

**Chapter 5 - Conservation Element**

<b>Page</b>	<b>Section</b>	<b>Summary of Changes</b>
1	2	removed last sentence about US Geological survey topo map
2	2	add sentence about flood plains areas same as wetland areas
4	5	removed reference to Soils Map
5	6	changed "518" to "530" conservation acres
6	9	removed reference to Contour Map
7	11	removed reference to Contour Map
8	Table 2	updated FLUCCS land use and land coverage table acreages
11	5	added heading "Environmentally Sensitive Lands", updated acreage from "518" to "530"
12	5	revised sentence about active eagles nest
12	7	revised paragraph about FDEP Water System Sanitary Survey Report
13	10	replaced "one" with "the"
13	11	removed sentence about reliability and redundancy issues
14	Policy 1.1.1	removed sentence about FLU map allocating land for manufacturing
14	Policy 1.1.3	removed bullet about promoting PUD / Mixed Use
18	Policy 1.3.2	changed "in the event" to "where"
19	Policy 1.3.5b	revised paragraph about nonpotable water
19	Policy 1.3.5c	removed this bullet about low volume plumbing fixtures, updated subsequent #'s
23	Policy 1.4.4	tree protection: removed "and native vegetation"
25	Policy 1.7.2	removed "and native vegetation"
31	Policy 1.14.1	changed maximum from 50% to 25% for wetland percentage of open space

CONSERVATION ELEMENT



TOWN OF HOWEY-IN-THE-HILLS

LAKE COUNTY, FLORIDA

ADOPTED ON OCTOBER 11, 2010

AMENDED APRIL 22, 2020

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## CHAPTER 5 CONSERVATION ELEMENT

### A. INTRODUCTION

#### 1. Purpose

The purpose of the *Conservation Element* is to provide a guide for the conservation, use, and protection of natural resources located within the Town. The *Element* is intended to protect and enhance the public health, safety, welfare and the quality of the environment.

In addition, the *Element* establishes a plan and policy direction concerning conservation of natural resources and will provide a basis for decision-making by Town officials. As growth occurs, the need for protection and management of the Town's natural resources will increase.

The Town's natural resources are identified and analyzed. A description of these resources and their significance is also presented. Policies to maintain and enhance these resources as well as shape growth patterns of the Town are included.

#### 2. Environmental Setting

The Town is situated in the Ocklawaha River watershed in the Howey Slough, Lake Harris and Eustis, Little Lake Harris, and Little Everglades drainage basins. The Ocklawaha River watershed covers 2,769 square miles from the Green Swamp in Polk County and Lake Apopka sub-basins north through the Rodman Reservoir to the river's discharge into the St. Johns River near the town of Welaka. Along the way the river receives water from Silver Springs via the Silver River and Orange Creek. It is the largest tributary watershed of the St. Johns River.

The Town lies on the Lake Wales Ridge, a physiographic high that has a high potential for aquifer recharge to the Florida Aquifer. There is little topographic relief within the Town (90 feet). The upper limit is approximately 150 feet above sea level and drops to near 60 feet at Little Lake Harris. Neither differential creates serious problems in the Town. ~~An extract of the U.S. Geological Survey topographical map is featured on the Town's Contour Map.~~

### B. INVENTORY OF CONSERVATION RESOURCES

#### 1. Rivers, bays, lakes, estuarine systems, natural reservations, etc.

There are no rivers or streams that flow through the Town. Lake Illinois and a few small unnamed lakes are within the Town limits. Additionally, the Town is adjacent to Little

Lake Harris. Most of these lakes are maintained by the County. There are no lakes in Town classified as “A Florida Outstanding Water”. The lakes are used for boating, swimming, fishing and other water activities. Overall, pollution comes from home fertilizations and road runoff. However, there are no major pollution and water quality issues with Little Lake Harris and the other lakes within the Town.

## 2. Floodplains

Floodplains are valuable resources which provide a rich diversity of vegetation and wildlife. These areas are sources for groundwater recharge that filters through soils during high water levels. The 100-year floodplains are also subject to inundation during a 100-year storm, causing potential loss of life and property, disruption of services, and economic loss. These areas cannot tolerate continued development which, in effect, retards their ability to absorb water and restrict the flow of water from adjacent higher elevation areas.

The County’s Geographic Information Systems (GIS) database shows that there are 100-year floodplains in the Town (see the Town’s *Floodplains Map*). The flood plain areas are generally coterminous with the wetland areas. The FEMA flood zone designations in Howey-in-the-Hills are as follows:

- Zone A – Areas with a 1% annual chance of flooding and a 26% chance of flooding over the life of a 30-year mortgage. Because detailed analyses are not performed for such areas, no depths or base flood elevations are shown within these zones.
- Zone AE - The base floodplain where base flood elevations are provided. AE Zones are now used on new format FIRMs instead of A1-A30 Zones.

Development within floodplains will continue to be closely scrutinized to ensure compliance with established regulations.

## 3. Groundwater Resources

The Floridan aquifer is the principal source of drinking water for all of Lake County. Currently almost all the ground water pumped in Lake County comes from the Upper Floridan but the potential for utilizing the lower Floridan aquifer is just beginning to be explored in Lake County.

Aquifer recharge is the process whereby rainfall percolates downward through the soil to reach the underlying aquifers. Recharge to the Floridan aquifer occurs in areas of the County where the elevation of the water table of the surficial aquifer is higher than the elevation of the potentiometric surface of the Floridan aquifer. In these areas, water moves from the surficial aquifer in a downward direction through the upper confining unit to the Floridan aquifer. The surficial aquifer system in the County is recharged by rainfall. Recharge is augmented locally by artificial recharge - wastewater or reuse water land application, rapid-infiltration basins, and septic systems.

Howey-in-the-Hills is in a recharge area with a recharge rate of 1 to 10 inches per year and a discharge rate of less than 1 inch per year.

The federal Safe Drinking Water Act, as amended in 1986, established a new program for the States to delineate and manage Wellhead Protection Areas for the protection of public ground water supplies. The Wellhead Protection Program is the first resource-based approach at the federal level for ensuring that ground water supplies are protected from a wide range of potential contaminating sources. The U.S. Environmental Protection Agency is the principal federal agency for implementing the Wellhead Protection Program with the states.

Wellhead protection areas are the surface and subsurface areas surrounding a water well or well field supplying a public water system, through which contaminants are reasonably likely to move toward and reach the water well or well field. Factors to consider in developing wellhead protection include:

- delineating protection areas around well fields.
- assessing the locations and threats to the well(s).
- developing management approaches and educational outreach programs; and
- regulatory or non-regulatory tools to reduce contamination threats.

The Town restricts development (except facilities related to the public water system) from occurring within a 150-foot radius of any existing or proposed public well (Primary Protection Zone). No septic tanks, sanitary sewer facilities, or solid waste or disposal facilities are permitted within a 200-foot radius of any existing or proposed public well (Secondary Protection Zone). The Town also has established a 500 foot in radius wellhead protection area within which manufacturing or light industrial uses are prohibited. The wellhead protection areas for the Town's potable water supply wells are shown on the *Existing and Future Land Use Maps*.

#### **4. Commercial Valuable Mineral Sources**

There are three commercially valuable minerals utilized in Lake County: sand, clay and peat. A large amount of fill dirt is also removed.

