SOUTHWEST LAND DEVELOPERS, INC.
ZEMEL ROAD CONSTRUCTION AND DEMOLITION DEBRIS DISPOSAL AND RECYCLING FACILITY

Section 30, Township 42 South, Range 24 East
Charlotte County, Florida

Environmental Resource Permit Application: Environmental Supplement

January 2004

Prepared for

SOUTHWEST LAND DEVELOPERS, INC.
5445 Williamsburg Dr.
Punta Gorda, FL 33982

Prepared by:

W. DEXTER BENDER AND ASSOCIATES, INC.
2052 Virginia Avenue
Fort Myers, Florida 33901
(239) 334-3680

RECEIVED
JAN 30 2004
D.E.P. - South District

SECTION E

INFORMATION FOR STANDARD GENERAL OR INDIVIDUAL (INCLUDING CONCEPTUAL) ENVIRONMENTAL RESOURCE PERMITS FOR PROJECTS NOT RELATED TO A SINGLE FAMILY DWELLING UNIT

A. Site Information

2. Provide recent aerials, legible for photo interpretation with a scale of 1" = 400 ft, or more detailed, with project boundaries delineated on the aerial.

The attached vegetation map (Exhibit A.2) includes a 2001 aerial photograph (1" = 300' scale), which identifies the project boundaries.

3. Identify the seasonal high water or mean high tide elevation and normal pool or mean low tide elevation for each on-site wetland or surface water, including receiving waters into which runoff will be discharged. Include date, datum, and method used to determine these elevations.

Seasonal high water (SHW) elevations have been established at five locations on the property. There were three stations within the main slough (northeast, middle, and south) and two stations within smaller wetlands away from the slough. At each station, biological indicators (adventitious roots on wax myrtle) were marked with a nail on 4 to 5 shrubs. The elevation of each nail was surveyed by Robert South. The seasonal high water elevation at each station was determined by calculating the average elevation of the nails at that station. See Exhibit A.2 for the location of each station and the SHW elevations at the five stations. The SHW elevations were marked on April 2, 2003.

4. Identify the wet season high water table at appropriate locations on the project site. Include date, datum, and method used to determine these elevations.

Seasonal high water elevations have been established for the site as described above. For the purposes of this application, it is conservatively assumed that the elevation of the wet season high water table is similar to the elevation of the seasonal high water.

B. Environmental Considerations

1. Provide results of any wildlife surveys that have been conducted on the site and any comments pertaining to the project from the Florida Game and Fresh Water Fish Commission or the U.S. Fish and Wildlife Service (USF&W).

RECEIVED
JAN 30 2004
D.E.P. - South District

A series of wildlife surveys have been conducted on the site, as described below.

A listed species survey was conducted by Kevin L. Erwin Consulting Ecologist, Inc. (KLECE) on-site from approximately 7:30 AM to 5:00 PM on October 15 - 17, 2001. This survey emphasized, but was not limited to, the presence or absence of wildlife species that had been listed by the state or

federal government as endangered, threatened, or species of special concern, such as the gopher tortoise (*Gopherus Polyphemus*), eastern indigo snake (*Drymarchon corais couperi*), bald eagle (*Haliaeetus leucocephalus*), red-cockaded woodpecker (RCW) (*Picoides borealis*), little blue heron (*Egretta caerulea*), snowy egret (*Egretta thula*), tricolored heron (*Egretta tricolor*), white ibis (*Eudocimus albus*), Florida sandhill crane (*Grus canadensis pratensis*), wood stork (*Mycteria americana*), Florida black bear (*Ursus americanus floridanus*), and Sherman's fox squirrel (*Sciurus niger shermani*). This survey also looked for endangered, threatened, and commercially exploited plant species, including Florida coontie (*Zamia floridana*), beautiful pawpaw (*Deeringothamnus pulchellus*), and pine lily (*Lilium catesbaei*). The survey consisted of a pedestrian survey by two qualified ecologists walking a sufficient number of belt transacts through suitable habitats to insure that the majority of the ground and flora were observed. All larger pine trees were examined for potential RCW cavities and eagle nests. The transacts were spaced from 50 to 100 feet apart, depending on habitat. All habitats were inspected for protected wildlife species. At regular intervals, the ecologist stopped, remained quiet, and listened for wildlife vocalizations.

The October 2001 survey by KLECE focused on the portions of the property that could potentially be directly impacted by future site development. Therefore, the large willow dominated wetland located in the northeastern portion of the site was not surveyed at that time.

This wetland was subsequently surveyed by KLECE in February 2003 to determine if state listed wading birds were nesting within the wetland and could thereby be potentially affected by adjacent development. The survey consisted of a pedestrian survey by two qualified ecologists walking a sufficient number of belt transacts through the wetland to insure that the majority of the ground and shrubs were observed. (The survey was timed to coincide with leaf drop by the willow, allowing increased opportunities to detect wading bird nests, and lower water levels that facilitated access.)

The "Florida Atlas of Breeding Sites for Herons and Their Allies" (Runde, et. al. 1991) was reviewed for the location of breeding colonies for both listed and non-listed wading birds. There was no reference in the atlas to any breeding colonies located within or immediately adjacent to SLD's project site. The nearest recorded breeding colony was located approximately 5 miles northeast of the project site. That colony was reported as active in the spring of 1989 and contained an estimated 11 to 100 great egret, great blue heron, little blue heron, cattle egret, and anhinga. The 2000 update of this survey also did not report any breeding colonies located within or immediately adjacent to SLD's project site.

Information regarding critical habitats and listed wildlife species associated with the project site was requested from Barbara Lenczewski (Florida Natural Areas Inventory (FNAI)). The written response from the FNAI, dated October 24, 2001, indicated there are no occurrence records for listed

RECEIVED
JAN 3 0 2004
D.E.P. - South District

species within SLD's property. See Exhibit B.1.a. The FNAI's data base did indicate that the following species were reported to have been observed north of Zemel Road within one mile of the site: beautiful papaw; gopher tortoise; and RCW. However, extensive surveys of SLD's property have been conducted at various times of the year, and no beautiful papaw or RCW have been identified on the site.

Widely scattered gopher tortoise burrows were found on-site. The gopher tortoise is listed as a species of special concern by the Florida Fish and Wildlife Conservation Commission (FWC). The majority of the burrows are located in the palmetto prairie community in the southwestern portion of the site. A total of seven burrows were observed within the sampling transacts (see Exhibit B.1.b). Approximately 46 percent of the potential tortoise habitat was surveyed and, therefore, it is anticipated that the entire property may contain up to 16± gopher tortoise burrows. Based on the FWC standard burrow occupancy correction factor of 0.614, it is estimated that 10± gopher tortoises may occur on-site. One tortoise was previously relocated from SLD's existing C & D facility to an on-site upland preserve, before SLD commenced construction of that facility.

Given the presence of tortoise burrows, there is also the potential for the eastern indigo snake to occur on SLD's site. The eastern indigo snake is listed as threatened by both the FWC and U.S. Fish and Wildlife Service (FWS). However, no evidence of indigo snakes has been observed on-site to date.

It is possible that a Florida black bear may periodically move through the pine flatwoods and palmetto prairie on the site. Bear sign has reportedly been observed by the FWC on the southern portion of the adjacent Charlotte County Class I Landfill property. Bears are know to visit Class I landfills in search of food (putrescible waste). However, neither the bear, its sign (droppings, tracks, or scratched trees), or evidence of denning activity on-site were observed during the KLECE survey in October 2001. This species is listed as threatened by the FWC.

Bald eagles frequent the existing County landfill facility to the west of SLD's site. Eagles have been observed roosting in larger pines along SLD's west boundary. The majority of these trees have been preserved within the existing SLD facility's wetland mitigation and conservation areas. Based on a January 2004 search on the FWC eagle nest locator website (http://wld.fwc.state.fl.us/eagle) no nesting on or within one mile of the property has been recorded. Bald eagles are listed as threatened by both the FWC and FWS.

During the October 2001 survey, no utilization of the site by state listed wading birds was observed. However, during other activities on-site, KLECE has observed white ibis, wood stork, little blue heron, snowy egret, and Florida sandhill crane foraging on-site in isolated depressional areas. Many of these sightings occurred in the water management area of the existing

RECEIVED
JAN 30 2004
D.E.P. - South District

SLD facility, which is located between the SLD landfill and Zemel Road. Wood storks have also been observed foraging on debris piles within the County landfill, to the west of SLD's site.) Conditions within the majority of the wetlands on SLD's site are not favorable for nesting by these species.

The large willow dominated wetland located in the northeastern portion of SLD's site may provide potential nesting habitat for state listed wading birds. However, no evidence of nesting was found during the February 2003 survey of this wetland. Limited foraging activity may occur within the seasonally flooded wetlands on SLD's site during certain times of the year.

The upland and wetland pine flatwoods on-site provide minimal potential foraging habitat for the RCW. No cavity trees or start holes were observed during the October 2001 survey. Historically, the property was zoned by Charlotte County as Agricultural, with an exemption for logging. Consequently, the site and adjacent lands to the south were periodically logged by the Zemel family during the past several decades. The historical logging activities on the site have greatly reduced the average size of the pine trees on-site and precluded the establishment of large, old pines that are required for RCW nesting.

KLECE met with the FWS and FWC to discuss the potential for RCW foraging on SLD's property. To conclusively resolve this issue, KLECE met with the FWS and FWC on November 5, 2002, and agreed to conduct a survey for RCW in accordance with a methodology approved by the FWS and FWC. It was agreed that a RCW foraging survey would be conducted one time during the non-nesting season and one time during the nesting season. The non- nesting season RCW foraging survey was conducted by KLECE on December 9 -13 and 16 - 20, 2002 (see Exhibit B.1.c). KLECE's report was submitted to both the FWC and FWS for review and comment. Based on comments received from both agencies, the methodology for the nesting season RCW foraging survey was modified slightly. The nesting season RCW foraging survey was conducted by W. Dexter Bender and Associates, Inc. (WDBA) on May 19 - 30 and June 3 and 4, 2003 and the report submitted to the FWC and FWS shortly thereafter (see Exhibit B.1.d). After completing these surveys, both KLECE and WDBA concluded that RCW are not foraging or nesting on SLD's 427 acre site.

Several state listed plant species have been observed on-site. Specifically, these plants are: Florida coontie, which is listed as commercially exploited by the Florida Department of Agriculture and Consumer Services (FDACS); wild coco (*Eulophia alata*) and pine lily, which are listed as threatened by the FDACS; and wild pines (*Tillandsia flexuosa* and *T. balbisiana*), which are listed as endangered by the FDACS. No federally listed plant species were observed on-site. Pursuant to Chapter 5B-40, Florida Administrative Code, commercially exploited, threatened, or endangered plant species can either be destroyed or relocated to adjacent lands under the same ownership, provided written authorization from the landowner is obtained.

