

BIOLOGICAL CONSULTING SERVICES, INC.

**ENVIRONMENTAL RESOURCE PERMIT
SUPPORT DOCUMENT**

FOR

**NETZER PROPERTY
Jimmy Ann Drive Site**

for submittal to

ST. JOHNS RIVER WATER MANAGEMENT DISTRICT

Prepared for:

**Mr. Mark Dowst, P.E.
Mark Dowst & Associates, Inc.
536 North Halifax Drive, Suite 100
Daytona Beach, FL 32118**

107658-1

By:

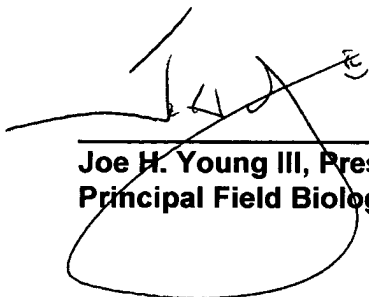
***Biological Consulting Services, Inc.
208 Rush Street
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SEP 21 2006

**PDS
ALTAMONTE SVO. DTR.**

September 2006



**Joe H. Young III, President
Principal Field Biologist**



**John C. Palmer
Senior Field Biologist**

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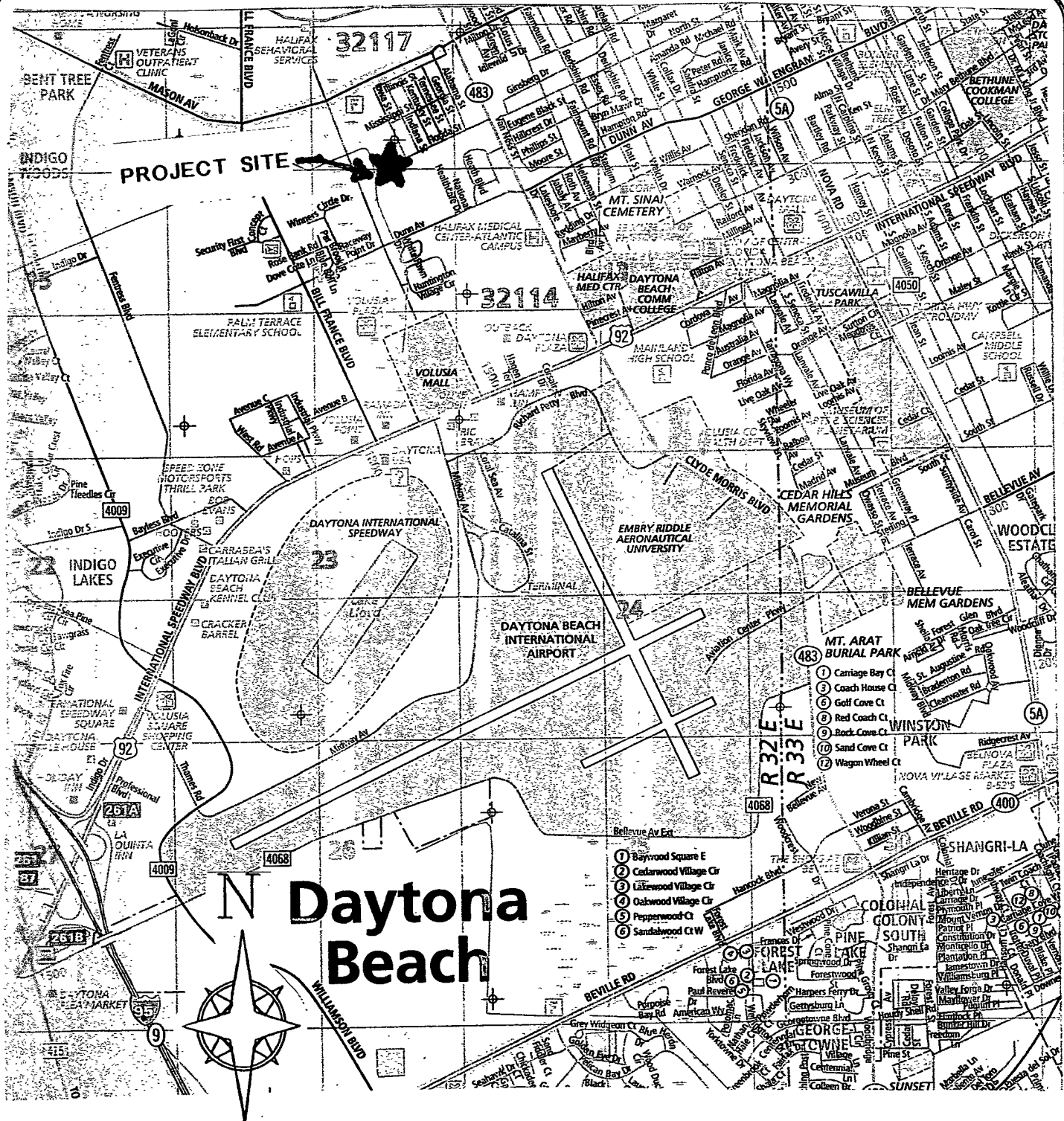
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1.0 SITE LOCATION AND DESCRIPTION

