

**ENVIRONMENTAL ASSESSMENT  
FOR THE  
SHADOW LAKE  
PROJECT SITE**

**CITY OF MAITLAND  
ORANGE COUNTY, FLORIDA**

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## SECTION 1.0

### INTRODUCTION

This application presents a request to modify Permit # 40-095-0383 issued August 4, 1994 for the Winfield subdivision. A copy of the permit is included as **Attachment 1**. The Shadow Lake project site covers approximately 45.7 acres. It is located west of Keller Road, south of Pembroke Drive, and is situated between Lake Shadow and Lake Lovely in the city of Maitland (See **Figure 1**). Specifically, the project site is located in Section 34, Township 21 South, Range 29 East in north central Orange County.

This application includes the construction of a multi-family residential community and its associated infrastructure. Included in this application is a proposal to modify the conservation easement that was permitted for the Winfield subdivision under Permit #40-095-0383.

Glatting Jackson Kercher Anglin Lopez Rinehart, Inc. (Glatting Jackson) was contracted to assess the type, extent, and condition of wetlands and the potential for protected species on the project site. Ecologists from Glatting Jackson mapped pre-development Florida Land Use, Cover, and Forms Classification System (FLUCFCS) designations (Florida Department of Transportation, 1999) for use in construction permitting. The scope of this investigation was limited to ecological elements such as jurisdictional wetlands and state- and federally-listed protected plants and animal species. Glatting Jackson conducted no subsurface soil, water quality, or hazardous materials investigations.

## SECTION 2.0

### ENVIRONMENTAL SETTING

The Shadow Lake project site occurs in the western portion of the City of Maitland on the western edge of Lake Shadow. Specifically, the project site encompasses  $\pm 45.65$  acres and is proposed to include the construction of a multi-family residential development.

#### 2.1 Pre-Development Conditions

##### 2.1.1 Vegetation

Land use cover types for the project were mapped according to the Florida Department of Transportation (FDOT) Florida Land Use, Cover and Forms Classification System (FLUCFCS) (FDOT 1999) (**Figure 2**). The FLUCFCS designations for the vegetative communities on the project site are described as follows:

110        *Residential, Low Density ( $\pm 1.65$  acres)*

This land use contains the remains of a vacated homestead, including a concrete foundation, partial walls and roof, and associated well and septic structures. The lot is landscaped with exotic palm trees and pasture grasses. Other canopy species include ear pod tree (*Enterolobium contortisiliquum*), laurel oak (*Quercus laurifolia*), pond pine (*Pinus serotina*), camphor tree (*Cinnamomum camphora*), and golden rain tree (*Koelreuteria bipinnata*). The shrub and herbaceous layers are comprised of bahiagrass (*Paspalum notatum*), brackenfern (*Pteridium aquilinum*), caesarweed (*Urena lobata*), air potato (*Dioscorea bulbifera*), and muscadine (*Vitis rotundifolia*).

310        *Herbaceous Upland Nonforested ( $\pm 1.55$  acres)*

The herbaceous upland occurs in the north central portion of the site and is dominated by an open shrub layer of scattered wax myrtle (*Myrica cerifera*) and cabbage palm (*Sabal palmetto*). The ground cover includes dogfennel (*Eupatorium capillifolium*), fireweed (*Erechtites hieraciifolia*), scattered chalky bluestem (*Andropogon virginicus*), bahiagrass (*Paspalum notatum*), caesarweed, Virginia creeper (*Parthenocissus quinquefolia*), muscadine, white tickseed (*Bidens alba*), blackberry (*Rubus* sp.), and greenbrier (*Smilax* sp.). This area has undergone previous disturbances and is in early stages of ecological succession.

434        *Upland Mixed Coniferous/Hardwood ( $\pm 13.28$  acres)*

The uplands on the site consist of a mixed canopy dominated by laurel oak, water oak (*Quercus nigra*), ear pod tree, chinaberry (*Melia azedarach*), southern magnolia (*Magnolia grandiflora*),

Chinese tallow (*Sapium sebiferum*), with occasional swamp bay (*Persea palustris*), dahoon holly (*Ilex cassine*), longleaf pine (*Pinus palustris*) and pond pine also occurring. The shrub and groundcover layer is relatively open and is dominated by saplings of laurel oak, swamp bay, red maple (*Acer rubrum*), southern magnolia, and live oak (*Quercus virginiana*). Other species in the shrub layer include guava (*Psidium* sp.), black cherry (*Prunus serotina*), and laurel cherry (*Prunus caroliniana*). The herbaceous layer consists of chalky bluestem, American beautyberry (*Callicarpa americana*), muscadine, Boston fern (*Nephrolepis exaltata*), poison ivy (*Toxicodendron radicans*), cinnamon fern (*Osmunda cinnamomea*), brackenfern, highbush blueberry (*Vaccinium corymbosum*), Virginia chainfern (*Woodwardia virginica*), netted chainfern (*Woodwardia areolata*), creeping ox-eye (*Wedelia trilobata*), caesarweed, white tickseed, maidencane (*Panicum hemitomon*), blackberry, wiregrass (*Aristida beyrichiana*), dogfennel, and a variety of other escaped ornamentals.

520      *Lake (± 5.38 acres)*

The open-water portion of Lake Shadow on the site includes a littoral zone of herbaceous species, which consists of dense shrub and sub-canopy sized carolina willow (*Salix caroliniana*) with scattered individuals of red maple, blackgum (*Nyssa sylvatica* var. *biflora*), primrose willow (*Ludwigia peruviana*), and dahoon holly. The herbaceous portion of the littoral zone consists of pickerelweed (*Pontederia cordata*), white water lily (*Nymphaea* sp.), cattail (*Typha latifolia*), water hyacinth (*Eichhornia crassipes*), marsh pennywort (*Hydrocotyle umbellata*), maidencane, torpedo grass (*Panicum repens*), alligator weed (*Alternanthera philoxeroides*), smart weed (*Polygonum lapathifolium*), muscadine, and Virginia willow (*Itea virginica*).

617      *Mixed Wetland Hardwood (± 15.38 acres)*

This forested vegetation type occurs along the western edge of Lake Shadow and comprises the majority of the southwestern portion of the site (see **Figure 2**). In the northeast corner of the property (Area #1 of the UWAM analysis addressed in Section 2.1.3), the vegetation type follows the edge of a ditch that is in a drainage easement. The vegetation adjacent to the drainage easement consists of pond pine, camphor tree, golden rain tree, and ear pod tree. The groundcover consists of dense Boston fern, caesarweed, air potato, netted chainfern (*Woodwardia areolata*), swamp fern (*Blechnum serrulatum*), and Virginia willow (*Itea virginica*).

Further south, along the west side of Lake Shadow, the wetland consists of a canopy of laurel oak, pond pine, sweetbay (*Magnolia virginiana*), dahoon holly, and a narrow fringe of Carolina willow. The subcanopy and groundcover layer consists of the above-listed species, with wax myrtle, Virginia willow, fetterbush (*Lyonia lucida*), muscadine, greenbrier, Virginia chainfern, cinnamon fern, and netted chainfern. The soils are hydric, with 4 or 5 inches of mucky texture over saturated soil. There are significant amounts of exotic species in this area including air potato, various species of palms, Boston fern, ear pod tree, and Chinese tallow.

Canopy of the mixed hardwood wetlands in the central and western portions of the site (Area #2 of the UWAM analysis addressed in Section 2.1.3) consists of sweetbay, laurel oak, water oak, swamp bay, red maple, camphor tree, chinaberry, chinese tallow, scattered loblolly bay (*Gordonia lasianthus*) and blackgum with a subcanopy layer of the same species and a shrub and groundcover layer of red maple, laurel oak, American beautyberry, swamp fern, cinnamon fern, royal fern (*Osmunda regalis*), poison ivy, netted chainfern, dense muscadine, air potato, scattered dog fennel, blackberry, and elderberry.

#### 618 Willow and Elderberry ( $\pm 8.41$ acres)

The 618 cover type (Area #3 of the UWAM analysis addressed in Section 2.1.3) consists of a scattered canopy of camphor tree, chinaberry, and occasional laurel oak and sweetbay with a shrub layer of elderberry, scattered wax myrtle and carolina willow, winged sumac with a ground cover of dense muscadine, blackberry, cinnamon fern, chalky bluestem, ragweed (*Ambrosia artemisiifolia*), elephant's foot (*Elephantopus* spp.), air potato, wild bamboo (*Smilax auriculata*), meadowbeauty (*Rhexia* sp.), witchgrass (*Dichanthelium* sp.), dog fennel, and Japanese climbing fern (*Lygodium japonicum*).

### 2.1.2 Soils

As mapped by the United States Department of Agriculture/Soil Conservation Service (USDA/SCS) and depicted in **Figure 3**, the following seven (7) soil types occur on the Shadow Lake project site:

- Basinger fine sand, depressionnal (3);
- Samsula-Hontoon-Basinger Association, depressionnal (41);
- Sanibel Muck (42);
- Smyrna fine sand (44);
- Smyrna-Urban Land Complex (45);
- Tavares-Urban Land Complex, 0-5% slopes (48); and
- Zolfo fine sand (54).

The soils underlying the project site range from moderately well drained to very poorly drained, with the poorly drained Smyrna fine sand and Smyrna-Urban Land Complex dominating the area proposed for development. Basinger fine sand, depressionnal; Samsula-Hontoon-Basinger Association, depressionnal; and Sanibel Muck are considered to be hydric based on the Hydric Soils of Florida Handbook (1995). Smyrna fine sand and Smyrna-Urban Land Complex exhibit limited hydric inclusions and are typically characterized by upland areas of broad flatwoods.

### 2.1.3 Jurisdictional Wetlands

The wetland lines depicted in **Figure 4** represent the extent of St. Johns River Water Management District (SJRWMD) jurisdiction as delineated by Bill Lites of Glatting Jackson pursuant to methodology outlined in Chapter 62-340 Florida Administrative Code (F.A.C.). The lines were field inspected and approved by Stephanie Savilla of the SJRWMD on August 19, 2003.

Correspondence with the Florida Department of Environmental Protection (FDEP) resulted in confirmation that requirements normally applicable to state submerged lands do not apply to Lake Shadow or Lake Lovely due to the lack of sufficient historical information (**Attachment 2**). Therefore, Section G of the ERP application is not required for this application.

The one contiguous wetland on site was divided into three assessment areas (Area #1-3) to facilitate analyses for sections with homogeneous characteristics, such as hydrology and vegetation. FLUCFCS information, total acreages, and impact acreages for each wetland area on the project site are included in **Table 1 – Project Wetland and Other Surface Water Summary**.

#### 2.1.4 Listed Wildlife and Plants

The United States Fish and Wildlife Service (USFWS), through the Endangered Species Act and other regulatory instruments, and the Florida Fish and Wildlife Conservation Commission (FFWCC), through Chapter 68 of the Florida Administrative Code, regulate activities that may affect protected species. The Shadow Lake project site was evaluated by ecologists from Glatting Jackson for the occurrence or potential occurrence, of threatened and endangered (T&E) wildlife and plant species according to methodology outlined by the FFWCC. Wildlife and plant species that are listed as threatened, endangered, and/or species of special concern (SSC) that have the potential to occur within Orange County are included as **Table 2**.

##### 2.1.4.1 Wildlife

Pedestrian surveys were performed throughout the site. Ecologists visually scanned with binoculars for evidence of listed species and any nesting or roosting sites. Further evidence of listed species was sought through aural investigation of wildlife calls as well as visual inspection of physical markings such as tracks, scat, and nesting or cavity trees. Species, or evidence of species, observed during wildlife surveys on the Shadow Lake project site are listed in **Table 3**.

A detailed inventory for gopher tortoise (*Gopherus polyphemus*), a state Species of Special Concern (SSC), will be conducted throughout the project site using the guidelines set forth by the FFWCC (in *Ecology and Habitat Protection Needs of Gopher Tortoise (Gopherus polyphemus) Populations Found on Lands Slated for Large-Scale Development in Florida, Nongame Wildlife Program Technical Report No. 4.*). If necessary, a gopher tortoise Incidental Take Permit (ITP)

for the Shadow Lake project site will be submitted to the FFWCC prior to construction on a phase-by-phase basis.