RECEIVED
JAN 30 2004
D.E.P. - South District

The preceding paragraphs summarize the findings and conclusions contained in the formal surveys conducted on SLD's site by KLECE and WDBA. These observations are consistent with observations made by KLECE and WDBA while performing other work on the property. Numerous additional man-hours have been spent on-site conducting other tasks, such as vegetation mapping, wetland delineation, and agency site inspections. During these other activities, ecologists also looked for listed animal and plant species. In total, prior to and including the December 2002 RCW foraging survey, KLECE ecologists have spent more than 285± man-hours on-site, conducting various environmental tasks. Approximately 50 percent of that time was devoted specifically to listed species. Intensive surveys also were conducted by KLECE during the permitting of the existing facility in 1996 and 1997. Monitoring has also been conducted annually within the associated conservation area. Mapping and general site reconnaissance work over the entire site was conducted in June 2000 and September 2001. During all of these activities, KLECE ecologists looked for listed species. In addition, WDBA ecologists have spent 60± man hours on-site, primarily conducting listed species observations. Thus, professional ecologists employed by KLECE and WBDA have spent a total of approximately 345 hours on SLD's site. Nonetheless, no RCWs or Florida black bears have been observed on the property during any of those occasions.

The state and federal listed species that have been observed on-site since 1996 are presented in the table below.

State and Federally Listed Species Observed On-Site From 1996 Through 2003

		Designated Status		
Scientific Name	**Common Name**	**FWC**	**FDA**	**FWS**
Bird				
Egretta caerulea	Little blue heron	SSC		
Egretta thula	Snowy egret	SSC		
Eudocimus albus	White ibis	SSC		
Grus canadensis pratensis	Florida sandhill crane	T		
Haliautus leucocephalus	Bald eagle	T		T
Mycteria americana	Wood stork	E		E

RECEIVED
JAN 30 2004
D.E.P. - South District

Reptile				
Gopherus polyphemus	Gopher tortoise	SSC		
Plant				
Eulophia alta	Wild coco		T	
Lilium catesbaei	Pine lily		T	
Tillandsia balbisiana	Wild pine		E	
Tillandsia flexuosa	Twisted air plant		E	
Zamia floridana	Florida coontie		CE	

FWC: Florida Fish and Wildlife Conservation Commission
FDA: Florida Department of Agriculture and Consumer Services
FWS: United States Fish and Wildlife Service
T (s/a): Threatened/Similarity of Appearance

E: Endangered
T: Threatened
SSC Species of Special Concern
CE Commercially Exploited

The only listed animal species observed nesting or denning on-site has been the gopher tortoise.

2. Provide a description of how water quantity, quality, hydroperiod, and habitat will be maintained in on-site wetlands and other surface waters that will be preserved or remain undisturbed.

SLD intends to construct and operate a C & D disposal facility, yard waste mulching operation, and recycling facility at this location. This project is designed to meet the needs of Charlotte County for the next 30 years. This project will include two C & D disposal cells, a yard waste mulching area, and associated buildings, parking facilities, roads, landscaping/buffers, a surface water management system, and a 128.7± acre wetland/upland enhancement area

The applicant has made numerous revisions to the site plan as it has been refined to meet the needs of the proposed facility, land development code requirements of the County, and minimize impacts to higher quality wetlands. The two plans discussed below illustrate this refinement process.

The initial conceptual plan for the property, based on SLD's preferred facility design, consisted of two disposal areas with associated support facilities front U.S. 41 (see engineering plan set). The primary disposal area was located in the east central portion of the site with a second disposal area located in the southwest corner of the site. The large willow dominated wetland was preserved along with a portion of the poorly defined hydric pine flatwoods slough. The outer edges of the poorly defined pine flatwoods slough, all of the isolated wetlands, and the majority of the wetlands along U.S. 41 were also to be impacted. A total of approximately 57.7 acres of wetland was proposed to be impacted.

RECEIVED
JAN 30 2004
D.E.P. - South District

Based on environmental considerations, SLD revised their initial plan. The primary disposal area for C & D debris will be located in the east central portion of the site. A smaller disposal area for C & D debris will be located in the west central portion of the site. The site plan has been carefully developed so that the large willow dominated wetland on the site, and vast majority of the poorly defined hydric pine flatwoods slough to the south will be preserved.

The wetland impacts associated with the project cannot be avoided. Most of these impacts will occur in the wetlands that are located within the center of the disposal areas. Avoiding these wetlands is not possible because it would preclude the use of the site as a long term C & D facility. The remaining wetland impacts will occur in wetlands located along the perimeter of the disposal areas. To avoid these impacts, the outer edge of the disposal area would have to be moved inward, creating a very irregular shape. Minor variations in the base of the disposal area will dramatically reduce the capacity and the useful life of the facility, again thwarting the project purpose.

To mitigate the unavoidable wetland impacts described above, SLD will enhance and preserve 99.6± acres of wetlands and 29.1± acres of uplands. Exotics, which dominate most of the site, will be removed and the wetland areas will be replanted with native vegetation, as needed, to re-establish a functional wetland ecosystem. In addition, the project's surface water management system has been designed to ensure that all applicable state water quality standards are met. Please see the response to item B.3 below for additional information on the proposed wetland mitigation plan.

3. Provide a narrative of any proposed mitigation plans, including purpose, maintenance, monitoring, and construction sequence and techniques, and estimated costs.

Please see the attached Wetland Mitigation, Maintenance, and Monitoring Plan (Exhibit B.3) for details about these issues. The estimated costs of the plan will be provided once conceptual approval of the proposed plan has been obtained.

4. Describe how boundaries of wetlands or other surface waters were determined. If there has been a jurisdictional declaratory statement, a formal wetland determination, a formal determination, a validated informal determination, or a revalidated jurisdictional determination, provide the identifying number.

The limits of state jurisdictional wetlands have been flagged and partially survey located. The survey data have been incorporated into the vegetation base map (Exhibit A.2). Based on this information, WDBA believes the property consists of 143.8± acres of jurisdictional wetlands and 283.5± acres of uplands.

RECEIVED

JAN 30 2004

D.E.P. - South District

5. Summarize impacts to wetlands and other surface waters:
   a. For all projects with wetlands or other surface waters on site, complete Table 1, 2 and 3, as applicable;

      Please see Table 1 for a summary of the proposed wetland impacts (Exhibit C.7) and Table 2 for the proposed on-site wetland mitigation (Exhibit B.3). No off-site wetland mitigation is required or proposed.

   b. For docking facilities or other structures constructed over wetlands or other surface waters, complete;

      Not applicable

   c. For shoreline stabilization projects, complete Table 5.

      Not applicable

C. Plans

Provide clear, detailed plans for the proposed system which include specifications, plan, cross-section and profile views of the proposed project. The plans must be signed and sealed by an appropriate registered professional as required by law. These plans should show or include the following, as applicable:

1. Project and total land area boundaries, including distances and orientation from roads or other land marks.

   See Attached Development Plans

2. Existing land use, land cover, and on-site natural communities, including wetlands, other surface waters, aquatic communities, and uplands (acreage and percentages). Use the USF&W Service's Classification of Wetlands and Deepwater Habitats of the United States for wetlands or other surface waters on the project site. Assign each wetland or other surface water a unique identification number which is consistent in all exhibits.

   KLECE mapped the major upland and wetland communities based on photo interpretation of 2001 (1"=200' scale) rectified aerial photography. WDBA updated the vegetation mapping based additional groundtruthing in 2003. The Florida Land Use, Cover and Forms Classification System (FLUCCS) was used to label the identified land uses and plant communities. Modifiers were added to denote the extent of exotic species infestation.

   When this property was purchased by SLD from the Zemel family, the land was zoned by Charlotte County as Agricultural, with an exemption for logging. The site and adjacent lands to the south have been periodically logged by the Zemel family over the past several decades. Consistent with these historical practices, SLD logged a portion of the site in October - November 2001. The 2001 logging was not undertaken until a listed species survey of the site (see Item B.1 above) confirmed that no RCW were not

RECEIVED
JAN 30 2004
D.E.P. - South District

nesting on the site, and SLD confirmed that the site could be logged in full compliance with the applicable Charlotte County regulations.

A total of 25 vegetation communities (i.e., FLUCCS Codes) have been identified within the 427.0 acre property (Exhibit A.2). The acreages of habitats are summarized by FLUCCS code in the following table. The dominant characteristics of each habitat type are described below.

Vegetation Associations and Land Use Acreages

FLUCCS CODE	HABITAT TYPE	ACRES
321	Palmetto Prairies	28.8
411	Pine Flatwoods	20.9
411L	Logged Pine Flatwoods	150.6
411M1	Pine Flatwoods invaded by Melaleuca (10-25%)	19.5
411M2	Pine Flatwoods invaded by Melaleuca (26-50%)	1.0
411M3	Pine Flatwoods invaded by Melaleuca (51-75%)	2.3
411M4	Pine Flatwoods invaded by Melaleuca (76-90%)	0.5
414	Pine - Mesic Oak	13.0
414BP1	Pine - Mesic Oak invaded by Brazilian Pepper (10-25%)	1.0
414L	Logged Pine - Mesic Oak	1.3
414M1	Pine - Mesic Oak invaded by Melaleuca (10-25%)	1.1
*428HBP1	Hydric Cabbage Palm invaded by Brazilian Pepper (10-25%)	16.1
*428HBPM2	Hydric Cabbage Palm invaded by Brazilian Pepper (26-50%)	2.3
*618	Willow and Elderberry	36.2
*619M	Hydric Melaleuca	15.9
*625	Hydric Pine Flatwoods	9.8
*625BP2	Hydric Pine Flatwoods invaded by Brazilian Pepper (26-50%)	0.5
*625M1	Hydric Pine Flatwoods invaded by Melaleuca (10-25%)	18.1
*625M2	Hydric Pine Flatwoods invaded by Melaleuca (26-50%)	19.3
*625M3	Hydric Pine Flatwoods invaded by Melaleuca (51-75%)	12.9
*643	Wet Prairies	2.1
*643M1	Wet Prairie invaded by Melaleuca (10-25%)	10.1
*643M2	Wet Prairie invaded by Melaleuca (26-50%)	0.5
740	Disturbed Land	8.3
814	Roads and Highways	3.5
835	Solid Waste Disposal	31.7
	Upland subtotal	283.5
	Wetland subtotal	143.8
	TOTAL	427.3

* Jurisdictional wetland

RECEIVED
JAN 30 2004
D.E.P. - South District

Palmetto Prairies (FLUCCS Code 321)

Palmetto prairie occurs in the western portion of the site. The canopy consists of very widely scattered slash pine (*Pinus elliottii*) and live oak (*Quercus virginiana*). The midstory is vegetated by shrubs such as wax-myrtle (*Myrica cerifera*) and stagger bush (*Lyonia fruticosa*) as well as smaller pines and oaks. Saw palmetto (*Serenoa repens*) is the dominant plant species in this community type. Additional ground cover species include dwarf wax-myrtle (*Myrica pusilla*), penny royal *(Piloblephis rigida*), gall berry (*flex glabra*), bracken fern (*Pteridium aquilinum*), and Virginia chain fern (*Woodwardia virginica*).