The site is located in Section 14, Township 15 South, and Range 32 East, in Volusia County, Florida. The site is south of Mason Avenue, east of Jimmy Ann Drive, and consists of 10.59± acres. The proposed project is for the construction of a multi-family development site.

2.0 SITE TOPOGRAPHY

The site is generally flat, with the exception of a large berm along the Wally Hoffmeyer canal. The elevations on site typically range around the 30' NGVD contour. The berm reaches a height of about 34' and the canal has elevations down to around 20'.



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CS

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drawn **RCN**
date **09/15/06**
scale **SEE GRAPHIC SCALE**
job no. **06-03041**

LOCATION MAP

NETZER
JIMMY ANN DRIVE



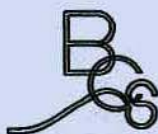
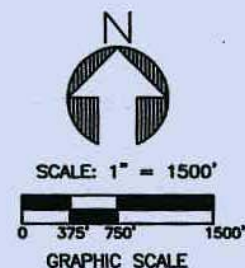
MAP ADAPTED FROM
DIGITAL QUAD MAP
DAYTONA BEACH, FL

SCALE MAY
VARY SLIGHTLY

PROJECT LOCATED IN —
SEC. 14 TWP. 15 S. RNG 32 E.

APPROXIMATE CENTER OF SITE —
LAT. 29° 12' 43" N.,
LONG. 81° 03' 59" W.

SITE AREA = 10.59 ± ACRES



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09/18/06

scale (size A)

1"= 1500'

job no.

06-03041

QUADRANGLE MAP

NETZER
JIMMY ANN PROPERTY



SCALE: 1" = 300'



- NOTES: 1 - BOUNDARY ADAPTED FROM DIGITAL CADD FILE PRODUCED BY MARK DOWST & ASSOCIATES, INC.
- 2 - AERIAL PHOTO ADAPTED FROM DIGITAL ORTHO QUADRANGLE OBTAINED FROM THE ST. JOHNS RIVER WATER MANAGEMENT DISTRICT (DATED 2004), AND INSERTED FROM DAYTONA BEACH (NW). SCALE IS APPROXIMATE.



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AERIAL PHOTO EXHIBIT

NETZER

JIMMY ANN PROPERTY

3.0 SOIL SURVEY

The Volusia County Soil Survey indicates that the following soil types are found in this area. Normally vegetation within these soil types indicates hydric (*wetland*) or non-hydric (*non-wetland*) characteristics.

29 - Immokalee sand (non-hydric)
64 - Tequesta muck (hydric)