#### 2.1.4.2 Plants

Although the Florida Department of Agriculture (FDA) lists plant species, such as cinnamon fern and royal fern, found on the site as commercially exploited, their listing is primarily to protect landowners from pilfering by plant collectors. No plant species listed as critically imperiled, imperiled, or rare by the Department of Community Affairs (DCA) 9J-2.041 Rule were observed to be present on the project site.

## 2.2 Post-Development Conditions

Proposed post-development changes include three phases of construction for a multi-family residential development (see **Figure 5**). Construction plans for the project are included in the engineering portion of this submittal.

### 2.2.1 Proposed Impacts

The acreage of wetland impacts proposed as a result of the Shadow Lake development are detailed in **Table 1** and illustrated in **Figure 4**, while the functional assessment using UMAM for impacts and secondary impacts is included in **Table 4**. Proposed impacts to Areas #1-3 total approximately 2.93 acres and are the result of dredging and filling to construct a stormwater treatment pond, residential buildings, and associated roadways (primary impacts). The results of the UMAM calculations, shown in **Table 4**, reveal a functional loss from primary impacts of 1.11 acres for the project site. The portions of Wetland Areas #1-3 proposed to remain in the post development condition were also evaluated for secondary impacts (e.g., lack of sufficient buffer and impediments to wildlife access due to proximity of development). UMAM was used to quantify the value of these areas before and after development (see **Table 5**). A functional loss of 0.14 acres is estimated to result from secondary impacts on the project site. Primary and secondary impacts combine for a total functional loss of 1.25 acres.

The wetland buffer averages 25 feet throughout the project site (see Sheet ST1 of the Shadow Lake construction plans). However, an encroachment within the minimum 15-foot buffer occurs at one location around Building C3 that is 7.5 feet from the wetland line. However, a headwall will be placed between the development and the wetland to serve as a physical buffer to the wetland. Drainage from these areas behind the headwall will be routed through the stormwater system prior to discharge into the wetland. This negligible area of buffer encroachment is included in the assumptions for the UMAM analysis of secondary impact.

To create views from the residential units to Lake Shadow and maintain the natural character of Wetland Area #1, undesirable and exotic vegetative species, dead vegetation, and selective limbs

(from 3'-15') are proposed for removal on an annual basis. The secondary impacts resulting from the removal of dead material and selective limbing within the wetland have been incorporated into the UMAM analysis and mitigation proposal. This area (1.11 acres) will be placed under conservation easement to insure its protection from further impacts in the future. The specifics of the proposed annual maintenance plan for this area will be addressed in the special conditions portion of the conservation easement.

Also included in the proposed development around Area #1 is a mulch path constructed of natural, pervious material (i.e., pine straw). Although the path footprint lies within the wetland buffer in some areas (see engineering drawings), it is not considered a wetland impact because its construction will not require any change in grade, dredging or filling, or cutting of trees.

The proposed clubhouse includes plans for a boardwalk system consisting of a pool deck and dock extending into Lake Shadow. The pool deck will occur in the buffer and slightly in the wetland and is designed with notches so that the boardwalk surrounds existing trees providing shade to the area. The dock is designed to be elevated at least 5 feet above the ground/water level and will be constructed of boards that are at least ½" apart to allow light to penetrate through to the groundcover. The dock, which is approximately 1,300 square feet (0.03 ac.) in size, is positioned to cause minimal disturbance to wetland vegetation along the shoreline of Lake Shadow. In addition, no motorized watercraft will be permitted to use the dock, signs will be posted that prohibit cleaning fish and feeding wildlife, and trash receptacles will prevent the accumulation of litter. Finally, the method of post installation will coincide with erosion control measures. Because the proposed construction of the boardwalk is not expected to change the hydrology of the wetland system or impact the littoral community, the acreage of the boardwalk within the wetland (0.01 ac.) is not included in the impact calculations.

As described below by Dix Lathrop and Associates, the lighting specified for the upland buffer, deck and dock will be as dim as feasible and pointed away from the wetlands proposed for preservation. The lighting, at 120V, has been designed to impose minimal impacts to wildlife in the wetlands.

- Vehicular use area lighting: Driveways, drive aisles and parking areas will be lit with decorative architectural site lighting. Lighting that is adjacent to the lake or the wetland will have cut-off features to limit light spillover into those areas.
- Path and sidewalk lighting: Paths and walks may be lit with bollards or low-level path lights. These lights will be directed on the path only and should not exceed 50 Watts.
- Pool lighting: The pool will be lit for night swimming. These fixtures shall be directed to the pool deck and pool surface.

Included in this application is a request to modify the stormwater pond and conservation

easement associated with SJWMD Permit No. 40-095-0383M north of the project site boundary. The attorneys from Foley and Lardner are submitting the appropriate materials to SJWMD to request a lift of a minor portion (0.02 acres) of the easement that was placed over the preserved upland buffer associated with that permit. The conservation easement is located east of the current pond location and south of Fennel St. (see Sheet ST1 of the Shadow Lake Park construction drawings for a visual representation of the location and acreage of the impact). To accommodate existing residents' concerns about increased traffic flow on Burmese Rd., and to create a park that the City of Maitland desires, the pond and road are proposed for relocation so that the pond will be west of the road. The proposed relocation will allow traffic to enter the Shadow Lake development without passing behind the existing houses on Burmese Rd. The new road design will require lifting the conservation easement 0.02 acres. The small impact, deemed unavoidable due to project access needs, is not expected to require mitigation because the amount of mitigation that this acreage of preservation, if any, would have provided is negligible.

### 2.2.2 Proposed Mitigation

The Uniform Mitigation Assessment Method (UMAM) was used to determine the status of wetland functions for each unique wetland area within the Shadow Lake project site. Areas were assigned FLUCFCS designations and scored based on UMAM variables. The wetland acreages were then multiplied by the UMAM scores to establish a functional wetland equivalent (in acres) for each wetland system. This functional wetland equivalent more closely quantifies the total impact to existing functions for each wetland system. Raw data forms, along with observations and comments that were used to record the UMAM analysis for each wetland are included as **Attachment 3**. The UMAM scores ranged from 0.30 for an extremely disturbed shrub wetland to 0.48 for a channelized, mixed hardwood wetland. Reduced hydrology, proximity of development, decreased wildlife utilization, human disturbance, and the presence of undesirable vegetation were the primary reasons that the UMAM scores were low.

The remaining wetlands occurring on the site not proposed for impact will be placed under conservation easement favoring the SJRWMD or other appropriate resource agency. The mitigation potential for these wetlands was assessed using UMAM. This UMAM analysis included an assessment of current conditions and the estimated conditions under the conservation easement. Based on this assessment, all three of these conservation areas exhibited a negative delta for the preservation areas indicating likely long-term secondary impacts to these systems from the proposed development. To determine the functional loss associated with these secondary impacts, the calculated delta was multiplied by a preservation adjustment factor calculated for the project site to derive the adjusted secondary impact delta. Based on this secondary impact delta, the secondary impacts associated with these areas totals approximately 0.09 units of functional loss. Functional loss of these areas will be mitigated as part of the overall mitigation plan.

Compensation for the functional loss of 1.27 acres resulting from the development will include a combination of on-site and off-site mitigation. On-site wetland preservation is not expected to provide any functional gain (see mitigation assessments of **Attachment 2** for Areas#1-3). In the post-development condition, UMAM scores increased with water quality criteria, but decreased due to proximity of development. Although these areas (totaling 20.86 acres after development) are not expected to contribute as mitigation, they will be placed under conservation easement to ensure their protection in the future. **Table 6 – On-Site Mitigation Summary** is included for your use. During review we would like to work with the staff reviewers to identify possible mitigation value for this wetland preservation.

Off-site mitigation is proposed to consist of the purchase of 1.27 mitigation credits within the Wekiva River Basin through J.A. Jurgens, P.A. and Steven Rich, Mitigation Land Management, Inc. More information about the off-site mitigation portion of this proposal will arrive under separate cover.

## SECTION 3.0

### SUMMARY

Totaling approximately ±45.65 acres, the Shadow Lake project site includes the construction of a multi-family residential development. The pre-development conditions on the project site consist of a wetland with forested and herbaceous components, highly disturbed herbaceous and residential areas, and approximately 13 acres of forested uplands, where the project footprint will be centered. A total of approximately 2.93 acres of impact to the three wetland areas (Areas #1-3) on the site are expected as a result of the proposed construction. Mitigation for the functional loss of 1.27 acres calculated for the Shadow Lake project site is proposed to include the purchase of 1.27 credits from an area within the Wekiva River Basin.

The Shadow Lake project site will be evaluated for the occurrence or potential occurrence, of T&E wildlife species according to methodology outlined by the FFWCC. If necessary, an ITP will be obtained from the FFWCC for the take of gopher tortoises and their burrows incidental to construction activities within the proposed development. No other listed wildlife species are believed to occur on the project site.

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Table 1:  
PROJECT WETLAND (WL) AND OTHER SURFACE WATER (SW) SUMMARY

WL & SW ID	WL & SW TYPE	WL & SW SIZE	WL & SW NOT IMPACTED	TEMPORARY WL & SW IMPACTS		PERMANENT WL & SW IMPACTS		MITIGATION ID
				WL & SW TYPE	IMPACT SIZE	IMPACT CODE	WL & SW TYPE	
Area 1	617	1.37	1.11			617	0.26	F
Area 2	617	14.01	12.57			617	1.44	O
Area 3	618	8.41	7.18			618	1.23	O
Lake Shadow	Lake	4.97	4.97			-	-	-
Lake Lovely	Lake	0.42	0.42			-	-	-
<b>PROJECT TOTALS:</b>		29.18	26.25				2.93	

Comments:

CODES (multiple entries per cell not allowed):  
Wetland Type: from an established wetland classification system (see Section E.111b.)  
Impact Type: D=dredge; F=fill; H=change hydrology; S=shading; C=clearing;  
O=both dredging and filling of berms for stormwater treatment pond  
FORM NUMBER 40C-4.900(1)

Reviewer: \_\_\_\_\_

**Table 2. Wildlife and Plant Species Listed as Threatened, Endangered, and/or Species of Special Concern That Potentially Occur on the Project Site, Orange County, Florida**