Pine Flatwoods (FLUCCS Code 411)

This upland community is similar to the palmetto prairie described above with the exception of a greater abundance of slash pines in the canopy and midstory. Wax-myrtle, tarflower (*Befaria racemosa*), and stagger bush are also present. The majority of this habitat type appears to have been logged in the past, before SLD purchased the property. However, these areas currently contain scattered slash pines in excess of 10 inches diameter at breast height (DBH) and a larger number of slash pines less than 6 inches DBH. Within this community type there are numerous poorly defined and irregularly shaped areas dominated by ground cover species other than saw palmetto. In these areas ground cover species such as wire grass (*Aristida stricta*), nut rush (*Scleria reticularius*), muhly grass *(Muhlenbergia capillary)*, sundew (*Drosera* sp.), and various sedges are common. Varying densities of melaleuca are also present within the upland pine flatwoods. The approximate extent of these exotics is delineated by the 411M1, 411M2, and 411M3 FLUCCS codes. In areas of high melaleuca (*Melaleuca quinquenervia*) density, native shrub and ground cover diversity and density is low. Areas with less melaleuca have a better developed shrub and ground cover strata.

Logged Pine Flatwoods (FLUCCS Code 411L)

Upland pine flatwoods that were logged by SLD in 2001 have been delineated as FLUCFCS Code 411L. Prior to the logging, the density and distribution of slash pines was similar to the pine flatwoods described above (i.e. consisted of slash pines primarily less than 6 inches DBH). As documented above, the logging was done in accordance with the existing zoning and Charlotte County code requirements. These areas are now dominated by saw palmetto and scattered shrubs with a variety of additional ground cover species such as wiregrass, dwarf wax-myrtle, flat-top goldenrod (*Euthamia minor*), nut rush, gopher apple (*Licania michauxii*), running oak (*Quercus pumila*), sundew, and sunbonnet (*Chaptalia tomentosa*). A moderate density of small slash pine (i.e., less than 3 inches DBH) and melaleuca are also present. Melaleuca is also present throughout this area.

RECEIVED

JAN 30 2004

D.E.P. - South District

Pine - Mesic Oak (FLUCCS Code 414)

Pine - mesic oak habitat is located adjacent to the large willow (*Salix* sp.) dominated depressional wetland on-site. The canopy is dominated by live oak, laurel oak (*Quercus laurifolia*), and slash pine. These species also occur in the midstory along with cabbage palm (*Sabal palmetto*), wax-myrtle, myrsine (*Rapanea punctata*), and dahoon holly (*Ilex cassine*). The ground cover stratum is variable and consists of species such as saw palmetto, cabbage palm, swamp fern (*Blechnum serrulatum*), Boston fern (*Nephrolepis* sp.), poison ivy (*Toxicodendron radicans*), and grape vine (*Vitis* sp.). Varying densities of melaleuca and Brazilian pepper (*Schinus terebinthifolius*) are also present within this habitat type. The approximate extent of these exotics is delineated by the 414M1 and 414BP1 FLUCCS codes, respectively.

Logged Pine - Mesic Oak (FLUCCS Code 414L)

This upland community was logged by SLD in 2001. Prior to the logging, the density and distribution of slash pines and oaks were similar to the pine - mesic oak described above. The majority of the pines have been removed from the area, but the oak trees remain.

Hydric Cabbage Palm (FLUCCS Code 428H)

The perimeter of the large willow dominated wetland is vegetated by a mosaic of cabbage palm, laurel oak, live oak, and very widely scattered slash pine. Cabbage palm and wax-myrtle often forms a dense midstory. Ground cover species include swamp fern, coinwort (*Centella asiatica*), marsh pennywort (*Hydrocotyle umbellata*), flat-topped goldenrod, grape vine, and scattered grasses and sedges. The extent of exotics within this habitat is denoted by FLUCCS code 428HBP1 and 428HBPM2.

Willow and Elderberry (FLUCFCS Code 618)

A large depressional wetland dominated by willow is present in the northern portion of the property. This area was historically most likely a freshwater marsh, but it has been negatively affected by a drainage ditch that drains this wetland off-site to the southwest and by fire suppression. The drainage ditch was created long before SLD purchased the site. Species that are found within the wetland in addition to willow and primrose willow (*Ludwigia peruviana*) include white vine (*Sarcostemma clausum*), arrowhead (*Sagittaria* sp.), saw grass (*Cladium jamaicense*), Virginia chain fern, swamp hibiscus (*Hibiscus grandiflorus*), and sand cordgrass (*Spartina bakeri*).

Hydric Melaleuca (FLUCCS Code 6193)

This highly disturbed wetland community is located primarily in the southeast corner of the site. The area appears to have been a hydric pine flatwoods that has been completely overgrown by melaleuca. This exotic species is the dominant vegetation in all three strata and it substantially decreases the diversity of native species in the area.

RECEIVED

JAN 30 2004

D.E.P. - South District

Hydric Pine Flatwoods (FLUCCS Code 625)

A portion of the conservation area for the SLD's existing C & D facility consists of this transitional wetland community. Exotics, primarily melaleuca, have been removed from this area. Slash pine and scattered laurel oaks dominate the canopy and midstory. The ground cover consists of a variety of wetland species such as wire grass, red root (*Lachnanthes caroliniana*), bushy bluestem (*Andropogon glomeratus*), beakrush (*Rhynchospora* spp.), panic grass (*Panicum* sp.), sand cord grass, and Virginia chain fern. Varying densities of melaleuca are present within the wetland pine flatwoods throughout the remainder of the site. The approximate extent of these exotics is delineated by the 625M1, 625M2, and 625M3 FLUCCS codes. In areas of high melaleuca density, native shrub and ground cover diversity and density is low. Areas with less melaleuca have better developed shrub and ground cover strata.

Wet Prairie (FLUCFCS Code 643)

Several small wet prairies occur on-site. These areas are similar in vegetation to the hydric pine flatwoods with the exception that the pine overstory is absent or greatly reduced. Common ground cover species include hatpin (*Eriocaulon decangulare*), beakrush, yellow-eyed grass (*Xyris sp.*), wiregrass, broomsedge (*Andropogon spp.*), sandweed (*Hypericum fasciculatum*), nut rush, and sundew. Scattered clumps of saw palmetto are also present. The majority of these wetlands occur as isolated wetlands. Varying densities of melaleuca are present within the wet prairies on-site. The approximate extent of these exotics is delineated by the 643M1 and 643M2 FLUCCS codes. In areas of higher melaleuca density, native shrub and ground cover diversity and density are low. Areas with less melaleuca have a better developed shrub and ground cover strata.

Disturbed Land (FLUCCS Code 740)

Areas of disturbed land are located adjacent to the west property line, U.S. 41, and Zemel Road. These areas have been cleared and are currently being used for the land spreading of horticultural mulch material in accordance with DEP regulations.

Roads and Highways (FLUCFCS Code 814)

Several dirt trails occur on-site. Despite SLD's efforts to stop trespassers, off-road vehicles illegally enter the property from the south and frequently create dirt trails through wetland and upland habitats. Only the major north - south trail (apparently an old power line alignment) and an above grade east - west dirt road have been mapped.

Solid Waste Disposal (FLUCFCS Code 835)

This FLUCCS code represents the existing construction and demolition debris disposal and recycling facility, including the support buildings and surface water management system.

RECEIVED

JAN 2 h 2004

D.E.P. - South District

5. Boundaries of wetlands and other surface waters within the project area. Distinguish those wetlands and other surface waters that have been delineated by any binding wetland determination.

   The limits of state jurisdictional wetlands have been flagged and partially survey located. The survey data have been incorporated into the vegetation base map (Exhibit A.2). Based on this information, WDBA believes the property consists of 143.8± acres of jurisdictional wetlands and 283.5± acres of uplands.

6. Proposed land use, land cover and natural communities, including wetlands, other surface waters, undisturbed uplands, aquatic communities, impervious surfaces, and water management areas (acreage and percentages). Use the same classification system and identification number used in C.2. above.

   Please see the attached mitigation plan (Exhibit B.3) for the proposed site plan, wetland enhancement areas, upland buffer, and upland preservation areas.

7. Proposed impacts to wetlands and other surface waters.

   The project development will result in 28.8± acres of unavoidable impacts to low quality wetlands. As discussed in detail above, SLD has avoided and minimized wetland impacts to the maximum practicable. Please see Exhibit C.7 for additional site plan details.

8. Locations of buffer zones abutting wetlands.

   The proposed development plan contains 7.1± acres of native upland buffers, with a minimum width of 15 feet and an average width of 25 feet, between the enhanced wetlands and the proposed development. Exotic species present within the buffers will be removed. In those areas substantially devoid of native vegetation following exotic removal, native species such as wax-myrtle, myrsine, saw palmetto, cabbage palm, slash pine, and live oak will be planted on 10 foot centers within the buffer. At locations where the proposed development has impacted a portion of a wetland, the remainder of the wetland will be separated from the development by a structural buffer (e.g., the side slope of the perimeter berm, planted with the species listed above). These buffers are shown on the Wetland Mitigation Plan (Exhibit B.3).

17. Location, grading, design water levels, and planting details of all mitigation areas.

   Please see the attached Wetland Mitigation and Monitoring Plan (Exhibit B.3) for the proposed mitigation plan details.

RECEIVED
JAN 30 2004
D.E.P. - South District

SLDZR106

Florida Natural Areas Inventory
1018 Thomasville Road, Suite 200-C
Tallahassee, Florida 32303
(850) 224-8207 fax (850) 681-9364
www.fnai.org

RECEIVED
JAN 30 2004
D.E.P. - South District

October 24, 2001

Craig Smith
Kevin L. Erwin Consulting Ecologist, Inc.
2077 Bayside Parkway
Fort Myers, FL 33901

Dear Mr. Smith:

Thank you for your request for information from the Florida Natural Areas Inventory (FNAI). We have compiled the following information for your project area.

Project: Site review 1, 2001
Date Received: October 23, 2001
Location: Township 42S, Range24E, Section 30, Charlotte County

Element Occurrences

A search of our maps and database indicates that currently we have several Element Occurrences mapped within one mile of the study area (see enclosed map and table).

The Element Occurrences data layer includes occurrences of rare species and natural communities. The map legend indicates the precision of the element occurrence location, defined as second (within about 300 feet of the point), minute (within about one mile), or general (within about 5 miles). For animals and plants, Element Occurrences generally refer to more than a casual siting; they usually indicate a viable population of the species. Note that some element occurrences represent historically documented observations which may no longer be extant.

Land Acquisition Projects

This site appears to be located within the Charlotte Harbor Flatwoods CARL Project Macrosite, which is part of the State of Florida's Conservation and Recreation Lands land acquisition program. The Charlotte Harbor Flatwoods project is scheduled to be acquired for management as a wildlife management area by the Florida fish and Wildlife Conservation Commission. For more information on this CARL Project, contact the Florida Department of Environmental Protection, Division of State Lands.

Conservation and Recreation Lands (CARL) projects are proposed and acquired through the Florida Department of Environmental Protection, Division of State Lands. Save Our Rivers (SOR) projects are administered by Florida's five water management districts. The state has no regulatory authority over these lands until they are purchased.

RECEIVED
JAN 30 2004
D.E.P. - South District

Potential Natural Areas

Portions of the site appear to be located on or near Potential Natural Areas (PNA). This PNA is a priority 5 and may include the following community type: mesic flatwoods.

Potential Natural Areas are lands which appear to be relatively intact areas of natural vegetation based on aerial photography, as determined by FNAI scientists. Please see the enclosed explanation sheet for more information. PNAs are not a regulatory designation; they are intended for conservation planning purposes. The maps show a revised version of the PNAs, based on 1995 land use land cover data from the water management districts.