The County has extensive deposits of clay and sand that cover the majority of Lake County and major deposits of peat located near lakes Apopka, Griffin and Minnehaha and the Okahumpka Marsh. These deposits were utilized as muck farms, but they have since been purchased for conservation or urban development. The County possesses two limestone deposits along its western border at Okahumpka and the Green Swamp Area of Critical State Concern. There are also substantial phosphate deposits in the far northern portion of Lake County along Lake George. However, the Ocala National Forest has land use policies that strictly forbid the mining of phosphates in the Forest.

Lake County requires that mining operations must follow certain procedures in order to obtain approval from the County before beginning operations. There are no mining operations in the Town.

**5. Areas with Soil Erosion Problems**

Soil erosion is not a significant issue in Lake County, except for where large areas are prematurely cleared for development. There are no areas in the Town with soil erosion problems.

Slopes of more than 10 percent are considered unsuitable for septic tank drain fields. These slopes generally correspond with the ridge and upland regions of the County, where the soils have some potential for erosion when denuded of vegetation and are usually classified as having low runoff potential. There are a variety of soil types in Howey-in-the-Hills (*see the Town's Soils Map*). The general descriptions of the soils in the Town are found below in Table 1.

**TABLE 1: SOILS**

Map Unit Name	Hydric Soil	Drainage Class	Steel Corrosion	Concrete Corrosion	Acres
Anclote and Myakka Soils	Yes	Very Poorly Drained	High	Moderate	14.34
Apopka Sand, 0 to 5 Percent Slopes	No	Well Drained	Moderate	High	51.88
Apopka Sand, 5 to 12 Percent Slopes	No	Well Drained	Moderate	High	28.00
Arents	No	Somewhat Poorly Drained	Unranked	Unranked	141.21
Borrow Pits	Partially Hydric	Unranked	Unranked	Unranked	2.82
Candler Sand, 0 to 5 Percent Slopes	No	Excessively Drained	Low	High	760.47
Candler Sand, 12 to 40 Percent Slopes	No	Excessively Drained	Low	High	3.16
Candler Sand, 5 to 12 Percent Slopes	No	Excessively Drained	Low	High	299.71
Immokalee Sand	Partially Hydric	Poorly Drained	High	High	32.30
Kendrick Sand, 5 to 8 Percent Slopes	No	Well Drained	Moderate	High	6.24
Lake Sand, 0 to 5 Percent Slopes	No	Excessively Drained	Low	High	114.40
Lake Sand, 5 to 12 Percent Slopes	No	Excessively Drained	Low	High	12.98

Map Unit Name	Hydric Soil	Drainage Class	Steel Corrosion	Concrete Corrosion	Acres
Lochloosa Sand	No	Somewhat Poorly Drained	High	High	11.98
Myakka Sand	Partially Hydric	Poorly Drained	High	High	95.48
Ocoee Mucky Peat	Yes	Very Poorly Drained	High	High	4.11
Oklawaha Muck	Yes	Very Poorly Drained	High	Low	6.14
Paola Sand, 0 to 5 Percent Slopes	No	Excessively Drained	Low	High	1.97
Placid and Myakka Sands, Depressional	Yes	Very Poorly Drained	High	High	23.83
Pompano Sand	Partially Hydric	Poorly Drained	High	Moderate	13.86
Sparr Sand, 0 to 5 Percent Slopes	No	Somewhat Poorly Drained	Moderate	High	18.44
Swamp	Yes	Very Poorly Drained	Unranked	Unranked	55.94
Tavares Sand, 0 to 5 Percent Slopes	No	Moderately Well Drained	Low	High	309.40
Water	Unranked	Unranked	Unranked	Unranked	317.67
Wauchula Sand	Partially Hydric	Poorly Drained	High	High	19.59

Notes: Drainage Class - Identifies the natural drainage conditions of the soil and refers to the frequency and duration of wet periods.  
Concrete Corrosion - Susceptibility of concrete to corrosion when in contact with the soil.  
Steel Corrosion - Susceptibility of uncoated steel to corrosion when in contact with the soil.

Source: U.S. Department of Agriculture, Natural Resources Conservation Service’s Lake County Soils Geographic Information Systems database.

**6. Environmentally sensitive lands; fisheries; important habitat or corridors; marine habitats, rare or endangered ecosystems or wildlife; and vegetative communities including forests**

Howey-in-the-Hills has about ~~518~~ 530 acres of lands designated as Conservation on the *Future Land Use Map*. The Town identifies Conservation lands as all land used for wetlands, some forests, public managed lands, floodplains, flood prone areas, and other areas in which valuable natural resources are found. No buildings are allowed on conservation lands. The only permitted uses are boardwalks, docks, observation decks, and similar facilities as allowed by the Town and all regulatory agencies.

Wetlands by definition are transitional lands between terrestrial and aquatic systems where the water table is usually at or near the surface, or the land is covered with shallow waters. They provide habitat for many species of birds, fish, and animals, and contain Aquifer Recharge Zones that allow the groundwater to be replenished. Wetlands are protected by local, regional, state, and federal regulations because of the numerous benefits they provide.

Wetland functions are interconnected with the hydrology of the area. This connection determines the presence, extent, movement, and quality of water in the wetland. It is estimated that wetlands account for about 515 acres in the Town (see the Town's *Wetlands Map*). The Town has established guidelines and standards for wetland buffer zones in this *Plan* and in the Land Development Regulations.

There are no areas of critical state concern in the Town.

There are no first magnitude springs in the Howey-in-the-Hills area.

## **7. Air**

Air quality is another example of a natural resource that impacts the Town's and surrounding areas quality of life. The Florida Department of Environmental Protection and the United States Environmental Protection Agency monitor air quality data in Lake County. Lake County does not have an established program dedicated to monitoring air quality. Overall, Lake County's air quality can be considered good. The County meets all Clean Air Act standards.

The Town requires that air pollutants, including smoke, particulate matter, odor and toxic matter be consistent with Florida Department of Environmental Protection's air pollution standards.

## **8. Water**

The Town currently owns, operates and maintains a central potable water treatment and distribution system. The Town's potable water system provides water for both residential and non-residential purposes, including fire-fighting demands. The details of the water system are found in the Public Facilities Element.

The Town requires all new construction to connect to its potable water distribution system. A detailed analysis of the Town's potable water system is featured in the *Public Facilities Element* of this *Comprehensive Plan*.

## **9. Sinkholes**

Sinkholes are a natural and common geologic feature in areas underlain by limestone and other rock types that are soluble in natural water. The term sinkhole is used for closed depressions in the land surface that are formed by surficial solution or by subsidence or collapse of surficial materials owing to the solution of near-surface limestone or other soluble rocks. One small sinkhole, which occurred in 1998, has been noted over the years in the Howey-in-the-Hills area (~~see the Town's Contour Map~~).

## 10. Vegetative and Land Cover Types

Data Documentation for Lake County prepared by the St. Johns River Water Management District (SJRWMD) in 2004 was examined with regard to the land cover within the Town. The SJRWMD identified 35 classes of vegetative and land cover types in Howey-in-the-Hills (see Table 2).

## 11. Topography

~~An examination of the Town's Contour Map indicates that the~~ The highest elevation in the Town is at 170 feet above sea level south of E. Revels Road, west of Sunset Drive, and east of State Road 19. Around this area, there is a difference of about 80 feet in elevation. Lakes and major wetland areas are shown at about 80 feet. Along Little Lake Harris, the difference in elevation is about 10 to 15 feet. There are no differential elevations that create serious problems in the Town.

