APPENDIX 10.1

FEDERAL PERMIT APPLICATIONS OR APPROVALS

APPENDIX 10.1.1

316 DEMONSTRATIONS

316 Demonstrations are not required for this project.

APPENDIX 10.1.2

NPDES APPLICATION/PERMIT

Please print or type in the unshaded areas only (fill—in areas are spaced for elite type, i.e., 12 characters/inch).

BEST AVAILABLE COPY

Form Approved. OMB No. 2040-0086. Approval expires 5-31-92.

FORM 1 GENERAL

U.S. ENVIRONMENTAL PROTECTION AGENCY

GENERAL INFORMATION

Consolidated Permits Program

(Read the "General Instructions" before starting.)

I. EPA I.D. NUMBER: F

LABEL ITEMS

I. EPA I.D. NUMBER

III. FACILITY NAME

V. FACILITY MAILING ADDRESS

VI. FACILITY LOCATION

PLEASE PLACE LABEL IN THIS SPACE

GENERAL INSTRUCTIONS

If a preprinted label has been provided, affix it in the designated space. Review the information carefully; if any of it is incorrect, cross through it and enter the correct data in the appropriate fill—in area below. Also, if any of the preprinted data is absent *(the area to the left of the label space lists the information that should appear)*, please provide it in the proper fill—in area(s) below. If the label is complete and correct, you need not complete Items I, III, V, and VI *(except VI-B which must be completed regardless)*. Complete all items if no label has been provided. Refer to the instructions for detailed item descriptions and for the legal authorizations under which this data is collected.

II. POLLUTANT CHARACTERISTICS

INSTRUCTIONS: Complete A through J to determine whether you need to submit any permit application forms to the EPA. If you answer "yes" to any questions, you must submit this form and the supplemental form listed in the parenthesis following the question. Mark "X" in the box in the third column if the supplemental form is attached. If you answer "no" to each question, you need not submit any of these forms. You may answer "no" if your activity is excluded from permit requirements; see Section C of the instructions. See also, Section D of the instructions for definitions of bold—faced terms.

SPECIFIC QUESTIONS	MARK 'X' YES	NO	FORM ATTACHED
A. Is this facility a publicly owned treatment works which results in a discharge to waters of the U.S.? (FORM 2A)		X	
B. Does or will this facility *(either existing or proposed)* include a concentrated animal feeding operation or aquatic animal production facility which results in a discharge to waters of the U.S.? (FORM 2B)		X	
C. Is this a facility which currently results in discharges to waters of the U.S. other than those described in A or B above? (FORM 2C)		X	
D. Is this a proposed facility *(other than those described in A or B above)* which will result in a discharge to waters of the U.S.? (FORM 2D)	X		X
E. Does or will this facility treat, store, or dispose of hazardous wastes? (FORM 3)		X	
F. Do you or will you inject at this facility industrial or municipal effluent below the lowermost stratum containing, within one quarter mile of the well bore, underground sources of drinking water? (FORM 4)		X	
G. Do you or will you inject at this facility any produced water or other fluids which are brought to the surface in connection with conventional oil or natural gas production, inject fluids used for enhanced recovery of oil or natural gas, or inject fluids for storage of liquid hydrocarbons? (FORM 4)		X	
H. Do you or will you inject at this facility fluids for special processes such as mining of sulfur by the Frasch process, solution mining of minerals, in situ combustion of fossil fuel, or recovery of geothermal energy? (FORM 4)		X	
I. Is this facility a proposed stationary source which is one of the 28 industrial categories listed in the instructions and which will potentially emit 100 tons per year of any air pollutant regulated under the Clean Air Act and may affect or be located in an attainment area? (FORM 5)		X	
J. Is this facility a proposed stationary source which is NOT one of the 28 industrial categories listed in the instructions and which will potentially emit 250 tons per year of any air pollutant regulated under the Clean Air Act and may affect or be located in an attainment area? (FORM 5)	X		X*

III. NAME OF FACILITY

1 SKIP: HARDEE UNIT 3

IV. FACILITY CONTACT

A. NAME & TITLE (last, first, & title)	B. PHONE (area code & no.)
2 MIKE OPALINSKI MGR ENV AFFAIRS	813 963 0994

V. FACILITY MAILING ADDRESS

A. STREET OR P.O. BOX			
3 PO BOX 272000			
B. CITY OR TOWN	**C. STATE**	**D. ZIP CODE**	
4 TAMPA	FL	33688	

VI. FACILITY LOCATION

A. STREET, ROUTE NO. OR OTHER SPECIFIC IDENTIFIER			
5 COUNTY ROAD 663			
B. COUNTY NAME			
HARDEE			
C. CITY OR TOWN	**D. STATE**	**E. ZIP CODE**	**F. COUNTY CODE (if known)**
6 FORT GREEN	FL	33834	

EPA Form 3510-1 (8-90)

* See Section 10.1.5 of SCA/EA for PSD application.

CONTINUE ON REVERSE

CONTINUED FROM THE FRONT

VII. SIC CODES *(4-digit, in order of priority)*

A. FIRST	B. SECOND
4911 (specify) Electric Generation	(specify)
C. THIRD	**D. FOURTH**
(specify)	(specify)

VIII. OPERATOR INFORMATION

A. NAME

SEMINOLE ELECTRIC COOPERATIVE INC

B. Is the name listed in Item VIII-A also the owner? ☒ YES ☐ NO

C. STATUS OF OPERATOR *(Enter the appropriate letter into the answer box; if "Other," specify.)*

F = FEDERAL M = PUBLIC *(other than federal or state)*
S = STATE O = OTHER *(specify)*
P = PRIVATE

P (specify)

D. PHONE *(area code & no.)*

A 813 963 0994

E. STREET OR P.O. BOX

PO BOX 272000

F. CITY OR TOWN | **G. STATE** | **H. ZIP CODE**

TAMPA | FL | 33688

IX. INDIAN LAND

Is the facility located on Indian lands? ☐ YES ☒ NO

X. EXISTING ENVIRONMENTAL PERMITS

A. NPDES *(Discharges to Surface Water)*	D. PSD *(Air Emissions from Proposed Sources)*
N FL0041751	P PSD-FL-140
B. UIC *(Underground Injection of Fluids)*	**E. OTHER** *(specify)*
U NONE	NONE (specify)
C. RCRA *(Hazardous Wastes)*	**E. OTHER** *(specify)*
R NONE	NONE (specify)

XI. MAP

Attach to this application a topographic map of the area extending to at least one mile beyond property bounderies. The map must show the outline of the facility, the location of each of its existing and proposed intake and discharge structures, each of its hazardous waste treatment, storage, or disposal facilities, and each well where it injects fluids underground. Include all springs, rivers and other surface water bodies in the map area. See instructions for precise requirements.

XII. NATURE OF BUSINESS *(provide a brief description)*

Proposed 440-MW Hardee Unit 3 Combined Cycle Electric Generating Facility at the Hardee Plant Site (HPS).

See Section 3.0 of the SCA/EA for project description, including information regarding the cooling reservoir and operation. The cooling reservoir will provide condenser cooling to both the existing TECO Power Services (TPS) Units 1A and 1B and the proposed Hardee Unit 3. TPS Units 1A and 1B will have a build-out capacity of 440 MW, which when combined with the SECI Unit 3 will result in a total build-out generating capacity at HPS of 880 MW.

The TPS Units 1A and 1B are permitted under NPDES Permit FL0041751.

XIII. CERTIFICATION *(see instructions)*

I certify under penalty of law that I have personally examined and am familiar with the information submitted in this application and all attachments and that, based on my inquiry of those persons immediately responsible for obtaining the information contained in the application, I believe that the information is true, accurate and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment.

A. NAME & OFFICIAL TITLE *(type or print)*	B. SIGNATURE	C. DATE SIGNED
Richard Midulla Vice President, Technical Division	Richard Midulla	4/28/94

COMMENTS FOR OFFICIAL USE ONLY

C

EPA Form 3510-1 (8-90)

Please type or print in the unshaded areas only	EPA ID Number *(copy from Item 1 of Form 1)*	

Form 2D NPDES

New Sources and New Discharges Application for Permit to Discharge Process Wastewater

I. Outfall Location

For each outfall, list the latitude and longitude, and the name of the receiving water.

Outfall Number (list)	Latitude			Longitude			Receiving Water *(name)*
	Deg	Min	Sec	Deg	Min	Sec	
SECI 001	*27*	*39*	*00*	*81*	*58*	*45*	*Payne Creek*
SECI 002	*27*	*38*	*00*	*81*	*58*	*25*	*Payne Creek (via cooling reservoir)*
SECI 003	*27*	*38*	*00*	*81*	*58*	*25*	*Payne Creek (via unnamed tributary to Payne Creek)*

II. Discharge Date *(When do you expect to begin discharging?)*
January 1, 1997 (Outfall 003)

III. Flows, Sources of Pollution, and Treatment Technologies

A. For each outfall, provide a description of (1) All operations contributing wastewater to the effluent, including process wastewater, sanitary wastewater, cooling water, and stormwater runoff; (2) The average flow contributed by each operation; and (3) The treatment received by the wastewater. Continue on additional sheets if necessary.

Outfall Number	1. Operations Contributing Flow *(list)*	2. Average Flow *(include units)*	3. Treatment *(Description or List Codes from Table 2D-1)*
SECI 001	*Recirculation cooling reservoir with makeup*		
	from the following sources:		
	• *Rainfall*	*2,224,900 gpd*	
	• *Well Water*	*2,602,000 gpd*	
	• *Surface Runoff*	*311,500 gpd*	
	• *Seepage*	*0 gpd*	
	• *SECI 002*	*0.093 mgd*	
	• *TPS 003*	*0.086 mgd*	
SECI 002	*Hardee Unit 3 Low-Volume Wastes:*		
	• *Demineralization Regeneration Basin Effluent*	*14,000 gpd*	*Neutralization and Sedimentation (2-K and 1-V)*
	• *Oil Separator Effluent*	*24,000 gpd*	*Oil Flotation (1-H)*
	• *Sanitary Effluent*	*2,000 gpd*	*Biological Treatment (3-A) Sedimentation (1-V)*
			Chlorine Disinfection (2-F)
	• *Plant Service Water Pretreatment System Backwash*	*7,000 gpd*	
	• *Steam Cycle Blowdown*	*40,000 gpd*	
	Continued on next page		

Please type or print in the unshaded areas only	EPA ID Number *(copy from Item 1 of Form 1)*	

Form 2D NPDES

New Sources and New Dischargers Application for Permit to Discharge Process Wastewater

I. Outfall Location

For each outfall, list the latitude and longitude, and the name of the receiving water.

Outfall Number (list)	Latitude			Longitude			Receiving Water *(name)*
	Deg	Min	Sec	Deg	Min	Sec	

II. Discharge Date *(When do you expect to begin discharging?)*

January 1, 1997 (Outfall 003)

III. Flows, Sources of Pollution, and Treatment Technologies

A. For each outfall, provide a description of (1) All operations contributing wastewater to the effluent, including process wastewater, sanitary wastewater, cooling water, and stormwater runoff; (2) The average flow contributed by each operation; and (3) The treatment received by the wastewater. Continue on additional sheets if necessary.

Outfall Number	1. Operations Contributing Flow *(list)*	2. Average Flow *(include units)*	3. Treatment *(Description or List Codes from Table 2D-1)*
SECI 003	• *Hardee Unit 3 Plant Site Stormwater Detention*		
	Pond Discharge	*121,000 gpd*	*Sedimentation (1-V)*
	• *Temporary Construction Dewatering*		*Sedimentation (1-V)*

B. Attach a line drawing showing the water flow through the facility. Indicate sources of intake water, operations contributing wastewater to the effluent, and treatment units labeled to correspond to the more detailed descriptions in Item III-A. Construct a water balance on the line drawing by showing average flows between intakes, operations, treatment units, and outfalls. If a water balance cannot be determined (e.g., for certain mining activities), provide a pictorial description of the nature and amount of any sources of water and any collection or treatment measures.

C. Except for storm runoff, leaks, or spills, will any of the discharges described in item III-A be intermittent or seasonal?

☒ Yes *(complete the following table)* ☐ No *(go to item IV)*

Outfall Number	1. Frequency		2. Flow		
	a. Days Per Week *(specify average)*	b. Months Per Year *(specify average)*	a. Maximum Daily Flow Rate *(in mgd)*	b. Maximum Total Volume *(specify with units)*	c. Duration *(in days)*
SECI 001 - Cooling reservoir	*Cooling reservoir will only discharge due to extreme or cumulative rainfall in excess of the 10-year 24-hour storm, where unavoidable to prevent loss of life, severe property damage, or damage to the physical integrity of the cooling reservoir or its structures.*		*0.213 mgd (see note 1)*	*2.3 acre-ft*	*7 days (see note 1)*
			Note 1: Flow estimates are based on the 25-year 24-hour rainfall.		
SECI 003 - Hardee Unit 3 Stormwater Detention Pond Including Temporary Construction Dewatering	*Temporary Activity During Construction; 7 days per week for 6 months during construction.*		*8.875 mgd*	*27.2 acre-ft*	*180 days during construction*

IV. Production

If there is an applicable production-based effluent guideline or NSPS, for each outfall list the estimated level of production (projection of actual production level, not design), expressed in the terms and units used in the applicable effluent guideline or NSPS, for each of the first 3 years of operation. If production is likely to vary, you may also submit alternative estimates (attach a separate sheet).

Year	a. Quantity Per Day	b. Units of Measure	c. Operation, Product, Material, etc *(specify)*

CONTINUED FROM THE FRONT	EPA ID Number *(copy from Item 1 of Form 1)*	Outfall Number *001, 002, and 003*

V. Effluent Characteristics

A, and B: These items require you to report estimated amounts *(both concentration and mass)* of the pollutants to be discharged from each of your outfalls. Each part of this item addresses a different set of pollutants and should be completed in accordance with the specific instruction for that part. Data for each outfall should be on a separate page. Attach additional sheets of paper if necessary.

General Instructions *(See table 2D-2 for Pollutants)*
Each part of this item requests you to provide an estimated daily maximum and average for certain pollutants and the source of information. Data for all pollutants in Group A, for all outfalls, must be submitted unless waived by the permitting authority. For all outfalls, data for pollutants in Group B should be reported only for pollutants which you believe will be present or are limited directly by an effluent limitations guideline or NSPS or indirectly through limitations on an indicator pollutant.