Potential Habitat for Rare Species

Portions of the site appear to be located on or near Potential Habitat for Rare Species. The potential habitat on this site is associated with a known occurrence in the vicinity of: wood stork, *Mycteria americana*; red-cockaded woodpecker, *Picoides borealis*; eastern indigo snake, *Drymarchon corais couperi*; beautiful pawpaw, *Deeringothamnus pulchellus*.

FNAI Potential Habitat for Rare Species indicates areas which, based on landcover type, offer suitable habitat for one or more rare species which is known to occur in the vicinity. Potential habitat layers have been developed for approximately 250 of the rarest species tracked by the Inventory, including all federally listed species. Note that not all potential habitat is identified as a Potential Natural Area. This may represent lands which are somewhat disturbed (such as pine plantation or pasture), but nevertheless may serve as functional habitat for some rare species.

Potential Habitat is not a regulatory designation, and should not be confused with "critical habitat", which is an official designation made by the U.S. Fish and Wildlife Service. Information on critical habitats can be found in the Code of Federal Regulations, 50 CFR 17.95, which lists all critical habitats which have been designated. The Code of Federal Regulations can be accessed through the following website: "www.access.gpo.gov/nara/cfr/cfr-table-search.html".

The Inventory always recommends that a site-specific survey be conducted to determine the current presence or absence of rare, threatened, or endangered species. Surveys should be conducted by persons familiar with Florida's flora and fauna. For your convenience, a summary of the elements recorded for Charlotte County is enclosed.

The database maintained by the Florida Natural Areas Inventory is the single most comprehensive source of information available on the locations of rare species and other significant ecological resources. However, the data are not always based on comprehensive or site-specific field surveys. Therefore, this information should not be regarded as a final statement on the biological resources of the site being considered, nor should it be substituted for on-site surveys. Inventory data are designed for the purposes of conservation planning and scientific research, and are not intended for use as the primary criteria for regulatory decisions.

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

Thank you for your use of FNAI services. A copy of the invoice is enclosed for your information; the original will be mailed to your accounts payable department. If I can be of further assistance, please give me a call at (850) 224-8207.

Sincerely,

Jonathan Oetting
Information Coordinator

encl

jo/kb

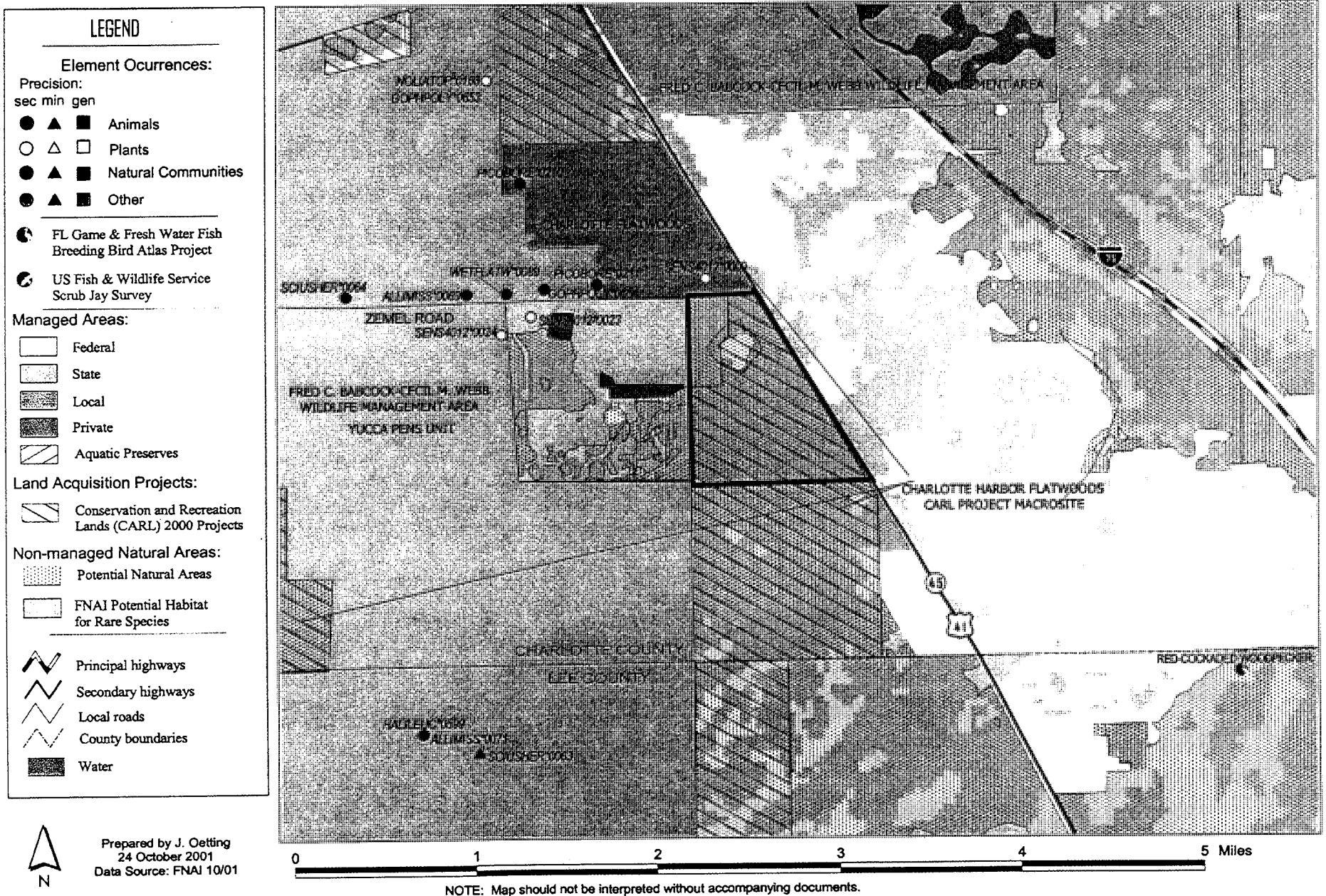
RECEIVED
JAN 30 2004
D.E.P. - South District

Florida Natural Areas Inventory

FNAI

1018 Thomasville Road, Suite 200-C
Tallahassee, FL 32303
(850) 224-8207

Township 42S, Range 24E, Section 30, Charlotte County



N

Prepared by J. Oetting
24 October 2001
Data Source: FNAI 10/01

NOTE: Map should not be interpreted without accompanying documents.

FNAI ELEMENT OCCURRENCE RECORDS ON OR NEAR SITE

MAP LABEL	SCIENTIFIC NAME	COMMON NAME	GLOBAL RANK	STATE RANK	FEDERAL STATUS	STATE STATUS	DATE OBSERVED	DESCRIPTION	COMMENTS
ALLIMISS*0069	ALLIGATOR MISSISSIPPIENSIS	AMERICAN ALLIGATOR	G5	S4	T(S/A)	LS	1991-00-00	DEPRESSION MARSH.	DATA UNAVAILABLE.
ALLIMISS*0071	ALLIGATOR MISSISSIPPIENSIS	AMERICAN ALLIGATOR	G5	S4	T(S/A)	LS	1991-00-00	DEPRESSION MARSH (?)	DATA UNAVAILABLE.
GOPHPOLY*0653	GOPHERUS POLYPHEMUS	GOPHER TORTOISE	G3	S3	N	LS	1999-04-15	DRY PRAIRIE	1999-04-15: Large active gopher tortoise burrow near powerline; 2 others noted to west of this one (PNDJOH01FLUS).
GOPHPOLY*0654	GOPHERUS POLYPHEMUS	GOPHER TORTOISE	G3	S3	N	LS	1991-00-00	SLASH PINE FLATWOODS.	NO DATA.
HALILEUC*0599	HALIAEETUS LEUCOCEPHALUS	BALD EAGLE	G4	S3	LT	LT	1991-00-00	DEPRESSION MARSH (?)	INDIVIDUAL(S) OBSERVED FORAGING.
NOLIATOP*0168	NOLINA ATOPOCARPA	FLORIDA BEARGRASS	G3	S3	MC	LT	1999-04-15	GRASSY DRY PRAIRIE WITH WIREGRASS AND SAW PALMETTO. OTHER COMMON SPECIES INCLUDE: DWARF MYRICA CERIFERA, LICANIA MICHAUXII, QUERCUS MINIMA, ASTER RETICULATA.	1999-04-15: ESTIMATED TO BE APPROXIMATELY 1000 PLANTS IDENTIFIED BY GRASS-LIKE BASE AND OLD DRIED FLOWER STALKS (PNDJOH01FLUS).
PICOBORE*0210	PICOIDES BOREALIS	RED-COCKADED WOODPECKER	G3	S2	LE	LT	1993-03-18	NO GENERAL DESCRIPTION GIVEN	1993: 3 BIRDS PRESENT.
PICOBORE*0211	PICOIDES BOREALIS	RED-COCKADED WOODPECKER	G3	S2	LE	LT	1993-03-18	NO GENERAL DESCRIPTION GIVEN	1993: 1 (MAYBE 2) BIRDS SEEN.
SCIUSHER*0063	SCIURUS NIGER SHERMANI	SHERMAN'S FOX SQUIRREL	G5T3	S3	N	LS	1991-00-00	CYPRESS SWAMP.	INDIVIDUAL(S) OBSERVED FORAGING.
SCIUSHER*0064	SCIURUS NIGER SHERMANI	SHERMAN'S FOX SQUIRREL	G5T3	S3	N	LS	1991-00-00	SLASH PINE FLATWOODS.	INDIVIDUAL(S) OBSERVED FORAGING.
SENS4012*0009	DEERINGOTHAMNUS PULCHELLUS	BEAUTIFUL PAWPAW	G1	S1	LE	LE	1999-04-09	MESIC FLATWOODS.	1999-04-09: NO PLANTS SEEN (PNDJOH01FLUS; PNDSCH05FLUS); 1992-05: NO PLANTS SEEN DURING TWO TRIPS (SITE BS-7)(U92CHI02FLUS; U92HIL02FLUS); 1990: SEVERAL PLANTS OVER 2 ACRES; 200 ACRES OF HABITAT IN 1990 (F90BEE03FLUS).
SENS4012*0023	DEERINGOTHAMNUS PULCHELLUS	BEAUTIFUL PAWPAW	G1	S1	LE	LE	1995-09-28	Mesic flatwoods with SF Slash Pine, Serenoa repens, Aristida beyrichiana, A. spiciformis, Piloblephis rigida, Mitreola sp.; plants occupy slightly higher ground (3-4").	One plant with several erect stems emanating from the caudex, sterile & inconspicuous.

