analysis requirements of 9J-5, Florida Administrative Code (F.A.C.), for land use planning purposes. This SAP is being prepared in response to the Chapter 380.32 Florida Statutes (FS) Agreement that the Department executed with the City in 1996 regarding annexation of portions of the Green Swamp Area of Critical State Concern (GSACSC) by the City of Lake Alfred. According to the agreement, the City would develop an SAP, based on appropriate data and analysis prior to annexing any land within the Green Swamp. The material provided satisfies the Area of Critical State concern issues.

It is my understanding that the Selected Area Plan represents the data and analysis for a proposed comprehensive plan amendment. The plan amendment should additionally include a needs analysis for the land being annexed by the City and a Capital Improvements Plan.

Thank you for your cooperation in preparing this plan. If the Department can provide any further assistance to you in this matter, please telephone (941) 534-7290.

Sincerely,

Rebecca Jetton
Planning Manager

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March 2, 2000

Mr. Jim Drumm, City Manager
City of Lake Alfred
120 East Pomelo Street
Lake Alfred, Florida 33850

Re: City of Lake Alfred's Selected Area Plan for the Green Swamp Area of Critical State Concern

Dear Mr. Drumm:

This letter is in response to your inquiries regarding the Selected Area Plan (SAP) that was developed by the City for portions of the Green Swamp Area of Critical State Concern (GSACSC) pursuant to the Chapter 380.032, Florida Statutes (FS) Agreement between the City and the Department. The Department finds the SAP consistent with the Agreement.

The Agreement requires that the SAP be adopted by the City through the Chapter 163, FS, comprehensive plan amendment process. The SAP and the City's first batch of annexations in the GSACSC were submitted as part of the City's 00-1 Plan Amendment package. In January, the Department issued an Objection Recommendation and Comment (ORC) Report on the amendment. The ORC Report raised one issue with the proposed SAP concerning commercial location. This is due in part because the City is not incorporating all the policies from the SAP into the comprehensive plan. The SAP includes policies which provide more guidance for the location of commercial development than the proposed comprehensive plan amendment. We recommend that the comprehensive plan amendment be revised to include additional policies addressing the location of commercial development in the GSACSC and all of the policies from the SAP. Please see the attached ORC Report for other recommendations that the Department made with respect to integrating the SAP into the plan.

Once the City has addressed the Department's concerns and adopts the SAP as a comprehensive plan amendment, the amendment should be transmitted to the Department for final review and approval under Chapters 163 and 380, FS. Upon determining that the

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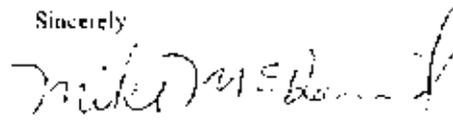
Mr. Jim Drumm, City Manager
March 2, 2000
Page Two

amendment is in compliance, the Department will issue a notice of intent (NOI) to find the amendment in compliance. Assuming that there is no challenge to the amendment, it will become effective 21 days after issuance of the NOI. The Department will also issue a final order under Chapter 380, FS, approving the amendment as consistent with the Principles for Guiding Development in the GSACSC. The City will then have to adopt land development regulations (LDR's) to implement to the SAP. These LDR's must be reviewed and approved by the Department under Chapter 380, FS, prior to implementation in the GSACSC.

For each subsequent annexation in the GSACSC, the City must submit a comprehensive plan amendment to incorporate that area within the City. If the land uses and the density/intensity assigned to the annexed parcel are consistent with the approved SAP, the Department will find the amendment in compliance. With each amendment, the City must also demonstrate how public facilities and services will be extended/provided to that site consistent with the City's plan. My staff is available to work with your consultant on these issues.

If we can answer any additional questions on this matter, please do not hesitate to call me or John E. Baker, Community Program Administrator, at (850) 487-4545.

Sincerely,



Mike McDaniel, Administrator
Areas of Critical State Concern

cc: R. Douglas Leonard, Executive Director, CFRPC