

DEPARTMENT OF THE ARMY  
Wilmington District, Corps of Engineers  
Post Office Box 1890  
Wilmington, North Carolina 28402-1890

Action ID No. 198800449

October 19, 2004

PUBLIC NOTICE

PERMIT MODIFICATION

POTASH COMPANY OF SASKATCHEWAN (PCS) PHOSPHATE COMPANY, INC, Post Office Box 48, Aurora, North Carolina, 27806, received, in 1997, a Department of the Army (DA) permit pursuant to Section 404 of the Clean Water Act to discharge dredged or fill material into 1,268 acres of waters of the United States including wetlands to facilitate the continuation of its existing phosphate mining operation as described by "Alternative E" identified in the "Final Environmental Impact Statement for the Texasgulf Inc. Mine Continuation, Aurora, North Carolina" dated August 1996. The mining operation is adjacent the Pamlico River and South Creek, northwest of Aurora, Beaufort County, North Carolina.

The permittee has requested to modify this permit to include THE DISCHARGE OF DREDGED OR FILL MATERIAL INTO AN ADDITIONAL 2.83 ACRES OF JURISDICTIONAL WETLANDS TO FACILITATE THE RELOCATION OF APPROXIMATELY 4.7 MILES OF NC HIGHWAY 306 AND THE CONSTRUCTION OF A 0.4 MILE CONNECTOR SECTION ALONG NCSR 1945. As compensatory mitigation for this impact, the applicant proposes to provide 4.25 acres of restored hardwood wetland. The applicant's stated purpose for the proposed modification is "to remove the highway barriers to mining the remainder of the are known as EIS Alternative E."

Included with this public notice are detailed plans showing the proposed work, a description of the affected area, a description of alternatives considered and a description of the proposed compensatory mitigation.

In 2001, PCS Phosphate applied for DA authorization to impact additional wetlands in association with the further continuation of its mining operation in Aurora. We are currently involved in the review of this application and the preparation of an Environmental Impact Statement (EIS) pursuant to the National Environmental Policy Act (NEPA). At this time, no DA authorization has been issued for work within these additional areas.

This proposal shall be reviewed for the applicability of other actions by North Carolina agencies such as:

- a. A determination that the proposed work is consistent with the North Carolina Coastal Zone Management Plan.

b. The issuance of a Water Quality Certification under Section 401 of the Clean Water Act by the North Carolina Division of Water Quality (NCDWQ).

c. The issuance of a permit to dredge and/or fill under North Carolina General Statute 113-229 by the North Carolina Division of Coastal Management (NCDCM).

d. The issuance of a permit under the North Carolina Coastal Area Management Act (CAMA) by the North Carolina Division of Coastal Management (NCDCM) or their delegates.

e. The approval of an Erosion and Sedimentation control Plan by the Land Quality Section, North Carolina Division of Land Resources (NCDLR), pursuant to the State Sedimentation Pollution Control Act of 1973 (NC G.S. 113 a-50-66).

The State of North Carolina will review this public notice to determine the need for the applicant to obtain any required State authorization. No Department of the Army (DA) permit will be modified until the coordinated State viewpoint on the proposal has been received and reviewed by this agency, nor will a DA permit be modified until the North Carolina Division of Environmental management (NCDEM) has determined the applicability of a Water Quality Certification as required by PL 92-500.

This modification is being considered pursuant to Section 404 of the Clean Water Act (33 U.S.C. 1344). Any person may request, in writing within the comment period specified in the notice, that a public hearing be held to consider this application. Requests for public hearing shall state, with particularity, the reasons for holding a public hearing.

The District Engineer has consulted the latest published version of the National Register of Historic Places for the presence or absence of registered properties, or properties listed as being eligible for inclusion therein, and this worksite is not a registered property or property listed as being eligible for inclusion in the Register. Consultation of the National Register constitutes the extent of cultural resource investigations by the District Engineer, and he is otherwise unaware of the presence of such resources. Presently, unknown archeological, scientific, prehistorical, or historical data may be lost or destroyed by work under the requested permit modification.

The District Engineer, based on available information, is not aware that the proposed activity will affect species, or their critical habitat, designated as endangered or threatened pursuant to the Endangered Species Act of 1973.

This notice initiates the Essential Fish Habitat (EFH) consultation requirements of the Magnuson-Stevens Fishery Conservation and Management Act. The DE's initial determination is that the proposed project would not adversely impact EFH or associated fisheries managed by the South Atlantic or Mid Atlantic Fishery Councils or the NMFS.

The decision whether to issue a permit modification will be based on an evaluation of the probable impacts, including cumulative impacts, of the proposed activity and its intended use on the public interest. Evaluation of the probable impacts which the proposed activity may have on the public interest requires a careful weighing of all those factors which become relevant in each particular case. The benefits which reasonably may be expected to accrue from the proposal must be balanced against its reasonably foreseeable detriments. The decision whether to authorize a proposal, and if so the conditions under which it will be allowed to occur, are therefore determined by the outcome of the general balancing process. That decision should reflect the national concern for both protection and utilization of important resources. All factors which may be relevant to the proposal must be considered including the cumulative effects thereof. Among those are conservation, economics, aesthetics, general environmental concerns, wetlands, cultural values, fish and wildlife values, flood hazards and flood plain values (in accordance with Executive Order 11988), land use, navigation, shore erosion and accretion, recreation, water supply and conservation, water quality, energy needs, safety, food and fiber production, mineral needs, considerations of property ownership, and, in general, the needs and welfare of the people. For activities involving the placement of dredged or fill materials in waters of the United States, a permit modification will be denied if the discharge that would be authorized by such modification would not comply with the Environmental Protection Agency's 404(b)(1) guidelines. Subject to the preceding sentence and any other applicable guidelines or criteria, a permit modification will be granted unless the District Engineer determines that it would be contrary to the public interest.

Generally, the decision whether to issue this Department of the Army (DA) permit modification will not be made until the North Carolina Division of Water Quality (NCDWQ) issues, denies, or waives State certification required by Section 401 of the Clean Water Act. The NCDWQ considers whether or not the proposed activity will comply with Sections 301, 302, 306, and 307 of the Clean Water Act. The application and this public notice for the DA permit serves as application to the NCDWQ for certification.

Additional information regarding the Clean Water Act certification may be reviewed at the offices of the North Carolina Division of Water Quality (NCDWQ), at the address specified below. Copies of such materials will be furnished to any person requesting copies upon payment of reproduction costs.

All persons desiring to make comments regarding the application for Clean Water Act certification should do so in writing delivered to the North Carolina Division of Water Quality (NCDWQ), 1650 Mail Service Center, Raleigh, North Carolina 27699-1621, **on or before November 9, 2004**, Attention: Mr. John Dorney.

