

CITY OF GREENACRES COMPREHENSIVE PLAN

CONSERVATION ELEMENT

~~September 2008~~ August 2016
Amendments resulting from the 201506 EAR

CONTENTS

SECTION	CONTENTS	PAGE
I.	INTRODUCTION	5
	A. PURPOSE OF ELEMENT	5
	B. LOCATIONAL SETTING	5
II.	DEFINITION OF RELEVANT TERMS	7
III.	INVENTORY AND ANALYSIS	10
	A. HISTORY OF CONSERVATION AGREEMENTS ADOPTED BY THE CITY OF GREENACRES	10
	1. The City of Greenacres Non-Indigenous Aquatic Plant Control Maintenance Program	
	2. The City of Greenacres Water Shortage Plan	
	3. The City of Greenacres Wellfield Protection Ordinance	
	4. The City of Greenacres Landscape Ordinance	
	5. The City of Greenacres Initial Stormwater Control Regulations	
	B. AIR QUALITY	11
	1. Regulatory Framework	
	a) Federal	
	b) State	
	c) Local	
	2. Existing Conditions	
	C. WATER RESOURCES	15
	1. Surface Water Systems	
	a) Topography and Physiographic Areas	
	b) Natural Drainage and Erosion	
	c) Floodplains	
	d) Rivers, Bays, Lakes and Wetlands	
	2. Groundwater Resources	
	a) Surficial Aquifer Systems	
	D. GEOLOGIC ANALYSIS	22
	1. Soil Formations	
	2. Mineral Resources	
	3. Soil Erosion	
	E. WILDLIFE AND VEGETATIVE COMMUNITIES	26
	1. Flora	
	2. Fauna	

	3.	Analysis	
F.		FISHERIES AND MARINE HABITATS	30
G.		WETLANDS	30
H.		POLLUTION	30
	6.	Drainage	
	7.	Air	
	8.	Hazardous Wastes	
		a) Legislation	
	9.	Water Use	
IV.		THE PLAN	32
	A.	AIR QUALITY	32
	B.	WATER QUALITY	33
	C.	PROTECTING ALL ECOLOGICAL COMMUNITIES	33
	D.	MAINTAINING A NATURAL AREAS NETWORK	34
	E.	PROTECTING ENDANGERED SPECIES	34
	F.	WATER CONSERVATION	34
	G.	HAZARDOUS WASTE MANAGEMENT	34
		1. State Level	
		2. Local Level	
	H.	CURRENT AND PROJECTED WATER NEEDS	35
	I.	NATURAL DISASTERS	36
		1. Overview	
		2. Shelters	
		3. Evacuation Routes	
V.		GOALS, OBJECTIVES AND POLICIES	39
VI.		NOTES	45

LIST OF TABLES

<u>NO</u>	<u>NAME</u>	<u>PAGE</u>
1	AIR QUALITY INDEX	14
2	SOIL EROSION FACTORS	24
3	IDENTIFIED SPECIES STATUS	27
4	PROJECTED WATER USE	36

LIST OF MAPS

<u>NO</u>	<u>NAME</u>	<u>PAGE</u>
1	CITY OF GREENACRES LOCATION MAP	6
2	GROUND WATER SUPPLY SOURCES	18
3	TRANSMISSIVITY OF SURFICAL AQUIFER SYSTEM	19
4	BASE OF SURFICAL AQUIFER SYSTEM	21
5	PHYSIOGRAPHIC AREAS	23
6	SOILS ASSOCIATION MAP	25
7	EVACUATION ROUTES	38

I. INTRODUCTION

A. PURPOSE OF ELEMENT

The development of a Conservation Element is required by the Local Government Comprehensive Planning and Land Development Regulation Act of 1985.

In 2006, the City completed its' second Evaluation Appraisal Report (EAR). The EAR identified necessary changes and updates. These changes have been incorporated into this Element.

The purpose of this Element is "to promote the conservation, use, and protection of natural resources" located within the City and is intended to protect and enhance the public health, safety, welfare and quality of the environment. The City of Greenacres considered the following issues critical in achieving said goals:

1. Effects of population growth on the environment, water supply and levels of pollution;
2. Identification and protection of endangered or threatened species and their habitats;
3. Protection of water resources;
4. Provision of ongoing environmental education; and
5. Protection and enhancement to tree preservation.

This Element establishes the plan which provides the basis for decision-making by City officials relative to conservation.

B. LOCATIONAL SETTING

The City of Greenacres is located in the east-central portion of Palm Beach County, approximately six (6) miles inland from the Atlantic Ocean and one mile east of the Florida Turnpike (See Location Map No. 1). Although completely surrounded by unincorporated Palm Beach County, several neighboring communities lie within two (2) miles of the City. These municipalities include: the City of Atlantis, Village of Palm Springs, the Town of Haverhill and the Village of Wellington.

The climate in the City of Greenacres and the surrounding area is moderate, classified as a semitropical region. "August is the warmest month of the year with a mean temperature of 82.9°F. This averages into the maximum mean of 89.9°F and the minimum mean of 75.8°F. January is the coldest month with a mean of 64.2°F.

Rain showers and/or thunderstorms of short duration are frequent during the summer and fall." Based on Palm Beach County estimates, the City averages "61.6 inches of rain per year."

II. DEFINITION OF RELEVANT TERMS

- A. AIR POLLUTION - is defined as "the introduction into the atmosphere of contaminants such as smoke, fumes or odors that are of sufficient quantity, concentration or duration as to have a negative effect on human, animal or plant life or on human activities. Air pollution may be classified by physical form (e.g., mobile source, stationary source, indirect source) or by some other useful characteristic, such as degree of severity."
- B. AMBIENT AIR - is defined as "the outdoor air, in which pollution is influenced by natural forces, such as diffusion by the wind. The term is used to distinguish air quality found in outdoor air (which is affected by air pollution released into the (atmosphere) from air quality found in indoor spaces."
- C. CONE OF INFLUENCE - is defined as "an area around one or more major water wells." This area is calculated, based on the rate of movement of groundwater.
- D. CONSERVATION USES - is defined as "activities within land areas designated for the purpose of conserving or protecting natural resources or environmental quality and includes areas designated for such purposes as flood control, protection of quality or quantity of groundwater or surface water, flood plain management, fisheries management, or protection of vegetative communities or wildlife habitats."
- E. ECOSYSTEM - is defined as a "system comprised of all living organisms in a given geographic area, and the physical environment with which and in which they interact."
- F. ENDANGERED SPECIES - is defined as "any species of fish and wildlife naturally occurring in Florida, whose prospects of survival are at risk due to modification or loss of habitat; over-utilization for commercial, sporting, scientific or educational purposes; disease; predation; inadequacy of regulatory mechanisms; or other natural or man made factors affecting its continued existence."
- G. FISH AND WILDLIFE - is defined "as any member of the animal kingdom, including, but not limited to, any mammal, fish, bird, amphibian, reptile, mollusk, crustacean, arthropod, or other invertebrate."

- H. GROUND WATER - is defined as "water beneath the surface of the ground, whether or not flowing through known and definite channels."
- I. HAZARDOUS WASTE - is defined as "solid waste, or a combination of solid wastes, which, because of its quantity, concentration, or physical, chemical, or infectious characteristics, may cause, or significantly contribute to, an increase in mortality or an increase in serious irreversible or incapacitating reversible illness or may pose a substantial present or potential hazard to human health or the environment when improperly transported, disposed of, stored, treated or otherwise managed."
- J. LANDSCAPING - is defined as "material such as, but not limited to, grass, ground covers, shrubs, vines, hedges, trees or palms; and non-living durable material commonly used in landscape such as, but not limited to, rocks, pebbles, mulch, sand, walls or fences, benches, fountains, paving for pedestrian use (but excluding paving for vehicles), exterior landscape accent lighting fixtures and any other item of exterior landscape furniture."
- K. NON-POINT SOURCE POLLUTION - is defined as "pollution derived from one or more of various diffuse discharges, such as runoff. It includes, but is not limited to water pollution caused by urban runoff, runoff from construction sites, hydrological modification, solid waste disposal practices and individual sewage disposal facilities, such as septic systems."
- L. OPEN SPACE - (See Recreation and Open Space Element definitions section.)
- M. PLANT MATERIAL (PLANTS) - is defined as "grass, ground cover, shrubs, vines, hedges, and trees or palms."
- N. POINT SOURCE POLLUTION - is defined as "water pollution which comes from an individual and distinct channel such as a pipe, culvert or ditch; or an individual and distinct stationary source of air pollution, such as an exhaust stack."
- O. POLLUTION - is defined as "the presence in the outdoor atmosphere, ground or water of any substances, contaminants, noise or man-made or man induced alteration of the chemical, physical, biological, or radiological integrity of air or water, in quantities or at levels which are or may be potentially harmful or injurious to human health or welfare, animal or plant life, or property, or unreasonably interfere with the enjoyment of life or property."
- P. STREETSCAPE - is defined as "all the elements that normally constitute the physical makeup of a street or avenue and that as a group, delineate its character. A streetscape normally includes building frontage, street paving and furniture, street tree planting and signage."

- Q. SURFACE WATER - is defined as "water upon the surface of the earth, whether contained in bounds created naturally or artificially or diffused."
- R. SURFACE WATER BASIN - is defined as "the geographical area within which a person, business or household obtains water from surface waters."
- S. THREATENED SPECIES - is defined as "any species of fish and wildlife naturally occurring in Florida which may not be in immediate danger of extinction, but which exists in such small populations as to become endangered if it is subjected to increased stress as a result of further modification of its environment."
- T. WATER CONSERVATION - is defined "as programs and procedures to reduce the amount of water consumed by businesses and households."
- U. WATER POLLUTION - is defined as the "impairment of the quality of water through the introduction of chemical, physical or biological substances; changes in water temperature; or other means."
- V. WATER SHORTAGE - is defined as "that situation when insufficient water is available to meet the present and anticipated needs of consumers or when conditions are such as to require temporary reduction in total water consumption within a particular area to protect water resources from serious harm. A water shortage usually occurs due to drought."
- W. WATER SHORTAGE EMERGENCY - is defined as "the declaration of such by the South Florida Water Management District pursuant to Chapter 373, F. S."
- X. WATER WELL - is defined as "wells excavated, drilled, dug or driven for the supply of potable water for general public consumption."
- Y. WELLFIELD - is defined as "an area of land which contains more than one well for obtaining water."
- Z. XERISCAPE - is defined as "water conserving, drought tolerant landscaping or simply the use of appropriate plant material that does not require special attention to grow properly. Appropriate use of plant material requires comparatively little supplemental irrigation."

III. INVENTORY AND ANALYSIS

A. HISTORY OF CONSERVATION AGREEMENTS ADOPTED BY THE CITY OF GREENACRES

1. The City of Greenacres Non-Indigenous Aquatic Plant Control Maintenance Program

On June 16, 1980, the City of Greenacres adopted Resolutions No. 80-13 and 80-14 which acknowledged the City's participation in Florida's "Non Indigenous Aquatic Plant Control Maintenance Program". Resolution No. 80-13 designated lakes, canals and all other water bodies within the City of Greenacres as areas for aquatic plant control. This program has been implemented as part of the City's flood prevention program. Resolution No. 80-14 gives the Public Works Department responsibility for administration of the local program. This Department continues to administer this program on a contractual basis.

2. The City of Greenacres Water Shortage Plan

On August 19, 1985, the City of Greenacres adopted Ordinance No. 85-27. The purpose of the Ordinance is to protect the water resources of the City from the harmful effects of over utilization during periods of water shortage and allocate available water supplies by assisting the South Florida Water Management District (SFWMD) with the enforcement of SFWMD's water shortage plan.

3. The City of Greenacres Wellfield Protection Ordinance.

The City has adopted a Wellfield Protection Ordinance (Ord. 88-7) that restricts land uses and regulated chemicals with zones of influence of potable water wells. This Ordinance created a permit review process through Palm Beach County and South Florida Water Management District (SFWMD) to protect and monitor our aquifer.

4. The City of Greenacres Landscape Ordinance.

On March 4, 1991, the City of Greenacres adopted Ordinance # 90-42 and on November 6, 2000, the City of Greenacres adopted Ordinance # 2000-06. The purpose of the Ordinances is to protect existing valuable tree species and ecological communities. Additionally, invasive and non-native species are prohibited and a minimum of 50% native trees and shrubs must be planted. The Ordinance encourages

xeriscaping and requires an environmental assessment prior to any land clearing.

5. The City of Greenacres Initial Stormwater Control Regulations

On April 26, 1993, the City of Greenacres adopted Ordinance 93-05 to manage stormwater run-off. The Ordinance complies with all state and federal regulations regarding water quality. Additionally, the Ordinance prohibits any discharge into the stormwater system without approval from the necessary regulating bodies.

6. The City of Greenacres Floodplain Management Regulations

On August 1, 2016, the City of Greenacres adopted Ordinance 2016-14 to address the special flood hazard areas within the boundaries of the City of Greenacres identified by the Federal Emergency Management Agency (FEMA). The Ordinance adopted floodplain management regulations that are coordinated with the Florida Building Code, and initiated participation in the National Flood Insurance Program's Community Rating System (NFIP CRS). The Ordinance promotes, among other things, enforcement of regulations that meet or exceed FEMA requirements to reduce the risk of flooding and impacts from flood damage.

B. AIR QUALITY

1. REGULATORY FRAMEWORK

a) Federal

The Environmental Protection Agency (EPA) is responsible for the administration of federal air quality standards. The Clean Air Act of 1970 and the 1990 amendments directed the EPA to establish National Ambient Air Quality Standards (NAAQS). The term "ambient air quality" refers to the quality of air representatively sampled from an area.

The EPA determined that carbon monoxide, sulfur dioxide, total suspended particulate, nitrogen dioxide, ozone, and lead required regulation. For each of the criteria pollutants, the administration has set two standards: primary and secondary ambient air quality standards. Primary standards are necessary to protect human health. Human health is interpreted to include the health of the most sensitive individuals, such as children and the elderly. Secondary standards are sufficient to protect public welfare. Public welfare includes visibility, plant life, and animal life.

Ambient standards are noted in terms of exposure time (1 hour, 8 hours, annual averages) and are generally more stringent than occupational standards which are designed to protect healthy individuals in the work place.

The 1990 amendments to the Clear Air Act address the problem of ozone nonattainment within certain geographical regions including all of Palm Beach County. This act created a new partnership between state and federal governments, giving the states primary responsibility for directing monitoring, controlling, and preventing pollution while assigning responsibility to the federal EPA for establishing standards the states must enforce, conducting research, and providing financial and technical assistance to the states.

b) State

The Department of Environmental Protection (DEP), Bureau of Air Quality Management, administers five (5) federal air quality programs, delegated to the state, pursuant to federal air quality laws. Under these programs, new and modified sources of air pollution in areas of the state that meet air quality standards must control emissions so air quality does not deteriorate.

The Florida Department of Environmental Protection (FDEP) has established an asbestos cleanup program to monitor building renovation and demolition projects to control airborne asbestos. About forty (40) new asbestos removal projects are begun each month statewide.

c) Local

The Air Pollution Control Section of the Palm County Health Department is responsible for the maintenance of air quality standards within Palm Beach County including the City of Greenacres. The responsibilities include permitting, monitoring, and preventative actions.

The Environmental Control Unit Monitoring Laboratory located in West Palm Beach is capable of continuously measuring stationary and mobile source related pollutants, i.e., carbon monoxide (CO), nitrogen dioxide (NO₂), and two meteorological parameters (wind speed and wind direction). The ozone monitors are located in the Village of Royal Palm Beach and at the Department's 20 mile Bend Site. Both of the ozone sites are National Air Monitoring Sites (NAMS) and are equipped with continuous meteorological sensing equipment. The sulfur

dioxide (SO₂) site is located in the City of Riviera Beach. The data collected by the air monitoring network is transmitted to the Florida Department of Environmental Protection for transmission to the EPA. FDEP places it in the SAROAD (Storage and Retrieval of Aerometric Data) format for transmission to EPA.

The air quality monitoring network also has ten (10) high volume particulate sites. All analysis pertaining to air pollution is performed by Palm Beach County's Health Department chemistry laboratory located in Delray Beach.

The review of applications for state air permits is one of the many activities handled by the Air Pollution Section of the Palm Beach County Public Health Department. FDEP requires both a permit to construct and a permit to operate any air pollution source. The review of permit applications places Palm Beach County in a position to prevent the improper construction of a pollution source and to assure that adequate pollution control equipment is utilized and maintained.

Other activities of the Air Pollution Section include: consultations with industries and engineers on impending permit action; enforcement action; maintenance of monitoring network; and required compliance schedule and increments of progress surveillance.

As part of the State Air Implementation Plan, the Palm Beach County Health Department is required to conduct source inspections of existing and new sources in Palm Beach County, in order to assure that all sources are in compliance with air pollution regulations.

2. EXISTING CONDITIONS

Palm Beach County is part of the Southeast Florida Urban Airshed that includes Dade and Broward Counties. This area is presently classified by the U.S. Environmental Protection Agency as a moderate ozone nonattainment area. Based on the most recent data shown in the "Air Pollution Control 1995 Annual Report", the area is now in compliance with the ozone standard.

The EPA has developed a uniform standardized daily air quality reporting index, called the Pollutant Standard Index (PSI), locally called the Air Quality Index (AQI), to be used by state and local agencies.

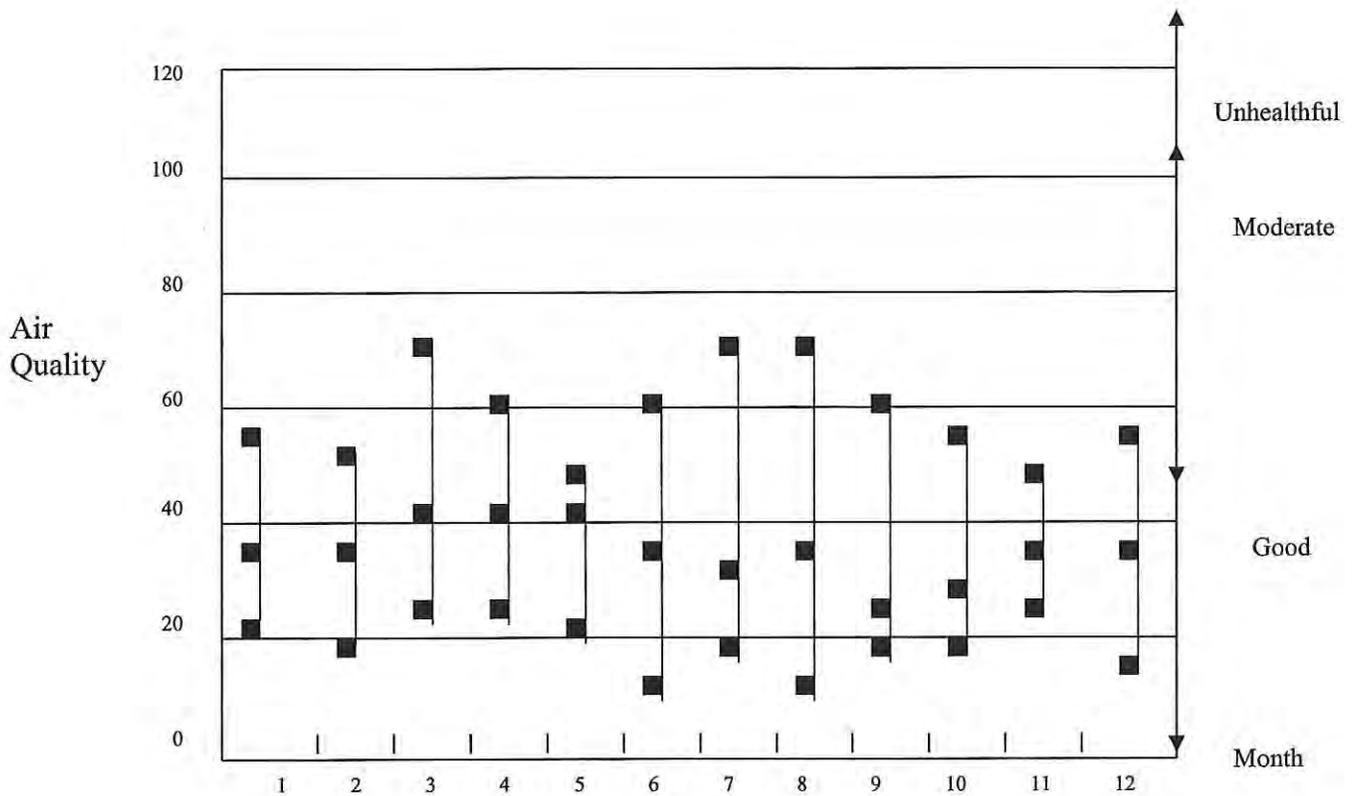
This index is dependent upon measured concentrations of the five pollutants which have been assigned National Ambient Air Quality

Standards (NAAQS); i.e. total suspended particulate, (TSP) carbon monoxide, sulfur dioxide, nitrogen dioxide and ozone. The index converts air pollution concentrations to a normalized number on a scale of zero to five hundred, with the National Ambient Air Quality Standard for each pollutant being assigned the value of 100.

Five descriptor words have been chosen to depict daily air quality: "good" (0-50), "moderate" (51-100), "poor" (101-200), "unhealthy" (201-300), and "hazardous" (301-500). If pollutant concentration warrants, the AQI report is expanded to include identification of the problem health effects.

Palm Beach County reports an air quality index to the general public on a daily basis as required by the Code of Federal regulations, 40 CFR, Part 58.40 Subpart E "Air Quality Index Reporting".

**TABLE 1
AIR QUALITY INDEX**



Source: Palm Beach County Health Department, Annual Air Monitoring Technical Report, 1995.

Air quality in Palm Beach County is in the "good" range 90% of the time and in the 'moderate' range less than 10%. "Moderate" air quality episodes of particulate matter may occur throughout the year, usually the

result of heavy construction activity and dry weather. Ozone levels approaching the “moderate” range occur during the afternoon hours in spring, summer, and fall. Stagnant weather conditions may also contribute to 'moderate' level episodes. Table 1 shows the number of “good, moderate and unhealthy” days for the last ten years.

Air pollution is primarily caused by man's industrial and transportation activities. It is the undesired by-product of the technological advancement of our modern society. On the other hand, this modern society has also developed efficient methods to prevent and control atmospheric emissions of air pollutants. Emission contributions can be classified by three main categories of air pollution: stationary, mobile, and air sources.

Mobile emissions are the primary cause of air pollution within the City of Greenacres. As the population continues to grow within the County, the number of automobiles on County roadways continues to increase, consequently the amount of pollutants entering the atmosphere increases.

C. WATER RESOURCES

1. Surface Water Systems

a) Topography and Physiographic Areas

"The Palm Beach County area can be divided into three general parts based on physiography and soils." These areas and their relationship to the City of Greenacres are identified on Map No. 5 and include:

1. the coastal ridge
2. the sandy flatlands
3. the Everglades marsh

The City of Greenacres lies entirely within the sandy flatland area of east central Palm Beach County. The nature of the flatland, as its name implies, is an area of very little change. "Most of this area has an elevation of ten (10) to twenty (20) feet above mean sea level."

b) Natural Drainage and Erosion

Because the City of Greenacres' topography varies only a few feet, drainage is usually a problem where there are no natural drainage courses. For this reason, the City is required to rely on an artificial canal network to provide adequate drainage to sustain development. The regional water management

system which services the City is the Central and Southern Florida Flood Control Project which is operated by the South Florida Water Management District (SFWMD). These drainage features are further outlined in the Infrastructure Element of this plan.

Climatic action upon the flat terrain of the City has created few major surface water features. Small depressions found throughout the City often fill with water and form intermittent ponds that may link together during heavy rains to create slow moving waterways. These waterways drain into the existing canal network system. The terrain lends little gravitational impetus to stream flow, causing few erosional changes.

c) Floodplains

The Federal Emergency Management Agency (FEMA) delineates surface water systems and the 100-year floodplain. Theoretically, there is a one percent (1%) chance of a 100-year flood occurring every year in a given location. Therefore, a 100-year flood occurring two or more years in a row is possible. Smaller floods (e.g. two year, five year, or ten-year floods) have a greater chance of occurring each year. Areas that would be inundated by the 100-year flood are designated by FEMA as "Areas of Special Flood Hazard".

Due to its substantial distance from the ocean and other major water bodies, the City of Greenacres has not been identified as a flood hazard area by the Federal Emergency Management Agency. ~~The City is exempt from the National Flood Insurance Program. Regardless, the City has actively participated in the National Flood Insurance Program (NFIP) objectives since August 26, 1977. The City does actively participate in the program objectives.~~ All recent developments comply with existing Federal and State laws related to flood prone areas.

In order to anticipate impacts from pending amendments to FEMA Flood Insurance Rate Maps (FIRM), the City has recently initiated a Floodplain Management Ordinance and started active participation in the NFIP Community Rating System (CRS) Program, which provide discounts to residents on flood insurance rates in return for instituting regulations and raising development standards.

d) Rivers, Bays, Lakes and Wetlands

Within the present limits of the City of Greenacres, there are no natural rivers, bays, lakes or wetlands identified by the Florida Department of Environmental Protection. However, several on-site water detention/retention ponds do exist among residential developments as drainage features. These areas are addressed in greater detail in the Future Land Use Element of this plan.

2. Groundwater Resources

Groundwater is the principal source of water supply for 1) municipal systems, 2) private industrial, agricultural and domestic use, and 3) maintaining the water level in lakes and streams.

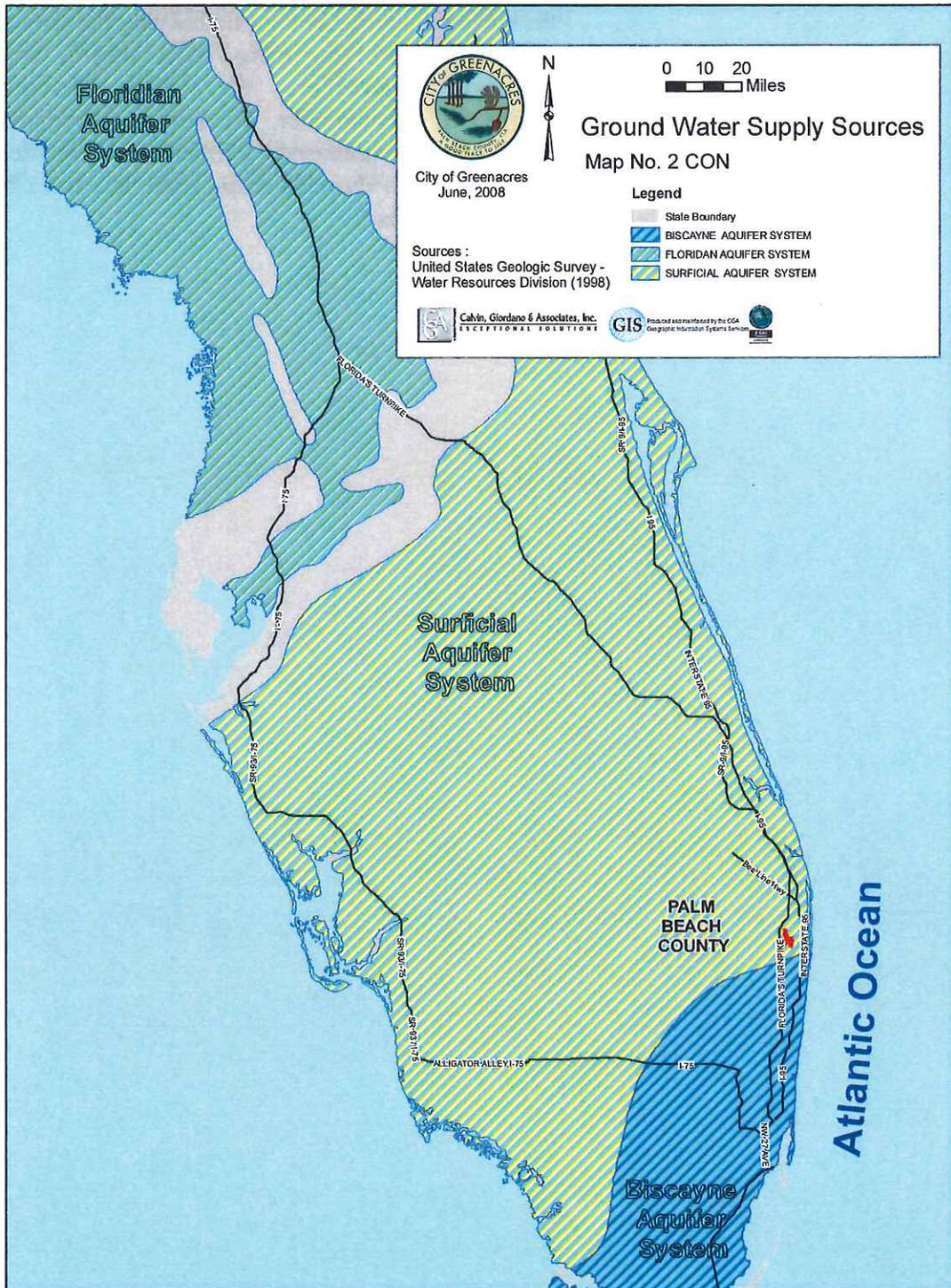
Groundwater is derived from precipitation and surface waters from streams, lakes, swamps, and ponds. This water filters into the ground where the soil is permeable, or through openings or passages in rock formations, to reach the aquifer systems. The majority of rainfall infiltrating the water table aquifer travels in a southeasterly direction from higher elevations to natural discharge areas such as lakes, streams or man-made canals. Approximately 50% of precipitation falling on the county reaches the underlying aquifer systems.

As described in the text of the Conservation Element of the Palm Beach County Comprehensive Plan (Introduction, Surface Water and Groundwater Quality and Quantity), Palm Beach County currently relies on one principal aquifer system: The Surficial Aquifer System. This aquifer contains: 1) the unconfined Biscayne Aquifer located in southern Palm Beach County and 2) the undifferentiated Water Table Aquifer located throughout the rest of the County. The Biscayne Aquifer is currently the sole source of potable water for southern Palm Beach County. It is recharged by direct infiltration of rainfall and canal inflow. In the future, the County may also rely on the Floridan Aquifer to complement future water supply needs. The Floridan Aquifer System underlies the State of Florida and portions of other states to the north and west of Florida. The Aquifer lies deep below South Florida and would require special treatment to make the brackish water in its upper layer suitable for drinking. The SFWMD's Lower East Coast Regional Water Supply Plan has suggested the Floridan Aquifer as one of the future water source options.

a) Surficial Aquifer System

"The Surficial Aquifer system provides almost all of the groundwater used in the City of Greenacres and all of Palm Beach County" and is expected to continue as the primary source of groundwater in the future.

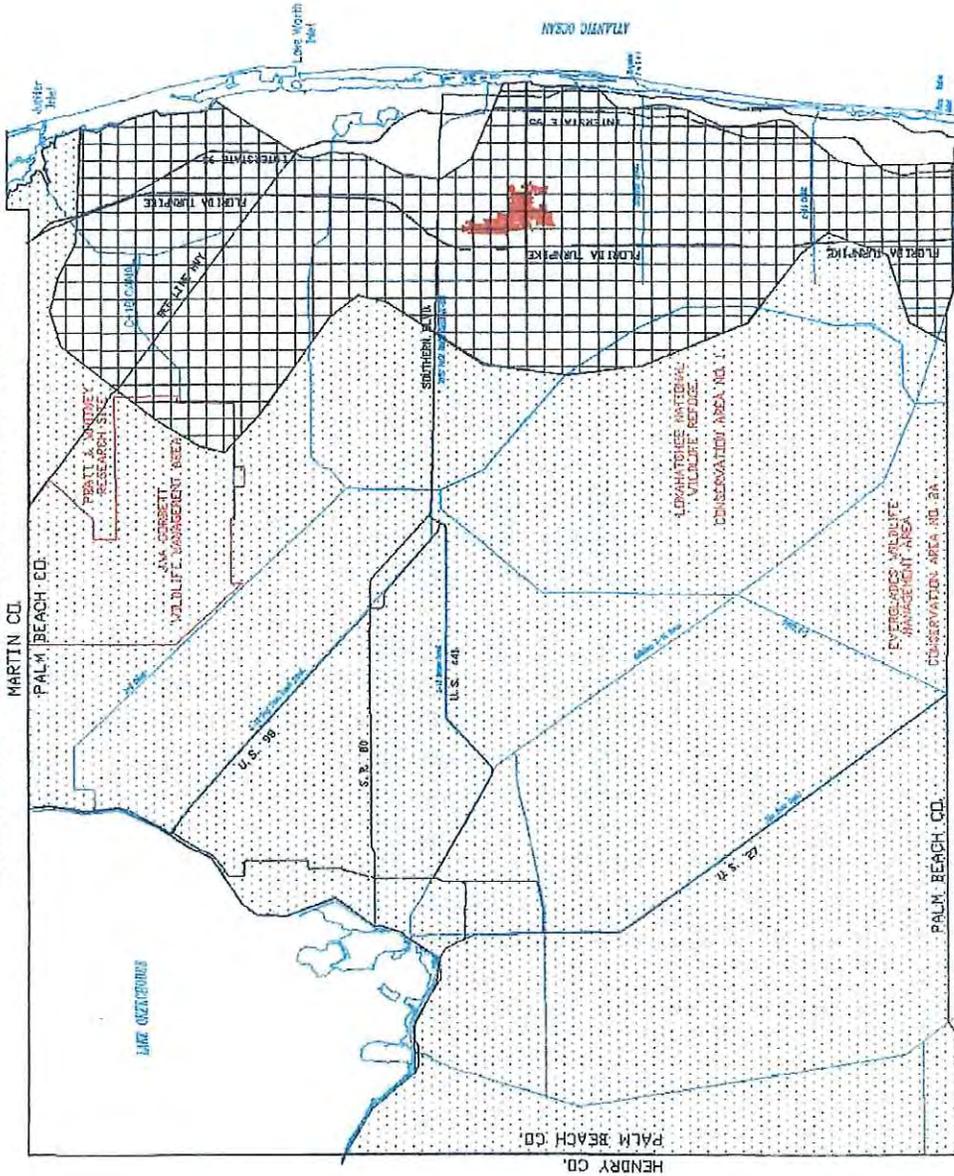
Map No. 3, details the zone of secondary permeability (undifferentiated Water Table Aquifer) and the transmissivity of the surficial aquifer system underlying the City. Transmissivity is a measure of the ease with which water can move through an aquifer. As within the most productive portion of this aquifer, the zone of secondary permeability "This zone is composed of limestone, cemented shell, and sand stone in which the cementing materials have been dissolved to varying degrees."



CITY OF GREENACRES

PREPARED BY THE ENGINEERING, PLANNING & BUILDING DEPARTMENT, MAY 1997

MARTIN CO.



TRANSMISSIVITY OF THE SURFICIAL AQUIFER SYSTEM

MAP NO. 3

- | | |
|--|--|
| | |
|--|--|

 ZONE OF SECONDARY PERMEABILITY (Turnpike Aquifer)
 brown and white greater than 1,000,000 cfs - per foot
- | | |
|--|--|
| | |
|--|--|

 LESS PERMEABLE DUE TO HIGHER CLAY AND SILT CONTENT
 brown set off as less than 10,000 to 1,000,000 cfs

5 MILES
1 MILE

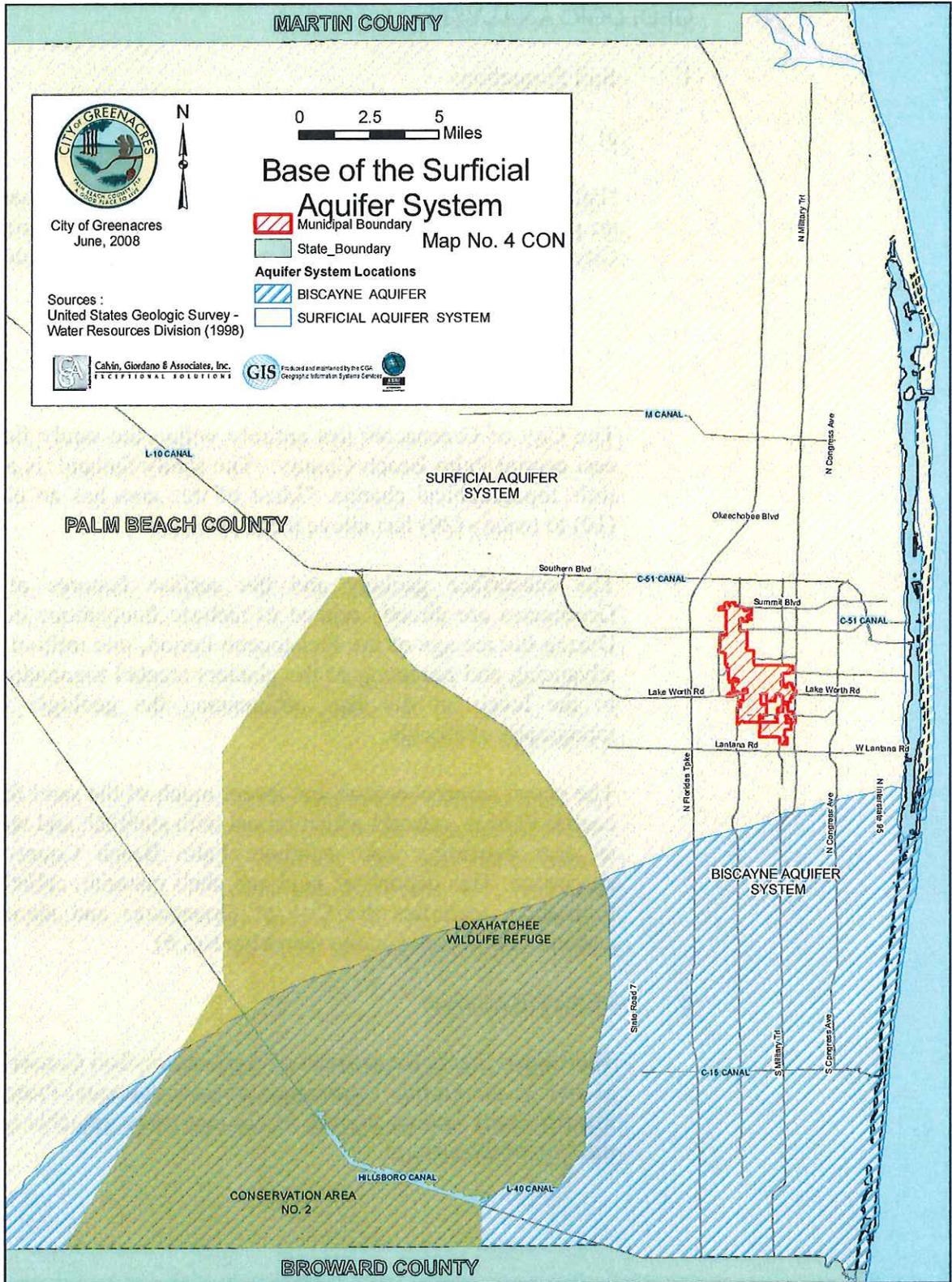
The City of Greenacres' contour elevations, referenced to by mean sea level indicates that the base of the surficial aquifer system shows a gradient decline of 290' to 260'. The base of the surficial aquifer system in the City of Greenacres is shown on Map No. 4. The origin of the base is located due west of the City at a depth of 140' feet.

Currently there are no public water supply wells within the City of Greenacres. However, just to the west of the western edge of the City, there is a well field serving Palm Beach County System No. 2 which is the source of potable water supplied to Greenacres residents.

The City has adopted a Wellfield Protection Ordinance (Ord. 88-7) that restricts land uses and regulated chemicals with zones of influence of potable water wells. This Ordinance created a permit review process through Palm Beach County and South Florida Water Management District (SFWMD) to protect and monitor our aquifer.

As of 1996, the City has engaged in the National Pollutant Discharge Elimination System (NPDES) Permit. The NPDES contains a comprehensive stormwater management program with specific requirements to address stormwater runoff from residential, commercial, industrial, and construction sites. A program to eliminate illicit discharges and improper disposal of waste is also included in the permit. The implementation of this permit will create awareness of the quality of the water entering our aquifer. Increasing water use has resulted in degraded water quality. Natural areas and other open spaces are also important as groundwater recharge areas. The preservation of recharge areas and the use of on-site stormwater retention/detention help to replenish water systems.

"Innovative and practical conservation techniques, as well as public education programs, must be utilized to conserve and provide an adequate water supply. Water conservation techniques include the use of native drought-tolerant landscaping (xeriscaping), the use of irrigation quality water reuse, limiting times of watering and the use of low flow plumbing fixtures. Public education about water conservation must be stressed at all levels."



D. GEOLOGIC ANALYSIS

1. Soil Formations

a) Topography and Physiographic Areas

"Palm Beach County Area can be divided into three general parts based on physiography and soils." These areas and their relationships to the City of Greenacres are identified on Map No. 5 and include:

1. the coastal ridge
2. the sandy flatlands
3. the Everglades marsh

The City of Greenacres lies entirely within the sandy flatlands area of east central Palm Beach County. The sandy flatland, is an area of very little topographical change. "Most of this area has an elevation of ten (10) to twenty (20) feet above mean sea level."

The subsurface geology and the surface features of the City of Greenacres are directly related to historic fluctuations in the sea level. During the ice age of the Pleistocene Period, one million years ago, the advancing and retreating of the glaciers created tremendous fluctuations in the levels of the seas, influencing the geologic formation and topography of Florida.

The ocean currents eroded and swept much of the sand from beaches in central Florida seaward which mixed with shellfish and was deposited in an area extending from southern Palm Beach County north to St. Augustine. This deposit of sand and shell material, called the Anastasia Formation, underlies the City of Greenacres and about one-third of eastern Palm Beach County (see Map No. 6).

2. Mineral Resources

The United States Department of Agriculture, Soil Conservation Service, as well as the Florida Department of Environmental Protection have not identified any known sources of commercially valuable minerals within the City of Greenacres.

3. Soil Erosion

Erosion factors are used to predict the erodibility of a soil and its tolerance to erosion in relation to specific kinds of land use and treatment. "The soil erodibility factor (k) is a measure of the susceptibility of the soil to erosion by water. Soils having the highest (k) values are the most erodible. K values range from 0.10 to 0.64." Factors which influence annual soil loss per acre are as follows:

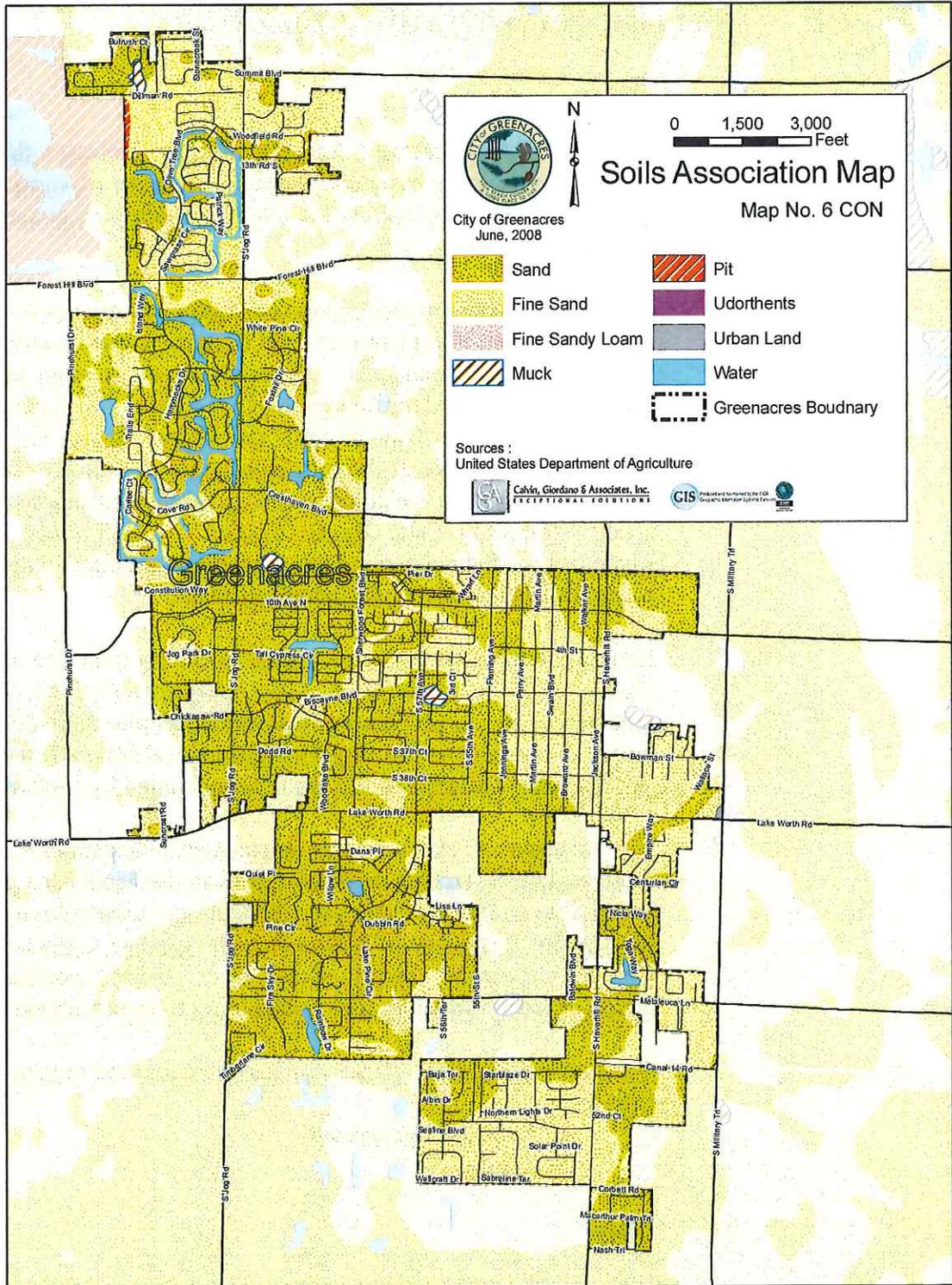
**TABLE 2
SOIL EROSION FACTORS**

Soil Name	Map I.D.	Permeability	Risk of Corrosion		Erosion Factors	
			Uncoated Steel	Concrete	K	T
Basinger	1	20	High	Moderate	0.1	5
Myakka	2	6.0-20	High	High	0.2	5
Riviera	3	0-28	High	High	0.17	4

Source: U.S. Department of Agriculture, Soil Conservation Service - December, 1978.

The three types of soils found in the City are Myakka, Riviera, and Basinger. The erosion factors as shown in Table No. 2 indicate that the erosion factor is low to moderate. There are no areas in the City of Greenacres known to have experienced soil erosion problems.

Soil types identified by the U.S. Dept. of Agriculture, Soil Conservation Service, in the City of Greenacres are shown on Map No. 6 and Table No. 2.



E. WILDLIFE AND VEGETATIVE COMMUNITIES

1. Flora

The 2006 Evaluation and Appraisal Report indicates that the City of Greenacres consists of approximately 113 acres of vacant undeveloped land. (This does not include the City's inventory of recreation and open space sites).

Since most studies of endangered or threatened species are conducted on a regional level, it has been difficult to refine a quality study specifically for the City of Greenacres. Although no endangered plant or animal species have been identified in the City by the Florida Game and Fresh Water Fish Commission or with the United States Fish and Wildlife Service, and because of the transient nature of wildlife, Table No. 3 has been included in this element depicting those endangered or threatened species found in Palm Beach County. The Florida Natural Areas Inventory for Palm Beach County identifies animals, plants, and natural communities that are identified as imperiled.

Existing vegetative cover is typical of that found in most of South Florida away from the coast. The approximately 113 acres of vacant land in the City can be generally described as pine flatwoods. "Slash pine occupies portions of the slightly higher elevations with an understory of saw palmetto. Slightly lower areas are occupied by Melaleuca."

The invasion of the punk tree *Melaleuca leucadendron*, is threatening these remaining strands of pines. Because the *Melaleuca* tree is virtually impossible to eradicate and very difficult and expensive to control, it has been added to the list of trees not to be used in Greenacres City. The City of Greenacres Zoning Code, Sec. 16-1312 contains a complete listing of freeze sensitive and unappealing trees prohibited in the City.

The two predominant causes for loss of trees and vegetation within the City are:

- 1) land development and
- 2) disease.

2. Fauna

Conservation of ecological communities is necessary to prevent the loss of certain species and to protect threatened and endangered species. Impacts that would reduce their populations must be prevented and in some cases encourage actions that will increase their numbers.

Since most studies of endangered or threatened species are conducted on a regional level, it has been difficult to refine a quality study specifically for the City of Greenacres. Although no endangered plant or animal species have been identified in the City by the Florida Game and Fresh

Water Fish Commission or with the United States Fish and Wildlife Service, and because of the (Transient) nature of wildlife, the following Table No. 3 has been included in this element depicting those endangered or threatened species found in Palm Beach County.