Common Name	Scientific Name	FDA/ FWC FWS		Habitat Type (*)
<b>Plants</b>				
Curtis' milkweed	<i>Asclepias curtissii</i>	E		1
delicate spleenwort	<i>Asplenium verecundum</i>	E		24
Florida bonamia	<i>Bonamia grandiflora</i>	E	T	1
buckthorn	<i>Bumelia lycioides</i>	E		7,11
many-flowered grass-pink	<i>Calopogon multiflorus</i>	E		4,5
Chapman's sedge	<i>Carex chapmanii</i>	E		8
sand butterfly pea	<i>Centrosema arenicola</i>	E		2
pigeon wings	<i>Clitoria fragrans</i>	E	T	1,2
flord	<i>Coelorachis tuberculosa</i>	T		12,16
white squirrel-banana	<i>Deeringothamnus pulchellus</i>	E	E	3,4,5
water sundew	<i>Drosera intermedia</i>	T		12,16
Florida butterfly orchid	<i>Encyclia tampensis</i>	C		6,7,11,15,21,23
green-fly orchid	<i>Epidendrum conopseum</i>	C		7,15
scrub-buckwheat	<i>Eriogonum floridanum</i>	E	T	1,2
garberia	<i>Garberia heterophylla</i>	T		1
threadroot orchid	<i>Harrisella filiformis</i>	T		15
star anise	<i>Illicium parviflorum</i>	E		7,15
scrub pinweed	<i>Lechea cernua</i>	T		1
Catesby lily	<i>Lilium catesbaei</i>	T		4,10
cardinal flower	<i>Lobelia cardinalis</i>	T		11
McFarlin's lupine	<i>Lupinus aridorum</i>	E	E	1
nodding club-moss	<i>Lycopodium cernuum</i>	C		5,7,14,16
lowland loosestrife	<i>Lythrum flagellare</i>	E		10
Florida spiny-pod	<i>Matelea floridana</i>	E		6,7
sandhill spiny-pod	<i>Matelea pubiflora</i>	E		2
pine-sap	<i>Monotropa hypopithys</i>	E		6,7
celestial lily	<i>Nemastylis floridana</i>	E		5,12,15
Florida beargrass	<i>Nolina atopocarpa</i>	T		5
Britton's beargrass	<i>Nolina brittoniana</i>	E	E	1,2,3
hand fern	<i>Ophioglossum palmatum</i>	E		6,7,23
cinnamon fern	<i>Osmunda cinnamomea</i>	C		12,14,15
royal fern	<i>Osmunda regalis</i>	C		12,14,15
cut throat grass	<i>Panicum abscissum</i>	E		5,14
papery whitlow-wort	<i>Paronychia chartacea</i>	E	T	1
plume polypody	<i>Pecluma plumula</i>	E		7,15,23
swamp plume polypody	<i>Pecluma ptilodon</i>	E		7,11,15,23
blue butterwort	<i>Pinguicula caerulea</i>	T		4,5,14
yellow butterwort	<i>Pinguicula lutea</i>	T		4,5,14
white-fringed orchid	<i>Platanthera blephariglottis</i>	T		10,14,15
yellow-fringed orchid	<i>Platanthera ciliaris</i>	T		5,12,14
crested fringed orchid	<i>Platanthera cristata</i>	T		5,12,14
orange rein orchid	<i>Platanthera integra</i>	E		5,12,14
snowy orchid	<i>Platanthera nivea</i>	T		5,10,14
rose pogonia	<i>Pogonia ophioglossoides</i>	T		5,12,14
Lewton's polygala	<i>Polygala lewtonii</i>	E	E	1,2
woody wireweed	<i>Polygonella myriophylla</i>	E	E	1
scrub plum	<i>Prunus geniculata</i>	E	E	1
non-crested eulophia	<i>Pteroglossaspis ecristata</i>	T		1,2,3
needle palm	<i>Rhapidophyllum hystrix</i>	C		6,7
leafless beaked orchid	<i>Sacoila lanceolata</i>	T		4,5,6,17
Florida willow	<i>Salix floridana</i>	E		15,20
hooded pitcher-plant	<i>Sarracenia minor</i>	T		4,5,10,14

small ladies'-tresses	<i>Spiranthes brevilabris</i>	E		4,5,10
hidden Stylisma	<i>Stylisma abdita</i>	E		1
giant wild-pine	<i>Tillandsia utriculata</i>	E		6,7,15,23
three-birds orchid	<i>Triphora trianthophora</i>	T		6,7
Tampa vervain	<i>Verbena tampensis</i>	E		7
clasping warea	<i>Warea amplexifolia</i>	E	E	2
coontie	<i>Zamia pumila</i>	C		6,22,19
Simpson's zephyr-lily	<i>Zephyranthes simpsonii</i>	T		5,10
<b>Amphibian</b>				
gopher frog	<i>Rana capito</i>	SSC		4,6,9
<b>Bird</b>				
roseate spoonbill	<i>Ajaia ajaja</i>	SSC		12,13,18,21
Florida scrub jay	<i>Aphelocoma coerulescens</i>	T	T	1
limpkin	<i>Aramus guarana</i>	SSC		7,9,10,11
Kirtland's warbler	<i>Dendroica kirtlandii</i>	E	E	2,18
little blue heron	<i>Egretta caerulea</i>	SSC		7,9,10,11,12,13,14,15,16,17,21
snowy egret	<i>Egretta thula</i>	SSC		7,9,10,11,12,13,14,15,16,17,21
tricolored heron	<i>Egretta tricolor</i>	SSC		7,9,10,11,12,13,14,15,16,17,21
white ibis	<i>Eudocimus albus</i>	SSC		7,9,10,11,12,13,16,20
peregrine falcon	<i>Falco peregrinus sspp.</i>	E		6,9,10,12,15,16,17,18
southeastern American kestrel	<i>Falco sparverius paulus</i>	T		2,3,4,5,10,12,17
Florida sandhill crane	<i>Grus canadensis pratensis</i>	T		9,10,12,14,16,17
bald eagle	<i>Haliaeetus leucocephalus</i>	T	T	2,3,4,5,10,11,12,13,15,16,17,21
wood stork	<i>Mycteria americana</i>	E	E	7,9,10,11,12,13,14,15,17,21
red-cockaded woodpecker	<i>Picooides borealis</i>	T	E	2,3,4
burrowing owl	<i>Speotyto cunicularia</i>	SSC		2,9,17
least tern	<i>Sterna antillarum</i>	T		12,13,16,17
<b>Fish</b>				
Lake Eustis pupfish	<i>Cyprinodon variegatus hubbsi</i>	SSC		16
<b>Mammal</b>				
Sherman's short-tailed shrew	<i>Blarina carolinensis shermani</i>	SSC		4,5,6,7,10
Florida mouse	<i>Podomys floridanus</i>	SSC		1,2,3
Sherman's fox squirrel	<i>Sciurus niger shermani</i>	T		2,3,4,5,6,7
Florida black bear	<i>Ursus americanus floridanus</i>	T	CA	1,2,3,4,5,6,7,11,15
<b>Reptile</b>				
American alligator	<i>Alligator mississippiensis</i>	SSC	T(S/A)	11,12,15,16,17
eastern indigo snake	<i>Drymarchon corais couperi</i>	T	T	1,2,3,4,5,12,13
gopher tortoise	<i>Gopherus polyphemus</i>	SSC		1,2,3,4,6
sand skink	<i>Neoseps reynoldsi</i>	T	T	1,2,3
Florida pine snake	<i>Pituophis melanoleucus mugitus</i>	SSC		2,3,6,17
short-tailed snake	<i>Stilosoma extenuatum</i>	T		1,2,6

SSC - Species of Special Concern (FGFWFC)

C - Commercially Exploited

T - Threatened

**\*Habitat Types**

1 - Scrub

2 - Sandhills

3 - Scrubby Flatwoods

4 - Mesic Flatwoods

5 - Wet Flatwoods

6 - Dry Hammocks

7 - Wet Hammocks

8 - Calcerous Hammocks

9 - Dry Prairie

10 - Wet Prairie

11 - Bottomland Hardwood

12 - Freshwater Marsh

13 - Saltwater Marsh

14 - Seepage Bog

15 - Swamp/Cypress Dome

16 - Ponds/Lakes

T(S/A) - Similarity of Appearance (USFWS)

CA - Candidate for Listing

E - Endangered

17 - Disturbed/Cultivated

18 - Sand Dunes/Beach

19 - Pinelands

20 - Banks of Streams

21 - Mangroves

22 - Shell middens

23 - Epiphyte

24 - Limestone Sink Edges

Source: Wunderlin, R. 1998. Guide to the Vascular Plants of Florida. Univ. P of Florida

Various authors. Endangered Biota of Florida series. 1992-1996

Envirotools - Tess 2.0 - version 2000.

Glattig Jackson Kercher Anglin Lopez Rinehart, Inc.

**Table 3. Wildlife observed on the Shadow Lake project site**

Mammals

Nine-banded Armadillo (*Dasypus novemcinctus*)  
Raccoon (*Procyon lotor*)

Birds

American Crow (*Corvus brachyrhynchos*)  
Barn owl (*Tyto alba*)  
Bluejay (*Cyanocitta cristata*)  
Downey Woodpecker (*Picoides pubescens*)  
Eastern towhee (*Pipilo erythrophthalmus*)  
Great Crested Flycatcher (*Myiarchus crinitus*)  
Northern Cardinal (*Cardinalis cardinalis*)  
Northern Mockingbird (*Mimus polyglottos*)  
Osprey (*Pandion haliaetus*)  
Pileated woodpecker (*Dryocopus pileatus*)  
Red-Bellied Woodpecker (*Melanerpes carolinus*)

Reptiles

American alligator (*Alligator mississippiensis*)  
Brown Anole (*Anolis sagrei sagrei*)

**Table 4. Unified Mitigation Assessment Method (UMAM) Calculations for Functional Loss Due to Primary Impacts of All Wetlands on the Shadow Lake Project Site, Orange County, FL.**

<b>Wetland No.</b>	<b>FLUCFCS Code</b>	<b>Wetland Description</b>	<b>Acreage of Impact</b>	<b>UMAM score</b>	<b>Functional Loss</b>
Area 1	617	Mixed Wetland Hardwood	0.26	0.48	0.12
Area 2	617	Mixed Wetland Hardwood	1.44	0.45	0.65
Area 3	618	Willow and Elderberry	1.23	0.33	0.41
<b>Totals</b>			<b>2.93</b>		<b>1.18</b>

**Table 5. Unified Mitigation Assessment Method (UMAM) Calculations for Functional Loss Due to Secondary Impacts of All Wetlands on the Shadow Lake Project Site, Orange County, FL.**

Wetland No.	FLUCFCS Code	Wetland Description	Acreage		UMAM Score		UMAM Score After Development	Adjusted Mitigation Delta *	Relative Functional Gain*
			Remaining After Development	Development	Before Development	Development			
Area 1	617	Mixed Wetland Hardwood	1.11		0.48	0.42	-0.02	-0.01	
Area 2	617	Mixed Wetland Hardwood	12.57		0.45	0.42	-0.01	-0.07	
Area 3	618	Willow and Elderberry	7.18		0.33	0.32	-0.003	-0.01	
<b>Totals</b>			<b>20.86</b>					<b>-0.09</b>	

\*see raw UMAM sheets

**Table 6:  
PROJECT ON-SITE MITIGATION SUMMARY  
Shadow Lake  
June 2004**

MITIGATION ID	CREATION		RESTORATION		ENHANCEMENT		WETLAND PRESERVE		UPLAND PRESERVE		OTHER	
	AREA	TARGET TYPE	AREA	TARGET TYPE	AREA	TARGET TYPE	AREA	TYPE	AREA	TYPE	AREA	TARGET TYPE
Wetland Preservation (Area #1)							1.11	617				
Wetland Preservation (Area #2)							12.57	617				
Wetland Preservation (Area #3)							7.18	618				
<b>PROJECT TOTALS:</b>							20.86					

Comments:

CODES (multiple entries per cell not allowed):

Target Type or Type = target or existing habitat type from an established wetland classification

system or land use classification for non-wetland mitigation

Form number 40C-4.900(1)