**Written comments pertinent to the proposed work, as outlined above, will be received in this office, Attention: Tom Walker, Regulatory Division, Post Office Box 1890, Wilmington, North Carolina 28402-1890, until 5:00 p.m., November 19, 2004, or telephone (910)251-4482.**

COE Permit No. 198800449 and DWQ WQ Certification  
No. 3092 Modifications to Relocate Portions of  
NC 306 and SR 1945

**History:**

In 1997, PCS Phosphate received a 404 permit from the U.S. Army Corps of Engineers and a 401 Water Quality Certification from the NC Division of Water Quality for EIS Alternative E (Alt. E), that allowed the mining of phosphate ore from a portion of the North Carolina Phosphate Corporation (NCPC) Tract. In order to gain initial access to the phosphate ore reserves in NCPC, a plan to temporarily relocate NC 306 was included in the permit process. The relocation of NC 306 was completed in December 1999, eliminating the mining barrier between the NCPC property and previously mined areas, so that the mining operations could continue unencumbered.

The permitted mine advance will encounter a different section of NC 306 in the near future, which poses a major obstacle to the recovery of phosphate ore reserves within the remainder of Alt. E. The best location for this highway could not be determined at the time the EIS process was concluding, so the routing of this second relocation was not discussed. The purpose of the proposed project is to provide unencumbered access to mining the phosphate ore reserves currently permitted under EIS Alternative E.

**Project Description:**

The modification to the 404 permit and 401 WQ Certification is to allow the discharge of dredged or fill material into 2.83 acres of jurisdictional wetlands, and impact 20 linear feet of perennial stream buffer associated with the construction of relocated NC 306 and SR 1945. The work would occur between 3 and 5 miles north of the intersection of NC 306 and NC 33, in Aurora, Beaufort County, NC. The proposed project will relocate an approximate 4.7-mile section of NC 306 and construct a 0.4-mile connector section of SR 1945 (Sandy Landing Road). NC 306 will be constructed as a NC DOT collector road with a 100-foot wide right-of-way, a 60 mile per hour design speed and a posted speed of 55 miles per hour. The road design will accommodate a traffic flow of 2,600 vehicles per day. The SR 1945 connector will be constructed as a DOT Secondary Road with a 60-foot right-of-way.

The project is located in the Pamlico River Basin (Hydrologic Unit 03020104). Waters of the United States, including wetlands, would be impacted by the proposed project. A stream shows on the USGS topo map in the proposed NC 306 impact area, but it begins south of the proposed wetland crossing. It is an unnamed tributary to Whitehurst Creek, and is in DWQ stream class C-Sw NSW. The total wetland acreage and type potentially impacted by the proposed project is 2.83 acres of hardwood forest wetland. Modification Area 1 (NC 306) would impact 0.38 acres of hardwood forest wetland and 20 linear feet of perennial stream buffer. Plant species include red maple, sweetgum, blackgum, bald cypress, wax myrtle, black willow, cattail, woolgrass, and greenbrier. Modification Area 2 (SR 1945) would impact 2.45 acres of hardwood forest wetland. Plant species at this

location include tulip poplar, sweetgum, red bay, blackgum, giant cane, greenbrier, muscadine, microstegium, and netted chain-fern.

### **Alternatives:**

The mine advance through permitted Alt. E will be blocked by NC 306 in the near future. One alternative for relocating NC 306 would be to route it further east of its current location, so that it more closely parallels South Creek, and loops into the Hickory Point area and accesses the PCS Phosphate plant site from the east. This alternative would impact approximately 80 acres of wetlands and require the crossing of up to five streams.

A second alternative would be to start the NC 306 relocation before the 306/33 intersection in Aurora, and route it through mined land. This is not possible because any mined land that would be a possible route will be in various stages of reclamation for many years, and unacceptable for highway construction.

A third alternative would be to not relocate NC 306. If the highway were not relocated, then the existing railroad track and 230 kV powerlines that are adjacent to the highway also would not be relocated. This would require the mining operation to "jump over" the highway, railroad and powerlines, and then open up a whole new mine pit on the other side, in order to complete mining in the Alt. E area. The cost for opening a new mine pit would be approximately 13.1 million dollars, and approximately 195 acres, representing 5.2 million tons of phosphate concentrate, would be made unrecoverable. This tonnage represents a loss of 26 million dollars as concentrate. The applicant believes these costs make this alternative not practicable.

The proposed relocation route minimizes, to the extent practicable, impacts to waters and wetlands. Currently at Modification Area 1, old SR 1942 crosses the wetland area proposed for impact with a 24-inch and a 30-inch culvert. The applicant has adjusted curves in the proposed highway, within the design specifications of NC DOT, so that the relocated highway crosses the wetland at the location of the current old SR 1942 crossing, although at a slightly different angle. The unnamed tributary shown on the USGS topo map actually begins just past the downstream (south) side of the culverts. A wetland, but no defined stream channel, exists on the upstream (north) side of the old State Road, as determined by DWQ staff from the Washington Regional Office.

There are two alternatives to relocating the 0.4-mile section of SR 1945 (Sandy Landing Road). The first is to mine through the road area within Alt.E and not connect SR 1945 to anything, which essentially would close the remaining State Road. This road does end in a dead end, however there are several occupied residences at the end of SR 1945 on South Creek. These residents require access, therefore this alternative is not practicable.

The second alternative is to avoid mining through the area within Alt. E where NC 306 currently connects with SR 1945. This would eliminate the need impact the 2.45 acres of wetlands involved in the SR 1945 rerouting. The impact on the mining operation would be two-fold. First, it would mean having to bypass 63 acres of mineable and permitted

ore reserves, representing 1.7 million tons of phosphate concentrate. This tonnage represents a loss of 8.6 million dollars as concentrate. The other impact would be to squeeze the mine pit down from approximately 3,500 feet in width to approximately 2,000 feet in width in an hourglass shape, impacting the operating efficiency of the mine process. For these reasons, the applicant considers this alternative to be not practicable. For minimization purposes, the applicant has designed the SR 1945 Connector to be as short as absolutely possible, and to run adjacent and parallel to the major outfall canal that carries mine depressurization water, thereby limiting any habitat fragmentation of the hardwood forest.

### **Mitigation:**

Mitigation for the proposed impact of 2.83 acres of hardwood forest would be mitigated for at the PCS Phosphate Parker Farm mitigation site, south of Aurora. Specifically, 4.25 acres of restored hardwood wetland, represented by the area around well no. D13 in Section D of the Parker Farm, would be used as mitigation. This acreage was a hardwood forest that was ditched and drained in the 1970's, which removed the hydrology, but it was not cleared. PCS Phosphate plugged or filled all the drainage ditches in this area in 1996, and the area has since met the Corps hydrology success criteria to be able to use it as mitigation. The tree canopy in the mitigation site is approximately the same age as the canopy at the proposed impact sites, so there is no habitat support functional time lag. The PC cropland portion of the Parker Farm mitigation site was used as mitigation for Alt. E, however the ditched and drained wooded portions were not used. The proposed mitigation acreage is composed of species such as red maple, sweetgum, water oak, red bay, sweet bay, pond pine, wax myrtle, giant cane, netted chain-fern, and greenbrier. The soil on the site is Ponzer muck.

