Environmental Supplement

For Collier County Zoning Application

CREEKSIDE EAST

REVISED

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Prepared by:

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1.0 INTRODUCTION

The Creekside East project site is located in north eastern Collier County, in the south east corner of the intersection of Goodlette-Frank Road and Immokalee Road (CR 846), approximately ¾ of a mile east of US 41. The project boundary is located within Section 27, Township 48 South, Range 25 East, Collier County, Florida. The project is bordered on the south by the North Collier Reclamation Facility and Pelican Marsh PUD, on the west by the Naples Daily News facility, on the north by Immokalee Road and the North Collier Health Park, and the east by additional medical services facilities. Access to the project is via Goodlette-Frank Road along the western boundary of the property. A general location map is provided in the included exhibits.

The proposed project is part of an existing commercial development that is bisected by Goodlette-Frank Road. The project has been developed predominantly on the west side of Goodlette-Frank Road with the majority of this side developed or cleared for future development. Businesses currently present on the site west of Goodlette-Frank Road (Creekside Commerce Park West Units One and Two) include: A gas station/convenience store, a bank, a U.S. Post Office, Arthrex Corporation, Creekside Medical Center, as well as a few other businesses. The vacant properties west of Goodlette-Frank Road have been cleared for future construction and one of the parcels is currently under construction. Also present are existing preserves, a drainage canal, and assorted stormwater management features. The southeast portion of the project site is an existing self-storage facility.

The entire PUD site is approximately 106 acres. The majority of the site has been developed according to prior development approvals. Approximately 7.34 acres currently meet the County definition of native habitat. However, the native habitat requirements will be based on the native habitats present at the time of the original development approvals. Historical aerials were examined in order to determine the native habitat components that were present prior to the development. The majority of the eastern portion of the site was composed of agricultural fields and the old Regency Packing house. (See enclosed native vegetation map). The western portion of the site was forested and composed of predominately native habitats. Coordination with County staff in review of 1995 aerials of the site resulted in a determination that there were 40.93 acres of native habitats present prior to the original PUD approval. The PUD is required by County Code to preserve at least 15% of this which would equate to 6.14 acres.

The current proposal will impact approximately 2.34 acres of the existing 7.34 acres of native habitat to allow for the expansion of one of the commercial parcels and reconfiguration of the stormwater management system. Should the project modification be approved, the remaining preserve area within the PUD boundary will be 5.0 acres, not including the drainage canal. The remaining 1.14 acres of required preserve will have to be provided through an off-site source.

The information contained in this report is focused on the property east of Goodlette-Frank Road as no changes are proposed on the western parcels. This document provides information concerning the proposed Creekside East project site as it relates to natural resources and environmental issues. It is submitted to Collier County in support of a zoning request made by the applicant.

2. EXISTING CONDITIONS (Pre-Development)

2.1 VEGETATION ASSOCIATIONS

The existing habitat types (based on FLUCFCS codes) are shown in Table 1 below and on the enclosed FLUCFCS Map. These FLUCFCS breakdown is only done for the property east of Goodlette-Frank Road as the western side of the road will remain unchanged.

Of the total 28.9 acres contained within the Creekside East property boundary, 84% classify as uplands (24.3 ac.), 8% classify as wetlands (2.3 ac.), and 8% are considered Other Surface Waters (2.3 ac.). The majority of the property has been recently cleared and is currently under construction.

Table 1- FLUCFCS Codes & Acreages

Wetland Habitat	**FLUCCS Code**	**Acreage**
Mixed Wetland Forest	630	2.28
Drainage and Stormwater Features	510 / 534	2.29
Upland Habitat	**FLUCCS Code**	**Acreage**
Urban Land in Transition	193	5.99
Pine Flatwood (26-50% Exotic)	411e2**	12.39
Mixed Oak / Pine	414	1.14
Brazilian Pepper	422**	3.43
Disturbed Swale	7429**	0.31
Disturbed Land (Spoil)	743**	0.25
Roads	814**	0.83
		28.91

** All of these areas, except those within preserves, have been recently cleared and are currently under construction for Commercial and Services areas (FLUCFCS Code 149)

A list of plant species observed within each habitat type is found below.