## 12. Issues

The probability exists of pollution from many sources included, but not limited to:

- homes along the lakefronts (fertilizers, etc.).
- stormwater runoff from local streets; or
- malfunctioning septic tanks.

**TABLE 2: SJRWMD’S LAND USE AND LAND COVER FOR HOWEY-IN-THE-HILLS**

<b>FLUCCS*</b>	<b>Description</b>	<b>Aeres</b>
1100	Residential, low density—less than 2 dwelling units/acre	75.09
1200	Residential, medium density—2-5 dwelling units/acre	220.72
1290	Medium density under construction	0.21
1300	Residential, high density—6 or more dwelling units/acre	12.41
1400	Commercial and services	15.47
1480	Cemeteries	6.71
1510	Food processing	26.49
1700	Institutional	39.99
1820	Golf courses	117.63
1860	Community recreational facilities	2.88
2110	Improved pastures (monoculture, planted forage crops)	128.39
2120	Unimproved pastures	170.32
2130	Woodland pastures	4.02
2150	Field Crops	13.67
2210	Citrus groves	568.74
2510	Horse Farms	0.00
3100	Herbaceous upland non-forested	55.64
3300	Mixed upland non-forested	0.59
4110	Pine Flatwoods	9.61
4340	Upland mixed coniferous/hardwood	56.95
4410	Coniferous pine	317.75
4430	Forest regeneration	19.72
5100	Streams and waterways	1.91
5200	Lakes	38.81
5250	Open water within a freshwater marsh / Marshy Lakes	69.85
5300	Reservoirs—pits, retention ponds, dams	30.08
6170	Mixed wetland hardwoods	4.71
6210	Cypress	2.23
6300	Wetland forested mixed	82.64
6410	Freshwater marshes	135.96
6430	Wet prairies	0.53
6440	Emergent aquatic vegetation	13.03
6460	Mixed scrub shrub wetland	100.82
7400	Disturbed Land	0.08
8310	Electrical power facilities	0.72
	<b>TOTAL</b>	<b>2,344.34</b>

<u>FLUCCS</u> <u>*</u>	<u>Description</u>	<u>Acres</u>	<u>%</u>
<u>1100</u>	<u>Residential, low density - less than 2 dwelling units/acre</u>	<u>38.0731</u>	<u>1.609%</u>
<u>1180</u>	<u>Residential, Rural - Less than or equal to 0.5 dwelling units per acre (one unit on 2 or more acres)</u>	<u>8.3516</u>	<u>0.353%</u>
<u>1200</u>	<u>Residential, Med. Density - Two to five dwelling units per acre</u>	<u>301.6878</u>	<u>12.746%</u>
<u>1300</u>	<u>Residential, High Density</u>	<u>17.0085</u>	<u>0.719%</u>
<u>1400</u>	<u>Commercial and Services</u>	<u>9.3131</u>	<u>0.393%</u>
<u>1480</u>	<u>Cemeteries</u>	<u>6.7126</u>	<u>0.284%</u>
<u>1510</u>	<u>Food processing</u>	<u>26.4365</u>	<u>1.117%</u>
<u>1700</u>	<u>Institutional</u>	<u>56.6450</u>	<u>2.393%</u>
<u>1820</u>	<u>Golf course</u>	<u>115.8057</u>	<u>4.893%</u>
<u>1860</u>	<u>Community recreational facilities</u>	<u>2.8878</u>	<u>0.122%</u>
<u>2110</u>	<u>Improved pastures</u>	<u>126.3193</u>	<u>5.337%</u>
<u>2130</u>	<u>Woodland pastures</u>	<u>17.2319</u>	<u>0.728%</u>
<u>2150</u>	<u>Field crops</u>	<u>23.3098</u>	<u>0.985%</u>
<u>2210</u>	<u>Citrus groves</u>	<u>405.7462</u>	<u>17.143%</u>
<u>2430</u>	<u>Ornamentals</u>	<u>0.6710</u>	<u>0.028%</u>
<u>3100</u>	<u>Herbaceous Upland Nonforested</u>	<u>125.8634</u>	<u>5.318%</u>
<u>3300</u>	<u>Mixed Upland Nonforested</u>	<u>200.2551</u>	<u>8.461%</u>
<u>4200</u>	<u>Upland Hardwood Forest</u>	<u>8.7772</u>	<u>0.371%</u>
<u>4340</u>	<u>Upland mixed coniferous/hardwood</u>	<u>72.7684</u>	<u>3.074%</u>
<u>4410</u>	<u>Coniferous pine</u>	<u>150.2215</u>	<u>6.347%</u>
<u>4430</u>	<u>Forest regeneration</u>	<u>163.9841</u>	<u>6.928%</u>
<u>5200</u>	<u>Lakes</u>	<u>0.0485</u>	<u>0.002%</u>
<u>5300</u>	<u>Reservoirs</u>	<u>17.2315</u>	<u>0.728%</u>
<u>6170</u>	<u>Mixed wetland hardwoods</u>	<u>20.0335</u>	<u>0.846%</u>
<u>6210</u>	<u>Cypress</u>	<u>7.0190</u>	<u>0.297%</u>
<u>6300</u>	<u>Wetland Forested Mixed</u>	<u>89.5607</u>	<u>3.784%</u>
<u>6410</u>	<u>Freshwater marshes</u>	<u>219.2805</u>	<u>9.264%</u>
<u>6430</u>	<u>Wet prairies</u>	<u>18.8743</u>	<u>0.797%</u>
<u>6440</u>	<u>Emergent aquatic vegetation</u>	<u>23.8118</u>	<u>1.006%</u>
<u>6460</u>	<u>Mixed scrub-shrub wetland</u>	<u>92.1100</u>	<u>3.892%</u>
<u>7400</u>	<u>Disturbed land</u>	<u>0.0871</u>	<u>0.004%</u>
<u>8310</u>	<u>Electrical power facilities</u>	<u>0.7171</u>	<u>0.030%</u>

<u>8340</u>	<u>Sewage treatment plants</u>	<u>0.0485</u>	<u>0.002%</u>
-	<u>TOTAL</u>	<u>2366.892</u> <u>1</u>	<u>100.000</u> <u>%</u>

**Notes:** \*FLUCCS = Florida Land Use, Cover and Forms Classification System  
**Source:** St. Johns River Water Management District’s GIS Land Use and Land Cover 2004-2005 District Wide Data.

**C. ANALYSIS**

**1. Rivers, bays and lakes**

As previously mentioned, Lake Illinois and a few small unnamed lakes are within the Town limits. Additionally, the Town is adjacent to Little Lake Harris. While most of these lakes are maintained by the State and County agencies, the Town will continue efforts to inform lakefront property owners about water quality and protection measures in and/or adjacent to Howey-in-the-Hills. The Town will enforce appropriate codes on lakefront areas that are in the Town’s jurisdiction.

To protect lakefronts from the encroachment of development, the Town has established a shoreline protection and lakefront littoral zone. Only passive recreational activities are permitted within the lakeshore protection zone. The Town will continue to ensure that no other construction activity will encroach into the lakeshore protection zone.

The residents of Howey-in-the-Hills see the lakes as a critical element of their quality of life and understand the importance of preserving and maintaining the lakes’ water quality. The Town shall continue to support initiatives to improve and protect the lakes in the Howey-in-the-Hills area.