Reviewer: \_\_\_\_\_

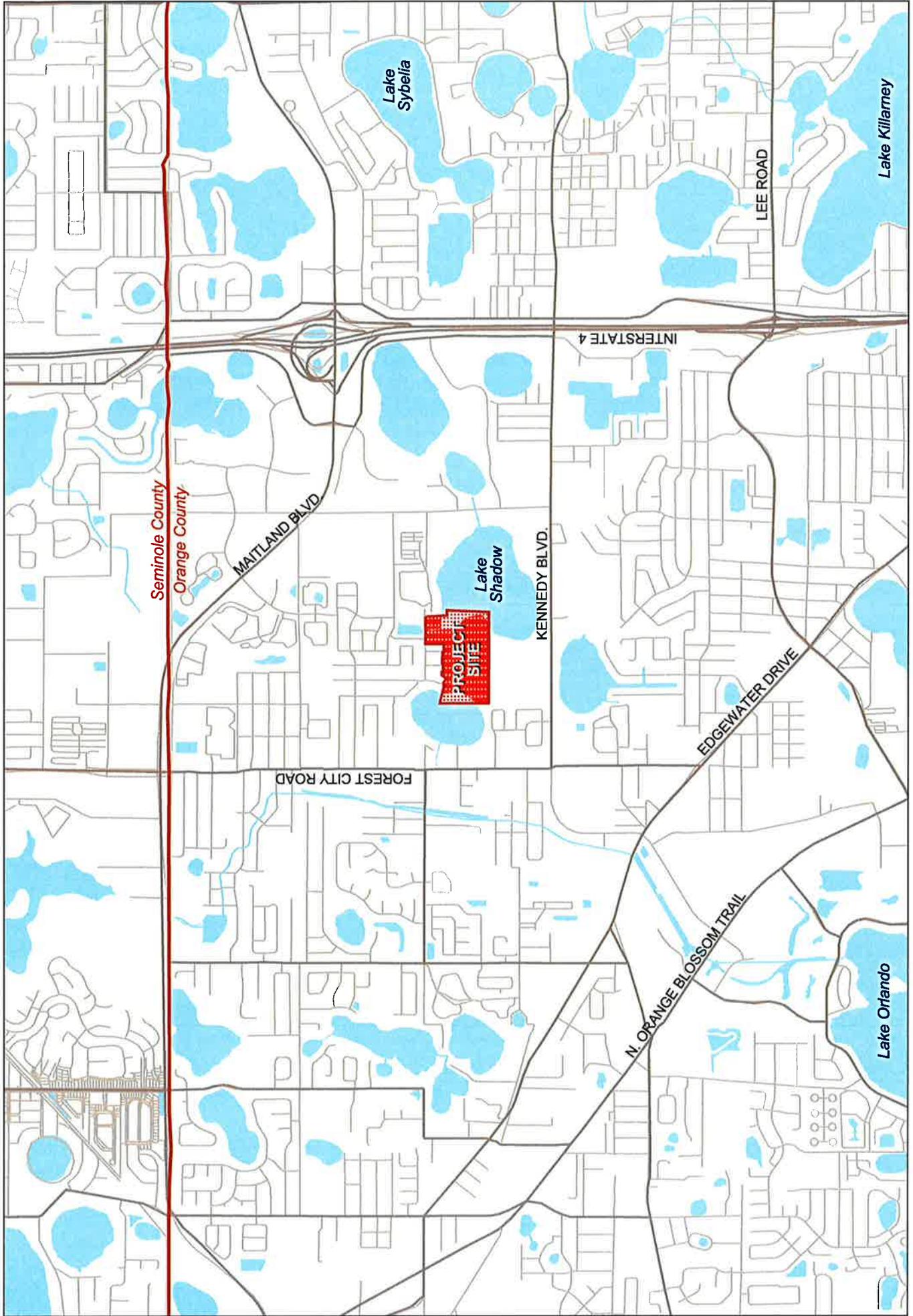


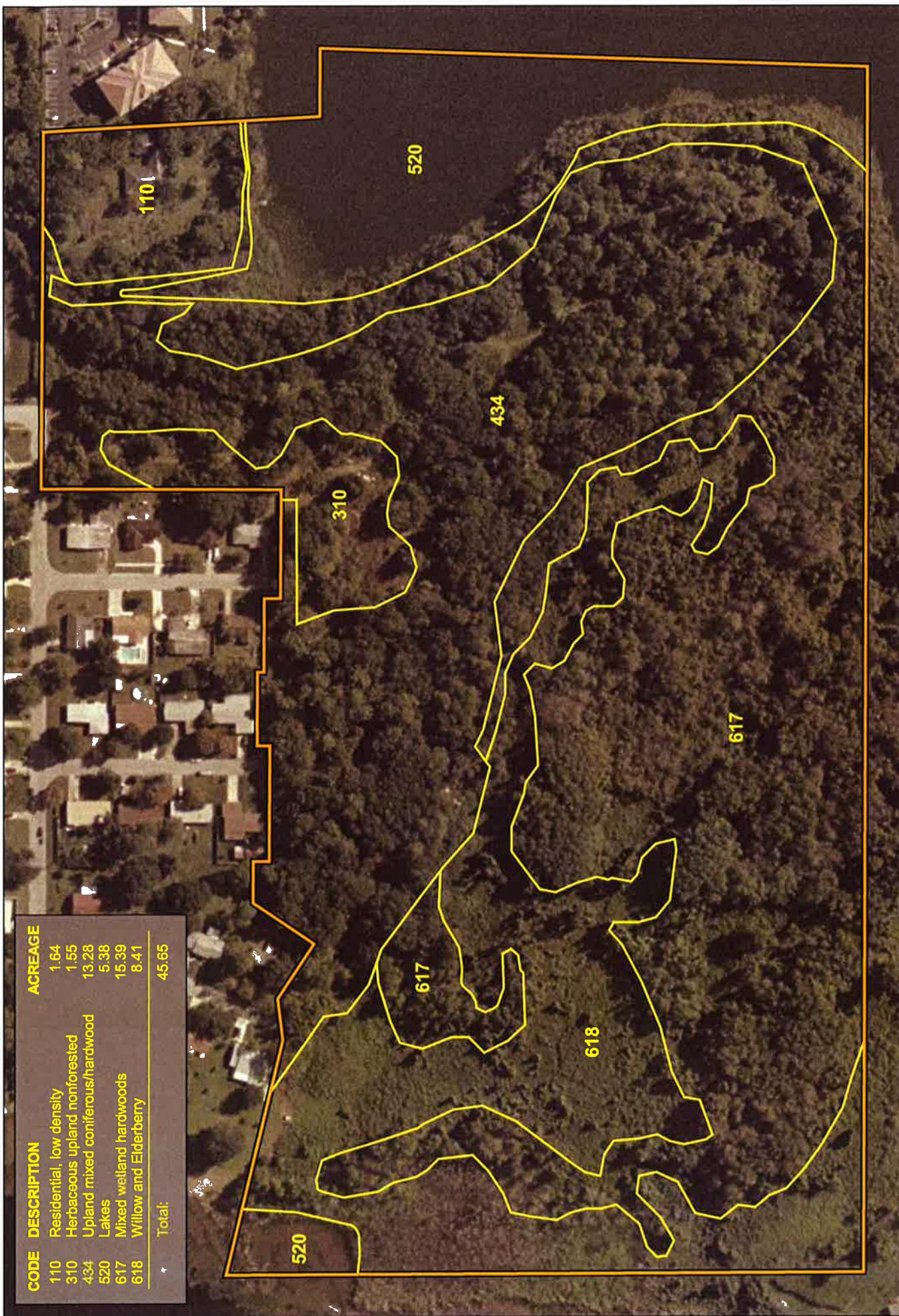
Figure 1  
 Location Map  
 Shadow Lake ERP Application  
 Orange County, Florida - Section 34, Tshp. 21 South, Range 29 East

0 0.5 Miles

GJ# 15053  
 June 2004  
 Sources: FDOT, USGS

GRAFTING  
 JACKSON  
 KENNER  
 ANGLIN  
 LOPEZ  
 EUBHART

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CODE	DESCRIPTION	ACREAGE
110	Residential, low density	1.64
310	Herbaceous upland nonforested	1.55
434	Upland mixed coniferous/hardwood	13.28
520	Lakes	5.38
617	Mixed wetland hardwoods	15.39
618	Willow and Elderberry	8.41
Total:		45.65



0 200 Feet

GJ# 15053  
June 2004

Sources: SJRWMD Land Use (2000); Fla. Land Use, Cover and Forms Classification System (1999); Mark S. Caulfield, PSM (Surveyor, 9/2003)

Aerial Source: Aerials Express (11/2003)

GLATTING  
JACKSON  
KERCHLER  
ANGLIN  
LOPEZ  
RINEHART

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Figure 2  
Vegetative Communities  
Shadow Lake ERP Application



**SOIL TYPE / DESCRIPTION:**

- 3 BASINGER FINE SAND; DEPRESSIONAL
- 41 SAMSULA-HONTOON-BASINGER ASSOCIATION; DEPRESSIONAL
- 42 SANIBEL MUCK
- 44 SMYRNA FINE SAND
- 45 SMYRNA-URBAN LAND COMPLEX
- 48 TAVARES-URBAN LAND COMPLEX; 0-5% SLOPES
- 54 ZOLFO FINE SAND
- 99 OPEN WATER



0 200 Feet

**G**  
 GLATTING  
 JACKSON  
 KENNER  
 ANGLIN  
 LUNZ  
 REINHART

GJ# 15053  
 June 2004  
 Sources: USDA / NRCS  
 Aerial Source: Aerials Express (11/2003)

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Figure 3  
 Soils Map  
 Shadow Lake ERP Application



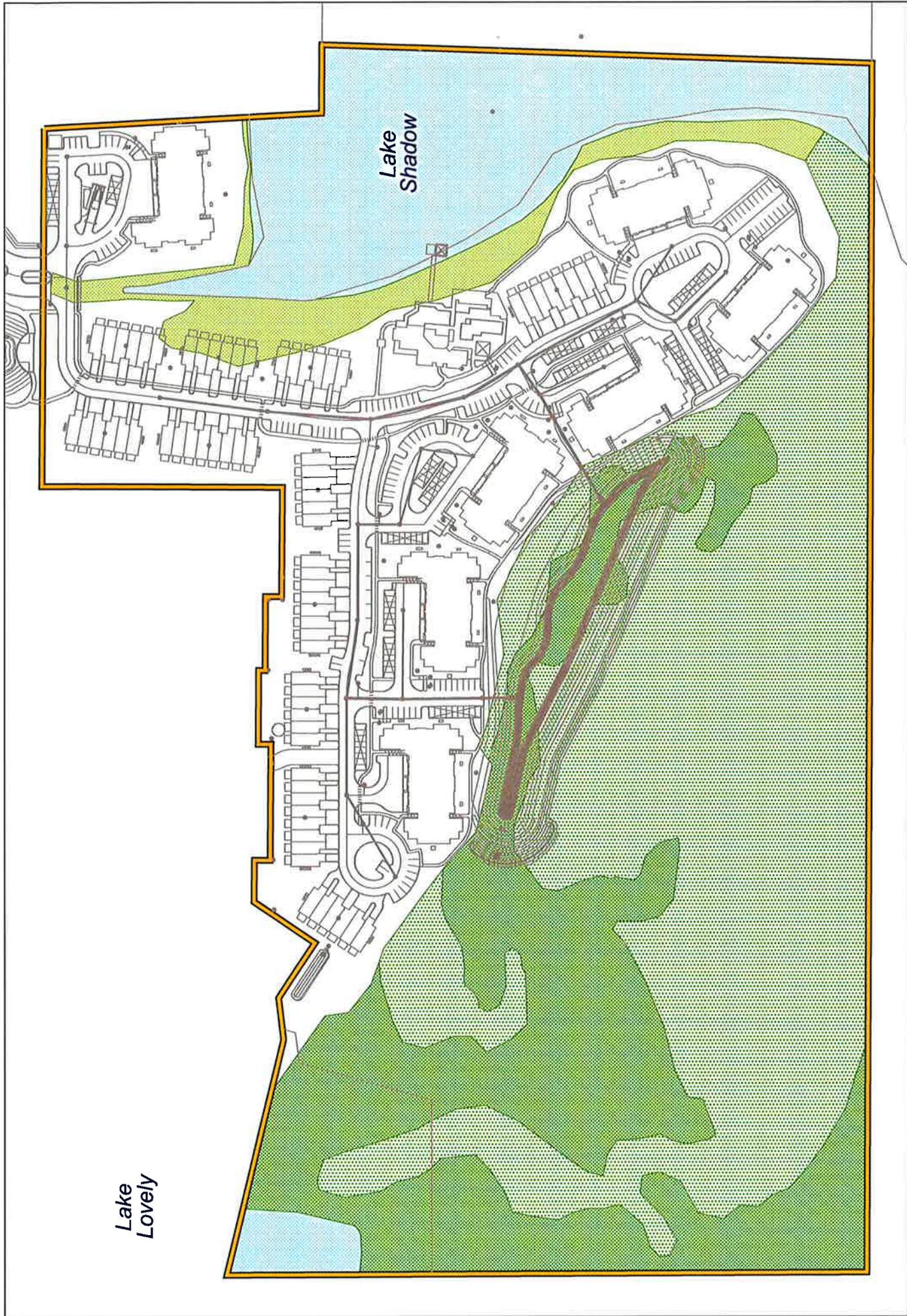


Figure 5  
Development Plan  
Shadow Lake ERP Application

FOLEY & LARDNER  
 ATTORNEYS AT LAW  
 POST OFFICE BOX 2193  
 ORLANDO, FLORIDA 32802-2193  
 111 NORTH ORANGE AVENUE, SUITE 1800  
 ORLANDO, FLORIDA 32801-2386  
 TELEPHONE: (407) 423-7656  
 FACSIMILE: (407) 648-1743

RECEIVED  
 15053  
 AUG 12 2003  
 PR, WDL, WGD  
 Glatting Jackson Kercher  
 Anglin Lopez Rinehart Inc

# FACSIMILE TRANSMISSION

Total # of Pages 15 (including this page)

TO:	PHONE:	FAX #:
Bill Lites		407 839 1789
Bpb Blenden		407 647 4074

From: Terry Delahunty  
 Date: August 12, 2003  
 Client/Matter No: 032858-0101  
 User ID No: 0173

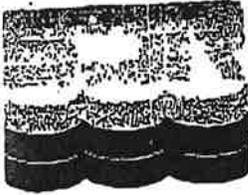
MESSAGE:

*SJRWMD Permits*

If there are any problems with this transmission or if you have not received all of the pages, please call (407) 423-7656.