**TABLE NO. 3
IDENTIFIED SPECIES AND STATUS**

Common Name	Designated Status Florida Game & Freshwater Fish Commission	United States Fish & Wild- life Service
Reptiles & Amphibians:		
American Alligator	S4	LT/SA)
Loggerhead	S3	LT
Green Turtle	S2	LE
Leatherback Turtle	S2	LT
Eastern Indigo Snake	S3	LT
Hawsbill	S3	LT
Gopher Tortoise	S3	C2
Atlantic Ridley	S1	LE
Florida Pine Snake	S3	C2
Florida Scrub Lizard	S3	C2
Birds:		
Florida Scrub Jay	S3	LT
Great Egret	S4	N
Little Blue Heron	S4	N
Snowy Egret	S4	N
Tricolored Heron	S4	N
White Ibis	S4	N
Florida Sandhill Crane	S2S3	N
Bald Cypress	S2S3	LE
Wood Stork	S2	LE
Yellow-crowned Night heron	S3	N
Black-crowned Night heron	S3	N
Osprey	S3S4	N
Red-cockaded Woodpecker	S2	LE

Hairy Woodpecker	S3	N
Snail Kite	S1	LE
American Redstart	S3	N
Florida Burrowing Owl	S3	N
Least Tern	S3	N
Mammals:		
Florida Panther	S1	LE
Florida Mouse	S3	C2
Sherman's Fox Squirrel	S2	C2
Manatee	S2	LE
Amphibians:		
Gopher Frog	S3	C2
Fishes:		
Striped Croaker	S2	N
Bigmouth Sleeper	S2	N
Spottail Goby	S2	N
Opossum Pipefish	S2	N
Invertebrates:		
Red Widow Spider	S?	N
Plants:		
Golden Leather Fern	S3	N
Ray Fern	S1	N
Florida Threeawn	S2	N
Curtiss Milkweed	S3	N
Four-petal Pawpaw	S1	LE
Sand Dune Spurge	S2?	N
Silver Palm	S3	C2
Large-flowered Rosemary	S3	C2
Okeechobee Gourd	S1	LE
Coastal Vervain	S2	C2
Johnson's Seagrass	S2	N
Broad-leaved Spiderlilly	S2S3	3C
Beach Jacquemontia	S1	PE
Nodding Pinweed	S3	3C
Pine Pinweed	S2	C2
Burrowing Four-o'clock	S2	N
Dancing-lady Orchid	S1	N
Hand Fern	S2	3C
Cutthroat Grass	S2	C2
Scrub Bay	S3	3C
Bahama Brake	S3	N
Beach-star	S3	N

Necklace Pod	S3	N
Coastal Hoary-pea	S1	C2
Sea Lavender	S3	N

INDEX	S1	Critically Impaired
	S2	Imperiled
	S3	Very Rare
	C1	Candidate Species
	C2	Candidate Species
	LT	Listed as Threatened Species
	LE	Listed as Endangered Species
	PE	Proposed for addition to the List of Endangered
	3B	Taxa no longer being considered because the names do not represent taxa meeting the Endangered Species Act's definition of "species".
	3C	Taxa that have proven to be more abundant than was previously believed.

SOURCE: Florida Natural Areas Inventory, March 1995

The City of Greenacres enacted Ordinance 90-42. This Ordinance called for the protection of existing trees identified as historical, valuable, endangered, or threatened. This Ordinance also calls for preservation of ecological communities, native habitats, and natural features.

3. Analysis

Partial destruction of ecological communities is caused by breaking up wildlife areas into small isolated pockets through destruction of the vegetation which serves to link the communities together. These linkages allow the movement of wildlife throughout the City, County and/or the Region. This connected "network" of habitats reduces inbreeding, provides evacuation routes during stressful environmental events, and is needed to insure the existence of certain species.

Since the current City boundary is largely developed, any ability to link ecological communities has been greatly reduced. An overarching open space/corridor linkage plan can be addressed in the future, recognizing the potential for openspace/linkages that still exist west of the current City boundary but within our future annexation area.

A map identifying the ecological communities at a scale appropriate for site specific development is not available. The best available information is based on aerial photography which depicts vegetative cover and land use. A more comprehensive inventory of the ecological communities will help to ensure that the communities are not accidentally or needlessly destroyed by development. This inventory would form the basis of management policies and guide land development regulations for the

conservation and preservation of ecological communities and endangered and threatened species.

F. FISHERIES AND MARINE HABITATS

There are no fisheries or marine habitat under public management and ownership within City limits.

Recreational freshwater fishing opportunities in the City of Greenacres are limited to drainage canals and other water management areas.

G. WETLANDS

There are no known wetlands in the current boundaries of the City of Greenacres. Based on data obtained through maps produced by the National Wetlands Inventory (NWI), the City does not contain any natural wetlands.

At the time of any site and development order, a vegetative and ecological assessment is required. If any wetlands are identified, Environmental Resources Management (ERM) with Palm Beach County would do an assessment of the property.

The City's future annexation boundaries contain some wetlands as identified on the NWI maps. The current site and development process will ensure that any needed mitigation and/or protection of wetlands will occur.

H. POLLUTION

1. Drainage

Interconnected drainage canals in the City are all controlled and regulated by the Lake Worth Drainage District (LWDD). These canals eventually flow into Lake Worth, a regionally significant water body located approximately five miles from the City of Greenacres.

Outfall structures are designed to ensure that the first 1.5 inches of runoff are retained for five days for purposes of water quality enhancement. Outfall structures also are designed such that the discharge resulting from a 25-year, 3 day storm will not exceed the allowable discharge specified by the LWDD.

There are a few specific pollution problems relating to Palm Beach County and the City of Greenacres. The Surficial aquifer is threatened from pollution due to runoff from highways and streets. Motor oil, gases, rubber and chemicals are channeled into some swale areas where it then infiltrates into the ground, tainting the aquifer. Unless corrective

measures are taken, the problem will increase and ultimately cause health and other related damages.

A storm sewer system has been developed for some areas in the City of Greenacres. The establishment of a more complete system, would aid in the diversion of water on flooded streets and avoid stagnation of water in the swales, thus helping preserve a safer aquifer.

2. Air

The topography is of primary importance whenever meteorological aspects of a given region are to be evaluated. Palm Beach County being a "flat" and semitropical region is governed by the quasi permanent location of the "Bermuda" high pressure area, which causes our prevailing easterly surface winds in addition to supplying warm moist air.

The "Bermuda" high pressure area is also responsible and capable of causing high pollution days. This atmosphere can easily occur if cold air from the north moves underneath the warm air brought into the County by the "Bermuda" high. This results in a temperature change with height which traps pollutants near the lower levels.

3. Hazardous Waste

a) Legislation

Hazardous waste is defined in Rule 9J-5.003(34), FAC, which states:

"Hazardous waste: means solid waste, or a combination of solid wastes, which, because of its quantity, concentration, or infectious characteristics, may cause, or significantly contribute to an increase in mortality or an increase in serious irreversible or incapacitating reversible illness or may pose a substantial present or potential hazard to human health or the environment when improperly transported, disposed of, stored, treated, or otherwise managed."

Wastes are generated not only by large industrial firms but by hundreds of small commercial operations, by various consumer services and by individual households. The management and control of the waste problems are the concern of the federal, state, county and local governments, ranging from federal laws regarding the disposal of nuclear wastes, to local regulations banning disposal of certain waste generators (Chapter 40 CFR, Part 261-265).

4. Water Use

The Surficial Aquifer is the primary source of freshwater provided to the residents of the City of Greenacres, as supplied by the Palm Beach County Water Utilities Department. No single entity has jurisdiction over the aquifer however South Florida Water Management District does permit wells and the amount of water withdrawn from the aquifer.

The approximately 62.0 inches of rainfall which falls on the City of Greenacres annually, replenishes these water resources through infiltration. The withdrawal of water from the Surficial Aquifer is restricted by permits issued by the South Florida Water Management District.

Additional information related to water use can be found in the Drainage or Potable Water Elements of this Plan.

IV. THE PLAN

These recommendations are designed to provide direction and a course for future action. Proper management and control of natural resources are essential for economic well-being and continued high quality of life.

A. AIR QUALITY

The air quality in the City of Greenacres is considered quite good, notwithstanding those minor problems outlined earlier. To ensure the continuation of good air quality, it is recommended that:

- 1) a plan be established to monitor current air quality; and
- 2) actions be initiated to assure that the air quality will not be degraded.

Greenacres will continue to assist the DEP in their Air Pollution Inventory Source (APIS) program. Additionally, the City will report suspected violations to the DEP.

The impact that future growth may have on local air quality should be considered during the approval process. Emission data for new industries should be required as part of the development review process and when issuing development orders or permits. This could help evaluate potential problems before development decisions are finalized.

Countywide land use patterns and transportation systems should be compatible with a desired level of air quality. Automobile emissions on major thoroughfares such as SR. 441, the Turnpike and I-95 near the City of Greenacres should be monitored to maintain an acceptable air quality standard. Whenever possible,

urban land uses should be buffered from stationary and linear sources of emissions with open space. Dense vegetation can be utilized in intense industrial and commercial areas.

Facilities that house the young, elderly, and sick should be located away from emission sources. These facilities include Adult Congregate Living Facilities (ACLF), day care centers and recreation. Designs featuring planned unit development, multi-use centers and other innovative cohesive development forms should be encouraged to reduce the need to travel.

B. WATER QUALITY

In order to protect the quality of water, the City will need to:

- 1) carefully monitor development activities to protect natural water-cleansing features; and
- 2) reduce or prevent discharges of contaminants from commercial and residential land uses.

It is recommended that the City continue to implement and enforce Ordinance 93-05 the Comprehensive Stormwater Management Ordinance, establishing, monitoring and regulating of:

- 1) canal bank and shoreline buffer zones adjacent to surface water bodies to preserve natural vegetation, which provides filtration of future stormwater runoff;
- 2) general design and construction standards for on-site stormwater management systems for new development to ensure that post-development runoff rates, volumes and pollutant loads do not exceed predevelopment conditions; and
- 3) cooperation with Palm Beach County Department of Environmental Resources to implement the Wellfield Protection Ordinance.

C. PROTECTING ALL ECOLOGICAL COMMUNITIES

In conjunction with acquisition of ecological communities most in need of preservation, the City should recommend as part of the land development regulations, provisions to conserve ecological communities. Such provisions would address the need to:

- 1) preserve the most sensitive portions of the community;
- 2) provide for a development plan which promotes clustering of dwelling units away from sensitive portions of the ecological community;
- 3) provide for adequate Greenspace/Open Space areas within the development; and
- 4) provide for buffering adjacent to the ecological community.

D. MAINTAINING A NATURAL AREAS NETWORK

A natural areas network can enhance the movement of wildlife throughout the region. A management plan should be developed to guide future acquisitions develop strategies to maintain and conserve natural areas and establish coordination and support from private landowners and governmental agencies. Also, cooperative efforts with landowners should be pursued to encourage voluntary protection of the natural area network.

The City will strive to maintain and conserve natural areas through the implementation of the landscape code.

E. PROTECTING ENDANGERED SPECIES

Greenacres' species having protection status designated by the state and federal government, should be evaluated for appropriate protective status. The City should develop performance standards in its land development regulations to protect species-specific habitats by regulating building in or near these areas. The performance standards should be similar to those for ecological communities.

The City should assist the state and federal agencies responsible for enforcing regulations concerning rare and endangered species.

On those lands that are privately owned, landowners should be encouraged to use the best management practices in leaving the species' most desirable habitats.

F. WATER CONSERVATION

As indicated previously, the principal water conservation opportunities available to the City involve maximizing the use of existing sources and supplies as well as eliminating unnecessary uses. The City will implement the water shortage plan developed by the SFWMD when necessary. The City of Greenacres will continue to work with the LWDD and the SFWMD to develop a water conservation plan which adequately meets the needs of the City of Greenacres.

G. HAZARDOUS WASTE MANAGEMENT

1. State Level

Statewide regulations which affect the handling of hazardous waste generated in Greenacres are managed through the Florida Department of Environmental Protection (DEP) as contained in Chapter 17-7, Florida Administrative Code (FAC). In addition, the Florida Resource Recovery and Management Act (Sec. 403.7, F.S.), which was passed in 1980, adopted federal guidelines and directed DEP to develop and implement a hazardous waste management program. This act provided for:

- 1) adoption of federal hazardous waste definitions;
- 2) a system to monitor hazardous waste from generation to disposal;
- 3) an annual inventory of large hazardous waste generators;
- 4) permit requirements regulating treatment, storage and disposal of hazardous waste;
- 5) funds for hazardous waste spill and site clean-up;
- 6) hazardous waste management facility site selection procedures; and
- 7) fines and penalties for violators.

Amendments to the Florida Act in 1983 provided directions and funds to establish a cooperative hazardous waste management program between local, regional and state levels of government. These changes included provisions for county levels of hazardous waste management assessments, regional and statewide facility needs assessments, and site selection for hazardous waste management facilities at the county, region and state levels.

The Solid Waste Authority, together with the Treasure Coast Regional Planning Council, completed the Hazardous Waste Management Assessment in May, 1985 by interlocal agreement.

2. Local Level

Hazardous waste, as defined in this element, cannot be finally disposed of in Palm Beach County, but must be transferred to a federally qualified hazardous waste disposal facility or be recycled. The Palm Beach County Health Department has the responsibility of ensuring that any producer of hazardous waste over 25 kilograms (55 lbs) a month are inspected and permitted. Producers of hazardous waste under 25 kilograms a month are inspected but are not required to obtain an additional permit from Palm Beach County Health Department.

The transfer facility which handles the potential hazardous temporary waste storage for the City of Greenacres is the North County Regional Resources Recovery Facility identified in the Solid Waste Sub-Element of this Plan.

H. CURRENT AND PROJECTED WATER NEEDS

According to the Palm Beach County Water Utilities Department, the supplier of drinking water to the City of Greenacres, the demand per capita is 126 gallons per day. By applying this rate to the projected population for the City, water use can be projected through the year 2025. Table 4 gives a summary of these projections. Additional information can be found in the Water Supply and Potable Water sub-element of the Infrastructure Element of the Greenacres Comprehensive Plan.

**TABLE 4
PROJECTED POTABLE WATER USE**

Year	Population	Rate (gpd) (3)	Total Usage (annual gallons)
2007	32,105 (1)	126	1,476,508,950
2010	32,688 (2)	126	1,503,321,120
2015	33,718 (2)	126	1,550,690,820
2020	35,926 (2)	126	1,652,236,740
2025	36,105 (2)	126	1,660,468,950

Source: (1) April 1, 2007 estimate by University of Florida Bureau of Economic and Business Research (BEER).
(2) Palm Beach County Planning Division Allocation Model of March 2008 BEER projections.
(3) Palm Beach County Water Utilities Department April 11, 2008 Water Supply Work Plan, Table 6-1.

I. NATURAL DISASTERS

1. Overview

The City of Greenacres is not located in a coastal zone or identified by the Federal Emergency Management Agency (FEMA) as a flood prone area. Because of the existing and continued possibility of the occurrence of emergencies of unprecedented size and destructiveness resulting from natural causes, the need to address these issues still exists.

In 2004 and 2005, 3 hurricanes directly affected Palm Beach County (Hurricanes Frances, Jeanne and Wilma). Busy hurricane seasons are predicted for the coming years as we enter an active cycle. Palm Beach County has full responsibility for coordination of all evacuation procedures during a natural disaster through the "Palm Beach County Peacetime Emergency Plan." The Emergency Management Division is the county entity responsible for the coordination of the evacuation of the population at risk during a hurricane event.

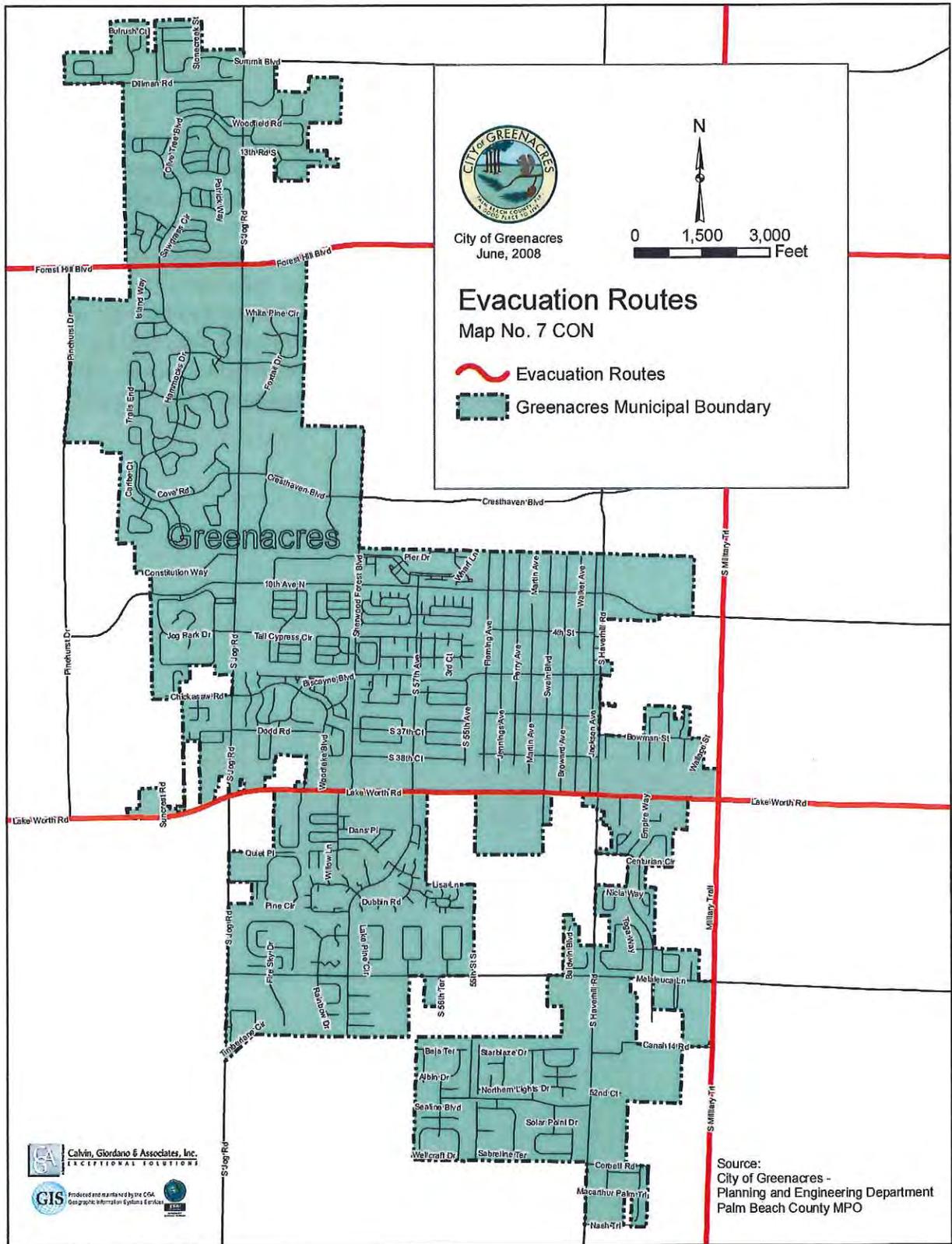
2. Shelters

A Memorandum of Understanding exists between the State of Florida and the American Red Cross. The American Red Cross assumes the responsibility for opening and staffing all hurricane shelters required to provide refuge for those who must evacuate during a hurricane event. Hurricane shelters are not opened automatically at the issuance of a hurricane warning by the National Weather Service. Announcements on openings of Red Cross shelters are made by the Emergency Management Division (the old Civil Defense) on all TV and radio stations.

There are two Red Cross shelters within the City of Greenacres. They are John I. Leonard Leonard High School at 4701 10th Avenue North and Heritage Elementary School at 5100 Melaleuca Lane.

3. Evacuation Routes

In order to provide for the safety of the general public during a hurricane event, the County provides evacuation routes and shelter spaces so that an evacuation time standard of eight daylight hours and ten hours during darkness is met. In an effort to protect life and property and to reduce evacuation times, the County has established criteria for the elimination of hazardous tree fall conditions along identified hurricane evacuation routes that are County-owned or County-maintained. Additionally, Palm Beach County has the responsibility of updating its Peacetime Emergency Plan in order to reflect the rapid growth rate. Map No. 7 identifies the presently approved evacuation routes with required traffic control points, which would affect the residents of the City of Greenacres.



V. GOALS, OBJECTIVES AND POLICIES

- A. GOAL: The City of Greenacres shall conserve, protect and appropriately manage the natural resources of the City of Greenacres to ensure the highest possible environmental quality.

A.1 AIR QUALITY OBJECTIVE AND POLICIES

Objective 1

The City shall work cooperatively with Palm Beach County in meeting the air quality levels established by DEP.

Policy a)

Facilitate efforts of the Air Pollution section of the Palm Beach County Public Health Department and the Florida Department of Environmental Protection to administer the Air Pollution Inventory Source Program and to identify emissions violators within the City.

Policy b)

Reduce the potential for automobile emission pollution by:

- 1) increasing the volume of vegetation along arterial roadways; and
- 2) promoting alternative transportation such as car pooling, public transit and bicycle and pedestrian paths.

Policy c)

Continue to work with Palm Beach County Health Department to ensure required permits are obtained by all businesses in the City.

Policy d)

Work with County and State agencies to establish development review procedures which eliminate or mitigate adverse atmosphere pollution impacts on or from the City of Greenacres.

A.2 WATER QUALITY OBJECTIVES & POLICIES

Objective 2

The City of Greenacres shall work cooperatively with Palm Beach County, South Florida Water Management (SFWMD), and Lake Worth Drainage District (LWDD) in protecting

the quality and quantity of current and projected water sources that flow into estuarine and/or oceanic waters and in conserving water resources.

Policy a)

Continue to require developments to obtain Environmental Resource Permits (ERP) addressing water quality and quantity for compliance with all State regulations as a condition for development approval pursuant to Chapter 373 F.S. and Chapters 40E-4, 40, 41, 400 F.A.C.

Policy b)

Promote and actively seek the planting of desirable vegetation along drainage features to act as cleansing agents for the water through the use of upland buffer and littoral plantings.

Policy c)

Cooperate with Palm Beach County, South Florida Water Management District and Lake Worth Drainage District to impose and enforce protection measures and to monitor contamination levels and flow rates in order to maintain or improve the quality and quantity of water resources in the City for consumption, aesthetic and recreational purposes.

Policy d)

Continue to ensure that development complies with the provisions of the Palm Beach County Wellfield Protection Ordinance.

Policy e)

Seek opportunities through the development review process, Intergovernmental Plan Amendment Review Committee (IPARC), Metropolitan Planning Organization (MPO) and interlocal agreements to conserve, appropriately use and protect subsurface water quality and supply.

Policy f)

Discourage withdrawal of subsurface water in excess of recharge and replenishment capabilities through continued cooperation with the South Florida Water Management District (SFWMD).

Policy g)

Meet on a regular basis with representatives of the Palm Beach County Water Utilities Department, South Florida Water Management District, and Lake Worth Drainage District to discuss issues of mutual concern, including water quality and quantity issues.

Policy h)

In accordance with the City's Ordinance No. 85-27, the City shall continue to implement the water shortage plans of the South Florida Water Management District.

Policy i)

To conserve water resources, the City shall continue to implement the rainfall sensor requirement for all new irrigation systems in accordance with City Ordinance No. 90-42.

Policy j)

The City of Greenacres shall continue the implementation of the provisions of the City's Landscape Code that require proper plant selection and siting, preservation of existing native vegetation, use of native plants, xeriscaping, efficient irrigation systems, and appropriate maintenance procedures.

Policy k)

The City of Greenacres shall support Palm Beach County Water Utilities Department's efforts to encourage the continuation of existing water conservation programs as directed by various public and private agencies and organizations through the distribution of information provided by those entities.

Policy l)

The City of Greenacres shall support Palm Beach County Water Utilities Department's prohibition of water-only meters used strictly for irrigation, where reasonable alternative irrigation sources exist.

Policy m)

The City of Greenacres shall support Palm Beach County Water Utilities Department's efforts to promote water conservation through the use of increasing block utility rate structures.

Policy n)

The City of Greenacres shall support Palm Beach County Water Utilities Department's efforts to use innovative alternative technologies to augment water resources including: conventional reclaimed water irrigation piping systems, constructed wetlands, aquifer storage and recovery (ASR), groundwater recharge, and indirect reuse systems.

Policy o)

In the event that irrigation quality reclaimed water becomes available adjacent to or within the City of Greenacres, the City shall cooperate with Palm Beach County Water Utilities Department to create a Mandatory Reclaimed Water Service Area, as described in Policy 2.1-b of the Palm Beach County Comprehensive Plan, to encourage the use of reclaimed wastewater for irrigation.

Policy p)

To protect the water resources of the City and Palm Beach County, the City hereby adopts Chapter 62-25 F.A.C. as water quality standards for stormwater discharge.

Policy q)

The City shall continue to participate in the National Pollutant Discharge Elimination System (NPDES) permit program as authorized by the Clean Water Act, which controls water pollution by regulating point sources that discharge pollutants into Florida waters.

A.3 LAND, SOILS, MINERALS - OBJECTIVE AND POLICIES

Objective 3

The City of Greenacres shall regulate and control all activities which affect the surface of the land and the minerals beneath the land's surface.

Policy a)

Base land use decisions, in part, on consideration of the limitations, capabilities and potential of the soils.

Policy b)

Consider the merits and needs, in the future, of guiding new urban and residential development to areas with suitable soils.

Policy c)

Encourage conservation and protection of areas suitable for mineral extraction, and encourage land alteration techniques that control and minimize erosion if at some future time these issues are deemed to be a matter of concern.

Policy d)

Remove invasive exotic vegetation (e.g., Brazilian Pepper, Melaleuca and Australian Pine) in such a manner to minimize seed dispersal of such species, according to the following:

- 1) Privately owned lands at the time of development or redevelopment, as a condition of development approval, or sooner when voluntary service may be offered; and
- 2) Publicly owned lands at the time of development, or sooner when economically feasible.

Policy e)

Continue to require a written assessment of the ecological and/or environmental impacts of any new development, including a soil suitability analysis, as part of the development approval process.

Policy f)

Continue to provide credit for preservation of native, historic, unique, endangered or threatened trees.

Policy g)

Continue to promote and actively seek clustering and other innovative development techniques to protect native, rare and unique natural features.

Policy h)

Continue to implement and enforce Ordinance 94-04 of the Land Clearing and Grubbing Code to prevent unauthorized land clearing to protect natural vegetative communities.

Policy i)

Continue to require native species to satisfy at least 50% of the required tree count as a condition of site plan approval.

Policy j)

Continue to coordinate with various agencies through the Intergovernmental Plan Amendment Review Committee (IPARC) and the Treasure Coast Regional Planning Council (TCRPC).

A.4 NATURAL ENVIRONMENTS OBJECTIVES AND POLICIES

Objective 4

Develop the City of Greenacres in a manner consistent with the maintenance of ecological communities and the capabilities of the natural environment.

Policy a)

Obtain and apply current environmental information which identifies opportunities and constraints to the distribution of land use and development.

Objective 5

Provide proper planning and management of the natural resources, including the conservation and protection of wildlife and habitats of wildlife and marine communities and wetlands.

Policy a)

Create awareness regarding environmental problems and issues related to the City of Greenacres.

Policy b)

Seek the assistance of the Florida Game and Freshwater Fish Commission, IPARC, and other state, county and local agencies during the process to identify significant ecological communities and wetlands, and strengthen the City's regulations regarding the construction, appropriate use or protection of such sites.

Policy c)

Support legislation which serves to enhance the natural environment when consistent with other development goals.

Policy d)

Develop the local enforcement of regulatory controls in special areas of environmental concern such as hazardous waste management, flood prone areas,

recreational water bodies, native vegetation areas, major waterways, wetlands and other environmentally sensitive areas.

Policy e)

The City will continue, through its land development regulations, to enforce open space and retention basin requirements for new developments in order to maximize percolation and filtration of water runoff through the earth's surface.

Policy f)

To protect the City's natural resources, the City hereby adopts the South Florida Water Management District basis of review for Environmental Resource permit applications to ensure the protection of natural systems including wetlands in accordance with Chapter 40 E-4.205 through 40E-4.451 F.A.C

Objective 6

The City of Greenacres shall continue to require proposed developments to provide flood protection measures to safeguard human life and welfare in accordance with the adopted levels of service.

Policy a)

The City should continue to monitor the latest land use control criteria relating to flood prone development for possible inclusion in the existing zoning ordinance, subdivision regulations or other applicable development codes.

Objective 7

To prevent loss of life and property through the restriction of building in special flood hazard areas, the City shall continue to enforce its adopted Floodplain Management Ordinance (2016-14) and subsequent amendments and shall maintain requirements.

Policy a)

The City shall participate in the National Flood Insurance Program Community Rating System (CRS) and strive to maintain or improve its current rating.

Policy b)

The City shall participate in the Insurance Services Office, Inc. (ISO) Building Code Effectiveness Grading Schedule and strive to maintain or improve its current rating.

VI. NOTES

1. ~~Florida Dept. of Community Affairs, Chapter 9J-5, F.A.C. Minimum Criteria For Review of Local Government Comprehensive Plans and Determination of Compliance~~
Legal status of comprehensive plan, Chapter 163.3194, Florida Statutes.
2. Florida Department of Environmental Regulation, Florida: State of the Environment.
3. State of Florida, Florida Statutes, Chapter 372.
4. State of Florida, Florida Statutes, Chapter 373.
5. Palm Beach County Comprehensive Plan - 1989, Coastal Zone Management, HURRICANE EVACUATION.
6. Draft amendment to the EAR based on the Palm Beach County Conservation Element of the Comprehensive Plan.
7. Palm Beach County Health Department, Division of Environmental Science and Engineering, Annual Report 1995.
8. Palm Beach County Wellfield Protection Ordinance.
9. Federal Emergency Management Agency, LETTERS TO THE CITY OF GREENACRES.
10. S.F.W.M.D., Water Resources Data and Related Technical Information to Assist Local Government Planning In Palm Beach County, July 30, 1987.
11. S.F.W.M.D., District Water Management Plan, Vol. 1, April 1995.
12. South Florida Water Management District, Xeriscape Plant Guide, 1987.
13. South Florida Water Management District, Chapter 40E-21, Water Shortage Plan.
14. U.S. Dept. of Agriculture, Soil Conservation Service, Soil Survey of Palm Beach County Area, Florida.

REVISION HISTORY

September 15, 2008 Ord. 2008-03
December 1, 2008 Ord. 2008-19

CITY OF GREENACRES COMPREHENSIVE PLAN

INFRASTRUCTURE ELEMENT

September 2008
Amendments resulting from the 2006 EAR

CONTENTS

SECTION	PAGE
I. INTRODUCTION	I-2
A. PURPOSE OF THE ELEMENT	I-2
B. ORGANIZATION OF THE ELEMENT	I-2
II. SUPPORT DOCUMENTS	
A. SANITARY SEWER SUB-ELEMENT	SWR-1
B. SOLID WASTE SUB-ELEMENT	SWA-1
C. STORMWATER MANAGEMENT SUB-ELEMENT	STM-1
D. WATER SUPPLY AND POTABLE WATER SUB-ELEMENT	PWR-1
E. NATURAL GROUNDWATER AQUIFER RECHARGE SUB-ELEMENT	AQF-1
III. GOALS, OBJECTIVES AND POLICIES	I-3
IV. NOTES	I-12

I. INTRODUCTION

A. PURPOSE OF THE ELEMENT

This Element has been prepared to meet the requirements of the Local Government Comprehensive Planning and Land Development Regulation Act, Chapter 163, Florida Statutes (F.S.) and Chapter 9J-5, Florida Administrative Code (FAC), "Minimum Criteria for Review of Local Government Comprehensive Plans and Determination of Compliance." It is to provide for necessary public facilities and services correlated to future land use projections. In relevant part, the regulation requires comprehensive plans to describe:

- 1) sanitary sewer, solid waste, stormwater management, potable water, and aquifer recharge protection problems and needs;
- 2) ways to provide for future requirements; and
- 3) general facilities that will be required for solution of the problems and needs.

Essentially, this Element updates the various master plans for facilities which serve the City of Greenacres. The update covers a planning period of ten years beginning with the year 2007, and projecting future conditions for the years 2012 and 2017. Facility needs and implementation plans have been re-evaluated based on the most current demographic and land use data and projections, using the same methodologies as in the original construct of the master facility plans wherever possible.

B. ORGANIZATION OF THE ELEMENT

This Element is divided into five (5) sections which contain support documents, summarizing the data and analyses on which the Element is based; and the goals, objectives and policies for the Element, as adopted in the Comprehensive Plan for the City. The support documents are presented as sub-elements for the various facilities dealt with in the element and for natural groundwater aquifer recharge areas. Each sub-element includes:

1. Background information about relevant terms, concepts and regulatory provisions;
2. A survey of existing conditions which include a capacity analysis of each facility;
3. An assessment of existing and future needs and recommendations for meeting those needs expressed in five year time frames; and
4. Each sub-element will contain its own individual table of contents, list of tables, and list of maps.

Sanitary Sewer

Sub-Element

CONTENTS

<u>SECTION</u>	<u>PAGE</u>
II	
A. SANITARY SEWER SUB-ELEMENT	3
1. INTRODUCTION	3
a. History	3
b. Overview	3
1) Palm Beach County Water Utilities Department	3
2) Septic Tanks	4
c. Terms and Concepts	5
2. INVENTORY AND ANALYSIS	5
a. Operator and Service Area	5
1) Geographic Service Area	5
2) Land Uses Served	7
b. Facility Capacity Analysis	7
c. General Performance - Level of Service	7
d. Impact on Natural Resources	7
1) Treatment Plants	7
2) Septic Tanks	8
a) Suitability of Soils	8
b) Future Conditions	10
e. Regulatory Framework	10

LIST OF MAPS

<u>NO.</u>	<u>TITLE</u>	<u>PAGE</u>
1.	PALM BEACH COUNTY WATER UTILITIES DEPARTMENT SERVICE AREA	6
2.	SEPTIC TANK SERVICE AREAS	9

II A. SANITARY SEWER SUB-ELEMENT

1. INTRODUCTION

Purpose: The purpose of the Sanitary Sewer Sub-Element is to ensure that sanitary sewer will be provided concurrently with the demand for services, to identify safe disposal methods for treated wastes, and to establish the level of service for sanitary sewer.

a. History

The City of Greenacres is provided wastewater collection and treatment services by Palm Beach County Water Utilities Department (PBCWUD). System No. 2 was formed in 1973 by an agreement between Palm Beach County and Utilities Development Company (UDC), a private corporation.

Initially Palm Beach County allowed UDC to construct a wastewater treatment plant on a 9.58 acre County owned site, located adjacent to Florida's Turnpike, south of Forest Hill Boulevard; and a water treatment facility, on County property approximately one mile east of the wastewater treatment plant, off Pinehurst Drive. In September of 1974, the entire system was sold to Palm Beach County.

b. Overview

Residents of the City of Greenacres presently receive service from two distinct sources, the Palm Beach County Water Utilities Department and private septic tanks.

1) Palm Beach County Water Utilities Department

PBCWUD owns and operates regional facilities. The City of Greenacres does not own or operate any wastewater facilities; however, the current and future boundaries are contained within the service area of PBCWUD.

To ensure economic efficiency in the operation of the regional sanitary sewer facilities, Palm Beach County Water Utilities Department has adopted regulations which require commercial and residential developments to connect to the PBCWUD's sewer system when service is made available. The Palm Beach County Water Utilities Department has also adopted design standards and review procedures to ensure that all connections to the system are compatible with the system design.

The Florida Department of Environmental Protection (FDEP) is responsible for ensuring that the state carries out responsibilities

assigned to it under PL 92-500. FDEP has adopted rules for the regulation of wastewater facilities in Chapter 17-6 FAC.

2) Septic Tanks

Septic tanks are regulated by the Palm Beach County Public Health Unit (PBCPHU).

The Florida Department of Health and Rehabilitative Services (HRS) regulates septic tank and drain field installation within the State. These requirements have been adopted by rule in Chapter 10D-6, FAC. Palm Beach County Public Health Unit has adopted local rules and regulations for septic tank installation consistent with Chapter 10D-6. Septic tanks are being utilized in the original section of the City of Greenacres, Sherwood Forest, Pine Country and Sunland Estates subdivisions.

PBCPHU regulations adopted as Environmental Control Rule I (ECRI) regulate all aspects of septic tank use, installation, discontinuance, abandonment, etc. The ECRI is applicable in incorporated and unincorporated areas and the City coordinates efforts with PBCPHU. The following are excerpts from ECRI dealing with existing systems:

Existing System: Any existing septic tank system which remains in satisfactory operating condition shall remain valid for use in accordance with the State's Environmental Control Rule 1 and permit under which it was approved. If the use of a building is changed with additions or alterations to a building which will increase sewage flow or change sewage characteristics, any on-site sewage disposal system serving such building shall be upgraded to comply with the current public health provisions.

Discontinuance: Any existing on-site sewage disposal system installed under previous rules and regulations which becomes non-conforming with this Section for conditions or purposes as approved, and which has not been placed in use for a period of one (1) year or more, shall be deemed unapproved and its use for such purpose prohibited.

Abandonment: Whenever an approved sanitary sewer is made available under the conditions set forth in Sec. 16.1.E.1.a (sanitary sewer system available), any on-site sewage disposal system shall be abandoned and the sewage wastes from the residences or building discharged to the sanitary sewer within ninety (90) calendar days thereafter. When use of an on-site sewage disposal system is discontinued, it shall be abandoned and its further use for any purpose prohibited.

Responsibility for Inspection: It shall be the duty of the PBCPHU to conduct such technical inspections as are reasonable and necessary to determine compliance with the provisions of this section.

c. Terms and Concepts

The collection system is composed of a network of sewer pipes which collect sewage (also called wastewater) from individual establishments and convey it to a central location for treatment. The collection network is generally laid out in a pattern roughly analogous to the branching pattern of a tree. This classification scheme identifies sewers according to their size since sewage flow within the network is from the periphery toward the treatment plant. Trunk mains are defined as sewers which connect directly to and convey sewage to an interceptor. For more complex regional facilities, sewer mains will also be addressed.

Due to the relatively level terrain of Palm Beach County, a pumping system is used in conjunction with the major components of the regional collection systems. This allows sewage to be conveyed under pressure against the force of gravity and for long distances at minimal slopes. In conjunction with this type of system, the term "force main" is often applied to pressurized sewers without regard to their location within the network.

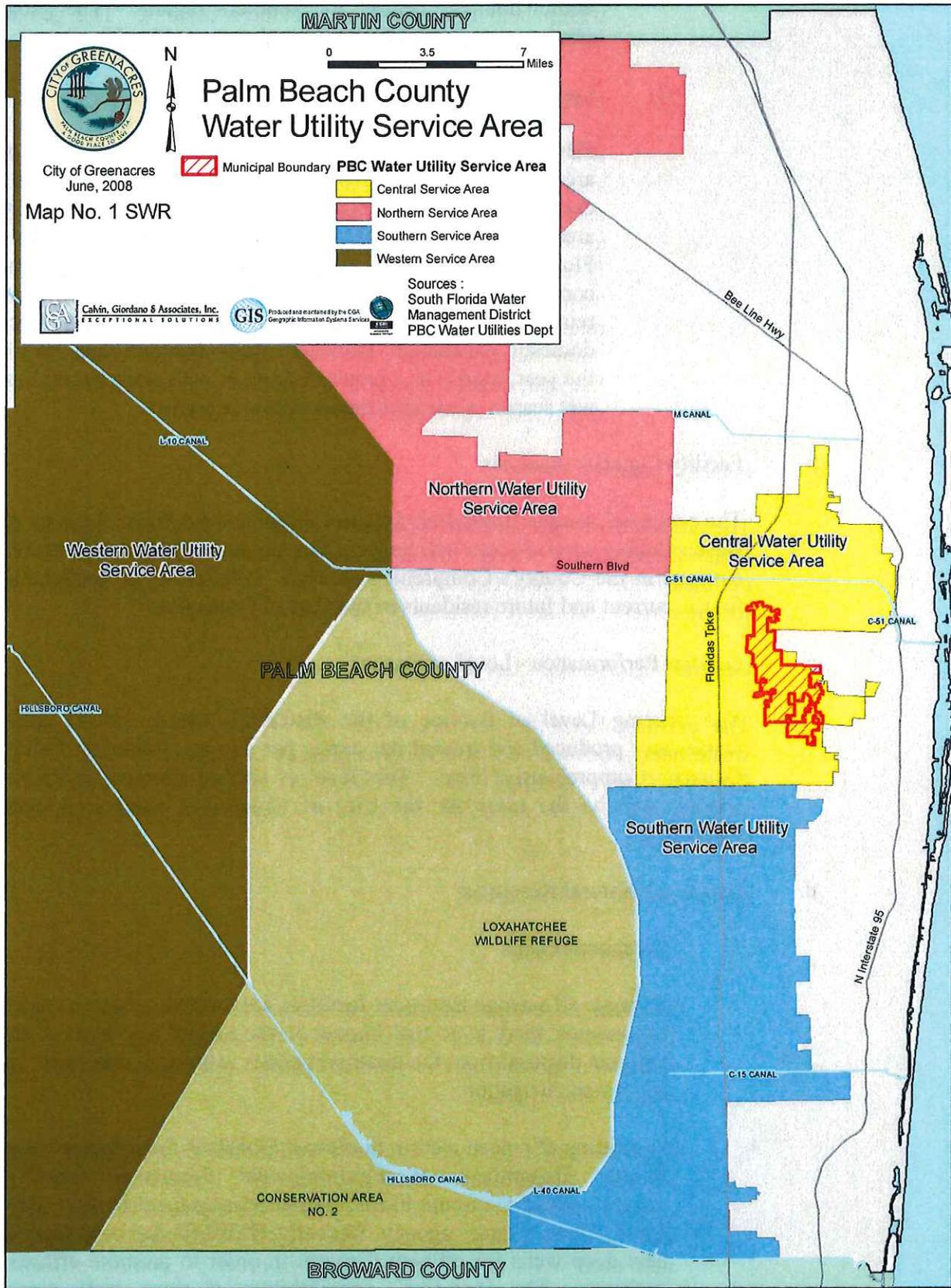
2. **INVENTORY AND ANALYSIS**

a. Operator and Service Area

Palm Beach County Water Utilities Department (PBCWUD), which serves the City of Greenacres, has prepared master plans for its entire system. The plan divides the service area into two (2) regions. The dividing line between the central and southern regions is Lake Worth Road.

1) Geographic Service Area

The Central Region is served by the East Central Region Wastewater Treatment Plant (ECR), which is operated by the City of West Palm Beach. The plant is owned by Palm Beach County Water Utilities Department and the cities of West Palm Beach, Lake Worth, Riviera Beach and the Town of Palm Beach. Of the 55 mgd capacity, 12.5 million gallons per day (mgd) capacity is allocated to PBCWUD. The Southern Region is served by Southern Region Wastewater Treatment Plant and two other plants.



Based on the PBCWUD master plan, the city of Greenacres is within both the central and southern regions. The geographic service area of the PBCWUD is shown on Map No. 1.

2) Land Uses Served

PBCWUD serves a variety of existing land uses in its service area including general residential, commercial and industrial land uses. The raw sewage generated throughout the entire service area is typical of domestic sewage generated throughout South Florida. Less than 15 percent of the sewage connections are commercial, and most of the commercial connections, such as retail establishments or restaurants, generate sewage typical of a domestic connection. However, waste strength does vary during the year, mostly as a result of dilution with stormwater during the wet season when infiltration/inflow is highest.

b. Facility Capacity Analysis

The projected sewage generation for the Central and Southern Regions of Palm Beach County service areas will be less than the available capacity of 44.0 mgd outlined in the County's Comprehensive Plan. All County projections account for the current and future residents of the City of Greenacres

c. General Performance - Level of Service

The existing Level of Service of the PBCWUD system, is 85 gallons of wastewater produced and treated per capita per day as outlined in Palm Beach County's Comprehensive Plan. This level of service adopted by Palm Beach County will be the same for the City of Greenacres since it is served by PBCWUD.

d. Impact on Natural Resources

1) Treatment Plants

Because all sewage treatment facilities are located outside of the City of Greenacres, there is no real impact on the natural resources of the City. Effluent disposal from the treatment plants is through deep well injection and on-site irrigation.

Permitting of a deep well in Southeast Florida is the responsibility of the Florida Department of Environmental Protection (FDEP) with concurrence of the South Florida Water Management District (SFWMD) and the local County agency. Recently, SFWMD has been discouraging new deep wells for effluent disposal in order to promote effluent reuse options. The long-term permitability of deep well disposal is

questionable at this time without at least some provisions being made for reuse of a portion of the effluent from a given wastewater plant.

2) Septic Tanks

Septic tank systems provide on-site wastewater treatment for both residential and small-scale commercial developments used by a small portion of the City of Greenacres residents. The majority of these residential units are older, single family units. Locations of the septic tank areas are provided on Map No. 2.

Effluent from septic tank systems is discharged to the drain field where it is allowed to percolate into the soil. Soil permeability and depth to the water table are limiting factors on septic tank performance and may require construction of elevated drain fields to ensure adequate performance.

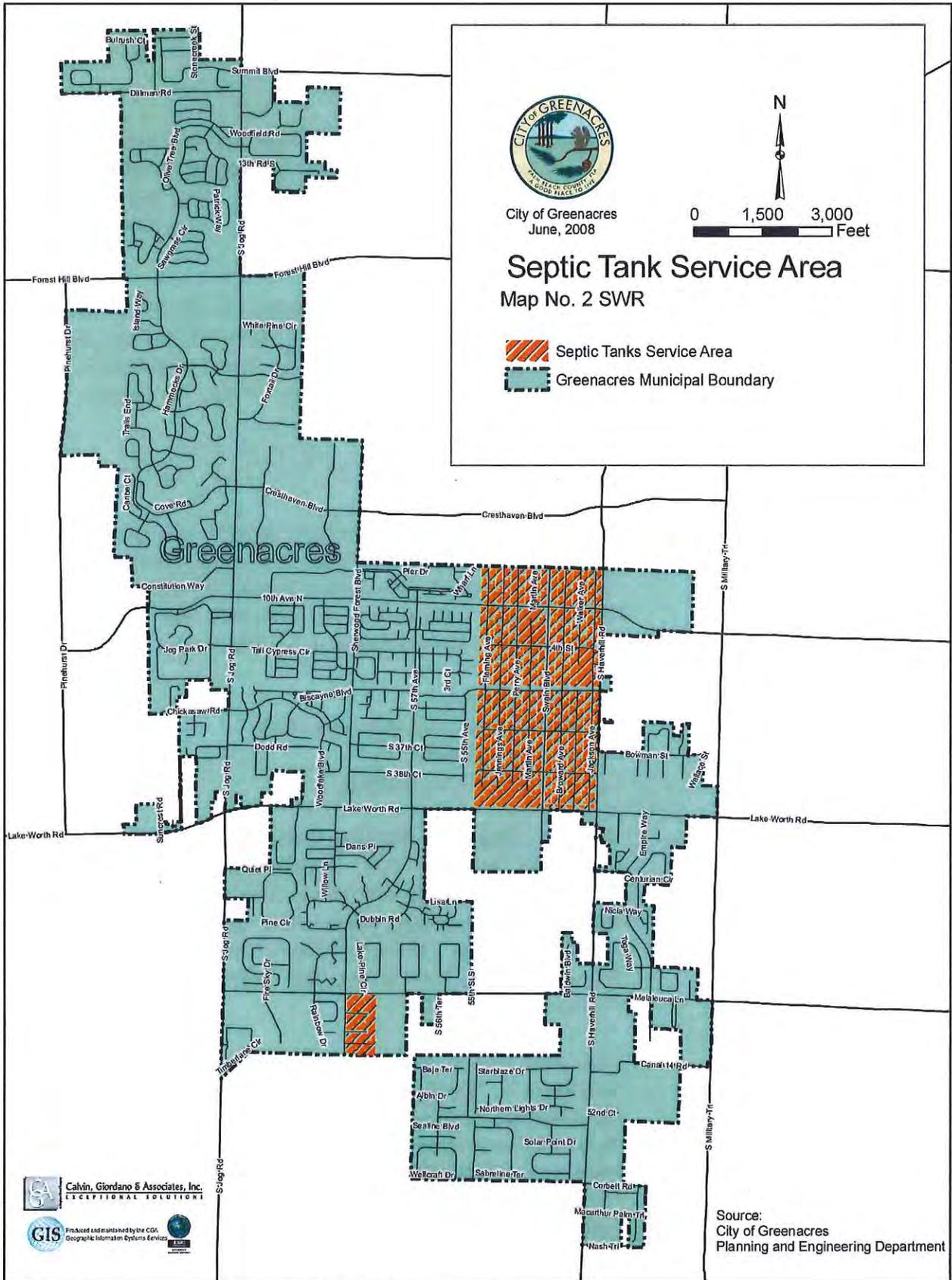
a) Suitability of Soils

Favorable soil properties and site features are needed for proper functioning of septic tank/drain absorption fields. "Septic tank absorption fields are subsurface systems of tile or perforated pipe that distribute effluent from a septic tank into the natural soil." Properties that affect absorption of effluent are:

1. permeability
2. depth to seasonal high water table
3. depth to bedrock
4. susceptibility to flooding

Basinger (Ba) and Myakka (MK) are the two types of soil identified by the U.S. Department of Agriculture, Soil Conservation Service, (shown on Map No. 6 of the Conservation Element of this plan), which make up the City of Greenacres' septic tank areas. "Both soils have a septic tank absorption field rating of severe," due to the high water table and contamination of local ground water.

The soil survey rates all soils within the county as having moderate or severe limitations for septic tank drainage fields. Both ratings indicate that special planning, design or maintenance is needed to overcome the limitations, with possible significant increased construction cost and maintenance requirements for severe conditions. The soil survey provides detailed soil maps suitable for determining specific site limitations and are found in the Future Land Use Element of this Plan.



b) Future Conditions

Some of the septic tank areas in the City could represent a potential health risk where water wells are involved. However, this situation has been addressed through the installation of a water distribution system in the original section of the City. The City of Greenacres encourages the use of a sanitary sewer system over septic tank use. However, the rate which septic tank conversion will occur is unpredictable at this time. Factors which could influence this conversion are:

1. availability of sanitary sewer service
2. the threat or occurrence of a public health hazard, and/or
3. financing.

Few additional septic tanks are anticipated to be approved in the City. As growth continues, developers will be required to connect to the PBCWUD Systems. Since treatment plant capacities were based on total population figures, sufficient treatment plant capacity will be available to accommodate the additional waste flows generated from these septic tank conversions.

e. Regulatory Framework

Favorable soil properties and site features are needed for proper functioning of septic tank/drain absorption fields. "Septic tank absorption fields are subsurface systems of tile or perforated pipe that distribute effluent from a septic tank into the natural soil." The Federal Water Pollution Control Act (PL 92-500) is the controlling national legislation relating to the provision of sanitary sewer service. The goal of this act is the restoration and/or maintenance of the chemical, physical and biological integrity of the nation's waters. The act established the national policy of implementing areawide waste treatment and management programs to ensure adequate control of sources of pollutants. Under Section 201 of PL 92-500, grants are made available to local governments to construct facilities to treat "point sources" of pollution, which include effluent from sewage treatment processes. The U.S. Environmental Protection Agency is responsible for implementing the act.

The Florida Department of Environmental Protection (FDEP) is responsible for ensuring that the State carries out responsibilities assigned to it under PL 92-500. FDEP has adopted rules for the regulation of wastewater facilities in Chapter 17-6, FAC. These rules apply to facilities which treat flows exceeding 5,000 gallons per day for domestic establishments, 3,000 gallons per day for food service

establishments, and where the sewage contains industrial or toxic or hazardous chemical wastes. The Florida Department of Health and Rehabilitative Services (HRS) regulates septic tank and drain field installation within the state. These requirements have been adopted by rule in Chapter 10D-6, FAC.