1. Pollutant	2. Maximum Daily Value *(include units)*	3. Average Daily Value *(include units)*	4. Source *(see instructions)*
See Table V-1 for Outfall #001			*Table V-1*
See Table V-2 for Outfall #002			*Table V-2*
See Table V-3 for Outfall #003			*Table V-3*

CONTINUED FROM THE FRONT	EPA ID Number *(copy from Item 1 of Form 1)*	

C. Use the space below to list any of the pollutants listed in Table 2D-3 of the instructions which you know or have reason to believe will be discharged from any outfall. For every pollutant you list, briefly describe the reasons you believe it will be present.

1. Pollutant	2. Reason for Discharge
Outfall #001 Strontium	***Trace amounts of naturally occurring strontium have been detected in upland surface runoff (100 µg/L) and Lower Floridan aquifer well makeup water (300 µg/L). Therefore, similar trace levels can be expected in the recirculation cooling reservoir. No strontium will be used in the operation of the proposed combined cycle power plant.***

VI. Engineering Report on Wastewater Treatment

A. If there is any technical evaluation concerning your wastewater treatment, including engineering reports or pilot plant studies, check the appropriate box below.

☒ Report Available ☐ No Report ***Engineering studies and evaluations are included as part of the Site Certification Application to the State of Florida.***

B. Provide the name and location of any existing plant(s) which, to the best of your knowledge, resembles this production facility with respect to production processes, wastewater constituents, or wastewater treatments.

Name	Location
The HPS cooling reservoir is the first built on reclaimed phosphate mines.	

EPA ID Number *(copy from item one of Form 1)*

VII. Other Information *(Optional)*

Use the space below to expand upon any of the above questions or to bring to the attention of the reviewer any other information you feel should be considered in establishing permit limitations for the proposed facility. Attach additional sheets if necessary.

Please see attached "Outfall Descriptions" for other information.

VIII. Certification

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

A. Name and Official Title *(type or print)*	B. Phone No.
Richard Midulla, Vice President, Technical Division	*(813) 963-0994*
C. Signature	D. Date Signed

Table V–1. Estimated Water Quality for SECI Outfall 001

Parameter	Units	Estimated Cooling Reservoir Reservoir Quality 880 MW	Estimated Cooling Reservoir Reservoir Quality 660 MW	FDEP Water Quality Criteria Class III Surface Water	FDEP Water Quality Criteria Class G2 Ground Water
Calcium	mg/L as CaCO3	310	250		
Magnesium	mg/L as CaCO3	140	110		
Sodium	mg/L as CaCO3	210	190		696
Potassium	mg/L as CaCO3	20	20		
Total Hardness	mg/L as CaCO3	440	360		
Alkalinity	mg/L as CaCO3	360	280	>20	
Sulfate	mg/L as CaCO3	250	230		250
Chloride	mg/L as CaCO3	60	50		704
Silica	mg/L	70	60		
Fluoride	mg/L	5.4	4.4	10	2
Cyanide	mg/L	0.01	0.01	0.005	0.2
MBAS	mg/L	0.48	0.38		
Oil and Grease	mg/L	5	5	5	
Turbidity	mg/L	31	24	ambient + 29	
pH, units	std. units	7.5	7.5	6.0–8.5	6.5–8.5
Total Dissolved Solids	mg/L	1080	890		500
Specific Conductivity	μmho/cm	1240	1050	1275	
Total Kjeldahl Nitrogen	mg/L	1.2	1		
Ammonia Nitrogen	mg/L	0.5	0.4		
Unionized Ammonia	mg/L	0.017	0.014	0.02	
Organic Nitrogen	mg/L	0.7	0.6		
Nitrate+Nitrite–Nitrogen	mg/L	0.2	0.2		10
Total Nitrogen	mg/L	1.4	1.2		
Orthophosphorus	mg/L	0.6	0.5		
Total Phosphorus	mg/L	0.6	0.5		
Arsenic	μg/L	30	20	50	50
Barium	μg/L	200	160		2000
Beryllium	μg/L	1.6	1.3	0.13	4
Cadmium	μg/L	1.00	0.77	0.82	5
Chromium	μg/L	40	30	148	100
Copper	μg/L	9.95	7.90	8.3	1000
Iron	μg/L	990	770	1000	300
Lead	μg/L	6.8	4.6	1.9	15
Manganese	μg/L	63	48		50
Mercury	μg/L	0.097	0.072	0.012	2
Nickel	μg/L	60	50	111	
Selenium	μg/L	40	30	5	50
Silver	μg/L	0.14	0.08	0.07	100
Strontium	μg/L	800	640		
Zinc	μg/L	370	290	75	5000
Alpha, Gross	pC/L	22.2	17.7	15	
Radium 226	pC/L	7.9	6.3	5	

Table V–2. Estimated Water Quality for SECI Outfall 002

Parameter	Estimated Water Quality For SECI Outfall 002
Calcium, mg/L as CaCO3	265
Magnesium, mg/L as CaCO3	115
Sodium, mg/L as CaCO3	488
Potassium, mg/L as CaCO3	19
Total Hardness, mg/L as CaCO3	380
Alkalinity, mg/L as CaCO3	136
Sulfate, mg/L as CaCO3	701
Chloride, mg/L as CaCO3	49
Silica, mg/L	63
Fluoride, mg/L	5
Cyanide, mg/L	0.012
MBAS, mg/L	0.4
Oil and Grease, mg/L	<5
Turbidity, NTU	13
pH, units	6 – 9
Total Dissolved Solids, mg/L	1,317
Specific Conductivity, umhos/cm	2,082
Total Kjeldahl Nitrogen, mg/L	0.92
Ammonia Nitrogen, mg/L	0.47
Unionized Ammonia, mg/L4	0.01
Organic Nitrogen, mg/L	0.45
Nitrate+Nitrite–Nitrogen, mg/L	0.07
Total Nitrogen, mg/L	0.99
Orthophosphorus, mg/L	0.47
Total Phosphorus, mg/L	0.47
Arsenic, ug/L	23
Barium, ug/L	176
Beryllium, ug/L	1.06
Cadmium, ug/L	0.82
Chromium, ug/L	31
Copper, ug/L	7.0
Iron, ug/L	357
Lead, ug/L	3.5
Manganese, ug/L	24
Mercury, ug/L	0.014
Nickel, ug/L	54
Selenium, ug/L	38
Silver, ug/L	0.082
Strontium, ug/L	704
Zinc, ug/L	331
Alpha, Gross (pC/L)	20
Radium 226 (pC/L)	7

Table V-3. Estimated Stormwater Detention Pond Discharge (Outfall 003) Water Quality (Page 1 of 2)

Parameter	Stormwater Detention Pond Discharge (Outfall 003) Quality
Biochemical Oxygen Demand (5-day), mg/L	<5
Chemical Oxygen Demand, mg/L	<50
Total Organic Carbon, mg/L	NA
Total Suspended Solids, mg/L	<100
Ammonia, mg/L	0.5
Flow, gallons/day	36,000
Temperature, Average Winter, °C	18
Temperature, Average Summer, °C	32
pH	6-9
Calcium, mg/L as $CaCO_3$	63
Magnesium, mg/L as $CaCO_3$	39
Sodium, mg/L as $CaCO_3$	17
Potassium, mg/L as $CaCO_3$	0
Alkalinity, mg/L as $CaCO_3$	61
Sulfate, mg/L as $CaCO_3$	37
Chloride, mg/L as $CaCO_3$	21
Silica, mg/L	5.4
Fluoride, mg/L	1.0
Cyanide, mg/L	<0.004
Methylene Blue Active Substances, mg/L	0.040
Oil and Grease, mg/L	<5
Turbidity, NTU	1.7
pH, units	7
Total Dissolved Solids, mg/L	190
Specific Conductivity, µmho/cm	173
Total Kjeldahl Nitrogen, mg/L	0.74
Ammonia Nitrogen, mg/L	0.11
Organic Nitrogen, mg/L	0.65
Nitrate+Nitrite-Nitrogen, mg/L	0.50
Total Nitrogen, mg/L	1.24
Orthophosphorus, mg/L	0.41
Total Phosphorus, mg/L	0.44
Arsenic, µg/L	<5
Barium, µg/L	<10
Beryllium, µg/L	<3
Cadmium, µg/L	<0.4
Chromium, µg/L	<10

Table V-3. Estimated Stormwater Detention Pond Discharge (Outfall 003) Water Quality (Page 2 of 2)

Parameter	Stormwater Detention Pond Discharge (Outfall 003) Quality
Copper, µg/L	7
Iron, µg/L	293
Lead, µg/L	6.1
Manganese, mg/L	7.9
Mercury, µg/L	0.24
Nickel, µg/L	16
Selenium, µg/L	<5
Silver, µg/L	<0.08
Strontium, µg/L	100
Zinc, µg/L	7.4
Alpha, Gross, (pC/L)	1.7
Radium 226 (pC/L)	0.7

Note: All parameter concentrations were estimated based on engineering studies of Payne Creek water quality (Source Code 1) and Best Professional Estimates (Source Code 4).

OUTFALL DESCRIPTIONS

Introduction

Seminole Electric Cooperative, Inc. (SECI) is proposing to own and operate a new 440-megawatt (MW) combined cycle power plant [the Hardee Power Station Unit 3 (Hardee Unit 3) Project]. The Hardee Unit 3 Project will be located on the existing Hardee Power Station (HPS) site and will represent an incremental increase in the ultimate power-generating capacity of the HPS site from 660 MW to 880 MW. The HPS site was selected as the preferred location for the Hardee Unit 3 Project because this site has been previously certified for 660 MW of combined cycle power generation (Certification Number PA89-25) [TECO Power Services (TPS)/SECI, 1989]. Furthermore, the HPS site has adequate area to accommodate the proposed expansion from 660 MW to 880 MW. Locating the Hardee Unit 3 Project at the HPS site takes advantage of the existing infrastructure and onsite facilities, and minimizes potential environmental impacts that might otherwise be associated with the construction of a combined cycle power plant at a previously undeveloped site.

TPS currently operates Units 1A and 1B at HPS. These units have a generating capacity of 295 MW of which 70 MW is steam electric generating capacity. TPS uses the cooling reservoir for condenser cooling and discharges low-volume wastes to it. TPS operates HPS under National Pollutant Discharge Elimination System (NPDES) Permit Number FL0041751. The cooling reservoir will be jointly used by the SECI and TPS generating units at HPS.

Outfall SECI 001

Outfall SECI 001 is an emergency overflow from the 570-acre recirculating cooling reservoir constructed as part of the original HPS design. The existing cooling reservoir will be used without physical modification for the addition of Hardee Unit 3. The cooling reservoir has a current heat load of 70 MW from the TPS existing units. This recirculating cooling reservoir will function as water supply for use in condenser cooling of the steam cycle portion. The condenser cooling system for Hardee Unit 3 will add a 140-MW thermal load to the reservoir. The total heat rejected to the cooling reservoir will be from a 280-MW thermal load at the HPS 880-MW buildout.

Water makeup to the reservoir includes rainfall onto the reservoir; surface runoff and surficial aquifer seepage from the upland basin; treated sanitary and plant wastewaters discharged to the reservoir; and makeup water pumped from the lower Floridan aquifer wells. The reservoir may also receive discharge from temporary construction dewatering activities during plant construction. This water will be similar in quality to surficial aquifer quality. Water flows out of the reservoir include: evaporation; lateral seepage through the confining berm into the surficial aquifer; leakance down through the confining layers into deeper confined aquifers; and infrequent discharges to Payne Creek.

Based on long-term water balance modeling (37 years of data analysis) and HEC-1 hydraulic modeling, the cooling reservoir will discharge only in cases of extreme or cumulative rainfall in excess of the 10-year, 24-hour hydrologic event. Discharges from the reservoir during these extreme storm events are necessary to prevent loss of life, severe property damage, or damage to the physical integrity of the cooling reservoir or its structures.

It is noted that the proposed Outfall SECI 001 will be jointly used with TPS. TPS's permit reservoir outfall is NPDES Permit Number FL0041751, Outfall 001.

Outfall SECI 002

Outfall 002 will be the treated low-volume wastestreams from Hardee Unit 3. Individual wastestreams included are the demineralizer regenerant backwash, plant and floor drains, treated sanitary sewage effluent, and steam cycle blowdown. The demineralizer regenerant backwash will be neutralized and consist only of the concentrated minerals found in the raw water (e.g., Floridan aquifer). The plant and floor drain streams will consist of raw service water that may be contaminated with oil. This stream will be routed to an oil/water separator prior to release to the reservoir. Steam cycle blowdown will be a very low total dissolved solids (TDS) stream (i.e., TDS $<$ 20 mg/L) that may contain trace levels of anti-scaling chemicals. Detailed descriptions of these wastestreams are presented in Section 3.5 of the SCA/EA. SECI will monitor and report chemical discharges into the reservoir at the proposed Outfall SECI 002.

Outfall SECI 003

Outfall SECI 003 will be the overflow discharge from the plant site stormwater detention pond. This stormwater pond has been designed to meet all applicable Southwest Florida Water

Management District and Florida Department of Environmental Protection stormwater quality and quality control requirements.

During the construction, the pond will provide retention with biological filtration for runoff from a single 10-year, 24-hour rainfall event. Stored runoff may also be released via the outfall. After construction, the pond will operate as a wet detention system, providing retention with littoral zone treatment for the first 1 inch of runoff, and post-development peak flows not exceeding predevelopment peak flows for a single 25-year, 24-hour rainfall event.

The pond will also receive discharge from temporary construction dewatering activities during construction. After removal of suspended materials through sedimentation, this water will be similar in quality to surficial aquifer water quality.

Given the proposed fuels for the proposed combined cycle plant (i.e., gas or oil), no fuel-related stormwaters will be directed to this pond. Influent plant site stormwater is expected to be similar to stormwater from other light industrial sites.

APPENDIX 10.1.3

HAZARDOUS WASTE DISPOSAL APPLICATION/PERMIT

Please print or type with ELITE type (12 characters per inch) in the unshaded areas only

Form Approved. OMB No. 2050-0028. Expires 9-30-92
GSA No. 0246-EPA-01

Please refer to the *Instructions for Filing Notification* before completing this form. The information requested here is required by law (*Section 3010 of the Resource Conservation and Recovery Act*).