Operator:	Time Sent:	Return Original To: TJD
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CONFIDENTIALITY NOTICE: THE INFORMATION CONTAINED IN THIS FACSIMILE MESSAGE IS INTENDED ONLY FOR THE PERSONAL AND CONFIDENTIAL USE OF THE DESIGNATED RECIPIENTS NAMED ABOVE. THIS MESSAGE MAY BE AN ATTORNEY-CLIENT COMMUNICATION, AND AS SUCH IS PRIVILEGED AND CONFIDENTIAL. IF THE READER OF THIS MESSAGE IS NOT THE INTENDED RECIPIENT OR ANY AGENT RESPONSIBLE FOR DELIVERING IT TO THE INTENDED RECIPIENT, YOU ARE HEREBY NOTIFIED THAT YOU HAVE RECEIVED THIS DOCUMENT IN ERROR, AND THAT ANY REVIEW, DISSEMINATION, DISTRIBUTION OR COPYING OF THIS MESSAGE IS STRICTLY PROHIBITED. IF YOU HAVE RECEIVED THIS COMMUNICATION IN ERROR, PLEASE NOTIFY US IMMEDIATELY BY TELEPHONE AND RETURN THE ORIGINAL MESSAGE TO US BY MAIL. THANK YOU.



# WATER MANAGEMENT DISTRICT

Henry Dean, Executive Director  
John R. Wehls, Assistant Executive Director  
Charles T. Myers III, Deputy Assistant Executive Director

**POST OFFICE BOX 1429 PALATKA, FLORIDA 32178-1429**  
TELEPHONE 904/329-4500 SUNCOM 904/860-4500  
TDD 904/329-4450 TDD SUNCOM 860-4450  
FAX (EXECUTIVE/LEGAL) 329-4125 (PERMITTING) 329-4315 (ADMINISTRATION/FINANCE) 829-4508

FIELD STATION		PERMITTING:	OPERATIONS:
818 E. South Street Orlando, Florida 32801 407/827-4300 TDD 407/827-5520	7775 Baymeadows Way Suite 102 Jacksonville, Florida 32250 904/730-6270 TDD 904/730-7900	305 East Drive Melbourne, Florida 32904 407/986-4840 TDD 407/722-5368	2133 N. Wickham Road Melbourne, Florida 32925-4109 407/834-1762 TDD 407/953-1203

PERMIT NO. 40-095-0383

DATE ISSUED August 4, 1994

### A PERMIT AUTHORIZING:

CONSTRUCTION AND OPERATION OF A SURFACE WATER MANAGEMENT SYSTEM TO INCLUDE A 71 ACRE, SINGLE FAMILY RESIDENTIAL SUBDIVISION (WINFIELD), A WET DETENTION BASIN WITH AN EXTENDED RESIDENCE TIME, AND A MITIGATION AREA.

LOCATION: Section 27, Township 21 South, Range 29 East, Orange County

### ISSUED TO:

EMERALD DEVELOPMENT, LTD.  
401 W. COLONIAL DR., STE. 7  
ORLANDO, FL 32804

Permittee agrees to hold and save the St. Johns River Water Management District and its successors harmless from any and all damages, claims, or liabilities which may arise from permit issuance. Said application, including all plans and specifications attached thereto, is by reference made a part hereof.

This permit does not convey to permittee any property rights nor any rights or privileges other than those specified herein, nor relieve the permittee from complying with any law, regulation or requirement affecting the rights of other bodies or agencies. All structures and works installed by permittee hereunder shall remain the property of the permittee.

This Permit may be revoked, modified or transferred at any time pursuant to the appropriate provisions of Chapter 373, Florida Statutes:

### PERMIT IS CONDITIONED UPON:

See conditions on attached "Exhibit A", dated August 4, 1994

AUTHORIZED BY: St. Johns River Water Management District  
Department of Resource Management

By:   
(DIRECTOR)  
JEFF ELLEDGE

Governing Board  
By:   
(ASSISTANT SECRETARY)  
HENRY DEAN

- Patricia T. Harder, CHAIRMAN, SANFORD
- Lenora N. McCullagh, VICE CHAIRMAN, ORANGE PARK
- Jesse J. Parish, III, TREASURER, TITUSVILLE
- William Segal, SECRETARY, MAITLAND
- Raid Hughes
- Dan Roach
- Donjse M. Prescod, JACKSONVILLE
- Joe E. Hill, LEESSBURG
- James H. Williams, Ocala

activities have temporarily or permanently ceased, but in no case more than 14 days after the construction activity in that portion of the site has temporarily or permanently ceased.

6. The operation phase of the permit shall not become effective until a Florida registered Professional Engineer certifies that the system, or independent portion of a system, has been constructed in accordance with the permit issued by the District, and the permittee receives written notification by District staff that the construction, alteration, or maintenance has been completed according to the permit. Within 30 days after completion of construction of the surface water management system, or independent portion of the system, the permittee shall submit the certification or one set of plans which reflect the surface water management system as actually constructed. This submittal shall serve to notify the District that the system is ready for inspection. The permit may not be transferred to an operation and maintenance entity approved by the District until the operation phase of the permit becomes effective.
7. If any other regulatory agency should require revisions or modification to the permitted project, the District is to be notified of the revisions so that a determination can be made whether a permit modification is required.
8. The District must be notified, in writing, within 30 days of any sale, conveyance, or other transfer of a permitted system or facility or within 30 days of any transfer of ownership or control of the real property at which the permitted system or facility is located. All transfers of a permit are subject to the requirements of section 40C-1.612, F.A.C.
9. The permittee must require the contractor to review and maintain a copy of this permit, complete with all conditions, attachments, exhibits, and modifications in good condition at the construction site. The complete permit shall be available for review upon request by District representatives.
10. Construction or alteration of each phase or independent portion of the permitted surface water management system (system) must be completed in accordance with the permitted plans and permit conditions prior to the initiation of the permitted use of site infrastructure located within the area served by that portion or phase of the system. Each phase or independent portion of the system must be complete in accordance with the permitted

19. Permittee must select, implement, and operate all erosion and sediment control measures required to retain sediment on-site and to prevent violations of water quality standards as specified in chapters 17-301, 17-302, and 17-4, F.A.C. The permittee is encouraged to use appropriate Best Management Practices for erosion and sediment control as described in the Florida Land Development Manual: A Guide to Sound Land and Water Management (DER, 1988).
20. The permittee must construct and maintain a permanent protective vegetative and/or artificial cover for erosion and sediment control on all land surfaces exposed or disturbed by construction or alteration of the permitted project. Unless modified by another condition of this permit or specified otherwise on a District-approved erosion and sediment control plan, this protective cover must be installed within fourteen (14) days after final grading of the affected land surfaces. A permanent vegetative cover must be established within 60 days after planting or installation. The permittee must maintain cover on adjacent ground surfaces which may be impacted by construction activities until the District receives the P.S. certification that the project is constructed according to the permitted plans.
21. The operation and maintenance entity shall submit inspection reports to the District one year after the operation phase permit becomes effective and every two years thereafter on District form EN-46. The inspection form must be signed and sealed by an appropriate registered professional.
22. The proposed surface water management system must be constructed and operated in accordance with the plans received by the District on May 27, 1994, and as amended by sheets 3 and 14 received by the District on July 8, 1994.
23. The annual inspection reports must address the complete surface water management system, inclusive of the irrigation pump and wetland enhancement system.
24. The mitigation plan must be implemented as per plans dated as received on July 8, 1994.
25. Prior to initiating any construction, the permittee must record a conservation easement pursuant to Section 704.06, F.S., over the real property described herein. The easement must prohibit all construction including clearing, dredging or filling except that which is specifically authorized by this permit within Tract D and E as delineated on the final plans and/or mitigation proposal approved by this permit.

The easement must contain provisions as set forth in paragraphs 1 (a)-(h) of Section 704.06, F.S., as well as provisions that the easement may be enforced by the District and may not be amended without District approval. The draft easement must be submitted for District review and approval prior to recording and no later than 30 days from the date of issuance of this permit. The surveyor's sketch of the area included in the legal description and additional surveyor's sketch of the easement area plotted on the appropriate USGS topographic map must be submitted with the draft easement. The easement must be recorded and the easement area boundaries must be permanently monumented on the project site prior to the sale of a lot or parcel, initiation of construction, or within 90 days from issuance of this permit, whichever occurs first.

The permittee must provide the District with a certified copy of the final recorded easement showing the official records book and page number no later than 30 days after receipt of District approval of the draft easement.

26. Within the enhancement areas (Tracts D and E), non-native vegetation, must be controlled by hand clearing or other methods receiving written approval by the District so that they constitute no more than 10% of the areal cover in any stratum at any time.
27. The permittee must furnish the District with two (2) copies of monitoring reports for the wetland enhancement area describing:
  - a. Percent cover for all species within each stratum;
  - b. Total percent cover of herbaceous species;
  - c. Ground and surface water monitoring data including:
    - 1) surface water elevation referenced to N.G.V.D., or if surface water is not present, ground water referenced to N.G.V.D.; and,
    - 2) location of staff gauge(s) or piezometer(s), and
    - 3) date and time of measurements;
  - d. Observations of wildlife utilization;
  - e. Panoramic photographs of the mitigation site taken from approved permanent stations. Two sets of prints must be submitted.

- f. A description of any problems encountered, including removal of any non-targeted species, replacement and maintenance dates, and solutions; and,
- g. Any anticipated work for the successive six month period following each assessment.

The data must be collected twice a year, once during the wet season (August-September) and once during the dry season (March-April) until the created areas achieve the success criteria. The data must be submitted once a year, after the second report.

2B. The permittee must furnish the District with two (2) copies of monitoring reports for the upland enhancement area describing:

- a. Percent survival and recorded growth via established parameters for planted trees;
- b. Percent cover for all species within each stratum;
- c. Total percent cover of herbaceous species;
- d. Ground and surface water monitoring data including:
  - 1) surface water elevation referenced to N.G.V.D., or if surface water is not present, ground water referenced to N.G.V.D.; and,
  - 2) location of staff gauge(s) or piezometer(s), and
  - 3) date and time of measurements;
- e. Observations of wildlife utilization;
- f. Panoramic photographs of the mitigation site taken from approved permanent stations. Two sets of prints must be submitted;
- g. A description of any problems encountered, including removal of any non-targeted species, replacement and maintenance dates, and solutions; and,
- h. Any anticipated work for the successive six month period following each assessment.

The data must be collected twice a year, once during the wet season (August-September) and once during the dry season

(March-April) until the created areas achieve the success criteria. The data must be submitted once a year, after the second report.

29. Successful establishment of the wetland enhancement area will have occurred when:

- a. At least 80 percent cover by appropriate wetland herbaceous species has been obtained; and,
- b. The above criteria has been achieved by the end of a five (5) year period following initial planting.

If successful establishment has not occurred as stated above, or is unlikely based upon the monitoring reports or trends, the permittee must within 30 days, provide the District with a narrative describing the type and causes of failure and contain a complete set of plans for the redesign and/or replacement planting of the wetland creation so that success criteria will be achieved. Within 30 days of District approval and issuance of the permit modification, the permittee must implement the redesign and/or replacement planting. Following completion of such work, success criteria as stated above or modified by subsequent permit must be achieved. In addition the monitoring required by these conditions must be conducted.