RECEIVED
JAN 30 2004
D.E.P. - South District

FNAI ELEMENT OCCURRENCE RECORDS ON OR NEAR SITE

MAP LABEL	SCIENTIFIC NAME	COMMON NAME	GLOBAL RANK	STATE RANK	FEDERAL STATUS	STATE STATUS	DATE OBSERVED	DESCRIPTION	COMMENTS
SENS4012*0024	DEERINGOTHAMNUS PULCHELLUS	BEAUTIFUL PAWPAW	G1	S1	LE	LE	1995-09-28	Mesic flatwoods with SF Slash Pine, Serenoa repens, Aristida beyrichiana, A. spiciformis, Piloblephis rigida, Mitreola sp.; plants occupy slightly higher ground (3-4").	1995-09-28: 5-6 plants, each with several erect stems emanating from the caudex, sterile & inconspicuous (PNDHAT01FLUS).
WETFLATW*0089	WET FLATWOODS		G?	S4?	N	N	1991-06-05	Some scrubby flatwoods grading into oak scrub off to the west.	Old-growth wet flatwoods with an open overstory of widely spaced Pinus elliottii var. densa (many of which were flat-topped, some cored trees over 150 years old) and a few Sabal palmetto. The forest has no midstory, but has a ground cover dominated by Se

RECEIVED
JAN 30 2004
D.E.P. - South District

FEDERAL AND STATE LEGAL STATUSES

Provided by FNAI for information only.
For official definitions and lists of protected species, consult the relevant state or federal agency.

FEDERAL LEGAL STATUS

Definitions derived from U.S. Endangered Species Act of 1973, Sec. 3. Note that the federal status given by FNAI refers only to Florida populations and that federal status may differ elsewhere.

- **LE** Endangered: species in danger of extinction throughout all or a significant portion of its range.
- **LT** Threatened: species likely to become Endangered within the foreseeable future throughout all or a significant portion of its range.
- **E(S/A)** Endangered due to similarity of appearance to a species which is federally listed such that enforcement personnel have difficulty in attempting to differentiate between the listed and unlisted species.
- **T(S/A)** Threatened due to similarity of appearance (see above).
- **PE** Proposed for listing as Endangered species.
- **PT** Proposed for listing as Threatened species.
- **C** Candidate species for which federal listing agencies have sufficient information on biological vulnerability and threats to support proposing to list the species as Endangered or Threatened.
- **XN** Non-essential experimental population.
- **MC** Not currently listed, but of management concern to USFWS.
- **N** Not currently listed, nor currently being considered for listing as Endangered or Threatened.

FLORIDA LEGAL STATUSES

Animals: Definitions derived from "Florida's Endangered Species and Species of Special Concern, Official Lists" published by Florida Fish and Wildlife Conservation Commission, 1 August 1997, and subsequent updates.

- **LE** Endangered: species, subspecies, or isolated population so few or depleted in number or so restricted in range that it is in imminent danger of extinction.
- **LT** Threatened: species, subspecies, or isolated population facing a very high risk of extinction in the future.
- **LS** Species of Special Concern is a species, subspecies, or isolated population which is facing a moderate risk of extinction in the future.
- **PE** Proposed for listing as Endangered.
- **PT** Proposed for listing as Threatened.
- **PS** Proposed for listing as Species of Special Concern.
- **N** Not currently listed, nor currently being considered for listing.

Plants: Definitions derived from Sections 581.011 and 581.185(2), Florida Statutes, and the Preservation of Native Flora of Florida Act, 5B-40.001. FNAI does not track all state-regulated plant species; for a complete list of state-regulated plant species, call Florida Division of Plant Industry, 352-372-3505.

- **LE** Endangered: species of plants native to Florida that are in imminent danger of extinction within the state, the survival of which is unlikely if the causes of a decline in the number of plants continue; includes all species determined to be endangered or threatened pursuant to the U.S. Endangered Species Act.
- **LT** Threatened: species native to the state that are in rapid decline in the number of plants within the state, but which have not so decreased in number as to cause them to be Endangered.
- **PE** Proposed for listing as Endangered.
- **PT** Proposed for listing as Threatened.
- **N** Not currently listed, nor currently being considered for listing.

RECEIVED
JAN 3 0 2004
D.E.P. - South District

Charlotte Harbor Flatwoods

Priority 10

Charlotte and Lee Counties

Purpose for State Acquisition

Northwest of Fort Myers lies the largest and highest-quality slash-pine flatwoods left in southwest Florida. The pines are home to red-cockaded woodpeckers, black bears, and bald eagles, and an occasional Florida panther ranges the area. The largest population of the rare beautiful pawpaw grows here. Several drainage ditches flow through these flatwoods into the Charlotte Harbor Aquatic Preserve. The Charlotte Harbor Flatwoods project will protect these flatwoods and connect the Charlotte Harbor State Buffer Preserve with the Babcock-Webb Wildlife Management Area, helping to protect both of these managed areas and the waters of the Aquatic Preserve.

Manager

Florida Fish and Wildlife Conservation Commission (FWCC).

General Description

This project encompasses the largest remaining tract of intact pine flatwoods in southwestern Florida. Old-growth South Florida slash pine forests on site are home to at least 10 rare animals including red-cockaded woodpeckers, bald eagles, and Florida panthers are known to use the site. The tract also provides important habitat for several rare plants, most notably a globally critically imperiled plant, the beautiful pawpaw, *Deeringothamnus pulchellus*. The project provides additional protection for the Outstanding Florida Waters of the Gasparilla Sound-Charlotte Harbor Aquatic Preserve and will also connect the Charlotte Harbor State Buffer Preserve and the Babcock-Webb Wildlife Management Area. This upland site is particularly suited for development, especially considering the rapid growth of Charlotte and Lee counties. No archaeological sites are known from the project.

FNAI Elements	
Beautiful pawpaw	G1/S1
Florida panther	G4T1/S1
Florida black bear	G5T2/S2
Sherman's fox squirrel	G5T2/S2
Florida sandhill crane	G5T2T3/S2S3
Bald eagle	G3/S2S3
Gopher tortoise	G3/S3
Florida beargrass	G3/S3
18 elements known from project	

Public Use

The project is designated as a wildlife management area, with such uses as hiking, environmental education and hunting.

Acquisition Planning and Status

Phase I tracts include Ansin (essential—acquired), Zemel (essential—Phase I acquired, work proceeding on later phases), Bower (essential), Section 20 SE of Burnt Store Marina Road and Section 24.

On October 15, 1998, LAMAC removed 165 acres and added them to the Charlotte Harbor project.

On February 11, 1999, the Council added 333 acres, and on October 21, 1999, added 1,793 acres as essential parcels.

Coordination

The Fish and Wildlife Conservation Commission is acquiring small inholdings in the project.

Placed on list	**1992**
Project Area (Acres)	**19,361**
Acres Acquired	**11,341**
at a Cost of	**$4,300,830**
Acres Remaining	**8,020**
with Estimated (Tax Assessed) Value of	**$10,873,202**

RECEIVED
JAN 30 2004
D.E.P. - South District

Management Policy Statement

The primary goals of management of the Charlotte Harbor Flatwoods CARL project are: to conserve and protect significant habitat for native species or endangered and threatened species; to conserve, protect, manage, or restore important ecosystems, landscapes, and forests, in order to enhance or protect significant surface water, coastal, recreational, timber, fish or wildlife resources which local or state regulatory programs cannot adequately protect; and to provide areas, including recreational trails, for natural-resource-based recreation

Management Prospectus

Qualifications for state designation The Charlotte Harbor Flatwoods project has the size (18,000 acres), location (adjacent to the Babcock-Webb Wildlife Management Area), outstanding wildlife habitat (the largest stand of undisturbed flatwoods in southwest Florida) and wildlife resources (red-cockaded woodpeckers, Florida panthers, and Florida black bears, among others) to qualify as a wildlife management area.

Conditions affecting intensity of management Development surrounding and within the project, and the intense urbanization of southwest Florida, suggest a broad array of management problems. Trash dumping, other .gal trespass and the presence of numerous inholdings will certainly increase the need for intensive and careful management. Law enforcement and fire-control issues are expected to be at the forefront.

Timetable for implementing management and provisions for security and protection of infrastructure The first year of management activity will entail controlling public access with gates and/or fencing, and controlling the littering and dumping problems. Additional emphasis will be placed on planning and on establishing an adequate and appropriate fire regime. Subsequent years should result in this project becoming an integral part of the management scheme for Babcock-Webb WMA.

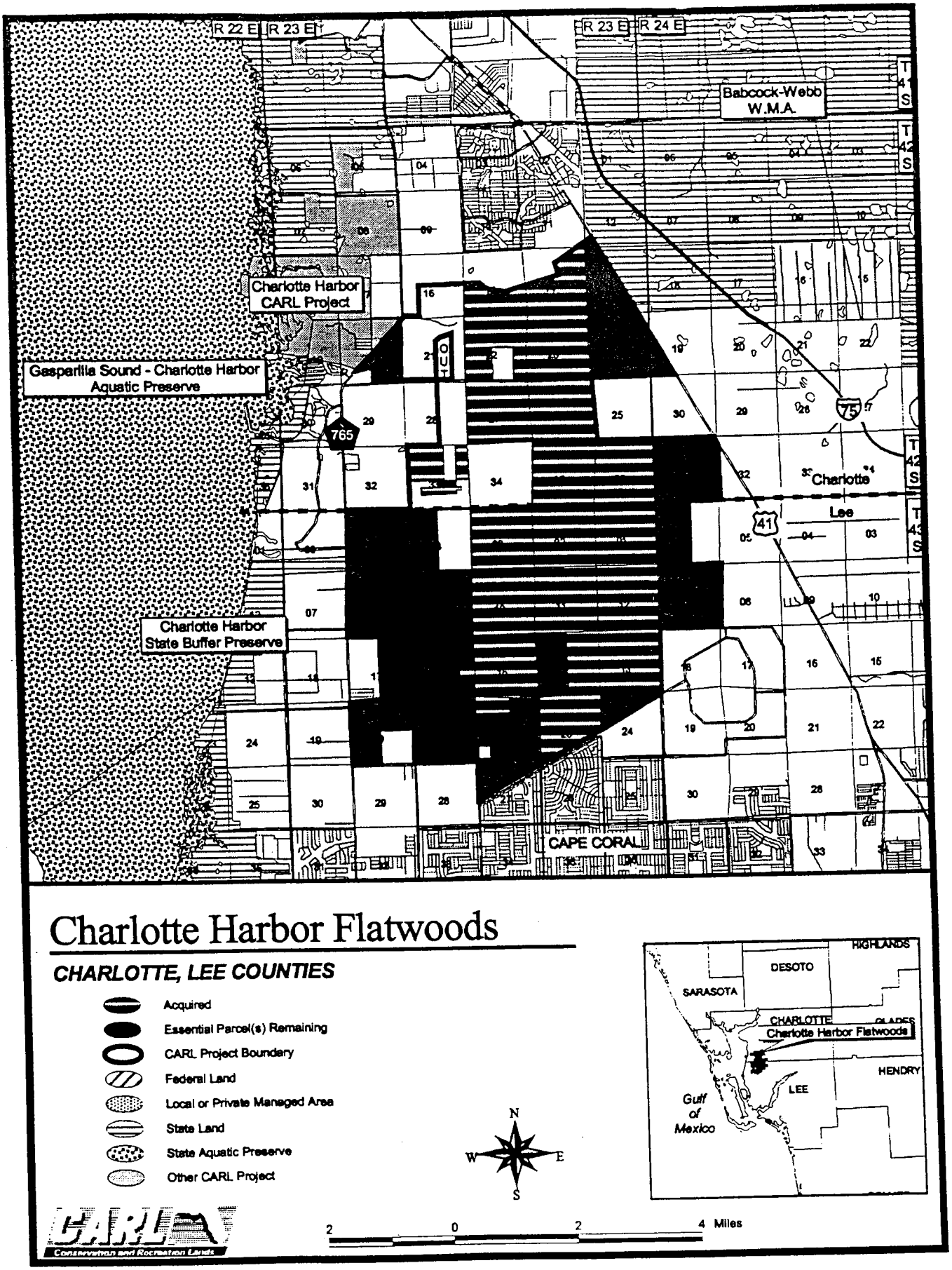
Revenue-generating potential Though this property contains significant timber resources, the timber revenue potential is low. There is little or no market for South Florida Slash Pine timber in Southwest Florida (in fact, very little timber market at all). Nevertheless, the potential for generating recreational revenue is significant, if new recreational user fees were to be implemented on this WMA.