C = Canopy M = Midstory G = Groundcover V = Vine E = Epiphyte * - Protected species
D = Dominant C = Common O = Occasional R = Rare

FLUCFCS CODE 193 Urban Land

Common Name	**Scientific Name**	**Stratum**	**Abundance**
Bahia grass	*Paspalum notatum*	*G*	*C*
Smooth buttonweed	*Spermacoce assurgens*	*G*	*O*
Frog fruit	*Phyla nodiflora*	*G*	*C*
Mexican clover	*Richardia grandiflora*	*G*	*R*

FLUCFCS CODE 510 and 534 Canal and Pond

Common Name	Scientific Name	Stratum	Abundance
Primrose willow	*Ludwigia peruviana*	*M*	*R*
Carolina willow	*Salix caroliniana*	*M*	*R*
Torpedo grass	*Panicum repens*	*G*	*C*
Pennywort	*Hydrocotyle umbellata*	*G*	*O*
Arrowhead	*Sagittaria lancifolia*	*G*	*O*
Spikerush	*Eleocharis cellulosa*	*G*	*O*

FLUCFCS CODE 630 Wetland mixed forest

Common Name	Scientific Name	Stratum	Abundance
Cypress	*Taxodium distichum*	*C*	*C*
Cabbage palm	*Sabal palmetto*	*M/C*	*O*
Red maple	*Acer rubrum*	*C*	*O*
Laurel oak	*Quercus laurifolia*	*C*	*O*
Carolina willow	*Salix caroliniana*	*M*	*O*
Pond Apple	*Annona glabra*	*M*	*C*
Brazilian pepper	*Schinus terebinthifolius*	*M*	*R*
Buttonbush	*Cephalanthus occidentalis*	*M*	*O*
Myrsine	*Rapanea punctata*	*M*	*R*
Swamp lily	*Crinum americanum*	*G*	*C*
Leather fern	*Acrostichum danaeifolium*	*G*	*O*
Swamp fern	*Blechnum serrulatum*	*G*	*C*

C = Canopy M = Midstory G = Groundcover V = Vine E = Epiphyte * - Protected species
D = Dominant C = Common O = Occasional R = Rare

2.2 WETLANDS & OTHER SURFACE WATERS

Qualified Turrell, Hall & Associates, Inc. environmental staff inspected the project lands for the purpose of delineating wetlands and other surface waters. The wetland delineation methodologies and criteria set forth by the state (in Chapter 62-340, FAC, Delineation of the Landward Extent of Wetlands and Surface Waters) and the US Army Corps of Engineers (in the 1987 Corps of Engineers Wetlands Delineation Manual) were followed in determining whether an area classified as a wetland or other surface water and in delineating the limits (boundaries) of potential jurisdictional wetlands and other surface waters.

2.2.1 Wetland Seasonal High Water Table & Hydroperiod

The hydrologic regime on Creekside East is extremely altered from historical levels and patterns by surrounding urban uses. Water from adjacent properties (storage facility and waste water treatment plant) runs onto this site and flows through the wetland into the drainage canal along the eastern boundary. From there it flows north under Immokalee Road and into the Cocohatchee River. The isolated wetland area is in relatively good shape with

respect to exotic vegetation but is isolated by commercial development to the point where minimal wildlife utilization occurs.

With the site lying between development and major roadways, this wetland habitat does not maintain the normal hydrology that was historically present due to manipulation of surficial flows from the surrounding developments.

2.2.2 Jurisdictional Status of Wetlands & Other Surface Waters

The Creekside East wetland lines were established during the original permitting of the property and are assumed to be jurisdictional with the Federal permitting agencies per their delineation guidelines. The South Florida Water Management District identified the area as impacted during the previous permitting efforts and did not require any conservation easement to be placed on it. They treated the area as a part of the surface water management system for the property.

The other surface waters on the site include the pond and the ditch and swale system that currently transport water along the eastern boundary and under Immokalee Road. This system will be modified under the current proposal with a portion of the pond being filled in and another portion expanded along the western shore. Likewise, the ditch and swale system will be modified to accommodate the revised parcel boundary.

2.3 LISTED PLANT & ANIMAL SPECIES

A survey for listed animal and plant species has been conducted on the project lands by Turrell, Hall & Associates biologists. This threatened and endangered species survey and its results are discussed in the attached Listed Species Summary Report. The Listed Species summary describes the approximate locations where listed animal species were observed on and near the project lands during the course of the referenced survey. The majority of listed animal species observed were either flying over the project lands or observed on adjacent lands. During the survey events white ibis (*Eudocimus albus*) and several hawks flew over the site, while snowy egret (*Egretta thula*) and white ibis were seen adjacent to this property. A tri-colored heron (*Egretta tricolor*) was observed foraging along the lake bank. None of the listed species observed, reside on or nest on the project lands.

Due to isolation and degradation of foraging habitat, it is apparent that this site offers only minimal value to local wildlife. The two major roadways on the north and west boundaries of the site as well as the development in all directions have isolated this property and made travel to it by terrestrial wildlife both difficult and dangerous.