30. Successful establishment of the upland enhancement area will have occurred when:

- a. At least 80 percent of the planted individuals in each stratum have survived and are showing signs of normal annual growth for three consecutive years, based upon standard growth parameters such as height and base diameter, or canopy circumference;
- b. At least 80 percent cover by appropriate upland herbaceous species has been obtained; and,
- c. The above criteria has been achieved by the end of a five (5) year period following initial planting.

31. Within 30 days of any monitoring event that indicates 50% or greater mortality of planted upland species in any stratum within the mitigation area, the applicant must submit a remediation program (two copies) for District staff review and approval, to the Orlando field office.

32. The permittee must submit two copies of an as-built survey of the upland enhancement area certified by a registered surveyor or professional engineer showing dimensions, grade, ground elevations, and water surface elevations and an inventory of the planted species. The inventory must include the type, number, distribution, and size (if applicable) of the planted vegetation, and must be referenced to the as-built survey. The as-built survey and the inventory must be submitted within thirty (30) days of completion of initial planting.

ST. JOHNS RIVER WATER MANAGEMENT DISTRICT  
P. O. BOX 1429, PALATKA, FLORIDA 32178-1429  
(386)329-4490 - FACSIMILE



FAX COVER SHEET AND TRANSMITTAL LETTER

DATE: 7/15/03 TRANSMITTING # PAGES 14

COMPANY NAME: \_\_\_\_\_

ATTENTION: TERRY DELAHUNTY

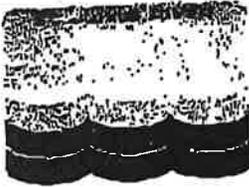
ADDRESS: \_\_\_\_\_

PHONE NO.: (407) 244-3252 FAX NO.: (407) 648-1743

RE: Copy of Permits 40-095-0383A&AM (27583-14-2)

FROM: Sinda Champion

TELEPHONE: (386) 329-4192



**WATER MANAGEMENT DISTRICT**

Henry Dean, Executive Director  
John R. Wente, Assistant Executive Director  
Charles T. Myers III, Deputy Assistant Executive Director

**POST OFFICE BOX 1429 PALATKA, FLORIDA 32178-1429**  
TELEPHONE 904/329-4500 SUNCOM 904/860-4500  
TDD 904/329-4450 TDD SUNCOM 850-4450  
FAX (EXECUTIVE/LEGAL) 329-4125 (PERMITTING) 329-4315 (ADMINISTRATION/FINANCE) 329-4508

		FIELD STATION	
610 E. South Street Orlando, Florida 32801 407/897-4300 TDD 407/897-6960	7775 Baymeadows Way Suite 102 Jacksonville, Florida 32258 904/730-8270 TDD 904/730-7900	PERMITTING: 305 East Drive Melbourne, Florida 32905 407/384-4940 TDD 407/772-6368	OPERATIONS: 2133 N. Wickham Road Melbourne, Florida 32835-8109 407/256-1762 TDD 407/253-1203

PERMIT NO. 40-095-0383M

DATE ISSUED January 13, 1995

**A PERMIT AUTHORIZING:**

CONSTRUCTION AND OPERATION OF A SURFACE WATER MANAGEMENT SYSTEM TO INCLUDE A 20.6 ACRE, MULTI-FAMILY RESIDENTIAL SUBDIVISION (MAITLAND CLUB APARTMENTS AT WINFIELD SUBDIVISION), TWO DETENTION BASINS, TWO SWALE SYSTEMS AND, A MITIGATION AREA.

LOCATION: Section 27, Township 21 South, Range 29 East, Orange County

**ISSUED TO:**

DEL AMERICAN PROPERTIES  
1101 N. LAKE DESTINY DR.  
MAITLAND, FL 32751

Permittee agrees to hold and save the St. Johns River Water Management District and its successors harmless from any and all damages, claims, or liabilities which may arise from permit issuance. Said application, including all plans and specifications attached thereto, is by reference made a part hereof.

This permit does not convey to permittee any property rights nor any rights or privileges other than those specified herein, nor relieve the permittee from complying with any law, regulation or requirement affecting the rights of other bodies or agencies. All structures and works installed by permittee hereunder shall remain the property of the permittee.

This Permit may be revoked, modified or transferred at any time pursuant to the appropriate provisions of Chapter 373, Florida Statutes:

**PERMIT IS CONDITIONED UPON:**

See conditions on attached "Exhibit A", dated January 13, 1995

**AUTHORIZED BY: St. Johns River Water Management District**

Department of Resource Management

Governing Board

By:

*Jeff Ellidge*  
(DIRECTOR)  
for JEFF ELLIDGE

By:

*Henry Dean*  
(ASSISTANT SECRETARY)  
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OCALA

**"EXHIBIT A"****CONDITIONS FOR ISSUANCE OF PERMIT NUMBER 40-095-0383M****DEL AMERICAN PROPERTIES****JANUARY 13, 1995**

1. Prior to lot or unit sales, or upon completion of construction of the system, whichever occurs first, the District must receive the final operation and maintenance document(s) approved by the District and recorded, if the latter is appropriate. For those systems which are proposed to be maintained by county or municipal entities, final operation and maintenance documents must be received by the District when maintenance and operation of the system is accepted by the local government entity. Failure to submit the appropriate final document will result in the permittee remaining personally liable for carrying out maintenance and operation of the permitted system.
2. All construction, operation and maintenance shall be as set forth in the plans, specifications and performance criteria as approved by this permit.
3. District authorized staff, upon proper identification, will have permission to enter, inspect and observe the system to insure conformity with the plans and specifications approved by the permit.
4. The permittee must implement and maintain all erosion and sediment control measures (best management practices) required to retain sediment on-site and to prevent violations of the water quality criteria and standards in chapters 17-4, 17-302, F.A.C. All practices must be in accordance with the guidelines and specifications in section 6 of the Florida Land Development Manual: A Guide to Sound Land and Water Management (Florida Department of Environmental Regulation 1988) unless a project-specific erosion and sediment control plan is approved as part of the permit in which case the practices must be in accordance with the plan. If site specific conditions require additional measures during any phase of construction or operation to prevent erosion or control sediment, beyond those specified in the erosion and sediment control plan, the permittee must implement additional best management practices as necessary, in accordance with the specifications in section 6 of the Florida Land Development Manual: A Guide to Sound Land and Water Management (Florida Department of Environmental Regulation, 1988).
5. Stabilization measures shall be initiated for erosion and sediment control on disturbed areas as soon as practicable in portions of the site where construction

activities have temporarily or permanently ceased, but in no case more than 14 days after the construction activity in that portion of the site has temporarily or permanently ceased.

6. The operation phase of the permit shall not become effective until a Florida registered Professional Engineer certifies that the system, or independent portion of a system, has been constructed in accordance with the permit issued by the District, and the permittee receives written notification by District staff that the construction, alteration, or maintenance has been completed according to the permit. Within 30 days after completion of construction of the surface water management system, or independent portion of the system, the permittee shall submit the certification or one set of plans which reflect the surface water management system as actually constructed. This submittal shall serve to notify the District that the system is ready for inspection. The permit may not be transferred to an operation and maintenance entity approved by the District until the operation phase of the permit becomes effective.
7. If any other regulatory agency should require revisions or modification to the permitted project, the District is to be notified of the revisions so that a determination can be made whether a permit modification is required.
8. The District must be notified, in writing, within 30 days of any sale, conveyance, or other transfer of a permitted system or facility or within 30 days of any transfer of ownership or control of the real property at which the permitted system or facility is located. All transfers of a permit are subject to the requirements of section 40C-1.612, F.A.C.
9. The permittee must require the contractor to review and maintain a copy of this permit, complete with all conditions, attachments, exhibits, and modifications in good condition at the construction site. The complete permit shall be available for review upon request by District representatives.
10. Construction or alteration of each phase or independent portion of the permitted surface water management system (system) must be completed in accordance with the permitted plans and permit conditions prior to the initiation of the permitted use of site infrastructure located within the area served by that portion or phase of the system. Each phase or independent portion of the system must be complete in accordance with the permitted

plans and permit conditions prior to transfer of responsibility for operation and maintenance of that phase or portion of the system to local government or other responsible entity.

11. To the extent permitted by Florida law, the permittee must hold and save the District harmless from any and all liability arising from property damage or personal injury as a result of the permitted activities.
12. Nothing contained herein relieves the permittee from timely complying with applicable laws or other federal, state, or local governments.
13. If an entity other than the permittee has been approved as the operation and maintenance entity, the permittee may request transfer of the permit for a completed system or independent portion of a system to the District approved operation and maintenance entity at the time of submittal of the as-builts or Professional Engineer certification for construction of the permitted surface water management system.
14. This permit for construction will expire five years from the date of issuance.
15. Construction or alteration of the surface water management system must be completed and all disturbed areas must be stabilized in accordance with permitted plans and permit conditions prior to any of the following events (whichever occurs first): issuance of a certificate of occupancy; use of the infra-structure for its intended use; or transfer of responsibility for operation and maintenance to a local government or other responsible entity.
16. At a minimum, all retention and detention storage areas must be excavated to rough grade prior to building construction or placement of impervious surface within the area to be served by those facilities. To prevent reduction in storage volume and percolation rates, all accumulated sediment must be removed from the storage area prior to final grading and stabilization.
17. All wetland areas or water bodies that are outside of the specific limits of construction authorized by this permit must be protected from erosion, siltation, scouring or excess turbidity, and dewatering.
18. Prior to construction, the permittee must clearly designate the limits of construction on-site. The permittee must advise the contractor that any work outside the limits of construction, including clearing, is a violation of this permit.

19. Permittee must select, implement, and operate all erosion and sediment control measures required to retain sediment on-site and to prevent violations of water quality standards as specified in chapters 17-301, 17-302, and 17-4, F.A.C. The permittee is encouraged to use appropriate Best Management Practices for erosion and sediment control as described in the Florida Land Development Manual: A Guide to Sound Land and Water Management (DER, 1988).
20. The permittee must construct and maintain a permanent protective vegetative and/or artificial cover for erosion and sediment control on all land surfaces exposed or disturbed by construction or alteration of the permitted project. Unless modified by another condition of this permit or specified otherwise on a District-approved erosion and sediment control plan, this protective cover must be installed within fourteen (14) days after final grading of the affected land surfaces. A permanent vegetative cover must be established within 60 days after planting or installation. The permittee must maintain cover on adjacent ground surfaces which may be impacted by construction activities until the District receives the P.E. certification that the project is constructed according to the permitted plans.
21. The operation and maintenance entity shall submit inspection reports to the District two years after the operation phase permit becomes effective and every two years thereafter on District form EN-46. The inspection form must be signed and sealed by an appropriate registered professional.
22. The proposed surface water management system must be constructed and operated in accordance with the plans received by the District on December 9, 1994, and sheets 5 and 11 that were received on January 5, 1995.
23. Prior to placement of any impervious surface authorized by this permit, the master surface water management pond permitted by #40-095-0383, must be constructed.
24. Prior to any construction, the permittee must record easement on the real property described herein, pursuant to Section 704.06, F.S. The easement must prohibit all construction including clearing, dredging or filling except that which is specifically authorized by this permit within Tract D and E as delineated on the approved plans. Said easement must contain provisions as set forth in Paragraphs 1 (a)-(h) of Section 704.06, F.S., as well as provisions that the easement may be enforced by the District and may not be amended without District approval. The draft easement must be submitted for District review and approval prior to recording and no later than 30 days from the date of issuance of this permit. The surveyor's sketch of the area included in the legal description and an additional surveyor's sketch of the easement area plotted on the appropriate USGS topographic map must

be submitted with the draft easement. The easement must be recorded and the easement area boundaries must be permanently monumented on the project site prior to the sale of a lot or parcel, initiation of construction, or within 90 days from issuance of this permit, whichever occurs first.

The permittee must provide the District with a certified copy of the final recorded easement showing the official records book and page number no later than 30 days after receipt of District approval of the draft easement.