Management costs and revenue source Revenues would likely come from the CARL Trust Fund and Pittman-Robertson return of excise tax.

Management Cost Summary/FWCC

Category	1996/97	1997/98	1998/99
Source of Funds	CARL	CARL	CARL
Salary	$54,200	$54,200	$55,000
OPS	$0	$0	$2,000
Expense	$10,000	$10,000	$12,500
OCO	$0	$0	$0
FCO	$0	$0	$0
TOTAL	$64,202	$64,202	$69,500

RECEIVED
JAN 30 2004
D.E.P. - South District


R 22 E
R 23 E
R 24 E
Babcock-Webb W.M.A.
Charlotte Harbor CARL Project
Gasparilla Sound - Charlotte Harbor Aquatic Preserve
Charlotte Harbor State Buffer Preserve
765
75
41
Charlotte
Lee
CAPE CORAL
Charlotte Harbor Flatwoods
CHARLOTTE, LEE COUNTIES
Acquired
Essential Parcel(s) Remaining
CARL Project Boundary
Federal Land
Local or Private Managed Area
State Land
State Aquatic Preserve
Other CARL Project
N
W
E
S
2 0 2 4 Miles
HIGHLANDS
DESOTO
SARASOTA
CHARLOTTE
GLADES
HENDRY
LEE
Gulf of Mexico
Conservation and Recreation Lands

Kevin L Erwin Consulting Ecologist, Inc.
Ecologists • Biologists • Computer Scientists

Bruce L

May 2, 2003

RECEIVED
JAN 30 2004
D.E.P. - South District

Mr. James Beever
Florida Fish and Wildlife Conservation Commission
29200 Tucker Grade
Punta Gorda, FL 33955

Mr. Dusty Perkins
U.S. Fish and Wildlife Service
South Florida Ecological Services
3860 Tollgate Boulevard
Naples, FL 34113

Re: Zemel Road SLD Property
Red-cockaded Woodpecker Survey
KLECE File # SLDZR106

Dear Mr. Beever and Mr. Perkins:

On November 5, 2002 we met to discuss the future permitting of the expansion of the existing Southwest Land Developers (SLD) Construction and Demolition Debris and Recycling Facility. SLD is planning to expand its current operations within the portion of Section 30, Township 42 South, Range 24 East, in Charlotte County that is located west of U.S. 41 and south of Zemel Road. During that meeting it was agreed that the results of a nesting and a non-nesting season red-cockaded woodpecker (RCW) foraging survey, using approved U.S. Fish and Wildlife Service (FWS) and Florida Fish and Wildlife Conservation Commission (FWC) methodology, would be used by all parties to determine the use or non use of the 427± acre property as foraging habitat by RCW.

Kevin L. Erwin Consulting Ecologist, Inc. (KLECE) prepared a RCW foraging survey methodology based on information provided by the FWS and FWC. That proposed methodology (with minor revisions) was approved by Mr. Perkins (FWS) on December 6, 2002, and by Mr. Beever (FWC) on December 5, 2002. The enclosed monitoring report describes the methodology that was used and the results of the non-nesting season RCW foraging survey conducted by KLECE in December 2002.

SLD is in the process of preparing the required materials for the state Environmental Resource Permit/Solid Waste Disposal Facility Permit and federal Section 404 Dredge and Fill Permit applications. Given the amount of information required to prepare the applications for the construction and demolition debris and recycling facility, the applications are unlikely to be submitted to the Florida Department of Environmental Protection and U.S. Army Corps of Engineers prior to the spring 2003 nesting season RCW foraging monitoring event. As documented in the approved methodology, this

2077 Bayside Parkway • Fort Myers, Florida 33901 • 941-337-1505 • FAX 941-337-5983

second one-time nesting season RCW foraging survey will be conducted on-site between April 15 and June 15, 2003.

The wildlife surveys that have been conducted on the site to-date indicate that RCWs do not use the site for foraging or nesting. Prior to the 2002 non-nesting season RCW foraging survey, KLECE ecologists spent over 230 man-hours conducting various environmental tasks on the site. Approximately 40% of that time was devoted specifically to listed species. Throughout this time period, KLECE ecologists never observed an RCW nesting or foraging on the 427± acre site. During the December 2002 non-nesting season foraging survey, no RCWs were seen or heard on or immediately adjacent to the site. No RCW cavity or start hole trees were found on the site.

Please call me if you have any questions regarding the enclosed report or the upcoming nesting season RCW foraging survey. Thank you for your assistance in this matter.

Sincerely,

Kevin L. Erwin Consulting Ecologist, Inc.

Craig M. Smith
Vice President/Ecologist

Enclosure

cc: Bruce Laishley, w/enclosure

RECEIVED
JAN 30 2004
D.E.P. - South District

427.0± ACRE ZEMEL ROAD PROPERTY
RED-COCKADED WOODPECKER
2002 NON-NESTING SEASON
SURVEY REPORT

Date:

April 2003

Prepared for:

Southwest Land Developers, Inc.
28062-A Mitchell Avenue
Punta Gorda, FL 33982

Prepared by:

Kevin L. Erwin Consulting Ecologist, Inc.
2077 Bayside Parkway
Fort Myers, FL 33901

RECEIVED
JAN 30 2004
D.E.P. - South District

TABLE OF CONTENTS

Page

Introduction 1

Methodology 1

Results 3
- Vegetative Communities 3
- Wildlife 7

Conclusion 9

RECEIVED

JAN 30 2004

D.E.P. - South District

LIST OF FIGURES

		Page
Figure 1.	Locations of Known RCW Colonies in the Vicinity of Southwest Land Developers, Inc. Site	2
Figure 2.	Sample Daily Transect Locations	4
Figure 3.	Cumulative RCW Survey Transect Locations	8

RECEIVED
JAN 30 2004
D.E.P. - South District

LIST OF APPENDICES

Page

Appendix A. Survey Methodologies Letters of Acceptance from the Agencies A-1

Appendix B. Cumulative RCW Survey Transect Locations B-1

RECEIVED
JAN 3 0 2004
D.E.P. - South District

INTRODUCTION

Kevin L. Erwin Consulting Ecologist, Inc. (KLECE) has conducted a red-cockaded woodpecker (RCW) non-nesting season survey of the 427.0± acre property located south of Zemel Road within a portion of Section 30, Township 42 South, Range 24 East, Charlotte County, Florida. The property is bordered to the north by Zemel Road, to the east by US 41, to the south by undeveloped land, and to the west by the Charlotte County Landfill. The goal of this survey was to determine if RCW's utilize areas of the property as foraging habitat. The Florida Fish and Wildlife Conservation Commission (FWC) has provided information showing the approximate locations of several RCW colonies in the general vicinity of the subject property (Figure 1). The closest two reported RCW colonies are approximately one-half mile and one mile northwest of the 427.0± acre property. Additional colonies were reported to be located two miles to the northeast, two miles to the southeast, and five miles to the south. The current activity status of these five colonies is not known.

KLECE has spent a significant amount of time on the subject property beginning in September 1996. During the permitting of the initial SLD facility in the northwest corner of the 427.0± acre site, more than 90 man-hours were spent on-site from September 1996 through July 1997 conducting various environmental tasks. This consisted of activities such as two listed species survey events, vegetation mapping, wetland delineation, and agency site inspections. KLECE monitored the wetland mitigation site in April 1999, January 2001, and January 2002. Ecologists have spent over 60 man-hours on-site between June 2000 and February 2002 performing various environmental tasks over the entire 427.0± acre site. In addition, KLECE conducted a three day listed species survey of the 427.0± acre property in October 2001. That survey consisted of two ecologists traversing parallel pedestrian transects through all potential RCW habitats searching for potential RCW cavities and/or start holes. Approximately 58 man-hours were spent on-site conducting the survey. No evidence of current or historic RCW nesting activity within the 427± acre property was found. In total, prior to the 2002 non-nesting season RCW foraging survey, KLECE ecologists have spent over 230 man-hours on-site conducting various environmental tasks. Approximately 40 percent of that time was devoted specifically to listed species. However, during all times on-site the ecologists have made an effort to observe RCW's and would have seen or heard them had the birds been present on-site. Throughout this time period KLECE ecologists have never observed an RCW nesting or foraging on the 427.0± acre site.

METHODOLOGY

KLECE has conducted a one-time non-nesting season (October 15 – December 20, 2002) RCW foraging survey on the 427± acre property. The foraging survey was conducted for two consecutive weeks (December 9 - 13 and December 16 – 20, 2002) from sunrise to