2.4 HISTORICAL/ ARCHAEOLOGICAL RESOURCES

The Florida Master Site File (MSF) is a database of the known historic and archaeological sites in the state of Florida. The MSF office was contacted during the initial permitting of the site and indicated that no recorded archaeological sites exist on the subject property or in close proximity.

If a suspected archaeological or historical artifact is discovered during the course of site development activities (construction, clearing, etc.), the development activities at the specific site will be immediately halted and the appropriate agency notified. Development will be suspended for a sufficient length of time to enable the County or a designated consultant to assess the find and determine the proper course of action.

2.5 SOILS

Based on the National Resource Conservation Service (NRCS) "Soil Survey of Collier County Area, Florida" (NRCS, 1998) there are four (4) different soil types (soil map units) present on the project lands. The attached exhibit provides a soils map for the project area as derived from the NRCS mapping. The following sub-sections provide a brief description of each soil map unit identified on the project lands. Information is provided about the soil's landscape position (i.e. it's typical location in the landscape on a county-wide basis), the soil's profile (i.e. textural composition and thickness or depth range of the layers or horizons commonly present in the soil), and the soil's drainage and hydrologic characteristics. The soils occurring on project lands are as follows:

(7) Immokalee Fine Sand (non-hydric)
Landscape position – Flatwoods.

Soil profile – Surface layer to a depth of about 6 inches consists of black fine sand. Subsurface layer to depth of about 35 inches consist of light gray fine sand. Subsoil layers below this to a depth of 58 inches consist of fine sand. Below these layers the subsoil is pale brown fine sand to a depth of about 80 inches.

Drainage/Hydrologic characteristics – Poorly drained. Permeability is moderate. The seasonal high water table (apparent) is within a depth of 6 to 18 inches for 1 to 6 months and can recede to a depth of more than 40 inches during extended dry periods. Hydrologic group is B/D.

(17) Basinger Fine Sand (hydric)
Landscape position – Sloughs and poorly defined drainageways.

Soil profile – Surface layer to a depth of about 3 inches consists of dark grayish brown fine sand. Subsurface layer to depth of about 25 inches consist of light gray fine sand. Subsurface layers below this to a depth of 44 inches consist of brown fine sand. Limestone bedrock begins at a depth of about 80 inches.

Drainage/Hydrologic characteristics – Poorly drained. Permeability is rapid. The seasonal high water table (apparent) is within a depth of 12 inches for 3 to 6 months and can recede to a depth of more than 40 inches during extended dry periods. Hydrologic group is B/D.

(20) Ft. Drum and Malabar High Fine Sands (non-hydric)
Landscape position – Ridges along sloughs.

Soil profile – The surface layer is typically a very dark grayish brown fine sand about 5 inches thick. The subsurface is fine sand to a depth of about 20 inches. The subsoil is light brownish gray fine sand to a depth of about 80 inches. Limestone bedrock is at a depth of around 30 inches.

Drainage/Hydrologic characteristics – Poorly drained. Permeability is rapid for Ft. Drum to slow for Malabar . Under natural conditions, the seasonal high water table (apparent) is set at a depth of 6 to 18 inches for 1 to 6 months during most years. During the other months, the water table is below a depth of 18 inches, and it recedes to a depth of more than 40 inches during extended dry periods. Hydrologic group is C.

(39) Satellite Fine Sand (non-hydric)
Landscape position – Low coastal ridges.

Soil profile – Surface layer to a depth of about 3 inches consists of gray fine sand. Subsurface layers below this to a depth of 80 inches consist of light gray to white fine sand. Limestone bedrock begins at a depth of about 55 inches.

Drainage/Hydrologic characteristics – Well drained. Permeability is very rapid. The seasonal high water table (apparent) is within a depth of 24 to 42 inches for 1 to 6 months and can recede to a depth of more than 42 inches during the rest of the year. Hydrologic group is C.

3. PROPOSED CONDITIONS (Post-Development)

3.1 PROPOSED PROJECT

The proposed project will impact approximately 2.34 acres of the existing native habitat on the site. The proposed impacts include 1.60 acres of wetlands and 0.74 acre of uplands. The preserve area has been degraded by isolation, exotic vegetation infestations and hydrological impacts. The enclosed exhibits illustrate the areas that will be impacted by proposed development changes.