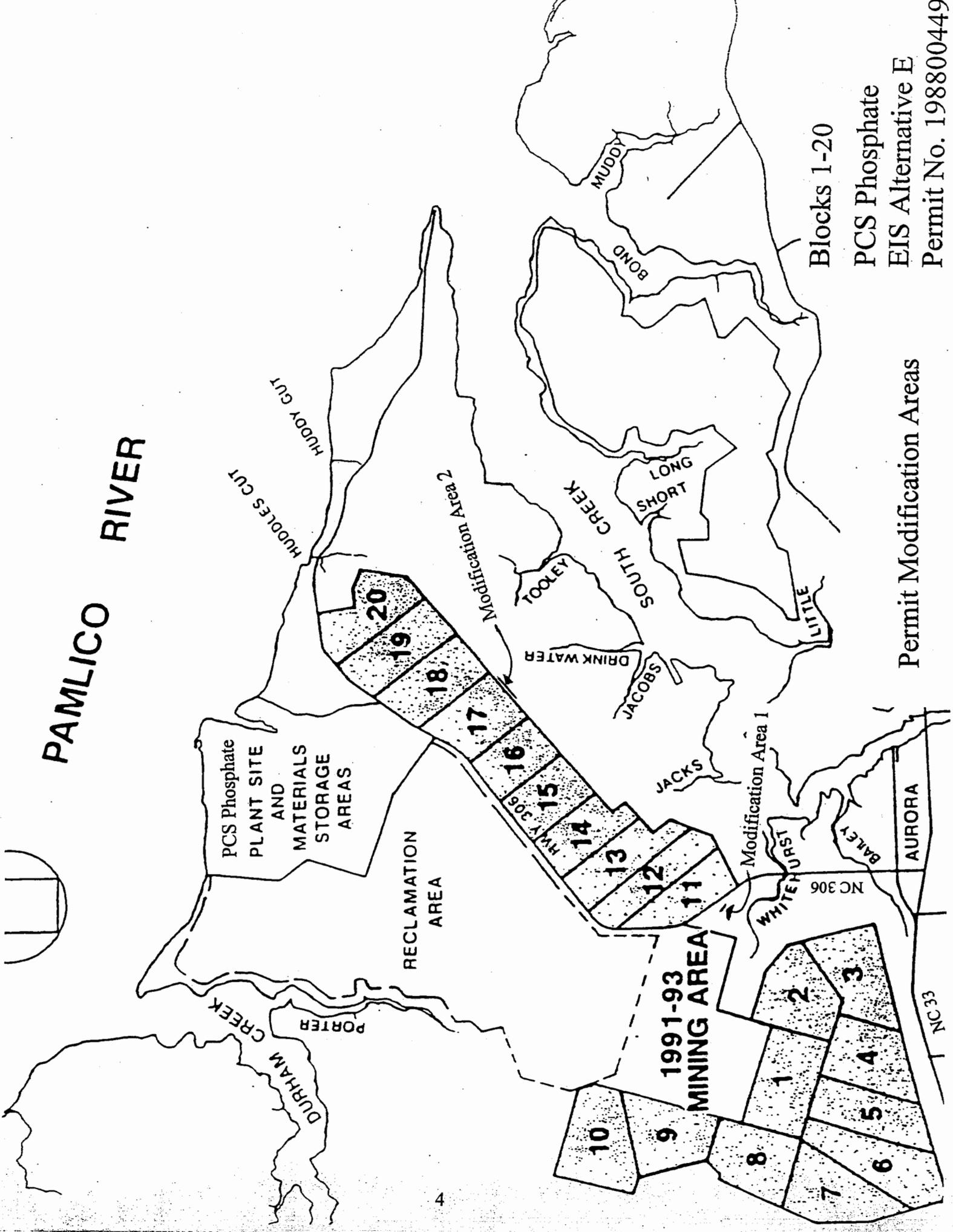
### **Threatened and Endangered Species:**

Field surveys for threatened and endangered species were conducted throughout the whole NCPC peninsula and around Whitehurst Creek for the EIS that was finalized in 1996. Biological assessments were written for the bald eagle, red-cockaded woodpecker, loggerhead sea turtle, Kemp's ridley sea turtle, green sea turtle, rough-leaved loosestrife, and sensitive joint-vetch. The U.S. Fish and Wildlife Service concurred with the Corps that mining in this area would have no adverse effects to any of the Federally-listed species, therefore the same conclusion can be drawn for highway construction.

### **Cultural Resources:**

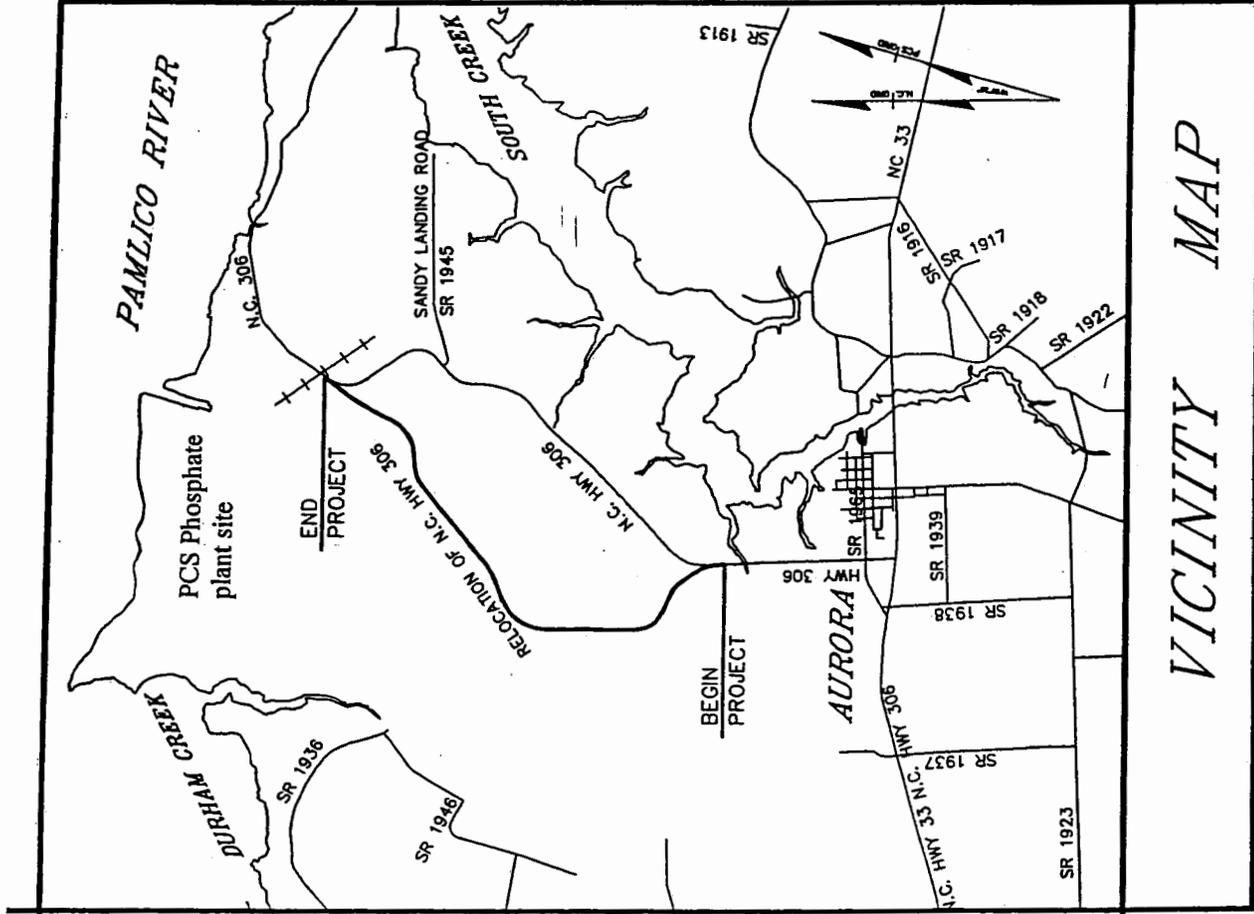
An extensive cultural resources survey was conducted for the 1996 EIS by Dr. David Phelps of East Carolina University. The North Carolina Department of Cultural Resources determined that nothing that was found was eligible to be included in the National Register of Historic Places or required further investigation. Specifically, there are no known historic places or archaeological sites within the proposed project area.