RECEIVED
JAN 30 2004
D.E.P. - South District

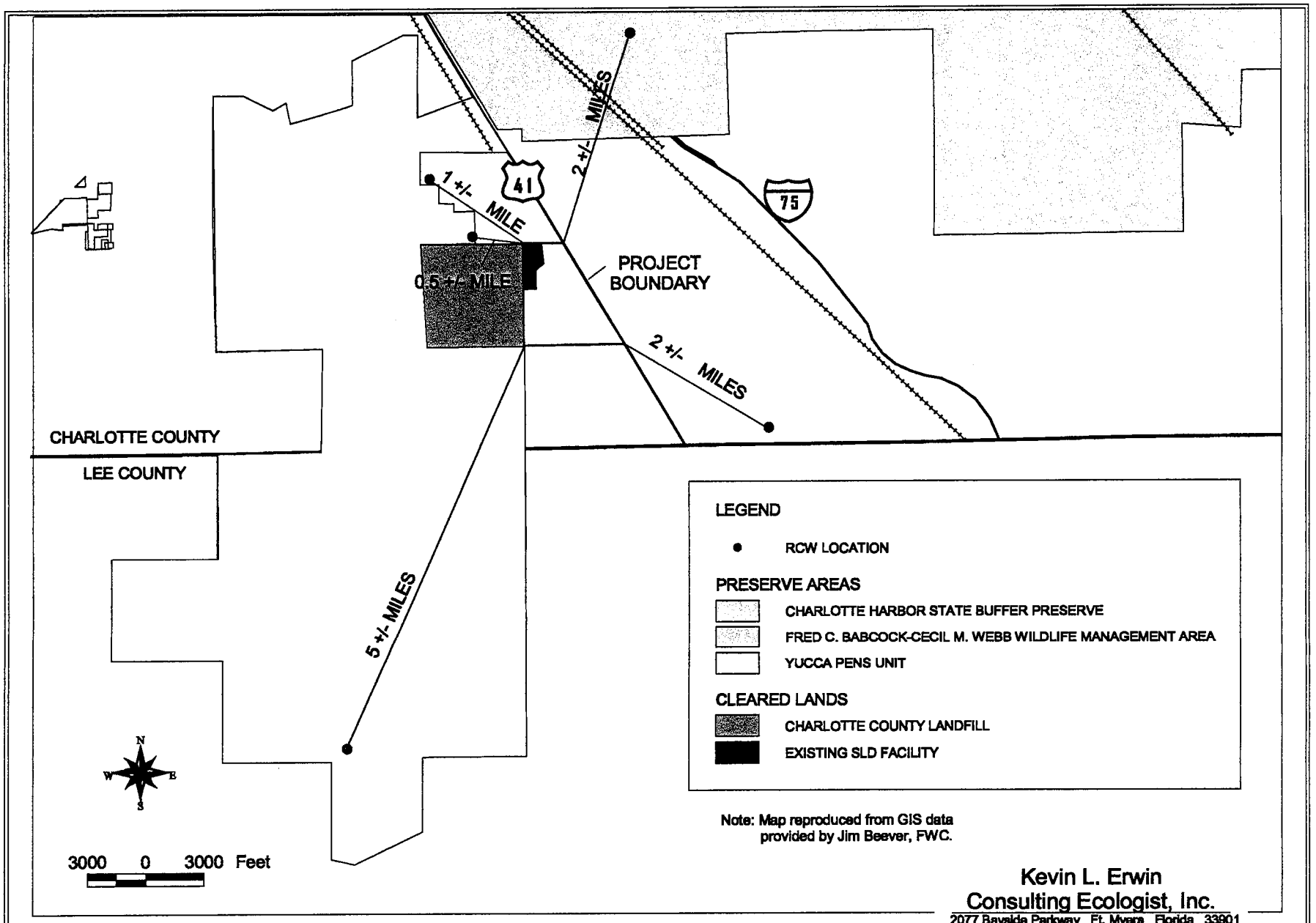


Figure 1. Locations of Known RCW Colonies in the Vicinity of the Southwest Land Developers, Inc. Site

noon. Each survey event consisted of a qualified ecologist walking meandering transects through potential RCW foraging habitat. The location and direction of these transects varied on a daily basis and were recorded on an aerial vegetation map (Figures 2 and 3). The ecologist stopped at 5± minute intervals, played a 30 second continuous RCW vocal call tape, and listened for RCW vocalizations. The location and number of RCW's seen/heard (if any) were also recorded on the aerial vegetation map.

The following documents have been reviewed prior to the preparation of this methodology:

Beever, James W. 2002. Standardized State-Listed Animal Survey Procedures (April 5, 2002 Second Edition) Florida Fish and Wildlife Conservation Commission, Office of Environmental Services.

Florida Game and Fresh Water Fish Commission. 1988. Wildlife Survey Methodology Guidelines for Section 18.D of the Application for Development Approval (January 15, 1988). Office of Environmental Services.

Henry, V. George. 1989. Guidelines for Preparation of Biological Assessments and Evaluations for the Red-cockaded Woodpecker (September 1989). U.S. Fish and Wildlife Service, Southeast Region, Georgia.

U.S. Fish and Wildlife Service. 2002. Red-cockaded Woodpecker Survey Protocol (July 23, 2002 DRAFT). South Florida Ecological Services Office.

Prior to conducting the survey, the methodology was approved by Mr. Dusty Perkins (U.S. Fish and Wildlife Service) on December 6, 2002, and by Mr. Jim Beever (FWC) on December 5, 2002 (see Appendix A).

RESULTS

KLECE has previously mapped the major vegetation associations on-site using the 1999 edition of the Florida Land Use, Cover and Forms Classification System (FLUCFCS). A description of these habitats is provided below.

Vegetative Communities

A total of 17 vegetation communities (i.e., FLUCFCS Codes) were identified within the 427.0± acre property (Figure 2). Areas mapped as disturbed exhibited a minimum of 5 percent cover by exotic species (primarily melaleuca). The dominant characteristics of each habitat type are described below.

Palmetto Prairie (FLUCFCS Code 321)
Palmetto prairie occurs in the western portion of the site. The canopy consists of very widely scattered slash pine (*Pinus elliottii*) and live oak (*Quercus virginiana*). The midstory

RECEIVED
JAN 30 2004
D.E.P. - South District

is vegetated by shrubs such as wax-myrtle (*Myrica cerifera*) and stagger bush (*Lyonia fruticosa*) as well as smaller pines and oaks. Saw palmetto (*Serenoa repens*) is the dominant plant species in this community type. Additional ground cover species include dwarf wax-myrtle (*Myrica pusilla*), penny royal (*Piloblephis rigida*), gall berry (*Ilex glabra*), bracken fern (*Pteridium aquilinum*), and Virginia chain fern (*Woodwardia virginica*).

Pine Flatwoods (FLUCFCS Code 411)

This upland community is similar to the palmetto prairie described above with the exception of a greater abundance of slash pines in the canopy and midstory. Wax-myrtle and stagger bush are also present. The majority of this habitat type appears to have been logged in the past prior to SLD purchasing the property. However, these areas currently contain scattered slash pines in excess of 10 inches diameter at breast height (DBH) and a larger number of slash pines less than 6 inches DBH. Within this community type there are numerous poorly defined and irregularly shaped areas dominated by ground cover species other than saw palmetto. In these areas ground cover species such as wire grass (*Aristida stricta*), nut rush (*Scleria reticularius*), muhly grass *(Muhlenbergia capillaris)*, and various sedges are common.

Pine Flatwoods, Logged (FLUCFCS Code 4118)

Upland pine flatwoods that was logged by SLD in October – November 2001 has been delineated as FLUCFCS Code 4118. Prior to the logging, the density and distribution of slash pines was similar to the pine flatwoods described above (i.e. consisted of slash pines primarily less than 6 inches DBH). The logging was done in accordance with the existing zoning and all applicable Charlotte County code requirements. These areas are now dominated by saw palmetto with a variety of additional ground cover species such as wiregrass, dwarf wax-myrtle, flat-top goldenrod (*Euthamia minor*), nut rush, running oak (*Quercus pumila*), and sunbonnet (*Chaptalia tomentosa*). A moderate density of small slash pine (i.e. less than 3 inches DBH) and melaleuca are also present.

Pine Flatwoods, Disturbed (FLUCFCS Code 4119)

This disturbed upland area is similar to the pine flatwoods described above. However, the problematic exotic melaleuca (*Melaleuca quinquenervia*) is abundant in both the canopy and midstory strata.

Pine/Mesic Oak (FLUCFCS Code 414)

Mesic pine/oak habitat is located adjacent to the large willow dominated depressional wetland on-site. The canopy is dominated by live oak, laurel oak (*Quercus laurifolia*), and slash pine. These species also occur in the midstory along with cabbage palm (*Sabal palmetto*), wax-myrtle, myrsine (*Rapanea punctata*), and dahoon holly (*Ilex cassine*). The ground cover stratum is variable and consists of species such as saw palmetto, cabbage palm, swamp fern (*Blechnum serrulatum*), Boston fern (*Nephrolepis* sp.), poison ivy (*Toxicodendron radicans*), and grape vine (*Vitis* sp.).

Pine/Mesic Oak, Logged (FLUCFCS Code 4148)

This upland community was logged by SLD in October – November 2001. Prior to the

RECEIVED
JAN 30 2004
D.E.P. - South District

logging, the density and distribution of slash pines and oaks were similar to the pine/mesic oak described above. The majority of the pines have been removed from the area while the oak trees remain.

Pine/Mesic Oak, Disturbed (FLUCFCS Code 4149)
Brazilian pepper (*Schinus terebinthifolius*) comprises a substantial percentage of the midstory vegetation within this mesic habitat type. The canopy and ground cover strata are similar to that found in the pine/mesic oak habitat described above.

Cabbage Palm, Hydric (FLUCFCS Code 4281)
The perimeter of the large willow dominated wetland is vegetated by a mosaic of cabbage palm, laurel oak, live oak, and very widely scattered slash pine. Cabbage palm and wax-myrtle often forms a dense midstory. Ground cover species include swamp fern, coinwort (*Centella asiatica*), marsh pennywort (*Hydrocotyle umbellate*), flat-topped goldenrod, grape vine, and scattered grasses and sedges.

Willow and Elderberry (FLUCFCS Code 618)
A large depressional wetland dominated by willow is present in the northern portion of the property. This area was historically most likely a freshwater marsh that has been negatively affected by the drainage ditch that drains this wetland off-site to the south and by fire suppression. Species that are found within the wetland in addition to willow (*Salix caroliniana*) and primrose willow (*Ludwigia peruviana*) include arrowhead (*Sagittaria* sp.), saw grass (*Cladium jamaicense*), Virginia chain fern, swamp hibiscus (*Hibiscus grandiflorus*), and sand cordgrass (*Spartina bakeri*).

Melaleuca, Hydric (FLUCFCS Code 6193)
This highly disturbed wetland community is located in the southeast corner of the site. The area appears to have been a hydric pine flatwoods that has been completely overgrown by melaleuca. This exotic species is the dominant vegetation in all three strata and thereby substantially decreases the diversity of native species in the area.

Hydric Pine Flatwoods (FLUCFCS Code 625)
A portion of the conservation area for the existing SLD C & D facility consists of this transitional wetland community. Exotics, primarily melaleuca, have been removed from this area. Slash pine and scattered laurel oaks dominate the canopy and midstory. The ground cover consists of a variety of wetland species such as wire grass, red root (*Lachnanthes caroliniana*), bushy bluestem (*Andropogon glomeratus*), beakrush (*Rhynchospora* spp.), panic grass (*Panicum* sp.), sand cord grass, and Virginia chain fern.

Hydric Pine Flatwoods, Disturbed (FLUCFCS Code 6259)
A majority of this disturbed transitional wetland community occurs as a poorly defined slough extending from the large depressional wetland southward toward the southwest corner of the property. The area is vegetated by slash pine, wax-myrtle, and a variety of wetland grasses and sedges. Melaleuca occurs in varying densities. In areas of high melaleuca density, ground cover diversity and density is low. Areas with less melaleuca

RECEIVED
JAN 30 2004
D.E.P. - South District

have a better developed ground cover consisting of species such as beakrush, swamp fern, wire grass, broom sedge, and yellow-eyed grass (*Xyris* sp.). Small upland islands of saw palmetto are present. The majority of this habitat type appears to have been logged in the past prior to October 2001. Few slash pines in excess of 10 inches DBH are present. A majority of the pines are less than 6 inches DBH. Larger pines, when present, are typically located in areas with a more dense midstory of melaleuca and wax-myrtle.

Wet Prairie (FLUCFCS Code 643)
Several small wet prairies occur on-site. These areas are similar in vegetation to the hydric pine flatwoods with the exception that the pine overstory is absent or greatly reduced. Common ground cover species include hatpin (*Eriocaulon decangulare*), beakrush, wiregrass, broomsedge (*Andropogon* spp.), sandweed (*Hypericum fasciculatum*), nut rush, and sundew (*Drosera* sp.). Scattered clumps of saw palmetto are also present.

Wet Prairie, Disturbed (FLUCFCS Code 6439)
This wetland habitat resembles the wet prairie described above with the exception that exotics (primarily melaleuca) have significantly reduced the density and diversity of the ground cover stratum.