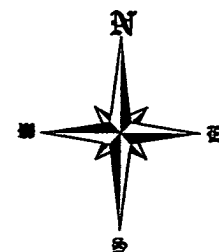
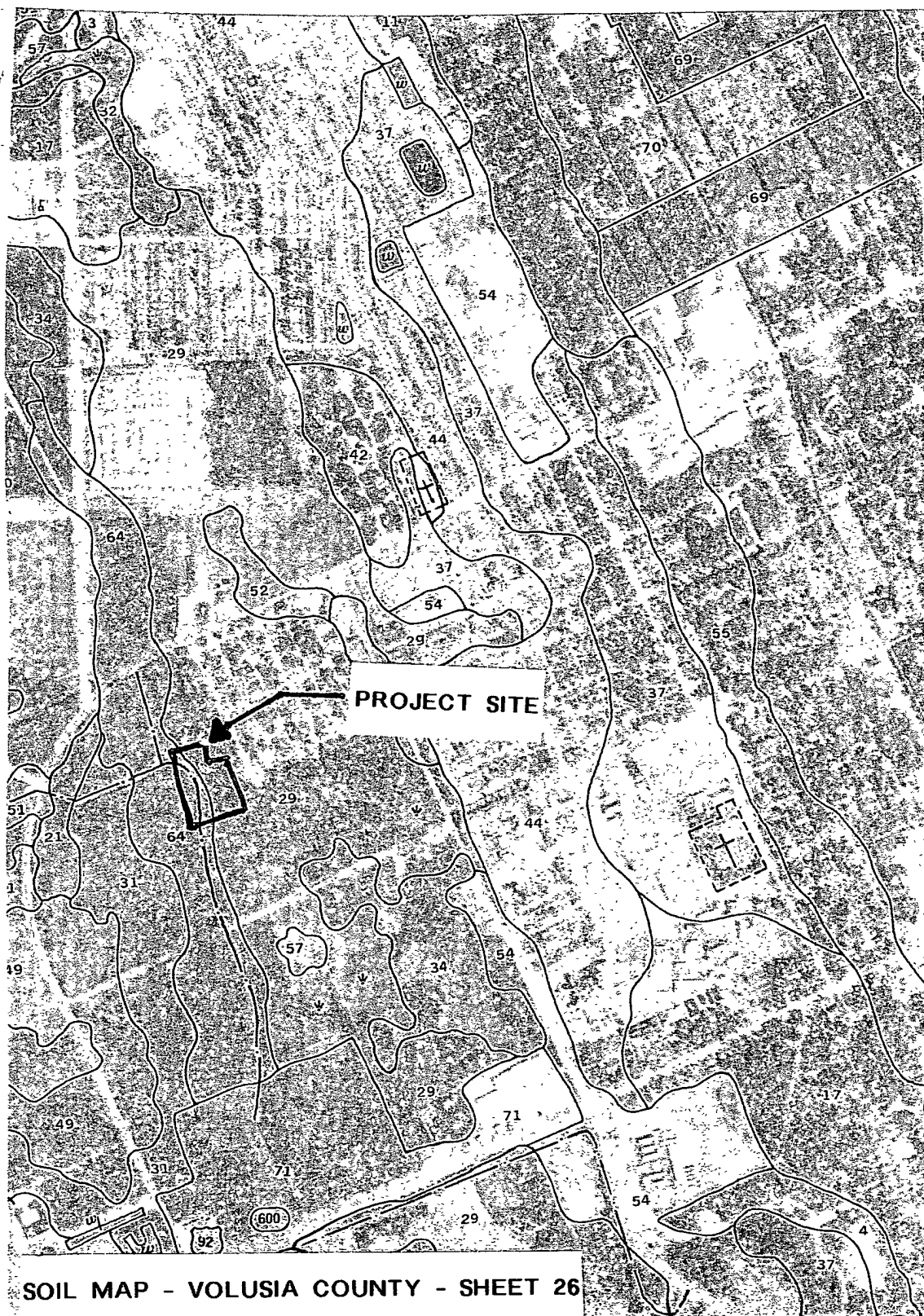
The soil survey is fairly accurate in the typing of soils; however, boundaries of the soils are sometimes poorly indicative of site conditions. Please review the attached map for soil type boundaries and the chart below for soil type/vegetation correlation for this site.

Upland Soils	Wetland Soils
29 - Immokalee sand	64 - Tequesta muck

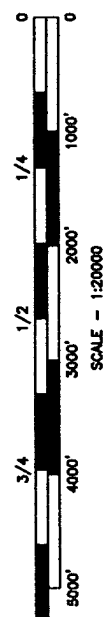
Immokalee sand soils (29) are defined as nearly level, poorly drained, sandy soils generally occurring in broad areas in the flatwoods, in low areas between sand ridges, or in slightly elevated areas between ponds and sloughs. The water table is within 10 inches of the surface for 1 to 2 months in most years and between 10 and 40 inches more than half the time. Permeability is moderate or moderately rapid in the subsoil and rapid in the other horizons. **Category: Non-Hydric.**

Tequesta muck soils (64) are defined as very poorly drained, nearly level soils typically found in freshwater swamps and marshes. The water table is within 10 inches of the surface for 6 to 9 months, in most years, and within 20 inches for the rest of the year. Permeability is rapid except in the loamy subsoil, where it is moderate. Internal drainage is impeded by the high water table. **Category: Hydric.**