Solid Waste

Sub-Element

CONTENTS

SECTION	PAGE
II B. SOLID WASTE SUB-ELEMENT	3
1. INTRODUCTION	3
a. History	3
b. Planning and Legislative Overview	3
c. Terms and Concepts	5
2. INVENTORY AND ANALYSIS	7
a. Collection System	7
b. Solid Waste Disposal	7
c. Facility Capacity	7
d. General Performance - Level of Service	7
1) Landfill Acreage Demands	9
a) First Five Year Period - 1990-1995	9
b) Second Five Year Period - 1996-2000	10
2) Performance Assessment	10
3) Land Use Compatibility	10
e. Impact on Natural Resources	10
1) Groundwater, Aquifer Recharge, Wellfields	10
2) Suitability of Soils	11
f. Resource Recovery	11
g. Landfill Closure Plans	13
1) Dyer Boulevard	13
2) North County Regional	14
h. Regulatory Framework	14

LIST OF TABLES

NO.	NAME	PAGE
1	WASTE GENERATION UNIT RATES	8
2	GREENACRES PER CAPITA SOLID WASTE GENERATION	9
3	GREENACRES LANDFILL ACREAGE DEMAND	9

II B SOLID WASTE SUB-ELEMENT

1. INTRODUCTION

Purpose: The purpose of the Solid Waste Sub-Element is to ensure that capacity is available to support the City's future population, that adequate disposal methods in accordance with Federal, State and Local regulations are being implemented, and that all necessary steps to preserve landfill capacity are being implemented.

a. History

The Solid Waste sub-element is a requirement of Chapter 163, F.S. and Rule 9J5.011FAC. The collection of solid waste in the City of Greenacres is provided through contractual agreements with private haulers. The City entered into a franchise agreement with Williams Sanitation Service to collect garbage and trash within the City for a five-year period from January 1, 1972 to December 31, 1976. The contract also offered Williams Sanitation the option to renew the contract for an additional five-year period under the same terms and conditions as the original agreement.

Veolia Environmental Services Solid Waste Services, Inc. d/b/a Onyx Waste Services SE, Inc. currently holds the exclusive franchise for garbage collection within the City of Greenacres.

The Lantana Road Class 1 Landfill which previously served the City, was closed to the public on March 1, 1987 in compliance with the Florida Department of Environmental Regulation Consent Order No. OGC Case No. 85-0686. The Dyer Landfill was subsequently officially closed by the Department of Environmental Protection in 1996. The City of Greenacres is now served by the North County Landfill located on Jog Road north of 45th Street.

b. Planning and Legislation Overview

Both State and Federal legislations exist for regulating the disposal of solid waste. The Resource Conservation and Recovery Act (Public Law 94-580) was enacted in 1976, to utilize and better manage, the growing volume of solid waste. This Act established resource recovery as a national priority.

Palm Beach County Solid Waste Authority (SWA) is responsible for planning and management of solid waste facilities serving the City of Greenacres. The Palm Beach County Solid Waste Authority was an independent special taxing district created by the Florida Legislature under the Palm Beach County Solid Waste Act, Chapter 75-473, Laws of Florida, Special Acts of 1975, as amended and supplemented (the "Act").

In 1991, the Solid Waste Authority was established under the jurisdiction of Palm Beach County Board of County Commissioners and now functions as a County Department.

The Solid Waste Authority has verified that there is sufficient capacity to serve the City of Greenacres for the next five and ten year periods. The North County landfill which currently serves the City of Greenacres, in September of 2007, had an estimated 33,789,220 cubic yards of landfill capacity remaining.

The Florida Resource Recovery and Management Act founded in 1980, adopted federal guidelines and directed DEP to develop and implement a hazardous waste management program. Amendments to the Florida Act in 1983 provided direction and funds to establish a cooperative hazardous waste management program at local, regional and state levels of government.

"The Palm Beach County Solid Waste Authority was established for the purpose of developing and implementing plans for an integrated county-wide solid waste management system comprised of recycling, resource recovery, transfer station and landfill facilities to serve the future needs of the County at reasonable costs. The Act gives the Authority the power to construct and operate solid waste disposal facilities including resource recovery facilities and to require that all solid waste collected by private and/or public agencies within the County be delivered to processing and disposal facilities designated by the Authority."

The 1988 Comprehensive Solid Waste Management Plan, prepared by the Palm Beach County Solid Waste Authority, is consistent with the State's mandate. That document projects waste generation rates and analyzes disposal opportunities in order to meet the needs of SWA's entire service area through the year 2030. Relying on SWA's plan, this plan projects and analyzes needs specifically for the City of Greenacres to sufficiently satisfy the time frame of this document. In 1990, in accordance with Chapter 159 of the state statutes governing special districts, the SWA prepared an annual status report.

In planning the future of solid waste removal for the City of Greenacres and the coordination needed between regulating agencies, three issues are identified. Each stems from the central question of how the City can most efficiently and economically process its solid waste in an environmentally sound manner. These issues are discussed in detail in subsequent sections of this element. These issues are:

1. to provide for safe and sanitary collection, processing and disposal of solid waste.
2. Federal, State, and local agencies responsible for the prevention,

- control or abatement of air, water and land pollution.
- 3. the City's role in the resource recovery program.

c. Terms and Concepts

One of the most common errors committed by City of Greenacres residents in dealing with solid waste collection is that of properly defining types of solid waste, i.e., "garbage" and "trash." Both garbage and trash are defined in the franchise agreement as well as the conditions under which collection will be made. (See below)

GARBAGE - is defined as "all household or commercial refuse such as kitchen accumulations of animal, fruit or vegetable matter and other refuse such as tin cans, bottles and glass, paper and boxes, and other containers of foodstuffs, and such other refuse that may accumulate in the ordinary household or commercial establishment."

TRASH - is defined as "grass, leaves, flowers and shrubbery trimmings that will fit in receptacles."

Solid wastes are non-liquid materials that have been discarded. Solid waste (synonymous with refuse), is a broad term that includes a number of subcategories. It may be classified by point of origin (such as agricultural, industrial, domestic or construction waste) or by the kind of waste involved (such as rubbish, ashes, garbage, special waste or abandoned automobiles). For the purposes of this element, the following definitions have been adopted from Section 9J 5003.

SOLID WASTE - is defined as "sludge from a waste treatment works, water supply treatment plant, or air pollution control facility or garbage, rubbish, refuse, or other discarded material, including solid, liquid, semisolid, or contained gaseous material resulting from domestic, industrial, commercial, mining, agricultural, or governmental operations."

HAZARDOUS WASTE - is defined as "solid waste, or a combination of solid wastes, which, because of its quantity, concentration, physical, chemical or infectious characteristics, may cause, or significantly contribute to an increase in mortality or an increase in serious irreversible or incapacitating reversible illness or may pose a substantial present or potential hazard to human health or the environment when improperly transported, disposed of, stored, treated, or otherwise managed."

For the purpose of this Element, the term "solid waste" excludes hazardous waste and has been used to include the following classifications which indicate general characteristics of the materials and their sources of generation.

RESIDENTIAL WASTES are mixed household wastes, including yard wastes, generated by the general population.

COMMERCIAL WASTES are generated by the commercial and institutional sectors. Physical characteristics of these wastes are similar to those of residential wastes, in that they consist largely of combustible materials in the form of paper and food waste from offices, restaurants, retail establishments, schools, hospitals, motels, and churches.

INDUSTRIAL WASTES include wastes generated by industrial processes and manufacturing operations excluding hazardous wastes. These wastes also include general industrial housekeeping and support activity wastes.

SPECIAL WASTES include wastes having special characteristics or requiring special handling. These wastes include oversized bulky wastes and materials generated in demolition and construction projects.

The primary focus of this Element is to identify the facilities which the City will utilize in managing and disposing of solid waste and hazardous waste generated by the City during specific planning periods.

Solid waste facilities include transfer stations, processing plants and landfills. For hazardous waste, only transfer stations will be addressed since disposal of such wastes within solid waste landfills is not permitted in Florida (Section 403.722, F.S.).

TRANSFER STATION - is defined as "a facility for the temporary collection of hazardous waste prior to transport to a processing plant or to a federally qualified hazardous waste disposal facility". For the purposes of this Element only permanent facilities which would require attendance by trained operators will be addressed.

PROCESSING PLANT - is defined as "a facility designed for incineration, resource recovery or recycling of solid waste prior to its final disposal". This Element will address only such facilities as would serve the needs of the City as a whole. The purpose of these facilities may include any or all objectives of reduction of the volume of wastes disposed, energy recovery from wastes or recovery of reusable materials.

LANDFILL - is defined as the "final disposal site of solid wastes, and as it implies, involves burial of the wastes". Landfills are classified for regulatory purposes according to the characteristics of the wastes they are permitted to receive.

The Franchise Agreement of the Solid Waste Authority requires two times per week collection, two times per week bulk trash collection, once

per week vegetation collection and once per week recyclable collection.

2. INVENTORY AND ANALYSIS

a. Collection System

Collection of solid waste in the City of Greenacres is handled by privately owned waste hauling companies. At present, Veolia Environmental Services Solid Waste Services, Inc. d/b/a Onyx Waste Services SE, Inc. holds the exclusive franchise for garbage collection and trash pickup. This garbage collection franchise has been renewed and will remain in effect until September 30, 2011.

b. Solid Waste Disposal

Solid waste generated in the City of Greenacres is presently delivered to the Authority Class 1 Landfill, referred to as the North County Landfill. This landfill is owned and operated by Palm Beach County Solid Waste Authority.

c. Facility Capacity

The only operational landfill serving the entire Palm Beach County is the North County Landfill. According to the Solid Waste Authority, there is capacity at this landfill to accommodate Palm Beach County's population to the year 2021. This Facility is located on Jog Road north of 45th Street in suburban West Palm Beach.

1) North County Regional Resource Recovery and Solid Waste Disposal Facility

Approximately 313 acres are available for the Class I and Class III landfills at build out.

The new sanitary landfill is located on the Northern Resource Recovery Facility site which consists of a 121-acre Class I (garbage) landfill area and a 192-acre Class III (trash) landfill area. The first phase of development for the Class I (garbage) landfill occupies approximately 30 acres.

Class I landfill space at the Site is allocated for disposal of ash and residue generated by the Facility in addition to the Non-Processible Wastes delivered to the Facility.

d. General Performance-Level of Service

A combination of the following methods for projecting future waste generation in the County has been used to estimate the amount of Solid Waste to be disposed of at the Authority's facilities:

1. Population projections;
2. Per capita generation rates; and
3. Historical records

In order to evaluate the solid waste disposal capabilities and needs of the City of Greenacres, existing landfill acreage is compared with current and projected demand for landfill, based upon population estimates. Calculations are carried out through the year 2020. Projections are based on data from the North County Solid Waste Disposal Facility.

The Palm Beach County Solid Waste Authority has projected the per capita solid waste generation for the City and is defined in Table No. 2.

Table No. 1
Waste Generation Unit Rates
(Pounds per capita per day)

Garbage	4.28
Trash	.96
Vegetation	.55
Land Clearing & Building Debris	.29
Sludge & Dewatered Sludge	.26
Clean Fill	.16
Tires	.02
Miscellaneous	.02
Recyclables (from Garbage)	.59
TOTAL	7.13

The L.O.S. remains at is 7.13 pounds per capita per day. This rate has remained constant due to awareness and education on recycling and the reduction in the generations of solid waste.

**TABLE No. 2
GREENACRES PER CAPITA
SOLID WASTE GENERATION**

Year	Greenacres Population	lbs per day	L.O.S. lbs per day
1990	29,173	5.43	7.1
1995	23,296	6.06	7.1
2000	28,128	5.46	7.1
2005	32,765	5.22	7.1

Source: 1. Palm Beach County Solid Waste Authority
2. The City of Greenacres Engineering, Planning and Building Department, May 1997.

1) Landfill Acreage Demands

Using information from Table No. 2 landfill acreage demands have been projected on Table No. 3 and are expressed in five (5) year time frames.

**TABLE No. 3
GREENACRES LANDFILL ACREAGE DEMAND**

Year	Cumulative Tons	Cumulative Acres	Existing Acreage
1990-1995	153,645	22.04	313
1996-2000	189,928	27.25	313
2001-2005	226,811	32.54	313
TOTAL	570,384	81.83	313

Source: The City of Greenacres, Engineering, Planning and Building Department, 1997.

- Note: 1) Existing Acreage represents total acreage at buildout (121 acres for Class 1, 192 acres for Class III)
2) Acreage totals are based on 6,970.3 tons per acre. cumulative acreage has been adjusted by a factor of 20% for ditches, retention ponds and buffers.
3) Average annual populations were used from each 5 year period.

a) First Five Year Period - 1990 to 1995

With the opening of the North County Regional Resource Recovery and Solid Waste Disposal Facility in 1989, 313 acres were available for Class I and Class III landfills.

Table No. 3 projects that the City of Greenacres will need approximately 22 acres of landfill acreage to satisfy the demands of the City during this 5 year period. Twenty-two acres represents about seven percent (7%) of the total landfill area.

b) Second Five Year Period - 1996 to 2000

Table No. 3 also projects that an additional 27.25 acres of landfill will be required to satisfy the growing demand of the City during this five (5) year period. This acreage, combined with the first five (5) year period represent a combined total of 49.29 acres or fifteen point seven percent (15.7%) of the total landfill acreage at buildout.

2) Performance Assessment

In general, landfill practices at the North County Regional Resource Recovery and Solid Waste Disposal Facility provide solid waste disposal for the City in an economically and environmentally sound manner. This landfill meets proposed EPA guidelines for site selection, site design, leachate control, gas control, runoff control, operation, and monitoring of the site. Also the available landfill acreage is sufficient to service the City of Greenacres to the year 2021.

3) Land Use Compatibility

The Northern Resource Recovery Facility was built in 1987/1988. This represents the culmination of a siting effort which began in 1978, a nine-year time span, and is representative of the institutional barriers faced by a public agency as a result of the political and regulatory process.

e. Impact on Natural Resources

1) Groundwater, Aquifer Recharge, Wellfields.

The Palm Beach County Department of Environmental Resources Management (ERM) administers and enforces the Wellfield Protection Ordinance which regulates and prohibits the use, handling, production and storage of

certain substances near wellfields. Restrictions of the ordinance also apply to sites designated by the Board of County Commissioners as future wellfields.

Through cooperation with ERM, the Solid Waste Authority identified existing and proposed water supply wellfield systems, avoiding landfill locations which would have a negative effect on wellfields. Also adequate cooperation exists between the Solid Waste Authority and South Florida Water Management District (SFWMD) in avoiding 100-year flood prone areas and shallow aquifer zones.

In addition to SFWMD stormwater retention requirements, coordination with the various drainage districts was required for the study area including Northern Palm Beach County, Acme Improvement and Lake Worth Drainage Districts to ensure no adverse potential impacts on canals and the Loxahatchee National Wildlife Refuge.

2) Suitability of Soils

The North County Regional Solid Waste Disposal Facility is located in the Sandy Flatlands Physiographic area identified in the Conservation Element of this Plan. The U.S. Department of Agriculture, Soil Conservation Service, General Soils Map, issued in 1978, identifies the soils in the landfill area as:

- a. WABASSO-RIVIERA-OLDSMAR Association: nearly level, poorly drained sandy soils that have a loamy subsoil; some have a weakly cemented sandy layer over the loamy subsoil.
- b. RIVIERA-BOCA Association: nearly level, poorly drained sandy soils that have a loamy subsoil; some are moderately deep over limestone.

f. Resource Recovery

In Chapter 84-198, Laws of Florida (1984), the Florida Legislature has declared that "It is critical to encourage energy conservation in order to protect the health, prosperity, and general welfare of this State and its citizens". The Legislature has further declared that the "combustion of solid waste by small power production facilities for the production of electricity not only represents conservation efforts well directed towards that

goal, but also represents an environmentally preferred alternative to conventional solid waste disposal in this State".

It has been determined that the traditional means of disposing municipal solid waste (MSW) is inadequate to meet the needs of this rapidly growing County for two primary reasons:

- 1) there is a paucity of land which could feasibly be used for landfilling and available land is inordinately expensive; and
- 2) the landfilling of putrescible garbage poses a serious long-term threat to the quality of the groundwater which supplies the domestic water needs of County residents.

The Palm Beach County's Solid Waste Authority Comprehensive Solid Waste Management Plan will be the guiding document for development of these facilities serving the City of Greenacres. While the Solid Waste Authority's Comprehensive Solid Waste Management Plan is prepared under the requirements of Chapter 403, Florida Statutes, it is designed to assist and accommodate local governments in meeting the intent of Chapter 163, Florida Statutes, and Rule 9J-5 as they develop their local plan elements.

The Authority filed an application with the Federal Energy Regulatory Commission (FERC) for certification of its proposed resource recovery plant as a qualifying small power production facility pursuant to Section 201 of the Public Utility Regulatory Policies Act of 1978 (PURPA) and rules promulgated by FERC in April, 1985.

The Power Plant Site Certification was approved by the Governor and Cabinet of the State of Florida at their meeting on Tuesday, July 29, 1986. This certification addressed all state and local environmental compliance and solid waste regulations to be met prior to construction and during operation of the Facility.

On January 21, 1987, a ground breaking ceremony was conducted for the development of the first waste-to-energy facility to address the solid waste disposal needs of the County and to reduce the continued reliance on landfills for direct disposal of solid waste. The project involves the construction and operation of a 2000 TPD Resource Recovery Facility and ancillary facilities on a portion of the 1,320 acre site designated as the North

County Regional Resource Recovery and Solid Waste Disposal Facility.

g. Landfill Closure Plans

1) Dyer Boulevard

The Solid Waste Authority received a Closure Permit from the DEP to finish closing 138 acres of old sections of the Dyer Boulevard Landfill.

The Solid Waste Authority has developed a Closure Plan and End Use Plan for the Dyer Boulevard Landfill. These plans have been reviewed and approved by the Authority Board, the Department of Environmental Protection and Palm Beach County Parks Department, and were developed with the assistance of the Citizens Advisory Committee and homeowners surrounding the Dyer Boulevard Landfill.

The Land Reclamation and Restoration Project involves planting of indigenous plants to stimulate reforestation in the area. Low land and pine flatwood communities are planned to recreate the natural environment. Native vegetation to be included in this project will be slash pine seedlings to stimulate pioneer vegetation around the perimeter, native grasses, palmetto palms and oaks. Located in the retention area are cypress heads, sawgrass and wax myrtles.

In January, 1988, the Authority received an "Award of Recognition" from the Florida Nurserymen and Growers Association, 1987 Landscape Awards Program for the Dyer Boulevard Restoration Project. The restoration project proceeds concurrent with the facility expansion activities and active landfilling in order to complete the entire project by the end of 1997. The design concept for the Dyer Boulevard restoration was based upon a passive recreation use. Park plans include picnic pavilions, a botanical garden, a golf driving range, open play areas, nature walks, jogging trails and extensive native landscaping to screen the park from surrounding development.

The landscaping for this project and all Authority projects is based upon a complete native theme that will, in the course of time, regenerate itself into the natural vegetation

system that existed prior to the site being used for a landfill.

2) North County Regional Solid Waste Disposal Facility

The End Use Plan is designed to incorporate active and passive park activities utilizing native Florida vegetation as landscape and buffer material. The active recreation activities are located east of Jog Road on top of the completed landfills and in the borrow lake area and include boat access and marina, frisbee, golf course, soccer and football, general purpose ball field and picnic areas.

Passive recreation comprised of nature trails, lookouts for birds and over wetland and other native plant communities will be encompassed west of Jog Road in the conservation area. The abandoned shell pits are used as mitigation areas and will be landscaped with site specific native plant communities.

h. Regulatory Framework

The potential environmental impacts of solid waste facilities have led to the development of an extensive network of permitting requirements at the federal and state levels. Impacts on air and water quality are reviewed by the U.S. Environment Protection Agency (EPA) and the Florida Department of Environmental Protection (DEP), and where dredging and filling might occur, by the U.S. Army Corps of Engineers (COE). The South Florida Water Management District also provides State level review for water quality and quantity impacts. Actual construction and operation of solid waste facilities requires further permits and review by DEP. For processing plants which will generate electrical power or require tall emission stacks, further DEP and Federal Aviation Administration (FAA) review may be required.

For hazardous waste, the national Resource Conservation and Recovery Act (RCRA) of 1976 directed EPA to develop a national program to regulate and manage hazardous waste and provide incentives for states to adopt consistent programs. The National Comprehensive Emergency Response and Compensation Liability Act (CERCLA) passed in 1980, provided EPA with authority and funds to respond to incidents requiring site clean-up and emergency mitigation (the EPA "Superfund" Program). This act also defined the liability of business engaged in hazardous waste generation, transport and disposal, and provided enforcement processes.

At the state level, the Florida Resource Recovery and Management Act (Sec. 403.7, F.S.), passed in 1980, adopted federal guidelines and directed DEP to develop and implement a hazardous waste management program. This act provided for:

1. adoption of federal hazardous waste definitions;
2. a system to monitor hazardous waste from generation to disposal;
3. an annual inventory of large hazardous waste generators;
4. permit requirements regulating treatment, storage and disposal of hazardous waste;
5. funds for hazardous waste spill and site clean-up;
6. hazardous waste management facility site selection procedures; and
7. fines and penalties for violators.

Amendments to the Florida Act in 1983 provided directions and funds to establish a cooperative hazardous waste management program between local, regional and state levels of government. These changes included provisions for county-level hazardous waste management assessments, regional and statewide facility needs assessments, and site selection for hazardous waste management facilities at the county, region and state levels.

Palm Beach County Solid Waste Authority (SWA) is responsible for planning and management of solid waste facilities serving the City of Greenacres. This includes processing permit applications for new facilities and ensuring that existing facilities are operated in conformance with permit requirements and in compliance with water quality objectives.

Stormwater Management

Sub-Element

CONTENTS

<u>SECTION</u>	<u>PAGE</u>
II C STORMWATER MANAGEMENT SUB-ELEMENT	5
1. INTRODUCTION	5
a. History	5
b. Terms and Concepts	5
1) Drainage Systems	5
a) Climate	6
b) Soil	6
c) Natural Ground Cover	6
d) Topography	6
2) Human Impact on the Natural System	7
2. INVENTORY AND ANALYSIS	8
a. Drainage Features	8
1) Drainage Basins	8
2) Drainage Canals	9
3) Supplemental Drainage	9
b. Facility Capacity	12
1) C-51 Basin	13
2) C-16 Basin	13
c. General Performance - Level of Service	13
1) Drainage District Operating Policies	14
2) Future Drainage System	14
3) Level of Service (LOS)	15
a) Primary Drainage Systems	15
b) Secondary Systems	15
c) Tertiary Drainage Systems	16
d. Impact on Natural Resources	18
1) Wildlife Habitats	18

2)	Aquifer Systems and Recharge	18
	a) Surficial Aquifer System	18
	b) Floridan Aquifer System	20
e.	Regulatory Framework	20
	1) Surface Water Quality Programs	22
f.	Stormwater Runoff Quality	22
	1) Pollution Sources	22

LIST OF TABLES

NO.	NAME	PAGE
1	BASIN DISCHARGE CRITERIA	14
2	TERTIARY DRAINAGE - LOS	17

LIST OF MAPS

<u>NO.</u>	<u>NAME</u>	<u>PAGE</u>
1	DRAINAGE BASIN MAP	10
2	DRAINAGE CANALS	11

II C. STORMWATER MANAGEMENT SUB-ELEMENT

1. INTRODUCTION

a. History

The City of Greenacres, which lies in the central flatlands of the County, originally consisted of mostly pines and palmetto flatwoods with numerous small ponds and lesser areas of broad, grassy sloughs. The soils, which are nearly level, wet and sandy, have a loamy subsoil or sandy layers that are weakly cemented with organic matter. In various areas the soils are underlain by limestone.

Early settlers to this County wanting to open it up to human occupation and activity, removed or controlled water by establishing drainage "districts". They constructed drainage canal networks, and thus put the reclaimed land into the production of agricultural goods. As more and more lands were drained, allowing flood protection for roads, buildings and adjacent lands from stormwater runoff, drainage programs no longer could concern themselves strictly with water removal. Today, quality of runoff water, the conservation of groundwater and surface waters, and the impact of drainage on the environment, all have to be considered.

This portion of the Plan inventories the natural conditions and drainage activities in the City of Greenacres. Although the City does not have operational authority and responsibility with respect to drainage facilities, this sub-element will evaluate the impacts of drainage activities, future actions and coordination needed concerning both drainage in general, and the overall management of surface waters.

b. Terms and Concepts

1) Drainage Systems

Water flowing overland during and immediately following a storm event is called stormwater runoff. Under the effect of gravity, the stormwater flows toward sea level through depressions and channels which comprise the drainage system of an area. The drainage system may consist of natural features, man made features, or a combination of both.

An abundance of surface water is the result of the imbalance between rainfall and its removal through ground absorption, evapotranspiration and runoff. The water that remains is surface water, some contained in lakes, shallow wetlands and in depressions. The relationships of these factors, and their effect on

the quantity of surface waters, are basic to an appreciation of the City's natural system.

a) Climate - Rainfall accounts for the majority of surface water in the City of Greenacres. An average of approximately 61 inches of rain falls annually on the City. "Precipitation occurs during all seasons, but, on the basis of mean monthly totals of precipitation, a rainy season of 5 months from June through October brings nearly 65 percent of the annual rainfall in this area."

b) Soil - Unique soil types absorb rainfall at different rates. According to the Soil Conservation Service, the predominant soil in our vicinity is the Myakka Immokakalee Basinger Association, which are "nearly level, poorly drained soils that are sandy throughout; some having a weakly cemented layer."

Level of saturation also affects the soil's ability to absorb rainfall. When the soil has reached its saturation level, which varies among soil types, all additional rainfall striking the area becomes surface runoff or standing surface water.

c) Natural Ground Cover - Through differences in the extent of root systems and in transpiration rates, differing types of vegetation can alter the speed at which infiltration occurs. Plants with large root systems create passage ways which may store additional water; those with high transpiration rates, particularly trees, literally pump water from the soil into the atmosphere. This explains why fallow land yields more runoff than forested land for a given soil type.

d) Topography - While climate, soils, and ground cover modify the volume of water retained or dissipated as runoff, topography generally effects or dictates the rate and direction of flow. Areas of greater slope will yield higher levels of runoff.

Natural drainage systems are defined by the topography of an area. The largest feature of a natural drainage system is the drainage basin, or watershed. The boundary of the basin is called the basin divide. This is a line where the natural land elevation directs runoff from the basin toward a common major drainage feature, such as a river, lake or bay. The major drainage feature is often called the receiving body and the smaller features are its tributaries.

2) Human Impact on the Natural System

Man-made stormwater facilities are designed to store or convey stormwater runoff. Swales, ditches, canals and storm sewers are typical conveyance structures, collecting stormwater runoff and directing it toward downstream receiving waters. Stormwater storage structures are generally classified as either detention or retention facilities. Detention facilities are designed to temporarily impound runoff and release it gradually to downstream portions of the drainage system through an outlet structure. Retention facilities are impoundments which release stormwater by evaporation and by percolation into the ground, with no direct discharge to surface waters.

Historically, the typical strategy adopted in response to stormwater flooding of developed areas was to modify the drainage system to convey runoff from developed sites more rapidly. Initially, this response may result in limited success in reducing nuisance effects and property damage. However, as urbanization of a drainage basin increases, storm events produce proportionately more and faster runoff, primarily due to the increase in impervious surfaces in the basin.

In addition to exacerbating flood problems, this strategy for coping with stormwater runoff has detrimental effects on water quality. Soil eroding from development sites and materials such as oil, grease, pesticides and fertilizers from urban land uses are washed off by runoff, increasing pollutant loading on receiving waters. The increased velocity of runoff also disrupts natural drainage features by destabilizing channels, leading to further sediment loading and debris accumulation.

The term "stormwater management" refers to comprehensive strategies for dealing with stormwater quantity and quality issues. The central tenet of these strategies is to ensure that the volume, rate, timing and pollutant load of runoff after development is similar to that which occurred prior to development. To accomplish this, a combination of structural and non-structural techniques is utilized. Structural techniques emphasize preservation or simulation of natural drainage features to promote infiltration, filtering and slowing of runoff. The objective of stormwater management is to utilize the combination of techniques which provide adequate pollutant removal and flood protection in the most economical manner.

One of the key principles of current stormwater management

techniques is recognition of the need for basin wide planning. The stormwater management system must be designed beginning with the final outlet point to ensure adequate capacity to handle all discharges from the upstream portion of the basin under conditions present at the time of design. It is then necessary to ensure that subsequent development upstream utilizes stormwater management techniques and systems which maintain predevelopment runoff conditions so that the downstream system is not overloaded. By ensuring that all development within the basin is based on and supportive of a plan for the entire basin, the functions and useful life of both natural and man-made components of the system will be protected and extended.

There are two basic factors involved in establishing a successful stormwater management program around these principles:

1. establishing and applying uniform design standards and procedures; and
2. ensuring adequate maintenance of system components once they are constructed. The design standard which is of primary importance is the design storm event. This standard specifies the intensity (rate of rainfall) and duration of the rainfall event to be used in the design of facilities.

2. INVENTORY AND ANALYSIS

a. Drainage Features

1) Drainage Basins

With development covering much of the City of Greenacres area with buildings, roads, parking areas etc., thus altering the natural drainage patterns, man-made drainage structures were required in order to reduce the flooding potential of the land. These man-made drainage facilities are part of the regional water management system known as the Central and Southern Florida Flood Control Project (CSFFCP) operated by the South Florida Water Management District (SFWMD) and built by the United States Army Corps of Engineers (COE).

SFWMD is responsible for storm water control within the 16 counties of its defined region. The district owns and operates approximately 215 miles of major canals in Palm Beach County. Lake Okeechobee is the hub of the South Florida flood control and water conservation system. The lake level is maintained by levees and gate structures with

discharges into the major canal system. The major canal system is divided into several drainage basins within the County.

The portions of the CSFFCP project that serve the City of Greenacres are the C-51 and C-16 drainage basins identified on Map No. 1. Lake Worth Road (S.R. 802) divides the C-51 drainage basin to the north from the C-16 basin to the south. The C-51 and C-16 basins are generally drained by a system of east-west canals referred to as laterals and north-south canals referred to as equalizers. The outfall for the drainage basins is the C-51 canal operated by SFWMD.

2) Drainage Canals

The surface water hydrology of the SFWMD is characterized by an extensive, heavily managed canal network, portions of which provide the primary drainage system to the City. There are a total of eleven (11) drainage canals bordering or within the corporate limits of the City whose locations are depicted on Map. No. 2 and include the following:

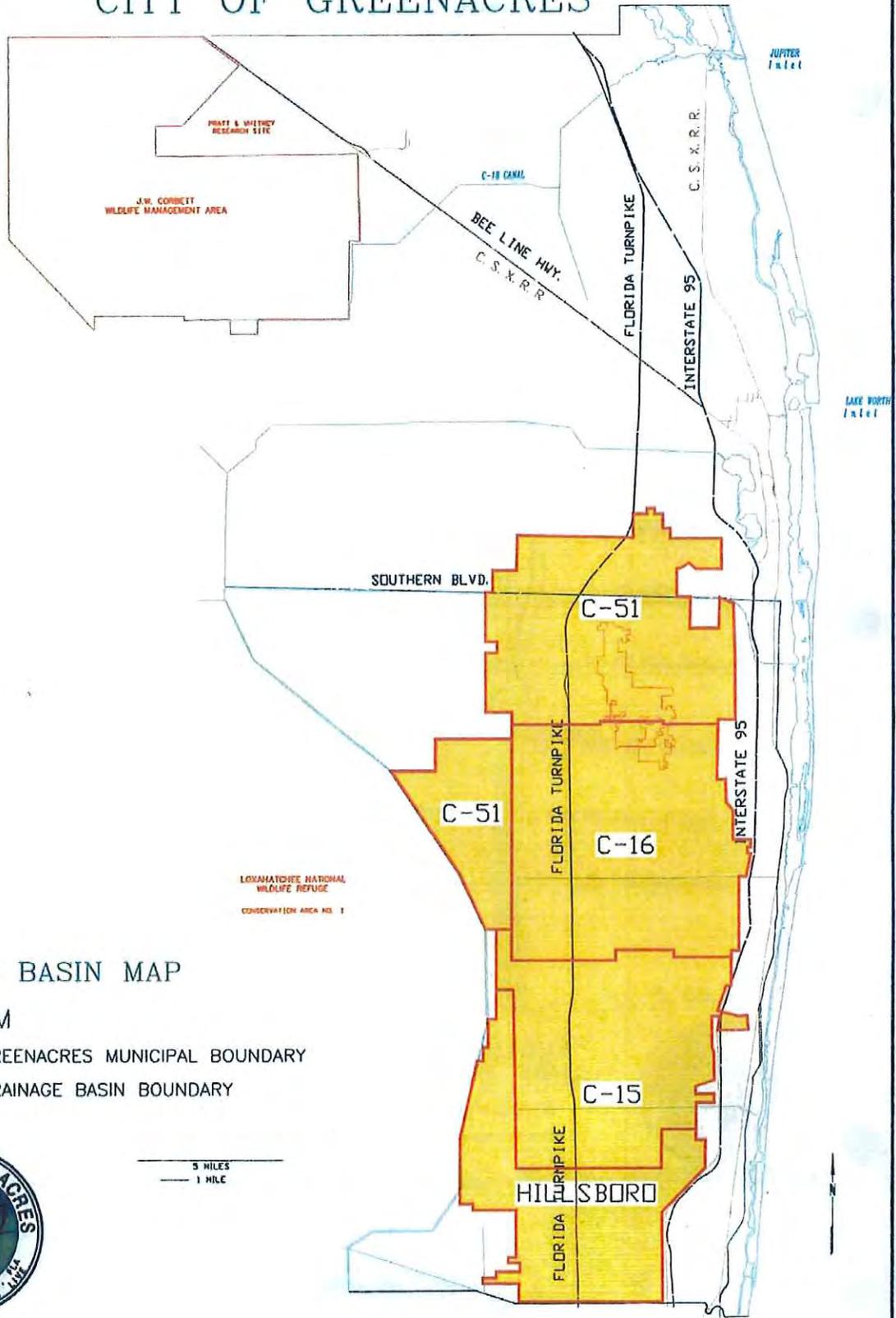
L-6	L-10	L-14
L-7	L-11	L-15
L-8	L-12	E-3
L-9	L-13	

Lake Worth Drainage District has jurisdiction of canals L-6 thru L-14 and E-3. The majority of the drainage canals have an east-west orientation except for the E-3 canal which has a north-south orientation and is located west of Fleming Avenue. All these canals were constructed between 1913 and 1927. There are no low head pumping installations or surface water impoundment areas normally associated with the SFWMD system, within the City of Greenacres. However, the structures pertaining to the City are Control #6 and #4. The controls consist of 3 "a mile" gates, #6 on Southern Boulevard west of Haverhill Road and #4 west of the Turnpike, on Southern Boulevard. Control #6 has a capacity of 650 cu. ft. per second and control #4, 550 cu.ft. per second.

3) Supplemental Drainage

The City of Greenacres also relies on natural infiltration of runoff; namely swale areas. In some areas, spot drainage facilities, including french drains, catch basins, headwalls and retention ponds have been constructed. The primary purpose of these facilities is to direct surface runoff to natural outfalls where natural infiltration is inhibited to alleviate the temporary problem of standing water. In addition, various land developers have provided a few secondary drainage systems within their

CITY OF GREENACRES



DRAINAGE BASIN MAP

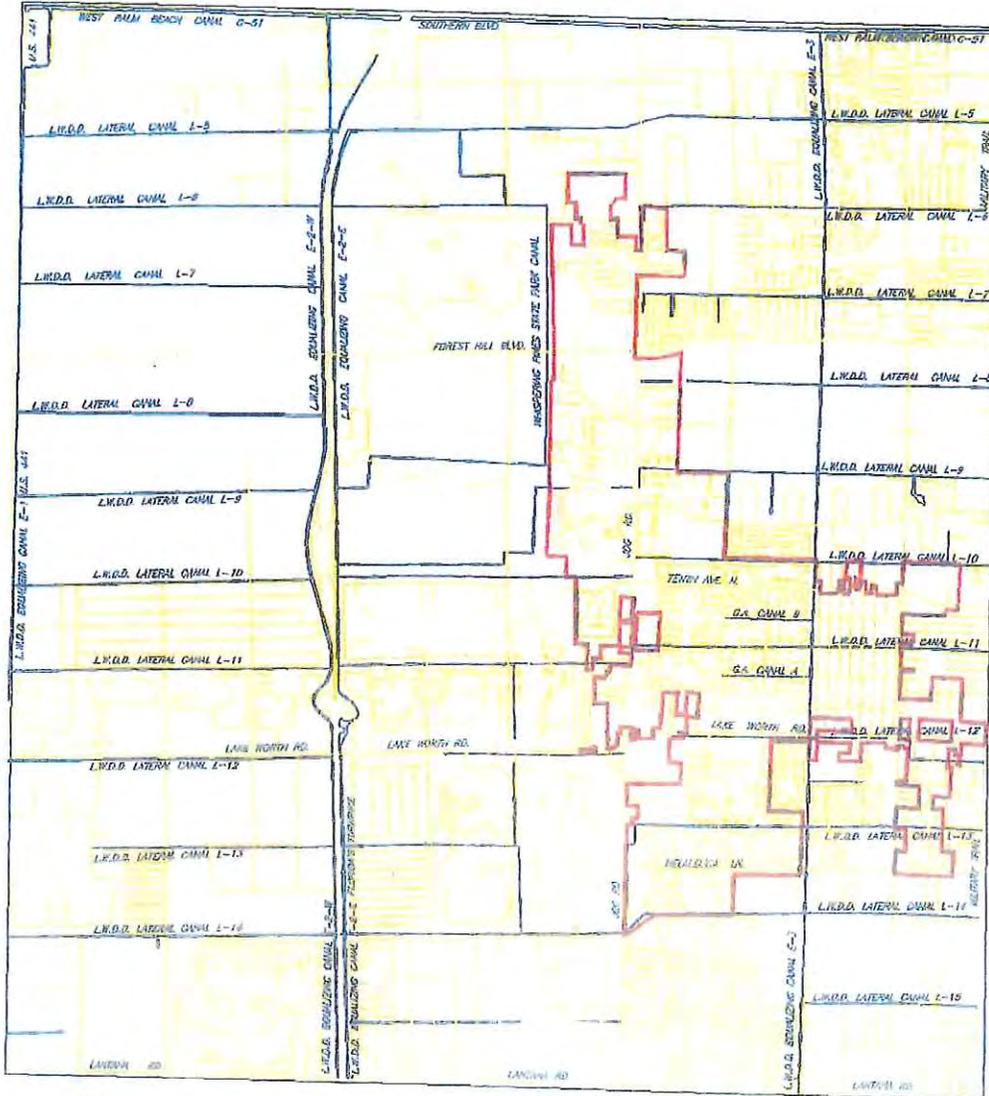
MAP 1 STM

- GREENACRES MUNICIPAL BOUNDARY
- DRAINAGE BASIN BOUNDARY



5 MILES
— 1 MILE

CITY OF GREENACRES



DRAINAGE CANALS MAP NO. 2

1 MILE

- GREENACRES MUNICIPAL BOUNDARY
- GREENACRES FUTURE ANNEXATION BOUNDARY

CA\MAPS\CDDP-PLAN\DRAINAGE CANALS - FEBRUARY 1997

respective developments. These private systems are maintained by the development.

The present surface water management system, consisting of a series of canals, drainage ditches, swale systems, retention ponds and the natural percolation characteristic of area soils, will continue to provide adequate service if designed and maintained properly. However, due to the increased amounts of surface runoff generated by developed areas, initial design considerations and proper maintenance techniques are essential for the maintenance of a proper functioning system.

b. Facility Capacity

Project control structures (under the operational jurisdiction of the SFWMD) that serve the City of Greenacres regulate the flow of water in the canals. In general, they are used to discharge excess water from the basins during wet weather and to maintain minimum water levels in the canals during drought periods. Some structures are normally in the closed position to prevent water from passing from one basin to another, but can be opened to supply water from one basin or canal to another as necessary.

One of the purposes of the LWDD is to provide for water control and water supply through the construction and maintenance of canals, ditches, water control structures and pumping stations.

An extensive intermediate network of secondary canals under the jurisdiction of the Lake Worth Drainage District (See Map No. 2) discharges to primary basin canals. These LWDD canals located within the City, serve a variety of functions:

1. Flood protection
2. Land drainage for urban development
3. Regulation of groundwater elevations
4. Recharge of wellfields

The current primary drainage basins (See Map No. 1) of Palm Beach County were first delineated in the 1950's by the U.S. Army Corps of Engineers (COE) in their General Design Memorandum for the Central and Southern Florida Flood Control Project. Based on the hydrology of the basins, the COE designed and constructed a system of canals, levees, and control structures to provide flood protection for Southern and Central Florida. Most of the works constructed under the Project are now under the operational jurisdiction of the South Florida Water Management District (SFWMD). Those basins which directly impact Greenacres City are outlined below.

1) C-51 Basin

"The C-51 basin has an area of approximately 164.3 square miles. The basin is comprised of two sub basins (C-51 west and C-51 east). Stages within the C-51 canal are regulated by SFWMD. To improve the hydraulic capacity of the C-51 canal, SFWMD has recently completed channel improvements between Kirk Road and Florida's Turnpike. These improvements have resulted in the lowering of stages with the C-51 canal, thereby reducing tailwater conditions for LWDD canals. As a result of the improvements made to C-51 canal along with the exchange of discharge between LWDD C-51 and C-16 basins, it was determined that the capacity of the C-51 basin is equivalent to a 10-year, 24-hour storm event.

2) C-16 Basin

The C-16 Basin has an area of approximately 65 square miles and is designed for a 10 year, 24-hour storm event. Inflows to C-16 are by various Lake Worth Drainage District (LWDD) canals, because some of the north-south flowing LWDD canals do not have divide structures between the C-16 and the C-15 basins, between the C-16 and C-51 basins, and between the C-15 and Hillsboro basins. Therefore, some interbasin transfer of water may occur.

The LWDD canal system was designed for 25-year flood protection. Although the system has not yet been constructed to design specifications, LWDD requires that developers planning to drain to the LWDD improve the canals to design specifications.

Lake Worth Drainage District (LWDD) maintains 511 square miles of canals making it the largest independent district in the eastern county. LWDD is located in and discharges to four basins: C-51, Hillsboro, C-15, and C-16. LWDD conducted a study of its system, capacities and problem areas. This study gave the district a better indication of how the system should be operated and maintained.

Regardless of design criteria, the LWDD has fixed capacities in that it is only able to provide a set level of service and must make all flow and discharge fit into the system. Problems do arise, as with every system, with extreme storms. As growth continues in the service area, LWDD will be able to operate more efficiently. Regulations are in place which require new development to include on-site retention and regulates the outfall into SFWMD. These regulations require review and permitting by SFWMD. Occasional minor problems, such as growth of grasses and creation of sandbars which hinder flow are remedied with maintenance.

c. General Performance - Level of Service

1) Drainage District Operating Policies

Lake Worth Drainage District's plan for improvements consists of:

1. regular maintenance of canals, and
2. upgrading of control structures.

The following discharge criteria is currently held by the Lake Worth Drainage District. (Allowable discharge limits apply to all developments and/or street or road improvements).

TABLE No. 1
BASIN DISCHARGE CRITERIA

<u>Basin</u>	<u>Rate</u>	<u>Frequency (Yrs)</u>
C-51	35 CSM (East of Turnpike)	25
	27 CSM (West of Turnpike)	
C-16	62.6CSM	25
C-15	70 CSM	
Hillsboro	35 CSM	

SOURCE: LWDD Operating Policies-1986

Minimum discharge culverts shall be fifteen (15) inches in diameter. Minimum road and parking tract elevations shall in no case be any lower than the elevation of the Lake Worth Drainage District design profiles. The backwater effects due to distance from the receiving canal must be considered. These profiles approximate the protection required by Palm Beach County road criteria. The maximum allowable discharge from any newly constructed road or street, or from any road or street improvements, must be limited to two and one-half cubic feet per second (2.5 cfs) per half 1/2 mile section for the twenty five (25) year storm frequency.

2) Future Drainage System

All future major residential developments are required by the Land Development Regulations to provide comprehensive stormwater facilities.

These facilities must comply with the requirements of SFWMD. All runoff must be directed to percolation and detention areas for on site retention of stormwater. Therefore, the majority of the requirements for future stormwater drainage systems will be provided by developers.

3) Level of Service (LOS)

The City of Greenacres will adopt those Level of Protection LOS criteria established in the 1989 Palm Beach County Comprehensive Plan to provide the residents of the City flooding and inundation protection. Those levels of service for drainage protection, as adopted in this Sub-element, represent degrees of protection provided for various development features expressed in terms of storm events to be accommodated by the applicable stormwater facility.

a) Primary Drainage System

The "primary system" consists of classified surfacewaters of the state including canals and/or natural water courses providing final conveyance of overall drainage basin flows to the ocean or major inland water bodies. This is the outlet system for the basin. Capacity is essentially fixed by original design as well as natural, economic and environmental constraints which preclude significant upgrading or expansion. In Palm Beach County permitting and operational jurisdiction over this portion of the system is held by the South Florida Water Management District and Lake Worth Drainage District (LWDD) which is the Chapter 298, F.S., drainage district serving the City of Greenacres.

b) Secondary Systems

The "secondary system" consists of a broad range of facilities for treatment and/or control of runoff generated by defined areas of specific land uses. Outflows from such systems are normally subject to positive structural control requirements and permit limitations on their discharge to the primary system.

These facilities are generally designed to control area surface and groundwater elevations and maintain the quantity and quality of developed area runoff at pre-development levels or as otherwise required to mitigate adverse impacts on classified receiving waters. The secondary system includes "on-site" storage facilities, providing stormwater treatment and control prior to discharge from individual development projects, as well as "off-site" facilities operated by the Lake Worth Drainage District (LWDD) to provide

comparable treatment of combined runoff from multiple project sites.

c) Tertiary Drainage Systems

Storm sewers, swales, gutters and site grading comprise the "tertiary system" for immediate drainage of streets and developed areas. The major design consideration is rapid removal of stormwater from structures and areas of land uses subject to damage or disruption by inundation. These facilities must be capable of continuous, reliable performance with minimal interruption for maintenance. Although they normally provide little or no capacity for runoff control and treatment, maximizing the use of overland flow across previous areas, grassed swales and other non-structural techniques may significantly reduce the capacity requirements of the secondary system.

Since the possible combinations of rainfall rate and duration are essentially limitless, rainfall records for a given geographic area are grouped according to the statistical probability that a given average rate of rainfall (intensity) will be equaled or exceeded for a given period of time (duration). As a convention, probability is expressed in terms of the number of years (return period) expected between recurring storms of a specific intensity and duration or, more properly, that the probability of such a storm occurring in any single year is one divided by the return period. For example, if a 2-hour rainfall at an average rate of at least 3 inches/hour is expected to occur once in 5 years (or has a 1/5 chance of occurring in any given year), such a storm would be expressed as a "5-year, 2-hour storm of 3 inches/hour." The capability of a drainage system to dispose of runoff is commonly expressed in terms of the maximum storm event from which runoff can be conveyed or stored by the component facilities in a desirable manner. (See Table No. 2)

Specifying the return period and duration of rainfall to be handled by a drainage facility establishes the degree of protection that the facility can be expected to provide. That is, the chance of overloading a facility designed to accommodate runoff from a 5 year, 2-hour "design storm" is 1 in 5, while the chance of satisfactory performance is 4 in 5, in any given year for a storm lasting 2 hours.

The City lies in an area identified by the Florida Department of Transportation as Zone Ten for rainfall intensity and duration.

**TABLE No. 2
TERTIARY DRAINAGE - LOS**

<u>LEVEL OF SERVICE</u>	<u>LEGAL POSITIVE OUTFALL</u>
<u>DEVELOPMENT FEATURE</u>	<u>LEVEL OF PROTECTION</u>
1. Lowest habitable space of residential and commercial buildings	Inundation elevation resulting from 100-year, 3-day rainfall, assuming zero discharge; or 100-year flood elevation per F.E.M.A. Flood Insurance Rate Maps; or 100-year flood elevation as established by SFWMD Rule, whichever is more restrictive.
2. Residential subdivision lots with gross area 1/4 acre or less	3-year, 24-hour rainfall
3.. Residential subdivision lots with gross area greater than 1/4 acre a) within 20 ft. of habitable building b) remainder of lot except areas management purposes	a) 3-year, 24-hour rainfall b) duration of inundation not to exceed 8 hours subsequent to 3-year, 24-hour rainfall
4. Local Streets	3-year, 24-hour rainfall
5. Collector streets not included in Thoroughfare Plan	5-year, 24-hour rainfall
6. Thoroughfare Plan Streets	In accordance with applicable requirements per FDOT DRAINAGE MANUAL
7. Residential parking lots	3-year, 24-hour rainfall (5-year,24-hour rainfall when exfiltration trench system used)
8. Commercial parking lots	3-year, 1-hour rainfall (5-year, 1-hour rainfall when exfiltration trench system used)
9. Recreation and open space areas not specifically designated for stormwater management purposes	Duration of inundation not to exceed 8 hours following 3-year, 24-hour rainfall

d) Impact on Natural Resources

1) Wildlife Habitats

The City of Greenacres is committed to the support of various species of endangered or threatened wildlife and their habitats. These habitats can be altered through drainage programs, sometimes drastically. When drained, wetland areas no longer will support the native vegetation and corresponding wildlife. At present, no threatened or endangered wildlife have been identified within the City.

2) Aquifer Systems and Recharge

Two aquifer systems underlie the City of Greenacres. They are, in descending order, the Surficial Aquifer System and the Floridan Aquifer System. Since this portion of the element deals only with aquifer recharge, additional details of the aquifer systems and the City's location within identified areas of "high aquifer recharge" can be found in the Conservation Element of this plan.

a) Surficial Aquifer System.

This system is divisible into three interconnected zones on the basis of relative permeabilities; Zone 1, which includes Greenacres City, is generally the most permeable part of the aquifer system and is located in the eastern part of the County.