A commercial and/or industrial development will be required to preserve 15% of the native vegetation that was present at the time of the original approvals. Based on 1995 Collier County aerials, there was approximately 40.93 acres of native habitat present within the PUD boundary. Preservation of 15% of this habitat would equate to a preserve requirement of 6.14 acres. (See Table 2 below)

Table 2- PUD Required Habitat/Preserve Acreage Summary
Based on 1995 aerials

	Acreage
Total Project Area	**105.41**
Wetland Area	5.90
Upland Area	95.00
OSW Area	4.51
Total Native Habitat Area	**40.93**
Native Wetland	5.90
Native Upland	35.03
Required Preserve	
15% for Commercial and Industrial	**6.14**

The proposed project modifications will result in the loss of existing native habitat. Should the project modification be approved, the remaining preserve area within the PUD boundary will be 5.0 acres, not including the drainage canal. The remaining 1.14 acres of required preserve will have to be provided through an off-site source.

3.2 PROJECT IMPACTS TO WETLANDS

3.2.1 Direct, Permanent Impacts

Changes proposed to the project will result in some wetland impacts. However, the wetlands that will be impacted have already been deemed impacted by the SFWMD during the original permitting efforts on the project site. The condition and status of the wetlands made it difficult to preserve them in a viable condition once the development was permitted so the SFWMD included this area in the original impact calculations. Because of this, there will be no wetland mitigation proposed as part of the project modification. The project will result in direct, permanent impacts to a total of 1.6 acres of wetland area. As used herein, the term "direct impacts" refers to actions that will result in the complete elimination of jurisdictional areas (i.e. excavation and fill).

3.2.2 Temporary Impacts

No temporary impacts are expected with this development. Prior to construction commencement all remaining preserve areas will be enclosed with siltation-prevention devices, which will remain in place until the adjacent construction is completed.

3.2.3 Secondary Impacts to Wetlands & Water Resources

The previous permitting of the project's development features already accounted for and mitigated for the direct impact to all on-site wetlands so no secondary impacts will occur. Adjacent properties are already developed so no secondary impacts to off-site wetlands is expected either.

Table 3- Preserves, Impacts and Secondary Impacts (East side of Goodlette Rd)

Wetland Habitat	FLUCCS Code	Total Acreage	Impacts	Preserves	Secondary Impacts
Mixed Wetland Forest	630	2.28	1.60	0.68	
Totals		**2.28**	**1.60**	**0.68**	**0.00**

Upland Habitat	FLUCCS Code	Total Acreage	Impacts	Preserves
Oak Pine Community	414	1.14	0.74	0.40
Pine Flatwood	411	1.63	0.00	1.63
Totals		**2.77**	**0.74**	**2.03**

3.3 PROJECT IMPACTS TO LISTED SPECIES

A survey for listed animal and plant species was conducted on the project lands by Turrell, Hall & Associates biologists. This listed species survey and its results are discussed in the attached Listed Species summary. The listed animals associated with these project lands as observed directly or indirectly by Turrell, Hall & Associates included the white ibis, and snowy egret. Currently the closest documented active eagle's nest is approximately 2.5 mile northwest of the project lands.

A tri-colored heron was observed foraging along the lake banks. White ibis and snowy egrets were observed flying over the Creekside East property. White ibis and snowy egret were observed on the open mowed lands to the east of the project site.

3.4 PROJECT IMPACTS TO ARCHAEOLOGICAL/ HISTORICAL RESOURCES

As outlined in Section 2.4 of this report, it does not appear that development of the Creekside East property will impact any historic properties listed, or eligible for listing, in the National Register of Historic Places or otherwise of historical, architectural, or archaeological value. If a suspected archaeological or historical artifact is discovered during the course of site development activities (construction, clearing, etc.), the development activities at the specific site will be immediately halted and the appropriate agency notified. Development will be suspended for a sufficient length of time to enable the County or a designated consultant to assess the find and determine the proper course of action.

4.0 PRESERVE MANAGEMENT PROGRAM

The Creekside East preserve areas have an existing approved management plan. The proposed preserves will continue to be managed as outlined in the approved plan. Preserve areas will be maintained to suppress infestation by exotic/invasive and nuisance plant species. Maintenance/management actions will be conducted as required to meet the success criteria as outlined in the plan. Should the current zoning modifications be approved, the Preserve Management Plan will be modified prior to the Plat or construction plan (PPL) submittal to reflect the changes to the preserve boundary.

5.0 PRESERVE MONITORING PROGRAM

Annual monitoring will be undertaken according to the Preserve management Plan to insure that all exotic vegetation, as defined by County Code and Category I invasive exotic plants, as defined by the Florida Exotic Pest Plant Council, shall be removed from within preserve areas in perpetuity.

6.0 WETLAND MITIGATION PROGRAM

The original Creekside East project permitting accounted for impacts to the preserve area so no additional wetland mitigation should be required by the regulatory agencies.