**2. Floodplains**

To protect the floodplain area, the Town requires applicants for development and redevelopment projects to position structures and impervious surfaces to areas outside of the flood zone to the extent possible. Manufacturing, commercial, and office land uses are prohibited from encroaching the uplands of the 100-year flood zone, with the exception to 100% permeable surface parking areas designed for seasonal or occasional overflow demands. The Town has additional flood plain protection measures established in the Land Development Regulations.

While there are areas with FEMA Flood Zone designations ‘AE’ and ‘A’, the Town knows of no flood prone (low lying areas) in the areas around the local lakes.

### 3. Minerals

As previously mentioned, there are three commercially valuable minerals utilized in Lake County: sand, clay and peat. A large amount of fill dirt is also removed. The Town anticipates that these commercially valuable minerals will continue to be extracted in various parts of the County during the short range and long-range planning period. In the event of mineral extraction within the Town, the Town will ensure that all Federal, State and County regulations shall be followed.

### 4. Soil Erosion

There are no areas known to have soil erosion problems and no great elevation differences exist in Town. To prevent both soil erosion and sedimentation, the Town requires a soil erosion and sedimentation control plan whenever a development will involve any clearing, grading, or other form of distributing land by movement of earth, provided that any one of the following applies:

- Excavation, fill, or any combination thereof will exceed 500 cubic yards.
- Fill will exceed 3 feet in vertical depth at its deepest point as measured from the natural ground surface.
- Excavation will exceed 4 feet in vertical depth at its deepest point as measured from the natural ground surface.
- Excavation, fill, or any combination thereof will exceed an area of 1,000 square feet.
- Plant and/or tree cover is to be removed from an area exceeding 1,000 square feet on any parcel of land: or
- Whenever excavation or fill is proposed within 100 feet of a stream, stream channel, or body of water, a soil erosion and sedimentation control plan shall be provided.

In addition to the standards listed above, the Town has established additional erosion control measures in the Land Development Regulations.

### 5. Environmentally Sensitive Lands

**Environmentally sensitive lands, fisheries, wildlife, marine habitats and vegetative communities including forests. As previously stated, the Town has identified about ~~518~~ **530** acres of conservation lands on the *Future Land Use Map*. These are environmentally sensitive lands with natural resources that the Town shall continue to protect and conserve. In addition, the Town considers the lakes in the area as natural resources and as such, the Town shall use its full authority and the cooperation of other governmental agencies to protect, maintain, and enhance the water quality of these lakes.**

Species such as indigo, coral, and rattlesnakes; doves, quail, osprey, woodpeckers and other birds; squirrels, raccoons, rabbits, otters, pileated and other woodpeckers, and owls, are seen in the Town.

No attempt has been made to instigate identification of rare or unique plants and animals or vegetative communities. It is hoped that as a result of public participation in this *Plan*, that additional information and efforts will result.

~~No endangered, threatened species or those of special concern are known to be in the Town. One active eagles nest has been identified and buffer zones will be designated around the nest should any development proposals arise in that area.~~

The Town shall continue to require that no development other than water-related passive recreation or conservation facilities will be allowed in the wetland areas of Town.

## **6. Air**

Overall, the air quality in Howey-in-the-Hills, a small community with no point source problems, is good. The Town will continue to review the air quality plans of Lake County on a regular basis to monitor the air quality standards in the Howey-in-the-Hills area.

## **7. Water**

~~The most recent FDEP Community Public Water System Sanitary Survey Report identified no significant deficiencies at either of the Town's water plants. The three minor housekeeping issues identified were promptly corrected. The Town has no known issues with water quantity. The Town has experienced some issues related to water quality caused by dead-end water lines, and the Town has initiated a program of hydrant flushing to address those issues. The Town is in the process of replacing the north water treatment plant with a new facility supported by two new production wells. When complete the new plant will provide adequate water to support planned development and stabilize water pressures in the northern portion of Town. Improvements to the south water treatment plant have also been made and the Town now has a capital improvements program for updating the water system.~~

## **8. Sinkholes**

As previously stated, the Town is in an area with no major sinkhole problems; one small sinkhole occurred in 1998. When a sinkhole develops, the Town shall implement proper planning and engineering strategies to repair or alleviate damages needed to reduce adverse environmental impacts.

## 9. Wellfield Protection Areas

The Town shall continue to restrict development (except facilities related to the public water system) from occurring within a 150-foot radius of any public wells. No septic tanks, sanitary sewer facilities, or solid waste or disposal facilities shall be permitted within a 200-foot radius of any existing or proposed public well. The Town shall also maintain a 500-foot radius wellhead protection area within which manufacturing or light industrial uses are prohibited. Land use restrictions within the wellhead protection area are established in the Town's Land Development Regulations.

## 10. Hazardous Waste

Hazardous waste is discussed in the *Public Facilities Element*. Solid waste disposal is achieved through franchise agreements with ~~one~~the solid waste hauler. Hazardous waste is regulated by State and local rules. The Town shall provide education to its residents and businesses on the importance of proper handling of hazardous wastes, especially in relation to protecting natural resources.

## 11. Water requirements

As previously mentioned, the Town's potable water system provides water for both residential and non-residential purposes, including fire-fighting demands. The system has enough capacity to support the population demand during the planning period of this *Comprehensive Plan*. ~~However, there are significant reliability and redundancy issues that require upgrades to existing facilities and construction of additional facilities.~~

## 12. Coordination

The Town shall work independently and with Lake County to educate and enforce lakefront regulations in order to protect the water quality. Howey-in-the-Hills will also work independently as well as with Lake County to preserve some of the natural environment along the lakes as a habitat for native species.

## D. GOALS, OBJECTIVES AND IMPLEMENTING POLICIES

**GOAL 1:** Conserve, protect and effectively manage natural resources within the Town of Howey-in-the-Hills, particularly environmentally sensitive lands that include Little Lake Harris, Lake Illinois, all wetlands, groundwater quality, and scarce vegetative communities.

**OBJECTIVE 1.1:** *Protect Air Quality.* Protect Air Quality within the Town of Howey-in-the-Hills by complying with or exceeding air standards established by the Florida Department of Environmental Protection and the United States Environmental Protection Agency.

**POLICY 1.1.1:** *Commercial and Industrial Land use Designations.* The Town shall promote land use activities which are conducive to maintaining existing air quality by defining permitted or non-permitted uses within commercial and industrial land use designations. ~~The Future Land-Use Map shall not allocate any land for use by manufacturing activities.~~

**POLICY 1.1.2:** *Coordinate with Lake County and Neighboring Local Governments.* The Town shall coordinate with Lake County and other neighboring local governments to assure that land use controls applicable to adjacent areas promote land uses which shall not adversely impact air quality within the Town. The Town shall encourage these jurisdictions to consider the affects of prevailing wind directions on the location of manufacturing or commercial developments occurring adjacent to the Town, with emphasis to avoid locating any pollution-generating activities to the south, west, or north side of the Town.

**POLICY 1.1.3:** *Automobile Emission Pollution.* The Town shall continue to reduce the potential for automobile emission pollution by:

1. Requiring vegetative buffers strips, walls and/or berms between roadways and new developments.
2. Establishing additional bike paths/walkways to promote the reduction in use of automobiles; and
3. ~~Promote Planned Unit Development/Mixed Use type of land use, where feasible.~~

**POLICY 1.1.4:** *Prohibition of New Industries.* The Town shall continue to prohibit new industries in the Town which might have adverse impacts on air quality.