EPA Notification of Regulated Waste Activity

United States Environmental Protection Agency

Date Received (For Official Use Only)

I. Installation's EPA ID Number *(Mark 'X' in the appropriate box)*

[X] A. First Notification [ ] B. Subsequent Notification *(complete item C)*

C. Installation's EPA ID Number

II. Name of Installation *(Include company and specific site name)*

SECI HARDEE POWER STATION #3

III. Location of Installation *(Physical address not P.O. Box or Route Number)*

Street

3.5 MILES N OF SR62 ON CR663

Street (continued)

City or Town: FT GREEN SPRINGS | State: FL | ZIP Code: 33834-

County Code: | County Name: HARDEE

IV. Installation Mailing Address *(See Instructions)*

Street or P.O. Box

PO BOX 272000

City or Town: TAMPA | State: FL | ZIP Code: 33688-

V. Installation Contact *(Person to be contacted regarding waste activities at site)*

Name *(last)*: DUREN | *(first)*: JIM

Job Title: DIR POWER PROD. | Phone Number *(area code and number)*: 813- -

VI. Installation Contact Address *(See Instructions)*

A. Contact Address Location [ ] Mailing [X]

B. Street or P.O. Box: PO BOX 272000

City or Town: TAMPA | State: FL | ZIP Code: 33688-

VII. Ownership *(See Instructions)*

A. Name of Installation's Legal Owner

SEMINOLE ELECTRIC COOPERATIVE

Street, P.O. Box, or Route Number

PO BOX 272000

City or Town: TAMPA | State: FL | ZIP Code: 33688-

Phone Number *(area code and number)*: 813-963-0994 | B. Land Type: P | C. Owner Type: P | D. Change of Owner Indicator: Yes [ ] No [ ] | (Date Changed) Month Day Year

EPA Form 8700-12 (Rev. 9-92) Previous edition is obsolete.

Please print or type with ELITE type (12 characters per inch) in the unshaded areas only

Form Approved. OMB No. 2050-0028. Expires 4-30-92
GSA No. 0248-EPA-OT

ID - For Official Use Only

VIII. Type of Regulated Waste Activity *(Mark 'X' in the appropriate boxes. Refer to Instructions.)*

A. Hazardous Waste Activity

1. Generator (See Instructions)
   - [ ] a. Greater than 1000kg/mo (2,200 lbs.)
   - [X] b. 100 to 1000 kg/mo (220 - 2,200 lbs.)
   - [ ] c. Less than 100 kg/mo (220 lbs.)
2. Transporter (Indicate Mode in boxes 1-5 below)
   - [ ] a. For own waste only
   - [ ] b. For commercial purposes

   Mode of Transportation
   - [ ] 1. Air
   - [ ] 2. Rail
   - [ ] 3. Highway
   - [ ] 4. Water
   - [ ] 5. Other - specify
3. [ ] Treater, Storer, Disposer (at installation) Note: A permit is required for this activity; see instructions.
4. Hazardous Waste Fuel
   - [ ] a. Generator Marketing to Burner
   - [ ] b. Other Marketers
   - [ ] c. Boiler and/or Industrial Furnace
     - [ ] 1. Smelter Deferral
     - [ ] 2. Small Quantity Exemption

     Indicate Type of Combustion Device(s)
     - [ ] 1. Utility Boiler
     - [ ] 2. Industrial Boiler
     - [ ] 3. Industrial Furnace
5. [ ] Underground Injection Control

B. Used Oil Fuel Activities

1. Off-Specification Used Oil Fuel
   - [ ] a. Generator Marketing to Burner
   - [ ] b. Other Marketer
   - [ ] c. Burner - indicate device(s) - Type of Combustion Device
     - [ ] 1. Utility Boiler
     - [ ] 2. Industrial Boiler
     - [ ] 3. Industrial Furnace
2. [ ] Specification Used Oil Fuel Marketer (or On-site Burner) Who First Claims the Oil Meets the Specification

IX. Description of Regulated Wastes *(Use additional sheets if necessary)*

A. **Characteristics of Nonlisted Hazardous Wastes.** Mark 'X' in the boxes corresponding to the characteristics of nonlisted hazardous wastes your installation handles *(See 40 CFR Parts 261.20 - 261.24)*

1. Ignitable *(D001)*	2. Corrosive *(D002)*	3. Reactive *(D003)*	4. Toxicity Characteristic *(D000)*	(List specific EPA hazardous waste number(s) for the Toxicity characteristic contaminant(s))
	X	X		

B. **Listed Hazardous Wastes.** (See 40 CFR 261.31 - 33. See instructions if you need to list more than 12 waste codes.)

1	2	3	4	5	6
4133					
7	**8**	**9**	**10**	**11**	**12**

C. **Other Wastes.** (State or other wastes requiring a handler to have an I.D. number. See instructions.)

1	2	3	4	5	6

X. Certification

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

Signature	Name and Official Title *(type or print)*	Date Signed
Mike Opalinski	Mike Opalinski, Manager, Environmental Affairs	April 29, 1994

XI. Comments

Note: Mail completed form to the appropriate EPA Regional or State Office. (See Section III of the booklet for addresses.)

EPA Form 8700-12 (Rev. 9-92) Previous edition is obsolete.

Please print or type with ELITE type (12 characters per inch) in the unshaded areas only

ID - For Official Use Only

IX. Description of Regulated Wastes Continued *(Additional sheet)*

B. Listed Hazardous Wastes. (See 40 CFR 261.31 - 33. Use this page only if you need to list more than 12 waste codes.)

13	14	15	16	17	18
19	20	21	22	23	24
25	26	27	28	29	30
31	32	33	34	35	36
37	38	39	40	41	42
43	44	45	46	47	48
49	50	51	52	53	54
55	56	57	58	59	60
61	62	63	64	65	66
67	68	69	70	71	72
73	74	75	76	77	78
79	80	81	82	83	84
85	86	87	88	89	90
91	92	93	94	95	96
97	98	99	100	101	102
103	104	105	106	107	108
109	110	111	112	113	114
115	116	117	118	119	120

APPENDIX 10.1.4

JOINT APPLICATION - DEPARTMENT OF THE ARMY/ FLORIDA DEPARTMENT OF ENVIRONMENTAL PROTECTION

JOINT APPLICATION FOR WORKS IN THE WATERS OF FLORIDA

Prepared For:

Seminole Electric Cooperative Incorporated
16313 North Dale Mabry Highway
Tampa, Florida 33688-2000

Prepared By:

KBN Engineering and Applied Sciences, Inc.
1034 NW 57th Street
Gainesville, Florida 32605

April 1994
13225D9

Florida Department of Environmental Regulation

Twin Towers Office Bldg. • 2600 Blair Stone Road • Tallahassee, Florida 32399-2400

DER Form # 17-312-900(1)
Form Title Joint Ap. for Works in the Waters of Florida
Effective Date October 30, 1991
DER Application No.

Joint Application for Works in the Waters of Florida

Department of the Army (Corps)/Florida Department of Environmental Regulation (DER)/
Department of Natural Resources (DNR)/Delegated Water Management District (Delegated WMD)

Corps Application Number (official use only)	DER Application Number (official use only)

1. Applicant's Name and Address
Name Seminole Electric Cooperative Incorporated
Last Name, First name (if individual); Corporate Name; Name of Govt. Agency

Street P.O. Box 27200

City Tampa State Florida Zip 33688-2000

Telephone (813)963-0994 (Day) (813)963-0994 (Night)

2. Name, Address, Zip Code, Telephone Number and Title of Applicant's Authorized Agent
Name Opalinski, Mike
Last Name, First Name

Corporate Name; Name of Govt. Agency Seminole Electric Cooperative Incorporated

Street P.O. Box 27200

City Tampa State Florida Zip 33688-2000

Telephone (813) 963-0994 (Day) (813) 963-0994 (Night)

3. Name of Waterway at Work Site: Unnamed tributary wetland that flows to Payne Creek, Hardee County.

4. Street, Road or Other Location of Work County Road 663 3.5 miles North of State Road 62
Incorporated City or Town Hardee County
Section 1 Township 33S Range 23E
Section Township Range
Section Township Range

County(ies) Polk and Hardee

Coordinates in Center of Project:

Federal Projects Only: x y

Latitude 27 ° 38 ' 43 " Longitude 81 ° 58 ' 10 "

Lot Block Subd Plat Bk Pg

Directions to Locate Site: Approximately 5 miles south of CR 630 on Fort Green Road. Turn west off of Fort Green Road at the entrance to the existing HPS facilities. Site is located on the north side of the existing facility (Figure 2).

5. Names, Addresses, and Zip Codes of Adjacent Property Owners Whose Property Also Adjoins the Water (Excluding Applicant). Show Numbers or Names of These Owners on Plan Views. If More Than Six (6) Owners Adjoin the Project, You May Be Required to Publish a Public Notice for the DER.

1. IMC-Agrico
P.O. Box 2000
Mulberry, FL 33860-1100

2. CF Industries
P.O. Box 1549
Wauchula, FL 33873

3.

4.

5.

6.

DER Form # 17-312-900(1)

Form Title Joint Ap. for Works in the Waters of Florida

Effective Date October 30, 1991

DER Application No. _____

6. **Proposed Use** (Check one or more as applicable) Private Single Family ☐ Multi Family ☐
Public ☐ Commercial ☐ New Work ☒ Alteration of Existing Works ☐ Maintenance ☐ Other(Explain) Industrial Energy Facility

7. **Desired Permit Duration** (see Fee Schedule)
5 Yr ☒ 10 Yr ☐ Other (Specify) _____

8. **General Permit or Exemption Requested**
DER General Permit FAC Rule 17-312._____ DER Exemption FAC Rule 17-312._____ Section 403._____F.S.

9. **Total Extent of Work in Jurisdictional Open Waters or Wetlands:** (Use additional sheets and provide complete breakdown of each category if more space is needed). See Table 1 for breakdown of wetland impact.

a. Within Corps Jurisdiction:
Fill: 218,840 Sq. Ft. 5.03 Acres 31,505 Cu. Yds.
Excavation: 17,340 Sq. Ft. 0.40 Acres 1,264 Cu. Yds.

b. Within DER Jurisdiction:
Fill: 13,850 Sq. Ft. 0.32 Acres 758 Cu. Yds.
Excavation: 1,650 Sq. Ft. 0.04 Acres 85 Cu. Yds.
Excavation Waterward of MHW 1,264 cu. yds. (Information needed for DNR)

c. DER Jurisdictional Area Severed (Area Landward of Fill Structures which will be Severed):
0 Sq. Ft. 0 Acres

d. DER Jurisdictional Area Created (New Excavation from Uplands, Exclusive of Mitigation):
0 Sq. Ft. 0 Acres

e. Docks, Piers, and Over Water Structures: N/A
Total Number of Slips_____ Total Number of Mooring Pilings_____
Length_____ Width_____ Height above MHW_____
Length_____ Width_____ Height above MHW_____
Number of Finger Piers_____ Length_____ Width_____ Height_____
Number of Finger Piers_____ Length_____ Width_____ Height_____
Total area of structure over waters & wetlands_____ sq. ft.
Use of structure_____

Will the docking facility provide:	No	Yes	Number
Liveaboard Slips	☐	☐	_____
Fueling Facilities	☐	☐	_____
Sewage Pump-out Facilities	☐	☐	_____
Other Supplies or Services Required for Boating (Excluding refreshments, bait and tackle)	☐	☐	_____

f. Seawall length N/A ft. Seawall material_____
Riprap revetment length_____ft. Slope_____H:_____V Toe width_____ft.
Riprap at toe of seawall length_____ft. Slope_____H:_____V Toe width_____ft.
Size of riprap_____
Type of riprap or seawall material_____

g. Other (See Item 10). N/A

DER Form # 17-312-900(1)

Form Title Joint Ap. for Works in the Waters of Florida

Effective Date October 30, 1991

DER Application No. _____

10. Description of Work (be specific; use additional sheets as necessary).

See Attachment A, Supplemental Information

11. Turbidity, Erosion, and Sedimentation Controls Proposed:

Turbidity control devices are described in the Erosion and Sedimentation Control Plan in Appendix 10.10 of the Site Certification Application and in Section 3.6 in Attachment A, Supplementel Information.

12. Date Activity is Proposed to Commence January 1997 ; to be Completed January 1999

Total Time Required to Construct 24 months maximum

13. Previous Applications for this Project have been: N/A

	DER No.	Corps No.
A. Denied (date)_____		
B. Issued (date)_____		

C. Other (please explain) DER Permit No. 251224079 was issued to Agrico in 1987 to mine wetlands.

Differentiate between existing work and proposed work on the drawings.

14. Certification. Application is hereby made for a permit or permits to authorize the activities described herein.

A. I Certify That: (Please check appropriate space)

1. I am the record owner ☒, lessee ☐, or the record easement holder ☐ of the property on which the proposed project is to be undertaken, as described in the attached legal document.

2. I am not ☐ the record owner, lessee, or record easement holder of the property on which the proposed project is to be undertaken, as described in the attached legal document, but I will have, before undertaking the proposed work, the requisite property interest. (Please explain what the interest will be and how it will be acquired.)

Attach legal description of property or copy of deed to the property on which project is to occur (must be provided)

B. I understand I may have to provide any additional information/data that may be necessary to provide reasonable assurance or evidence that the proposed project will comply with the applicable State Water Quality Standards or other environmental standards both before construction and after the project is completed.

C. In addition, I agree to provide entry to the project site for inspectors with proper identification or documents as required by law from the environmental agencies for the purpose of inspecting the site. Further, I egree to provide entry to the project site for such inspectors to monitor permitted work, if a permit is granted.

D. This is a Joint Application and is not a Joint Permit. I hereby acknowledge the obligation and responsibility for obteining all of the required state, federal or local permits before commencement of construction. I also understand that before commencement of this proposed project, I must be granted separate permits or authorizations from the U.S. Corps of Engineers, the U.S. Coast Guard, the Department of Environmental Regulation, the Delegated Water Management District (where applicable), and the Department of Natural Resources, as necessery.

DER Form # 17-312-900(1)

Form Title Joint Ap. for Works in the Waters of Florida

Effective Date October 30, 1991

DER Application No. _____

E.I am familiar with the information contained in this application, and that to the best of my knowledge and belief, such information is true, complete and accurate. I further certify that I possess the authority to undertake the proposed activities or am acting as the duly authorized agent of the applicant. I understand that knowingly making any false statement or representation in this applicetion is a violation of Section 403.161, F.S. and Chapter 837, F.S.

Mike Opalinski		April 29, 1994
Typed/Printed Name of Applicant or Agent	Signature of Applicant or Agent	Date

Manager of Environmental Affairs
(Corporate Title if applicable)

AN AGENT MAY SIGN ABOVE IF APPLICANT COMPLETES THE FOLLOWING:

I hereby designate and authorize the agent listed above to act on my behalf as my agent in the processing of this permit application and to furnish on request, supplemental information in support of the application.