County wellfields are generally located in Zone 1 which is a discontinuous zone of high secondary permeability (See Potable Water Sub Element for wellfields.) This zone, also referred to as the Turnpike Aquifer or cavity riddled zone, is the northern extension of the Biscayne Aquifer. Formed by varying dissolution of aquifer limestone materials, this has up to double the productivity of nonsolutioned parts of the system. Transmissivities of greater than 1,000,000 gallons per day per foot have been reported in this zone, according to South Florida Water Management District (SFWMD).

No single entity has "jurisdiction" over the aquifer, although the SFWMD does permit wells and water

withdrawal activities. SFWMD has been designated by the Florida Department of Environmental Protection to undertake a groundwater assessment study and identify prime areas of aquifer recharge. This study, although underway, has not been completed. The aquifer serves Palm Beach County's population regardless of jurisdictions in the County to coordinate and cooperate with each other to protect the natural system and its processes.

Water levels in the Surficial Aquifer System are largely controlled by the canal network. Recharge to the system is through infiltration from rainfall, canals, the conservation areas and Lake Okeechobee. Lake Okeechobee is particularly important during dry periods when water is moved from the lake to canals and then into the aquifer through infiltration. The role of canals in the recharge process is especially important during the "dry season" and periods of drought.

Rainfall in the City, as well as in Palm Beach County, is seasonal with about 65% of the yearly rainfall being deposited in the months of June through October. In prolonged periods of rain, soils become saturated at varying rates depending on their individual texture and the depth to a less impervious layer, with the resulting runoff following topographic features in its movement.

In addition to the monitoring, compiling and archiving of climatologic and hydrologic data, the SFWMD has analyzed these data to determine frequency, duration, and estimated recurrence of extreme hydrologic events, such as excessive rainfall and droughts. The District also publishes an annual summary of hydrologic conditions. Two recent tropical storms (Dennis, during August 16-18, 1981 and Bob, during July 22-24, 1985) and a severe drought (during 1980-82) affected portions of Palm Beach County and were the subjects of special reports by the SFWMD. The Surficial Aquifer System will probably continue to be the primary source of water for Palm Beach County

and, with proper management, should meet future needs.

b) Floridan Aquifer System

The second aquifer system in Palm Beach County is the Floridan Aquifer System. It is an artesian aquifer underlying the Surficial Aquifer System. The two systems are essentially separated by largely confining beds. Although the Floridan Aquifer is a prime source of freshwater in central Florida, water from the aquifer is non-potable in Palm Beach County due to high chloride levels and dissolved solids. The Floridan does have potential for use either as a source of brackish water for reverse osmosis or as a reservoir for storage and recovery of freshwater.

Dense, low permeable limestones and dolomites occur throughout the Floridan Aquifer System. These materials of low permeability divide the Floridan into two semi-confined aquifers. The lower portion of the Floridan known as the Boulder Zone, is cavernous, and contains water similar to seawater. The Boulder Zone is significant because it is used for waste disposal via deep-well injections.

e) Regulatory Framework

Section 208 of the Federal Water Pollution Control Act (PL92-500, 1972) is the directing federal law with respect to water pollution abatement. In implementing the Act, the Environmental Protection Agency (EPA) identified pollutants carried in stormwater runoff as a major source of water contamination. To achieve the pollution abatement goals of the Act, EPA provided assistance to state and local governments to develop Areawide Water Quality Management Plans, or "208 Plans" as they are commonly known. These 208 Plans studied a broad range of potential water pollution sources, including stormwater, and focused on identifying pollutant sources and abatement needs as well as development of regulatory programs to ensure implementation. At present, there are no federal regulations for stormwater management concerning the quantity of stormwater runoff.

The Florida Department of Environmental Protection (DEP) has adopted a Stormwater Rule (Ch. 17-25, FAC) to fulfill part of the State's responsibilities under Section 208 of the Federal Water Pollution Control Act. The Rule's basic objective is to achieve 80-95 percent removal of stormwater pollutants before discharge to receiving waters. This rule requires treatment of the first inch of runoff for sites less than 100 acres in size and the first one-half inch of runoff for sites 100 acres or greater in size.

Treatment is generally accomplished through retention or through detention with filtration. Retention requires the diversion of the required volume of runoff to an impoundment area with no subsequent direct discharge to surface waters. Pollutant removal by settling and by percolation of the stormwater through the soil is almost total. Detention facilities are typically within the line of flow of the drainage system. Stormwater from a site passes through the detention facility and is filtered prior to discharge to remove pollutants.

Implementation of the stormwater rule is achieved through a permitting process. DEP has delegated permitting responsibility to the regional water management district with jurisdiction over the Palm Beach County area.

The Central and Southern Florida Flood Control District was created by Chapter 270 Laws of Florida (1949) as a multi-county district for purposes of flood control and water conservation. Chapter 373, Florida Statutes (F.S.), the Florida Water Resources Act of 1972 (Act), greatly expanded the District's responsibilities from flood control to the full range of water management activities. In addition, the Act changed the name of the agency to the South Florida Water Management District (SFWMD).

The Act is intended to govern the regulation of all waters of the State, unless exempted by law, where waters of the State are defined to include all water on or beneath the surface of the ground or in the atmosphere. Generally, the purposes for which the Act was adopted are to provide for management of water and related land resources; to promote the conservation, development and proper utilization of surface and groundwater; to provide water storage for beneficial purposes, to prevent damage from floods, soil erosion and excessive drainage; to preserve natural resources, fish and wildlife; and to promote recreational development.

Pursuant to the Administrative Procedures Act (Chapter 120 F.S.), the District has implemented all of the permitting programs that

were authorized by the Act, by adopting rules which are published as Chapter 40E of the Florida Administrative Code (FAC).

There are two types of water resource permits issued by the District: permits for the consumptive use of water and permits for drainage or surface water management. The basic criteria for both types of permits are the same. The proposal must be reasonable and beneficial, must be in the public interest, and must not harm any other existing legal user of water. How these criteria are applied, differs by the type of permit.

Permit review is handled by a staff of professionals experienced in water resource engineering, hydrology and the other disciplines. District staff provides assistance to meet the applicant's needs and to protect the resources and public safety of the people of South Florida.

1) Surface Water Quality Programs

The SFWMD conducts two primary types of surface water quality studies. The first is a series of research programs that are designed to address specific water quality problems. The second is a District-wide surface water quality monitoring program that is conducted by the SFWMD in cooperation with the United States Geological Survey and other agencies. Additional comments on the aforementioned agencies can be found in the Intergovernmental Element of this Plan.

f) Stormwater Runoff Quality

1) Pollution Sources

Currently, few specific water pollution problems originate in Greenacres, partly as a result of natural factors and partly as a result of development regulations. Sediment pollution caused by soil erosion is minimal. However, pollutants from lawns and roadways, such as motor oil, gas, pesticides and fertilizers, do taint stormwater runoff. Such adverse impacts result from the predominance of residential and commercial land uses coupled with the lack of a stormwater system in the City. Very frequently, therefore, strategies to manage the quantity of stormwater runoff will inherently improve the quality of stormwater runoff.

Potable Water

Sub-Element

CONTENTS

SECTION	PAGE
II D. POTABLE WATER SUB-ELEMENT	4
1. INTRODUCTION	4
a. History	4
b. Terms and Concepts	4
2. INVENTORY AND ANALYSIS	5
a. Operator and Service Area	5
b. Design Capacity	7
1) Existing Conditions	7
2) Projected Demands	7
a) Planning Period - 2006-2025	7
c. General Performance - LOS	8
1) Service Concurrent with Development	8
2) Capacity Assessment - Future	8
d. Wellfields	9
e. Water Conservation	9
1) Building Codes	13
2) Xeriscape	13
f. Regulatory Framework	13
1) Federal	13
2) State	13
3) Local	14

LIST OF TABLES

<u>NO.</u>	<u>NAME</u>	<u>PAGE</u>
1	FACILITIES CAPACITY ANALYSES	7

LIST OF MAPS

<u>NO.</u>	<u>NAME</u>	<u>PAGE</u>
1	WELLFIELDS AND PROTECTION ZONES	11
2	CONE OF INFLUENCE CROSS - SECTION	12

II D POTABLE WATER SUB-ELEMENT

1. INTRODUCTION

The water supply and potable water sub-element is prepared in accordance with Chapter 163, F.S. and Rule 9J5.011, F.A.C.

a. History

In regards to potable water production and distribution, until the time of the first annexation by the incorporated Town of Greenacres in December of 1960, all water service was provided by private wells. Due to a series of annexations, commencing with the Lake Worth Hills Subdivision, the City entered into franchise agreements with Utilities Development Company (UDC) and Southern Gulf Utilities. "Villa Del Trio was the first subdivision in the City to receive direct water service from System No. 2." This system which is currently owned by Palm Beach County Water Utilities Department (PBCWUD), serves the City of Greenacres. As more development occurred, developers were required to install water distribution systems that tied into the PBCWUD system.

In regards to water supply, through Senate Bills 360 and 444, the 2005 Florida Legislature modified Chapter 163 Part II (the state's growth management statute) to require water supply planning. The law now requires that local governments which are encompassed within a regional water supply plan, such as Palm Beach County and the City of Greenacres, to update their comprehensive plans within 18 months of the adoption or update of the regional water supply plan. The South Florida Water Management District adopted the 2005-2006 Lower East Coast Plan Update on February 15, 2007. The legislation requires coordination between local government comprehensive planning and the water management district's regional water supply plans and seeks to establish a closer link between development decisions and the availability of water.

b. Terms and Concepts

Although the City of Greenacres has no operational responsibility in the provision of potable water to City residents, this sub-element will still address the one important issue: Is there sufficient good quality water available to adequately serve residents of today as well as future residents?

A potable water supply system normally consists of a water supply source, a treatment plant, and a distribution and storage network. Surface water stored in natural lakes, man made reservoirs, groundwater, or any combination of the three, usually constitute the supply source for a system. The selection of a source for any system must consider the type and quality of sources available and the cost of developing the source for use.

The South Florida Water Management District has the responsibility to ensure an

adequate supply of water within the region to meet the needs of potable water suppliers (such as PBCWUD), individual users (domestic wells), agriculture, and the environment (the Everglades, rivers, etc.). This is accomplished through planning (such as the Comprehensive Everglades Restoration Plan and the Lower East Coast Regional Water Supply Plan) and permitting (such as Consumptive Use Permits for a water utility's wellfield).

The water supply system consist of lakes, canals, stormwater diversion and storage areas, aquifers, withdrawal wells, underground water storage wells (Aquifer Storage and Recovery ASR), water re-use projects (irrigation quality treated sewerage, man-made treatment wetlands), and aquifer recharge projects (such as lake recharge through canal diversion).

Before being used for public consumption, water must be treated. Treatment removes impurities from the raw water in order to improve its quality for either public health or aesthetic reasons, or both. The treatment process adds to the cost of supplying water but it also expands the range of raw water sources that can be utilized.

After treatment, the water is supplied to individual users in a community by way of a network of pipes and storage reservoirs. Large transmission lines, called distribution mains, carry water to major demand areas and interconnect with a network of smaller lines which eventually supply individual establishments. Both the distribution mains and distribution network should be interconnected to form flow loops to allow water to circulate from various portions of the system to areas of highest momentary demand.

Water is delivered under pressure within the distribution system in order to ensure adequate flow to meet demands. Demand fluctuates during each day, usually exhibiting peaks during the morning and evening, corresponding to periods of highest residential use. Localized demand peaks also occur when the system is utilized for firefighting purposes. In order to provide adequate quantities and pressure to meet peak use and fire flow demands, storage tanks are linked with the distribution system at strategic locations. During low demand periods these tanks are filled as water is pumped into the system. During the peak demand periods, water flows from the tanks back into the system to augment flows and maintain pressure. Ground level and elevated storage tanks are both commonly used. Many systems also include auxiliary pumps which operate only during peak demand periods.

2. INVENTORY AND ANALYSIS

a. Operator and Service Area

Overall, regional water supply is coordinated and controlled by the South Florida Water Management District (SFWMD) through the Lower East Coast Water Supply Plan and the District's operating rules and policies. The Plan covers the

following key areas:

- 1) Documents existing demands and projects future water demands through 2025 for agriculture, urban uses, and other categories.
- 2) Identifies resource issues, including constraints on development of new traditional raw water sources.
- 3) Evaluates the water source options available within the Lower East Coast planning area. Alternative water supply sources include brackish groundwater, reclaimed water, new storage capacity for surface and/or groundwater, and seawater.
- 4) Discusses conservation.
- 5) Identifies and discusses water resource development projects.
- 6) Identifies water supply projects that will meet future human and environmental needs.
- 7) Focuses on alternative water supply projects, such as brackish water from the Floridan Aquifer, captured storm water, aquifer storage and recovery (ASR) systems, and expanded use of reclaimed water.
- 8) Describes funding opportunities available through the SFWMD to foster alternative water supply development.

Local water supply to meet the PBCWUD's production needs for potable water is planned through the Utility's 20 Year Water Supply Work Plan. This plan was adopted on April 11, 2008 and has been coordinated with the SFWMD's regional plan and with the other water utilities in Palm Beach County. The City of Greenacres participated in population projection planning meetings with the PBCWUD, the Palm Beach County Planning Division, and numerous other cities and utilities in February and March of 2008 prior to the County completing their plan. The same population projections are used in the PBCWUD plan and the City of Greenacres Comprehensive Plan. The PBCWUD Water Supply Plan and the County's Comprehensive Plan amendments (scheduled for adoption in August of 2008) address the development of traditional and alternative water supplies, bulk sales agreements, and conservation and reuse programs that are necessary to serve existing and new development for a 20 year planning period.

Potable water requirements of the City of Greenacres residents are being met by the Palm Beach County Water Utilities Department. The County supplies water on a retail basis, from a system of numerous water treatment plants, wellfields, and storage tanks. With the exception of one (1) obsolete storage tank, no County facilities are located within the City.

The City of Greenacres lies entirely within the service area of the Palm Beach County Water Utilities Department (PBCWUD). PBCWUD operates an inter-connected distribution system, five water treatment plants, five Surficial Aquifer wellfields, one new Floridan Aquifer wellfield under construction, and one additional Floridan Aquifer wellfield in the planning stages. A storage facility was located just north of the Jog Road and Forest Hill Boulevard intersection on the west side of Jog Road, but it is currently not in service since its function was

replaced by a water main improvement carried out by PBCWUD.

b. Design Capacity

1) Existing Conditions

The permitted capacity for all plants owned and operated by PBCWUD in 2008 is 87 million gallons daily (MGD) average and 129 MGD maximum per Permit #50-00135.

2) Projected Demands

Table 1 summarizes demand and supply for the entire Palm Beach County Water Utilities Department service area, including the City of Greenacres. Projections in Table 1 rely on the level of service standards adopted by PBCWUD for City residents through the year 2025. Within the same time frame, capacities will expand sufficiently to accommodate total projected potable water demands on Palm Beach County Water Utilities Department's interconnected distribution and production system. All projections include residents of the City of Greenacres, thus the raw water and potable water supply will be more than adequate to supply the City of Greenacres during the planning period.

**TABLE No. 1
Facilities Capacity Analyses**

	2006	2010	2015	2020	2025
Population Served (1)	431,091	449,101	499,336	566,986	596,289
Demand per Capita (gpd) (2)	126	126	126	126	126
Contracted Bulk Potable Water (mgd)	2.6	9.3	13.1	13.1	14.1
Total Finished (Potable) Water Average Daily Demand (mgd)	57	66	76	85	89
Total Raw Water Average Daily Demand (mgd) (3)	67	77	89	99	104
Available Raw Water Facility Capacity (mgd) (4)	108	119	127	138	148
Raw Water Facility Capacity Surplus (Deficit) (5)	42	42	38	39	43
Permitted Raw Water Allocation (mgd annual average) (6)	87	87	87	87	87
Surficial Aquifer Average Daily Flow Withdrawal (mgd) (7)	67	77	82	84	84
Permitted Surplus (Deficit)	20	10	5	3	3

1. Population served represents projected retail customers and self-served conversions.
2. Demand per Capita based upon population served.

3. Average Daily Flow raw water = 1.17 x Average Daily Flow finished (potable) water (per historical and capacity based analyses).
4. Raw Water Facility Capacity = Wellfield Capacity with two largest wells out of service for each individual wellfield.
5. Calculated by subtracting average daily demand from available facility capacity.
6. Permitted allocation from Permit #50-00135.
7. Values do not reflect offsets from alternative water supplies.
8. Table is based on Table 6-1 in the PBCWUD Water Supply Work Plan of August 14, 2008.

c. General Performance - LOS

1) Service Concurrent with Development

Palm Beach County is currently following their latest Water and Wastewater Master Plan and their Water Supply Work Plan in assuring the residents of Greenacres an adequate supply of water, both presently and in the future. The extensive growth which has occurred in the past few years, not only in the City of Greenacres but also countywide, has had a major impact on the provision of potable water

Palm Beach County's Comprehensive Plan and the City's Comprehensive Plan include requirements that capacity must be documented prior to approval of new development. This will assure that developments are not approved unless service will be available concurrent with demand. Therefore the City's new developments shall be approved only when capacity is available to provide for the needed potable water supply. This can be achieved in two ways:

1. When the developer obligates funds to provide that developments' share of capital improvements to the system; and
2. As part of the County's capital improvement program based on 5 year planning periods, which would obligate funds for those improvements.

2) Capacity Assessment - Future

Consistent with methodology used in the County's Water Supply Work Plan, future needs have been evaluated on the basis of average day and maximum day demand factors as based on historical annual water production for the County water supply system. Average day demand provides an estimate of resident population water demand and has been used to derive the level of service standards for the service areas. Maximum day demand represents annual peak daily demand and provides an estimate of combined resident and seasonal population demand. Raw water production must be capable of meeting average day demands. Treatment, including pumping of treated water to the distribution network, must be capable of meeting maximum day

demands. Storage capacity, to augment flow and pressure for peak demand and fire-flow needs, must equal or exceed 30 P.S.I.

To ensure sufficiency of future capacity, Palm Beach County Water Utilities Department (PBCWUD) has adopted several policies which provide a guarantee to future Greenacres City residents, the provision of more than the minimum level of service. These policies provide that:

1. PBCWUD shall begin to design for additional capacity when 80% of facility capacity is demanded.
2. Construction of additional capacity shall begin when 90% of facility capacity is demanded.

d. Wellfields

Palm Beach County Water Utilities Department withdraws water from the surficial aquifer system through a series of water supply wells. There are no wellfields located within the City of Greenacres City limits, however, zones of influence surrounding the Water Treatment Plant No. 2 wells, do project into the City. (See Map No. 1). The exact location of these "zones" is determined by the Palm Beach County Department of Environmental Resources Management based upon travel time contours and one foot draw down contours. These Zones of Influence are described as follows:

1. Zone One (1): The land area situated between the well(s) and the thirty (30) day travel time contour.
2. Zone Two (2): The land area situated between the thirty (30) day and the two hundred ten (210) day travel time contours.
3. Zone Three (3): The land area situated between the two hundred ten (210) day and the five hundred (500) day travel time contours.
4. Zone Four (4): The land area situated beyond the five hundred (500) day travel time contour and within the one (1) foot drawdown contour.

Restrictions are placed within each zone of influence which affect all nonresidential activities. These zones and types of surrounding land uses are identified in the Future Land Use Element of this Plan. The City supports Palm Beach County efforts to implement the adopted Wellfield Protection Ordinance No. 88-7. Map No. 2 gives a pictorial representation of the previously used terms associated with "Cone of Influence."

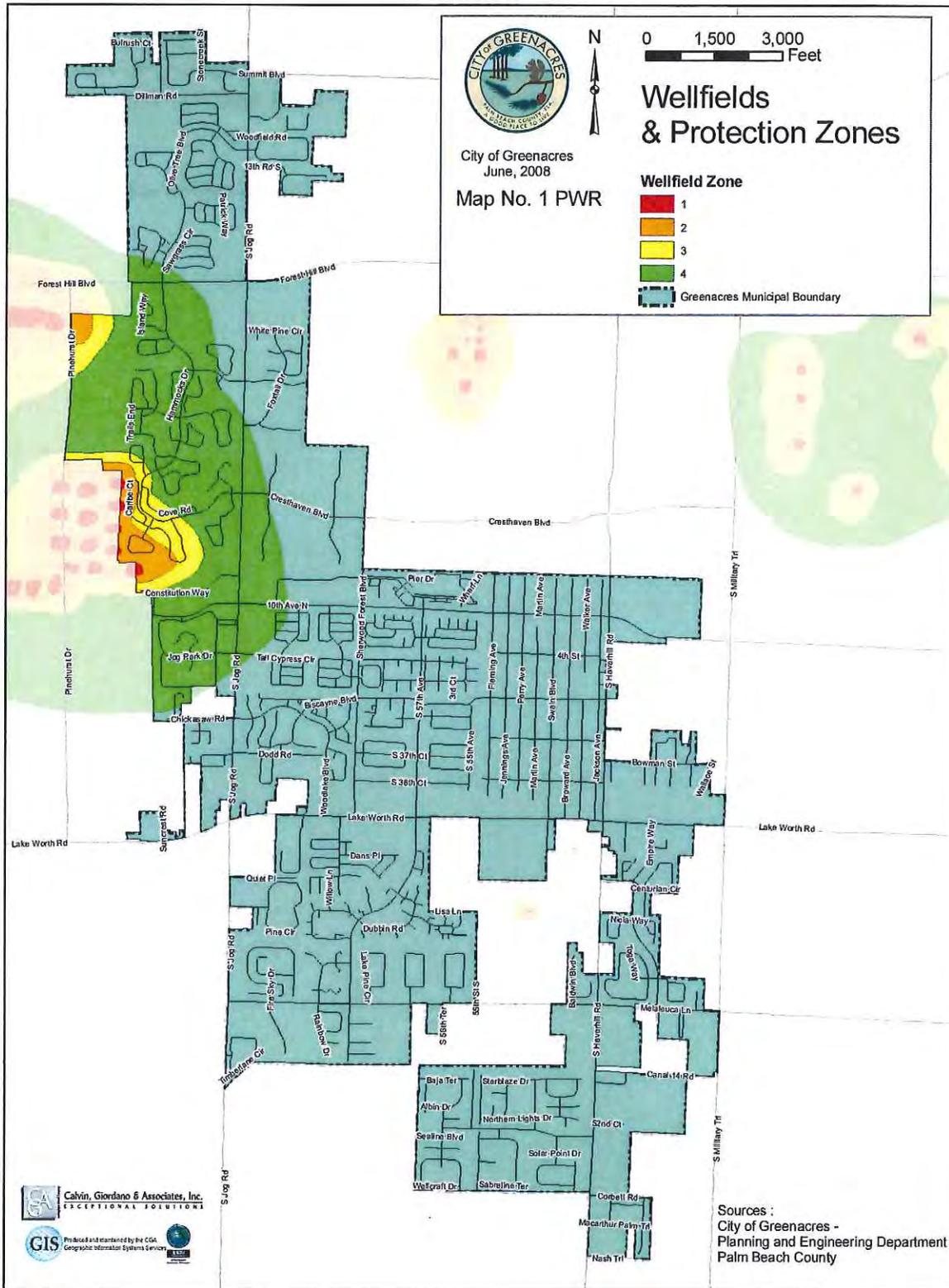
e. Water Conservation

The task of reducing the annual increases in water consumption can be met through cooperation at State, County and City levels. The City supports the proposals of

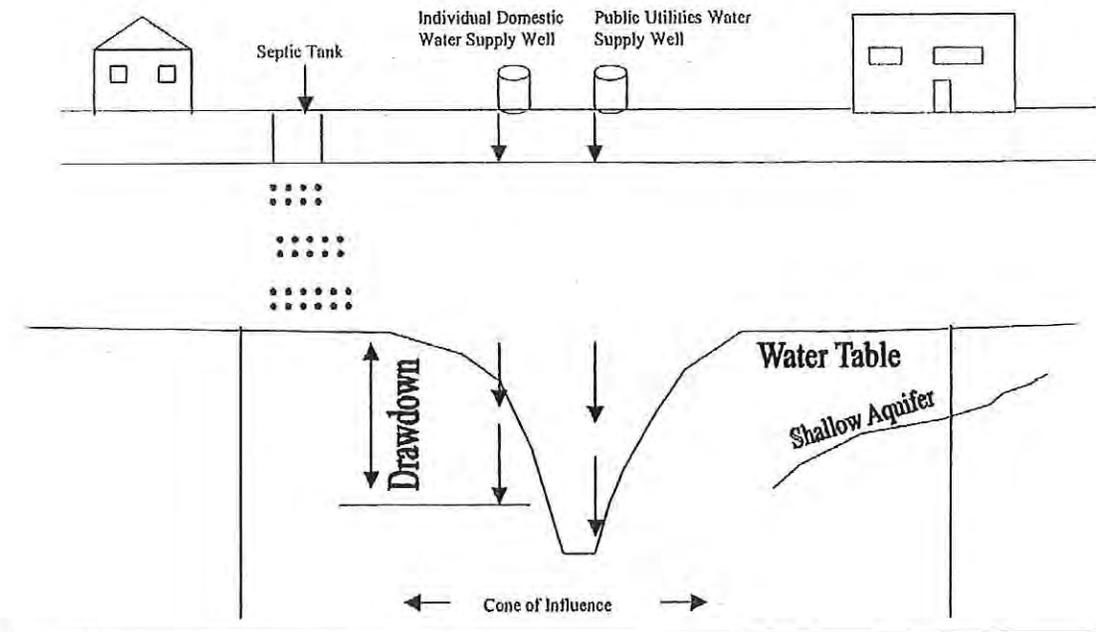
the Palm Beach County Department of Environmental Resources Management in reducing the amount of water consumed by households, business, industry and agriculture. Water consumption figures for the City have been supplied earlier in this Sub-element as per capita water usage. Typically, water utilized by households is considered nonconsumptive water use because it is returned to the hydrologic cycle, although some of it has been polluted, while much of the water used for irrigation will be lost to the cycle.

To counter these problems, the City of Greenacres implemented reforms, consistent with County plans, in two areas:

1. Building codes requiring water saving devices
2. Xeriscape landscaping requirements.



Map No. 2 PWR
CONE OF INFLUENCE "CROSS SECTION"



1) Building Codes

Water conservation is achieved through requirements on new construction which includes water saving devices on new homes and businesses.

As part of this Plan, PBCWUD established a program limiting potable water use in irrigation by prohibiting the metering of systems used exclusively for irrigation.

2) Xeriscape

This Plan includes incorporating xeriscape principles as part of the Greenacres City Landscape Ordinance. The term "xeriscape" means water conserving, drought tolerant landscaping or simply the use of appropriate plant material that will survive and flourish with comparatively little supplemental irrigation.

"Approximately one-half of the per capita water demand in urban areas of south and central Florida is for residential outdoor use." Through the appropriate use of plant material, this percentage could be significantly reduced.

The City of Greenacres has set an example by incorporating xeriscape principles in the design, installation and irrigation of landscapes at City parks, City Hall and along traffic corridors. In mandating xeriscape principles through the City's Landscape Ordinance, on-site inspections would be required to ensure compliance.

f. Regulatory Framework

1) Federal

The federal government has established quality standards for the protection of water for public use, including operating standards and quality controls for public water systems. These regulations are provided in the Safe Drinking Water Act, Public Law 93-523. This law directed the Environmental Protection Agency (EPA) to establish minimum drinking water standards. The EPA standards are divided into "primary" (those required for public health) and "secondary" (recommended for aesthetic quality) categories.

2) State

In accordance with federal requirements, the Florida Legislature has adopted the Florida Safe Drinking Water Act, Sections 403.850 - 403.864, F.S. The Florida Department of Environmental Protection (DEP) is the state agency responsible for implementing this act. In this regard, DEP

has promulgated rules classifying and regulating public water systems under Chapter 17-22 of the F.A.C. The primary and secondary standards of the Federal Safe Drinking Water Act are mandatory in Florida.

Regional water management districts are responsible for managing water supplies to meet existing and future demands. The City of Greenacres lies in the jurisdiction of the South Florida Water Management District (SFWMD) which regulates the consumption of potable water through a permitting system through which water resources are allocated among the permitted consumers. The SFWMD Lower East Coast Water Supply Plan has been discussed above.

3) Local

The Palm Beach County Department of Environmental Resources Management is responsible for the enforcement of programs required by the DEP regulations. As part of the Palm Beach County Wellfield Protection Ordinance No. 88-7, the PBC Water Utilities Department must submit water quality and production records to the PBC Environmental Resources Management Agency for determination of compliance with DEP regulations.

Palm Beach County Water Utilities Department's Water Supply Work Plan and Uniform Policy and Procedure Manual provide the regulations for their acquisition of adequate raw water supply and production and distribution of adequate potable water supply.

Natural Groundwater Aquifer Recharge

Sub-Element

CONTENTS

SECTION	PAGE
II E. NATURAL GROUNDWATER AQUIFER RECHARGE SUB-ELEMENT	
1. INTRODUCTION	3
a. Purpose of Element	3
b. Overview of Element	3
2. INVENTORY AND ANALYSIS	4
a. Natural Groundwater Aquifer Recharge Areas	4
1) Surficial Aquifer System	4
2) Floridan Aquifer	6
b. Needs Assessment	6
1) Environmental Resources Management	6
2) South Florida Water Management District (SFWMD)	7
c. Regulatory Framework	7
1) Federal	7
2) State	7
3) Local	9

LIST OF MAPS

NO.	NAME	PAGE
1	PRIME AQUIFER RECHARGE AREAS	5

II E. NATURAL GROUNDWATER AQUIFER RECHARGE SUB-ELEMENT

1. INTRODUCTION

a. Purpose of Element

This Sub-Element has been prepared to meet the requirements of Chapter 9J 5.011, F.A.C., as per Chapter 163, F.S. The contents of this Sub-Element address aquifer recharge in Palm Beach County including identification of prime recharge areas, characteristics, problems, and needs.

Because the aquifer system which underlies the City of Greenacres is only a portion of the larger, countywide Surficial Aquifer System, the City will follow Palm Beach County's lead in addressing recommendations which protect these natural groundwater recharge areas.

b. Overview of Element

Aquifers are formed by subsurface rock or other materials such as coarse sands, gravel and limestone, which are capable of holding a significant amount of water in their interstices. The quality of aquifer water varies with the type of surface rock and nearby sources of pollution.

The source of water in aquifers is rainfall. Under the force of gravity, rainfall percolates downward through porous surface soils to enter the aquifer strata. Because of the variable permeability of different soil types, the rate of aquifer recharge from rainfall may vary from one location to another. The areas of highest recharge potential are called prime recharge areas. The presence of overlying confining beds also determines which surface areas will be effective recharge areas for a given aquifer, and is another factor in identifying prime recharge areas for the aquifer.

Since aquifer recharge areas are surface features, they are subject to alteration by development. Covering a recharge area with impervious surfaces, such as roads, parking lots and buildings reduces the area available for rainfall percolation, altering the total rate and volume of recharge in that area. Increasing the rate at which stormwater drains from recharge area surfaces also decreases recharge potential.

A second concern related to development within aquifer recharge areas is the potential for contamination of groundwater within the aquifer. Just as with stormwater runoff to surface waters, pollutants picked up by runoff which enters an aquifer can degrade the quality of the groundwater. Since water flows within an aquifer in a manner similar to surface water flow, downstream portions of the groundwater may be polluted over time. This becomes particularly significant when the aquifer is tapped as a potable water supply downstream.

2. INVENTORY AND ANALYSIS

a. Natural Groundwater Aquifer Recharge Areas

The groundwater system underlying Palm Beach County (the City of Greenacres), consists of two aquifers:

1. Surficial Aquifer System
2. Floridan Aquifer System

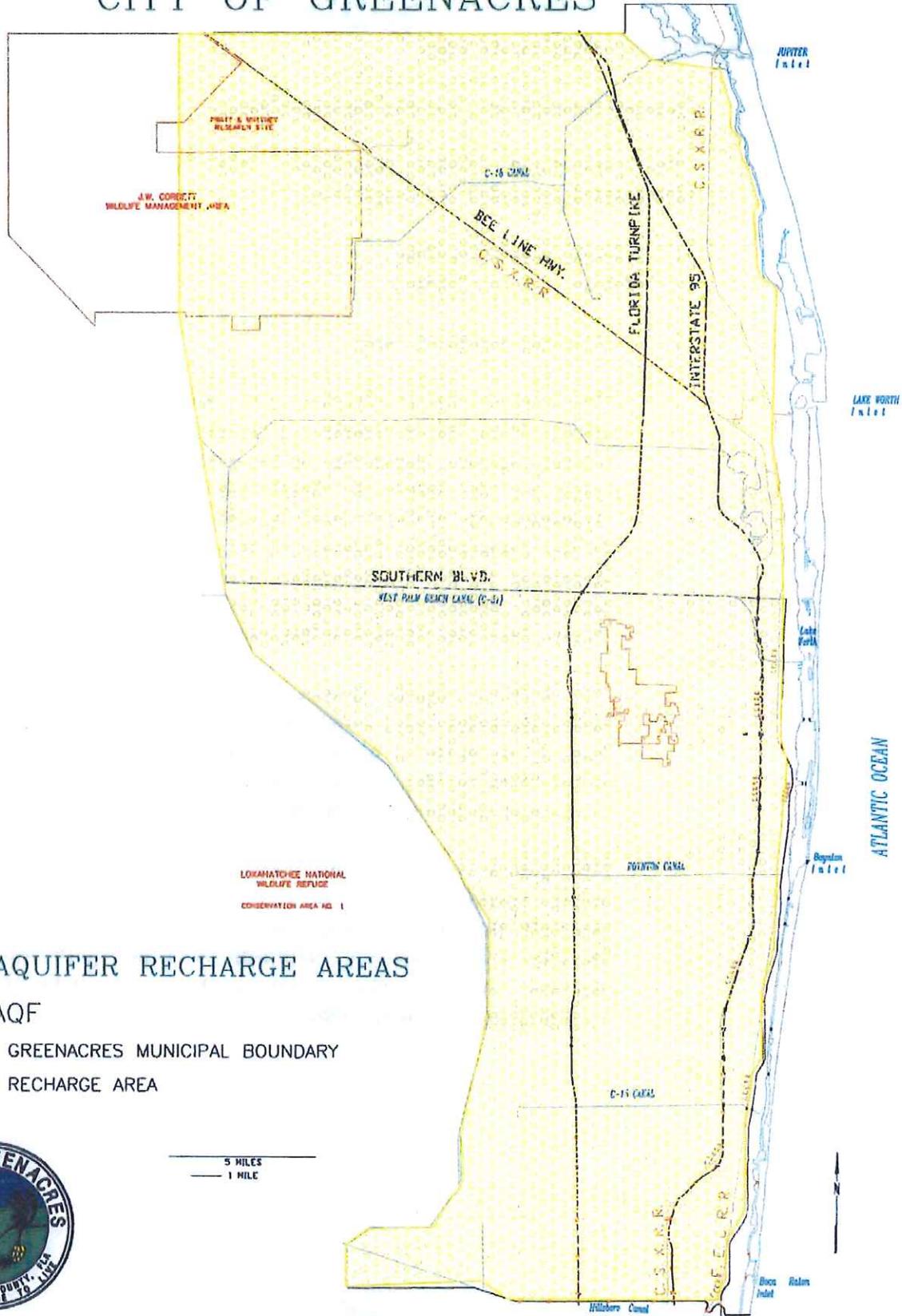
1) Surficial Aquifer System

The Surficial Aquifer System is the primary source of fresh water for eastern Palm Beach County. It is open to infiltration from rainfall in varying degrees, depending on the percolation characteristics of surface soils and the extent of impervious surfaces covering the aquifer. Transmissivity of the Surficial Aquifer System is depicted on Map No. 3 in the Conservation Element of this plan. Soil associations are also discussed in the Conservation Element but a more complete study including geologic cross-sections and soil descriptions are found in the Future Land Use Element of this plan.

The Surficial Aquifer System is an unconfined shallow aquifer which starts just below land surface and is approximately 300 feet thick. The base of the Surficial Aquifer System beneath the City of Greenacres is minus 290-250 feet and is graphically depicted on Map No. 4 in the Conservation Element of this plan.

This system is divisible into three interconnected zones on the basis of relative permeabilities. The City of Greenacres is located in Zone 1, generally the most permeable part of the aquifer system. The location of the City of Greenacres in relationship to prime aquifer recharge areas is depicted on Map No. 1 and is based on Palm Beach County Comprehensive Plan of 1989.

CITY OF GREENACRES



PRIME AQUIFER RECHARGE AREAS

MAP 1 AQF

- GREENACRES MUNICIPAL BOUNDARY
- RECHARGE AREA



5 MILES
1 MILE

2) Floridan Aquifer

The Floridan Aquifer lies below the Surficial Aquifer and is separated by confining layers with relatively low permeability.

Several utilities in the County are investigating this aquifer. The Floridan dwarfs the Surficial Aquifer in size. For these reasons, it is important to recognize the Floridan as a future water source.

This aquifer has potential for uses either as a source of brackish water for reverse osmosis or as a reservoir for storage and recovery of fresh water.

The Floridan Aquifer System is composed of limestone and dolomite. Dissolved solids are generally greater than 3000 mg/l. This water is not often used, but could be desalinated. This aquifer could also be used as a reservoir for storage and recovery of fresh water. This system is divided into two parts by a regionally-extensive, impermeable sequence. The lower portion (informally called the Boulder Zone) is extremely cavernous and is extensively used for waste disposal through deep injection wells.

b. Needs Assessment

The pattern of development within the City is expected to remain relatively stable during the next few years, supported by regional water and sewer facilities. The major impact in the urban area will come from reduction of the area available for recharge to the water table aquifer. To offset this impact, the county stormwater drainage regulations emphasize the preservation of natural drainage features and the use of drainage retention structures to maximize aquifer recharge. For all new development, the County incorporates provisions in its land development code requiring conservation of areas with the greatest recharge potential, based on the soil survey for the county.

1) Environmental Resources Management

The City of Greenacres is located above the aquifer in a highly permeable area. A source of concern is the vulnerability of the aquifer to contamination from various sources. USGS findings show that despite rapid infiltration, instances of pollution and disease outbreaks have been rare except for long term landfill sites and major contaminant spills (Pollutant Attenuation Capacity of Unsaturated Zone of Biscayne Aquifer, USGS). One reason may be the ability of vegetation, soils and aquifer materials above the water table to attenuate certain pollutants.

On February 23, 1988, Palm Beach County passed the Wellfield Protection Ordinance giving the Department of Environmental

Resources Management responsibility of reviewing the City's zoning, permitting, and licensing decisions for activities within wellfield "zones of influence." The City supports their decisions. These "zones of influence" are identified in more detail in the Potable Water Sub-element of this plan.

2) South Florida Water Management District (SFWMD)

The City of Greenacres' role in the coordination of efforts between the County and SFWMD is relatively small in regard to recharge of the Surficial Aquifer System through drainage canals. This interaction between the Surficial Aquifer and the overlying network of canals involves the SFWMD which operates the Central and Southern Florida Flood Control Project.

As the designated authority on surface water management, the South Florida Water Management District provides guidance to the City and private local owners in planning secondary water control facilities. (See Stormwater Sub-Element)

c. Regulatory Framework

1) Federal

In 1986, the Federal Safe Drinking Water Act (Pl 93-523) was amended to strengthen protection of public water system wellfields and aquifers that are the sole source of drinking water for a community. The amendments for wellfield protection require states to work with local governments to map wellfield areas and develop land use controls that will provide long-term protection from contamination for these areas. The aquifer protection amendments require EPA to develop criteria for selecting critical aquifer protection areas. The program calls for state and local governments to map these areas and develop protection plans, subject to EPA review and approval. Once a plan is approved, EPA may enter into an agreement with the local government to implement the plan.

2) State

In implementing the Florida Safe Drinking Water Act (Ch. 403, F.S.), DEP has developed rules classifying aquifers and regulating their use (Chapter 17-22, Part III, F.A.C.). DEP has also established regulatory requirements for facilities which discharge to groundwater (Section 17-4.245, F.A.C.) and which inject materials directly underground (Chapter 17 28, F.A.C.).

The task of identifying the nature and extent of groundwater resources

available within the state has been delegated to the regional water management districts. Each district must prepare and make available to local governments a Groundwater Basin Resource Availability Inventory (GWBRAI), which the local governments are to use to plan for future development in a manner which reflects the limits of available resources. The criteria for the inventories, and legislative intent for their use, are found in Chapter 373, Florida Statutes, which reads:

Each water management district shall develop a groundwater basin resource availability inventory covering those areas deemed appropriate by the governing board. This inventory shall include, but not be limited to, the following:

- * A hydrogeologic study to define the ground water basin and its associated recharge areas.
- * Site specific areas in the basin deemed prone to contamination or overdraft resulting from current or projected development.
- * Prime ground water recharge areas.
- * Criteria to establish minimum seasonal surface and ground water levels.
- * Areas suitable for future water resource development within the ground water basin.
- * Existing sources of wastewater discharge suitable for reuse as well as the feasibility of integrating coastal wellfields.
- * Potential quantities of water available for consumptive uses.

Upon completion, a copy of the Ground Water Basin Availability Inventory shall be submitted to each affected municipality, county, and regional planning agency. This inventory shall be reviewed by the affected municipalities, counties, and regional planning agencies for consistency with the local government comprehensive plan and shall be considered in future revision of such plan. It is the intent of the Legislature that future growth and development planning reflect the limitations of the available groundwater or other available water supplies (Sec. 373.0395, F.S.).

The Florida Legislature has also directed local governments to include topographic maps of areas designated by the water management districts as prime recharge areas for the Floridan or Biscayne aquifers in local

comprehensive plans, and to give special consideration to these areas in zoning and land use decisions (Section 163.3177(6)(c),F.S.).

3) Local

At the present time, the City of Greenacres' involvement with special regulatory programs related to protection of natural groundwater aquifer areas is through support and cooperation with those entities which control permitting and management of groundwater resources (See "Needs Assessment").

Goals, Objectives and Policies

Sub-Element

III. GOALS, OBJECTIVES AND POLICIES

9J-5.011(2)

- A. **GOAL:** It shall be the goal of the City of Greenacres to provide for the highest quality public facilities which are properly coordinated with desired land use patterns and which promote orderly, urban growth, consistent with people's willingness and ability to pay for its services.

Objective 1

The City of Greenacres, through its LDS review process will continue to ensure that at the time a development permit is issued, adequate public facilities are available or will be available when needed to serve the development.

Policy a)

The City hereby adopts the following level of service standards and they shall be used as the basis for determining the availability of facility capacity:

<u>FACILITY</u>	<u>LEVEL OF SERVICE STANDARD</u>
Sanitary Sewer Facilities	85 gallons per capita per day
Effluent	Per EPA and DEP regulations
Sludge	Per DEP and Solid Waste Authority
Solid Waste Facilities	7.13 pounds per capita per day
Drainage	Legal Positive Outfall, and per SFWMD regulations set forth in Chapter 40E-40 and 40E-41 F.A.C. Per Table 2 of the Stormwater Management Sub-Element, "Tertiary Drainage-LOS"
Potable Water	126 gallons per capita per day
Roadways	Level of Service D
Mass Transit	.05 percent transit trip per each vehicular trip
City Parks	3 acres per 1,000 City population
Public Schools	110% FISH Capacity

Policy b)

The City's development permit procedures and comprehensive planning shall be coordinated with each entity providing services to the City.

Policy c)

The City promotes the conversion of developments presently serviced by wells and septic tanks to centralized service.

Policy d)

The City through land development regulations will continue to require developments to obtain permits from the Lake Worth Drainage District and South Florida Water Management District for developments in the City.

Objective 2

The City will continue to maintain a six-year (current year and five future years) schedule of capital improvement needs for public facilities, to be updated annually in conformance with the review process for the Capital Improvement Element of this plan through the City's annual budget preparation process.

Policy a)

The City Manager and Department Directors will continue to evaluate and rank capital improvement projects which would improve the City's provisions for sanitary sewer, solid waste, drainage, potable water, roadways, mass transit, parks, and public schools to residents of the City of Greenacres.

Policy b)

Objective 3

The City will continue to coordinate with Palm Beach County to ensure the implementation of the mandatory requirements for connection to central services.

Policy a) - WASTEWATER

1. The use of on-site wastewater treatment systems shall be limited to the following conditions:
 - Existing septic tanks may remain in service until such time as centralized service is made available.
2. The City will support and provide assistance to the Palm Beach County Public Health Unit in implementing guidelines for septic tank use in compliance with

revised County Environmental Control Rule 1 (ECR I).

Policy b) - WATER

1. The City will cooperate with the Palm Beach County Water Utilities Department in the implementation of the Water and Wastewater Master Plan and the Water Supply Facilities Work Plan for raw water supply and potable water supply.
2. All new development and redevelopment within wellhead protection areas must comply with the operational and material storage restrictions of the Palm Beach County Wellfield Protection Ordinance so as not to impact existing potable water wellheads.

Policy c) - SOLID WASTE

The City shall continue, with the cooperation of the Solid Waste Authority, to support regional and state policies pertaining to solid waste issues by endeavoring to reduce its solid waste stream, to improve resource recovery efforts and to dispose of hazardous materials in a safe manner as required by Chapter 403 F.S.

Policy d)

The City supports the collection of solid waste materials consistent with the Palm Beach County Solid Waste Act, Chapter 74-564, Laws of Florida, and the Palm Beach County Solid Waste Authority.

Policy e)

The City through its land development regulations and development review process shall require that all new commercial development and multi-family development provide for recycling.

Policy f) - STORMWATER

To ensure protection of developed areas from flooding, the City's Planning and Engineering Department will continue to monitor development applications for submittal of permits in compliance with on-site secondary drainage system controls specified by South Florida Water Management District.

Policy g)

The City will cooperate with the Lake Worth Drainage District and the South Florida Water Management District to reduce incidences of illegal dumping of materials and substances into the drainage canals.

Policy h) - GROUNDWATER

The City shall forward to the Palm Beach County Department of Environmental Resources Management for comment those development applications directly affected by the provisions of the Palm Beach County Wellfield Protection Ordinance.

Policy i)

The City's Planning and Engineering Department will continue to monitor development applications to ensure adequate assignments of maintenance easements to the South Florida Water Management District and the Lake Worth Drainage District.

Policy j)

The City's Planning and Engineering, Building, and Public Works Departments, through the land development review process will implement the National Pollution Discharge Elimination System Program and other methods to minimize or eliminate water pollution.

Objective 4

The City will continue to require that water conservation measures as required under the revised building code and the City's zoning code be provided for new developments or revisions to developments within the City.

Policy a)

The City of Greenacres Building Department will continue to provide inspection of water conservation devices.

Policy b)

The City will incorporate xeriscape principles in the design, installation and irrigation of landscapes at all public facilities.

Policy c)

The City will support the efforts by the Cooperative Extension Service, Soil Conservation Service, the County School Board, Palm Beach County, and the South Florida Water Management District in providing xeriscape education within the City.

Objective 5

The City shall ensure that future development will maximize the use of existing facilities and discourage urban sprawl by:

- (1) Directing growth to appropriate areas within the established land use pattern;
- (2) Promoting infill development; and

(3) Permitting development that will not overtax capacities of existing facilities.

Policy a)

Development will be directed to those areas within the established land use pattern having adequate sewer facilities available and concurrent to accommodate the proposed development.

- 1) During development review activities the City shall consult and coordinate with the Palm Beach County Water Utilities Department in assessing the availability of adequate sewer capacities.
- 2) The City shall continue to analyze the feasibility of installing public sewer to the original section of the City and other developed areas still utilizing septic tanks when conditions such as costs, funding sources, and public health concerns change.

Policy b)

The City shall promote infill development that utilizes existing sewer facilities by restricting certain land uses from the use of septic tanks in accordance with ECR I and 10D-6, F.A.C.

Policy c)

Timing of future development will be determined by the established service level and capacity of existing public sewer facilities and future facility expansions.

- 1) The City will coordinate with Palm Beach County Water Utilities Department on future sewer facility expansions by informing them on a quarterly basis of annexations and on a regular basis through the land development process, of proposed developments and land use changes that require sanitary sewer service.

Policy d)

The City shall promote infill development that utilizes existing solid waste collection routes.

Policy e)

Timing of future development will be determined by the established service level and capacity of existing solid waste facilities, and future facility expansions.

- 1) The City will continue to coordinate with the Solid Waste Authority to reduce and dispose of solid waste by informing them of major changes in land use pattern and annexations.

Policy f)

Development will be directed to those areas within the established land use pattern having adequate drainage facilities available and concurrent to accommodate the proposed development.

- 1) During development review activities, the City shall consult and coordinate with the South Florida Water Management District and the Lake Worth Drainage District in assessing the availability of adequate drainage facility capacities.

Policy g)

The City shall promote infill development that utilizes existing drainage facilities presently in place.

Policy h)

Timing of future development will be determined by the established service level and capacity of existing drainage facilities and future facility expansions.

- 1) The City will coordinate with South Florida Water Management District and the Lake Worth Drainage District on future drainage facility expansions.

Policy i)

Development will be directed to those areas within the established land use pattern having adequate potable water facilities available and concurrent to accommodate the proposed development.

- 1) During development review activities, the City shall consult and coordinate with the Palm Beach County Water Utilities Department in assessing the availability of adequate potable water facility capacities.

Policy j)

The City shall promote infill development that utilizes existing potable water facilities presently in place.

Policy k)

Timing of future development will be determined by the established service level and capacity of existing potable water facilities and future facility expansions.

- 1) The City will coordinate with Palm Beach County Water Utilities Department on future potable water facility expansions.

Objective 6

The City of Greenacres will implement procedures with Palm Beach County Water Utilities Department, Palm Beach County Solid Waste Authority, South Florida Water Management District, and Lake Worth Drainage District to coordinate the operation, maintenance, extension and increase in the capacity of public facilities to meet current and projected needs.

Policy a)

The City will meet on a regular basis with Palm Beach County Water Utilities to schedule the following:

- 1) The replacement of defective or obsolete potable water and sanitary sewer facilities;
- 2) The correction of existing potable water and sanitary sewer facility deficiencies; and
- 3) The provision of new facilities to meet future potable water and sanitary sewer needs.