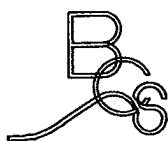
The hydric soil that is listed for this site is the Tequesta muck soils type. However, this soil type has been altered by the presence of the large drainage canal (Wally Hoffmeyer Canal) that runs through the area. This canal has drained the area for many years, and the soils have lost most of their hydric characteristics. Hydric soils are still present in smaller pockets of wetlands, but they show severe signs of being drained. The other soil types on site exhibited upland characteristics, and the field review verified upland species were the dominant vegetation indicating non-hydric conditions.



SOIL ON SITE
 29 IMMOKALEE SAND-non-hydric
 64 TEQUESTA MUCK-hydric
 W WATER-hydric



SOIL MAP - VOLUSIA COUNTY - SHEET 26



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scale (size A)

SEE
 GRAPHIC SCALE

job no.

06-03041

SOIL MAP

NETZER

JIMMY ANN PROPERTY

4.0 FLORIDA LAND USE, COVER AND FORMS CLASSIFICATION SYSTEM

The vegetative communities and land uses on the project site were field verified, and the site was mapped utilizing the Florida Land Use, Cover and Forms Classification System (FLUCCS, FDOT, 1999). Eight (8) land use and cover types were identified in and around the project site.

- 411 – Pine Flatwoods
- 411/740 – Disturbed Pine Flatwoods
- 414 – Pine/Mesic oak
- 510 – Streams and Waterways
- 630 – Wetland Forested Mixed
- 630/740 – Disturbed Wetland Forested Mixed
- 740 – Disturbed Land
- 814 – Roads and Highways

4.1 VEGETATIVE COMMUNITIES

The vegetative communities encountered on the site with the dominant vegetative cover are listed below:

#411 – Pine Flatwoods: This community is found on in two sections on site. One area is located on the east side of the site, and the other is located to the west of the maintenance road for the Wally Hoffmeyer Canal. The canopy is dominated by **Slash pine** (*Pinus elliottii*), with a subcanopy of **Wax Myrtle** (*Myrica cerifera*) and **Cabbage palm** (*Sabal palmetto*). The understory is basically **Saw palmetto** (*Serenoa repens*), **Broomsedge** (*Andropogon virginicus*), and mixed grasses with weedy species in some of the more open areas.

#411/740 – Disturbed Pine Flatwoods: This classification is for the area of the large berm, which is primarily disturbed. However, the disturbance took place long enough ago that **Slash pines** have grown and now dominate the area. The pine flatwoods community described above is the basic species composition, however, the **Saw palmetto** is much more scattered, and **Grapevine** (*Vitis spp.*) is much more prevalent.

#414 – Pine/Mesic Oak: This community is found in the southeast portion of the site. This area is dominated by a mix of **Slash pine** and **Live oak** (*Quercus virginiana*) in the canopy. The subcanopy and groundcover is similar to the pine flatwoods species list mentioned above.

#510 – Streams and Waterways: This classification is for the Wally Hoffmeyer Canal that runs through the site. This is a major drainage way that was excavated many years ago. There is minimal vegetation associated with the canal, as it is regularly maintained. This feature has been classified as a surface water.

#630 – Wetland Forested Mixed: This community is found in most of the wetland systems on site. These systems are dominated by a mix of **Slash pine**, **Loblolly bay** (*Gordonia lasianthus*), **Cypress** (*Taxodium distichum*), and scattered **Red maple** (*Acer rubrum*) in the canopy. The subcanopy is dominated by a mix of **Wax myrtle**, **Cabbage palm**, and juvenile canopy species, with scattered **Fetterbush** (*Lyonia lucida*). The groundcover is dominated by various herbaceous species such as **Chain fern** (*Woodwardia virginica*), **Cinnamon fern** (*Osmunda cinnamomea*), **Maidencane** (*Panicum hemitomon*), **Grapevine**, **Blackberry** (*Rubus spp.*), **Broomsedge** (*Andropogon virginicus*), and juvenile canopy and subcanopy species.