Typed/Printed Name of Applicant	Signature of Applicant	Date

(Corporate Title if applicable)

15. For your information: Section 370.034, Florida Statutes, requires that all dredge and fill equipment owned, used, leased, rented or operated in the state shall be registered with the Department of Natural Resources. Before selecting your contractor or equipment you may wish to determine if this requirement has been met. For further information, contact the Chief of the Bureau of Saltwater Licenses and Permits, Department of Natural Resources, 3900 Commonwealth Boulevard, Tallahassee, Florida 32399. Telephone No. (904) 487-3122. This is not a requirement for a permit from the Department of Environmental Regulation.

    18 U.S.C. Section 1001 provides that, Whoever, in any manner within the jurisdiction of any department or agency of The United States knowingly and willfully falsifies, conceals, or covers up by any trick, scheme, or device a material fact or makes any false, fictitious or fraudulent statements or representations or makes or uses any false writing or document knowing same to contain any false, fictitious or fraudulent statement or entry, shall be fined not more than $10,000 or imprisoned not more than five years, or both.

16. Please submit this completed form, with attached drawings and the complete DER processing fee (see Fee Schedule in Rule 17-4.050, F.A.C., copy attached) to the appropriate DER or Delegated WMD office with jurisdiction over the project site.

LEGAL DESCRIPTION

The Legal Description has been Provided to the Florida Department of Environmental Protection and the Southwest Florida Water Management District and is Available upon Request from SECI

ATTACHMENT A

SUPPLEMENTAL INFORMATION

1.0 INTRODUCTION

Seminole Electric Cooperative Incorporated (SECI) proposes to build a 440-megawatt (MW) (net capacity) combined cycle unit on a 1,300-acre site in Hardee and Polk counties (Figure 1). The site is approximately 9 miles northwest of Wauchula and roughly 0.67 mile west of County Road 663, and will be built adjacent to the Hardee Power Station (HPS) exiting units (Figure 2).

The Hardee Unit 3 Power Plant (Hardee Unit 3) will be a combined cycle electric generating facility with a net capacity of 440 MW. The proposed facility will utilize dry low nitrogen oxide (NO_x) combustors and will burn natural gas as the primary fuel with low sulfur fuel oil as a backup. Hardee Unit 3 will share a number of existing onsite facilities with the HPS existing units, including the cooling reservoir and existing transmission lines.

The project site is located in an area that was recently mined and reclaimed. The mined areas have been reclaimed predominantly to upland pasture by Agrico Chemical Company (now IMC-Agrico) under the provisions of their phosphate mine reclamation plan. A Dredge and Fill Permit was issued to Agrico Chemicals for mining an onsite unnamed tributary wetland [Florida Department of Environmental Regulation (FDER) permit No. 251224079; U.S. Army Corps of Engineers (USACE) permit No. 871PB-20211]. Although the entire unnamed tributary wetland was permitted to be mined, only a portion of it was actually mined. Mitigation for this mining project was approved and has been completed.

2.0 WETLAND COMMUNITIES

Four wetland systems are present onsite: an unnamed tributary wetland; an IMC-Agrico wetland reclamation area; two small low-lying areas that were unintentionally created during the reclamation process; and two drainage ditches that form the west, south, and east boundary of the project site. A description of each wetland system follows.

The unnamed tributary wetland forms the northern and western boundary of the Hardee Unit 3 project site (Figure 3). This wetland was partially mined and reclaimed by IMC-Agrico (see permit numbers above). The entire tributary wetland except the headwater was slated to be reclaimed as upland pasture after mining, however, the tributary wetland remains as a partially mined and reclaimed system. The headwaters of this remnant tributary wetland are fringed by a thick band of primrose-willow (*Ludwigia peruviana*). Scattered Carolina willow (*Salix*

caroliniana), groundsel bush (*Baccharis halimifolia*), wax-myrtle (*Myrica cerifera*), and dogfennel (*Eupatorium capillifolium*) contribute to this vegetation zone. The headwaters were historically a forested wetland as suggested by the existing dead trees.

The unnamed tributary wetland extends southwest and grades into an open water system. Although the wetland is void of plants in the center, it is lined with different species, including water-hyacinth (*Eichhornia crassipes*), pickerel-weed (*Pontederia cordata*), soft-stem bulrush (*Scirpus validus*), cat-tail (*Typha* species), fireflag (*Thalia geniculata*), mild water-pepper (*Polygonum hydropiperoides*), buttonbush (*Cephalanthus occidentalis*), primrose willow, and Carolina willow. Small duckweed (*Lemna valdiviana*), few-root duckweed (*Spirodela punctata*), and common water-meal (*Wolffia columbiana*) cover the water surface in many areas.

A forested segment of the tributary wetland occurs adjacent to the northwest section of the project site. Live oaks (*Quercus virginiana*) surround the forested segment, and blackgums (*Nyssa sylvatica* var. *biflora*) occupy the inner section. Saw palmettos (*Serenoa repens*) form clumps around the base of live oak trees. Although this segment represents an unmined segment of the wetland, the overall health is declining as evidenced by several dead trees. It appears that the natural hydroperiod has changed so the water level remains high and is affecting the trees. Weedy wetland species are encroaching into this forested segment.

The second wetland system located on the Hardee Unit 3 site is an IMC-Agrico wetland reclamation area which runs north-south from the HPS property boundary, intersecting with the tributary wetland (Figure 3). Reclamation was required by the former Florida Department of Natural Resources (FDNR) for mining the site (Program No. AGR-PC-PC1). Additionally, several large reclamation areas are presently being constructed directly north of the HPS site. These reclamation areas will be connected to the unnamed tributary wetland by summer of 1994.

Native trees were planted approximately 2 years ago at the onsite reclamation areas to reestablish the floodplain around the unnamed tributary wetland, and to connect the reclamation areas north of the site to the unnamed tributary wetland. Species planted include slash pine (*Pinus elliottii*), live oak, swamp laurel oak (*Quercus laurifolia*), American elm (*Ulmus americana*), dahoon holly

(*Ilex cassine*), sweet bay (*Magnolia virginiana*), sweetgum (*Liquidambar styraciflua*), ash (*Fraxinus* species), and red maple (*Acer rubrum*).

The third onsite wetland system consists of one large depressional area contiguous with the unnamed tributary wetland and one small depressional area on the south side of the unnamed tributary wetland (Figure 3). These depressional areas were to have been reclaimed to upland pasture but were unintentionally created as depressional pockets during the reclamation process. They were presumably historical uplands as suggested by a remaining live oak in the vicinity and photographs taken prior to mining. These depressional wetlands are very poor quality and are colonized primarily by primrose-willow, cat-tail, and carolina willow. Hemp vine (*Mikania scandens*) covers many plants. Based on field meetings with the Florida Department of Environmental Protection (FDEP), the Southwest Florida Water Management District (SWFWMD), and USACE, these unintentionally created wetlands are under the jurisdiction of only the USACE.

The fourth onsite wetland system consists of two drainage ditches. One ditch runs along the western and southern boundaries of the project site and facilitates drainage from both the Hardee Unit 3 Project site and the existing power plant to Payne Creek (Figure 3). This drainage ditch is jurisdictional by FDEP, SWFWMD, and USACE. The second drainage ditch runs parallel to the entrance road and forms the eastern boundary of the project site. This ditch flows under the road and connects to Payne Creek. The ditch is FDEP jurisdictional only.

3.0 CONSTRUCTION IMPACTS

3.1 CIRCULATING WATER LINES

Wetland impacts are summarized on Table 1 for both FDEP- and USACE-jurisdictional wetlands. Circulating water lines will be constructed across IMC-Agrico's wetland reclamation area (Area No. 1 in Figure 4). To minimize wetland impacts, the pipes will be placed above the 100-year storm elevation, and be supported by concrete structures. A 40-foot (ft) wide swatch will be cleared across the reclaimed wetland for construction and maintenance of the pipes. A few small trees planted by IMC-Agrico as well as a few larger oak trees located along the upland/wetland boundary will be removed for constructing the circulating water pipes.

Two and one-fourth support structures will be constructed in the FDEP-jurisdictional wetland, and 13 structures will be located within the USACE-jurisdictional wetland (Figures 5 and 6). The dimensions of each reinforced concrete footing for the pipe supports will be approximately 18 ft by 3 ft, with an embedment depth of approximately 2 ft.

Construction for each pipe support will require excavating 26 ft by 11 ft, with an assumed slope excavation of 2 to 1. A backhoe or clamshell machine will excavate each pipe-support area. To provide suitable access for the construction equipment, temporary fill pads will be placed just inside the wetlands adjacent to the supports. Approximately 4.7 cubic yards of fill will be required, with an average fill depth of less than 6 inches. Geotextile fabric will be placed in the fill area to help stabilize the existing subgrade. Upon completion of the excavation, any required fill material will be placed in the excavation. Depending on the current hydrologic conditions during the construction period, some dewatering may be required to keep the excavated area dry. Since the excavated hole is only approximately 2 to 3 ft deep, dewatering could be accomplished using a single pump for each hole. During construction, sediment control fences will be installed both upstream and downstream of the pipe crossing site. Turbidity monitoring in the reclamation wetland will also be conducted during pipe construction.

Pipes crossing the unnamed tributary will transport circulating water to and from the condenser cooling system and treated low-volume plant wastewater. Both the circulating water pipes and the low-volume wastewater pipes will be elevated above the tributary and associated wetland and will not restrict water flow.

The circulating water pipes are planned to consist of 84-inch-diameter prestressed concrete cylinder pipe. The concrete cylinder pipe will be provided with a concrete-encased 16-gage steel cylinder core. Individual segments of the concrete pipe will be joined using O-rings and then grouted to ensure the integrity of the joint. Studies of the reliability of the proposed prestressed concrete pipe show this material to be very durable and the potential for failure to be extremely low. The practice of grouting the joints will provide sufficient protection against corrosion, and the placement of the pipes aboveground at the tributary crossing will allow for visual inspection on a regular basis.

The wastewater piping will be constructed of 10-inch-diameter fiberglass reinforced pipe (FRP), "Bondstrand 2000" or equivalent. This material was specifically selected to eliminate the possibility of corrosion and is the same material used for the wastewater piping for the HPS existing units. The wastewater piping for the Hardee Unit 3 facility will be installed aboveground and will be provided with expansion joints at required intervals to account for thermal expansion. The aboveground placement of the wastewater pipes will allow visual inspection on a regular basis.

The selection of the noncorrosive FRP construction material for the wastewater piping, combined with the use of expansion joints and the ability for visual inspection of the pipe, effectively eliminates the potential for a significant impact to the onsite wetland crossing. All wastewater will be treated prior to being routed to the cooling reservoir. In the unlikely event a leak is detected in one of the circulating pipes or the low-volume wastewater pipe, appropriate measures will be taken to stop the leak and prevent damage to the tributary and its associated wetlands.

After the pipes are constructed, the cleared wetland area will be returned to original grade, planted, and maintained as a herbaceous wetland (more detail on restoration can be found in the attached wetland mitigation plan). Upon construction of the pipes, the only fill to remain in the reclaimed wetland will be concrete support structures, each 18 ft by 3 ft in size.

3.2 RETAINMENT BERM

A retainment berm will be constructed along the south side of the unnamed tributary wetland to prevent runoff from the power plant to the wetland. Most of the retainment berm will be outside FDEP-jurisdictional wetlands; however, a small portion of the berm will impact 0.01 acre of a highly disturbed portion of the unnamed tributary wetland (Area No. 2 in Figure 4). This proposed impact area is herbaceous in nature and has been extensively disturbed by feral hog activity.

The retainment berm will measure 2 ft high by 5 ft wide and contain 3:1 sideslopes (Figures 7 and 8). A total of 25 cubic yards to fill will be placed in jurisdictional wetlands for construction of the retainment berm. A small ditch, 1 ft deep by 4 ft wide with a 3:1 sideslope, will be constructed next to the retainment berm. This ditch will impact only 0.003 acre of wetland and require 4 cubic yards of excavation.

3.3 POWER BLOCK AREA

Construction of the power block area will impact 4.69 acres of USACE-jurisdictional wetlands (Area No. 3 in Figure 4). The wetlands to be impacted are low-lying areas that were to have been reclaimed to upland pasture, but were unintentionally graded as low pockets during reclamation. The soil in the reclaimed area contains a high clay content as a result of overburden material from the mining process. Thus, water retention is high and has resulted in colonization of weedy species such as cat-tail, primrose-willow, and Carolina willow. Impacting these wetlands is not expected to result in a loss of significant wildlife habitat.

The average existing grade elevation is 124.0 ft and the proposed elevation of the power block area is 128.0 ft. Therefore, the average fill height in the power block area is 4 ft. The total fill for the power block area is 30,300 cubic yards in USACE-jurisdictional wetlands (Figure 7).

3.4 DETENTION BASIN

A stormwater detention basin will be constructed on the west side of the proposed site. A portion of a small isolated wetland (0.47 acre of the 0.55-acre wetland) will be impacted (Area No. 4 in Figure 4). This wetland is USACE-jurisdictional, and, like the 4.69-acre wetland described above, this wetland was unintentionally created during the reclamation process. It is colonized by weedy wetland species.

The existing grade elevation in the area of the stormwater basin is approximately 120.5 ft. Fill in this area is required for the detention basin containment berm. A 180 ft long section of the berm cuts through the USACE wetland limits and will impact 0.17 acre of the wetland (Figures 9 and 10). The containment berm has a top elevation of 125.0 ft. The top of the berm is 10 ft wide with 4:1 sideslopes on the inside of the basin and 3:1 sideslopes on the outside. The total fill in this USACE-jurisdictional wetland is 780 cubic yards.

The excavation in this area is for detention basin capacity requirements. The average elevation inside the detention basin, within the wetland limits, is 118.5 ft. The area of the wetland located inside the actual detention basin is 0.30 acre. Therefore, the total excavation in this area will be 970 cubic yards.

The stormwater detention basin will serve as a wet detention pond in accordance with the requirement of SWFWMD. The basin will retain the first 1 inch of runoff from the plant site and will release it through a bleed down pipe. A sedimentation area is provided where the runoff enters the basin. The runoff will flow through a littoral zone for biological treatment and removal of pollutants before being discharged. Runoff from the basin will be discharged to the unnamed tributary wetland. An energy dissipation system will be designed and constructed in the uplands to minimize the possibility of erosion in the unnamed tributary wetland.