**POLICY 1.1.5:**        ***Open Burning.*** The Town shall discourage open burning due to its adverse impacts on air quality.

**POLICY 1.1.6:**        ***Alternative Energy Resources.*** The Town shall encourage the use of alternative energy resources that do not degrade air quality.

**OBJECTIVE 1.2:**        ***Protect Water Quality of Surface and Ground Waters.*** Protect the quality of surface and ground water by controlling existing and potential sources of contaminants and by coordinating the Federal, State and County entities having jurisdictional authority over these water sources.

**POLICY 1.2.1:**        ***Restricting Manufacturing Uses.*** The *Future Land Use Element* shall not allocate any Manufacturing land use activities adjacent to lake front areas or within high recharge groundwater aquifer areas that generate pollutants that may adversely impact the quality of surface and ground waters. The guidelines established in the Town's Land Development Regulations regarding manufacturing uses permitted within non-residential districts shall serve as a guide to monitor the type and intensity of such uses in the Town.

**POLICY 1.2.2:**        ***Proposed Commercial Developments.*** During the development review process, the Town shall require applicants of proposed commercial developments to provide evidence that all appropriate operating permits have been issued by State regulatory agencies, particularly for commercial activities, such as gasoline stations, using on-site storage facilities for chemical or hazardous materials and wastes.

**POLICY 1.2.3:**        ***Shoreline Protection and Lakefront Littoral Zones.*** Development occurring adjacent to lake shoreline or wetland areas shall prepare a design and management plan prior to the construction of the on-site improvements. This plan shall include and comply with the following guidelines:

- a.    ***Preserve Native Vegetation.*** Only native vegetation shall be maintained within the shoreline and lakefront littorals zone.
- b.    ***Shoreline Management Plan.*** Require a shoreline management plan that describes procedures to assure minimal impacts to water quality and shoreline erosion. Where deemed necessary, silt screening shall be implemented to retain alluvial sediments carried by runoff stormwater or wave action.

- c. ***Protection of Littoral Zone.*** Applicants of new development or redevelopment shall include the following with the site plan and development application:
1. Include typical cross sections of the surface water management system showing 100 Year Water Mark elevation and the 3-foot contour (i.e., below average elevation), which ever is greater.
  2. Specify what vegetation will be removed or planted in the littoral zone within the proposed development plan, including the extent, method, type and timing of any planting to be provided.
  3. Provide a description of any management procedures to be followed in order to assure the continued viability and health of the lakefront littoral zone. The lakefront littoral zone as established should consist entirely of native vegetation and should be maintained permanently as part of the water management system. As a minimum, 10 square feet of vegetated lakefront littoral zone per linear foot of lake shoreline is required as part of the surface water management system.
- d. ***Limiting Development.*** Limit development within the lakefront littoral zone to water-dependent structures such as docks and piers.
- e. ***Class III Waters Protection.*** Class III Waters (i.e., waterbodies which currently support recreation and foster maintenance of fish and aquatic wildlife). All lakes within or adjacent to the Town are Class III waters. These waters shall be protected through the following activities:
1. Dredging activities shall be limited to Florida Department of Environmental Protection (FDEP) approved dredging.
  2. Ensure good water quality by coordinating with the FDEP, Florida Department of Natural Resources (FDNR), and the St. Johns River Water Management District in monitoring the quality of stormwater run-off and all discharge. The Town shall notify the appropriate

agency with jurisdiction as potential issues or problems are identified by the Town.

3. Limit the use of Class III waters to water dependent activities that are not contrary to the public interest and satisfy a community need.
- f. **Require Wetland Buffer Zones.** In order to protect the quality and quantity of surface waters and provide habitat for semi-aquatic or water-dependent terrestrial species of wildlife, buffer zones shall be provided landward of all wetlands as outlined below.
1. No development or disturbance of area is permitted within 25 feet of a designated wetland area. These areas shall be marked with appropriate signage as conservation areas.
  2. No building or impervious surface area (except for wet retention areas) is permitted within 50 feet of a designated wetland area.

Uniform buffer area standards shall be consistent with criteria and requirements stipulated in Policy 1.2.6,

- g. **Shoreline Protection Zone.** To protect the lake front areas from the encroachment of development, a shoreline protection zone shall be delineated. There shall be no disturbance within 50 feet of the landward extent of wetlands as set forth in Rule 62-340, except for pilings for docks or piers. There shall be no buildings, pools, ponds, or other structures in this protection zone. There shall be no septic tanks within 75 feet of the landward extent of wetlands as set forth in Rule 62-340. All development shall be subject to the building setback requirements regarding the shoreline protection zone established in the Town's Land Development Regulations.

**POLICY 1.2.4:** **Designation of Wetlands.** The Town shall designate all wetlands within the Town as Conservation within the *Future Land Use Element* and on the *Future Land Use Map*.

**POLICY 1.2.5:** *Limiting Development within Wetland Areas.* The Town shall limit development within all wetland areas to land uses supporting conservation facilities and water-related passive recreation activities.

**POLICY 1.2.6:** *Sites under Construction Requirement.* To protect water quality within lakes, the Town shall require sites under construction to provide measures to retard, impede, and treat surface water runoff, consistent with water quality level of service standards established in the *Public Facilities Element*.

**OBJECTIVE 1.3:** *Protect the Quantity of Surface and Ground Water.* Protect the quantity of surface and ground water through preservation of permeable surface and through promotion of conservation activities affecting the consumption of potable water.

**POLICY 1.3.1:** *Avoid Reduction of Recharge Volumes Entering Ground Water Supplies.* The Town shall avoid reduction of recharge volumes entering ground water supplies through the following governmental actions:

- a. The *Future Land Use Element* and the *Future Land Use Map* shall promote land use activities and development densities which are compatible to high recharge potential percolation rates.
- b. The *Public Facilities Element* shall promote recharge and discourage runoff.
- c. Promote the application of permeable parking lot surfaces for commercial developments proposed within high recharge areas.

**POLICY 1.3.2:** *State Grant Funds for Infrastructure Needs.* The Town shall continue to research available State grant funds applicable for infrastructure needs/feasibility studies for local governments. ~~In the event~~ **Where** a wastewater system is installed, then the Town shall evaluate the merits of a wastewater reclamation program to reduce potable water consumption associated with lawn and landscaping irrigation.

**POLICY 1.3.3:** *Compliance with Water Management District Consumptive Use Permit.* The Town shall not exceed maximum allowable rates of water consumption issued by the St. Johns River Water Management District for ground water withdrawal from municipal wells. The Town shall comply with maximum allowable rates

specified within the Water Management District's *Consumptive Use Permit*.

**POLICY 1.3.4:** *Cooperation with Water Management District Emergency Water Plan.* The Town shall cooperate with the St. Johns River Water Management District (SJRWMD) in the enforcement of the provisions of the Water Management District's emergency water shortage plans, and in the implementation of the appropriate groundwater conservation and protection programs outlined in the Regional Water Supply Plan of the SJRWMD. [9J-5.013(2)(c)(4), F.A.C.]