# PAMLICO RIVER



Blocks 1-20  
PCS Phosphate  
EIS Alternative E  
Permit No. 198800449

Permit Modification Areas



VICINITY MAP

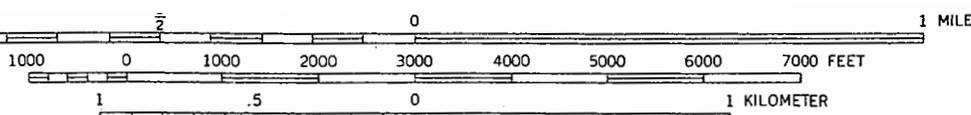


BEAUFORT COUNTY, N.C.

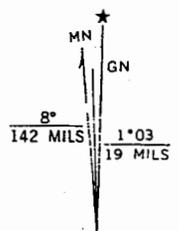
RELOCATION OF N.C. HIGHWAY 306

LOCATION : NORTH OF AURORA, N.C.

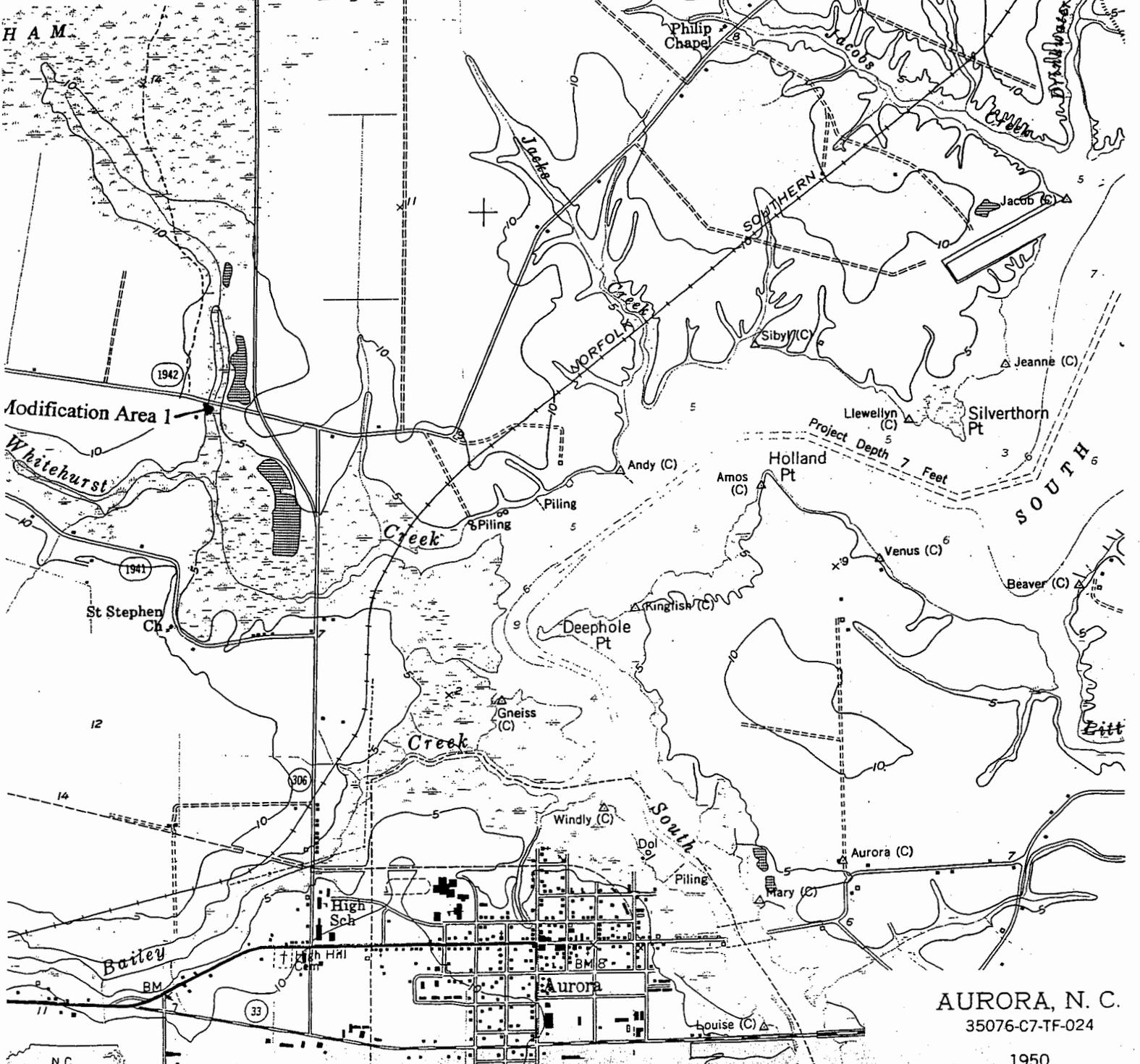
TYPE OF WORK : GRADING, DRAINAGE, + PAVING