Policy b)

The City shall coordinate with and support the Palm Beach County Water Utilities Department (PBCWUD) in fulfilling the Utility's obligation to plan for future water supplies through the adoption and scheduled updates of a Water Supply Work Plan and incorporation of the alternative water supply projects identified in the South Florida Water Management District's Lower East Coast Regional Water Supply Plan pursuant to Section 373.0361(2)(a) or proposed by the County under Section 373.0361(7)(b), Florida Statutes.

- 1) The City shall coordinate with and support the PBCWUD in fulfilling the Utility's obligation to coordinate with the South Florida Water Management District and to consider the latest version of the District's Lower East Coast Water Supply Plan pursuant to Section 373.0361(12)(a), Florida Statutes, when developing or updating the Utility's Water Supply Work Plan.
- 2) The PBCWUD's 20-Year Water Supply Work Plan dated April 11, 2008 is adopted by reference and established to meet current and projected potable water needs based on the availability and appropriate use of regional water resources and the combined use of alternative water supplies. The shall coordinate with and support the PBCWUD in fulfilling the Utility's obligation to initiate revisions to the Work Plan and County Comprehensive Plan for consistency with the County's Water Use Permit renewals at a minimum of every 5 years or within 18 months after the SFWMD approves an updated Lower East Coast Water Supply Plan. The City shall update the Comprehensive Plan as necessary to implement the PBCWUD Water

Supply Work Plan as so modified.

Policy c)

The City will meet as necessary with the Solid Waste Authority to discuss strategies, priorities and concerns and to schedule the following:

- 1) The replacement of defective or obsolete solid waste facilities;
- 2) The correction of existing solid waste collection and disposal deficiencies; and
- 3) The provision of new facilities to meet future solid waste disposal needs.

Policy d)

The City will meet as needed with representatives of the South Florida Water Management District and the Lake Worth Drainage District to discuss strategies, priorities and concerns and to schedule the following:

- 1) The replacement of defective or obsolete drainage facilities;
- 2) The correction of existing drainage deficiencies; and
- 3) The provision of new facilities to meet future drainage needs.

Policy e)

The City, through its land development review process will continue to route pertinent information to and solicit pertinent comments from Palm Beach County Water Utilities Department, Solid Waste Authority, South Florida Water Management District, Lake Worth Drainage District and Palm Beach County Land Development and Traffic Divisions, during the development approval and Comprehensive Plan amendment processes.

Policy f)

The City will continue to monitor land development and Comprehensive Plan amendment proposals for areas situated in unincorporated Palm Beach County but depicted within the City's ultimate annexation boundaries, and under its land development review process will continue to route pertinent information to and solicit pertinent information from the Palm Beach County Planning, Zoning and Building Department, Palm Beach County Water Utilities Department, Palm Beach County Engineering, Solid Waste Authority, South Florida Water Management District and Lake Worth Drainage District about such proposals.

Objective 7

The City will continue to implement measures to protect the underlying aquifer supplies with proper management of natural recharge areas and drainage features.

Policy a)

The City will utilize information prepared by Palm Beach County and the South Florida Water Management District pertaining to prime natural groundwater aquifer recharge areas in reviewing the location of new developments.

Policy b)

The City will continue to promote and actively seek use of clustering and other innovative land use techniques in order to preserve and protect the functions of natural drainage features in new developments.

Policy c)

The City will continue, through its land development regulations, to enforce open space and retention basin requirements as requested by South Florida Water Management District for new developments in order to maximize percolation and filtration of water runoff through the earth's surface.

Objective 8:

In order to ensure that public facilities and services at the adopted level of service as identified in Objective 1 of the Infrastructure Element are available concurrent with the impacts of development, the City adopts a Concurrency Management System.

Policy a)

The adopted Level of Service standards as identified in Objective 1 of the Infrastructure Element shall be maintained through the implementation of capital improvement programs of the State of Florida, Palm Beach County, the School District of Palm Beach County, and the City of Greenacres.

Policy b)

Prior to the issuance of a development order, a proposed project will be reviewed for compliance with the required public services.

Policy c)

In order for the City to review a proposed development for concurrency requirements, the applicant shall complete a level of service impact statement for the various services. The statements shall provide the required information for capacity reservation for the proposed project.

Policy d):

The City, through its land development regulations and this Concurrency Management System, will ensure that adequate public facilities are in place prior to the issuance of a final development order.

Policy e):

In determining that the necessary public facilities and services, including water supply, are in place prior to the issuance of a development order, public services are considered to be in place when:

- 1) There is capacity and public service readily available to serve the proposed development.
- 2) The necessary facilities and / or services are under construction or identified as assured construction in the service provider's capital improvement budget or identified in the first three years of the applicable, adopted Florida Department of Transportation and Palm Beach County's five-year work program.
- 3) The construction of the required facilities to serve the development is guaranteed by the applicant through a development agreement pursuant to Section 163.3220, F.S. or an agreement or development order issued pursuant to Chapter 380, F.S. or some other means of binding agreement or contract to ensure that the service will be provided no later than the issuance of a Certificate of Occupancy or earlier when service is otherwise needed.
- 4) Roadway capacity concurrency may also be satisfied through compliance with Section 163.3180(5)(h)(2) a. through e. of the Florida Statutes concerning proportionate share payments and existing deficiencies. Such satisfaction shall be determined by Palm Beach County through enforcement of the Countywide Traffic Performance Standards (TPS) Ordinance as mandated by the County Charter.
- 4) 5) A concurrency determination will be made by staff prior to the issuance of a development order for those services required ~~by the State~~ to meet the City's adopted level of service standards as set forth in Objective 1, Policy a) of the Infrastructure Element ~~the requirements of Chapter 163.3180 of F.S.~~ for potable water, sanitary sewer, solid waste, drainage, parks, mass transit and roads.

- 5 6) A concurrency approval is required prior to the issuance of a development order, unless the proposed development is identified on the City's list of committed development dated March 12, 1990.
- 6 7) Unless otherwise restricted by the service provider, a concurrency capacity reservation approval shall be valid for the life of the development order associated with the project. Should the development order expire, the concurrency approval shall also expire.
- 7 8) The capacity reservation for projects shall be subtracted from the total capacity in the service provider's system, namely, Palm Beach County roadway system, water and sewer system, solid waste and mass transit capacities.

IV. NOTES

1. Fla. Dept. of Community Affairs, Chapter 9J-5 FAC; MINIMUM CRITERIA FOR REVIEW OF LOCAL GOVERNMENT COMPREHENSIVE PLANS AND DETERMINATION OF COMPLIANCE, Sec 9J-5.003 Definitions, and 9J-5-011 Chapter 163.3164, Florida Statutes; Community Planning Act; definitions, and Chapter 163.3194, Florida Statutes; Legal status of comprehensive plan.
2. Greenacres City and Executive Management and Engineering Consultants, Inc., Comprehensive Development Plan Amendments to Sept. 30, 1987 Progress Report Work Documents, Oct. 23, 1987.
3. Palm Beach County, 1989 Comprehensive Plan, SANITARY SEWER ELEMENT, POTABLE WATER, STORMWATER MANAGEMENT AND SOLID WASTE.
4. U.S. Dept of Agriculture, Soil Conservation Service, Soil Survey of Palm Beach County, Dec. 1978, SANITARY FACILITIES.
5. Solid Waste Authority of Palm Beach County, Comprehensive Solid Waste Management Plan, June 1, 1988, SOLID WASTE AUTHORITY'S MANDATE.
6. ~~Fla. Dept of Community Affairs, Chapter 9J-5, Section 9J-5003 (88), SOLID WASTE.~~
76. Executive Management and Engineering Consultants, Inc., Comprehensive Development Plan, DEFINITIONS, Dec. 1987.
87. U.S. Dept. of Agriculture, Soil Conservation Service, Soil Survey of Palm Beach County Area, Florida - DEC. 1978, climate.
98. Palm Beach County, Description and Evaluation of the Effects of Urban and Agricultural Development on the Surficial Aquifer System, 1988.
109. Palm Beach County, SFWMD, Water Resources Data and Related Technical Information - July 30, 1987, GEOLOGY/HYDROGEOLOGY, 2.C).

- 104. Town of Greenacres City, Florida, Comprehensive Planning Program, October - 1975, WATER - PALM BEACH COUNTY WATER AND SYSTEM 2.
- 112. PBCWUD, Water Master Plan Supplement, James M. Montgomery, as updated in 1993.
- 123. Palm Beach County Wellfield Protection Ordinance (No. 88-7), Dept. of Environmental Resources Management, pg. 5.
- 134. Strategic Regional Policy Plan, Treasure Coast Regional Planning Council.
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- 156. Florida Department of Transportation Drainage Manual.
- 167. South Florida Water Management Division, Water Use Planning and Management, INTRODUCTION.
- 178. Description and Evaluation of the Effects of Urban and Agricultural Development on the Surficial Aquifer System, Palm Beach County, Florida, 1988.
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REVISION HISTORY

September 15, 2008	Ord. 2008-03
December 1, 2008	Ord. 2008-19

CITY OF GREENACRES COMPREHENSIVE PLAN

FUTURE LAND USE ELEMENT

~~September 2008~~ August 2016

Amendments resulting from the ~~2006 EAR~~ 2015 EAR

CONTENTS

SECTION	PAGE
I. INTRODUCTION	5
A. PURPOSE OF ELEMENT	5
B. LAND USE DETERMINANTS	5
II. DEFINITION OF RELEVANT TERMS	6
III. LAND USE CLASSIFICATIONS	7
A. OVERVIEW OF LAND USE	7
1. Overview of Commercial Land Use	7
2. Overview of Public/Institutional Land Use	8
3. Overview of Residential Land Use	8
4. Overview of Recreational/Open Space Use	9
5. Overview of Vacant Land Use	9
6. Overview of Mixed Use	9
IV. INVENTORY - EXISTING LAND USE DATA	10
A. NARRATIVE OF LAND USE MAP SERIES	10
1. Generalized Land Uses	10
a) Category Identification	10
b) Density and Intensity	11
2. Public Buildings	13
a) Greenacres as Controlling Agency	13
b) Other Governmental Agencies	13
(1) Palm Beach County Library	13
(2) Palm Beach County Water Utilities Dept.	13
(3) School Board of Palm Beach County	14
3. Natural Resources	16
a) Waterwells and Cones of Influence	16
b) Beaches, Shores, and Estuarine Systems	16
c) Rivers, Bays, Lakes, Floodplains & Harbors	16
d) Wetlands	16
e) Minerals and Soils	19
(1) Potential for Habitat Elements	19
(2) Building Site Development	21
f) Areas of Critical State Concern	23
g) Population Projections	23
(1) Seasonal Population	25

V.	ANALYSIS	25
A.	AVAILABILITY OF FACILITIES AND SERVICES	25
1.	Infrastructure System	25
a)	Sanitary Sewer	26
b)	Potable Water	26
c)	Solid Waste	26
d)	Stormwater Management	26
2.	Natural Groundwater Aquifer Recharge Areas	27
3.	Traffic Circulation System	27
4.	Development of Soils and Topography	27
5.	Projected Land For Projected Populations	28
6.	Redevelopment Needs	29
7.	Flood Hazard Areas for Redevelopment/ Development Areas	29
VI.	PLAN FOR FUTURE LAND USE	30
A.	FUTURE LAND USE APPROACH	30
1.	Spheres of Activity	30
2.	High Density Residential In Spheres of Activity and Major Roadway Corridors	35
3.	Provision Of Single-family Housing	35
4.	City Facilities Service Link System	35
5.	Conservation And Preservation Of Open Space	36
6.	Vacant Land Utilization	36
B.	FUTURE ANNEXATION AREA	37
VII.	GOALS, OBJECTIVES AND POLICIES	39
VIII.	SUPPORTING STUDIES	48
IX.	NOTES	49

LIST OF TABLES

<u>NO</u>	<u>NAME</u>	<u>PAGE</u>
1	LAND USE PLAN CLASSIFICATIONS	12
2	POTENTIAL FOR HABITAT ELEMENTS	21
3	SOILS ASSOCIATION MAP LEGEND	22
4	BUILDING SITE DEVELOPMENT	24
5	POPULATION PROJECTIONS	25
6	SEASONAL POPULATION	25
7	PROJECTED LAND FOR PROJECTED POPULATION	28
8	FUTURE LAND USE CLASSIFICATION OF THE ULTIMATE FUTURE ANNEXATION AREA	38

LIST OF MAPS

NO	NAME	PAGE
1	PUBLIC BUILDINGS	15
2	WELLFIELDS AND PROTECTION ZONES	17
3	WATER AREAS MAP	18
4	SOILS ASSOCIATION MAP	20
5	ESTABLISHMENT OF ACTIVITY CENTERS	32
6	PRIMARY SPHERE OF ACTIVITY	33
7	SECONDARY SPHERE OF ACTIVITY	34
8	FUTURE LAND USE MAP (Existing City Boundary)	(pocket)
9	ADVISORY FUTURE LAND USE MAP (Future Annexation Area)	(pocket)

I. INTRODUCTION

A. PURPOSE OF ELEMENT

The purpose of the Future Land Use Element is to designate future land use patterns to meet the goals, objectives and policies of the City of Greenacres Comprehensive Plan, pertaining to infill development and future development in the City's future annexation area.

This Element is a mandatory element pursuant to Chapter 163.3177(6)(a), Florida Statutes. This Element includes the criteria for the Future Land Use Element as specified in Chapter 9J5.005 of the FAC.

Changes in land use patterns are inevitable in virtually every community. These changes are typically the result of changing economic, social, and political trends, or the economic obsolescence of property. In order to develop a rational and consistent set of future land use goals, objectives and policies, past and present trends must be evaluated and, as a result of this analysis, future trends must be projected. This compilation of trend data is blended with an understanding of the community's needs and desires to create future land use policies that will make the City of Greenacres a better place to live. This Element of the Comprehensive Plan describes the land use projections, assumptions, and analyses upon which the goals, objectives and policies are based.

B. LAND USE DETERMINANTS

Natural and human factors influence the location of specific land uses. The human environment is a significant determinant of land use. Development is influenced by accessibility, traffic volume and proximity to complementary, compatible and incompatible land uses. Development also responds to local market conditions and patterns of population and employment growth in the City, County and Region.

In addition, land use is affected by the availability of basic services such as roads, utilities, sewers, schools, parks, public transportation, and fire and police protection. Consumer tastes and the reputation of an area are cultural determinants of land use. Institutional factors that affect land use decisions include legal and political constraints such as land use regulations, private covenants and environmental regulations; government policies, such as subsidies for development and tax policy that encourages or discourages certain types of construction; public works projects; the economic system; and land ownership patterns.

When reviewed as a whole, the recommended future land use pattern of the City

of Greenacres can be thought of in terms of a series of functional units. By and large, the framework for the Future Land Use Element was based on the existing land use pattern, correlated with the goals and objectives of the Element and the Comprehensive Plan. Most of the land area within the City's control is already developed or has approved development orders, all which represent a fairly stable use of the land. However, the City's total future annexation area comprises an area of approximately 31.6 square miles which must be planned to meet the future needs of the citizens of the City and the County. As part of the Future Land Use Element, advisory land use designations have been assigned to the future annexation area and included as part of this Element to address growth and development patterns to ensure orderly growth consistent with the existing and planned surrounding development. The City of Greenacres considers the following issues critical to achieving the purpose of the elements.

1. Land Use Compatibility - Ensure that the densities and intensities of land uses are not in conflict with those of surrounding areas within the City, other adjacent municipalities or unincorporated Palm Beach County.
2. Negative Externalities - Recognize major negative externalities and minimize or eliminate their effects on the City of Greenacres' other land uses.
3. Lake Worth Road Redevelopment - Encourage the redevelopment of commercial uses on Lake Worth Road.
4. Residential Development - Encourage the development of single-family homes to balance the housing types in the City of Greenacres.

II. DEFINITION OF RELEVANT TERMS

- A. COMMERCIAL USE - is defined as "an establishment which supplies commodities and services to the general public, including retail consumer goods, professional, business, and personal".
- B. CONE OF INFLUENCE - See Conservation Element - Definitions Section.
- C. DENSITY - is defined as "the relation between the number of existing or proposed amount of dwelling units on a specific land area exclusive of all public rights-of-way and/or provide roadways expressed in terms of the building site". In the determination of the number of residential dwelling units to be permitted on a specific parcel of land, a fractional unit shall not entitle the applicant to an additional unit or units.
- D. EDUCATIONAL USES - is defined as "activities and facilities of public or private primary or secondary schools vocational and technical schools, and colleges and universities licensed by the Florida Department of Education, including the area of buildings, campus open space, dormitories, recreational facilities or parkway".

- E. FLOOR-AREA-RATIO (FAR) – the ratio of the gross floor area of all structures on a lot to the total lot area.
- F. HISTORIC RESOURCES – is defined as “all areas, districts or sites containing properties listed in the Florida Master Site File, the National Registry of Historic Places, or designated by a local government as historically, architecturally, or archeologically significant”.
- G. INTENSITY – the number of square feet per acre for non-residential uses.
- H. MIXED USE – Land uses which provide for diversification of residential, retail, professional and business office uses and the combination of residential and commercial uses within an individual development.

III. LAND USE CLASSIFICATIONS

A. OVERVIEW OF LAND USE

Each of the predominant land use classifications (Commercial, Residential and Public/Institutional and Open Space) have different considerations which must be brought into focus in order to plan for its future use. For example, the economic factors involved with developing additional commercial areas in the City of Greenacres are different from the factors affecting single-family residential development. Therefore, the potential constraints of each land use classification must be analyzed individually.

1. Overview of Commercial Land Use:

Commercial development trends in the City have greatly influenced the formation of future commercial use policies. To a large extent, the market for commercial development will remain fairly constant, growing slightly as the last remaining residential parcels are built out. Consequently, the potential for major new commercial development is limited. However, this potential increases when considered within the future annexation areas.

Currently, medium to large scale commercial development is already in place serving the City and surrounding unincorporated areas. Examples include River Bridge Centre, Greenacres Plaza and Mil Lake Plaza, these areas capture the bulk of local retail shopping markets in the City of Greenacres.

The remaining commercial areas are small to mid-sized in scale and serve a more local market. These areas are oriented to major highways and streets such as Lake Worth Road, Military Trail, Forest Hill Boulevard, Jog Road and Tenth Avenue North.

The City has identified the Lake Worth Road as a high commercial corridor. The goal of the City is to maintain Lake Worth Road as a high visibility area with complete occupancy of the City's existing commercial buildings and attract infill commercial development to support the needs of the residents of the City.

Additionally, the City of Greenacres encourages the location of commercial uses into well defined commercial areas rather than being haphazardly located throughout the City. With proper planning, effectively placed commercial developments create a positive effect on the City.

This posture would have a number of benefits. First, it should help reduce the potential for business failure because it limits the amount of new commercial development. Such would reduce the chances of saturating the commercial market with more commercial development than it could support. In addition, defining commercial development into identifiable districts would make these commercial areas more appealing, thereby enhancing the image of the entire community.

2. Overview of Public/Institutional Land Use

These uses reflect community facility and institutional services needed by City residents. The tremendous growth of the City during the 70's and 80's brought with it the demand for additional public/institutional land uses. This category includes water storage facilities, libraries, schools, police/fire stations, post office, community center and other uses operated by government agencies.

Changes in community needs are inevitable as the community evolves and matures. The need for schools for example, may increase or decrease depending on changing demographic conditions. The strategy used for public/institutional uses is one of accommodating the demand for public facilities while still maintaining sound land use relationships.

3. Overview of Residential Land Use

The principal types of land use controls that are employed today are zoning (of which there are many types and forms) which controls all forms of development, and subdivision regulations.

The broad national trend in housing development of apartment and townhouse units is expected to continue in the City of Greenacres. This course is due in large part to a continuation of rising construction costs. The propensity of smaller household sizes has reduced the number of families which need single-family units. Consequently, the development of new multi-family and townhouse residential units in the City is expected to continue at present levels. In 1995, multi-family development accounted for

66% of the total residential units in the City.

Although the City of Greenacres originated as a single-family community, single-family residential use has not been the major residential land use category within the City. In recent years the amount of new single-family detached development has increased significantly, but is tapering off again. This is due in part to the changing market conditions. With new trends in construction and the high cost of land, developers are moving towards creating affordable single-family housing. The City of Greenacres will continue to encourage affordable single-family units to meet the City residents' needs and provide a variety in housing stock.

4. Overview of Recreation/Open Space Use

Recreation and open space planning concentrates on the most effective use of existing lands. Open space use, as reflected on the Future Land Use Map, is more fully described in the Recreation/ Open Space Element and includes City owned land which is used for active and passive recreation or conservation uses. As the City continues to grow, additional lands need to be added to this category to meet the resident's needs.

5. Overview of Vacant Land Use

The 113 acres of vacant land (according to the 2006 Evaluation and Appraisal Report) equates to 3 percent of the City's total acreage (3,703.15). These areas represent land that is not utilized, and which may be improved or retained in its raw state. Vacant land in the City generally has land use designation and zoning, however it is not developed.

The majority of the City's vacant land is privately owned and is destined for development in the near future. City-owned vacant land must be utilized prudently to increase the supply of recreational uses and to provide for additional public facilities required by future growth.

6. Overview of Mixed Use

There are approximately 38.57 acres of land in the City controlled by zoning regulations that authorize a variety of land uses to be located within one development. The Mixed Land Use designation constitutes a community activity center for the City of Greenacres. This designation reflects acknowledgement of areas whereby no particular or dominant land use has historically emerged or been developed. The unique character of this type of area is fortified by a sharp contrast in the visual land use pattern of residential and commercial uses. As such, a defined mixed use area can be created. It is intended to accommodate single-family residential, retail, service, specialty shops, institutional, and recreational uses that are characteristic of the traditional central community area. This form of land use promotes the continued development of single-family units and

commercial concerns to both function and satisfy the basic residential and commercial needs within the "Original Section" of the City of Greenacres and any future designated mixed use areas. These areas must be carefully guarded because of the appealing factors which exist for a more intensive commercial or industrial use business to encroach on this area spoiling the delicate balance of residential/light commercial land use, ultimately becoming a strictly commercial use area. Other Mixed Use areas along the major roadways are intended to consist of a combination of commercial and residential uses within individual projects.

IV. INVENTORY - EXISTING LAND USE DATA

A. NARRATIVE OF LAND USE MAP SERIES

Because of the size of the City and scale restrictions, the City of Greenacres will use a series of maps to depict generalized land uses and numerous natural resources in order to retain clarity. A series of maps is also used to graphically present this Element.

1. Generalized Land Uses

a) Category Identification

There are six (6) categories of generalized land uses depicted on the City's Future Land Use Map No. 8.

RS - Residential
CM - Commercial
PI - Public/Institutional
RO - Recreation/Open Space
MU - Mixed Use
SAZ - Study Area Zone

In accordance with the requirements of 9J-5.006,(4) Future Land Use Map requirements, sub-section (d), the City has combined subparagraphs (4)(a)7, (4)(a)8, and (4)(a)9, into one land use category identified as "public/institutional."

Additional land use categories have been omitted from the Land Use Map series because they are not found within or adjacent to the City limits. These uses include:

Agricultural
Industrial
Conservation
Historic Resources

The six (6) land use categories which are identified on the "Existing" and "Future" land use map series are defined as follows:

CATEGORY

RS - Residential	Land uses which provide the dwelling place of one or more families or households. This category includes accessory buildings and open land normally used by dwelling occupants, single-family, duplex, multi-family and permanent mobile home parks are included.
CM - Commercial	Land uses which promote the supply of commodities and services to the general public; including retail, professional business and personal services, restaurants, and the necessary storage and parking ancillary to these uses.
PI - Public/ Institutional	Land uses owned, leased or operated by government agencies such as civic community centers, libraries, police/fire stations, public schools etc.
RO - Recreation/Open Space	Any land uses concerned with either active or passive open space recreational uses or the open space enhancement of the surrounding area by publicly owned land.
MU - Mixed Use	Land uses which provide for a diversification of residential, professional, business, and retail uses and the combination of residential and commercial uses within an individual development..
SAZ – Study Area Zone	Land which has recently been annexed into the City and has not yet received a City of Greenacres Future Land Use designation. These parcels retain their Palm beach County designation temporarily.

b) Density and Intensity

The gross land area included in each existing land use plan category has been clearly identified by acreage, general range of density or intensity of use and appropriate zoning controls, in Table No. 1. The major land use in the City is residential which occupies approximately 64.6 percent of the total gross land area.

TABLE NO. 1: Land Use Plan Classifications / Permitted Zoning Categories Maximum Permitted Densities (du's/ac) and Intensities (FAR)				
Plan Category:	Zoning:	Acres:	Density/Intensity:	Lot Coverage:
<i>RS-Residential</i> (Sub-category)		2,393.03		
LD	AR-Agricultural Residential		1 du/2.5 ac	
LD	RE - Residential Estate		1 du/net ac	1
LD	RL:1,2,3 - Low Density		3-5 " "	
MD	RM:1,2 - Med. Density		6-7 " "	
HD	RH - High Density		10 " "	
MD	RMH - Mobile Home		6 " "	
<i>CM-Commercial</i>	OPI - Office Prof.	330.20	0.35 FAR	25% lot coverage
	CN - Neighborhood		0.30 FAR	20% " "
	CG - General		0.35 FAR	30% " "
	CI - Intensive		0.35 FAR	30% " "
<i>PI-Public/Institutional</i>	GU - Government Use	258.59	0.10 - 0.35 FAR ⁴	*
<i>RO-Rec/Open Space</i>	GU - Government Use	107.50	*	*
<i>MU-Mixed Use</i>		38.57		
	MXD-R Mixed Res.		5 du/0.20 FAR	20-35% lot coverage ²
	MXD-C Mixed Com.		5 du/0.25 FAR	25-35% " " ²
	MXD-O Mixed Office		6 du/0.35 FAR	30% " "
	MXD-OS Mixed Original Section		6 du/0.30-0.35 FAR	20-30% lot coverage ³
<i>SAZ-Study Area Zone⁵</i>	N/A	111.53	N/A	N/A
<i>Canals</i>	N/A	34.03	N/A	N/A
<i>Roadways</i>	N/A	429.70	N/A	N/A

* Published Safety and Regulatory Standards

- Notes:
1. Per Schedule of Zoning District Regulations.
 2. Commercial development in the MXD-R and MXD-C zoning districts shall be limited to the FAR shown above. Accessory uses may account for the difference between the FAR and lot coverage shown. Residential development is limited to a maximum of 35% lot coverage.
 3. The intent of the MXD-OS district is to provide an integrated mixture of commercial, office, and residential uses on an incremental scale of development based on the acreage of the project. Maximum lot coverage for residential uses shall be 35%.
 4. Each property so designated shall be evaluated during the site plan approval process for compatibility with adjacent land uses, service capacity availability, current and future traffic capacity, and safety, and the maximum intensity (FAR) established within the given range based on that site analysis and in accord with Zoning District Regulations.
 5. These properties have been annexed and not yet given a Greenacres land use designation. They retain their Palm Beach County designations.

Source: Planning and Engineering Department, February 2008

2. Public Buildings

An entire scope of services is offered to the citizens of the City which are provided both by the City, and other government agencies operating in the City.

a) Greenacres as Controlling Agency

To assist in the provision of services, the City's operating functions have been divided into seven (7) basic departments/offices which are housed in permanent quarters at various locations within the City. These departments include:

Administration
Finance
Planning and Engineering
Building
Public Works
Public Safety
Leisure Services

Provisions of these services depend on a management system that coordinates the functions under the authority of the City Manager, the Mayor and City Council. See Map No. 1 for the location of these facilities.

b) Other Governmental Agencies

Additional governmental agencies which operate facilities within the City are shown on the Future Land Use Maps include:

- * Palm Beach County Library
- * Palm Beach County Water Utilities Department
- * School Board of Palm Beach County
- * U.S. Post Office

1. Palm Beach County Library

The Palm Beach County Public Library System operates the "Greenacres Branch" located at the southeast corner of Jog Road and Dodd Road

2. Palm Beach County Water Utilities Department

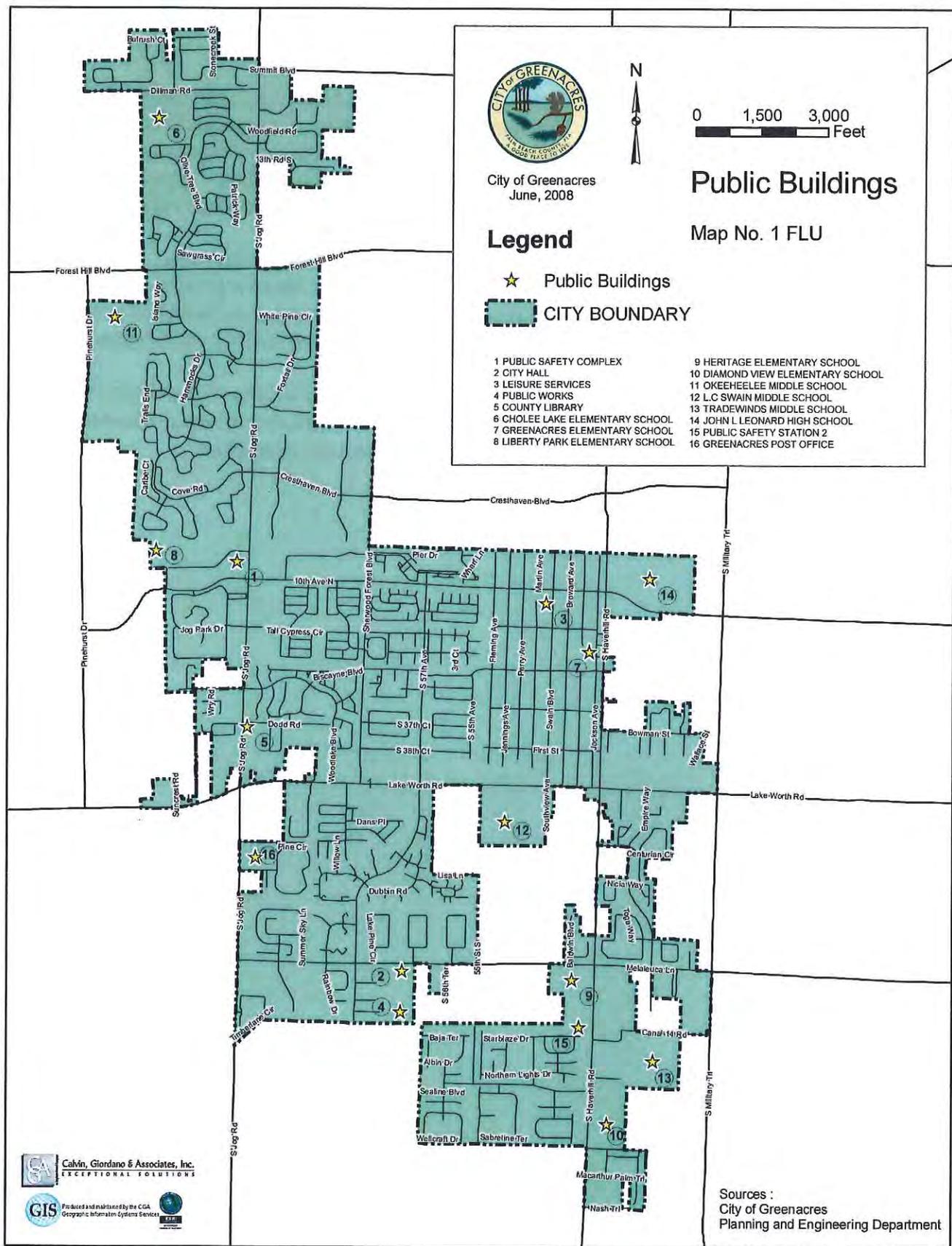
The Department does not have any administrative offices within the City, however, several facilities including water storage tanks and pump stations are located in the City.

3. School Board of Palm Beach County

Within the City limits there are eight (8) public schools, "Diamond View Elementary, Greenacres Elementary School, Heritage Elementary, Liberty Park Elementary, L.C. Swain Middle School, Okeehchee Middle Schools, Tradewinds Middle School, and John I. Leonard High School.

Public school facilities within the City are under the jurisdiction of the School Board of Palm Beach County. Minimum acceptable site sizes are established by Chapter GA-2.39, Florida Administrative Code and Chapter 235, F.S.

Public Schools are allowed in three of the City's future land use classifications: Public/Institutional, Residential and Commercial future land use categories.



3. Natural Resources

a) Waterwells and Cones of Influence

There are no waterwells in the City of Greenacres. However, in close proximity to the western boundary is a wellfield which serves Palm Beach County System No. 2 and is the source of potable water supplied to residents of the City. The exact location of these wells is depicted on Map No. 2.

In order to protect that water source from the risk of contamination resulting from the handling, production and storage of hazardous and toxic materials; the Board of County Commissioners of Palm Beach County, adopted the Wellfield Protection Ordinance which became effective March 7, 1988. The ordinance was last amended on December 4, 2003.

There are four (4) regulation zones (zones of influence) surrounding each wellfield. The exact locations of these "zones" are determined by the Palm Beach County Department of Environmental Protection. Since these "zones" do extend into the City, the Wellfield Protection Ordinance provides for the Department of Environmental Resources Management to review certain zoning, permitting, and licensing decisions made by the City of Greenacres in those areas. These wellfields and their "zones of influence" are described in more detail in the Potable Water Sub-Element of this Plan.

b) Beaches, Shores and Estuarine Systems

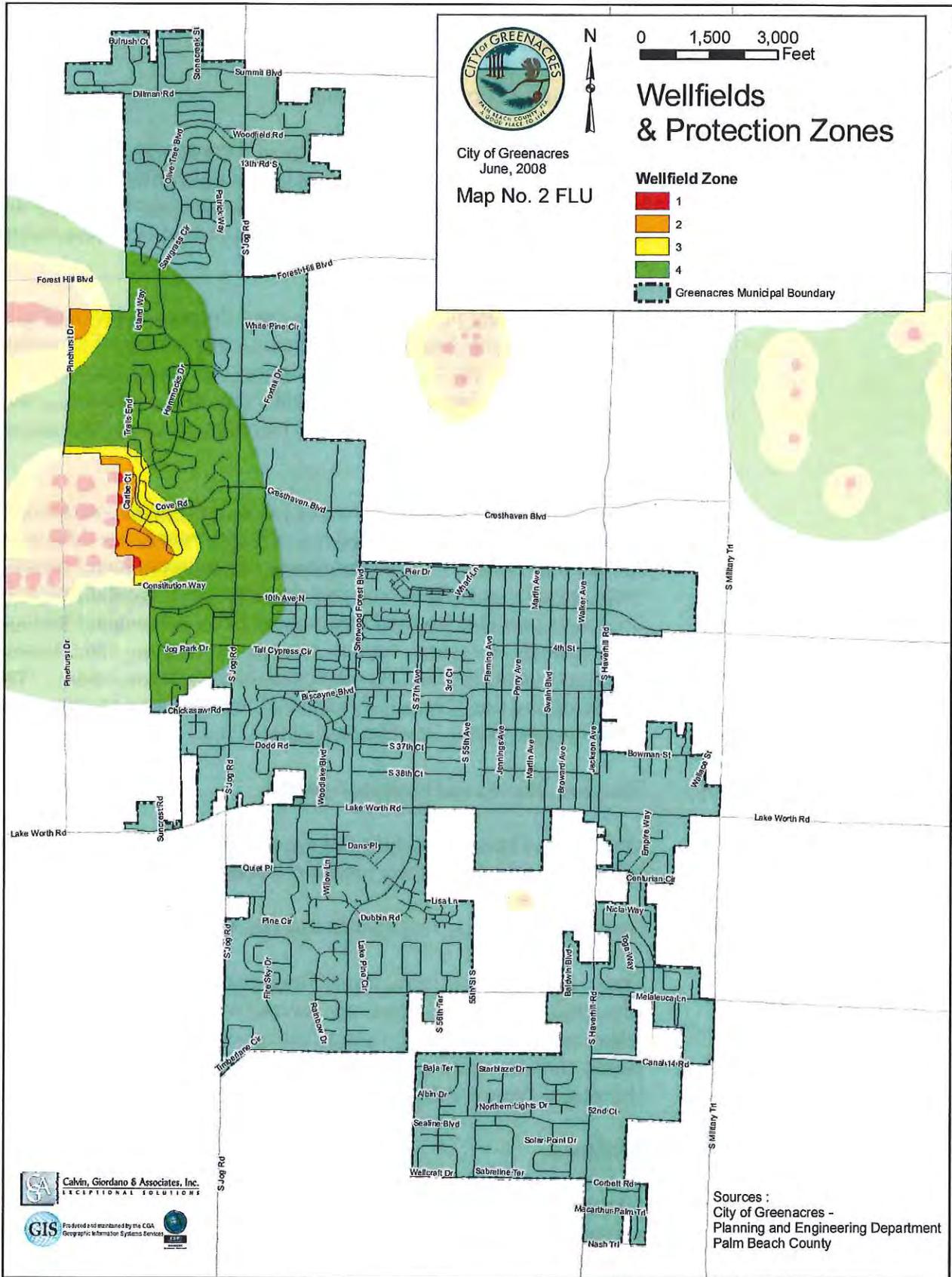
The City of Greenacres is located approximately six (6) miles inland and has no natural beaches, shores, or estuarine systems.

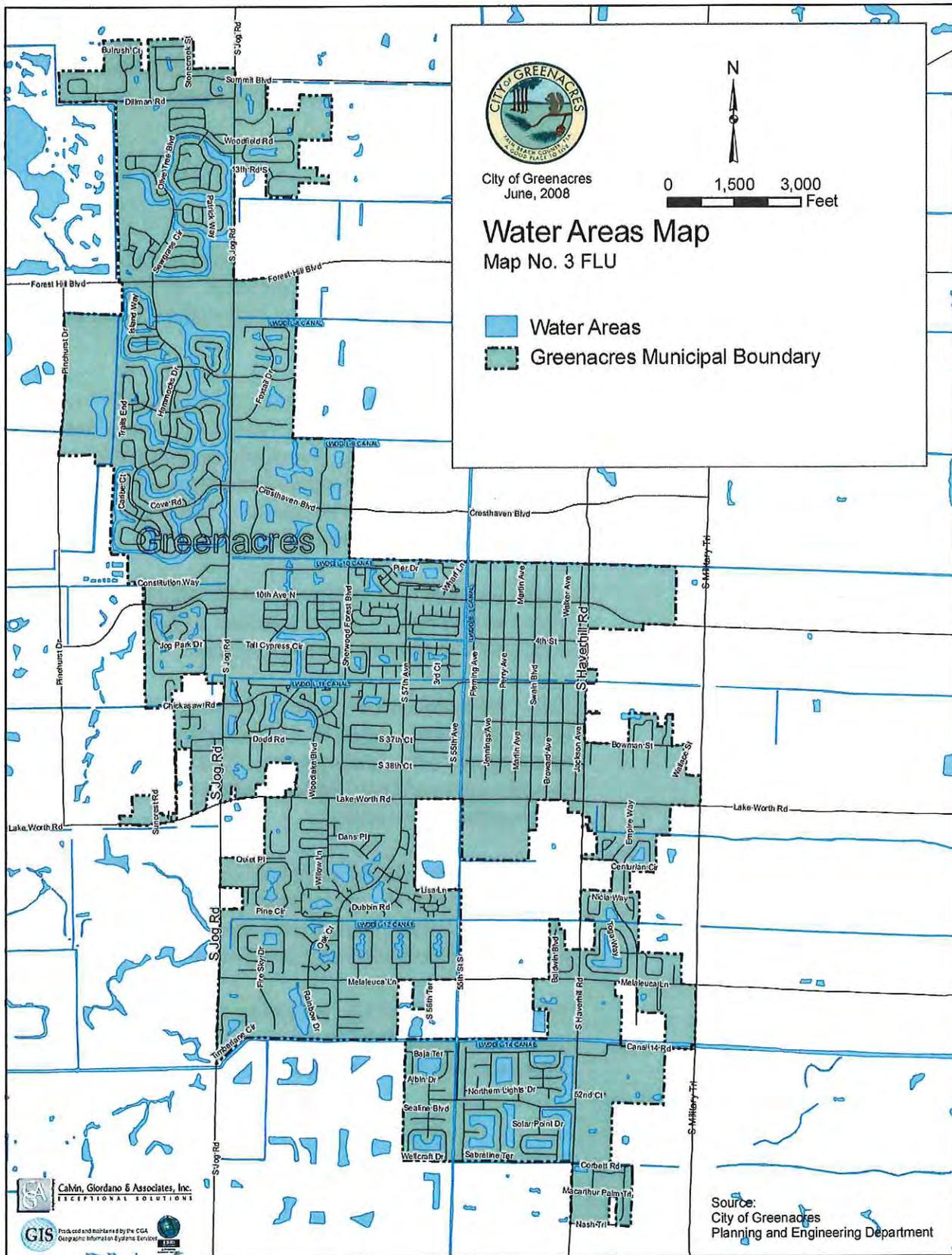
c) Rivers, Bays, Lakes, Floodplains and Harbors

There are no rivers, bays, lakes, flood plains or harbors within the City limits; however, there are several water retention ponds and other man-made drainage canals that are operated by private and/or public entities such as the Lake Worth Drainage District. Size and location of these water bodies are shown on Map No. 3.

d) Wetlands

"Wetlands" is a term for land areas that are sufficiently saturated by surface water or groundwater as to be generally able to support vegetation or aquatic life requiring saturated soil conditions for at least part of the year. A few examples would be swamps, marshes, bogs and sloughs.





To halt the trend toward destruction of wetlands, a variety of federal and state actions have been taken, however, none of these designated wetland areas exist within Greenacres.

e) Minerals and Soils

(1) Potential for Habitat Elements

Soil Association Map No. 4 clearly shows those soils identified by the U.S. Department of Agriculture, Soil Conservation Service, as lying within the City of Greenacres and its surrounding area.

The present land use, the relationship of soils to adjoining areas, and the movement of wildlife are not considered in these ratings. The size, shape, or location of the areas does not affect the rating. Certain influences on habitat must be appraised by on-site investigation. The level of suitability ratings in Table 2 are defined as follows:

Good: Habitats are easily improved, maintained, or created. There are few or no soil limitations in habitat management, and satisfactory results can be expected.

Fair: Habitats can be improved, maintained or created on these soils but moderate soil limitations affect habitat management or development. A moderate intensity of management and fairly frequent attention may be required to ensure satisfactory results.

Poor: Habitats can be improved, maintained, or created on these soils, but the soil limitations are severe. Habitat management may be difficult and expensive and require intensive effort. Results are questionable.

Very poor: Under the prevailing soil conditions, it is not practical to attempt to improve, maintain, or create habitats. Unsatisfactory results are probable.

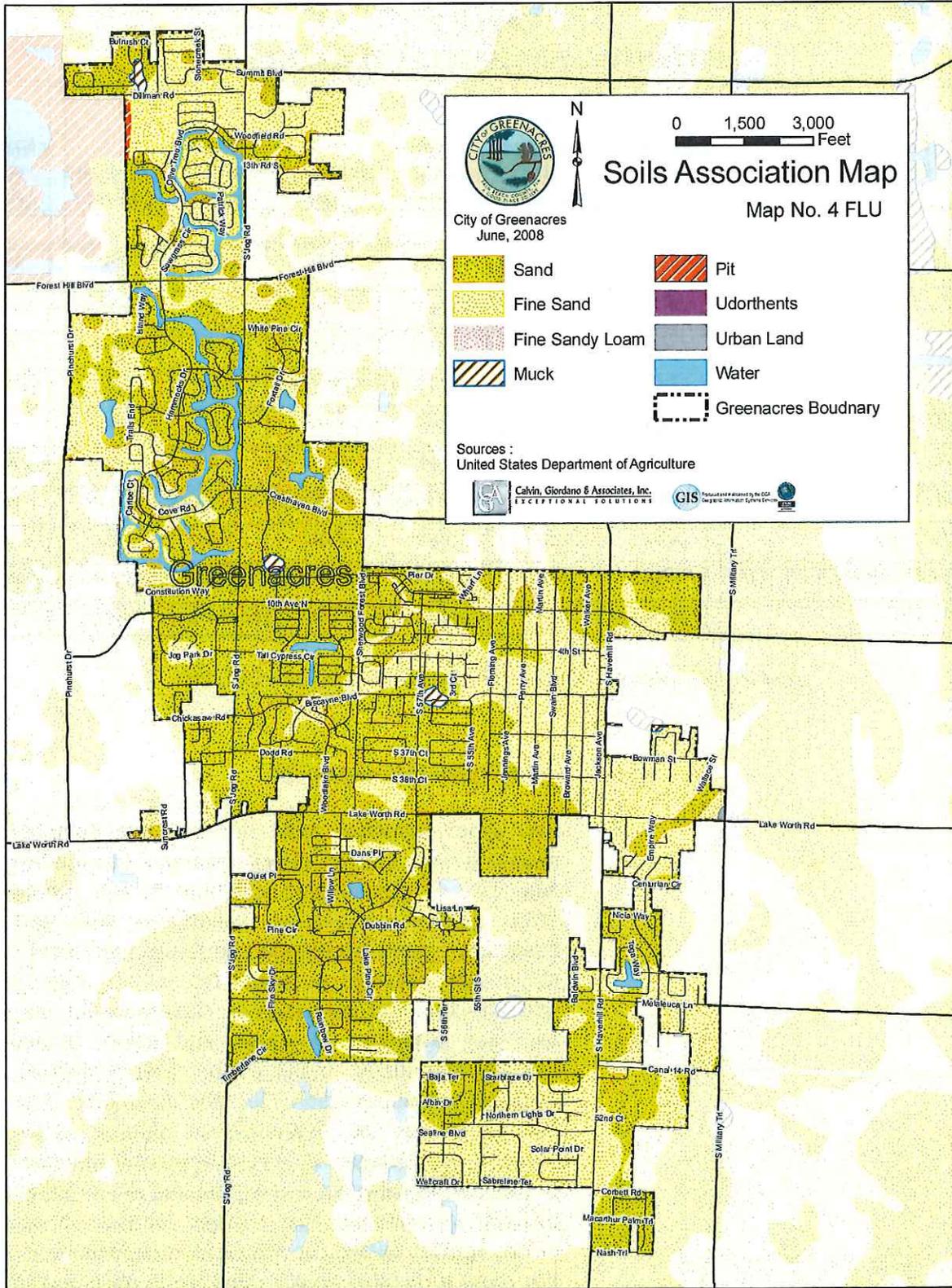


TABLE 2							
POTENTIAL FOR HABITAT ELEMENTS							
Soil Name & Map Symbol	Grain & Seed Crops	Grasses & Legumes	Wild Herbaceous	Hardwood Trees	Coniferous Plants	Wetland Plants	Shallow Water Areas
ANCLOTE: An	Very Poor	Poor	Poor	Fair	Poor	Poor	Good
ARENTS: AU	Poor	Poor	Poor	Fair	Fair	Poor	Poor
BASINGER: Ba	Poor	Poor	Fair	Poor	Poor	Good	Fair
BASINGER: BM	Very Poor	Very Poor	Very Poor	Very Poor	Good	Good	Very Poor
HOLOPAW: Ho	Poor	Fair	Fair	Poor	Fair	Fair	Fair
MYAKKA: MK	Poor	Fair	Good	Poor	Fair	Fair	Poor
OKEELANTA: On	Very Poor	Poor	Very Poor	Very Poor	Very Poor	Good	Good
OLDSMAR: Os	Poor	Fair	Fair	Poor	Fair	Poor	Poor
QUARTZIPSAMMENTS: QAB	Poor	Poor	Poor	Very Poor	Poor	Very Poor	Very Poor
RIVIERA: Rd	Very Poor	Poor	Very Poor	Very Poor	Very Poor	Good	Good
Source: U.S. Dept. of Agriculture, Soil Conservation Service - Dec. 1978							

(2) Building Site Development

Soil types identified with building site development are shown for the City of Greenacres and surrounding area on Map No. 4. The degree and kind of soil limitations that affect shallow excavations, dwellings with and without basements, small commercial buildings, and local roads and streets are indicated in Table No. 4. A slight limitation indicates that soil properties are favorable for the specified use; any limitation is minor and easily overcome. A moderate limitation indicates that soil properties and site features are unfavorable for the specified use, but the limitations can be overcome or minimized by special planning and design. A severe limitation indicates that one or more soil properties or site features are so unfavorable or difficult to overcome that a major increase in construction effort, special design, or intensive maintenance is required. For some soils rated severe, such costly measures may not be feasible.

TABLE 3
SOILS ASSOCIATION MAP LEGEND

- GREENACRES AREA -

- 5 MYAKKA - IMMOKALEE-BASINGER association: nearly level, poorly drained soils that are sandy throughout; some have a weakly cemented layer below a depth of 30 inches.
- 9 RIVIERA association: nearly level, poorly drained sandy soils that have a loamy subsoil.
- 11 BASINGER association: nearly level, poorly drained soils that are sandy throughout.

- Source:*
- 1. *U.S. Department of Agriculture, 1976*
 - 2. *Soil Conservation Service, 1978*
 - 3. *University of Florida, Institute of Agricultural Sciences, 1976*

Shallow excavations are used for pipelines, influenced by soil wetness caused by a seasonal high water table; the texture and consistence of soils; the tendency of soils to cave in or slough; and the presence of very firm, dense soil layers, bedrock, or large stones. In addition, excavations are affected by large stones, and slope of the soil and the probability of flooding. Ratings do not apply to soil horizons below a depth of 6 feet unless otherwise noted.

In the soil series descriptions, the consistency of each soil horizon is defined and the presence of very firm or extremely firm horizons, generally difficult to excavate, is indicated.

Dwellings and small commercial buildings, referred to in Table No. 4 are built on undisturbed soil and have foundation loads of a dwelling no more than three stories high. Separate ratings are made for small commercial buildings without basements and for dwellings with and without basements. For such structures, soils should be sufficiently stable that cracking, or subsidence from settling, or shear failure of the foundation do not occur. These ratings were determined from estimates of the shear strength, compressibility, and shrink swell potential of the soil. Soil texture, plasticity and in place density, potential frost action, soil wetness and depth to a seasonal high water table were also considered. Soil wetness and depth to a seasonal high water table indicate potential difficulty in providing adequate drainage for basements, lawns, and gardens. Depth to bedrock, slope, and the large stones in or on the soil are also important considerations in the choice of sites for these structures and were considered in determining the ratings. Susceptibility to flooding is a serious limitation.