**POLICY 1.3.5:** *Promote Conservation of Water.* To conserve potable ground water sources and to accomplish reasonable reductions in water consumption, the Town shall undertake the following activities:

- a. The Town shall notify the St. Johns River Water Management District of the presence of any abandoned free-following artesian wells identified within its municipal jurisdiction.
- b. ~~The Town shall require new developments to use non-potable water for irrigation where such non-potable water sources are available. A distribution system for nonpotable water (i.e., stormwater, surface water, and reclaimed water) shall be installed throughout concurrent with development for all land uses within the project (i.e., residential and nonresidential). The nonpotable distribution system shall be developed in parallel to the potable water system and maintained for utilization when sufficient quantities of stormwater, surface water, or reclaimed water are available for irrigation. Irrigation systems installed in a development shall be designed to accept nonpotable water.~~
- c. ~~The Town shall require low volume plumbing fixtures in all new construction.~~
- d. c The Town shall routinely evaluate the performance of its water distribution system to determine if excessive leakage is occurring. In addition, the well pump water meters shall be monitored on a quarterly basis to assure proper operation and recording. The Town shall schedule repairs to any identified damage or deficiency in the distribution system based on the extent of damage, urgency to correct the problem, and availability of necessary funds. Any improvement qualifying

as a capital improvement and not deemed to represent an emergency shall be included within the *Capital Improvement Program*.

- e. d The Town shall require new development to use and/or preserve native or drought-resistant vegetation for landscaping to the greatest reasonable extent.

**POLICY 1.3.6:** *Preservation of Permeable Surface.* The *Future Land Use Element* and the *Future Land Use Map* shall establish land use types and densities which are compatible to the preservation of permeable ground surface areas. Impervious surface ratios shall be based on open space requirements established by the Town, which in turn shall be consistent with hydrogeological and soil characteristics controlling development densities. The *Future Land Use Element* shall include open space requirements and impervious surface ratios for all land use categories consistent with the following guidelines:

	Minimum open space requirements
Rural Lifestyle	50%
Low Density Residential	2 dwelling units per acre
Medium Density Residential	25%
Town Center Mixed Use	25%
Village Mixed Use	25%
Neighborhood Commercial	0.50 floor area ratio; 70% max. impervious surface coverage
Light Industrial	70% max. impervious surface coverage; .6 FAR
Institutional	25%
Recreation	Max. 30% impervious surface coverage
Conservation	No buildings except boardwalks, docks, observation decks, and similar facilities as allowed by the Town and all regulatory agencies.
Public/Utilities	0.25 FAR; max. impervious surface coverage of 50%

The open space definition and standards established in Policy 1.14.1 of this *Element* shall also be enforced by the Town.

**POLICY 1.3.7:**        ***Water Supply Facilities Plan.*** Howey-in-the-Hills' *Water Supply Facilities Work Plan (Work Plan)* shall assess existing and projected water sources and needs for at least a 10-year planning period and consider the *Regional Water Supply Plan* of the St. Johns River Water Management District. The *Work Plan* will also identify traditional and alternative water supply sources, including water conservation efforts, which the Town may use to reduce or satisfy existing and projected water demands.

**POLICY 1.3.8:**        ***Water Conservation and Work Plan.*** The Town will continue to implement the water conservation efforts identified in the *Work Plan*. These efforts will include concentrating on outreach and education as well as irrigation system modifications and indoor plumbing retrofits.

**OBJECTIVE 1.4:**        ***Conserve and Protect Native Vegetative Communities.*** To establish performance criteria designed to protect and retain major vegetative communities and aquatic habitats, including Sandhill communities, and Wetlands. To preserve sufficient natural upland habitat of each community type and wetlands to maintain viable populations of all native plant and animal species.

**POLICY 1.4.1:**        ***Alteration or Clearing of Native Habitat.*** Activities which require the alteration or clearing of native habitat of designated species shall be surveyed for occurrences of designated species by qualified ecologists prior to the issuance of a development permit.

**POLICY 1.4.2:**        ***Management Plans and Land Dedication.*** Development activities which have adverse effect upon a designated species shall require mitigation or shall not be permitted. Where viable habitat for designated species occur on a site, management plans and incentives to dedicate lands for conservation shall be encouraged.

**POLICY 1.4.3:**        ***Restriction of Development Activities.*** All development activities shall be prohibited within the preservation areas established in Policy 1.4.2 except for recreational and educational uses. A sufficient number of preservation/conservation areas of appropriate size and location shall be identified and maintained by the Town or other entity to guarantee protection of viable populations of all native plant and animal species.

**POLICY 1.4.4:** *Priority of Preservation or Conservation Areas.* Priority for preservation/conservation areas shall be placed on the following areas:

a. ***Shoreline.*** The area at the water line and landward at least 25 feet shall be preserved as natural areas for protection of plants, animals, and other wildlife as well as water quality.

b. ***Upland Vegetative Communities, Wildlife Habitats, and Protection of Endangered and Threatened Flora and Fauna Species.*** These natural resources and species shall be protected through the following activities:

1. Upland vegetative communities and wildlife habitats (particularly those identified as primary habitat for endangered or threatened species) for which the Town or State agency deems environmentally significant shall be protected from adverse impacts associated with development. Upland areas identified within the *Conservation Element* as essential breeding, feeding or habitat sites for endangered or threatened flora or fauna creatures shall be protected.

i. ***Conservation Designation.*** Important upland habitat may be designated as conservation under the following circumstances:

1. The site is owned by a government body or agency:
2. The site is programmed for purchase by a government agency within the first three years of the *Five-Year Schedule of Capital Improvements*.
3. The site is designated as conservation through the development review process.

A habitat management plan will not be required unless proposed development within the site designated as conservation intends to remove or displace an active nesting or breeding area on an endangered or threatened specie or will remove or eradicate a living endangered or threatened plant.

- ii. **Undesignated Sites with Endangered or Threatened Species.** Any areas identified within the *Conservation Element* as refuge, breeding, feeding, or habitat areas of endangered or threatened species shall be subject to the following activities:
  1. An applicant for development of any kind shall prepare a Critical Habitat Management Plan prepared by a professional biologist, ecologist, or other related professional. As a minimum standard this Plan shall analyze the following issues:
    - a. Affected Species.
    - b. Land needs to support continued on-site presence of the species.
    - c. Impacts of proposed development which will disturb the species.
    - d. Recommended management plans and measures necessary to protect the subject species.
    - e. Cost to implement the recommended management plan.

The Town reserves the right to have a State agency review the Critical Habitat Management Plan and provide a response. The adequacy of the study shall be determined by the Town. The final development plan shall conform to recommendations determined within the study.

- iii. **Tree Protection Ordinance.** The Town's Tree ~~and Native Vegetation~~ Protection Ordinance shall be used in managing and protecting the impacts of development on major vegetative communities and aquatic habitats. These regulations shall mandate fair and equitable restoration and/or compensatory mitigative measures in order to compensate for loss of vegetation and to enhance stabilization of fragile slopes and/or lake shorelines.

**OBJECTIVE 1.5:** *Conserve, Appropriately Use and Protect Fisheries.* Conserve appropriately use and project fisheries indigenous to Little Lake Harris.

**POLICY 1.5.1:**     ***Manage Impacts of Development on Fisheries.*** The Town shall promote land use activities within the *Future Land Use Element* and designated on the *Future Land Use Map* which are compatible with preservation of fisheries within Little Lake Harris. The Town shall prohibit any land use which shall detrimentally affect water quality or water temperature within Little Lake Harris.