CONTOUR INTERVAL 5 FEET  
NATIONAL GEODETIC VERTICAL DATUM OF 1929



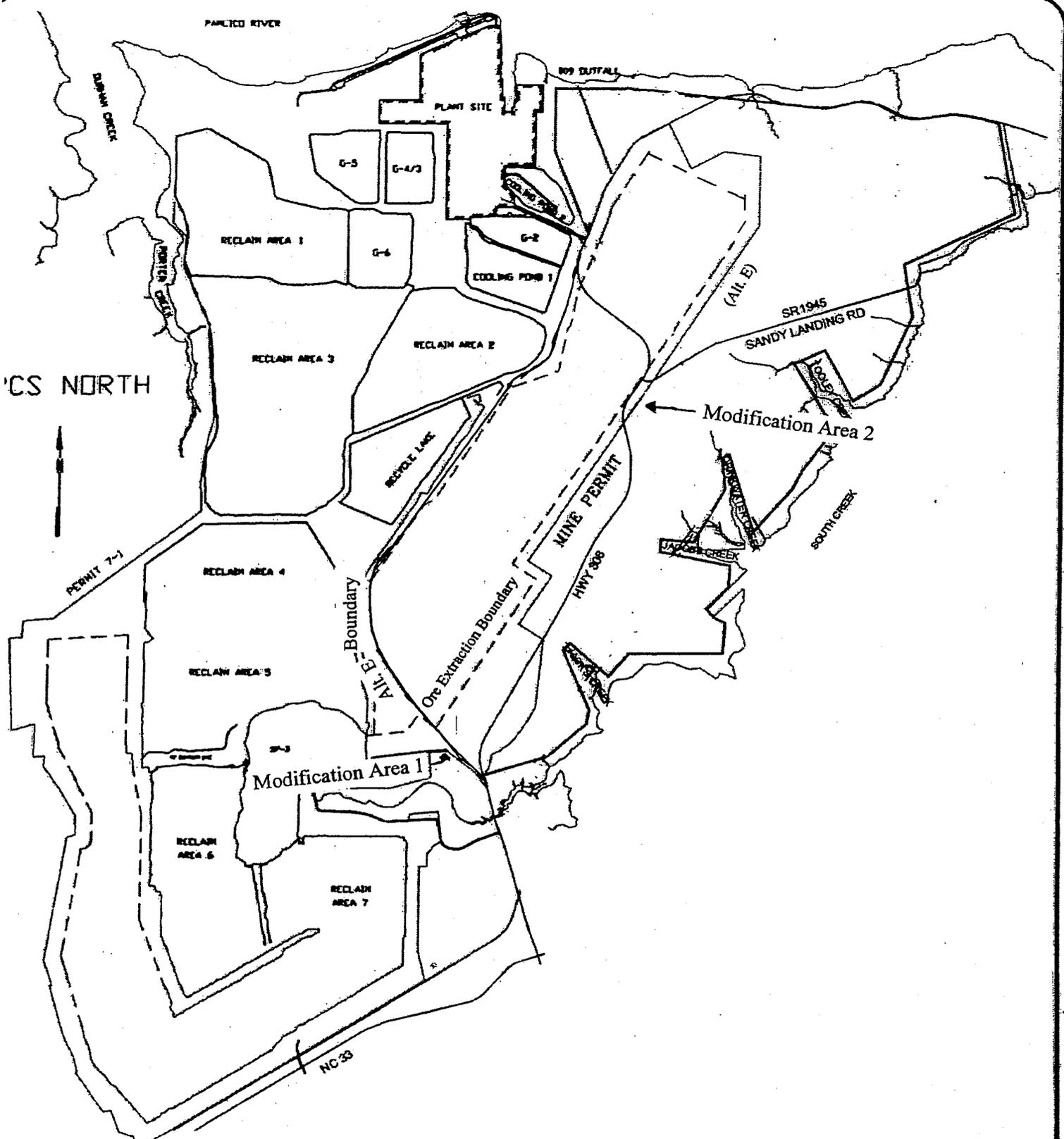
4 GRID AND 1983 MAGNETIC NORTH  
ECLINATION AT CENTER OF SHEET



LOCATION OF PERMIT MODIFICATION AREAS 1 & 2

AURORA, N. C.  
35076-C7-TF-024

1950  
PHOTOREVISED 1983  
DMA 5654 IV SE-SERIES V842



LOCATION OF PERMIT MODIFICATION AREAS 1 AND 2

 		
FIGURE:	MP46_ALTIA_PHASE III.DWG	10-14-03
Location of NC 306 within Alt.E		
BY: CBL	PLT DATE: 10-14-03	SCALE: 1"=5000'



**LEGEND**

- EXISTING HIGHWAY ALIGNMENT
- PROPOSED HIGHWAY ALIGNMENT
- PROPOSED SANDY LANDING ROAD CONNECTOR
- EIS ALTERNATE E BOUNDARY