3.5 DITCH CROSSINGS

Two drainage ditches are proposed to be crossed. An access road is proposed to be constructed in the southwest corner of the site and will cross an existing FDEP and USACE jurisdictional drainage ditch (Area No. 5 in Figure 4). This drainage ditch is a roadside ditch that is frequently mowed and maintained. The road is necessary to assure access from the plant facilities to the cooling reservoir.

Two 24-inch culverts will be placed in the drainage ditch and will ensure passage of the 25-year storm peak (Figures 9 and 11). The access road will be an aggregate surfaced road. It will be 18 ft wide with 3 ft wide shoulders. The elevation of the road at the ditch is 119.0 ft. The invert of the two 24-inch diameter culverts is 115.75 ft. Therefore, the total fill in this area is 125 cubic yards. The only excavation required is under the culverts for pipe bedding. The total excavation is 15 cubic yards.

A second drainage ditch, which forms the east boundary of the project site, will be crossed by two entrance roads (Areas No. 6 and 7 in Figure 4). These crossings are necessary to provide access to the power plant from the existing entrance road. Two culverts will be placed in the drainage ditch (C-12 and C-13; Figure 12 and 13). To install both culverts will require excavating 0.01 acre of FDEP-jurisdictional wetland and filling 0.22 acre of wetland. The roads will be constructed in a manner similar to that described above for the first drainage ditch crossing.

3.6 SEDIMENTATION PLAN

Temporary measures will be used during construction to control erosion and sediment transfer from the site. Silt fences will be used to filter sediments washed from grading areas where the

ground slopes away from the site. Areas disturbed during grading operations will be seeded to establish a vegetative cover to reduce erosion on the site. A more detailed description of sedimentation measures is provided in the Erosion and Sedimentation Control Plan in Appendix 10.10 of the Site Certification Application.

3.7 DEWATERING PLAN

Groundwater dewatering will be used primarily for excavation, installation, and backfill of underground utilities. Dewatering effects will be shallow and will not impact existing facilities or wetlands. A silt screen will be used to minimize the transport of suspended solids in the dewatering flow. Discharge from dewatering operations will be directed to the runoff detention basin where the filtration system will provide suspended solid sedimentation and removal.

Table 1. Summary of Wetland Impacts

Wetland Impact		Permanent Clearing		Permanent Filling		Temporary Filling		Excavation	
		FDEP	USACE	FDEP	USACE	FDEP	USACE	FDEP	USACE
Circulating Water Line	sf	2,600	9,400	650	3,720	255	255	650	3,720
	acre	0.06	0.22	0.015	0.085	0.006	0.006	0.015	0.085
	cyd	—	—	48	275	4.7	4.7	48	275
Retainment Berm	sf			450	450			150	150
	acre			0.01	0.01			0.003	0.003
	cyd			25	25			4	4
Power Block Area	sf				204,200				
	acre				4.69				
	cyd				30,300				
Stormwater Detention Basin	sf				7,470				13,070
	acre				0.17				0.30
	cyd				780				970
Road Across Drainage Ditch (C14)	sf			3,000	3,000			400	400
	acre			0.07	0.07			0.01	0.01
	cyd			125	125			15	15
Road Across Drainage Ditch (C12 and C13)	sf			9,750				450	
	acre			0.22				0.01	
	cyd			560				18	
Total	sf	2,600	9,400	13,850	218,840	255	255	1,650	17,340
	acre	0.06	0.22	0.32	5.03	0.006	0.006	0.04	0.40
	cyd			758	31,505	4.7	4.7	85	1,264

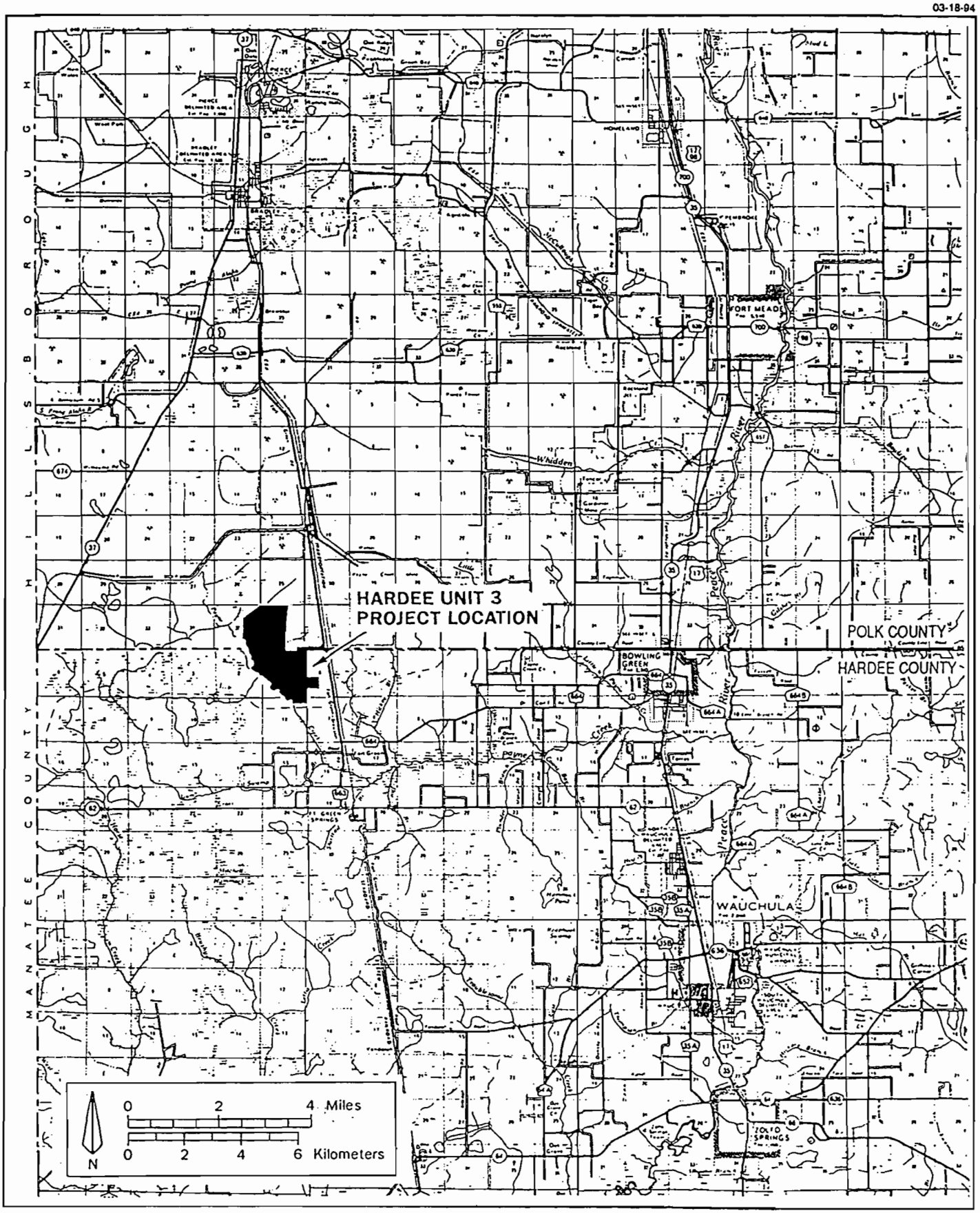

Figure 1
Location of Hardee Unit 3 Project

Sources: FDOT, 1990; 1992; KBN, 1994.

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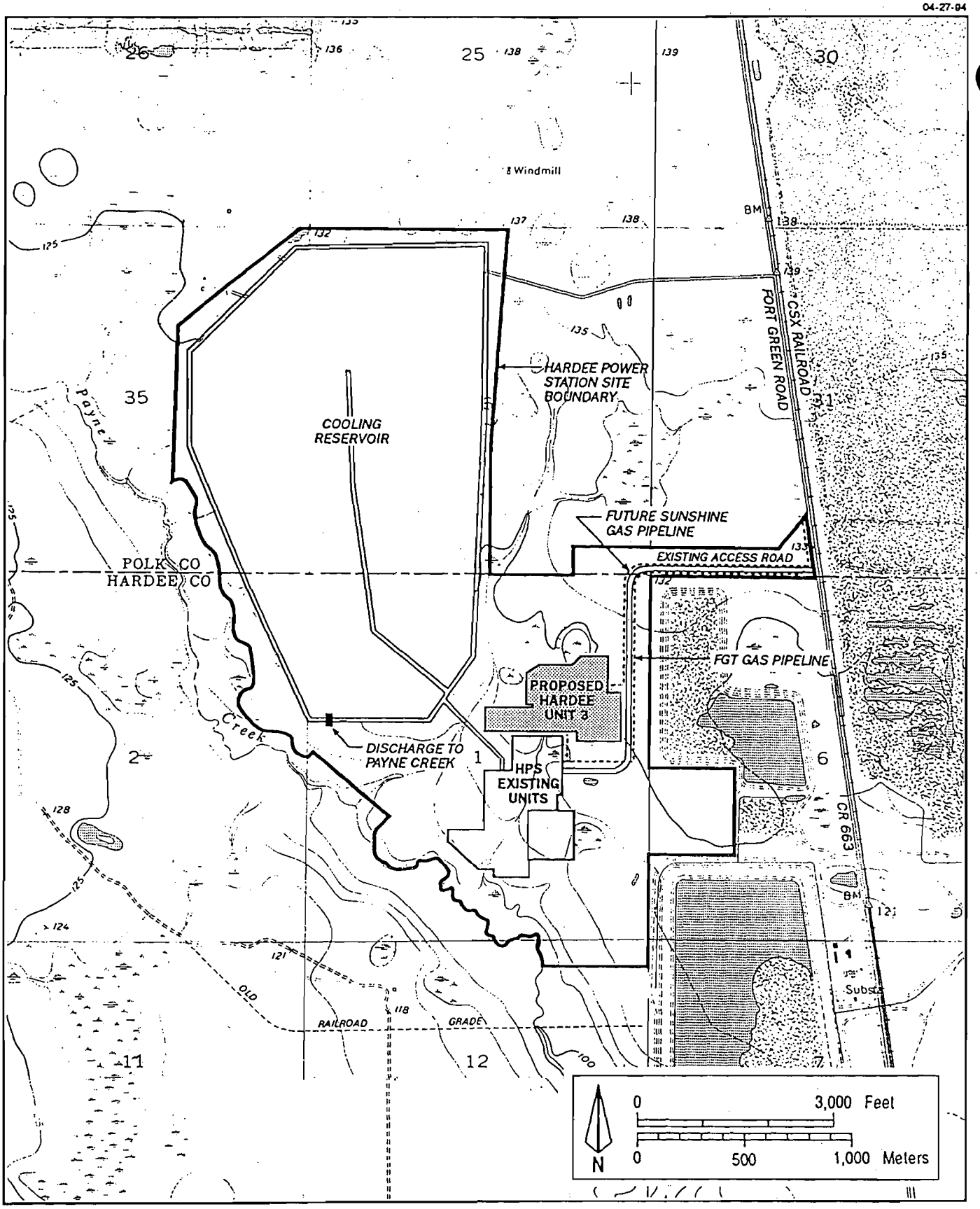

Figure 2
Hardee Unit 3 Site in Relation to Existing Facilities

Sources: USGS, 1987; KBN, 1994.

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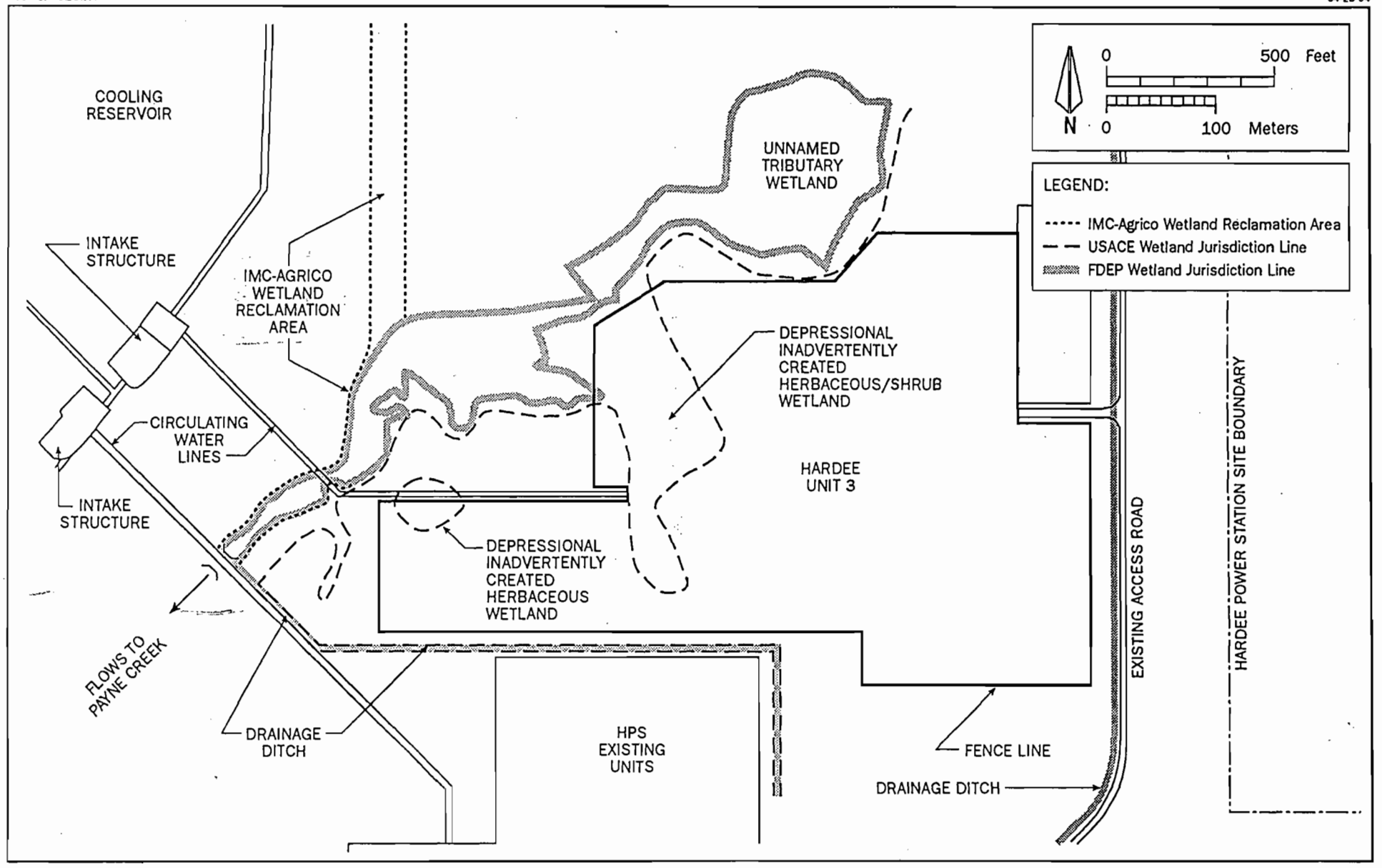

Figure 3
Location of Jurisdictional Wetlands

Source: KBN, 1994.