#630/740 – Disturbed Wetland Forested Mixed: This classification is for the northerly wetland system. This area has been partially cleared in the past, and has a high amount of invasive species. The dominant canopy cover is still the mix of **Slash pine**, **Loblolly bay**, and scattered **Cypress**; however, the overall canopy is sparse compared to the other wetland areas. The subcanopy is denser with **Wax myrtle**, **Cabbage palm**, and **Groundsel tree** (*Baccharis halimifolia*). The groundcover has the basic species list as above, with a higher number of invasive species and vines such as **Grapevine**, **Blackberry**, and **Greenbriar** (*Smilax spp.*).

#740 – Disturbed Land: This classification is for some of the uplands at the north end of the site. There are scattered **Slash pines** in the canopy; however, it appears that this area may also have been disturbed by clearing or logging. There are various shrubby species in the subcanopy such as **Wax myrtle**, **Cabbage palm**, **Brazilian pepper** (*Schinus terebinthifolius*), **Groundsel tree**, and **Hercules club** (*Zanthoxylum clava-herculis*). The groundcover consists of various weedy species mixed with **Saw palmetto**, **Grapevine**, **Blackberry**, **Greenbriar**, and juvenile canopy and subcanopy species.

#814 – Roads and Highways: This classification is for the maintenance road that exists along the west side of the canal. This road is used to maintain the canal.

5.0 WETLANDS DESCRIPTION

The wetlands in the project area consist of four wetland areas. The hydrology of these systems appears to have been affected by the adjacent canal, which has been in place for many years. These systems are in close proximity to the adjacent canal, and the soils show indications of being drained (i.e. stripped matrix, low organic component, redox characteristics). None of the systems are directly connected to the canal, they are all isolated systems. It appears that the wetland areas are being drawn down through subsurface effects of the canal on the water table. Furthermore, some of the systems have been altered by historic clearing. **Wetland Area 1** (0.248 acres) is a Disturbed Wetland Forested Mixed community (#630/740), located at the north end of the site. This system extends off-site to the north, and the entire extent of the system was not delineated. **Wetland Area 2** (0.796 acres) is a Wetland Forested Mixed community (#630) located on the east side of the site. **Wetland Area 3** (0.151 acres) is a Wetland Forested Mixed community (#630), located on the west side of the site. **Wetland Area 4** (0.365 acres), is another Wetland Forested Mixed community (#630) located on the west side of the site. Both Wetland Area 3 and Wetland Area 4 are isolated and less than 0.5 acres in size. The total area of wetlands on site is 1.56 acres.

The Wally Hoffmeyer canal is located on the west side of the site. This is a large drainage canal that flows through the site. This feature has been classified as a surface water, and totals 0.812 acres. The FLUCCS code that has been assigned to this feature is the Streams and Waterways (#510) category. This canal has been in place for many years, and has affected many adjacent wetland systems.

5.1 WETLANDS SYSTEM CHART

The wetlands on site are identified as:

Wetland Area 1

0.248 acres	#630/740	Disturbed Wetland Forested Mixed
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Wetland Area 2

0.796 acres	#630	Wetland Forested Mixed
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Wetland Area 3

0.151 acres	#630	Wetland Forested Mixed
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Wetland Area 4