VICINITY MAP  
for  
HWY 306 RELOCATION



DATE: 07-17-03

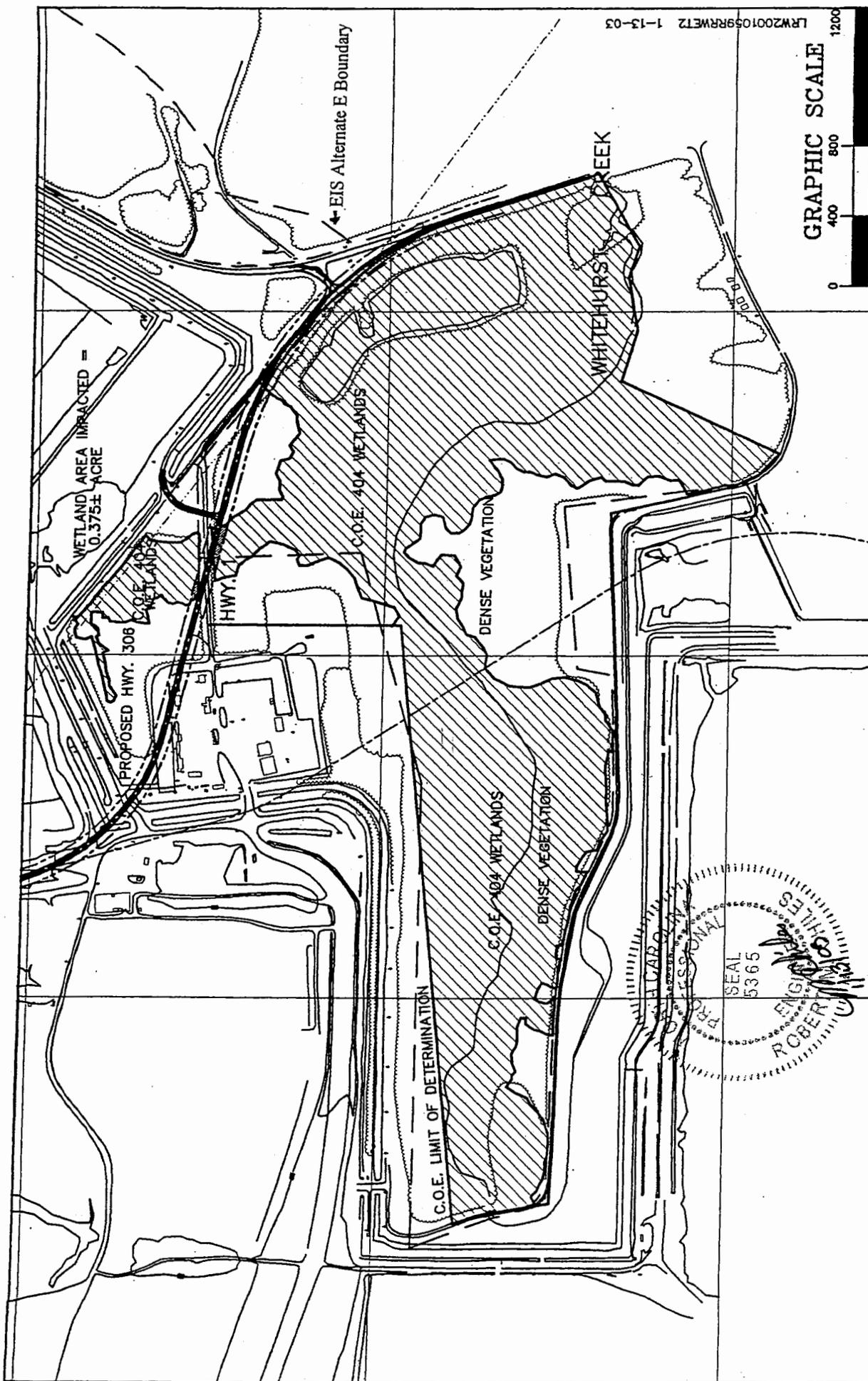
JOB NO.: 2001059

SCALE: N.T.S.

**ROBERT M. CHILES, P.E.**

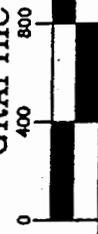
ENGINEERS AND CONSULTANTS  
NEW BERN, NORTH CAROLINA

MAP 2001059 DESIGN VICINITY MAP

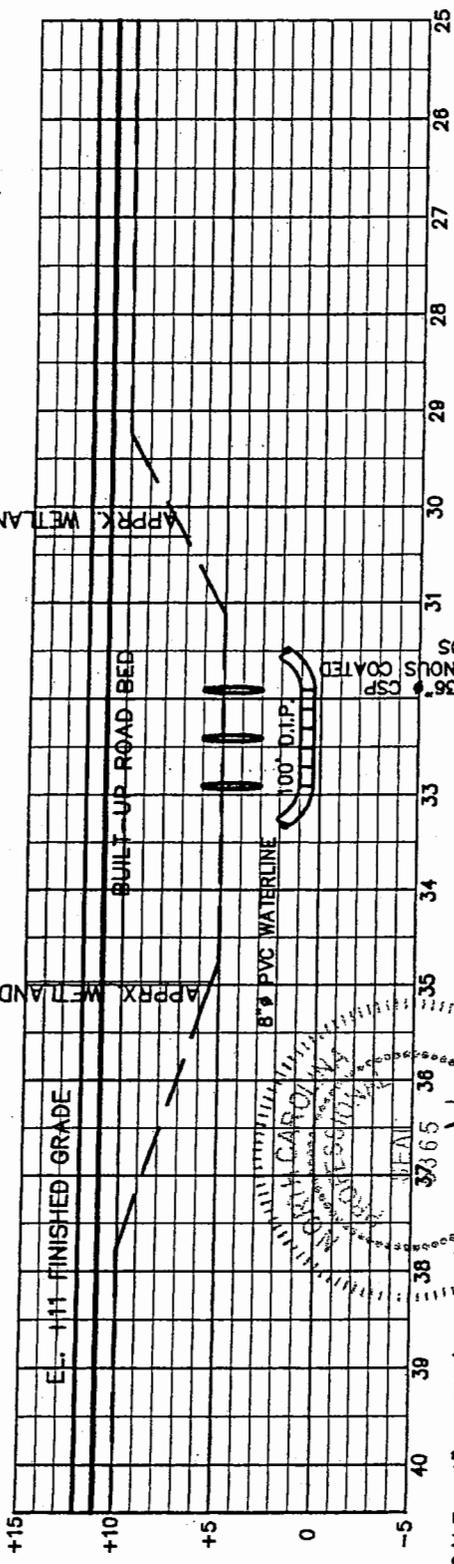
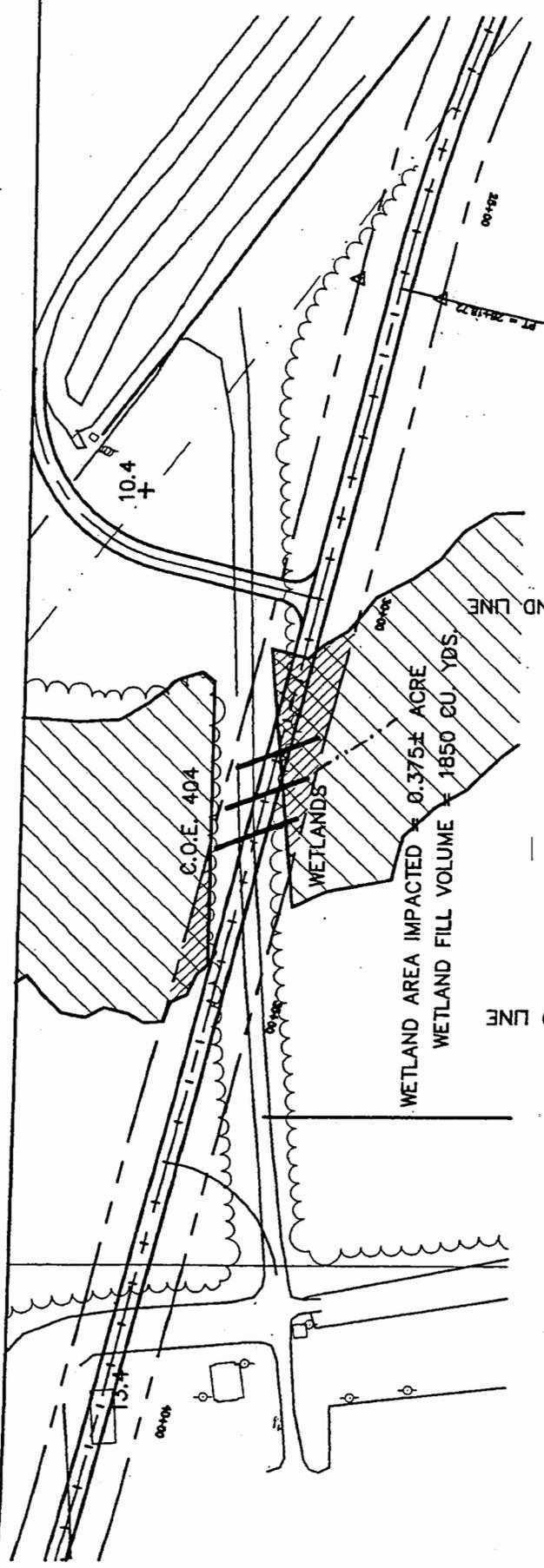