Local roads and streets, referred to in Table No. 4, have an all-weather surface that can carry light to medium traffic all year. They have a subgrade of underlying soil material; a base of gravel, crushed rock fragments, or soil material stabilized with lime or cement; and a flexible or rigid surface, commonly asphalt or concrete. These roads are graded with soil material at hand. Most cuts and fills are less than 6 feet deep.

The load supporting capacity and the stability of the soil as well as the quantity and workability of fill material available are important in design and construction of roads and streets. The AASHTO and Unified classifications of the soil and the soil texture, density, shrink-swell potential, and potential frost action are indicators of the traffic supporting capacity used in making the ratings. Soil wetness, flooding, slope, depth to hard rock or very compact layers, and content of large stones, all of which affect stability and ease of excavation, were also considered.

f. Areas of Critical State Concern

According to Section 380.05 of the Florida Statutes, an area of critical state concern may be designated only for an area containing, or having a significant impact upon, environmental or natural resources of regional or statewide importance, including, but not limited to, state or federal parks, forests, wildlife refuges, wilderness areas, aquatic preserves major rivers and estuaries, state environmentally endangered lands, Outstanding Florida Waters, and aquifer recharge areas, the uncontrolled private or public development of which would cause substantial deterioration of such resources.

Areas of critical State concern may also include an area containing, or having a significant impact upon, historical or archaeological resources, sites, or statutorily defined historical or archaeological districts. The private or public development of these properties could cause substantial deterioration or complete loss of such resources, sites, or districts. Within the City of Greenacres, there are no areas that fall within a designated area of critical state concern, pursuant to Section 380.05, Florida Statutes.

g. Population Projections

The City of Greenacres population projections are provided in detail in Table No. 5 from 2007 to 2017. These projections are based on the March, 2008 Bureau of Economic and Business Research (BEBR) projections for Palm Beach County, disaggregated and allocated by Traffic Analysis Zone by the Palm Beach County

Planning Division. The 2007 figure is the BEBR April 1, 2007 estimate for the City.

**TABLE NO. 4
BUILDING SITE DEVELOPMENT**

SOIL NAME	Shallow Excavation	Degree & Kind of Limitations for -				
		Dwellings without Basements	Dwellings with Basements	Small Commercial Buildings	Local Roads & Streets	Flooding
Anclote	Severe:wetness, cutbanks cave	Severe: wetness	Severe: wetness	Severe: wetness	Severe: wetness	None
Arents	Severe: cutbanks cave	Moderate: wetness	Severe: wetness	Moderate: wetness	Moderate: wetness	None
Basinger - Ba	Severe:wetness, cutbanks cave	Severe: wetness	Severe: wetness	Severe: wetness corrosive	Severe: wetness	None
Basinger - Bm	Severe:wetness, cutbanks cave	Severe: wetness	Severe: wetness	Severe: wetness corrosive	Severe: wetness	Frequent
Holopaw	Severe:wetness, cutbanks cave	Severe: wetness	Severe: wetness	Severe: wetness	Severe: wetness	None
Myakka	Severe:wetness, cutbanks cave	Severe: wetness	Severe: wetness	Severe: wetness	Severe: wetness	None
Okeelanta	Severe:wetness, excess humus	Severe:wetness, excess humus	Severe:wetness, excess humus	Severe:wetness, excess humus	Severe:wetness, excess humus	Frequent
Oldsmar	Severe:wetness, cutbanks cave	Severe: wetness	Severe: wetness	Severe: wetness corrosive	Severe: wetness	None
Quartzipsammets	Severe: cutbanks cave	Slight	Slight	Moderate: slope	Slight	None
Riviera	Severe: wetness	Severe: wetness	Severe: wetness	Severe: wetness	Severe: wetness	Frequent
Urban Land	No ratings					

Source: 1) U.S. Department of Agriculture, Soil Conservation Service - Dec. 1978
2) The City of Greenacres Engineering, Planning, & Building Dept. June 1997

**TABLE No. 5
Population Projections**

Year	Population
2007	32,105
2012	33,095
2017	34,124

1. Seasonal Population

Seasonal population projections are derived from 1990 U.S. Census data gathered for Palm Beach County. Palm Beach County data is utilized since it is the best available existing data source and most accurately reflects seasonal growth within Greenacres. (9J-5.005(2)(c))

The percentage of seasonal housing is obtained from Palm Beach County based on BEBR projections.

The seasonal population is acquired by multiplying the seasonal dwelling units by the City's average persons per household which totals to 4,327.

**TABLE No. 6
SEASONAL POPULATION 1990**

	Vacancies Seasonal Units	Total Units	Vacancy Rate Total Units
PBC	65,291	461,665	21
City	1,881	11,186	26

V. ANALYSIS

A. AVAILABILITY OF FACILITIES AND SERVICES

1. Infrastructure System

Man-made conditions, as well as natural conditions, affect the development potential of an area. Man can provide services and infrastructure which

make a place attractive to live in. This section discusses those areas served by central water, central sewer and other services.

a) Sanitary Sewer

The City of Greenacres receives its sewer service from Palm Beach County. There is enough system capacity to serve existing and potential future development of the City

b) Potable Water

The City of Greenacres also receives its water service from Palm Beach County. There is enough system capacity to service existing and potential development of the City.

c) Solid Waste

The City is serviced by a private hauler through a franchise agreement for garbage and trash pick up. All garbage and trash is hauled to solid waste facilities operated by the Palm Beach County Solid Waste Authorities. This arrangement permits the City to provide existing and potential development with the safe and sanitary processing and disposal of solid waste. There is enough landfill capacity available to meet the City's needs through the year 2021.

d) Stormwater Management

The South Florida Water Management District and Lake Worth Drainage District are responsible for operation of the primary drainage system within the City. The City lies within two separate drainage basins. The City north of Lake Worth Road is in the C-51 basin. The area south of Lake Worth Road is in the C-16 basin. The Lake Worth Drainage District has jurisdiction of canals L-6 through L-15 and E-3. The majority of the drainage canals have an east-west orientation except for the E-3 canal which has a north-south orientation and is located west of Fleming Avenue.

All existing and potential development is required by the City's subdivision code to provide comprehensive storm drainage facilities. All runoff must be directed to percolation and detention areas for on-site retention of stormwater. The present drainage system has enhanced flood control and improved drainage so that the City's designation as a flood area was rescinded by the Federal Emergency Management Agency on November 13, 1987.

2. Natural Groundwater Aquifer Recharge Areas

The groundwater system underlying the City generally consists of two aquifers: (1) the Surficial or water table aquifer; (2) the upper Floridan aquifer. The water aquifer lies just below the land surface and extends throughout the county.

The Surficial aquifer system covers all of the city and is the primary source of groundwater for drinking water and irrigation.

The City intends to take several steps so that the underlying aquifer is preserved. The City has set a goal of requiring all existing and future development to eventually be served by the Palm Beach County utility system. In addition, the City adopted and abides by the principles of the Palm Beach County Wellfield Protection Ordinance which was passed by the County Commission in February 1988, and most recently amended on December 4, 2003.

Additional aquifer recharge details can be found in both the Conservation and Infrastructure Elements of this plan.

3. Traffic Circulation System

The following roads within or immediately adjacent to the City boundaries are classified as state or county roads: Summit Boulevard, Forest Hill Boulevard, Purdy Lane, Cresthaven Boulevard, Tenth Avenue North, Lake Worth Road, Melaleuca Lane, Pinhurst Drive, Sherwood Forest Boulevard, Haverhill Road, and Military Trail.

In addition to the State and County roadways, the following are City collector roadways:

- * South 57th Avenue
- * Swain Boulevard
- * Empire Way
- * Biscayne Drive

As stated in the Transportation Element, all of the roads in the City of Greenacres are operating at or above the countywide adopted level of service of "D." The transportation Element further addresses the City's transportation system.

4. Development of Soils and Topography

The City of Greenacres lies entirely within sandy flatlands area of east-central Palm Beach County. The nature of the flatlands, as its name infers, is an area of very little change in elevation. The City's topography varies only a few feet, therefore, drainage is usually a problem where there are no

natural drainage courses. For this reason the City, as most developments within the sandy flatlands, is required to rely on an artificial canal network to provide adequate drainage to sustain development. Please refer to the Stormwater Management Sub-Element for drainage information.

5. Projected Land For Projected Population

Table 7 depicts the approximate amount of land needed to accommodate the projected population of the City. Included within the table are the various land use categories and their densities and intensities of use. The methodology is based on developmental approvals and zoning densities.

The City's land use categories range from residential, low density, medium density, high density, which have densities of one (1) to ten (10) dwelling units per net acre to commercial, office/professional, general, with intensities of twenty (20) to thirty (30) percent building area. The remaining land use categories are public/institutional, educational, public facilities, recreation/open space and mixed use.

It should be noted that the projections do not take into account the growth of the unincorporated areas immediately adjacent to the City and the relationship between the total population and land uses. The projections cannot take these factors into account since the City does not have well defined boundaries and the demand on City services as well as the use of commercial establishments and recreational facilities and public buildings by residents of the unincorporated areas would be almost impossible to establish. As such, Table 7 only serves as a general approximation, and the assignment of future land use designations to annexed areas should be based on proper planning principles and the plan for future land use rather than on arithmetic approximations.

TABLE NO. 7

PROJECTED LAND FOR PROJECTED POPULATION

Plan Category	Land Use		Density/Intensity
RS-Residential	Low Density	13	1-5 d.u./net acre
	Med. Density		6-7 d.u./net acre
	High Density		10 d.u./net acre
CM-Commercial	Office Prof.	56	20% lot coverage
	General		25-30% lot coverage
PI-Public/Inst./Government Use		15	Land uses owned, leased or operated by government agencies such as civic and community centers, libraries, police/fire stations and public schools;
RO-Rec/Open Space		50	a. MINI-PARKS/TOT LOTS Typical development may include

turf, trees, shrubs, irrigation, benches, trash receptacles, picnic tables, play apparatus, vehicular barriers, paved parking, or walkways, signage and lighting;

b. **NEIGHBORHOOD PARKS**
 Typical facilities developed in the neighborhood park may include play apparatus, recreation buildings, multipurpose courts, sports fields, picnic areas and free play areas; and

c. **COMMUNITY PARKS**
 Typical facilities at a community park may include ball fields, tennis courts, play areas, picnic areas, multipurpose courts, recreation buildings, sport fields and swimming pools. Adequate off-street parking may be needed to contain parking **overflow.**

**MU-Mixed Use
 Commercial**

Residential/

5.5

5 d.u./net acre
 20-25% lot coverage

TOTAL:

639.5 acres

Source: Engineering, Planning and Building Department, 1997

6. **Redevelopment Needs**

Although the City has had over 300 percent growth since 1980, there are several areas of the City in need of redevelopment. The City has several areas that are targeted for redevelopment: the Original Section of Greenacres the Palm Beach Villas Plat 1 neighborhood and the Lake Worth Hills and Palm Beach Villas II neighborhoods

Current efforts for these areas in question include stronger and enhanced code enforcement efforts and public improvements scheduled through the Capital Improvements Element. The Housing Maintenance Program has been established, and the City is implementing policies and seeking funding to improve these areas and maintain their vitality.

The renewal of these areas will only occur due to a variety of efforts. Additionally, the removal of incompatible uses must take place through strong enforcement of zoning and other land regulatory codes.

7. **Flood Hazard Areas for Redevelopment/Development Area**

The City's designation as a special flood area (A or V zone) was rescinded

on November 13, 1987 by the Federal Emergency Management Agency. Section 9J 5.006(2)(e) does not apply to Greenacres. The City of Greenacres lies in a C and X flood zones, which are generally flood free zones according to the Federal Emergency Management Agency.

VI. PLAN FOR FUTURE LAND USE

A. FUTURE LAND USE APPROACH

The Future Land Use Plan will set forth the planning approach for residential, commercial, public/ institutional, mixed use, recreational and open space, and vacant land usage. The major components of the City's planning approach are (1) the containment of commercial land use to spheres of activity (activity centers) and infill areas along established major corridors without encouraging the extension of strip commercial in these areas; (2) the promotion and orientation of higher density residential in the spheres of activity and along major corridors to achieve logical land use from an economic standpoint; (3) encouraging the provision of single-family housing by working cooperatively with private sector; (4) accommodating the need for city facilities by reinforcing the provision and expansion of such uses along the City Facilities Services Link System (5) the conservation and preservation of open space; and (6) the prudent utilization of vacant land, especially in regard to the provision of public facilities and recreational needs.

The City, in an effort to more fully accomplish these major components, will conduct a number of implementation measures based upon future studies and programs including urban service areas/longer term limit line, point systems, fiscal impact analysis (See Capital Improvements Element); Annexation Feasibility Studies (See Annexation Element); and land use ratio studies, vacant land inventories, and land use coding classification systems (described in greater detail later in this Element).

The programmed items above as well as many other actions within other Elements of this Plan are intended to implement or assist in implementing the Goals, Objectives and Policies of this Plan.

1. Spheres of Activity - are nodal areas that act as hubs or activity centers. These areas are based primarily on the intersection of major roadways in concert with the Traffic Circulation Element.

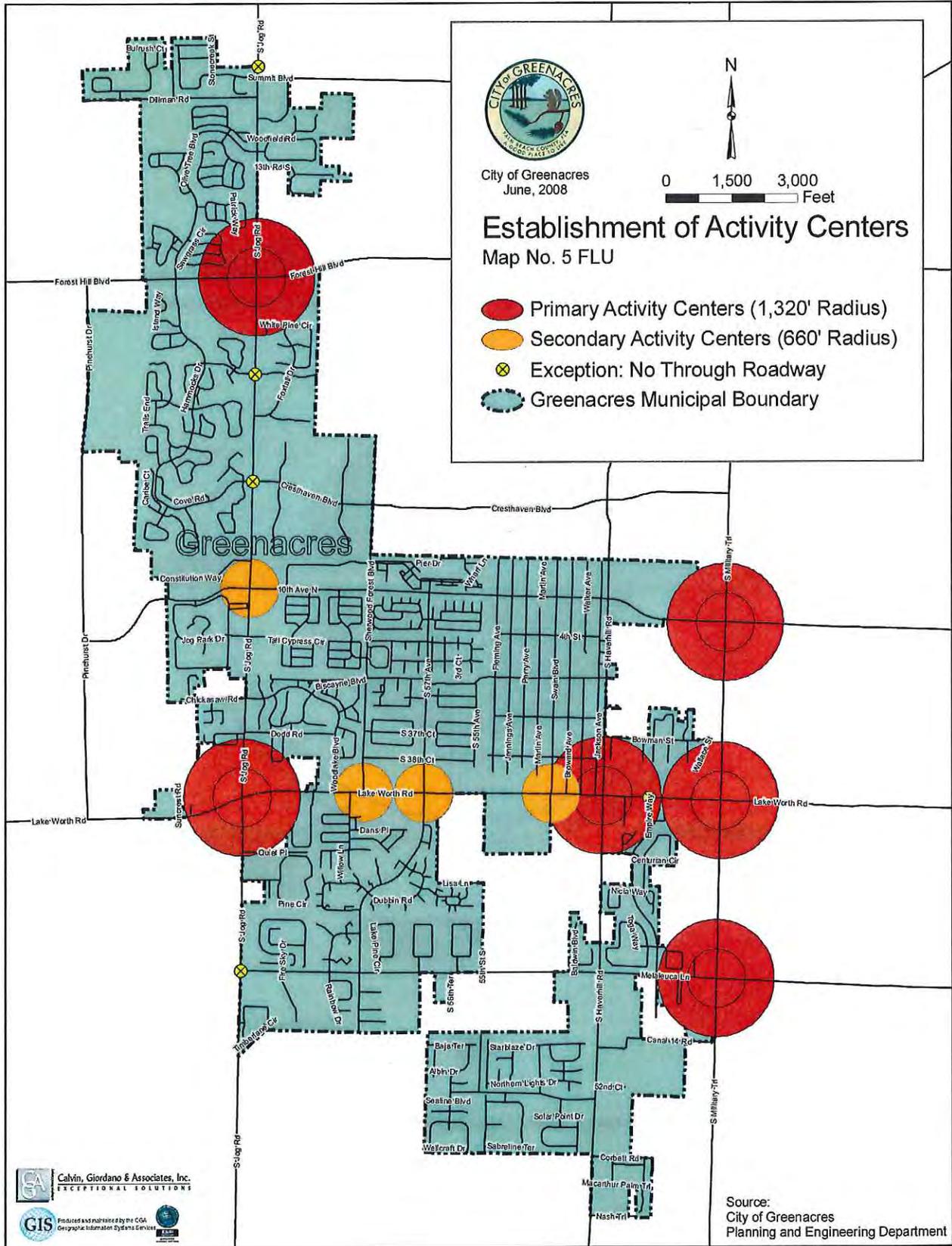
Primary spheres of activity are those nodal areas whereby two urban principal arterials intersect with each other, an urban principal arterial intersects with an urban minor arterial or county collector, or two urban minor arterials intersect. These spheres are the most intensive areas of the City, serve geographic trade areas that extend beyond city limits, and may encompass a wide range of commercial activities, as well as higher density residential development. (See No. 2 below)

The geographic area of this primary sphere generally comprises 125 acres with each quadrant extending a linear distance of one thousand three hundred twenty (1,320) feet (one quarter mile). Maximum commercial acreage within the primary spheres of activity may range from sixty (60) to ninety (90) acres. (See Map No. 5 and 6)

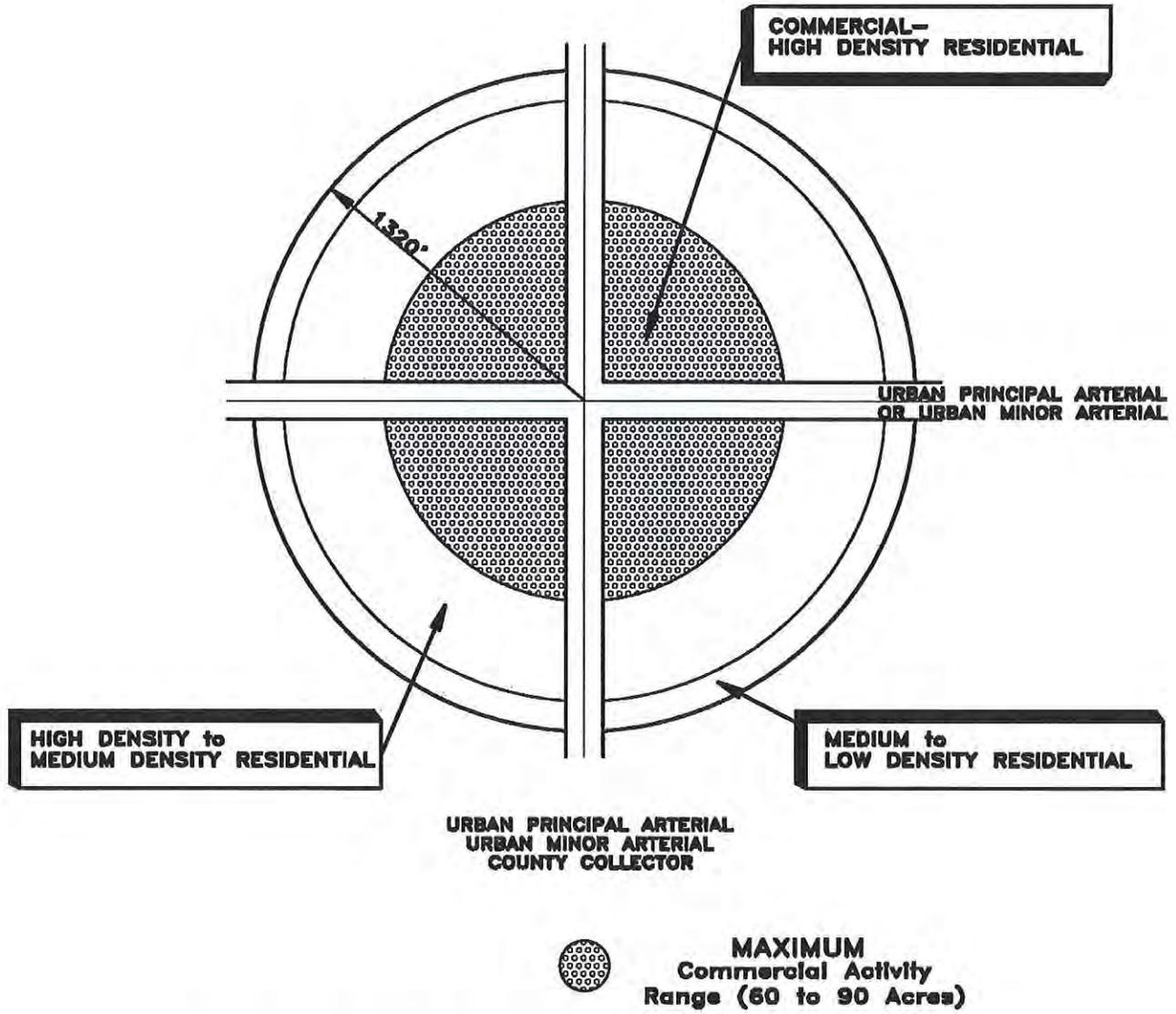
Secondary spheres of activity are those nodal areas whereby an urban principal arterial intersects with a city collector, or an urban minor arterial intersects with a county collector. These secondary spheres serve a group of neighborhoods and generally provide goods and services for a consumer market that may range from one (1) to three (3) mile radius. The geographic area of the secondary spheres generally comprises thirty (30) acres with each quadrant extending a linear distance of six hundred sixty (660) feet (one eighth of a mile). Maximum commercial acreage within the secondary spheres of activity may range from fifteen (15) to twenty (20) acres. (See Map No. 5 and 7)

The City's planning approach calls for the containment of future commercial use within the spheres of activity. However, existing land use patterns along portions of Lake Worth Road, Jog Road and 10th Avenue North may necessitate the commercial or mixed-use infill of certain parcels along these roadways. In any event, strip commercial development will be discouraged in these areas by proper site planning and enhanced design.

Additionally, the intersection of two roadways that aid in designating spheres of activity does not automatically constitute a primary or secondary sphere of activity. For example, if one of the roadways terminates (such as Summit Boulevard and Jog Road) that intersection would not qualify as an activity sphere at that time. Similarly, an intersection that turns into a private roadway or a development also does not qualify as an activity sphere (e.g. Cresthaven Boulevard and Jog Road and Melaleuca Lane and Jog Road.) Other factors include land use associations in close proximity to the node and timing of development. (See Map No. 5)

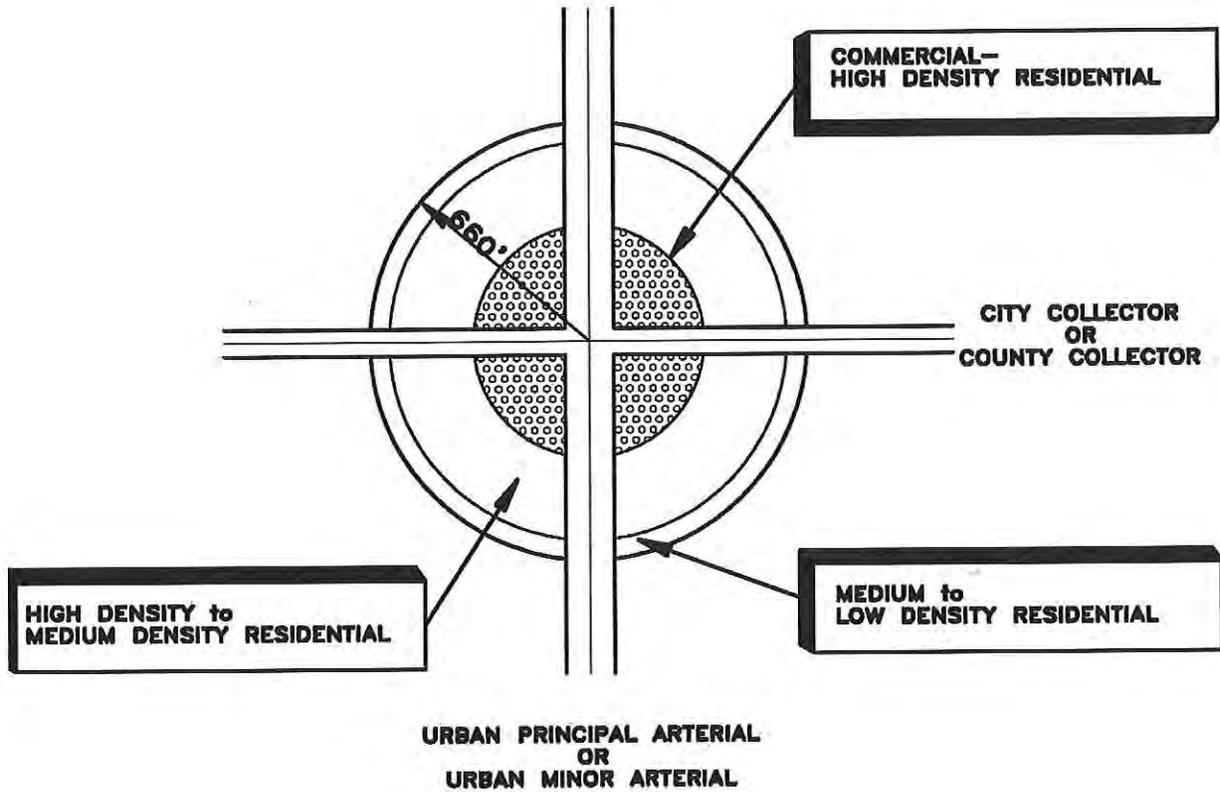


**Map No. 6 FLU
PRIMARY SPHERE OF ACTIVITY
Stepdown of Intensities
Generally 125 Acres**



Prepared By: Planning and Engineering Department February 2008

**Map No. 7 FLU
SECONDARY SPHERE OF ACTIVITY
Stepdown of Intensities
Generally 30 acres**



Prepared By: Planning and Engineering Department February 2008

2. High Density Residential In Spheres of Activity and Major Roadway Corridors

Based upon market factors and highest and best use considerations, the City of Greenacres and other governmental units face tremendous pressure from landowners to designate such lands as commercial. In the City, such pressure naturally occurs at nodal intersections and on Jog Road, Lake Worth Road and Forest Hill Boulevard. In an effort to combat commercial development pressures, the City will practice a planning approach that reinforces a "stepdown of intensity" from the spheres of activity. Under this application higher density residential is recommended for twenty-five (25) to fifty (50) percent of activity spheres and along the major roadway corridors. This intensity stepdown is characterized by commercial and high density residential activity at the "heart" of the activity sphere the (intersection) and extending outwards to higher-medium density residential. At the fringe of the activity sphere would exist lower density residential and other compatible uses. High density residential would also infill along the major roadway corridors, except along Lake Worth Road where residential uses should be discouraged due to compatibility issues unless part of a mixed use project.

Other studies referenced will further define and refine the actual shape of such activity spheres. Also, in conjunction with the development of point systems, a developer may submit area land use plans for activity spheres prior to submission of development opportunities.

Such combined public/private efforts at land use planning will be conducive to achieving mutual goals from the public interest and the private concern. It is anticipated that better planned sectors will occur.

3. Provision Of Single-family Housing - Tantamount to several of the concepts outlined in No. 2 above, the City will need to work cooperatively with the private sector in supplying single-family detached housing.

The City housing stock is comprised of approximately 61.6% multi-family development. In order to encourage the development of single-family units, the City will investigate ways to establish policies to foster such development.

4. City Facilities Service Link System - This approach calls for the City to accommodate the need for additional city facilities by the reinforcement and enhancement of four (4) major areas that are located at the Jog Road/10th Avenue North intersection to the Swain Boulevard/Second Street intersection. The maintenance and expansion of these four points provide a linkage system for City facilities. These four (4) major areas include:

Linkage Point 1 - Public Safety Complex/Community Park at Jog Road and the Tenth Avenue North intersections.

Linkage Point 2 - The former City Hall and Burrowing Owl Park.

Linkage Point 3 - Ira Van Bullock Park, 500 Perry Avenue, Community Hall, the Community Center and 525 Swain Boulevard. This entire area will be the main focus of a leisure service campus atmosphere.

The old Public Works building was demolished in January 2008 and the park expanded. Construction of the new Community Center at the northwest corner of Swain Blvd. and Fourth Ave. was completed in 2000.

Linkage Point 4 – Former Public Works Trade Shop. The former Trade Shop at 301 Swain Boulevard should be explored as a location for additional City services.

The City Facilities Service links should be strengthened to provide a strong City identity and continuity in the provision of City services/ facilities.

5. Conservation and Preservation of Open Space

Within the built-up environment, the conservation and preservation of open space serves a multitude of functions. Firstly, open space provides pervious surfaces which aid in reducing stormwater runoff and in replenishing the surficial aquifer. Secondly, open space is critical to the City of Greenacres in providing passive recreation possibilities. Thirdly, the conservation and preservation of open space may aid in protecting native habitats that have not been substantially altered or removed. Finally open space may buffer incompatible uses, enhance the visual beauty of various areas, serve as a land bank for future development and provide additional light and air.

Recognizing the importance of open space, the City will make every effort to promote the conservation and preservation of open space. The City will implement this component by encouraging the development of planned unit developments and cluster housing which provide areas of open space by clustering or grouping units into smaller areas.

6. Vacant Land Utilization

The City, within its current boundaries, has a limited amount of vacant land (minus those areas approved for development but not actually developed). The City will need to scrutinize the development of these lands intently. "Land increases in value as its intrinsic characteristics - slope, soil and subsoil conditions, shape - and as its extrinsic relationships - accessibility, environment regulatory requirements - are able to satisfy economic and social demands. As the pressures for land utilization grow, the extrinsic relationships outweigh the intrinsic characteristics of land. Land values are due more to external factors than they are to activities of the owner of the land."

Additionally, the City will need to review its own limited supply of publicly owned vacant land in order to develop necessary public facilities and recreational lands to

serve its population at the City's adopted level of service.

B. FUTURE ANNEXATION AREA

The City's Annexation Plan as outlined in the Annexation Element encompasses all unincorporated areas south of Southern Blvd., north of Lantana Road, east of the Turnpike and west of Military Trail, exclusive of those areas already annexed by Wellington and Royal Palm Beach. This area would add approximately 25.85 square miles of land to the existing inventory.

In 1989, at the time of preparation of the Comprehensive Plan, the local governments in Palm Beach County along with the Countywide Planning Council, outlined and described their future annexation areas.

The City of Greenacres also included an optional Annexation Element, which specifically identified the City's Future Annexation Areas and contained objectives and policies related to future annexation.

In order to adequately manage future growth and to ensure that compatibility in land use will be maintained in the future among lands in the City of Greenacres, other adjacent municipalities and unincorporated Palm Beach County, the City of Greenacres has assigned City future land use classifications to properties in the future annexation area. These assignments only serve as a guide in reviewing land use requests and development in these areas until the time of annexation. These designations are advisory only.

The Future Annexation Area is bordered on four sides by Urban Principal Arterials: Southern Blvd., Military Trail, Lantana Road and State Road 7, with Southern Blvd. and State Road 7 as major thoroughfares. Intersecting with these major roadways are Urban Minor Arterial, County Collectors and City Collectors.

Based on this fact, the City utilized land use concepts currently being used in the Future Land Use Element in assigning future land use designations.

Primary Activity Centers (beyond those shown on Map No. 5) were identified at:

- State Road 7 and Southern Blvd.
- State Road 7 and Forest Hill Blvd.
- State Road 7 and Lake Worth Road
- State Road 7 and Lantana Road
- Lyons Road and Southern Blvd. (North side only)
- Lyons Road and Lake Worth Road
- Turnpike and Southern Blvd. (North side only)
- Turnpike and Lake Worth Road
- Jog Road and Southern Blvd. (North side only)
- Jog Road and Lantana Road
- Haverhill Road and Southern Blvd. (North side only)
- Haverhill Road and Forest Hill Blvd.

Military Trail and Southern Blvd.
 Military Trail and Gun Club Road
 Military Trail and Summit Blvd.
 Military Trail and Forest Hill Blvd.
 Military Trail and Purdy Lane
 Military Trail and Lantana Road

Secondary Activity Centers are:

None

These activity centers allow for commercial use at the intersections.

Stepping back from the major arterials located in the City's Future Annexation Area and the current city limits are the Residential-HD, then Residential-MD and the Residential-LD. Other City future land use categories were also incorporated in the Future Annexation Areas to meet the needs of the City residents.

In assigning future land use designations in the City's future annexation areas, approved developments in unincorporated Palm Beach County at a certain density were taken into account, as well as developed commercial property.

Assigning future land use designation to properties in the City's future annexation area will serve as a guiding tool in the planning and development of these areas.

TABLE 8
Future Land Use Classification of the Ultimate Future Annexation Area

Ultimate Annexation Area Future Land Use	Parcel Count	Acreage
CM	430	870.44
MU	65	72.38
PI	27	364.66
RO	47	2002.33
RS-HD	1922	1295.38
RS-LD	13850	8271.53
RS-MD	4109	1396.70
Total (see note)		14273.43

Note: Parcels only. Does not include right-of-way for roads and canals.
 Based on Map No. 9, Advisory Future Land Use Map.

Based on Palm Beach County's projections, the expected population in the year 2005 of the areas included in the City's Future Annexation Areas 101,133.

VII. GOALS, OBJECTIVE AND POLICIES

- A. GOAL 1: It shall be the goal of the City of Greenacres to achieve a high quality living environment by ensuring that the character and location of land use maximizes the potential for economic benefit and the enjoyment of natural and man-made resources by the citizenry while respecting the integrity of the natural environment by minimizing the threat to health, safety and welfare posed by incompatible land use and environmental degradation.

Objective 1

Development orders and permits for future development and redevelopment activities shall be issued only if public facilities necessary to meet the level of service standards are available concurrent with the impacts of the development. (CONCURRENCY)

Policy a)

The City shall adopt the levels of service standards set forth in this plan in Objective 1, Policy a) of the Infrastructure Element.

Policy b)

Higher intensities and densities of development shall be located within spheres of activity (as depicted on Map No. 5) and along major corridors where public facilities are available and land use compatibility can be achieved.

Policy c)

The development of residential and commercial land shall be timed and staged in conjunction with the provision of supporting community facilities, such as streets, utilities, public safety service and recreational facilities.

Policy d)

Future development orders and permits shall be conditioned on the following two standards:

- (1) Existing facilities and services meet established levels of service and are concurrent with the impact of development; and
- (2) Additional public facilities and services are provided to service proposed development when such facilities and services are necessary

Objective 2

The City shall continue to plan for future redevelopment and revitalization activities in targeted areas.

Policy a)

The City shall continue to implement a housing maintenance program.

- 1) Housing units within the Original Section, Villa Del Trio, Palm Beach Villas Plat 1, Lake Worth Hills and Palm Beach Villas II will be programmed for maintenance inspections.
- 2) The City shall target deficient units and schedule such units for rehabilitation.
- 3) The City shall maintain a list of substandard housing units via the inspection programs and demolish units as necessary.

Policy b)

The City will continue to provide strong code enforcement efforts in designated redevelopment areas by coordinated and consistent code enforcement.

Policy c)

The City shall adopt measures to promote redevelopment that include the potential establishment of a Transportation Concurrency Exception Area (TCEA) and/or a Corridor Master Plan for Lake Worth Road, including appropriate redevelopment densities and intensities and mix of uses.

Policy d)

In order to maximize compatibility and preserve commercial opportunity, economic vitality, and the tax base, the City shall restrict future land uses in the Lake Worth Road corridor to commercial and mixed-use designations.

Objective 3

Existing land uses which are incompatible or inconsistent with the Future Land Use Plan shall, to the extent possible, be eliminated by the year 2017.

Policy a)

The City shall work towards the reduction and eliminations of incompatible uses by strongly implementing the nonconforming sections of the City's land development regulations.

Objective 4

The City's land development and future land use regulations shall be revised to include stronger provisions for the protection of natural resources and historic properties.

Policy a)

The City of Greenacres through the 2000 Landscape Code will continue to implement water conservation methods as used in the xeriscape concept.

Policy b)

1. Through the City's adoption of the Palm Beach County Wellfield Protection Ordinance the City will continue to cooperate with the Palm Beach County Department of Environmental Protection in implementing the provisions of the ordinance.
2. All new development and redevelopment within the wellhead protection area must comply with the operational and material storage restrictions of the Palm Beach County Wellfield Protection Ordinance so as not to impact existing potable water wellheads.

Policy c)

The City's Planning and Engineering Department shall assist property owners of historically significant housing in applying for and utilizing state and federal assistance programs if any such houses are designated in the future.

Policy d)

1. By the year 1999, the City shall conduct a study to determine the historic significance of structures in the original section of the City based on age, architectural and historical significance. The structures shall be classified as having major, minor or no significance.
2. By the year 2000, the City's Land Development Regulations shall be amended to include regulations governing the exterior alterations or changes to structures of historical significance in order to protect and preserve those structures of historical significance.
3. The City of Greenacres shall work with the Palm Beach County Historic Preservation Board and the State of Florida by compiling a citywide properties listing every five (5) years.

Policy e)

The City shall protect existing and future vegetative and wildlife communities by utilizing the State of Florida and the Treasure Coast Regional Planning Council's criteria.

1. All new developments and redevelopment shall submit a written assessment of the ecological and/or environmental impact of such development.

Objective 5

The City shall continue to enforce the provisions of the Development of Regional Impact provisions of F.S. Chapter 380.06 - as applicable to various developments.

Policy a)

The City of Greenacres shall continue to work with TCRPC and DCA to ensure compliance with F.S. Chapter 380.06.

Policy b)

The City of Greenacres shall continue to work with Palm Beach County to ensure that the impacts created by development will not cause adverse effects on the health, safety and welfare of the area's residents.

Objective 6

All future development shall have adequate sewer and water hook-up capacity, and drainage, to serve the development at the City's adopted level of service.

Policy a)

No certificates of occupancy shall be issued to future developments unless the petitioner can demonstrate that he has provided the necessary water and sewer services.

Policy b)

Facilities and services must be available at the adopted level of service and must be available concurrent with the impacts of development, or development orders must be conditioned on the availability of facilities and services necessary to serve the proposed development and that facilities that provide utility service to the various land uses are authorized simultaneously with the land use approval.

Objective 7

The City of Greenacres shall use innovative land use techniques to promote flexibility of development within the City.

Policy a)

The City shall continue to utilize such development techniques as "Planned Unit Development", "Planned Commercial Development", and "Mixed-Use Development" with commercial and residential uses integrated in one project.

Policy b)

The City shall separate urban and rural land uses by designating appropriate land use densities and intensities in accordance with approved zoning districts based on compatibility with surrounding land uses.

Objective 8

Future growth and development will be managed through the preparation, adoption, implementation and enforcement of land development regulations.

Policy a)

All development will abide by the provisions of the City's Sign Code.

Policy b)

All developments shall use construction methods as outlined in various codes and ordinances that have been adopted or revised by the City and administered through the Building Department.

Policy c)

Land development regulations adopted to implement this Comprehensive Plan shall be based on and be consistent with the following standards for residential densities and commercial intensities as indicated below. Table 1 above indicates which zoning districts are compatible with each of the land use designations.

- (1) Agricultural Residential - 1.0 residential unit per two and one-half (2½) net acres;
- (2) Estate Residential - 1.0 residential unit per net acre;
- (3) Low Density Residential - 3.0 to 5.0 residential units per net acre;
- (4) Medium Density Residential - 6.0 to 7.0 residential units per net acre;
- (5) High Density Residential - 10.0 residential units per net acre;
- (6) Mobile Home Residential - 6.0 residential units per net acre;
- (7) Mixed Use Development-Residential - 5.0 residential units per net acre, or 0.20 FAR commercial
- (8) Office Professional - 25% lot coverage, 0.35 FAR;
- (9) Commercial Neighborhood - 20% lot coverage, 0.30 FAR;

- (10) Commercial General - 30% lot coverage, 0.35 FAR;
- (11) Commercial Intensive - 30% lot coverage, 0.35 FAR;
- (12) Mixed Use Development–Office, 30% lot coverage, 0.35 FAR for Professional Office Use, and 6.0 residential units per net acre for Residential Use.
- (13) Mixed Use Development-Commercial - 5.0 residential units per net acre, or 0.25 FAR commercial;
- (14) Mixed Use Development–Original Section – 20%-30% lot coverage, 0.30-0.35 FAR for Commercial and Office Uses, and 6 residential units per net acre for Residential Use.
- (15) Public/Institutional Land Use – 0.10-0.35 FAR

Land uses owned, leased or operated by government agencies, such as civic and community centers, libraries, police/fire stations and public schools. Each property so designated shall be evaluated during the site plan approval process for compatibility with adjacent land uses, service capacity availability, current and future traffic capacity, and safety, and the maximum intensity (FAR) established within the given range based on that site analysis and in accord with Zoning District Regulations.

- (16) Recreation and Open Space
 - a. **MINI-PARKS/TOT LOTS**
Typical development may include turf, trees, shrubs, irrigation, benches, trash receptacles, picnic tables, play apparatus, vehicular barriers, paved parking, or walk-ways, signage and lighting;
 - b. **NEIGHBORHOOD PARKS**
Typical facilities developed in the neighborhood park may include play apparatus, recreation buildings, multipurpose courts, sports fields, picnic areas and free play areas; and
 - c. **COMMUNITY PARKS**
Typical facilities at a community park may include ball fields, tennis courts, play areas, picnic areas, multipurpose courts, recreation buildings, sport fields and swimming pools. Adequate off-street parking may be needed to contain parking overflow.

Policy d)

The City, through its land development regulation shall require new development and redevelopment of existing areas to incorporate vehicular parking that will

provide stormwater management on premises.

Policy e)

The City shall continue to require water quality pretreatment design and construction methods on vehicular parking areas through the use of depressed swale areas and/or direct percolation. The City shall comply with the National Pollution Discharge Elimination System Program and other methods to minimize or eliminate water pollution.

Policy f)

The City shall require landscape islands within vehicular parking areas, perimeter landscape areas and landscape areas which separate each vehicular parking area.

Policy g)

The City shall continue to utilize the Institute of Transportation Engineer's Manual on safe and convenient on-site traffic flow.

Policy h)

The City shall continue to promote development that provides a mix of uses at appropriate densities and intensities, redevelopment projects, commercial revitalization projects, and projects supportive of an efficient transportation system.

Policy i)

The City shall explore the creation of a mixed use zoning district combining retail commercial space and high density residential for use at Primary Activity Spheres and along the Lake Worth Road Corridor.

Objective 9

The City will undertake a series of programmed studies to implement the components of the Future Land Use Element.

Policy a)

The City shall investigate the creation of an overlay zone that channels greater density into activity spheres and appropriate roadway corridors by 2018~~2~~.

Policy b)

The City will undertake a study that devises strategies for increasing the supply of single-family housing in the City.

Policy c)

The City will utilize its vacant land inventory to make recommendations on the future use of vacant site-specific land in the City.

Policy d)

The City will complete a land use ratio study that will determine the proper allocations of land use within the City.

Objective 10

The City of Greenacres shall regulate and control all future land use activities which affect the topography, materials beneath the land's surface and availability of services by implementing the following policies:

Policy a)

Future land use decisions, in part, shall be based on topography limitations as contained in the Comprehensive Plan and the Land Development Regulations.

Policy b)

The City will continue to coordinate the maintenance of publicly and privately owned areas with rare and unique natural features.

Policy c)

A written analysis reporting on soil suitability shall be required for the evaluation of all new development activities which are undertaken in the City.

Policy d)

Should existing land areas or future land areas via annexation experience seasonal or periodic flooding, those areas shall be designated on the map series along with the development of a public informational pamphlet on building within flood areas.

Policy e)

In reviewing future land use amendments in the City's Future Annexation Area, the City will utilize the Advisory Future Land Use Map (Map 9) as the basis for the assignment of future land use designations as well as consideration of the goals, objectives and policies contained in this Element and an analysis of the proposal's compatibility with adjacent uses in order to determine the appropriate designation.

Objective 11

The City shall discourage the proliferation of urban sprawl by following established land use patterns, promoting appropriate infill and designating future land use densities based upon levels of services and the availability of services and facilities.

Policy a)

Urban Sprawl will be discouraged by permitting only development that is consistent and compatible with the established land use pattern. Consistent and compatible with the established land use pattern shall mean:

- (1) Only uses permitted within the plan's land use designation and the implementing zoning district shall be approved.
- (2) Only development within the designated density range and intensity regulations of the implementing zoning district will be approved.
- (3) Adequate facilities and services shall be available and concurrent to accommodate the proposed development.

Policy b)

Infill development shall be promoted within existing areas to discourage the harmful effects of leap frog development.

Policy c)

Future timing of appropriate land use densities and intensities will be determined by the established levels of services and the availability of services and facilities to meet the established levels.

Policy d)

The City will continue to utilize the nodal system (Section VI A.1 and A.2 of the Future Land Use Element) in conjunction with Map 5 to designate Future Land Uses in activity spheres and infill corridors.

Objective 12

The City will ensure that future developers set aside and provide suitable land areas for the provision of those utility services and facilities necessary to support the proposed developments.

Policy a)

Through the City's site and development plan review process, developers will be required to accomplish the following:

- (1) Set aside areas for the provision of urban services and facilities within the

developed area as determined by the City and/or the appropriate service provider.

- (2) Provide written documentation from the service provider that the adequate capacity for service provision is available to service the site.

Policy b)

The City shall encourage through reasonable standards that adequate and reliable electric infrastructure is available for development and redevelopment. Electric infrastructure should be constructed, to the maximum extent practicable, to achieve compatibility with adjacent and surrounding land uses. By 2018, the City shall modify the Land Development Regulations to include criteria to ensure that there is a balance between the need for electricity and land use compatibility.

Objective 13

The City shall enhance public educational opportunities within the City by facilitating the siting and construction of future schools.

Policy a)

Schools shall be allowed in all Residential (RS-LD, RS-MD, and RS-HD) and Public Institutional (PI) future land use categories.

Policy b)

The City shall enter into an interlocal agreement with the Palm Beach County School Board to provide for an expedited development review process for public schools.

Policy c)

The City shall continue to coordinate with the Palm Beach County School Board concerning potential development applications which may adversely impact local school-age enrollment levels.

Policy d)

The City shall seek to co-locate public facilities, such as parks, libraries, and community centers, with public schools to the maximum extent possible.

VIII. SUPPORTING STUDIES

A. RECOMMENDED IMPLEMENTATION STUDIES

Since the adoption of this Plan several supporting studies were undertaken to refine and implement the broad concepts outlined within this Plan Element. There are still

other studies to be completed. The following studies which have assisted or will assist in implementing the land use component of this Plan are described below.

1. Neighborhood Planning Areas

A neighborhood can be defined as a "geographic area whose boundaries are determined for the purposes of preparing a plan for the people who live, work, or have an interest in the area."

The Neighborhood Planning Area approach can be used to inventory areas on a "micro" scale and refine land use planning for designated areas or a specific sector such as an activity sphere. Furthering the neighborhood planning area approach provides this micro analysis for planning and in essence the opportunity to create area strategies for land use implementation.

2. The Land Use Ratio Study

The implementation effort will seek to research and determine two seemingly simple and related land use questions. How much land do we need for residential, commercial, roadways etc. and how do we project these figures for future land use needs? Empirical evidence indicates that land use ratios vary per city with a number of factors accounting for the variance. This study to be conducted by the City in 1991 will be based upon existing and future land use patterns which synthesizes the amounts of land area needed to accommodate land use.

3. Vacant Land Inventory

This will be a yearly report that maintains a current listing of site specific vacant land parcels and an accompanying set of land use recommendations for each parcel based upon the future land use plan.

4. Land Use Coding Classification System

This analysis will develop a manual for coding land use based upon characteristics inherent in the City's overall land use patterns. Said manual derived from the Standard Industrial Classification Manual would be utilized to code all land uses in the City for database management. The work efforts above in concert with other programmed actions throughout this Plan will serve to enhance planning endeavors and ensure a continuing process that will provide proper growth management for the City.

IX. NOTES

1. The City of Greenacres "Zoning Ordinance Chapter 32", Article II, Section 32-3, Definitions - Number (58A).
2. ~~Florida Department of Community Affairs Chapter 9J5, FAC, 9J5.002 Definitions.~~

- 32. Chapter 163 of Florida Statutes
- 43. Arnold Whiltich, Editor in Chief. Encyclopedia of Urban Planning (1st edition; New York): McGraw Hill, 1974), pg.644.
- 54. Joel T. Werth and David Bryant, A Guide to Neighborhood Planning, Report 342 Planning Advisory Service. (Chicago: American Planning Association, 1979), p.1.
- 65. Gregory Longhini and Michael Sutton, Land Use Ratios, PAS Memo (Chicago: American Planning Association: May 1983) p.1.
- 76. Palm Beach County Future Land Use Element
- 87. Town of Lantana, Future Land Use Element

REVISION HISTORY

March 16, 1998	Ord. 97-09
July 19, 1999	Ord. 99-09
December 6, 1999	Ord. 99-16
May 6, 2002	Ord. 2001-21
January 6, 2003	Ord. 2002-19
September 15, 2008	Ord. 2008-03

CITY OF GREENACRES COMPREHENSIVE PLAN

**INTERGOVERNMENTAL COORDINATION
ELEMENT**

~~September 2008~~ August 2016
Amendments resulting from the ~~2006~~ 2015 EAR

CONTENTS

SECTION	PAGE
I. INTRODUCTION	5
A. PURPOSE OF ELEMENT	5
B. HISTORY OF INTERGOVERNMENTAL AGREEMENTS	5
II. DEFINITION OF RELEVANT TERMS	6
III. INVENTORY OF AGENCIES AND GOVERNING BODIES	7
A. COUNTY AGENCIES AND OTHER ENTITIES	7
1. Public Library System	
2. Palm Beach County Health Dept.	
3. Palm Beach County Solid Waste Authority	
4. Palm Beach County Fire Rescue Dept.	
5. Palm Beach County Emergency Management	
6. Palm Beach County Division of Housing and Community Development	
7. Palm Beach County School Board	
8. Palm Beach County Property Appraisers Office	
9. Palm Beach County Housing Authority	
10. Palm Beach County Dept. of Engineering and Public Works	
11. Palm Beach County Water Utilities Dept.	
a) Wastewater	
b) Potable Water	
12. Palm Beach County Sheriff's Dept.	
13. Palm Beach County Planning, Zoning & Building	
14. Palm Beach County Transportation Authority	
15. Palm Beach County Metropolitan Planning Organization	
16. Veolia Environmental Services Solid Waste Services, Inc. d/b/a Onyx Waste Services SE, Inc.	
17. Lake Worth Drainage District	
18. Village of Palm Springs	
B. REGIONAL AND STATE AGENCIES	13
1. Treasure Coast Regional Planning Council	
2. South East Florida Transportation Council	
3. South Florida Water Management District	
4. Florida Power and Light Co.	
5. AT&T	
6. Florida Public Utilities Co.	