Jeb Bush  
Governor

# Department of Environmental Protection

Marjory Stoneman Douglas Building  
3900 Commonwealth Boulevard  
Tallahassee, Florida 32399-3000

Please respond to:  
Division of State Lands  
Bureau of Survey and Mapping  
Mail Station 108  
(850) 245-2788

May 25, 2004

Colleen M. Castille  
Secretary  
RECEIVED  
15053  
JUN 03 2004  
US D, PR, Kolar  
Glattig Jackson Kercher  
Anglin Lopez Rinehart Inc

Mr. William Lites  
Glattig Jackson, Inc.  
33 East Pine Street  
Orlando, Florida 32801

Dear Mr. Lites:

Re: Submerged Land Determination, Orange County  
Lake Shadow and Lake Lovely in Sections 33 and 34, Township 21 South, Range 29 East

Thank you for your recent inquiry requesting a determination of whether the submerged lands of Lake Shadow and Lake Lovely are owned by the State of Florida.

The Board of Trustees, on behalf of the people of the State of Florida holds title to all natural waterbodies that are navigable in their ordinary condition. As staff of the Board of Trustees, we do not have sufficient historical information and documentation to make a determination of ownership at this time of Lake Shadow and Lake Lovely. Therefore, we would recommend that the proprietary requirements that normally apply to state submerged lands not be applied to the above waterbodies.

For this opinion we have relied only on records in our central repository. Additional records will be reviewed if provided. This opinion is not a disclaimer of state-owned land.

Thank you again for your inquiry. If this office can be of any further assistance regarding this determination, please address your questions to Donelle White, Government Operations Consultant I, at the above letterhead address or telephone number.

Sincerely,

Terry E. Wilkinson, Chief  
Bureau of Survey and Mapping  
Division of State Lands

TEW/dw  
F:\TITLE\TIANA\2NDQTR2004\lakeshadow&lovelydsl.doc

"More Protection, Less Process"

Printed on recycled paper.

Attachment 2

**PART I – Qualitative Description**  
**(See Section 62-345.400, F.A.C.)**

Site/Project Name Shadow Lake		GJ # 15053	Application Number	Assessment Area Name or Number Area #1 (see Fig. 1)
FLUCCs code 617	Further classification (optional)		Impact or Mitigation Site? impact	Assessment Area Size 1.37 ac.
Basin/Watershed Name/Number Middle St. Johns	Affected Waterbody (Class) III	Special Classification (i.e. OFW, AP, other local/state/federal designation of importance) none		
Geographic relationship to and hydrologic connection with wetlands, other surface water, uplands wetland is adjacent to a ditch and Lk. Shadow, which drains into Lk. Lovely (which has severely reduced hydrology) - discharge from treatment pond flows through ditch past the wetland.				
Assessment area description Canopy - black gum, sweet bay, dahoon holly, red maple, camphor, slash pine with dense vine cover; open mid-story; dense g.c. of cinn. fern, netted chain fern, Hea virginicus				
Significant nearby features 3/4 of wetland surrounded by old (no stormwater treatment) single-family residential + 1/4 pasture		Uniqueness (considering the relative rarity in relation to the regional landscape.) common lake edge forested wetland - drained		
Functions provides good canopy and g.c. cover for nesting, denning, + refuge; ditch causes all H <sub>2</sub> O to bypass, = NO filtering, H <sub>2</sub> O storage, or attenuation; not connected to off-site corridors		Mitigation for previous permit/other historic use never used as mitigation or any other historic use		
Anticipated Wildlife Utilization Based on Literature Review (List of species that are representative of the assessment area and reasonably expected to be found) (see Table 1) utilization by small/med. sized animals adapted to suburban conditions		Anticipated Utilization by Listed Species (List species, their legal classification (E, T, SSC), type of use, and intensity of use of the assessment area) none		
Observed Evidence of Wildlife Utilization (List species directly observed, or other signs such as tracks, droppings, casings, nests, etc.): <del>see table</del> cardinal, barn owl, gray squirrel, downy woodpecker, osprey, brown anole, red-bellied woodpecker, blue jay (in vicinity)				
Additional relevant factors: western fringe of impact area contains <del>considerable</del> exotic species, including: camphor, exotic palms				
Assessment conducted by: Bill Lites, Nikki Dix			Assessment date(s): 5/10/04	

**PART II – Quantification of Assessment Area (impact or mitigation)**  
 (See Sections 62-345.500 and .600, F.A.C.)

Site/Project Name <i>Shadow Lake GJ #15053</i>	Application Number	Assessment Area Name or Number <i>Area #1 (see Fig. 4 in ERP application)</i>
Impact or Mitigation <i>Impact</i>	Assessment conducted by: <i>Bill Lites &amp; Nikku Dix</i>	Assessment date: <i>5/10/04</i>

**Scoring Guidance**  
 The scoring of each indicator is based on what would be suitable for the type of wetland or surface water assessed

Optimal (10)	Moderate (7)	Minimal (4)	Not Present (0)
Condition is optimal and fully supports wetland/surface water functions	Condition is less than optimal, but sufficient to maintain most wetland/surface water functions	Minimal level of support of wetland/surface water functions	Condition is insufficient to provide wetland/surface water functions

.500(6)(a) Location and Landscape Support	a.) 4 b.) 6 c.) 3 - access predominantly precluded by residential development	
	d.) 2 - ditch channels + H <sub>2</sub> O e.) 5 f.) 4 g.) 4 (minimal discharge)	
w/o pres or current	with	
4.0	0	
.500(6)(b) Water Environment (n/a for uplands)	a.) 2 - at least 1' oxidation b.) 8 c.) 4 d.) 4 e.) 2	
	f.) 7 g.) 5 h.) 4 i.) N/A j.) N/A k.) N/A l.) 0 no H <sub>2</sub> O present	
w/o pres or current	with	
4.0	0	
.500(6)(c) Community structure	a.) 7 b.) 6 c.) 5 d.) 8 e.) 6 f.) 5 g.) 5 h.) 8 i.) N/A	
	j.) N/A	
w/o pres or current	with	
6.3	0	

Score = sum of above scores/30 (if uplands, divide by 20)

current or w/o pres	with
0.48	0

If preservation as mitigation,

Preservation adjustment factor =
Adjusted mitigation delta =

For impact assessment areas

$-0.48 \times 0.26 \text{ ac. impact}$
FL = delta x acres =
-0.12

Delta = [with-current]
-0.48

If mitigation

Time lag (t-factor) =
Risk factor =

For mitigation assessment areas

RFG = delta/(t-factor x risk) =
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**PART I – Qualitative Description**  
**(See Section 62-345.400, F.A.C.)**

Site/Project Name Shadow Lake GJ #15053		Application Number	Assessment Area Name or Number Area #2 (see Fig. 1)	
FLUCCs code 617	Further classification (optional)		Impact or Mitigation Site? Impact	Assessment Area Size 14.01 ac.
Basin/Watershed Name/Number Middle St. Johns	Affected Waterbody (Class) III	Special Classification (i.e. OFW, AP, other local/state/federal designation of importance) none		
Geographic relationship to and hydrologic connection with wetlands, other surface water, uplands South of & partially contained within flow-way between Lk. Shadow & Lk. Lovely, which has severely reduced hydrology - surrounded on north & west sides by a 618 wetland				
Assessment area description Canopy - sweet bay, laurel oak, water oak, swamp bay, red maple, camphor, chinaberry, chinese tallow; subcanopy of same species; g.c. of red maple, laurel oak, American beautyberry, swamp fern, cinn. fern, royal fern, poison ivy, dense muscadine, etc.				
Significant nearby features Bordered to northwest by less functional wetlands to east by uplands & Lk. Shadow, and to south by pasture		Uniqueness (considering the relative rarity in relation to the regional landscape.) fairly typical hardwood wetland		
Functions provides good g.c. and fair canopy cover for wildlife, some H <sub>2</sub> O storage & filtration, not connected to wildlife corridors		Mitigation for previous permit/other historic use none		
Anticipated Wildlife Utilization Based on Literature Review (List of species that are representative of the assessment area and reasonably expected to be found) (see Table 1) small/med. sized animals adapted to suburban conditions		Anticipated Utilization by Listed Species (List species, their legal classification (E, T, SSC), type of use, and intensity of use of the assessment area) none		
Observed Evidence of Wildlife Utilization (List species directly observed, or other signs such as tracks, droppings, casings, nests, etc.): brown anole				
Additional relevant factors:				
Assessment conducted by: Bill Lites & Nikki Dix		Assessment date(s): 5/17/04		

**PART II – Quantification of Assessment Area (impact or mitigation)**  
 (See Sections 62-345.500 and .600, F.A.C.)

Site/Project Name <b>Shadow Lake GJ #15053</b>	Application Number	Assessment Area Name or Number <b>Area #2 (see Fig. 4 in ERP application)</b>
Impact or Mitigation <b>Impact</b>	Assessment conducted by: <b>Bill Lites &amp; Nikki Dix</b>	Assessment date: <b>5/17/04</b>

**Scoring Guidance**  
 The scoring of each indicator is based on what would be suitable for the type of wetland or surface water assessed

Optimal (10)	Moderate(7)	Minimal (4)	Not Present (0)
Condition is optimal and fully supports wetland/surface water functions	Condition is less than optimal, but sufficient to maintain most wetland/surface waterfunctions	Minimal level of support of wetland/surface water functions	Condition is insufficient to provide wetland/surface water functions

.500(6)(a) Location and Landscape Support	a.) 4 b.) 4 c.) 3 d.) 4 e.) 3 f.) 7 g.) 4 h.) N/A	
	w/o pres or current <b>4.1</b>	with <b>0</b>
.500(6)(b) Water Environment (n/a for uplands)	a.) 2 b.) 3 - conflicting indicators c.) 0 - 2' soil subsidence d.) N/A e.) N/A f.) 7 g.) 3 h.) 4 i.) 5 j.) N/A - no water k.) 4 - no water quality indicators, but surrounding developments contribute untreated stormwater l.) N/A - no water	
	w/o pres or current <b>3.5</b>	with <b>0</b>
.500(6)(c) Community structure  1. Vegetation and/or 2. Benthic Community	a.) 6 b.) 6 - particularly heavy along edge c.) 6 d.) 8 e.) 5 f.) 6 g.) 4 - ditching eno management h.) 7 i.) N/A j.) N/A	
	w/o pres or current <b>6.0</b>	with <b>0</b>

Score = sum of above scores/30 (if uplands, divide by 20)

current or w/o pres <b>0.45</b>	with <b>0</b>
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If preservation as mitigation,

Preservation adjustment factor =
Adjusted mitigation delta =

For impact assessment areas

$-0.45 \times 1.44 \text{ ac. of impact}$   
 FL = delta x acres =  
**-0.65**

Delta = [with-current]

**-0.45**

If mitigation

Time lag (t-factor) =
Risk factor =

For mitigation assessment areas

RFG = delta/(t-factor x risk) =

**PART I – Qualitative Description**  
**(See Section 62-345.400, F.A.C.)**

Site/Project Name Shadow Lake GJ #15053		Application Number	Assessment Area Name or Number Area #3 (see Fig. 1)	
FLUCCs code 618		Further classification (optional)	Impact or Mitigation Site? Impact	Assessment Area Size 8.41 acres
Basin/Watershed Name/Number Middle #St. Johns	Affected Waterbody (Class) III	Special Classification (i.e. OFW, AP, other local/state/federal designation of importance) none		
Geographic relationship to and hydrologic connection with wetlands, other surface water, uplands north of & partially contained within flow-way between Lk. Shadow & Lk. Lovely which has severely reduced hydrology - forms northwest border of a 617 wetland				
Assessment area description cattered canopy of chinaberry, camphor, wax myrtle - shrub layer of elderberry, muscadine, dogfennel, air potato, blackberry, Smilax, G.C. dominated by vine species listed above w/ some fern & Andropogon				
Significant nearby features Bordered to the north by old (no stormwater treatment) residential and to the south by pasture & slightly more functional wetland		Uniqueness (considering the relative rarity in relation to the regional landscape.) typical disturbed / drained wetland dominated by vines & exotics		
Functions provides limited cover for wildlife; limited hydrology; not connected to off-site corridors		Mitigation for previous permit/other historic use none		
Anticipated Wildlife Utilization Based on Literature Review (List of species that are representative of the assessment area and reasonably expected to be found) (see Table 1) small / med. sized animals adapted to suburban conditions		Anticipated Utilization by Listed Species (List species, their legal classification (E, T, SSC), type of use, and intensity of use of the assessment area) none		
Observed Evidence of Wildlife Utilization (List species directly observed, or other signs such as tracks, droppings, casings, nests, etc.): brown anole, cardinal, gray squirrel, blue jay				
Additional relevant factors: shrub dominated wetland with an abundance of exotic species				
Assessment conducted by: Bill Lites, Nikki Dix		Assessment date(s): 5/17/04		