SEMINOLE ELECTRIC COOPERATIVE INCORPORATED

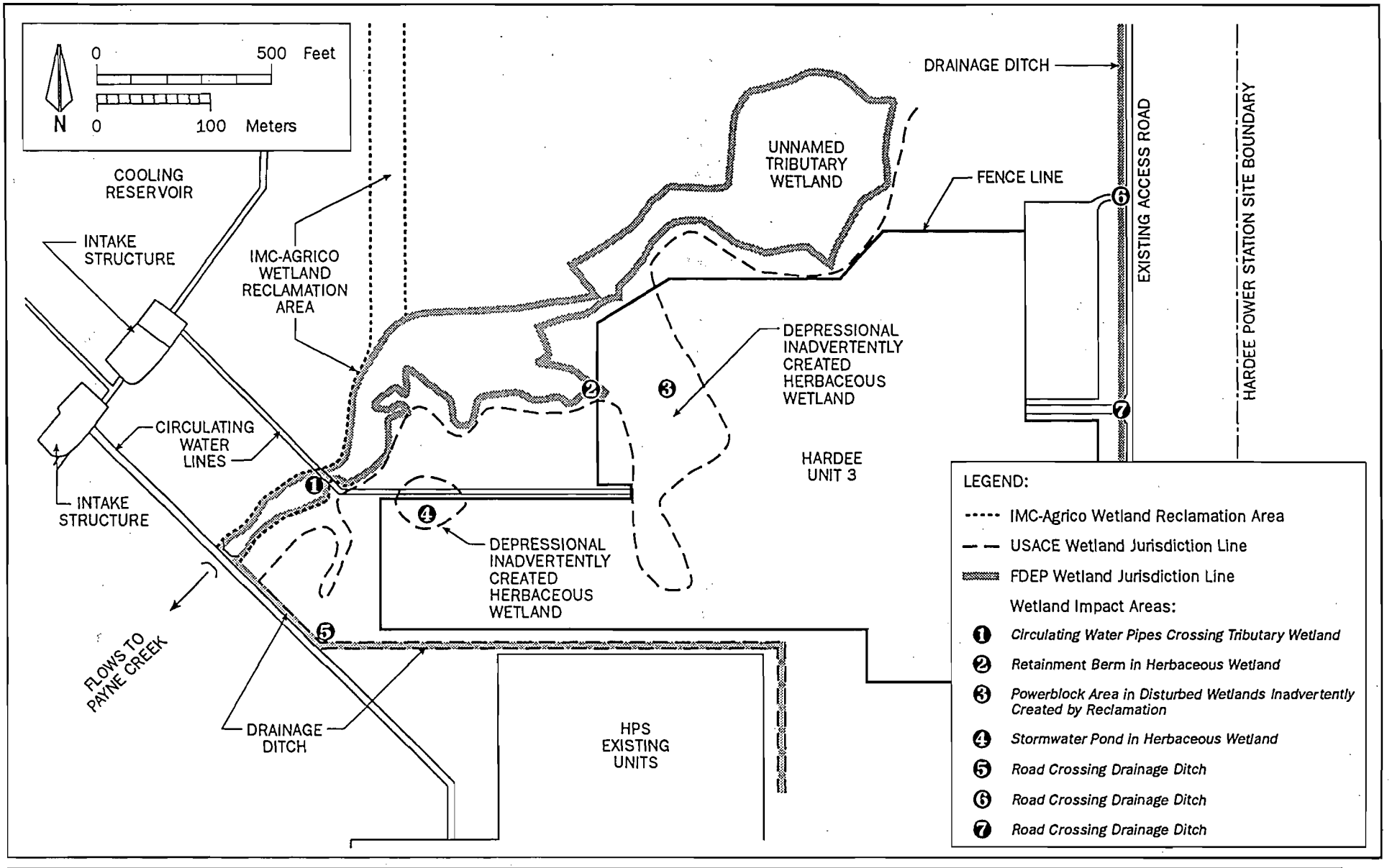

Figure 4
Location of Jurisdictional Wetlands in Relation to Hardee Unit 3 Site Plan

Source: KBN, 1994.

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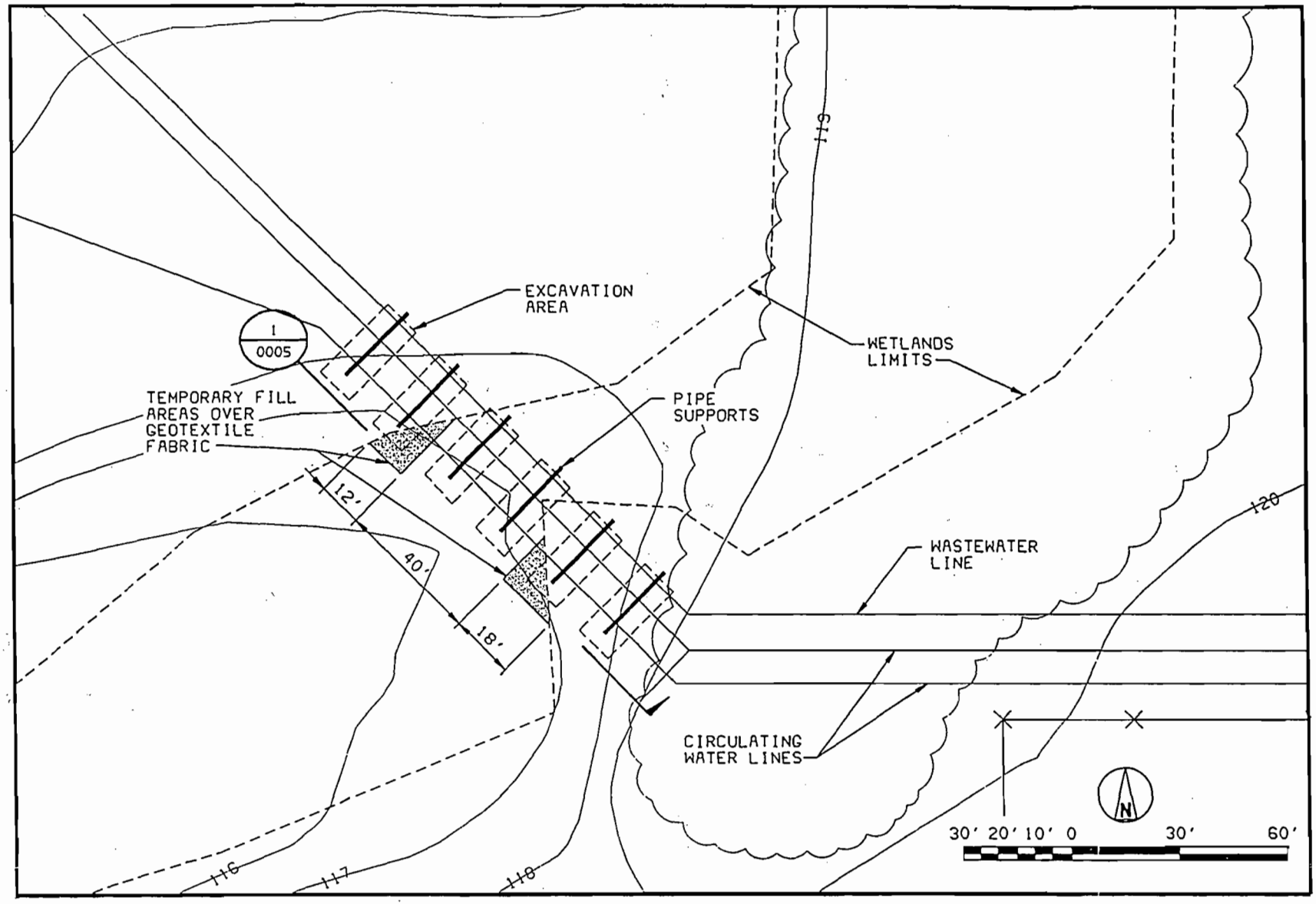

Figure 5
Plan View of the Circulating Water Pipes Crossing the Wetland

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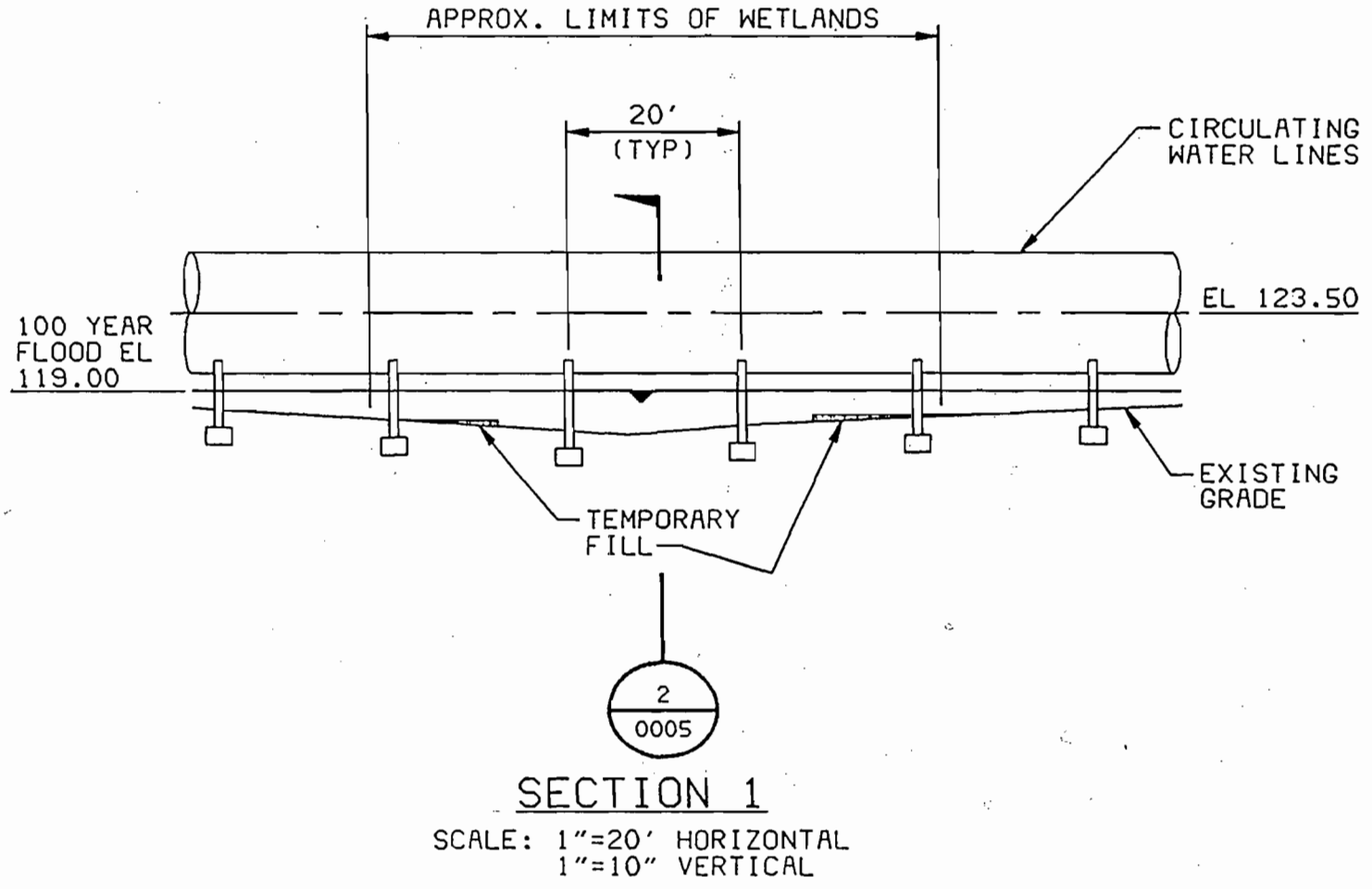

Figure 6
Cross-Section of the Circulating Water Pipes Crossing the Wetland

SEMINOLE ELECTRIC COOPERATIVE INCORPORATED

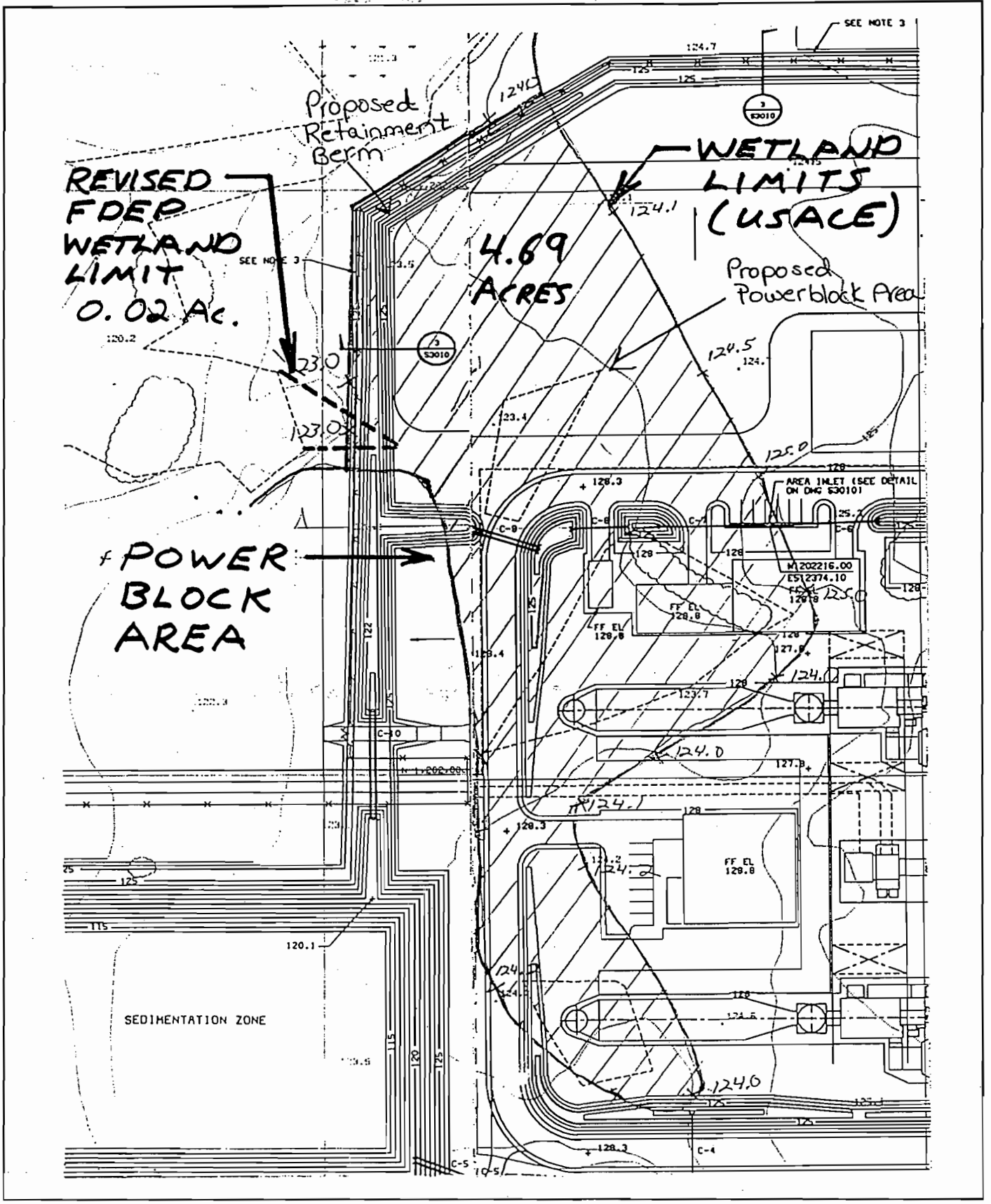

Figure 7
Plan View of the Retainment Berm and Powerblock Area
At Locations Where Wetland Impacts Will Occur