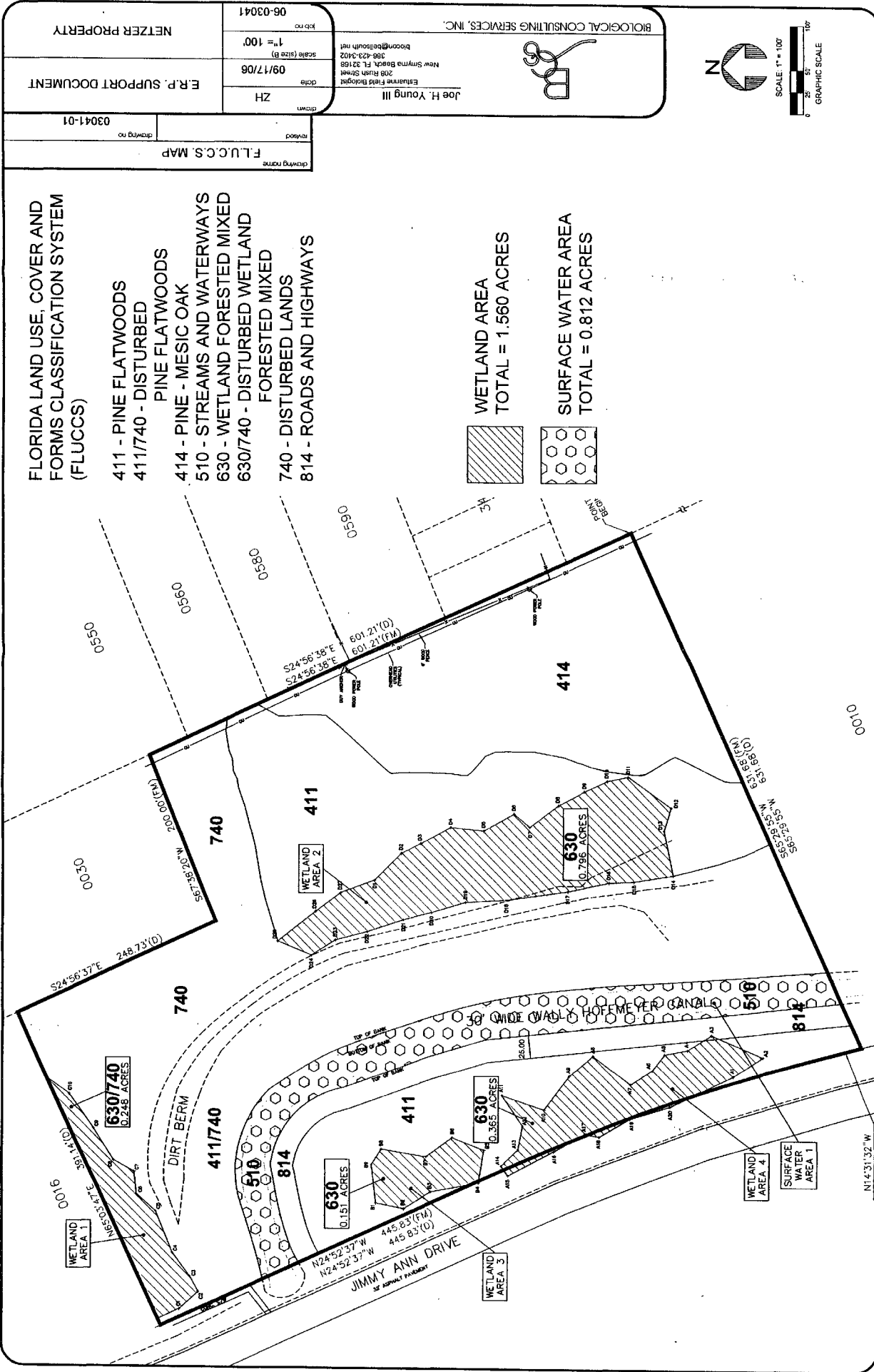
0.365 acres	#630	Wetland Forested Mixed
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Wally Hoffmeyer Canal (Surface Water)

0.812 acres	#510	Streams and Waterways
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Total wetlands in project area:	1.560 acres
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Total surface waters on site:	0.812 acres
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6.0 WETLAND IMPACTS

Wetland impacts will occur in all of the wetland systems. Wetland Area 1 will have two areas of impact, **Wetland Impact Area 1** (0.179 acres) and **Wetland Impact Area 2** (0.015 acres). These impacts are for the north building and adjacent grading. Wetland Area 2 will have one area of impact, **Wetland Impact Area 3** (0.796 acres). This impact is for some of the buildings and the retention pond. Wetland Area 3 will have two areas of impact, **Wetland Impact Area 4** (0.021 acres) and **Wetland Impact Area 5** (0.002 acres). This wetland is isolated and less than 0.5 acres in size, therefore, no mitigation is proposed for the impacts to this system. These impacts are for the compensating storage area. Wetland Area 4 will have two areas of impact, **Wetland Impact Area 6** (0.007 acres) and **Wetland Impact Area 7** (0.027 acres). This wetland is also isolated and less than 0.5 acres in size, therefore, no mitigation is proposed for the impacts to this system. These impacts are for the compensating storage area as well. The proposed plan is for a multi-family development, and due to the relative size of the wetlands, and the type of development, wetland impacts can't be avoided. The impacted systems are of low value, due to the effects by the adjacent canal and drained status, providing limited function. The total area of wetland impact for the project is 1.047 acres. The total area of wetland impact with mitigation proposed is 0.990 acres. Therefore, this project should still qualify for a Standard Environmental Resource Permit.