**PART II – Quantification of Assessment Area (impact or mitigation)**  
 (See Sections 62-345.500 and .600, F.A.C.)

Site/Project Name <i>Shadow Lk. GIS # 15053</i>	Application Number	Assessment Area Name or Number <i>Area # 3 (see Fig. 4 in ERP application)</i>
Impact or Mitigation <i>Impact</i>	Assessment conducted by: <i>Bill Lites &amp; Nikke Dix</i>	Assessment date: <i>5/17/04</i>

**Scoring Guidance**  
 The scoring of each indicator is based on what would be suitable for the type of wetland or surface water assessed

Optimal (10)	Moderate (7)	Minimal (4)	Not Present (0)
Condition is optimal and fully supports wetland/surface water functions	Condition is less than optimal, but sufficient to maintain most wetland/surface water functions	Minimal level of support of wetland/surface water functions	Condition is insufficient to provide wetland/surface water functions

.500(6)(a) Location and Landscape Support	a.) 4 b.) 5 c.) 3 - predominantly precluded by residential development	
	d.) 4 - not much H <sub>2</sub> O flowing through the 618 & isolated from downstream by SR434 & development e.) 2 - garbage exotics, development, drainage, disturbance f.) 7 - drained downstream canal - flows under 434 g.) 4 - contaminants h.) N/A	
<i>w/o pres or current</i>	<i>with</i>	
<i>4.1</i>	<i>0</i>	
.500(6)(b) Water Environment (n/a for uplands)	a.) 1 b.) 2 c.) 0 d.) N/A e.) N/A f.) 2 - elderberry only (see description)	
	g.) 1 h.) 3 i.) 4 j.) N/A k.) 4 l.) N/A no standing H <sub>2</sub> O	
<i>w/o pres or current</i>	<i>with</i>	
<i>2.1</i>	<i>0</i>	
.500(6)(c) Community structure	a.) 2 b.) 0 c.) 2 - slight regeneration of inappropriate veg.	
	d.) 4 e.) N/A - historic herbaceous fringe f.) 7	
g.) 4 - ditching & no management h.) 7 i.) N/A		
<i>w/o pres or current</i>	<i>with</i>	
<i>3.7</i>	<i>0</i>	

Score = sum of above scores/30 (if uplands, divide by 20)

<i>current or w/o pres</i>	<i>with</i>
<i>0.33</i>	<i>0</i>

If preservation as mitigation,

Preservation adjustment factor =
Adjusted mitigation delta =

For impact assessment areas

$-0.33 \times 1.23 \text{ ac. of impact}$
FL = delta x acres =
<i>-0.41</i>

Delta = [with-current]
<i>-0.33</i>

If mitigation

Time lag (t-factor) =
Risk factor =

For mitigation assessment areas

RFG = delta/(t-factor x risk) =
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**PART II – Quantification of Assessment Area (impact or mitigation)**  
(See Sections 62-345.500 and .600, F.A.C.)

Site/Project Name <i>Shadow Lake</i>	Application Number	Assessment Area Name or Number <i>Area #1 (see Fig.4)</i>
Impact or Mitigation <i>Preservation/Secondary Impact</i>	Assessment conducted by: <i>Bill Lites &amp; Nikki Dix</i>	Assessment date: <i>5/10/04</i>

**Scoring Guidance**  
The scoring of each indicator is based on what would be suitable for the type of wetland or surface water assessed

Optimal (10)	Moderate(7)	Minimal (4)	Not Present (0)
Condition is optimal and fully supports wetland/surface water functions	Condition is less than optimal, but sufficient to maintain most wetland/surface waterfunctions	Minimal level of support of wetland/surface water functions	Condition is insufficient to provide wetland/surface water functions

.500(6)(a) Location and Landscape Support	<u>current</u> a.) 4 b.) 6 c.) 3 - access predominantly precluded by residential development d.) 2 - ditch channels H <sub>2</sub> O e.) 5 f.) 4 g.) 4 (minimal discharge) h.) N/A	
	w/o pres or current <b>4</b>	with <b>2.7</b>
.500(6)(b) Water Environment (n/a for uplands)	<u>current</u> a.) 2 - at least 1' oxidation b.) 8 c.) 4 d.) 4 e.) 2 f.) 7 g.) 5 h.) 4 i.) N/A - no H <sub>2</sub> O present j.) N/A k.) N/A l.) 0	
	w/o pres or current <b>4</b>	with <b>4</b>
.500(6)(c) Community structure  1. Vegetation and/or 2. Benthic Community	<u>current</u> a.) 7 b.) 6 c.) 5 d.) 8 e.) 6 f.) 5 g.) 5 h.) 8 i.) N/A j.) N/A	
	w/o pres or current <b>6.3</b>	with <b>6</b>

*surrounding development decreases habitat quality & access wildlife*

*undesirable spp. will be removed in portions of the wetland b.) 7 c.) 4 - some mid-story trees will be clear to improve views*

*dead trees will be removed for aesthetic reasons f.) 5 g.) 5 h.) 8 i.) N/A j.) N/A*

Score = sum of above scores/30 (if uplands, divide by 20)

current or w/o pres	with
<b>0.48</b>	<b>0.42</b>

If preservation as mitigation,

Preservation adjustment factor = <b>0.3</b>
Adjusted mitigation delta = <b>-0.02</b>

For impact assessment areas

FL = delta x acres =
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Delta = [with-current]
<b>-0.06</b>

If mitigation

Time lag (t-factor) = <b>1</b>
Risk factor = <b>1.9</b>

For mitigation assessment areas

RFG = delta/(t-factor x risk) = <b>-0.01</b>
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$$\frac{-0.02}{1.9} \times 1.11 = -0.01$$

*negative RFG implies secondary impacts*

**PART II – Quantification of Assessment Area (impact or mitigation)**  
(See Sections 62-345.500 and .600, F.A.C.)

Site/Project Name <b>Shadow Lake GJ #15053</b>	Application Number	Assessment Area Name or Number <b>Area #2 (see Fig. 4)</b>
Impact or Mitigation <b>Preservation/Secondary Impact</b>	Assessment conducted by: <b>Bill Lites &amp; Nikki Dix</b>	Assessment date: <b>5/17/04</b>

**Scoring Guidance**  
The scoring of each indicator is based on what would be suitable for the type of wetland or surface water assessed

Optimal (10)	Moderate(7)	Minimal (4)	Not Present (0)
Condition is optimal and fully supports wetland/surface water functions	Condition is less than optimal, but sufficient to maintain most wetland/surface waterfunctions	Minimal level of support of wetland/surface water functions	Condition is insufficient to provide wetland/surface water functions

.500(6)(a) Location and Landscape Support	current: a.) 4 b.) 4 c.) 3 d.) 4 e.) 3 f.) 7 g.) 4 h.) N/A
	with: a.) 2 b.) 4 c.) 1 d.) 4 e.) 2 f.) 7 g.) 4 h.) N/A surrounding development decreases habitat quality and wildlife access
w/o pres or current <b>4.1</b>	with <b>3.4</b>
.500(6)(b) Water Environment (n/a for uplands)	current: a.) 2 b.) 3 c.) 0 d.) N/A e.) N/A f.) 7 g.) 3 h.) 4 i.) 5 j.) N/A k.) 4 l.) N/A (see impact assessment for details)
	with: a.) → j.) same as current k.) 5 - increased water quality l.) N/A
w/o pres or current <b>3.5</b>	with <b>3.6</b>
.500(6)(c) Community structure  1. Vegetation and/or 2. Benthic Community	current: a.) 6 b.) 6 c.) 6 d.) 8 e.) 5 f.) 6 g.) 4 h.) 7 i.) N/A j.) N/A
	with: same as current - development is not expected to change veg. comm. structure
w/o pres or current <b>6.0</b>	with <b>5.6</b>

Score = sum of above scores/30 (if uplands, divide by 20)	
current or w/o pres <b>0.45</b>	with <b>0.42</b>

If preservation as mitigation,
Preservation adjustment factor = <b>0.3</b>
Adjusted mitigation delta = <b>-0.01</b>

For impact assessment areas
FL = delta x acres =

Delta = [with-current]
<b>-0.03</b>

If mitigation
Time lag (t-factor) = <b>1</b>
Risk factor = <b>1.9</b>

For mitigation assessment areas
RFG = delta/(t-factor x risk) = <b>-0.07</b>

$$\frac{-0.01}{1.9} \times 12.57 = -0.07$$

**PART II – Quantification of Assessment Area (impact or mitigation)**  
(See Sections 62-345.500 and .600, F.A.C.)

Site/Project Name <i>Shadow Lake GJ #15053</i>	Application Number	Assessment Area Name or Number <i>Area #3 (see Fig. 4)</i>
Impact or Mitigation <i>Preservation / Secondary Impact</i>	Assessment conducted by: <i>Bill Lites &amp; Nikki Dix</i>	Assessment date: <i>5/17/04</i>

<b>Scoring Guidance</b> The scoring of each indicator is based on what would be suitable for the type of wetland or surface water assessed	<b>Optimal (10)</b>	<b>Moderate (7)</b>	<b>Minimal (4)</b>	<b>Not Present (0)</b>
	Condition is optimal and fully supports wetland/surface water functions	Condition is less than optimal, but sufficient to maintain most wetland/surface water functions	Minimal level of support of wetland/surface water functions	Condition is insufficient to provide wetland/surface water functions

.500(6)(a) Location and Landscape Support  w/o pres or current	with 3.7	current a.) 4 b.) 5 c.) 3 - predominately precluded by development d.) 4 - not much water flowing through the b18 & isolated from downstream by SR 434 & development e.) 2 - garbage, exotics, development, drainage, disturbance f.) 7 - drained downstream canal - flows under 434 g.) 4 - contaminants h.) N/A
		with: a.) 2 b.) 5 c.) 2 d.) 4 e.) 2 - abutting development f.) 7 g.) 4 h.) N/A
.500(6)(b) Water Environment (n/a for uplands)  w/o pres or current	with 2.3	current: a.) 1 b.) 2 c.) 0 d.) N/A e.) N/A f.) 2 - elderberry only (see description) g.) 1 h.) 3 i.) 4 j.) N/A - no water k.) 4 with: a.) → j) same as current k.) 5 - water entering wetland will now be treated through stormwater pond (currently is untreated) l.) N/A
		current: a.) 2 b.) 0 c.) 2 - slight regeneration of inappropriate veg. d.) 4 e.) N/A - historic herbaceous fringe f.) 7 g.) 4 - ditching & no management h.) 7 i.) N/A with: a.) 2 b.) 0 c.) 2 d.) 4 e.) N/A f.) 7 g.) 4 h.) 7
.500(6)(c) Community structure  1. Vegetation and/or 2. Benthic Community  w/o pres or current	with 3.7	current: a.) 2 b.) 0 c.) 2 - slight regeneration of inappropriate veg. d.) 4 e.) N/A - historic herbaceous fringe f.) 7 g.) 4 - ditching & no management h.) 7 i.) N/A with: a.) 2 b.) 0 c.) 2 d.) 4 e.) N/A f.) 7 g.) 4 h.) 7

Score = sum of above scores/30 (if uplands, divide by 20)	
current or w/o pres	
with	
<i>0.33</i>	<i>0.32</i>

If preservation as mitigation,
Preservation adjustment factor = <i>0.3</i>
Adjusted mitigation delta = <i>-0.003</i>

For impact assessment areas
FL = delta x acres =

Delta = [with-current]
<i>-0.01</i>

If mitigation
Time lag (t-factor) = <i>1</i>
Risk factor = <i>1.9</i>

For mitigation assessment areas
RFG = delta / (t-factor x risk) = <i>-0.01</i>

$$\frac{-0.003}{1.9} \times 7.18 = -0.01$$

negative RFG implies secondary impacts