Disturbed Land (FLUCFCS Code 740)
Areas of disturbed land are located adjacent to the west property line, U.S. 41, and Zemel Road. These areas have been cleared and are currently being used for the land spreading of horticultural mulch material in accordance with DEP regulations.

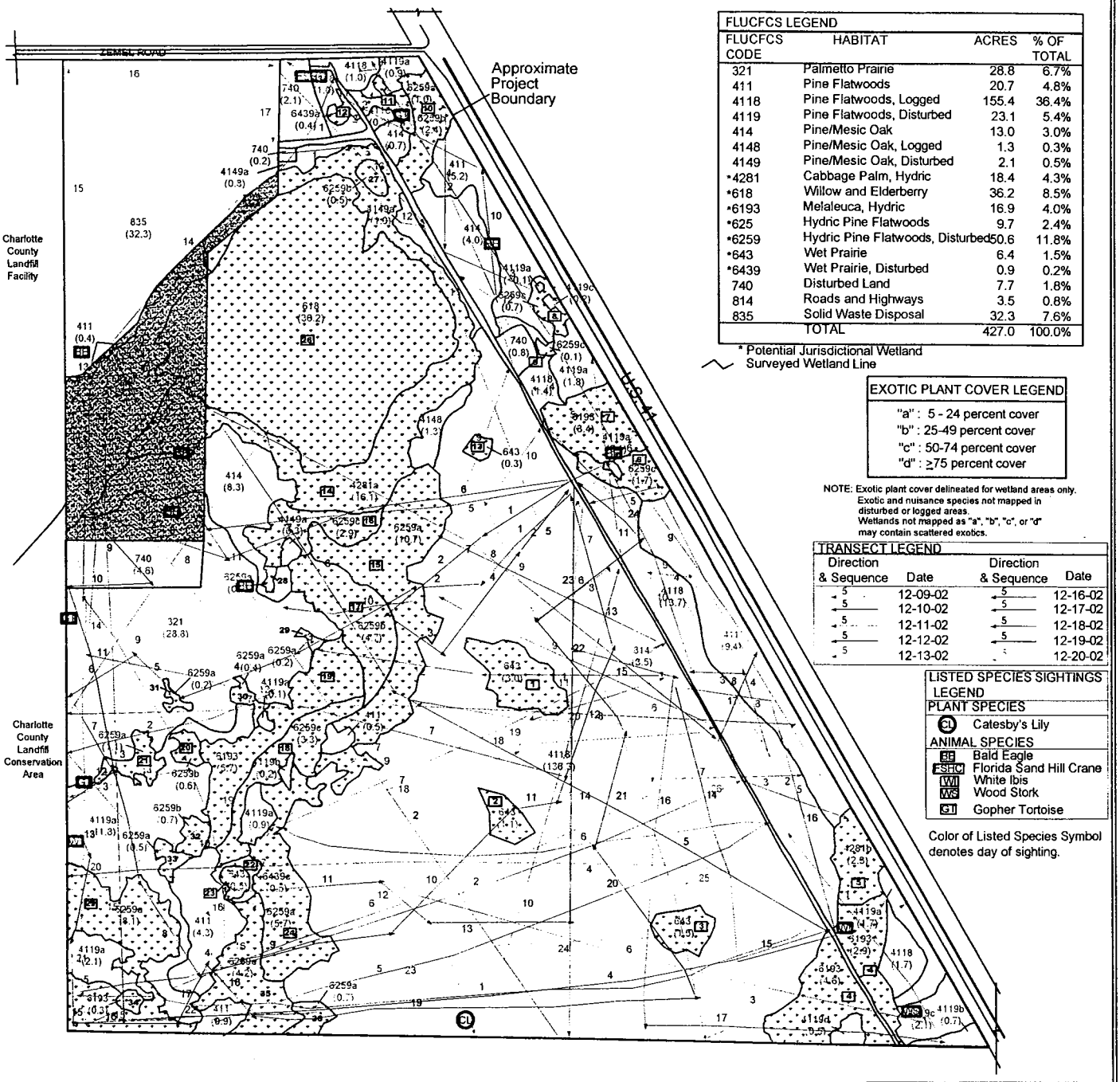
Roads and Highways (FLUCFCS Code 814)
Several dirt trails occur on-site. ORV traffic, illegally entering the property from the south, frequently occurs on-site through both wetland and upland habitats. Only the major north – south trail (apparently an old power line alignment) and an above grade east – west dirt road have been mapped.

Solid Waste Disposal (FLUCFCS Code 835)
This FLUCFCS code represents the existing construction and demolition debris disposal and recycling facility including the support buildings and surface water management system.

Wildlife

No RCW's were seen or heard on or immediately adjacent to the property during the December 2002 non-nesting season foraging survey. During the survey, weather conditions varied from cool and raining to warm and sunny and thereby covered the range of weather conditions that typically occur in southwest Florida in December. As shown on Figure 3 and Exhibit B the location, orientation, and length of the RCW monitoring transects varied from day to day. For example, the survey conducted on December 11th (shown by the pink arrows on Exhibit B) started at the western edge of the existing conservation area (arrow 1), proceeded south along the west side of the main wetland

RECEIVED
JAN 30 2004
D.E.P. - South District



FLUCFCS LEGEND			
FLUCFCS CODE	HABITAT	ACRES	% OF TOTAL
321	Palmetto Prairie	28.8	6.7%
411	Pine Flatwoods	20.7	4.8%
4118	Pine Flatwoods, Logged	155.4	36.4%
4119	Pine Flatwoods, Disturbed	23.1	5.4%
414	Pine/Mesic Oak	13.0	3.0%
4148	Pine/Mesic Oak, Logged	1.3	0.3%
4149	Pine/Mesic Oak, Disturbed	2.1	0.5%
*4281	Cabbage Palm, Hydric	18.4	4.3%
*618	Willow and Elderberry	36.2	8.5%
*6193	Melaleuca, Hydric	16.9	4.0%
*625	Hydric Pine Flatwoods	9.7	2.4%
*6259	Hydric Pine Flatwoods, Disturbed	50.6	11.8%
*643	Wet Prairie	6.4	1.5%
*6439	Wet Prairie, Disturbed	0.9	0.2%
740	Disturbed Land	7.7	1.8%
814	Roads and Highways	3.5	0.8%
835	Solid Waste Disposal	32.3	7.6%
	TOTAL	427.0	100.0%

* Potential Jurisdictional Wetland
Surveyed Wetland Line

EXOTIC PLANT COVER LEGEND
"a" : 5 - 24 percent cover
"b" : 25-49 percent cover
"c" : 50-74 percent cover
"d" : ≥75 percent cover

NOTE: Exotic plant cover delineated for wetland areas only. Exotic and nuisance species not mapped in disturbed or logged areas. Wetlands not mapped as "a", "b", "c", or "d" may contain scattered exotics.

TRANSECT LEGEND			
Direction & Sequence	Date	Direction & Sequence	Date
5	12-09-02	5	12-16-02
5	12-10-02	5	12-17-02
5	12-11-02	5	12-18-02
5	12-12-02	5	12-19-02
5	12-13-02		12-20-02

LISTED SPECIES SIGHTINGS LEGEND	
PLANT SPECIES	
CL	Catesby's Lily
ANIMAL SPECIES	
BE	Bald Eagle
FSHC	Florida Sand Hill Crane
WI	White Ibis
WS	Wood Stork
GT	Gopher Tortoise

Color of Listed Species Symbol denotes day of sighting.

HATCH LEGEND
Wetland
Upland
Existing Conservation Area (22.9± acres)

Notes:

1. Mapping based on photo interpretation of April 2001 1"=200' scale rectified aerial photography and groundtruthing in January and February 2003.
2. Mapping of potential jurisdictional wetlands based on flagging by KLECE and surveyed flag locations provided by Robert South. Extent of jusridictional wetlands has not been verified by the appropriate agencies.
3. Property boundary based on information provided by SLD and transferred to the rectified aerials based upon recognizable features (i.e., fence lines, roads, etc.).
4. Vegetation mapping is subject to field review and approval by all appropriate agencies and is intended for general planning purposes only.
5. Transect and wildlife locations are approximate.

200 0 200
100 100

Kevin L. Erwin
Consulting Ecologist, Inc.
2077 Bayside Parkway Fort Myers Florida 33901 (239) 337-1505

Project: SLDZR106	File: transect	Date: 12-24-02	Drawn By: MGW
Charlotte County	Township 42 S	Range 24 E	Section(s): 30
Revision Date	Comments		Verified By:
4-29-03	Revise vegetation mapping to current		CMS

Figure 3. Cumulative RCW Survey Transect Locations

slough (arrows 2-4), proceeded north through the main pine flatwoods area in a zigzag pattern (arrows 5-10), and ended adjacent to Zemel Road (arrow 11). On December 16th (represented by the dark green arrows), the survey began in the southeast corner of the property and covered the site south of the large marsh in a generally counter-clockwise direction. By varying the transect locations over time, the entire property was adequately surveyed and all potential habitats were surveyed at differing times of the morning. The spacing/location of the transects also allowed the ecologist to confirm that no RCW cavity or start hole trees occur on-site.

During the RCW foraging survey, the ecologist conducting the survey also looked for sign of other listed species such as the gopher tortoise (*Gopherus polyphemus*), indigo snake (*Drymarchon corais couperi*), Florida black bear (*Ursus americanus floridanus*), Sherman's fox squirrel (*Sciurus niger shermani*), bald eagle (*Haliaeetus leucocephalus*), and various wading birds. Gopher tortoise sign and burrows were observed in the palmetto prairie and in the northeast section of the property. Listed wading birds observed foraging on-site during this survey include white ibis (*Eudocimus albus*), Florida sandhill crane (*Grus candadensis*), and wood stork (*Mycteria americana*). These birds were observed primarily in cleared areas and flooded roads.

Bald eagles frequented the existing county landfill facility to the west of the site. Eagles were observed roosting in larger pines along the subject property's west boundary. The majority of these trees have been preserved within the existing facility's wetland mitigation and conservation areas. With the exception of the gopher tortoises, no nesting by listed species were observed on-site.

State listed plant species observed on-site include Florida coontie (*Zamia floridana*), wild coco (*Eulophia alata*), Catesby's lily (*Lilium catesbaei*), and wild pines (*Tillandsia flexuosa* and *T. balbisiana*). No federally listed plant species were observed on-site. Pursuant to Chapter 5B-40 commercially exploited, threatened, or endangered plant species can either be destroyed or relocated to adjacent lands under the same ownership provided written authorization from the landowner is obtained.

These observations are consistent with observations made by KLECE during previous work on the property. Intensive surveys were conducted during the permitting of the existing facility in 1996 and 1997. Monitoring has also been conducted annually within the associated conservation area. Mapping and general site reconnaissance work over the entire site was conducted in June 2000 and February 2002. During all of these activities, KLECE ecologists looked for listed species. No RCW's have been observed on the property during those occasions.

CONCLUSION

No RCW's were observed during the 2002 non-nesting season foraging survey. Pursuant to the agreed upon survey methodology an additional one-time nesting season survey will be conducted on-site between April 15 and June 15, 2003.

RECEIVED
JAN 30 2004
D.E.P. - South District