**POLICY 1.5.2:**     ***Assist Federal and State Agencies in the Maintenance of Fish Populations.*** The Town shall coordinate with and assist Federal and State environmental and wildlife preservation agencies to protect fish populations within Little Lake Harris and to promote environmental management activities which enhance fish propagation through natural processes or by managed fish restocking.

**POLICY 1.5.3:**     ***Aquatic Weed Control.*** The Town shall coordinate with the Lake County Water Authority to control any aquatic weed, algae blooms, or other aquatic plant proliferation occurring within Little Lake Harris.

**OBJECTIVE 1.6:**     ***Conserve Wildlife and Wildlife Habitats.*** Conserve and Protect Wildlife and Wildlife Habitats through the management of growth and development within the Town, and through coordination with Lake County and State agencies involved in wildlife management.

**POLICY 1.6.1:**     ***Manage Impacts of Development on Wildlife Habitats.*** The Town shall restrict development activities known to adversely impact endangered, threatened, or rare wildlife and wildlife habitats of special concern as defined by the Florida Fish and Wildlife Commission (FFWC) and/or Florida Department of Environmental Protection (FDEP).

**POLICY 1.6.2:**     ***Coordinate with the State and Regional Agencies to Promote Preservation of Wildlife and Wildlife Habitats.*** The Town shall notify the Florida Department of Agriculture and Consumer Affairs to any significant clusters of endangered or threatened plant (fauna) species occurring within its jurisdiction. The Town shall notify the FFWC and/or FDEP in the presence of any roosting, nesting, or frequented habitat areas for endangered or threatened wildlife occurring within its jurisdiction.

**OBJECTIVE 1.7:**     ***Protection of Soils, Minerals, and Environmentally Sensitive Lands.*** Conserve, appropriately use, and protect soils, minerals, environmentally sensitive lands and native vegetative communities.

**POLICY 1.7.1:**     ***Soil Erosion and Sedimentation Control.*** To prevent both soil erosion and sedimentation, the Town shall require a soil erosion and sedimentation control plan whenever a development will involve any clearing, grading, or other form of distributing land by movement of earth, provided that any one of the following applies:

- Excavation, fill, or any combination thereof will exceed 500 cubic yards.
- Fill will exceed 3 feet in vertical depth at its deepest point as measured from the natural ground surface.
- Excavation will exceed 4 feet in vertical depth at its deepest point as measured from the natural ground surface.
- Excavation, fill, or any combination thereof will exceed an area of 1,000 square feet.
- Plant and/or tree cover is to be removed from an area exceeding 1,000 square feet on any parcel of land: or
- Whenever excavation or fill is proposed within 100 feet of a stream, stream channel, or body of water, a soil erosion and sedimentation control plan shall be provided.

In addition to the standards listed above, all development and redevelopment projects involving land clearing shall comply with additional erosion control measures set forth in the Land Development Regulations.

**POLICY 1.7.2:**     ***Tree ~~and Native Vegetation~~ Protection Ordinance.*** The *Tree ~~and Native Vegetation~~ Protection Ordinance* shall be applicable to all clearing and grading activities in Town. Developers shall be required to take precautionary measures, where necessary, to avert destruction or damage to native vegetation and existing trees.

**POLICY 1.7.3:**     ***Coordination with the U.S. Soil Conservation District.*** The Town shall notify the local office of the U.S. Soil Conservation Service of any soil erosion problems that may occur within the Town's jurisdiction.

**POLICY 1.7.4:**     ***Regulation of Mining Activities.*** No mining activities shall be permitted within the Town and discouraged in any neighboring area.

**OBJECTIVE 1.8:**            *Protection of Conservation, Floodplain, and Wetland Areas.* The Town shall protect identified conservation, floodplains and wetland areas by implementing the following policies.

**POLICY 1.8.1:**            *Designation of Environmentally Sensitive Areas.* The *Future Land Use Element* shall designate all wetlands, sink holes, floodplains, and surface waters as Conservation; the Town may designate significant high recharge areas, and undisturbed natural vegetative communities as Conservation depending on the necessity to protect such areas under this designation. The *Future Land Use Map Series* shall illustrate areas designated as Conservation. The precise delineation of each area must be through specific studies and field determination.

**POLICY 1.8.2:**            *Permitted Buildings in Conservation Areas.* No buildings shall be permitted in areas designated for Conservation on the *Future Land Use Map* except for boardwalks, docks, observation decks, and similar facilities as allowed by the Town and all regulatory agencies.

**POLICY 1.8.3:**            *Additional Wetlands Protection.* The Town shall continue to ensure that:

- a) development plans for new development identify the location and extent of wetlands located on the property:
- b) development plans provide measures to assure that predevelopment flows and quality of water will be provided to maintain wetlands after development; and,
- c) where alteration of wetlands is necessary in order to allow reasonable use of property it should be clearly in the public interest and there is no practical alternative which reduces or avoids impacts to wetlands. Mitigation shall only be a last resort action to be used only after other measures such as reconfiguring of the development to avoid sensitive areas, reduction of density, etc. have been considered and shown not to be feasible. There shall be no net loss of sensitive lands. Any mitigation shall avoid impact to ecologically valuable uplands.

**POLICY 1.8.4:**            *Minimizing Fill within Floodplain.* The Town shall ensure that flood control measures for new development minimize fill within the floodplain area defined within the Town's *Floodplain Protection Ordinance*. Where no alternative fill exists, compensatory storage

for such fill should be provided through excavation of a volume of uplands equivalent to the loss of storage within the defined floodplain caused by the placement of fill.

**POLICY 1.8.5:** ***Floodplain Mitigation.*** Development within the 100 Year Floodplain shall provide necessary mitigation to maintain the natural stormwater flow regime. The 100 Year Floodplain Zone shall be delineated within the *Future Land Use Map Series*. The boundary of the 100 Year Floodplain Zone shall be determined by the most recent Flood Insurance Maps prepared by the Federal Emergency Management Agency. Mitigation shall occur through the following activities:

- a. ***Prohibited Land Uses and Activities.*** Storing or processing materials that would, in the event of a 100 Year Storm, be buoyant, flammable, explosive, or potentially injurious to human, animal or plant life is prohibited. Material or equipment immune to substantial damage by flooding may be stored if securely anchored to prevent flotation or if readily removable from the area upon receipt of a flood warning. Manufacturing land uses shall be prohibited from encroaching the 100 Year Floodplain Zone.
- b. ***Minimum Floor Height Elevation.*** All new construction and substantial improvements of existing construction must have the first-floor elevation for all enclosed areas at eighteen inches above the 100 year flood elevation.
- c. ***Construction Materials and Methods.*** All new construction and substantial improvements of existing construction shall be constructed with materials and utility equipment resistant to flood damage and using methods and practices that will minimize flood damage and prevent the pollution of surface waters during a 100 year flood event.
- d. ***Service Facilities and Utilities.*** Electrical heating, ventilation, plumbing, air conditioning, and other service facilities shall be designed or located to prevent water from entering or accumulating within the components during a base flood. All new and replacement water supply and sanitary sewage systems shall be designed to minimize or eliminate both infiltration of flood water into the systems and discharges for the systems into flood waters.