LRW2001059RRWET2 1-13-03

GRAPHIC SCALE



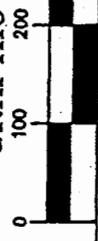
<p><b>ROBERT M. CHILES, P.E.</b> ENGINEERS AND CONSULTANTS NEW BERN, NORTH CAROLINA</p>	<p>DATE: 11-8-2002 JOB NO.: 2001059 SCALE: 1" = 800'</p>	<p><b>PCS</b> <b>Phosphate</b> AURORA DIVISION</p>	<p>WHITEHURST CREEK CROSSING C.O.E. 404 WETLANDS FUTURE HIGHWAY 306</p>
---	--	--	---



SCALE : 1" = 10'

SCALE : 1" = 200'

GRAPHIC SCALE

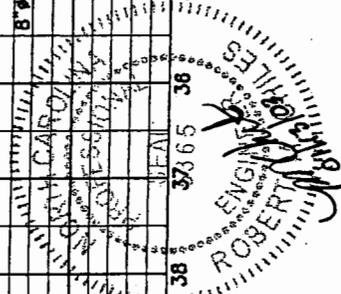


DATE: 11-8-2002  
 JOB NO.: 2001059  
 SCALE: AS SHOWN

**PCS**  
**Phosphate**  
 AURORA DIVISION

**ROBERT M. CHILES, P.E.**  
 ENGINEERS AND CONSULTANTS  
 NEW BERN, NORTH CAROLINA

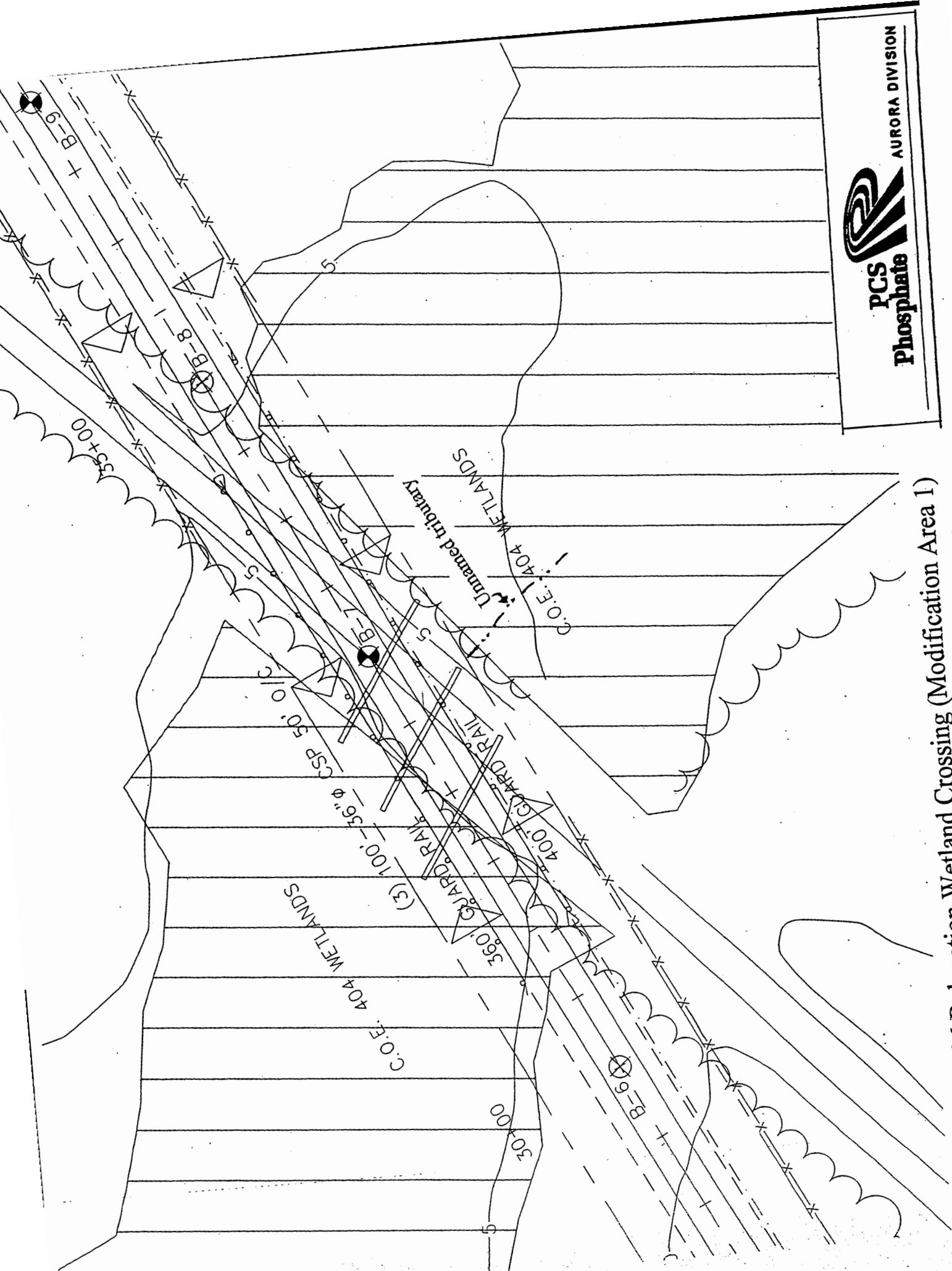
C.O.E. 404 WETLANDS CROSSING  
 FUTURE HIGHWAY 306