7. Cable Television
8. Florida Department of ~~Economic Opportunity~~Community Affairs
9. Florida Department of Transportation
10. Florida Department of Environmental Protection
11. Florida Department of State

IV.	ANALYSIS	17
	A. COMPREHENSIVE PLANNING ACTIVITIES	17
	B. LAND USE	17
	1. Treasure Coast Regional Planning Council	
	2. Palm Beach County Planning, Zoning and Building Dept.	
	3. Annexation	
	C. ROADWAY IMPROVEMENTS	18
	D. LIBRARY SERVICES	18
	E. SANITARY SEWER	18
	F. POTABLE WATER	18
	G. SOLID WASTE	19
	H. PUBLIC SAFETY	19
	I. EMERGENCY MANAGEMENT	20
	J. HOUSING	20
	K. EDUCATION	20
	L. PROPERTY APPRAISAL	21
	M. TAX COLLECTION	21
	N. ELECTION SUPERVISION	21
	O. FRANCHISES	21
	1. Electric	
	2. Telecommunications	
	3. Natural Gas	
	4. Cable Television	

P.	TREASURE COAST STRATEGIC REGIONAL POLICY PLAN	22
V.	PLAN FOR INTERGOVERNMENTAL COORDINATION	24
A.	INTERGOVERNMENTAL COORDINATION APPROACH	24
B	OPEN & EFFECTIVE COMMUNICATION	24
1.	Coordinate Intergovernmental Meetings	
2.	Resource Sharing	
C.	PUBLIC PARTICIPATION PROCEDURES	24
1.	Formal	
2.	Informal	
D.	MONITORING AND EVALUATION	25
VI.	GOALS, OBJECTIVES AND POLICIES	26
VII.	NOTES	32

LIST OF MAPS

NO.	TITLE	PAGE
1.	Polling Precincts	23

I. INTRODUCTION

A. PURPOSE OF ELEMENT

The Local Government Comprehensive Planning Act of 1985 ~~and 9J5.015~~ requires that the various comprehensive plans within the State of Florida be coordinated between the state and various public agencies. This coordination would minimize incompatible endeavors, and promote cooperation and efficiency. The Act requires each comprehensive plan to include a formal Intergovernmental Coordination Element, or chapter.

It is the purpose of the Intergovernmental Coordination Element to "identify and resolve incompatible goals, objectives, policies and development proposed in local government comprehensive plans and to determine and respond to the needs for coordination processes and procedures" with Palm Beach County, adjacent municipalities and various quasi public, private, regional and state agencies which provide services to the City of Greenacres residents.

This Element describes current intergovernmental agreements between the City of Greenacres and other governmental and quasi-public/private agencies. The effectiveness of these agreements will be analyzed to determine whether or not the existing agreements should be retained or strengthened, and whether or not the City should enter into any new agreements. Furthermore, the element establishes the principles and guidelines which the City of Greenacres will use to coordinate services provided by agencies not under the City's control, however, provide services to the City's residents.

B. HISTORY OF INTERGOVERNMENTAL AGREEMENTS

The history of Intergovernmental agreements between the City of Greenacres and other entities can be traced back to October 11, 1946 when the City of Greenacres granted a franchise to Florida Power and Light Company to provide electrical service to City residents. On December 13, 1956, the City authorized its first garbage collection franchise to Rural Trash Disposal, Inc. In September 1961, the City granted its first natural gas franchise to H.B.H. Corporation. This agreement allowed H.B.H. Corporation to distribute and sell propane and natural gas within the town's limits. The first formal agreement that the City signed with another government was on February 10, 1964. The City passed Resolution No. 81 which authorized Palm Beach County to act on behalf of and represent the City in the development of a transportation plan for Palm Beach County.

Since then, the City of Greenacres has had numerous agreements with other governments and service providers. The subject areas of these agreements include land use, transportation, library services, sewer and water service, public facilities improvements, housing; police, fire and medical services; solid waste disposal, civil defense, taxation, education, electricity, telephone and telegraph service, natural gas and

cable television and computer related resources (e.g. property appraiser's database, geographical information systems).

II. DEFINITION OF RELEVANT TERMS

- A. CITY - is defined as the City of Greenacres, Florida.
- B. CITY COUNCIL - is defined as the legislative body composed of members elected at large and is the principal policy making body for the City of Greenacres.
- C. CONSISTENCY - is defined as the City of Greenacres Comprehensive Plan being consistent with and "compatible with" the State Comprehensive Plan and Treasure Coast Regional Policy Plan. The term "compatible with" means that the Greenacres City Comprehensive Plan is not in conflict with the State Comprehensive Plan or Treasure Coast Regional Policy Plan.
- D. DEVELOPMENT OF REGIONAL IMPACT (DRI) - is defined as any development which because of its character, magnitude, or location, would have a substantial effect upon the health, safety, or welfare of citizens of more than one county.
- E. GOVERNMENTAL AGENCY - is defined as:
 - a) The United States or any department, commission, agency or other instrumentality thereof.
 - b) The State of Florida or any department, commission, agency, or other instrumentality thereof.
 - c) Any local government or any department, commission, agency or other instrumentality thereof.
 - d) Any school board or other special district, authority, or governmental entity.
- F. INTERLOCAL AGREEMENT - Permits local governmental units to make the most efficient use of their powers by enabling them to cooperate with other localities on a basis of mutual advantage and thereby provide services and facilities in a manner pursuant to forms of governmental organization that will accord best with geographic, economic, population and other factors influencing the needs and development of local communities.
- G. INTERJURISDICTIONAL INCOMPATIBILITY - is defined as an implementation of a local plan which could impact another local government and which:
 - a) creates a potential unplanned financial burden on one or more local governmental entities; or
 - b) creates potential incompatible land use density or intensity adjacent to one or more local government entities; or
 - c) creates an excess demand on the infrastructure or natural resources of one or

more local governmental entities. (See Annexation Element -Definitions)

III. INVENTORY OF AGENCIES AND GOVERNING BODIES – INTERGOVERNMENTAL COORDINATION

Many formal and informal networks of information and coordination currently exist between the City of Greenacres and other governmental units and agencies. These units and agencies often participate in some phase of planning involving land use and/or provision of services necessitating coordination with the City.

The following is a listing of all local, regional, and State governmental units or agencies identified as interacting with the City. Many of these are multifunctional with continually changing responsibilities. More detailed information concerning their functions, responsibilities and programs may be obtained by contacting the organizations directly.

A. COUNTY AGENCIES AND OTHER ENTITIES

1. Public Library System

On April 12, 1982, the City of Greenacres passed Resolution No. 82-08 authorizing the execution of an agreement between the City of Greenacres and the Palm Beach County Library Special Taxing District for the consolidation of library services.

Resolution No. 82-13 authorized the City of Greenacres to enter into the "Palm Beach County Public Library System" effective October 1, 1982. The City Manager's Office has the primary responsibility for monitoring this relationship.

2. Palm Beach County Health Dept.

Responsibility:

The Palm Beach County Health Department enforces waterwell and septic tank regulations.

Coordination Effort:

The City's Building Department has the primary responsibility for monitoring these issues.

3. Palm Beach County Solid Waste Authority - (SWA)

Responsibility:

Responsible for planning and management of solid waste facilities which service the City.

Duties:

Processing permit applications for new facilities and ensuring that existing facilities are operated in conformance with permit requirements and in compliance with water quality objectives.

Coordination Effort:

The City's Department of Public Works monitors intergovernmental actions.

4. Palm Beach County Fire-Rescue Department.

The City's Public Safety Department has the primary responsibility for all intergovernmental coordination regarding police, fire and emergency medical services. The City has made verbal agreements with the Fire Rescue Department of Palm Beach County to have the City's Public Safety personnel cross-trained as Fire Scene Commanders.

On February 1, 1982, the City of Greenacres signed a mutual aid agreement with Palm Beach County authorizing the City's participation in the 911 Emergency Telephone Number System Plan operated by Palm Beach County.

5. Palm Beach County Emergency Management

Responsibility:

Palm Beach County Emergency Management Division is responsible for coordinating emergency management functions with the State and all municipalities in the County..

Coordination Effort:

The City Manager's Office is charged with the responsibility of coordinating all Emergency Management activities.

6. Palm Beach County Division of Housing and Community Development (HCD)

Responsibility:

To participate in the Community Development Block Grant program and to undertake housing and community development activities within the City

Coordination Effort:

The City of Greenacres Planning and Engineering Department monitors these

agreements.

This interlocal agreement was signed on October 27, 1987, and has been renewed a number of times since then.

7. Palm Beach County School Board

Coordination Effort:

The City has signed several agreements with the School Board outlining details of shared use of facilities either in or adjacent to the City of Greenacres. These agreements allow for the maximum use of facilities to aid the residents within the community. The Planning Department of the School Board reviews proposed new residential development to determine the impact, if any, on the schools in the surrounding area. The City Manager's Office, the Planning and Engineering Department, and the Leisure Services Department are responsible for the coordination with the School Board.

8. Palm Beach County Property Appraisers Office

Responsibility:

Jurisdictional authority over property appraisal matters.

Duties:

The Property Appraisers Office determines the taxable value of property within the City for Ad Valorem taxation purposes.

Coordination Effort:

The City's Finance Department has primary responsibility for coordination.

9. Palm Beach County Housing Authority

Responsibility:

Administers the Section 8 Rent Subsidy Program for the U.S. Department of Housing and Urban Development (HUD).

Coordination Effort:

There are several housing units within the City benefiting from the Section 8 program.

10. Palm Beach County Department of Engineering and Public Works

Responsibility:

The maintenance of County and State roads within the City.

Duties:

Improvements to County and State roadways are based on a 5-year Roadway Improvements Plan, which are subject to County Commission approval.

Coordination Effort:

The City's Public Works Department monitors the maintenance process of State and County roadways within the City. The City's Planning and Engineering Department monitors the roadway improvement process within the City and comments as necessary. The City collects roadway impact fees which are used by the County to improve both county and state roadways within zones which encompass the City.

On July 18, 1983, the City of Greenacres passed Ordinance 83-34 which adopted Palm Beach County's "Fair Share" Contribution for Road Improvements Ordinance (P.B.C. Ordinance 81-4 updated and amended by Ordinance 85-3) which provides for collection of a fee for construction of new roads within Palm Beach County's jurisdiction.

The County's ordinance requires that all fair share fees are used exclusively within the zone, established within the ordinance, in which the development is located. The City is located within zones #2 (North of Lake Worth Road) and #4 (South of Lake Worth Road). Thus, all monies collected for roadway improvements must be used within these zones.

11. Palm Beach County Water Utilities Department (PBCWUD)

a) Wastewater

On January 22, 1979, the City of Greenacres approved Resolution 79-03 which indicates the City's acceptance of and participation in the Palm Beach County "208 Waste Treatment Plan," which created a regional wastewater system. The City is now a user of the East Central Regional Wastewater Treatment System and in conjunction with the County, provides for the collection and transmission of the City's wastewater.

b) Potable Water

Responsibility:

Provides potable water to unincorporated Palm Beach County and the City of Greenacres.

Coordination Effort:

The City's Planning and Engineering Department monitors and coordinates water and wastewater treatment efforts for the City, and requires that the PBCWUD comment on providing service to new developments.

12. Palm Beach County Sheriff's Department

Coordination Effort:

The City of Greenacres has a detention center, as recognized by the State Department of Corrections, for persons charged with crimes committed within the City. The City is allowed to hold a person, charged with a crime, in the detention center for a maximum of six hours. Any detention after the six-hour period would require a transfer of the accused to the County Correctional Facility.

Additional cooperation exists between the City and Palm Beach County Sheriffs Department to allow the cross training of Greenacres Public Safety personnel for crime lab training. The City's Public Safety Department has the primary responsibility for coordination of these agreements.

13. Palm Beach County Planning, Zoning and Building Department

Duties:

Informs the City on all adjacent proposed zoning requests, development order requests and comprehensive plan amendments.

Coordination Effort:

The City of Greenacres' Planning and Engineering Department coordinates their annexation efforts with the County's Planning Division.

14. Palm Beach County Transportation Authority (PALM TRAN)

Responsibility:

Provides bus service to residents, including disabled and handicapped residents.

Coordination Effort:

Palm Tran expanded its bus routes in 1996, and has made regular adjustments since then. The bus operations within the City of Greenacres are coordinated through the City Manager's office. The eight (8) Palm Tran routes that serve the City of Greenacres are #3, #4, #5, #46, #60, #61, #62 and #64.

15. Palm Beach County Metropolitan Planning Organization (MPO)

Responsibility:

Direct how and where available State and Federal dollars for transportation improvements will be spent through liaison between local communities, their citizens, and the Florida Department of Transportation and through transportation planning and programming.

Coordination Effort:

The City of Greenacres' Planning and Engineering Department coordinates transportation planning with the MPO and provides data to the MPO as requested.

16. Veolia Environmental Services Solid Waste Services, Inc. d/b/a Onyx Waste Services SE, Inc.

Responsibility:

The City contracts with Veolia Environmental Services Solid Waste Services, Inc. d/b/a Onyx Waste Services SE, Inc. to provide sanitation collection within the City. The Department of Public Works has primary responsibility for coordination of the collection of solid waste in the City.

Coordination Effort:

On October 1, 2006, Veolia Environmental Services Solid Waste Services, Inc. d/b/a Onyx Waste Services SE, Inc. was granted the right to provide sanitation collection services within the City, through Ordinances 2006-23 and 2006-26.

This franchise will remain in effect until September 30, 2011.

17. Lake Worth Drainage District (LWDD)

Responsibility:

The operation and maintenance of the District's drainage canals within the City of Greenacres.

Coordination Effort:

The City maintains an informal working relationship with the LWDD. The Planning and Engineering Department is responsible for the coordination of drainage issues with the various drainage agencies, including the Lake Worth Drainage District.

18. Village of Palm Springs

Coordination Effort:

Resolution 79-09 establishes a mutual police protection pact with the Village of Palm Springs. The Public Safety Department has the primary responsibility for all intergovernmental coordination regarding police matters.

B. REGIONAL AND STATE AGENCIES

A complete list of all regional and State agencies which require some form of coordination with the City of Greenacres are detailed below. The relationships of these agencies with the City are described in greater detail in the analysis section of this element.

1. Treasure Coast Regional Planning Council (TCRPC)

Duties:

The regional planning agency for Indian River, St. Lucie, Martin and Palm Beach Counties coordinates with the City regarding the Treasure Coast Strategic Regional Policy Plan. This plan is the long-range guide for physical, economic, and social development of the region.

Coordination Effort:

The City of Greenacres continues to maintain a working relationship with the Treasure Coast Regional Planning Council and the Palm Beach County Planning, Zoning and Building Department in implementing developmental control over the use of land, within and near the City's boundaries. The City has primary responsibility for coordination of these development issues with the TCRPC. In reviewing amendments to the City's Comprehensive Plan, the Planning and Engineering Department staff tries to ensure compliance with regional policies as much as possible.

2. South East Florida Transportation Council (SEFTC)

Responsibility:

To serve as a formal forum for policy coordination and communication between the MPO's from Broward, Miami-Dade, and Palm Beach Counties regarding regional long range transportation planning, regional project prioritization, regional public involvement, and performance measures for effectiveness of regional coordination.

Coordination Effort:

The City of Greenacres' Planning and Engineering Department coordinates transportation, planning with the SEFTC and provides data to the SEFTC as requested.

3. South Florida Water Management District (SFWMD)

Responsibility:

The agency responsible for the management of water resources.

Duties:

Permits under SFWMD control include consumptive use of water, well construction, surface water management construction, surface water management (drainage) systems and artificial recharge.

Regulates potable water, supplied to the City through Palm Beach County Utilities Department. Regulates the amount of "raw" water withdrawn from natural sources through its permitting process and the Lower East Coast Water Supply Plan.

Coordination Effort:

The City has had an intergovernmental agreement regarding issuance of surface water management permits with SFWMD since December 27, 1976. SFWMD provides the City with comments related to water supply, storm water disposal and wastewater treatment and disposal. The responsibility for implementation and coordination of the petition review process, and water supply issues is that of the City's Planning and Engineering Department.

On August 19, 1985, the City of Greenacres adopted Ordinance No. 85-27 authorizing SFWMD to implement its water shortage plan to impose water restrictions on City residents during periods of drought. The City of Greenacres Building Department and Public Safety Department have the responsibility of enforcing this plan when a water shortage has been declared.

4. Florida Power and Light Company (FP&L)

Coordination Effort:

The City contracts with FPL to provide public street lighting. The Department of Public Works monitors this arrangement.

On February 6, 2006, through Ordinance 2006-03, Florida Power and Light Company was granted the right to operate an electrical/power franchise within the City. This franchise will remain in effect for 30 years.

5. AT&T

Coordination Effort:

In 1999, the contract granted to Southern Bell (now known as AT&T) to construct, maintain and operate telephone and telegraph within the City of Greenacres was "Null and Void" due to government regulations eliminating the City's ability to collect taxes on phone service.

6. Florida Public Utilities Company

Coordination Effort:

The City contracts with the Florida Public Utilities Company to provide natural gas. The Department of Public Works monitors this arrangement.

On July 1, 2005, through Ordinance 2005-17, Florida Public Utilities Company was granted the right to operate a natural gas franchise within the City. This franchise will remain in effect for 30 years.

7. Cable Television

Coordination Effort:

The City of Greenacres is serviced by Comcast Cable. The City of Greenacres City Manager's Office is responsible for monitoring of the franchises.

8. Florida Department of ~~Community Affairs~~ Economic Opportunity (DEO CA)

Responsibility:

The state agency that regulates land planning.

Duties:

Responsible for implementation of the Local Government Comprehensive Planning and Land Development Regulation Act.

Coordination Effort:

The City of Greenacres is working with DEO CA in developing an updated Comprehensive Plan for the City. The City coordinates with DEO CA through the process of amending the current 1989 Comprehensive Plan. The City of Greenacres Planning and Engineering has primary responsibility in coordinating these planning efforts with DEO CA.

9. Florida Department of Transportation (FDOT)

Responsibility:

The state transportation agency is responsible for the planning, design, construction and maintenance of the State's roadways.

Coordination Effort:

The Planning and Engineering Department monitors these actions within the City.

10. Florida Department of Environmental Protection (FDEP)

Coordination Effort:

City applications through the Florida Recreation Development Assistance Program (FRDAP), requesting grant funding for various projects, serves as the coordination between DNR FDEP and the City.

The purpose of FRDAP is to acquire or develop land for public outdoor recreation purposes. The program is designed to maximize the outdoor recreation benefit to the public through projects, which implement the State's Comprehensive Outdoor Recreation Plan (SCORP). The Planning and Engineering Department coordinates and monitors these grants.

11. Florida Department of State (DOS)

Responsibility:

The Florida Department of State administers State grants in aid assistance for historic preservation projects through the Division of Historical Resources.

Coordination Effort:

The Planning and Engineering Department continues to monitor for areas of significant historic importance in the City.

IV. ANALYSIS

A. COMPREHENSIVE PLANNING ACTIVITIES

The City of Greenacres Planning and Engineering Department has been entrusted with the responsibility of overseeing development regulations and developing and maintaining the City's Comprehensive Plan.

The City's Comprehensive Plan provides the guidelines to ensure land use compatibility and that the required infrastructure and public services are planned for and provided at the time of development.

B. LAND USE

1. Treasure Coast Regional Planning Council (TCRPC)

The City's relationship with TCRPC has been beneficial. The Council has provided City staff with technical expertise and information when requested. The City also receives notification on petitions, such as Comprehensive Plan amendments which directly affect the City or are submitted by the City for Council review. The City along with TCRPC and the County, continue to monitor the River Bridge DRI.

2. Palm Beach County Planning, Zoning and Building Department (PZ&B)

The City's relationship with the PZ&B remains consistent. Through the interlocal agreement process, the City has been notified of development applications in the County that are within the City of Greenacres future annexation area. The City informs PZ&B of City initiated and voluntary annexations and changes to the Comprehensive Plan for review and comment.

The City's staff coordinates with PZ&B for information on population and housing statistics and changes to county maintained roadways. The City provides the county with development approvals within the City, and other statistical information as requested.

3. Annexation

Since the adoption of the City's 1989 Comprehensive Plan, the City has been active in expanding its boundaries. The City is a member of the Intergovernmental Plan Amendment Review Committee with adjacent cities Palm Springs, Atlantis, the Village of Wellington (incorporated in 1996), and Palm Beach County. Through intergovernmental coordination, the County and

adjacent municipalities notify each other regarding changes to the Future Land Use, Annexations, and Development of Regional Impact (DRI) which affect the future annexation area of a municipality.

C. ROADWAY IMPROVEMENTS

The City of Greenacres will continue its successful coordination with Palm Beach County under the direction of the County's "Fair Share Contribution for Road Improvements Ordinance." Residential and commercial developers have been very cooperative in paying the necessary road impact fees.

In regards to special traffic concerns, the Palm Beach County Department of Public Works furnishes traffic counts when requested. The County's Department of Engineering and Public Works resolves problems on roadways that they maintain.

D. LIBRARY SERVICES

The City of Greenacres Library was opened in 1996. The 17,000 sq.ft. library, located on the southeast corner of Jog Rd. and Dodd Rd., is a branch of the Palm Beach County Library System.

E. SANITARY SEWER

There are no reported problems with existing sewer service as provided by the Palm Beach County Water Utilities Department. All new development within The City of Greenacres must connect to the Palm Beach County Sewer System.

F. POTABLE WATER

There have been no major problems with Palm Beach County Water Utilities Department concerning the transmission and distribution of potable water to those developments currently served by the County's system.

South Florida Water Management District (SFWMD)

(SFWMD) provides technical assistance and allows for comments on development petitions related to water supply, stormwater disposal, wastewater treatment and disposal.

Lake Worth Drainage District (LWDD)

The City's relationship with Lake Worth Drainage District (LWDD) has been very cooperative over the years. The LWDD provides technical assistance for the City for development proposals that may affect an existing canal.

Wellfield Protection Ordinance

Administered by the County's Department of Environmental Resources, the ordinance was enacted in February 1988, with the most recent amendment to the Unified Land Development Code and the Wellfield Protection Ordinance [Article 14.B. (Wellfield Protection)] dated December 4, 2003. City staff has been in contact with this department and will cooperate with the County on regulation of uses within the City to protect the groundwater aquifer.

G. SOLID WASTE

The major goal of the Solid Waste Authority (SWA) is to provide for the safe and sanitary processing and disposal of solid waste within Palm Beach County. Efficient disposal of solid waste within the City has been maintained. The City has no direct input in the SWA process. Decisions are made at the County level. Therefore, the intergovernmental arrangement between the City of Greenacres and SWA has been satisfactory.

Local Garbage Collection

There have been no outstanding problems with the City's garbage collection and recycling franchise, Veolia Environmental Services Solid Waste Services, Inc. d/b/a Onyx Waste Services SE, Inc.

Onyx has a contract with the City of Greenacres to handle the local garbage collection within the City. For residential developments, fees are charged to the residents for the collection of garbage and recyclable material. The Finance Department charges and collects the fee. For new developments, Onyx is consulted by the Public Works Department for approval of the dumpster(s) and the location of the dumpster(s) on the development's proposed site plan.

H. PUBLIC SAFETY

Agreements with Palm Beach County and Palm Springs have been very beneficial for the City.

The mutual aid agreements covering police protection, fire protection, and emergency medical services all have been very effective.

Palm Beach County Sheriff's Department and Palm Beach County Fire-Rescue Department

Through the coordination of the Sheriff's Department and Palm Beach County Fire Rescue with the City of Greenacres Public Safety Department, Public Safety has been able to cross-train with these departments enabling it to obtain the technical expertise in areas where it is needed.

Palm Beach County Emergency Medical Services (EMS)

The Public Safety Department has worked with Palm Beach County Division of Emergency Medical Services in receiving funds from the County EMS Awards Program. The Department has been able to improve and expand EMS services.

I. EMERGENCY MANAGEMENT

The City has continued to coordinate emergency management activities with Palm Beach County.

J. HOUSING

The City's relationship with Palm Beach County Department of Housing and Community Development (HCD) has been supportive. HCD'S staff as requested has provided information to the City. In addition, over the years, several residents have been provided with low income housing assistance.

Community Development Block Grant Program (CDBG)

The City of Greenacres will continue to request CDBG funding through Palm Beach County's HCD. The City has in the past applied for and received funding for infrastructure improvement and housing demolition. Improvements in the City's "Original Section" have benefited from CDBG funding.

K. EDUCATION

Joint Use of School Sites

The City of Greenacres and the School Board of Palm Beach County have coordinated to develop the joint use of Public Schools in the City. The City and School Board entered into a contract to allow City residents to use the facilities of John I. Leonard for recreational purposes (e.g. use of the recreational facilities after school). A joint use agreement is in place for Community Park and Liberty Park Elementary School. Both sites share a common field and use of recreational facilities provided by the school and the Park. There is also a joint use agreement for Okeeheelee Middle School and Greenacres Freedom Park.

Review of Development Petitions

In accord with the Interlocal Agreement on School Concurrency, the Planning Department of the School Board reviews proposed residential developments, and expansions to existing residential developments to determine the impact toward schools in the area and to verify that school capacity is available. Comments from this department aid City staff in the review process of the proposed developments.

L. PROPERTY APPRAISAL

There have been no coordination problems between the Palm Beach County Property Appraiser's Office and the City of Greenacres. The Property Appraiser's Office provides the City with yearly updates of the City's tax roll. Corresponding tax maps are also provided free of charge annually. The City has a connection with the property appraiser's database of properties in Palm Beach County. This Connection aids the City staff to quickly identify key information on properties in the City and within the Future Annexation Area.

M. TAX COLLECTION

The coordination between the Palm Beach County Tax Collector's Office and the City has been favorable. The areas of mutual interest between the City and the Tax Collector's Office have been in current and delinquent real estate taxes and in the issuance of business tax receipts (formerly called occupational licenses).

N. ELECTION SUPERVISION

The adoption of Palm Beach County's registration system has been very beneficial to the residents and staff of the City of Greenacres. At present, the City is divided into a number of precincts. These precincts and their polling location are outlined on Map No. 1.

O. FRANCHISES

1. Electric

Florida Power and Light Company has provided effective electric service to the City and its residents since the franchise was initially granted in 1946. The City maintains a good rapport with the Company.

2. Telephone

AT&T has maintained a cooperative working relationship with the City in providing telephone service to all residents.

3. Natural Gas

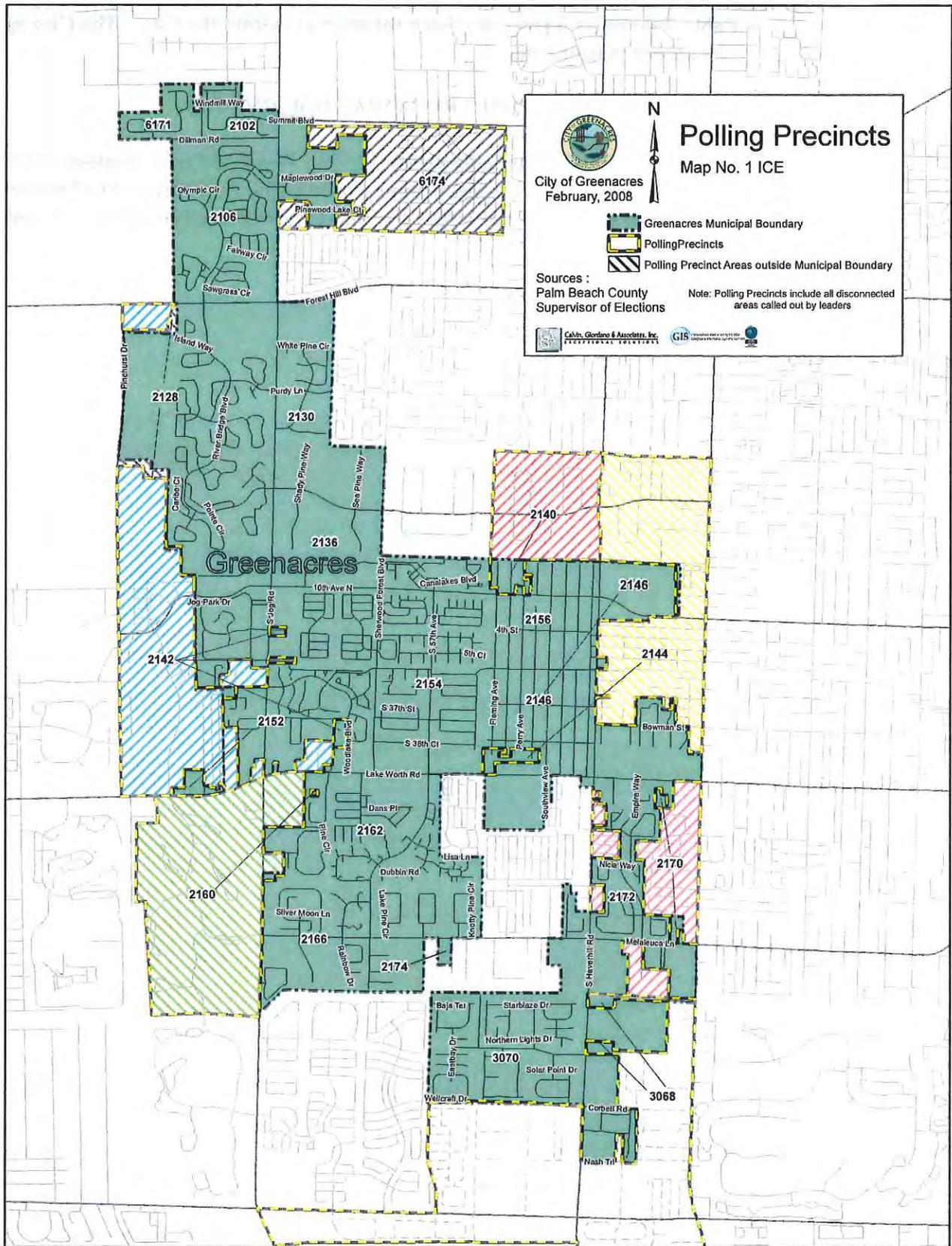
Florida Public Utilities continues to comply with the regulations established for the franchise.

4. Cable Television

Cable Television service has been satisfactory within the City. The City cannot set cable television rates.

P. TREASURE COAST STRATEGIC REGIONAL POLICY PLAN

City staff has made appropriate comparisons to the Treasure Coast Strategic Regional Policy Plan to determine if additional planning coordination is needed. Staff meets with T.C.R.P.C. staff to determine the issues that the City will need to address in order to ensure consistency.



V. PLAN FOR INTERGOVERNMENTAL COORDINATION

A. INTERGOVERNMENTAL COORDINATION APPROACH

Chapter 163 F.S. states in section 163.3177 (H) that "this element of the local comprehensive plan must demonstrate consideration of the particular effects of the local plan, when adopted, upon the development of adjacent municipalities, the county, adjacent counties, or the region, and upon the state comprehensive plan."

To accomplish the aforementioned state statute requirement above, it becomes incumbent upon the City to establish the greatest degree of coordination efforts possible with other intergovernmental entities. The City will attempt to protect and enhance intergovernmental coordination efforts by implementing a variety of measures described in detail below.

B. OPEN AND EFFECTIVE COMMUNICATION

1. Coordinate Intergovernmental Meetings

When considered appropriate, the City of Greenacres staff will seek meetings between elected officials to discuss ideas and issues pertaining to coordination between staff and the elected officials.

2. Resource Sharing

The City of Greenacres will examine the feasibility of sharing resources with other governmental entities. Resources may be in the form of information, manpower or machinery. Local governments do request information from other municipalities for comparisons for items such as fees and zoning code regulations. The City typically surveys adjacent and similarly sized cities, and Palm Beach County, when setting development review fees and revising the City's Zoning Code.

C. PUBLIC PARTICIPATION PROCEDURES

Rule 9J-5.004 calls for the establishment of public participation procedures that provide and encourage public input and involvement during the planning process. The City of Greenacres intends to comply with this provision by incorporating a formal and informal process to encourage public participation.

1. Formal

Through use of an advertisement in a newspaper of general circulation, the City notifies real property owners of all events dealing with the formation of the Comprehensive Plan.

Planning Hearing Notification

For new developments or amendments to existing site plans that require a public hearing(s), the City is required by Florida State Statutes to notify affected property owners. The City of Greenacres adheres to a mailing radius of 300' of the subject site to all property owners and notification in a newspaper of local circulation.

2. Informal

As a key supplement to the formal process, the City will also implement the following activities:

- a) post a notice of upcoming events and meetings on the City Hall bulletin board;
- b) provide news releases for additional media coverage;
- c) hold periodic press sessions for public awareness;
- d) have written public comment forms available in the City Hall reception area;
- e) provide written notice or agendas for future meetings;
- f) issue verbal reminders at all City meetings of upcoming meetings ;and
- g) contact by written response, any citizen that provides a written and oral response on any aspect of the Comprehensive Plan development and adoption within fifteen (15) days of receipt of such comments.

D. MONITORING AND EVALUATION

The City of Greenacres will make every effort to ensure that the Comprehensive Planning Process is a continuing effort. To that end, the City proposes to implement the following procedures in regard to monitoring, updating and evaluating the required five-year evaluation and appraisal report (EAR)

Annual Public Hearing

The Planning Commission shall hold an annual public hearing for the purpose of monitoring, updating and evaluating the condition of the Plan. Citizen input during the meeting will be encouraged.

Official Approval of the Comprehensive Plan

The Planning and Engineering Director shall act as chief monitoring official for approval of the plan and shall compile citizen comments throughout the year. The monitoring official shall also be responsible for ensuring that the objectives of 9J5-005(7) (a)-(e) are monitored, updated and evaluated during the year.

Yearly Report

After completion of the public hearing held by the Planning Commission, said Commission and the monitoring official or designee shall prepare a yearly report to the City Council that addresses those items found in F.S. 163.3191(2) (a)-(d) and 9J5-005 (7)(a)-(e). The City Council and other City officials shall use said report as an aid in implementing the plan and as a data source in the compilation of the required 5-year EAR.

VI. GOALS, OBJECTIVES AND POLICIES

- A. GOAL It shall be the goal of The City of Greenacres to practice, maintain and improve intergovernmental coordination efforts in order to attain the goals and objectives of the other elements of this Comprehensive Plan.

Objective 1

The City shall promote and coordinate planning activities between the City of Greenacres and all appropriate governmental units (local, regional, state and federal).

Policy a)

Establish and maintain coordination with municipalities in close proximity to the City of Greenacres.

- (1) Through the Intergovernmental Plan Amendment Review Committee (IPARC) process, the City will continue to notify the Village of Wellington, the Village of Palm Springs, the City of Lake Worth, the City of Atlantis, the Palm Beach County School Board, and Palm Beach County of the City's planning efforts.
- (2) The City shall utilize the Palm Beach County IPARC dispute resolution process and shall cooperate with the TCRPC and all other local governments in a voluntary dispute resolution process for facilitating intergovernmental coordination, as prescribed in Section 186.509, Florida Statutes. The City shall include any written responses resulting from the IPARC process as data and analysis with proposed Comprehensive Plan amendments.

- (3) The City shall utilize the Multi-Jurisdictional Issues Coordination Forum of the IPARC process as a means of collaborative planning for matters of interjurisdictional significance including, but, not limited to, the siting of facilities of countywide significance and locally unwanted land uses.
- (4) Further intergovernmental coordination by entering into a mutual aid agreement with adjacent cities to provide an exchange of resource sharing.
- (5) The City shall pursue interlocal agreements with adjacent local governments in order to better coordinate annexation and land development activities. Issues to be addressed may include annexation, cooperative planning and review of land development activities; coordinated service delivery; funding and cost-sharing strategies; enforcement/implementation issues; and any other issues acceptable to affected parties.

Policy b)

Maintain and enhance coordination and consistency with Palm Beach County relative to planning and land development matters.

- (1) Work with the County to ensure that the City of Greenacres Comprehensive Plan maintains consistency with the Palm Beach County Comprehensive Plan.
- (2) The City shall undertake an efficient review and comment on land development proposals within the unincorporated Palm Beach County area near the City and transmit said comments to the County in a timely manner.
- (3) The City shall furnish information on land development proposals to the County in a timely manner for County review and comment.
- (4) Work closely with Palm Beach County on the annexation of enclaves and pockets within and near City boundaries.
- (5) The City shall participate and support the County's efforts in establishing a countywide Geographic Informational System (GIS) for the County.

Policy c)

The City shall continuously coordinate with the Palm Beach County Metropolitan Planning Organization regarding transportation facilities within Palm Beach County and with the South East Florida Transportation Council regarding significant transportation facilities, including Lake Worth Road, Jog Road, Military Trail, and State Road 7.

Policy d)

The City shall continue to coordinate closely with the Treasure Coast Regional Planning Council (TCRPC) on planning matters which directly affect both entities.

- (1) The City of Greenacres will continue to coordinate requirements of the Development of Regional Impact (DRI) process with TCRPC, by ensuring that the River Bridge Development is meeting the provisions of its DRI agreement.
- (2) The City of Greenacres shall exchange information as necessary with TCRPC.
- (3) Expand coordination efforts with the TCRPC by aiding and cooperating in the maintenance and enhancement of database information.
- (4) The City shall use the Treasure Coast Regional Planning Council's informal mediation process, as a method of resolution, when interjurisdictional incompatibilities are identified.

Policy e)

Maintain and enhance coordination with the Florida Department of Economic Opportunity ~~Community Affairs~~ (DEOCA).

- (1) Ensure that the City of Greenacres Comprehensive Plan is consistent with the State Comprehensive Plan (F.S. 187).
- (2) Ensure that the Greenacres City Comprehensive Plan maintains compliance with ~~Rule 9J-5 FAC~~ and Chapter 167 F.S.
- (3) The City shall ensure that all comprehensive plan amendments are processed in accordance with ~~Rule 9J-11 FAC~~ and Chapter 163 F.S.
- (4) Continue coordination efforts with DCA to ensure that the River Bridge Development is in compliance with DRI requirements of Chapter 380 F.S.

Objective 2

The City of Greenacres will coordinate with other government units in an effort to eliminate and minimize the negative influences of growth.

Policy a)

The City of Greenacres shall coordinate with Palm Beach County and the State Department of Transportation on the development, maintenance and upkeep of County and State roads within the City's jurisdiction.

- (1) The City shall monitor and provide advisory comments on the County and State Roadway Improvement Plans to the agencies in question.
- (2) The City shall keep the County and the State Department of Transportation abreast of roadway problems that may potentially endanger the citizenry.

Policy b)

The City of Greenacres will coordinate with various State and County agencies to ensure proper and safe sewage disposal is achieved.

- (1) The City will coordinate with the Palm Beach County Water Utilities Department in extending centralized sewer service to existing residential and commercial development.
- (2) The City will coordinate with Palm Beach County Water Utilities to warrant that new development is not undertaken until adequate sewer connection capacity has been secured.
- (3) The City will continue to coordinate efforts with the Palm Beach County Health Department in the enforcement of existing septic tank regulations.

Policy c)

The City of Greenacres will coordinate with the appropriate State and County agencies to assure adequate water supply and potable water availability.

- (1) The City will coordinate with the Palm Beach County Water Utilities Department to assure that all existing residential and commercial development will continue to have centralized water service.
- (2) The City will coordinate with Palm Beach County Water Utilities to warrant that new development is not undertaken until adequate raw water supply and potable water availability has been secured in accord with the City's Concurrency Management System detailed in Objective 8 of the Infrastructure Element.
- (3) The City shall continue to coordinate with the South Florida Water Management District regarding the enforcement of the water shortage ordinance.

Policy d)

The City of Greenacres will continue to coordinate with Palm Beach County Solid Waste Authority to ensure that safe and sanitary processing of solid waste will continue.

Policy e)

The City of Greenacres shall adopt the drainage standards established by the Lake Worth Drainage District and the South Florida Water Management District for its drainage system.

Policy f)

The City of Greenacres shall adopt the Public Schools level of service of 110% of Florida Inventory of School House (FISH) capacity level of service standards established by the Interlocal Agreement on School Concurrency with the School District of Palm Beach County.

Policy g)

The City shall continue to participate in the creation of a corridor master plan for State Road 7 to address traffic performance and land uses.

Objective 4

The City of Greenacres shall ~~adopt~~maintain, at a minimum, a 10 year Water Supply Facilities Work Plan consistent with the South Florida Water Management District's 2005-2006 Lower East Coast Water Supply Plan Update ~~by August 15, 2008~~ in accord with 163.3177(6)(h) of the Florida Statutes.

Policy a)

Since water service within the City of Greenacres is provided by the Palm Beach County Water Utilities Department (PBCWUD), the City shall continuously coordinate with PBCWUD.

- (1) To the maximum extent possible, the City shall use in the Comprehensive Plan the same population projections for Greenacres as PBCWUD uses in its Water Supply Facilities Work Plan.
- (2) The City shall continue to notify PBCWUD of proposed Future Land Use Map amendments, Zoning Changes, and Site Plan approvals.

Policy b)

In the event that areas of the City are served by other than Palm Beach County Water Utilities, either through annexation or service boundary changes, water supply and service shall be coordinated with that utility in accord with the provisions of Objective 4, Policy a) above.

Policy e)

- (1) The City of Greenacres shall continue to coordinate with the Palm Beach County School Board to address planning matters that affect both entities. The City shall continue to coordinate with the School Board to provide additional recreational opportunities to the City by means of shared use agreements.
- (2) The City shall continue to coordinate with the School Board on the effects of new residential developments and the need for additional classroom space.

Policy f)

The City shall coordinate with those schools in its jurisdiction which are part of the State University System, regarding the development of campus master plans or amendments thereto, to be done in accordance with Chapter 240.155, Florida Statutes.

Objective 3

The City of Greenacres shall utilize levels of service standards developed by the agencies providing services to City residents but not under the City's jurisdictional control.

Policy a)

The City of Greenacres shall adopt the Palm Beach County Level of Service "D" as the standard for the City's Traffic Circulation System.

Policy b)

The City of Greenacres shall adopt the standard established by the Palm Beach County Water Utilities Department of eighty-five (85) gallons per capita per day for the sanitary sewer system.

Policy c)

The City of Greenacres shall adopt the standard established by the Palm Beach County Water Utilities Department of one hundred twenty-six (126) gallons per capita per day for the potable water systems.

Policy d)

The City of Greenacres shall adopt the standard for solid waste generation established by the Solid Waste Authority of Palm Beach County at 7.13 lbs of solid waste per capita per day.

Policy c)

The City shall coordinate with the Village of Palm Springs Utility Department regarding the City's Future Annexation Area currently within the Village's water service area and shall provide notice to the Village of proposed Future Land Use amendments, Zoning Changes, and Site Plan approvals in the event territory within the Village's water service area is annexed into the City of Greenacres.

VII. NOTES

- ~~1. Florida Dept. of Community Affairs, "Chapter 9J5, FAC "Section 9J-5.021, pg.66.~~
- ~~2. Florida Dept. of Community Affairs, "Chapter 9J5, FAC," Sec. 9J-5.015 INTERGOVERNMENTAL COORDINATION ELEMENT, pg.53.~~
31. Florida Department of Natural Resources, FLORIDA RECREATION DEVELOPMENT ASSISTANCE PROGRAM, Grant Application Packet, pg.1.
42. Florida Statutes, Chapter 163, section 163.3177 (G)(H).
53. Florida Statutes, Section 380.06.
64. PALM BEACH COUNTY CODE, ARTICLE VIII, countywide planning council, Sec.7.2, Purpose, pg. C-10.
75. Palm Beach County Countywide Planning Council By-Laws Committee Annexation Policy, 1.003 IMPLEMENTATION BY THE PLANNING COUNCIL Pg.4.
86. Palm Beach County Interior Annexation Review Policy, Florida Statutes, Section 163.01 (2).
97. Palm Beach County Transportation Authority (PALMTRAN) Route Map.

REVISION HISTORY

March 16, 1998	Ord. 97-09
December 6, 1999	Ord. 99-16
September 15, 2008	Ord. 2008-03
December 1, 2008	Ord. 2008-19

CITY OF GREENACRES COMPREHENSIVE PLAN

CAPITAL IMPROVEMENT ELEMENT

~~September 2008~~ August 2016
Amendments resulting from the 201506 EAR

CONTENTS

SECTION	PAGE
I. INTRODUCTION	3
II. INFORMATION, INVENTORY AND ANALYSIS	4
A. Definitions	4
B. Public Education and Health Systems	5
C. Capital Improvement Needs	6
D. Financial Capability and Fiscal Practices	8
E. An Assessment of Revenues and Expenditures	12
F. Analysis of Issues Relative to Capital Improvement	16
III. PLAN FOR CAPITAL IMPROVEMENTS	18
IV. GOALS, OBJECTIVES AND POLICIES	20
V. SUPPORTING STUDIES	33
VI. NOTES	33

LIST OF TABLES

<u>NO</u>	<u>NAME</u>	<u>PAGE</u>
1A	CITY OF GREENACRES CAPITAL IMPROVEMENTS (2016-2021)	6
1B	PALM BEACH COUNTY ROAD PROGRAM (2016-2020)	7
1C	PALM BEACH COUNTY WATER UTILITIES DEPARTMENT WATER SUPPLY CAPITAL IMPROVEMENTS (2016-2020)	8
2	PROJECTED GROSS TAXABLE VALUATION	13
3	AD VALOREM TAX REVENUES	14
4	OTHER TAX REVENUES	14
5	EXPENDITURE PROJECTIONS-SCHEDULED CAPITAL IMPROVEMENTS	15
6	DEBT SERVICE EXPENDITURE PROJECTIONS	15
7	MILLAGE REQUIREMENTS	15
8	PALM BEACH COUNTY SCHOOL DISTRICT'S FIVE YEAR CAPITAL IMPROVEMENT SCHEDULE	26

I. INTRODUCTION

The Capital Improvements Element (CIE) is a requirement of the 1985 Growth Management Legislation which revised Florida Statutes Chapter 163, the Local Government Comprehensive Planning and Land Development Regulation Act. As a result, the CIE becomes a central component in the Comprehensive Plan as it enables a municipality to set forth its construction, extension and capacity increases in public facilities and services necessary to support development concurrent with the impacts of said development.

The purpose of the Capital Improvements Element is to evaluate the need for facilities identified in the other Comprehensive Plan Elements and as defined in the applicable definitions for each type of public facility, to estimate the cost of improvements for which the City of Greenacres has fiscal responsibility, to analyze the fiscal capability of the City to finance and construct improvements, to adopt financial policies to guide the funding of improvements and to schedule the funding and construction of improvements in a manner necessary to ensure that capital improvements are provided when required, based on needs identified in other plan elements.

The City of Greenacres has formulated a strong and continuous six (6) year Capital Improvements Program which includes the existing capital budget for the current fiscal year and a five (5) year program of improvements. This element is different from that program since it covers only capital improvements based upon other elements of this plan.

This element consists of the following:

- An information, inventory and analysis section; a section detailing the "plan" for providing capital improvements; a section outlining CIE goals, objectives and policies; and a section depicting future supporting studies pertinent to the CIE.
- The information, inventory and analysis section will address important definitions related to the CIE; an inventory of capital improvements needs, financial capability and fiscal practices; an assessment of revenues and expenditures; and an analysis of issues relative to capital improvements.
- The plan for providing capital improvements will develop recommendations and provide a plan of action as well as implementation measures, including a five (5) year schedule of capital improvements.
- The goals, objectives and policies section will outline a listing of statements exhibiting long term ends for the timely and efficient provision of capital improvements by implementation of sound fiscal policies.
- The supporting studies section will describe monitoring and evaluation strategies as well as future programmed studies to aid in implementation efforts and the realization of objective and policy statements.

II. INFORMATION, INVENTORY AND ANALYSIS

A. DEFINITIONS

1. CAPITAL BUDGET - is defined as that portion of each fiscal year's budget which reflects those capital improvements contained within the capital improvements program.
2. CAPITAL IMPROVEMENT - is defined as physical assets constructed or purchased to provide, improve or replace a public facility and which are large scale and high in cost. The cost of a capital improvement is generally nonrecurring and may require multi-year financing.
3. CAPITAL IMPROVEMENTS PROGRAM (CIP) - is defined as those capital improvements scheduled to be initiated after the capital budget year, but before the end of the six (6) year planning period.
4. CAPITAL IMPROVEMENTS PROGRAMMING - is defined as the process of establishing, maintaining and updating the six (6) year scheduling of capital improvements.
5. EDUCATIONAL USES - is defined as activities and facilities of public or private primary or secondary schools, vocational and technical schools, and colleges and universities licensed by the Florida Department of Education, including the areas of buildings, campus open space, dormitories, recreational facilities or parking.
6. FISCAL IMPACT ANALYSIS - Is defined as an evaluation of the net public costs or revenues resulting from actual or planned growth.
7. IMPACT FEES - Is defined as a payment required to be made by builders or developers at the time of development approval and calculated to be the proportionate share of the cost of providing facilities and/or services to such development.
8. INFRASTRUCTURE - is defined as those man-made structures which serve the common needs of the population, such as: sewage disposal systems; potable water systems; potable water wells serving a system; solid waste disposal sites or retention areas; stormwater systems; utilities; piers; docks; wharves; breakwaters; bulkheads; seawalls; bulwarks; revetments; causeways; marinas; navigation channels; bridges; and roadways.
9. LEVEL OF SERVICE - is defined as an indicator of the extent or degree of service provided by, or proposed to be provided by a facility based on and related to the operational characteristics of the facility. Level of service shall indicate the capacity per unit of demand for each public facility.