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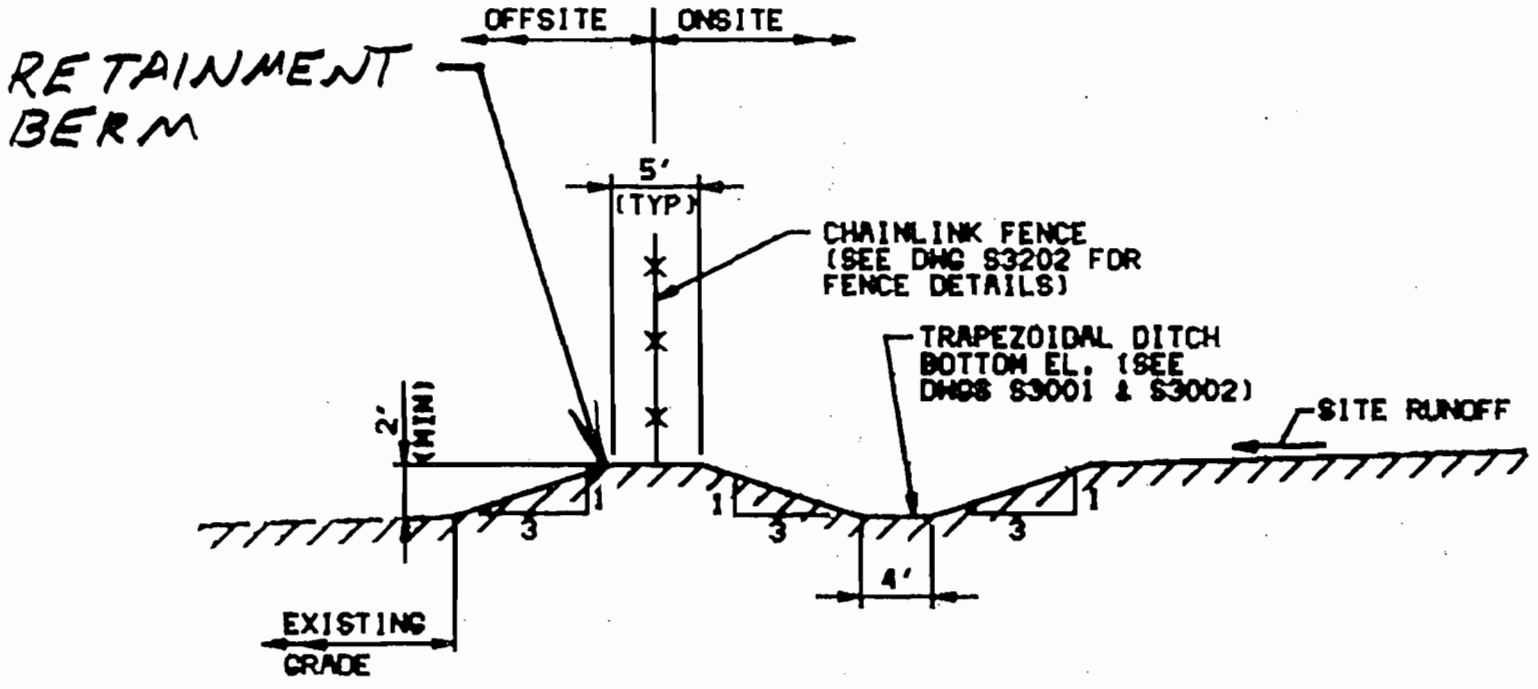

SECTION 3
PERIMETER DITCH AND CHAINLINK FENCE
NO SCALE

Figure 8
Cross-Section of the Retainment Berm

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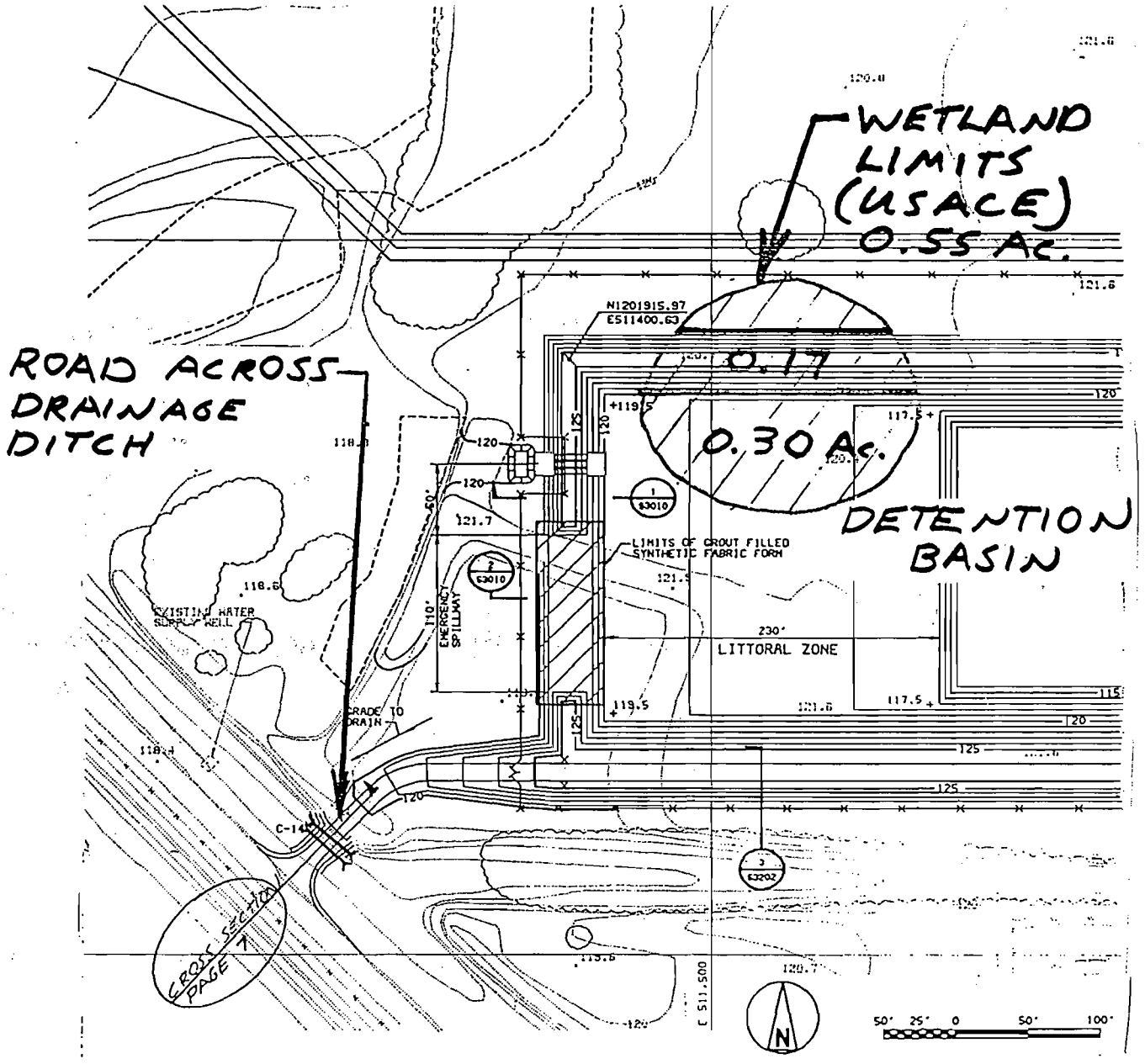

Figure 9
Plan View of the Stormwater Detention Basin (For the Portion Where Wetland Impact Will Occur) and Drainage Ditch Crossing

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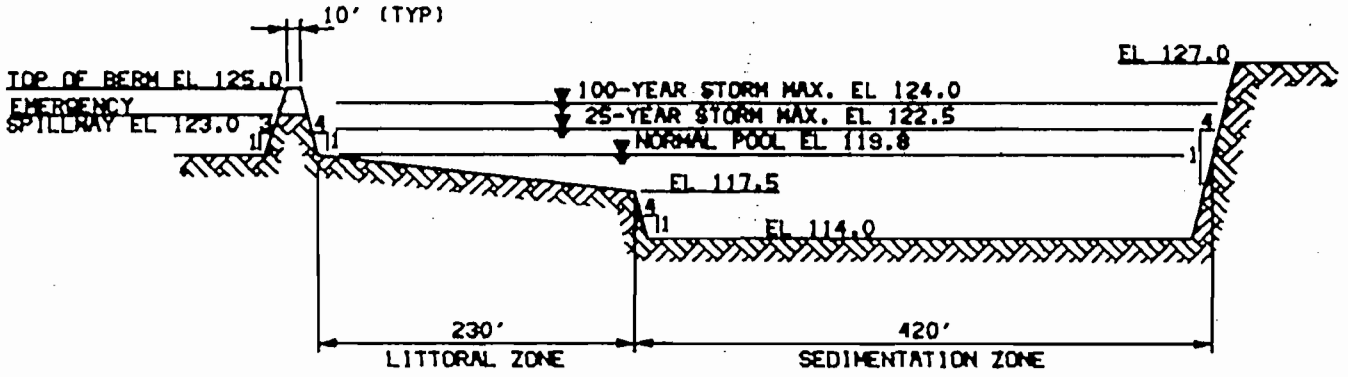

SECTION 2
DETENTION BASIN
NO SCALE

Figure 10
Cross-Section of the Stormwater Detention Basin

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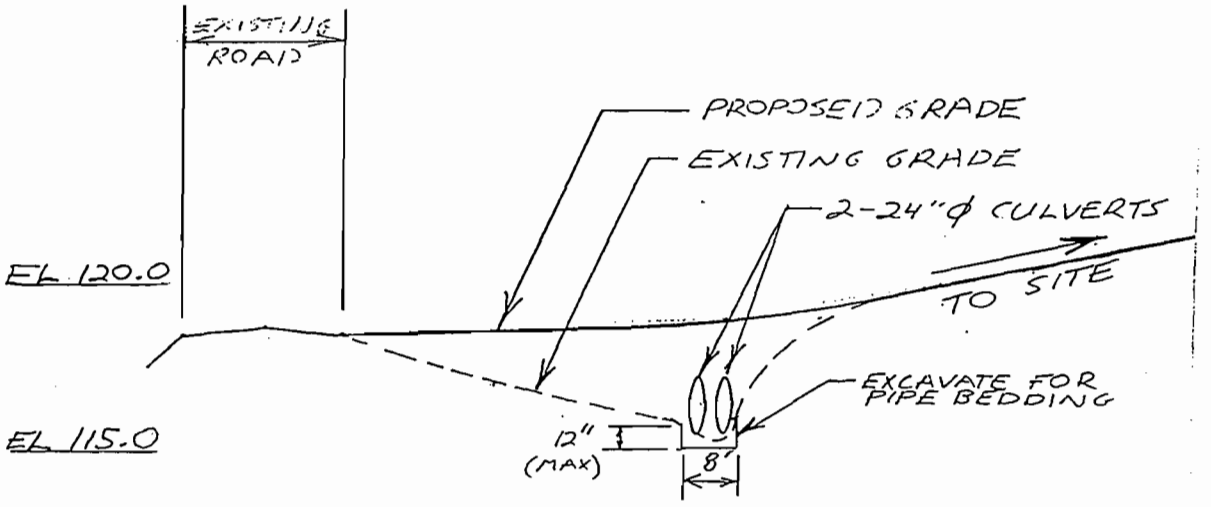
ROAD ACROSS DRAINAGE DITCH



CULVERT C-14
CROSS-SECTION

ASSUME CULVERT LENGTH = 50'

TOTAL EXCAVATION = $(50' \times 8' \times 1')/27$ = 15.0 CY

TOTAL FILL = $(1.1 \times 5' \times 20')[(18+3+3) + (2 \times 1/3 \times 3 \times 3.25)]/27$ = 125.0 CY