6.1 WETLAND IMPACT CHART

The wetlands impacts on site are identified as:

Wetland Area 1

Wetland Impact Area 1:	0.179 acres
Wetland Impact Area 2:	0.015 acres

Wetland Area 2

Wetland Impact Area 3:	0.796 acres
------------------------	-------------

Wetland Area 3

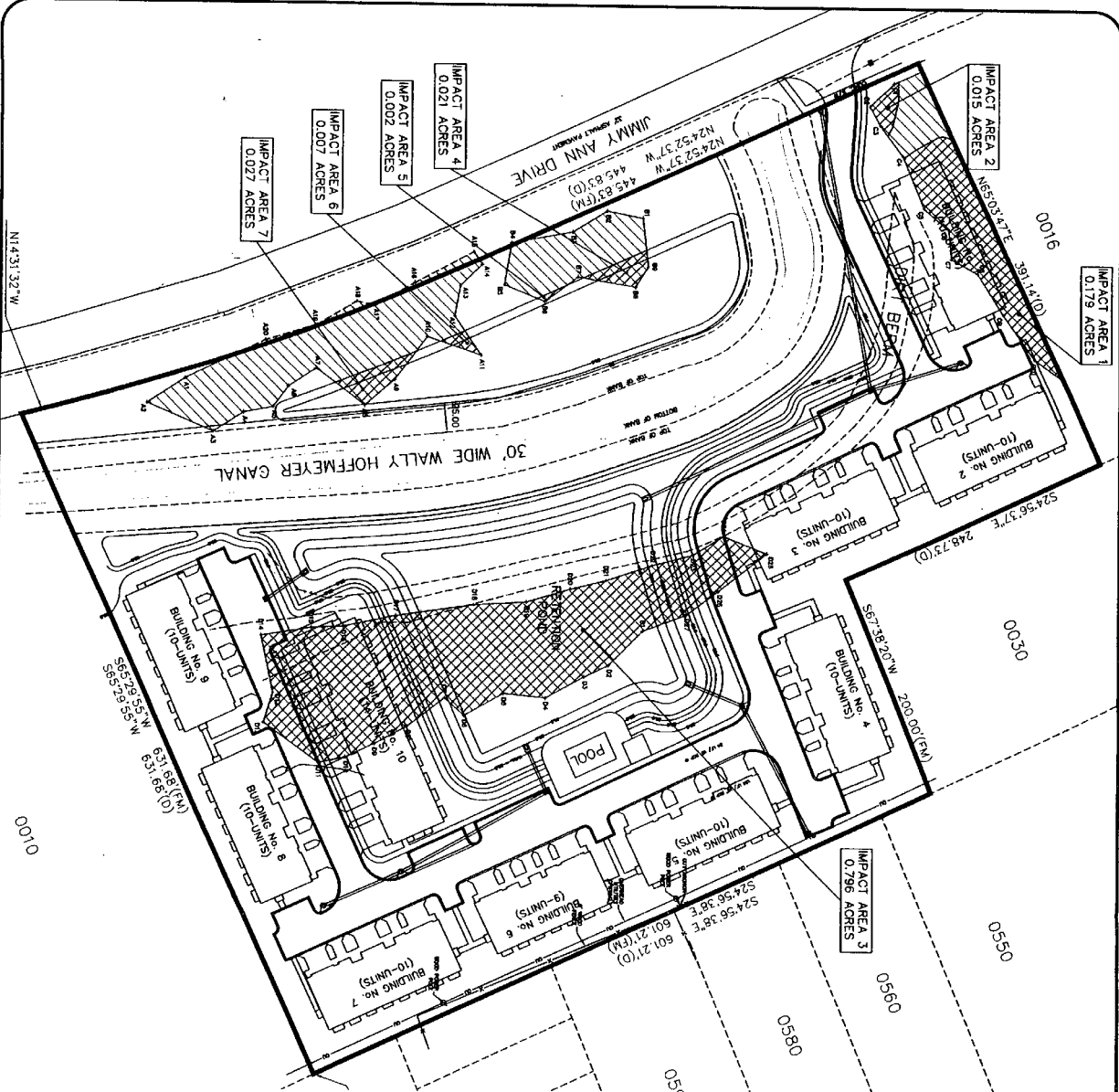
Wetland Impact Area 4:	0.021 acres
Wetland Impact Area 5:	0.002 acres