10. **PUBLIC BUILDINGS AND GROUNDS** - is defined as structures or lands that are owned, leased, or operated by the City, such as civic and community centers, hospitals, libraries, police stations, fire stations, and government administration buildings.
11. **PUBLIC FACILITIES** - is defined as transportation systems or facilities, sewer systems or facilities, solid waste systems or facilities, drainage systems or facilities, potable water systems or facilities, educational systems or facilities, parks and recreation systems or facilities and public health systems or facilities.
12. **SERVICES** - is defined as the programs and employees determined necessary by the City to provide adequate operation and maintenance of public facilities and infrastructure as well as those educational, social and other programs necessary to support the programs, public facilities, and infrastructure set out in the Comprehensive Plan or required by local, state, or federal law.
13. **URBAN SERVICE AREA/LONGER TERM LIMIT LINE** - Is defined as an area identified by the Greenacres City Council through official action within which urban development will be allowed during a specified time period.

B. PUBLIC EDUCATION AND HEALTH SYSTEMS

The City currently contains the following schools.

Facility:	General Location:
John I. Leonard High School	Haverhill Road & 10 th Ave. N.
LC Swain Middle School	Lake Worth Road & Swain Blvd.
Okeeheelee Middle School	Forest Hill Blvd. & Pinehurst Drive
Tradewinds Middle School	Haverhill Rd. south of Melaleuca Ln.
Cholee Lake Elementary School	Dillman Road west of Jog Road
Diamond View Elementary Schl.	Haverhill Rd. south of Melaleuca Ln.
Greenacres Elementary School	Original Section
Heritage Elementary School	Haverhill Road & Melaleuca Lane
Liberty Park Elementary School	Constitution Way west of Jog Road

The geographic service areas for the schools are determined by the School District of Palm Beach County which is responsible for the construction and operation of all public schools in the County. The School District of Palm Beach County shall also maintain minimum level of service standards for public school facilities, as defined in the Public School Facilities Element and the adopted Interlocal Agreement on School Concurrency.

Presently there are no public health systems located in the City of Greenacres.

C. CAPITAL IMPROVEMENTS NEEDS

Capital Improvements where necessary and appropriate have been identified throughout the relevant elements of this plan. Table No. 1A depicts required City capital improvements from the Recreation and Open Space Element, Infrastructure Element (Drainage), and Transportation Element necessary to maintain the adopted Level of Service.

Table No. 1A indicates the project by description, the target year wherein the project should commence to maintain service levels and an estimate of the total project costs. All projects have been grouped by the element requiring the capital improvement. Footnotes describe the funding source.

The projects listed in Table No. 1A do not represent the entire capital improvements program for the City. The table merely reflects those improvements necessary to maintain the adopted Level of Service for services the City is fully or partly responsible for as shown elsewhere in the Comprehensive Plan.

Table No. 1A: City Of Greenacres Capital Improvements (2016 - 2021)						
	2016	2017	2018	2019	2020	2021
Recreation						
Community Center Expansion ²	3,500,000	0	0	0	0	0
Stormwater Management and Sewer Extension						
Stormwater Pipe & Basin Replacement ¹	60,000	25,000	25,000	25,000	25,000	25,000
Original Section Drainage Improvements ¹	195,000	416,000	242,000	220,000	352,000	0
Transportation						
Bowman Street Improvements ³	0	0	0	150,000	0	0
Dillman Road Sidewalks ³	42,250	52,500	0	0	0	0
TOTAL:	3,797,250	493,500	267,000	395,000	377,000	25,000

1. The stormwater drainage enhancements are intended to increase the capacity of these older drainage systems to improve performance and flood protection. Total project costs for FY 2016 through FY 2021 are \$1,610,000. Grant funds of \$525,767 are anticipated to be provided through Community Development Block Grants over the same period. In FY 2016, revenue of \$1,821,771 in interfund transfer, grants and interest is budgeted in Fund 304 (Reconstruction and Maintenance). Expenditures in FY 2016 of \$2,148,178 are budgeted, including the stormwater drainage enhancements. The existing Fund 304 balance of \$2,116,723 will be used for the net expenditure in FY2016 and to fund the balance of \$1,084,223 needed for the stormwater drainage projects (\$1,610,000 – \$525,767 grants = \$1,084,223) through FY 2021.
2. The recreation enhancements are intended to increase the capacity of the City’s Community Center. Total project costs for FY 2016 through FY 2021 are \$3,500,000. In FY 2016, revenue of \$2,335,554 in interfund transfer, interest, impact fees, and park land rental (cell tower) is budgeted in Fund 303 (Park and Recreation). Expenditures in FY 2016 of \$3,786,500 are budgeted, including the above enhancement. The existing Fund 303 balance of \$1,361,094 will be used for the net expenditure in FY 2016.

3. The Dillman Road sidewalks will provide safe access for neighborhood kids to the Cholee Lake Elementary School. The Bowman Street improvements will improve a portion of the Bowman Street to City street standards where it connects to South Military Trail, an Urban Principal Arterial (UPA) roadway. These improvements are intended to promote multi-modal access to an elementary school and bring a roadway connection up to level of service standards. Total project costs for FY 2016 through FY 2021 are \$244,750. In FY 2016, revenue of \$184,127 in interest, impact fees, and park land rental (cell tower) is budgeted in Fund 301 (New Growth). Expenditures in FY 2016 of \$257,250 are budgeted, including the above improvements. The existing Fund 301 balance of \$1,389,527 will be used for the net expenditure in FY 2016.

Table No. 1B depicts improvements to the County and State roadway network proposed as part of the Palm Beach County’s “Five Year Road Program” and shows projects within or adjacent to the City of Greenacres. The Table is based on the Program as of December 15, 2015. The Program is funded through a combination of gasoline taxes, interest, bonds, impact fees, and miscellaneous revenue, all of which are collected and controlled by Palm Beach County.

Table No. 1B: Palm Beach County Road Program (2016 - 2020)					
Description	2016	2017	2018	2019	2020
Haverhill Road from Lantana Rd. to S. of L-14 Canal (0.9 miles, 2 lanes to 4 lanes)	3,500,000	0	0	0	0
Haverhill Road from S. of L-14 Canal to Lake Worth Road (1.3 miles, 2 lanes to 5 lanes)	8,800,000	0	0	0	0
Intersection of L.W. Road and Jog Road	0	630,000	0	0	0
Jog Road Resurfacing (Hypoluxo to 10th Ave N.)	2,100,000	0	0	0	0
Total Greenacres Area Projects	14,400,000	0	0	0	0
Total Program Revenue	58,396,610	101,815,834	39,894,058	30,713,282	26,710,506
Total Program Costs	57,890,000	101,270,000	39,130,000	30,641,000	25,980,000

Table 1C depicts improvements shown in the Palm Beach County Water Utilities Department’s “Water Supply Work Plan” (Capital Improvement Plan Detail) and includes projects throughout their interconnected system. The table is based on the Capital Improvement Plan Detail as of October 21, 2015. All of the projects depicted in Table 1C are 100% funded by Water Utility User Fees.

Table No. 1C: Palm Beach County Water Utilities Department Capital Improvements (2016-2020)					
Description	2016	2017	2018	2019	2020
Water Treatment Plant 2	4,709,000	2,236,000	16,043,000	2,421,000	2,000,000
Water Treatment Plant 3	2,000,000	2,216,000	2,908,000	2,074,000	2,000,000
Water Treatment Plant 8	18,155,000	2,064,000	5,799,000	2,114,000	2,000,000
Water Treatment Plant 9	2,900,000	4,538,000	2,185,000	13,179,000	2,334,000
Wellfield Rehabilitation and Construction	3,380,000	4,289,000	4,313,000	1,236,000	1,000,000
TOTAL:	31,144,000	15,343,000	31,248,000	21,024,000	9,334,000

Table 8, below in the Goals, Objectives and Policies Section, depicts the School District of Palm Beach County's Capital Improvement program to maintain the adopted level of service.

D. FINANCIAL CAPABILITY AND FISCAL PRACTICES

1. FINANCIAL RESOURCES

The plan for capital improvements must be affordable and within the realm of the City's ability to finance. Therefore, this portion of the inventory will concentrate on recognizing the various forms of revenue presently available to the City as well as possible future sources of revenue during the five year period.

2. LOCAL SOURCES

a) PROPERTY TAXES (AD VALOREM)

Property taxes are based on a millage rate (one mill is the equivalent of \$1 per \$1000 of assessed value or .1%), which is applied to the total taxable value of all real property and other tangible personal property. The property tax has historically accounted for approximately 32% on average of the City's annual budgeted revenue (40% in FY 2008).

b) FRANCHISE FEES AND PUBLIC UTILITIES TAXES

These charges are derived from franchise fees and utilities taxes such as electricity, telephone and gas. The franchise fee and public utility tax revenue accounts for approximately 26% on average (25% in FY 2008) of the City's total revenue.

c) OTHER TAXES, FEES AND CHARGES

This category includes license and permit fees, various administration fees and charges, fines and forfeitures and other user charges for services and facilities operated by the City. Approximately 20 percent on average (16.8% in FY 2008) of Greenacres City's annual revenues are produced from this revenue category.

d) SPECIAL SOURCES OF REVENUE

Depending upon priorities assigned by the Greenacres City Council and the availability of other revenue sources, it may be necessary to seek additional funding mechanisms. The following sources of revenue are potential options available to the City in financing future capital improvements.

(1) IMPACT FEES

This source represents fees that are charged in advance for new development and are utilized to pay for infrastructure and capital needs (but not operating costs) that are the direct result of new development.

The City currently levies a commercial new growth impact fee, a parks and recreation land dedication impact fee in lieu of recreation land dedication and a general government services impact fee in lieu of general government service land dedication. The City also collects Palm Beach County's Countywide Impact fees and receives a 2% Commission. The remaining 98% is used solely by the County.

(2) SPECIAL ASSESSMENT

Special assessments may be levied against residents, agencies or districts who directly benefit from the new service or facility. Such assessments are more equitable than requiring all citizens of the City to pay for an improvement that directly benefits only one neighborhood or district.

(3) BORROWING

The large costs of financing capital improvements will require the City to occasionally consider borrowing as an option. Such financing may be short, medium, or long term in nature.

Short and medium term borrowing (one to ten years) is a possibility through local financial institutions and lease/purchase acquisition of assets. Lease purchase is more often used for items of equipment, such as computers or fire trucks, but can be used to obtain facilities such as buildings. Loans from banks and other financial institutions can be obtained for short to medium term borrowing of one to ten years.

For periods over ten and up to thirty years, a customary method is to authorize bond issues. Greenacres has utilized bond issues for capital improvements such as the development of the old (1986) City Hall and of Community Park, the Public Safety Complex and the water district improvements in the original section of the City.

a) GENERAL OBLIGATION BONDS

Bonds of this type when issued by the City are payable by all taxpayers of Greenacres and are backed by the full faith and credit of the City. This type of bond requires voter approval by referendum.

b) REVENUE BONDS

Revenue bonds are financed by those users directly benefiting from the capital improvement. This type of bond can be issued more easily since it avoids the pledge of the ad valorem taxing authority of the City. Such bonds do not require voter approval prior to issue. They are financed by the pledge of other revenue sources of the City, such as Public Service Taxes, special assessment district proceeds, user charges and intergovernmental transfers.

The City issued a \$1,762,000 2001 Fire Safety Revenue Bond to fund the Construction of Public Safety Station #2, acquire one aerial truck and one new and three

refurbished ambulances. This bond is outstanding for a period of ten years (matures July 1, 2011).

c) OTHER BONDS

Other types of bonds are utilized for specific purposes. The most common is an Industrial Revenue Bond which would be issued by the City to finance plants and equipment for private industry. The City has not issued any bonds in this category.

d) BANK LOAN

The City borrowed \$5,500,000 for building the Municipal Complex. This loan is outstanding for a period of 20 years (until September 29, 2024) at an interest rate of 4.0325%.

3. OTHER GOVERNMENTAL SOURCES

The City of Greenacres, like all other local governments, is dependent upon transfers from the State of Florida and Palm Beach County to supplement its operating and capital budget revenues.

a) STATE SOURCES

Such sources from the State include Municipal Revenue Sharing one-half cent from state sales tax, mobile home licenses, alcoholic beverage licenses and cigarette taxes. These sources represent approximately 15 percent of the City revenues.

b) COUNTY SOURCES (SHARED)

These revenue sources include a portion of the County Local Option Gas tax and Occupational Licenses. Historically, these sources represent 2.4 percent of City revenues.

4. FEDERAL AND STATE GRANTS AND LOANS

Federal and State grants - in aid are generally provided in the form of a block or categorical grant (which can take many forms, matching, direct, project etc.) to finance a number of programs.

More specifically, federal funds are currently either: allocated to state agencies which administer block grants in accordance with the programs they monitor; or are reserved at the federal agency level and are disbursed

as block grants directly to state and local agencies or other eligible organizations and individuals.

The City of Greenacres has secured Federal Community Development Block Grants to construct sidewalks in the original section, renovate the Old (1962) City Hall building, renovate Ira Van Bullock Park, and improve streets north of 10th Avenue North in the original section. The City will be continuing to apply for those grants. Additionally, the City has also applied for and secured grants from the State through the Florida Recreation Development Assistance Program to construct parks such as Borrowing Owl, Rambo, Greenacres Freedom Park, and Community Park. The City will continue to apply for those matching grants to fund recreational improvements.

The City of Greenacres has applied for state and county grants to landscape medians and road right-of-ways for all county and state roads within the City. These include: Sherwood Forest Boulevard, Lake Worth Road, Forest Hill Boulevard, Jog Road and 10th Avenue North. Funds from grants will be utilized to accomplish one of the projects contained in the 2008-2013 capital improvements identified in this plan.

Numerous state and county grants have also been obtained to pay for enhancements to the City's emergency medical services including the addition of a third ambulance.

E. AN ASSESSMENT OF REVENUES AND EXPENDITURES

1. Fiscal Assessment

This section provides an analysis of the City's ability to fund the capital improvements listed in Table 1A. The purpose of this assessment is to examine whether revenues will be appropriate to meet the costs of needed improvements and expenditures. It is paramount that the funds be available when such improvements are scheduled. Timing is essential. Revenues and expenditures are also assessed in terms of the elements and items within the Plan. Fiscal items and issues not pertinent to the plan are not addressed.

2. Accounting System

The accounting system utilized by the City enters financial transactions into separate accounts called "funds". Records for each fund provide a complete accounting of fund assets, liabilities, reserves, equities, revenues and expenditures. The following is a brief description of the funds.

- a) General Fund - This fund is the basic operating fund of the City. All ad valorem tax revenues not required to be accounted for in debt service funds are accounted for in the General Fund.
- b) Capital Improvements Fund - The City finances all major capital improvements through several separate funds including New Growth, Reconstruction and Maintenance, and Parks and Recreation. In previous years, the City's CIP was funded entirely from these growth funds and funds that accounted for the proceeds of General Obligation and Revenue Bond Issues. Impact fees have provided a relatively small portion of City capital project fund revenue.

3. Projected Revenues

Between 2001 and 2006 the City's tax base has increased by an annual average of 22% percent. This is significantly higher than the average growth of 5.8 percent in the preceding five years. The tax base is projected to decrease by 10% in 2009 and decrease 3% per year for 2010 through 2013 for the adjusted taxable value of property (including new construction) as indicated below. The City's taxable value to just value ratio is projected to remain between 75 to 80 percent according to the Palm Beach County Property Appraisers Office.

Table No. 2 depicts the projected gross taxable property value in the City.

Table No. 2: Projected Gross Taxable Valuation	
Yearly Tax Base	Projected Gross Taxable Value
2008	2,152,750,751
2009	1,937,475,676
2010	1,879,351,406
2011	1,822,970,864
2012	1,768,281,738
2013	1,715,233,286
<i>SOURCE: The City of Greenacres Department of Finance (January 2008)</i>	

Table No. 3 indicates the required Ad Valorem Tax Yields to fully fund all city requirements including the Capital Improvements Programs included herein, as well as those programs not included herein.

Table No. 3: Ad Valorem Tax Revenues	
Year	Ad Valorem Tax Yields
2008	9,616,422*
2009	8,654,780
2010	8,395,137
2011	8,143,283
2012	7,899,090
2013	7,662,118

SOURCE: The City of Greenacres Finance Department (January 2008)
**State mandated rollback adopted during 2007 legislative session.*

Table No. 4 indicates all revenues from sources other than ad valorem revenues.

Table No. 4: Other Tax Revenues	
Year	Non-Ad Valorem Tax Yields
2008	14,156,044
2009	14,863,846
2010	15,607,039
2011	16,387,390
2012	17,206,759
2013	18,067,096

SOURCE: The City of Greenacres Finance Department (January 2008)

The revenue increase necessary to meet expenditures during the five year period will be representative of the traditional sources listed earlier. The City does not operate other services that bring in any additional revenue.

4. PROJECTED EXPENDITURES

For the purpose of this fiscal assessment, expenditures are presented based upon total capital expenditures for the five year period, expenditures via other elements of the plan and debt service expenditures. Table No. 5 includes aggregate projected expenditures for capital improvements.

5. DEBT CAPACITY

As indicated earlier in Table 3 and 4, the City's total projected revenue for 2008 is 23,772,466. Based on established rules for sound credit ratings, debt service as a percentage of total revenue should be limited to a maximum ratio of fifteen percent (15%). Greenacres debt level is far below this at 2.4% in FY 2008. Table No. 2 depicts a projected gross

taxable valuation of \$2,152,750,751 for 2008. Again, using sound rules for credit ratings, the City will utilize a ratio of five percent (5%) for outstanding capital indebtedness to property tax base. These ratios applied to 2008 projected figures would limit debt service to \$3,565,870 and outstanding capital indebtedness to \$107,637,538. In 2008, Greenacres debt service is \$616,368 and outstanding capital indebtedness is \$5,721,169.

Table No. 5: Expenditure Projections - Scheduled Capital Improvements						
	2008	2009	2010	2011	2012	2013
Total Improvements	283,000	0	0	0	0	0
<i>SOURCE: The City Of Greenacres Finance Department (January 2008 and August 2008)</i>						

Table No. 6 depicts the Debt Service Expenditure Projection

Table No. 6: Debt Service Expenditure Projections						
	2008	2009	2010	2011	2012	2013
Debt Service Obligation	616,368	616,368	616,368	616,368	403,260	403,260
<i>SOURCE: The City Of Greenacres Finance Department (January 2008)</i>						

Table No. 7 depicts the required Debt Service and General Operations millage rates to generate the projected revenue shown in Table No. 3.

Table No. 7: Millage Requirements						
	2008	2009	2010	2011	2012	2013
General Operations	4.70221*	4.70221	4.70221	4.70221	4.70221	4.70221
Debt Service	0	0	0	0	0	0
Total Millage	4.70221	4.70221	4.70221	4.70221	4.70221	4.70221
<i>SOURCE: The City of Greenacres Finance Department (January 2008)</i>						
<i>*State mandated rollback adopted during 2007 legislative session.</i>						

6. OPERATING COSTS

Although the City does not operate the majority of utility capital facilities and services, there are recurring expenses associated with supplies, utilities, and personnel costs pertaining to maintenance of parks and grounds, and maintenance of roads, medians and right-of-ways, and stormwater systems. Almost all roadway projects involving resurfacing and other improvements are bid and undertaken by the private sector. Projections are that these operating costs will increase yearly during the

five (5) year period by six and one-half percent (6 1/2%) for personnel costs and three percent (3%) per year for other operating costs. These costs were calculated in aggregate expenditures to project the necessary mileage requirements found in Table No. 7.

F. ANALYSIS OF ISSUES RELATIVE TO CAPITAL IMPROVEMENTS

1. Level of Service Standards

Level of service (LOS) standards are an indicator of the extent or degree of service provided by, or proposed to be provided by a facility based on and related to the operational characteristics of the facility. LOS indicates the capacity per unit of demand of each public facility. In essence, LOS is a summary of existing or desired public facility conditions.

The City of Greenacres is required by Chapter 163 of the Florida Statutes and Chapter 9J-5 of the Florida Administrative Code to address levels of service in the plan. The purpose for establishing LOS is to have a yardstick by which the issuance of development orders or permits can be measured and adequate facility capacity can be ensured and provided for future development.

The City either directly or by adoption of other agencies' LOS has established the levels of service standards for: sanitary sewer, potable water, solid waste, traffic, drainage, recreation and open space, and public school facilities as outlined in the various elements of the plan.

2. Capital Improvements Program (CIP)

A capital improvements program (not to be confused with the Capital Improvements Element of this comprehensive plan) is a planned program which includes the current budget year and the five year schedule of capital needs. More specifically, the program sets forth each capital project, equipment or other contemplated expenditures which the City plans to undertake with an estimate of the funds needed to complete said improvements.

The CIP will be consistent with the CIE of the Plan as it will reflect the goals, objectives and policies of the element and its implementation strategies, including the 5-Year Schedule of Improvements. In some ways, the CIP is more inclusive than the CIE as it contains many projects consisting of equipment and software acquisition. The projects are generally recurring (e.g., purchase of public safety vehicles, etc). More importantly, the CIP is not limited to the elements found in this plan as this element is constrained in that regard.

The City of Greenacres utilizes a six-year CIP program with the first year adopted as the Capital Budget each year. The CIP is reviewed on an annual basis.

3. Impact Fees

The City of Greenacres has imposed several impact fees to help lessen the costs of growth which resulted from development.

Prior to 1990 impact fees financed the majority of past capital improvements. Since that time impact fees have declined due to slower development trends. It is anticipated that impact fees will increase slightly throughout the planning period. The City presently imposes the following impact fees:

- a) New Growth Fee - This impact fee is charged to commercial developments at a rate of \$2.25 per square foot of gross buildable area.
- b) Parks and Recreation Dedication - This impact fee is charged in lieu of land dedication when it is determined that constraints on the site or suitability of the location do not allow for land dedication. The amount of land to be dedicated is based upon a formula which takes into account the projected population, the number of housing units and the type of units. When the fee in lieu of land dedication is imposed, such fee is prorated based upon the determined acreage to be dedicated and appraisals conducted to determine the value of the land in question.
- c) General Government Service Land Dedication - This impact requirement is also a dedication of land or a contribution of capital for services including but not limited to public safety structures, public work facilities, administrative structures, etc. This requirement is also formula based in a manner similar to the Land Dedication Fee. This is another impact fee in lieu of land dedication when it is determined that constraints on the site or suitability of the location do not provide for land dedication. The land dedication is also formula based in a manner similar to the Park and Recreation land dedication. Impact fees in lieu of land dedication are based upon the determined acreage to be dedicated and appraisals conducted to ascertain the value of such land.
- d) Palm Beach County Impact Fees - The County has adopted impact fees for parks, fire-rescue, library, law enforcement, public buildings, schools and roads that are applicable in the unincorporated areas as well as the municipalities in the County. The City collects applicable impact fees for the County minus

administrative fees of two percent (2%). The County utilizes the fees to improve county facilities within zones which encompass the City of Greenacres.

4. User Charges and Fees

User charges are designed to reimburse in part the overall costs of public facilities or services by charging the user who benefits from them. The City has charged user fees and charges in the provision of solid waste collection services, ambulance transport, leisure services and in the rental use of public buildings.

5. Moratoria

A moratorium may temporarily halt or freeze development for a specified period of time on an emergency basis. Such action may be imposed on building permits, development approvals or governmental services. The City has enacted prior moratoria in 1983 and 1986 on development requests in order to update antiquated land development regulations that were no longer adequate due to rapid growth.

III. PLAN FOR CAPITAL IMPROVEMENTS

A. CAPITAL IMPROVEMENT APPROACH

The City of Greenacres has been and will continue to be a progressive municipality in terms of providing capital improvements. The City has accomplished much with an aggressive impact fee program, and other financing methods. During the preceding five year (2003-2007) planning period, the City financed \$14,690,693 in capital improvements derived from other elements in the plan. The City cannot realistically rely on impact fees to the extent of prior years. Therefore a conservative and prudent approach is necessary in financing capital improvements.

1. IMPACT FEES

Impact fees during the five (5) year period are "eroding" as a source to finance capital improvements. The growth of the City can now be described as growth at a slower rate. Absent annexation growth, impact fees will only cover a small percentage of the CIP. Additionally, in November 1988, Charter amendments were passed in Palm Beach County dealing with countywide impact fees for recreation and other governmental services. As a consequence of the County's programs, the amount of impact fees available for the City to assess to future development will be limited.

The City must continue to review its impact fees and make necessary adoptions that reflect and ensure the following:

- a) The expansion of the facility must be necessary and must be caused by the development;
- b) The fees charged must be based on the costs of the new facility and must not exceed the new developments proportional share of the cost of new facilities needed to serve that development; and
- c) The fees must be earmarked and expended so as to ensure a benefit to those who pay.

Since impact fees are an important source of revenue for the City (despite the short term reduction projections) such fees must be legally defensible.

- 2. ALTERNATIVE MEANS OF FINANCING - The City must continue to explore all avenues of alternative financing in the future. The efforts must be continued in the pursuit of federal, state and private funding to finance capital improvements. Other alternatives including user fees, special assessments, districts, Community Redevelopment Districts and other financing possibilities must be researched in an effort to accomplish future capital improvement objectives. Additionally revenue and general obligation bonds should be utilized to finance needed capital improvements.
- 3. RESTRUCTURING OF OTHER CITY PERMITS AND FEES - The City must undertake a posture whereby permit and fee systems including building permits, license fees and user fees are evaluated and reviewed for positive amendments. User fees need additional review for greater applicability. The reexamination of these revenue sources is important to the City's future financial capability.
- 4. URBAN SERVICE AREAS/LONGER TERM LIMIT LINE - Annexation policies by Palm Beach County and Greenacres provide the City with the potential of increasing the City's boundaries by over 500 percent (5.78 square miles to 31.63 square miles). Since Greenacres lies west of the coast, urban limit lines or a boundary beyond which urbanization will be restricted is necessary. This growth management technique will allow for better timing of public facilities, encourage proper growth patterns and ensure environmentally sensitive and agricultural areas. Within the City's ultimate annexation boundaries, (see Map No. 4 Annexation Element) the urban service area/longer term limit line is construed to be State Road 7.
- 5. POINT SYSTEMS - Point systems are a growth management tool in determining the timing and adequacy of a particular site for development. Point systems generally provide an indication of development potential based upon factors which may include available utilities, provision of parks and open space, fire protection, access to schools and mass transit routes,

etc. A point system can generally provide a measure of existing services available and timing of development based upon such facilities.

Explorations of a point system for the City have indicated that such a system cannot be used effectively as the City does not control water, sewer, and major roadway improvements. As such the timing of development becomes based largely on the County's concurrency management system.

6. **FISCAL IMPACT ANALYSIS** - Fiscal Impact Analysis is an evaluation of the net public costs or revenues resulting from actual or planned growth. Fiscal impact analysis examines current costs and revenues. It tallies the financial effect of a PUD, shopping centers, etc., by considering current costs and revenues such facilities would generate if they were completed and operating today. This approach recognizes that development or redevelopment often requires several years and that inflation will increase costs and revenues over time. It also assumes, however, that the rising costs of providing public services will be matched by an essentially comparable increase in revenues that the relative relationships of costs and revenues will change little over time. The City of Greenacres must continue to undertake Fiscal Impact Analyses in conjunction with all development and redevelopment activities.
7. **IMPLEMENTATION SCHEDULE** - The 5-Year Schedule of Improvements (See Table No. 1A, Table No. 1B, and Table No. 1C) is a mechanism by which the City can effectively stage the timing, location, projected cost and revenue source for the capital improvements derived from the other comprehensive plan elements in support of the Future Land Use Element. The 5-Year Schedule of Improvements has been used to document the economic feasibility of the City's Comprehensive Plan based upon the preceding sections of the element.

IV. GOALS, OBJECTIVES AND POLICIES

A. Goal:

The City of City shall undertake actions necessary to adequately provide needed public facilities for all residents within the City in a manner which protects investments in existing facilities, maximizes the use of existing facilities and promotes orderly compact urban growth.

Objective 1

Capital improvements will be provided to correct existing deficiencies, to accommodate desired future growth, and to replace worn out or obsolete facilities as indicated in the 5-Year Schedule of Improvements of this Element.

Policy a)

The City shall include all projects identified in Table 1A in this plan element within the Capital Budget 5-Year Schedule of Improvements as part of the annual budgeting process.

Policy b)

The City shall fund all capital improvements projects in the 5-Year Schedule (Table 1A) of Improvements; especially those projects which are necessary in correcting an existing or future deficiency within the five year period.

Policy c)

The City's Planning and Engineering Department shall serve as the coordinating body of the City in ensuring that projects listed in the 5-Year Schedule of Improvements are completed.

Policy d)

Proposed capital improvements shall be evaluated and ranked according to the following criteria:

- (1) If the project is needed to protect public health and safety, to fulfill the City's legal commitment to provide facilities and services, or to preserve or achieve full use of existing facilities;
- (2) If the project increases efficiency of use of existing facilities, prevents or reduces future improvement cost, provides service to developed areas lacking full service, or promotes in-fill development;
- (3) If the project represents a logical extension of facilities and services within the City;
- (4) If the project causes an adverse impact to the City's budget; and
- (5) If the project is financially feasible and is consistent with the plans of applicable state agencies and the South Florida Water Management District and the Lake Worth Drainage District.

Policy e)

Capital Improvement Projects will be implemented in order to maintain the City's adopted level of service standards as established in this plan. The projects shall be identified as either funded or unfunded and given a level of priority for funding for those services required pursuant to Rule 9J-5.0055.

Policy f)

The City will coordinate with Palm Beach County to ensure that the County projects necessary to maintain the adopted level of service for public

facilities/services provided by the County (Table 1B) are constructed to maintain the adopted level of service to serve developments in the City of Greenacres.

Objective 2

Future development will bear a proportionate cost of facility improvements necessitated by such development in order to maintain adopted LOS standards.

Policy a)

The City shall continue to support and aid in the implementation and enforcement of Palm Beach County's Countywide impact fees.

Policy b)

The City shall continue to participate in and support Palm Beach County's Countywide Traffic Standards Ordinance and Program.

Policy c)

The City shall continue to re-examine its own impact fees to ensure the following:

- (1) that development bear its proportionate costs of improvements;
- (2) that such fees are applied in the proper manner;
- (3) that such impact fees are designed to withstand any legal challenge; and
- (4) that such fees are designed whenever possible to account for the effect of inflation and subsequent reduced buying power and increased costs over time.

Policy d)

The City shall continue to ensure that all mandatory dedications or fees in lieu of shall be a condition of final plat approval for the provision of recreation and open space and general government services.

Objective 3

The City will administer its fiscal resources to ensure the provision of needed capital improvements for previously issued development orders and for future development and redevelopment.

Policy a)

Prior to the issuance of a certificate of occupancy, the City shall coordinate with other applicable agencies or government units to ensure the provision of all public facilities needed to serve development for which development orders were previously issued.

Policy b)

The City shall continue to adopt a 6-year capital improvement program and annual capital budget as a part of its budgeting process.

Policy c)

The City shall continue to make aggressive efforts to secure grants or private funds whenever available to finance the provision of capital improvements.

Policy d)

The City shall continue to utilize a fiscal impact analysis review system for all development and redevelopment activities.

Objective 4

Decisions regarding land use, the issuance of development orders, and permits will be coordinated in concert with the City's projected fiscal capability and Capital improvements identified in Table No. 1A, Table No. 1B, and Table No. 1C of this element to ensure:

- 1) that adopted levels of service are maintained; and
- 2) that existing and future facilities needs are met.

Policy a)

The City shall use the established LOS standards in Objective 1, Policy a) of the Infrastructure Element of this Plan in reviewing the impacts of new development and redevelopment upon public facility provision.

Policy b)

The City shall require developments to provide public facilities that are lacking in order to issue development orders and permits.

Policy c)

The City shall limit its maximum ratio of total debt service to total revenue of fifteen percent (15%) and its maximum ratio of outstanding capital indebtedness to property tax base of five percent (5%).

Policy d)

Consistent with the current Comprehensive Plan and Code of Ordinances, the City shall continue to require that the necessary public facilities are available to developments prior to the issuance of a development permit.

Policy e)

Development orders shall not be issued unless there is sufficient capacity to permit the development; or capital projects (necessary to maintain the adopted level of service) will be constructed concurrently with the development.

Policy f)

The City shall continue to apply concurrency to transportation facilities based on the approved level of service standards as set forth in the plan in Objective 1, Policy a) of the Infrastructure element, or as set forth in Objective 8 of the Infrastructure Element of this plan.

Policy g)

The City's schedule of transportation improvements shall include transportation improvements included in the Palm Beach County Metropolitan Planning Organization's transportation improvement program adopted pursuant to Section 339.175(8), F.S. to the extent that such improvements are relied upon to ensure concurrency and financial feasibility in the City.

Objective 5

The City shall coordinate with the Palm Beach County School District concerning all land development decisions which include residential development in order to maintain level of service standards for public schools consistent with the Interlocal Agreement on School Concurrency and the Public School Facilities Element.

Policy a)

The School District of Palm Beach County shall maintain minimum level of service standards for public school facilities, as defined in the Public School Facilities Element. In the case of public school facilities, the issuance of development orders shall be based upon the School District of Palm Beach County's ability to maintain the minimum level of service standards.

Policy b)

The level of service standards for all public schools within the City of Greenacres shall be set by Goal 1, Objective 1, Policy a of the Public Schools Facilities Element.

Policy c)

Applications for development orders which include any residential component shall provide a determination of capacity by the School District of Palm Beach County that the proposed development will meet the public school facilities level of service. A determination by the School District is not required for existing single family legal lots of record, in accordance with the Public School Facilities Goal 1, Objective 1, Policy h.

Policy d)

In determining that the necessary facilities and services shall be in place when the impacts of the development occur, the procedures maintained in Objective 2 of the Public School Facilities Element shall continue to consider the facilities and services to be in place when:

1. The construction of the public school facilities or provision of services is the subject of a binding and guaranteed contract with the School District of Palm Beach County that is executed and guaranteed for the time the Development Order is issued;
2. The phasing and construction of the improvements are made binding conditions of approval of the development order;
3. The necessary facilities or services are under construction and bonded at the time that the development order is issued; or
4. Construction appropriations are specified within the first three years of the most recently approved School District of Palm Beach County Six Year Capital Improvement Schedule, as reflected in Table 8 of this element, which shall reflect the addition of FISH capacity for each school as shown in Appendix A, Concurrency Service Area Tables of the Public School Facility Element Data and Analysis.

Policy e)

In accordance with Objective 5, Policy c of the Capital Improvements Element, and upholding the exceptions detailed therein, prior to issuance of a development order by the City of Greenacres, the Palm Beach County School District shall determine that the level of service for public school facilities can be achieved and maintained. The necessary public school facilities shall be considered to be in place when sufficient capacity exists in the concurrency service area (CSA) in which the proposed development is located, or an immediately adjacent CSA.

Table No. 8

Palm Beach County School District's 5-Year Capital Improvements Program - 7 Pages

**FY 2016 - 2020 Five Year Capital Plan
as of September 9, 2015**

Sources	Projected Revenues					Total
	FY 2016	FY 2017	FY 2018	FY 2019	FY 2020	
Sources						
Quarter School Capital Outlay	\$ 5,470,110	\$ 5,470,110	\$ 5,470,110	\$ 5,470,110	\$ 5,470,110	\$ 27,350,550
CO & DS	2,355,781	2,355,781	2,355,781	2,355,781	2,355,781	11,778,905
ECO Bonds - Maintenance	2,691,357	3,767,900	4,187,911	4,963,491	5,363,033	20,973,692
Subtotal State Sources	10,517,248	11,593,791	12,013,802	12,789,382	13,188,924	60,103,147
Local Sources						
Property Values	165,191,584,364	173,592,573,332	182,876,079,984	191,709,740,577	201,234,620,471	1,317,030,621
Local Capital Improvement (1.5 mil)	237,875,881	249,973,306	263,341,555	276,062,026	289,777,853	64,623,041
Ind Balance Carried Forward	64,623,041	-	-	-	-	10,319,649
Reserve for FY16	10,319,649	-	-	-	-	1,143,608
Reserve for FY17	-	1,143,608	-	-	-	-
Restricted Reserve and Project	-	-	-	-	-	-
Looseouts	12,136,329	1,437,276	12,812,734	-	-	26,386,339
Impact Fees	3,972,083	2,000,000	2,000,000	2,000,000	2,000,000	11,972,083
Interest Income	750,000	1,000,000	1,000,000	1,000,000	1,000,000	4,750,000
Transfers from General Fund	34,004	-	-	-	-	34,004
Subtotal Local Sources	329,710,987	255,554,190	279,154,289	279,062,026	292,777,853	1,436,259,345
Other Revenue Sources						
Gas Lease 2015	14,235,296	-	-	-	-	14,235,296
Equipment Lease 2015	7,152,000	-	-	-	-	7,152,000
Referendum	-	-	-	-	-	-
Subtotal Other Revenue Sources	21,387,296	-	-	-	-	21,387,296
All Revenues	\$ 361,615,531	\$ 267,147,981	\$ 291,168,091	\$ 291,851,408	\$ 305,966,777	\$ 1,517,749,788

FY 2016 - 2020 Five Year Capital Plan
as of September 9, 2015

Project or Program Number	Carryforward from FY 2015	New Appropriations FY 2016	Total Budget FY 2016	FY 2017	FY 2018	FY 2019	FY 2020	Total
Projects								
17718427	\$ 76,500	\$ -	\$ 76,500	\$ -	\$ -	\$ -	\$ -	\$ 76,500
3358421	428,380	-	428,380	-	-	-	-	428,380
93238387	861,635	-	861,635	-	-	-	-	861,635
93318388	10,447	-	10,447	-	-	-	-	10,447
	1,376,963	-	1,376,963	-	-	-	-	1,376,963
Permanent Projects								
08217510	170,777	-	170,777	-	-	-	-	170,777
12518438	2,642,261	-	2,642,261	-	-	-	-	2,642,261
12418437	264,056	-	264,056	-	-	-	-	264,056
13218439	2,366,971	-	2,366,971	-	-	-	-	2,366,971
01317503	3,311,947	-	3,311,947	-	-	-	-	3,311,947
Capital Replacements	8,756,013	-	8,756,013	-	-	-	-	8,756,013
Projects	\$ 10,132,976	\$ -	\$ 10,132,976	\$ -	\$ -	\$ -	\$ -	\$ 10,132,976

7490	\$ -	\$ 147,000,000	\$ 147,000,000	\$ 147,000,000	\$ 146,000,000	\$ 146,000,000	\$ 146,000,000	\$ 732,000,000
8076	-	2,880,000	2,880,000	2,880,000	2,880,000	2,880,000	-	11,520,000
8083	-	4,451,643	4,451,643	2,950,000	2,950,000	3,000,000	3,100,000	16,451,643
8084	-	1,542,765	1,542,765	1,490,065	1,490,065	1,490,065	1,484,520	7,497,480
Private	-	155,874,408	155,874,408	154,320,065	153,320,065	153,370,065	150,584,520	767,469,123
7494	193,559	-	193,559	-	-	-	-	193,559
7494	749,296	-	749,296	-	-	-	-	749,296
	942,855	-	942,855	-	-	-	-	942,855
7497	18,703,805	2,054,884	20,848,499	-	-	-	-	20,848,499

FY 2016 - 2020 Five Year Capital Plan
as of September 9, 2015

Project or Program Number	Carryforward from FY 2015	New Appropriations FY 2016	Total Budget FY 2016	FY 2017	FY 2018	FY 2019	FY 2020	Total
Payments								
Utility	8426 \$	5,470,110 \$	5,470,110 \$	5,470,110 \$	5,470,110 \$	5,470,110 \$	5,470,110 \$	27,350,550
Maintenance	9579	8,270,000	8,270,000	8,270,000	8,270,000	8,270,000	8,270,000	41,350,000
Construction Payments	-	13,740,110	13,740,110	13,740,110	13,740,110	13,740,110	13,740,110	68,700,550
Capital Projects								
Capital Fund	83,197	200,000	283,197	200,000	200,000	200,000	200,000	1,083,197
Equipment (FF&E)	221,193	125,000	346,193	125,000	125,000	125,000	125,000	846,193
Capital Projects	6,613	250,000	256,613	250,000	250,000	250,000	250,000	1,256,613
	1,590,014	550,000	2,140,014	550,000	550,000	550,000	550,000	4,340,014
	62,454	140,000	202,454	140,000	140,000	140,000	140,000	762,454
	1,963,470	1,265,000	3,228,470	1,265,000	1,265,000	1,265,000	1,265,000	8,288,470
Maintenance	-	4,250,000	4,250,000	4,250,000	4,250,000	4,250,000	4,250,000	21,250,000
Maintenance	-	255,000	255,000	125,000	125,000	125,000	125,000	755,000
Support	-	110,000	110,000	110,000	110,000	110,000	110,000	550,000
Transfers	-	4,615,000	4,615,000	4,485,000	4,485,000	4,485,000	4,485,000	22,555,000
	1,963,470	5,880,000	7,843,470	5,750,000	5,750,000	5,750,000	5,750,000	30,843,470
Finance Program								
Finance Program	1,087,880	900,000	1,987,880	900,000	900,000	900,000	900,000	5,587,880
	2,394,313	3,080,090	5,474,403	-	-	-	-	5,474,403
	-	2,000,000	2,000,000	2,000,000	2,000,000	2,000,000	2,000,000	10,000,000
	-	2,000,000	2,000,000	-	-	-	-	2,000,000
	978,269	1,400,000	2,378,269	-	5,331,769	5,905,935	780,517	12,018,221
	-	-	-	-	1,993,600	2,201,680	1,500,000	8,073,549
	-	-	-	-	560,000	580,000	600,000	1,740,000
	-	-	-	-	448,000	464,000	430,000	1,342,000
	1,219,723	7,152,000	8,371,723	-	-	-	-	8,371,723
	(7,328)	-	(7,328)	-	-	-	-	(7,328)
	140,500	-	140,500	-	-	-	-	140,500
	-	-	-	1,160,000	1,160,000	1,160,000	1,200,000	3,480,000

FY 2016 - 2020 Five Year Capital Plan
as of September 9, 2015

Project or Program Number	Carryforward from FY 2015	New Appropriations FY 2016	Total Budget FY 2016	FY 2017	FY 2018	FY 2019	FY 2020	Total
8280	\$ 36,839	\$ -	\$ 36,839	\$ -	\$ -	\$ -	\$ -	\$ 36,839
7440	2,947,352	-	2,947,352	-	-	-	-	2,947,352
8911	171,566	-	171,566	-	1,000,000	-	1,800,000	2,971,566
8365	965,865	-	965,865	-	-	-	-	965,865
8189,3434	365,308	34,004	399,311	-	-	-	-	399,311
6711,9394	11,096,112	19,016,094	30,112,206	4,100,000	14,553,369	14,411,615	19,922,517	83,099,707
Capital Projects								
7464(7591)	-	1,219,520	1,219,520	4,500,000	4,500,000	4,500,000	4,500,000	19,219,520
7464(8450)	-	186,672	186,672	228,816	233,392	233,392	233,392	1,115,664
7464(8283)	-	865,842	865,842	911,504	947,965	985,883	985,883	4,697,077
7464(8179)	-	850,280	850,280	1,143,251	1,188,981	1,236,540	1,286,002	5,705,054
7464(9885)	-	50,000	50,000	50,000	50,000	50,000	50,000	250,000
7464(8728)	436,060	2,000,000	2,436,060	2,227,904	2,321,822	2,419,498	2,526,626	11,931,910
7464(8235)	-	96,000	96,000	96,000	96,000	96,000	96,000	480,000
7464(8444)	-	32,151,920	32,151,920	34,791,881	36,159,775	37,606,166	39,110,413	179,820,155
7464(8361)	-	2,499,280	2,499,280	2,599,251	2,703,221	2,811,530	2,923,991	13,537,273
	436,060	39,919,514	40,355,574	46,548,607	48,201,156	49,939,009	51,712,307	236,756,653
	11,532,172	58,935,608	70,467,780	50,648,607	62,754,525	64,350,624	71,634,824	319,856,360
Projects								
8488	-	150,000	150,000	150,000	150,000	150,000	150,000	750,000
8488	-	450,000	450,000	-	400,000	350,000	350,000	1,550,000
8488	-	450,000	450,000	-	350,000	100,000	100,000	1,000,000
8188	5,155,080	3,111,986	8,267,066	2,500,000	2,500,000	2,000,000	2,000,000	17,267,066
8488	-	250,000	250,000	-	150,000	100,000	100,000	600,000
8488	-	500,000	500,000	116,351	450,000	375,000	375,000	1,816,351
	5,155,080	4,911,986	10,067,066	2,766,351	4,000,000	3,075,000	3,075,000	22,583,417
Capital Projects								
7464(8214)	-	2,125,388	2,125,388	2,113,890	2,113,890	2,113,890	2,113,890	10,580,948

FY 2016 - 2020 Five Year Capital Plan
as of September 9, 2015

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8493	\$ 533,445	\$ -	\$ 533,445	\$ -	\$ -	\$ -	\$ -	\$ 533,445
8431	80,222	-	80,222	-	-	-	-	80,222
8423	48,449	-	48,449	-	1,000,000	353,552	1,000,000	2,402,001
	662,116	-	662,116	-	1,000,000	353,552	1,000,000	3,015,668
Technology Projects								
7464(8441)	-	583,625	583,625	586,000	587,000	588,000	588,000	2,932,625
7464(7422)	-	350,000	350,000	325,000	350,000	350,000	350,000	1,725,000
7464(8371)	-	2,042,222	2,042,222	2,085,098	2,085,098	2,085,098	2,085,098	10,382,614
	-	2,975,847	2,975,847	2,996,098	3,022,098	3,023,098	3,023,098	15,040,239
	662,116	2,975,847	3,637,963	2,996,098	4,022,098	3,376,650	4,023,098	18,055,907
Technology Transfers								
8934	39,550	-	39,550	-	1,000,000	1,000,000	1,000,000	3,000,000
8422	208,211	-	208,211	-	2,762,734	2,000,000	5,000,000	9,970,944
8823	772	-	772	-	-	-	-	772
8253	44	-	44	-	781,511	290,000	663,396	1,734,951
8349	128,633	-	128,633	-	-	-	-	128,633
8253	8,758	-	8,758	-	-	-	-	8,758
8253	394	-	394	-	-	-	-	394
8370	43,674.60	3,400,000.00	3,443,675	2,500,000	1,500,000	1,500,000	1,500,000	10,443,675
8235	14,745	-	14,745	-	-	-	-	14,745
8440	-	503,640	503,640	-	-	-	-	503,640
8253	3,326	-	3,326	-	182,726	-	500,000	686,052
	448,107	3,903,640	4,351,747	2,500,000	6,226,971	4,790,000	10,663,396	28,532,113

FY 2016 - 2020 Five Year Capital Plan
as of September 9, 2015

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8056	\$ 113,750	\$ -	\$ 113,750	\$ -	\$ -	\$ -	\$ -	\$ 113,750
8056	579,492	1,500,000	2,079,492	-	1,000,000	1,000,000	2,250,000	6,329,492
8056	-	144,000	144,000	-	-	-	-	144,000
8056	-	500,000	500,000	-	-	-	500,000	1,000,000
8056	49,170	14,182,596	14,231,766	1,386,721	5,000,000	5,000,000	5,000,000	30,618,487
8056	239	-	239	-	-	-	-	239
on Projects	742,650	16,326,596	17,069,246	1,386,721	6,000,000	6,000,000	7,750,000	38,205,967
Ind:								
on Maintenance	-	1,500,000	1,500,000	1,500,000	1,500,000	1,500,000	1,500,000	7,500,000
Transportation	-	6,390,109	6,390,109	6,847,676	6,847,676	6,847,676	6,847,676	33,780,813
on Transfers	742,650	24,216,705	24,959,355	9,734,397	14,347,676	14,347,676	16,097,676	79,486,780
on Projects	20,067,535	45,423,316	65,490,851	12,018,072	33,045,340	29,895,167	43,675,913	184,125,343
on Transfers	436,060	92,496,264	92,932,324	100,809,844	104,802,686	108,586,176	111,706,344	518,837,374
Projects and Transfers	20,503,595	137,919,580	158,423,175	112,827,916	137,848,026	138,481,343	155,382,257	702,962,717

\$ 64,623,041 \$ 296,992,490 \$ 291,168,091 \$ 291,851,408 \$ 305,966,777 \$ 1,517,749,788

V. SUPPORTING STUDIES:

A. Monitoring and Evaluation

The role of monitoring and evaluation is vital to the effectiveness of any planning program and particularly for the Capital Improvements Element.

Therefore, the Capital Improvements Element requires a continuous program for monitoring and evaluation, and pursuant to Chapter 163, F.S., this element will be reviewed on an annual basis to ensure that required fiscal resources are available to provide public facilities needed to support adopted LOS standards.

The Planning and Engineering Department will have the responsibility of reviewing the Capital Improvements Element and providing an annual report on behalf of the Local Planning Agency (LPA). The Planning and Zoning Commission is designated the LPA for the City of Greenacres.

VI. NOTES:

1. James E. Frank and Robert M. Rhodes, "INTRODUCTION" Development Exactions, (Washington, D.C.: American Planning Association, 1987);
2. Michael J. Meshenberg, The Language of Zoning Report No. 322 Planning Advisory Service, (Chicago: American Society of Planning Officials, 1976),
3. Robert W. Burchell and David Listokin, The Fiscal Impact Guidebook: Estimating The Local Costs And Revenues Of Land Development. New Brunswick: Center for Urban Policy Research, 1978),
4. State of Florida, A Review of the Use and Administration of Impact Fees in Florida, Senate Economic, Community and Consumers Affairs Committee, January, 1987.
5. ~~State of Florida, Department of Community Affairs, "Chapter 9J-5, FAC," Sec. 9J-5.016 Capital Improvements Element-Florida Statutes Chapter 163.3177, Required and optional elements of the comprehensive plan; studies and surveys.~~
6. State of Florida, Department of Community Affairs, Model Element Capital Improvements Element, May 1987

REVISION HISTORY

March 16, 1998	Ord. 97-09
November 5, 2001	Ord. 2001-03
May 6, 2002	Ord. 2001-20
January 6, 2003	Ord. 2002-25
November 17, 2003	Ord. 2003-04
February 7, 2005	Ord. 2004-36
November 21, 2005	Ord. 2005-32
November 20, 2006	Ord. 2006-22
September 15, 2008	Ord. 2008-03
December 1, 2008	Ord. 2008-19
December 21, 2009	Ord. 2009-14
November 1, 2010	Ord. 2010-15
February 6, 2012	Ord. 2012-01
January 7, 2013	Ord. 2012-15
March 17, 2014	Ord. 2014-01
March 2, 2015	Ord. 2015-01
April 4, 2016	Ord. 2016-10