TOTAL AREA = $50' \times 60'$ = 3000 sf

= 0.07 ACRES

Figure 11
Cross-Section of the Drainage Ditch Crossing

SEMINOLE ELECTRIC COOPERATIVE INCORPORATED

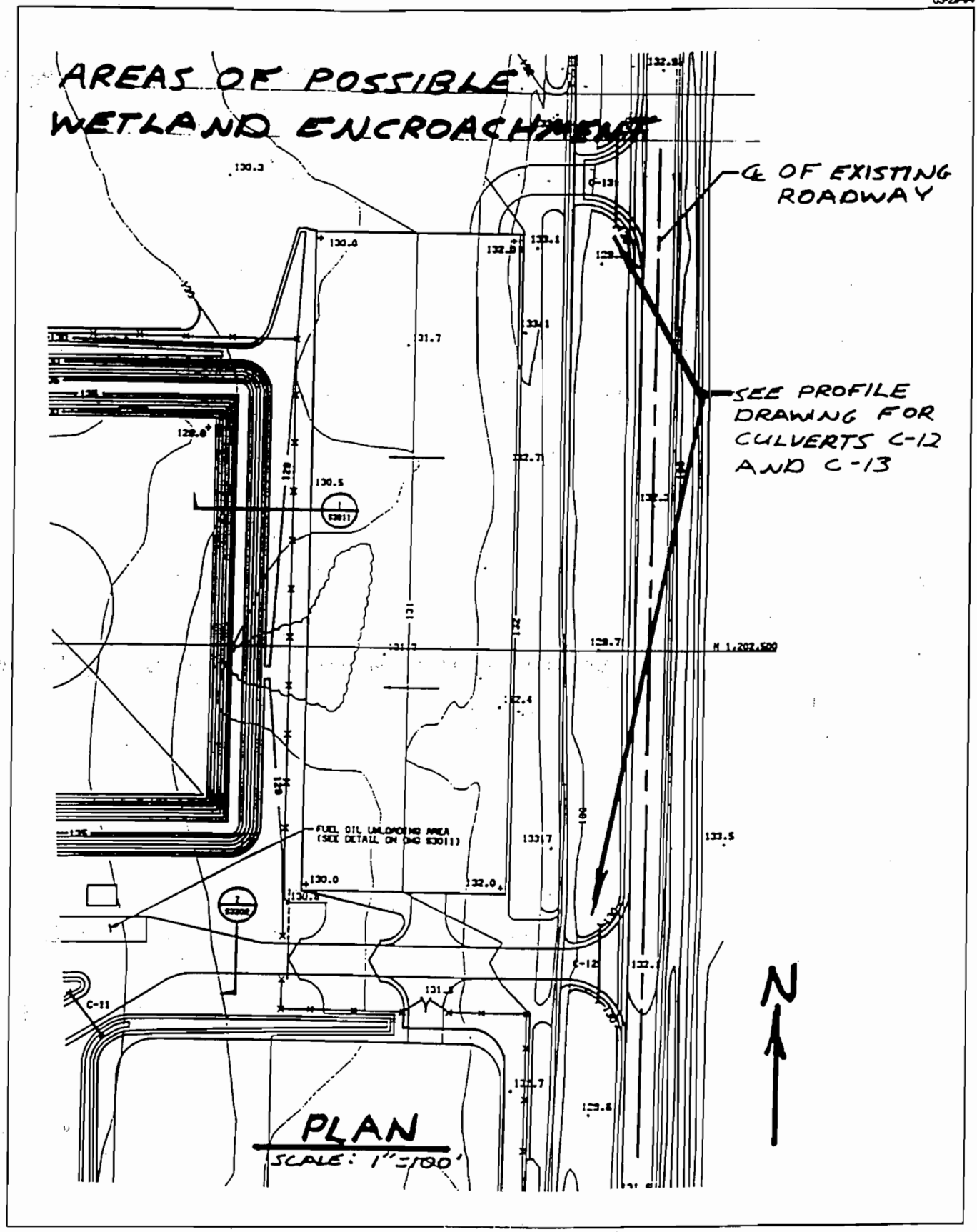


Figure 12
Plan View of the Entrance Road (The Ditch Crossing at Culverts C-12 and C-13 may Impact the Wetlands)

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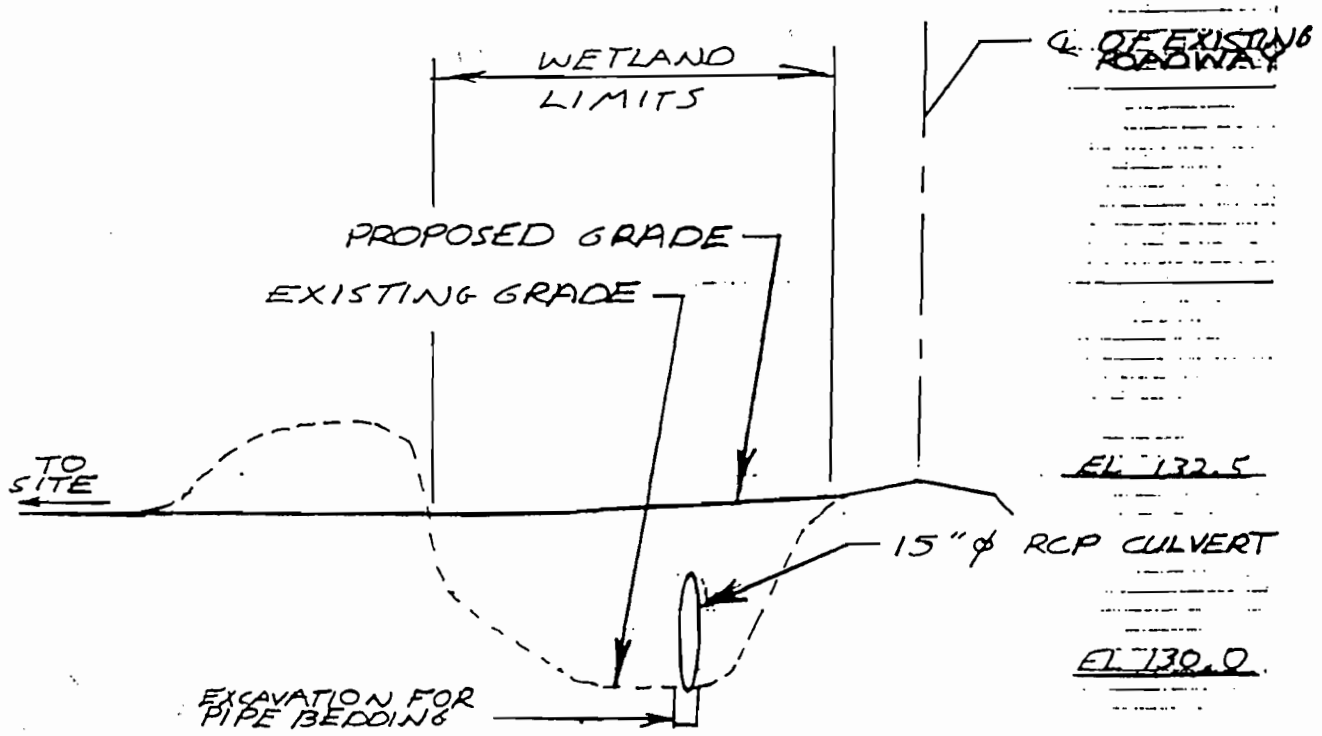

CULVERT LENGTH = 75 LF

PROFILE

CULVERTS C-12 & C-13

HORIZONTAL SCALE: 1" = 30'

Figure 13
Cross-Section of the Drainage Ditch Crossing at Culverts C-12 and C-13

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43168

SEMINOLE ELECTRIC COOPERATIVE INCORPORATED

WETLAND MITIGATION PLAN

1.0 INTRODUCTION

Seminole Electric Cooperative Incorporated (SECI) plans to build a 440-MW (net capacity) combined cycle unit on a 1,300-acre site in Hardee and Polk counties (Figure 1). The plant will be built adjacent to the existing Hardee Power Plant (Figure 2). The project site is located in an area that was recently mined and disturbed. The mined areas have been reclaimed predominately to upland pasture by Agrico Chemical Company under the provisions of their phosphate mine reclamation plan.

Wetland impacts are limited to five construction activities. Wetland impact acreages for both the Florida Department of Environmental Protection (FDEP) and U.S. Army Corps of Engineers (USACE) are summarized on Table 1. SECI has designed the Hardee Unit 3 facility to avoid and minimize wetland impacts to the greatest extent possible.

2.0 WETLAND IMPACTS

The circulating water pipes will be constructed across IMC-Agrico's wetland reclamation area (Area No. 1 in Figure 3), and will clear a total of 0.06 acre of FDEP-jurisdictional wetlands and 0.22 acre of USACE-jurisdictional wetlands. Within the cleared area, excavation will occur to install concrete pipe support structures. The only remaining fill in the wetland will be the actual structures, which will be embedded approximately 2 feet (ft) below ground surface. The circulating water pipes will be supported above the 100-year flood elevation and, therefore, will not obstruct or hinder the hydrologic flow of the wetland.

In its current state, the proposed wetland impact area is primarily herbaceous, but has been recently planted with wetland trees as part of Agrico's wetland reclamation program for the Payne Creek Mine. To construct the circulating water pipes across the reclaimed wetland will require permanently removing fewer than 32 planted trees. After construction of the circulation pipes, the cleared wetland area will be returned to original grade (except for the remaining concrete pipe support structures), planted with native herbaceous wetland species, and maintained as a herbaceous wetland (see section 3.2 for restoration plan).

As compensation for the wetland impact associated with constructing the circulating water pipes, SECI proposes to create 0.22 acre of forested wetland on the north side of the tributary wetland (Figure 4). This compensation will provide a 3.7:1 ratio for impacting 0.06 acre of FDEP-jurisdictional wetland, and a 1:1 ratio for impacting 0.22 acre of USACE-jurisdictional wetland.

Construction of a retainment berm will fill 0.01 acre and excavate 0.003 acre of FDEP- and USACE-jurisdictional wetlands (Area No. 2 in Figure 3). The wetland impact site is a herbaceous portion of the unnamed tributary wetland that has been extensively disturbed by feral hog activity. Vegetation at the impact site is sparse due to considerable ground disturbance. SECI proposes to compensate for this wetland impact by creating an additional 0.013 acre of forested wetland on the north side of the tributary wetland, for a total of 0.233 acre of created forested wetland (Figure 4). A mitigation ratio of 1:1 for this impact is warranted due to the extensive disturbance at the impact site, and because forested wetland will be created to compensate for disturbance of a herbaceous wetland.

Two culverts and associated fill will be placed in a FDEP and USACE-jurisdictional drainage ditch wetland to facilitate road access to the cooling reservoir (Area No. 5 in Figure 3). This road and associated wetland crossing is necessary to assure access to the cooling reservoir. A total of 0.07 acre of drainage ditch wetland will be filled. The drainage ditch receives drainage from the proposed Hardee Unit 3 Project area and adjacent existing power facilities, and conveys water to Payne Creek via the unnamed tributary wetland. In its current state, the drainage ditch is regularly mowed and maintained. Mitigation is not proposed for this wetland impact because the wetland impact is minor and will not disrupt the conveyance capacity of the drainage ditch, and because the ecological value of the drainage ditch is low.

Two additional culverts will be placed in a drainage ditch which forms the eastern boundary of the property (Areas No. 6 and 7 in Figure 3). This ditch crossing is necessary to provide access to the power plant from the existing access road. A total of 0.22 acre of wetland will be filled to install the two culverts. Like the above described drainage ditch, this ditch is regularly mowed and maintained. Mitigation is not proposed for this wetland impact.

Other construction activities that will impact wetlands include filling a 4.69-acre USACE-jurisdictional wetland to construct the power block facilities, and excavating and filling 0.47 acre

of a 0.55-acre USACE-jurisdictional wetland for constructing a stormwater detention basin (Areas No. 3 and 4 in Figure 3). The wetlands proposed to be impacted by the power block facilities (4.69 acres) and stormwater detention basin (0.47 acre) were to have been reclaimed as upland pasture, but were inadvertently created as low pockets during post-mine reclamation. These areas are slight depressions within the reclaimed upland pasture that support weedy, early colonizing wetland species such as cattail, Carolina willow, and primrose willow. The overburden material used for reclamation contains a high clay content, and has contributed to the high water retention of these depressional areas. Because these two wetlands were historical uplands and inadvertently created during reclamation, and because they provide low ecological value, mitigation is not warranted for these two USACE-jurisdictional wetlands.

3.0 MITIGATION DESIGN

3.1 WETLAND CREATION

A total of 0.23 acre of forested wetland is proposed to be created on the north side of the unnamed tributary wetland (Figure 4). The mitigation site will be approximately 35 ft wide and extend approximately 275 ft along the tributary wetland. It will be situated between the tributary wetland and an upland reclamation area created by IMC-Agrico.

Initial land grading is not proposed at the mitigation site because the area is located adjacent to the tributary wetland and it is low enough in elevation to already exhibit a hydroperiod long enough to support wetland-dependent herbaceous species. Figure 5 depicts a cross-section of the wetland creation site. The soil at the proposed mitigation site contains a high clay content as a result of overburden material from the mining process. Thus, the increased water-holding capacity of the soil is expected to adequately hydrate the planted trees.

A list of plants recommended for planting at the mitigation site was developed by identifying tree species growing in the adjacent floodplain forest and by determining which tree species are likely to be found in floodplain forests in central Florida. The purpose of this planting plan is to augment natural recruitment by increasing the density and diversity of listed tree species. The following species will be planted at the mitigation site.

1. *Acer rubrum* — Red maple
2. *Taxodium ascendens* — Pond cypress
3. *Fraxinus caroliniana* — Pop ash

4. *Nyssa sylvatica* var. *biflora* Black gum
5. *Liquidambar styraciflua* Sweetgum

Planted trees will be obtained from nursery-grown stock. Trees will be planted at a maximum of 10-ft centers to provide a density of 600 trees per acre.

Wetland monitoring will occur semiannually (in March and September to correspond with the dry and wet season) until a determination of success has been made (Figure 4). The mitigation project will be considered successful when the density of trees growing above the herbaceous stratum is equivalent to at least 400 trees per acre. Tree survival, health and vigor assessment, percent cover of desirable species, and percent cover of undesirable species will be determined during each monitoring event. Photographs will also be taken and the water level measured at the mitigation site.

3.2 WETLAND RESTORATION

Wetland restoration will be conducted to mitigate for crossing the IMC-Agrico wetland reclamation area by the water circulating pipes. Construction of the circulation pipes will result in clearing 0.06 acre of FDEP-jurisdictional wetlands and 0.22 acre of USACE-jurisdictional wetlands (see Page 1). The only permanent fill remaining in this wetland will be concrete support structures. After construction is complete, the 0.22-acre site will be graded to the original elevation and planted with native herbaceous species. Figure 6 depicts a cross-section of the wetland restoration site. The wetland will be maintained as a herbaceous wetland. The following species will be planted at the restoration site on 3-ft centers.

Juncus effusus	Soft rush
Spartina bakeri	Baker's cordgrass
Scirpus validus	Bulrush
Panicum hemitomon	Maidencane
Thalia geniculata	Fireflag
Pontederia cordata	Pickerelweed
Sagittaria lancifolia	Arrowhead