Wetland Area 4

Wetland Impact Area 6:	0.007 acres
Wetland Impact Area 7:	0.027 acres

Total wetland impacts = 1.047 acres

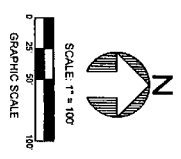
Total wetland impacts with mitigation proposed = 0.990 acres



IMPACT AREA 1 =	0.179 ACRES
IMPACT AREA 2 =	0.015 ACRES
IMPACT AREA 3 =	0.796 ACRES
IMPACT AREA 4 =	0.021 ACRES
IMPACT AREA 5 =	0.002 ACRES
IMPACT AREA 6 =	0.007 ACRES
IMPACT AREA 7 =	0.027 ACRES
TOTAL IMPACT AREA = 1.047 ACRES	

 WETLAND
 WETLAND
WETLAND IMPACT AREA

drawing name WETLAND IMPACTS MAP	
revised	drawing no. 03041-02
drawn ZH	E.R.P. SUPPORT DOCUMENT
date 09/17/06	
scale (size B) 1" = 100'	
job no. 06-03041	NETZER PROPERTY





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7.0 MITIGATION PLAN

Mitigation for the 0.99 acres of wetland impacts is proposed through the purchase of mitigation credits at the Farmton North Mitigation Bank.

The mitigation for the wetland impacts will be through the purchase of 2 credits at the Farmton North Mitigation Bank. This bank is a SJRWMD approved bank, and the cost for the credits will be \$150,000.00 (at \$75,000.00 per credit). Due to the low quality of the impacted wetlands, a 2:1 ratio was used to calculate the required mitigation bank credit. By using a 2:1 ratio, the required credit towards wetland impacts will be 2 mitigation bank credits.

7.1 MITIGATION CHART

Wetland Impact = 0.99 acres

<u>Mitigation Type</u>	<u>Impact area</u>	<u>Ratio</u>	<u>Required Credit</u>
Mitigation Bank Credit Purchase	0.99 acres	2:1	2 credits

APPENDIX

ERP tables

Table 1: Netzer – Jimmy Ann Drive

PROJECT WETLAND (WL) AND OTHER SURFACE WATER (SW) SUMMARY

WL & SW ID	WL & SW TYPE	WL & SW SIZE	WL & SW NOT IMPACTED	TEMPORARY WL & SW IMPACTS			PERMANENT WL & SW IMPACTS			MITIGATION ID
				WL & SW TYPE	IMPACT SIZE	IMPACT CODE	WL & SW TYPE	IMPACT SIZE	IMPACT CODE	
Wetland Area 1	#630/740	0.248 acres	0.054 acres					0.194 acres	F	
Wetland Area 2	#630	0.796 acres	---					0.796 acres	F	
Wetland Area 3	#630	0.151 acres	0.128 acres					0.023 acres	F	
Wetland Area 4	#630	0.365 acres	0.331 acres					0.034 acres	F	
Wally Hoffmeyer Canal	#510	0.757 acres	0.757 acres					---		
PROJECT TOTALS:		2.317 acres	1.27 acres					1.047 acres		

Comments: FLUCCS #510 – Streams and Waterways
 #630 – Wetland Forested Mixed
 #640/740 – Disturbed Wetland Forested Mixed

CODES (multiple entries per cell not allowed):

Wetland Type: from an established wetland classification system (see Section E.111b.)
 Impact Type: D=dredge; F=fill; H=change hydrology; S=shading; C=clearing; O=other
 FORM NUMBER 40C-4.900(1)

Reviewer: _____

Table 3: Netzer – Jimmy Ann Drive

PROJECT OFF-SITE MITIGATION SUMMARY

MITIGATION ID	CREATION		RESTORATION		ENHANCEMENT		WETLAND PRESERVE		UPLAND PRESERVE		OTHER	
	AREA	TARGET TYPE	AREA	TARGET TYPE	AREA	TARGET TYPE	AREA	TYPE	AREA	TYPE	AREA	TARGET TYPE
Mitigation Bank											2	credits
PROJECT TOTALS:												

Comments: Farmton North Mitigation Bank

CODES (multiple entries per cell not allowed):

Target Type or Type = target or existing habitat type from an established wetland classification system or land use classification for non-wetland mitigation

Reviewer: _____

Form number 40C-4.900(1)

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