- e. ***Residential Subdivision Plans and Design.*** Plans and designs for subdivisions shall minimize potential flood damage by locating recreation and conservation uses, if included in the plans, to areas within the Flood Zone, reserving as much land as possible outside the flood zone for other land uses. Flood zones shall be identified on all final development plans submitted to the Town.
  
- f. ***Stormwater Facilities.*** The Town shall require development to have drainage facilities in place and functioning concurrent with the impacts of development, as stipulated by deadlines established within the Concurrency Management System. Such drainage facilities shall be designed to comply with the Town's established level of service standard. Developers shall be required to install all necessary drainage facilities necessary to maintain the natural flow regime of the 100-year floodplain, consistent with level of service standards.

**POLICY 1.8.6:** ***Incompatible Land Uses.*** The Town shall ensure that future land uses that are incompatible with the protection and conservation of wetlands are directed away from wetlands.

**POLICY 1.8.7:** ***Legal Agreement.*** Newly created mitigated areas, preservation or conservation areas as a part of a development shall be identified in a legal agreement which ensures their protection and maintenance in perpetuity. These areas shall be depicted on the *Future Land Use Map* as Conservation lands.

**OBJECTIVE 1.9:** ***Hazardous Waste.*** Manage the use and disposal of hazardous wastes to protect natural resources and public health and safety.

**POLICY 1.9.1:** ***Collection and Disposal of Hazardous Waste.*** The Town shall cooperate with the County, State and Federal Government in the collection and disposal of hazardous waste.

**POLICY 1.9.2:** ***Protect Natural Ecological Systems and Resources.*** The Town shall continue to enforce land development regulations which incorporate development restrictions directed toward preserving natural ecological systems and resources.

**POLICY 1.9.3:** ***Assist Lake County Hazardous Waste Management Program.*** The Town shall assist Lake County in the monitoring and management of hazardous waste generators within Howey-in-the-Hills by

coordinating with the Lake County Department of Environmental Utilities to notify County staff about new commercial developments that may use or generate hazardous waste. The Town shall also notify the County of the presence of any disposed, buried, or stored wastes or material for which the volatility and chemical contents thereof are unknown.

**OBJECTIVE 1.10: *Conservation of Historically Significant Sites.*** Conserve historically significant sites to maintain the historical character of the Town.

**POLICY 1.10.1: *Promote the Identification of Historically Significant Sites.*** The Town shall coordinate with the State Division of Historic Resources in continuing to identify, protect, analyze, and explain the Town's historically significant sites. Such efforts shall include determination of their worth and vulnerability, as well as determination of specific applicable preservation management policies.

**POLICY 1.10.2: *Preservation of Historic, Archaeological, and Cultural Resources.*** The Town shall prohibit activities that depreciate or eliminate the historical value of sites registered on State or Federal historic files. Activities deemed adverse to the preservation of historic sites shall include:

- a. Demolition or alteration of all or part of such sites.
- b. Isolation from, or alteration of the associated environment.
- c. Placement of visual, audible, or atmospheric elements that foster discordance with the character of the property.
- d. Transfer or sale of a registered historical site without adequate contractual written agreement to maintain and preserve the historical character of the structure.
- e. Removal or placement of native vegetation shall be subject to restrictions and requirements stated within the Town's *Tree and Native Vegetation Protection Ordinance*.

**POLICY 1.10.3: *Registration of Locally Historic Sites.*** The Town shall promote and support local efforts, including those fostered by the Lake County Historical Society, to effectively pursue registration of historically significant sites under Federal and State certified historical master files.

**POLICY 1.10.4:** *Florida Master Site File.* The Town shall use the *Florida Master Site File* as a resource to identify archeological resources and historically significant structures.

**OBJECTIVE 1.11:** *Implementation and Evaluation of Conservation Activities.* Conservation activities shall be evaluated and implemented according to the following policies:

**POLICY 1.11.1:** *Conservation Activities and Capital Improvements.* Conservation activities involving the purchase of land or the expenditure of funds qualifying as a capital improvement as defined within the *Capital Improvement Element*, shall be scheduled and budgeted within the *Five-Year Capital Improvement Program and Schedule*.

**POLICY 1.11.2:** *Evaluating Conservation Activities.* The Town shall periodically review conservation goals, objectives and policies supported in the *Conservation Element* of this *Comprehensive Plan* to measure the effectiveness of the Town's conservation activities. Deficiencies identified within the evaluation process shall be analyzed to determine ameliorative measures necessary for correction.

**OBJECTIVE 1.12:** *Intergovernmental Coordination Activities for the Conservation of Natural Resources.* Manage natural resources and conservation issues transcending the Town's jurisdictional area or constituting an issue of regional nature through intergovernmental coordination.

**POLICY 1.12.1:** *Intergovernmental Coordination.* The Town shall coordinate with Federal, State, and Lake County agencies to manage natural resources and conservation activities and identify and regulate wetland areas, floodplains, environmentally sensitive lands, conservation areas, and unique native habitats in Town. Such management activities shall engage, but not be limited to participation in technical review activities; ensuring public facilities are readily available to serve proposed developments; or attending public meetings regarding environmental issues that will have a direct or adverse impact to the Town.

**POLICY 1.12.2:** *Coordination with the East Central Florida Regional Planning Council.* The Town shall coordinate with the East Central Florida Regional Planning Council in preparing amendments to the Town's *Comprehensive Plan* and to review any development of regional impact (DRI) studies associated with any development within the Town, or for DRI projects impacting natural resources or conservation activities within Howey-in-the-Hills.

**OBJECTIVE 1.13: *Reducing Energy Requirements.*** Enhancing conservation and efficiency measures to reduce energy requirements shall be practiced.

**POLICY 1.13.1:** *Energy Conservation Measures.* The Town shall conduct energy audits, monitor energy use and implement cost-effective energy conservation measures in all public buildings.

**POLICY 1.13.2:** *Promote the Use of Energy Saving.* The Town shall continue to reduce levels of all air-conditioning, heating and lighting systems during non-business hours and promote the use of energy saving features in all government buildings.

**POLICY 1.13.3:** *Energy Efficient Construction and Operation.* Local codes and ordinances shall be structured to permit handicap implementation of energy efficient construction and operation.

**OBJECTIVE 1.14: *Redefining Open Spaces.*** To redefine and provide a more specific definition of open spaces and ensure that adequate uplands are preserved for the residents and guests of Howey-in-the-Hills to enjoy.

**POLICY 1.14.1:** *Definition of Open Space.* The Town hereby adopts the following definition for open spaces:

***Open Space:*** Open space is figured on the Gross Land Area. No greater than ~~50%~~ 25% of the open space requirement may be met with wetlands. Open space may include landscaped buffers and stormwater facilities if they are designed to be a park-like setting with pedestrian amenities and free form ponds. Open space may be passive or active. Open space may include public recreational components of developments. The majority of the open space shall be permeable; however, up to 10% may be impervious (plazas, recreational facilities, etc.). Wet ponds are not counted as part of that 10%.

Densities shall be determined by the Net Land Area. The Net Land Area is figured by taking the Gross Land Area (total property less any lakes or water bodies), then subtracting from that any open space requirements, then subtracting from that any remaining unbuildable acreage (remaining wetlands).

**POLICY 1.14.2:** *Purchasing Environmentally Sensitive Lands and Uplands.* To ensure adequate uplands are preserved for the public to enjoy, the Town shall acquire additional open space by purchasing

environmentally sensitive lands and lands adjacent to uplands as practical and feasible.