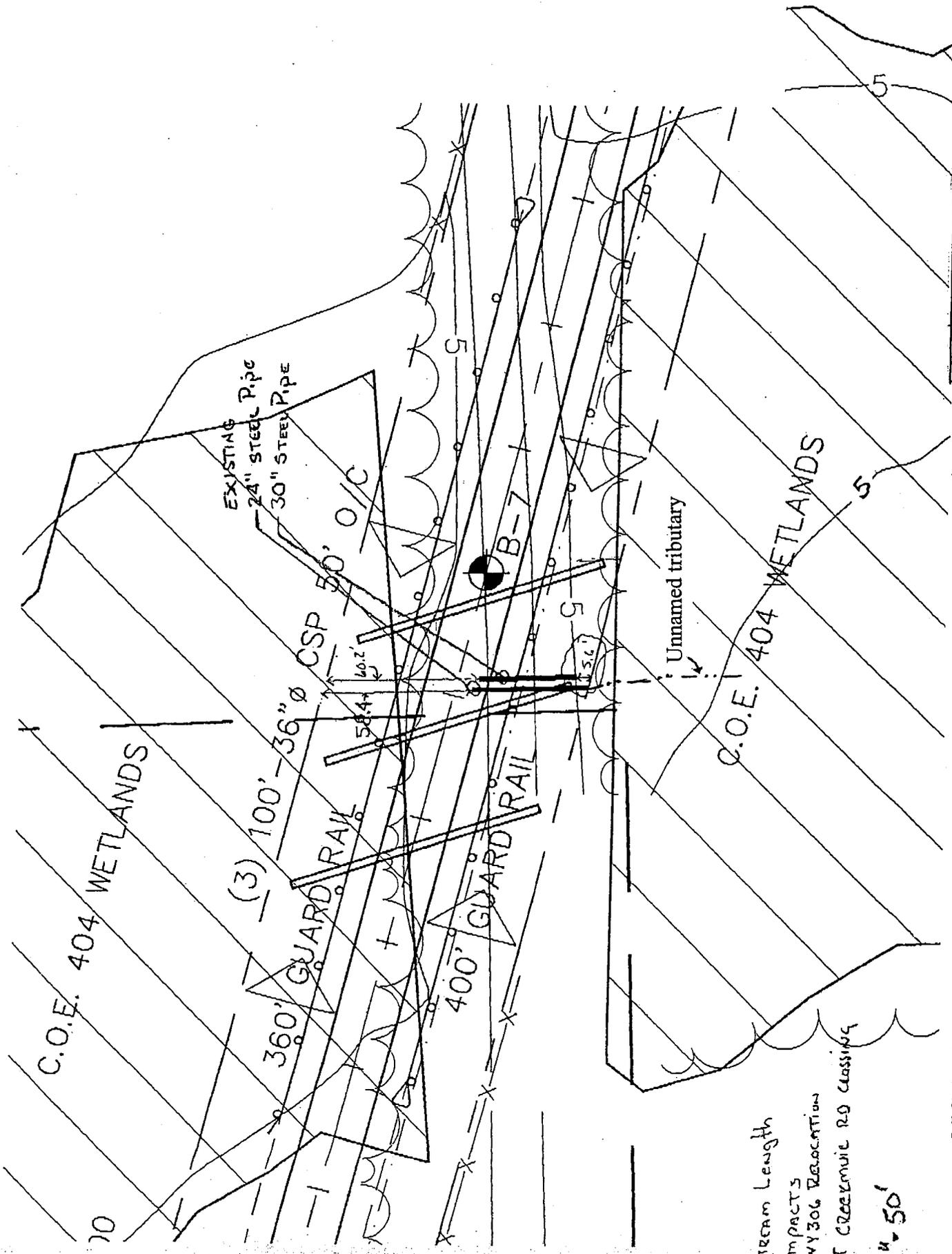
50' C/C  
 +90 ± 100' ± 50'  
 FULLY BITUMINOUS COATED  
 2" WIDE BANDS  
 INV. LT. 3.0  
 INV. RT. 3.1



AURORA DIVISION



NC 306 Relocation Wetland Crossing (Modification Area 1)



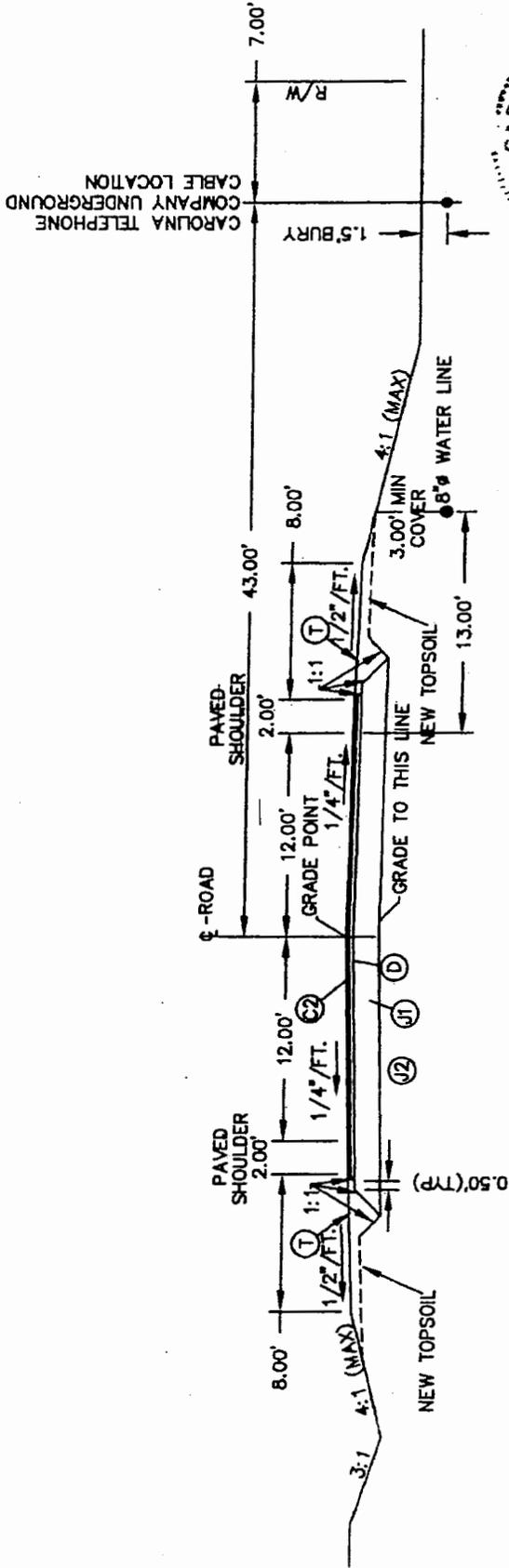
12

Stream Length  
 IMPACTS  
 HWY 306 RELOCATION  
 AT CREEKVIEW RD CROSSING  
 1" = 50'

NC 306 Wetland Crossing Showing Existing Culverts  
 (Modification Area 1)

PAVEMENT SCHEDULE

ITEM	DESCRIPTION
(C2)	PROP. APPROX. 2" ASPHALT CONC. SURFACE COURSE, TYPE S 9.5B, AT AN AVERAGE RATE OF 207 lbs. PER SQUARE YARD.
(D)	PROP. APPROX. 3" ASPHALT CONC. INTERMEDIATE COURSE, TYPE I 19.0B, AT AN AVERAGE RATE OF 325 lbs. PER SQ. YD.
(E)	PROP. APPROX. 3.0" ASPHALT CONC. BASE COURSE, TYPE B 25.0B, AT AN AVERAGE RATE OF 330 lbs. PER SQ. YD.
(J1)	PROP. 18" AT 75% REJECTS / 25% SAND TAILING BLEND COMPACTED BASE COURSE
(J2)	PROP. VAR. DEPTH REJECTS / SAND BLEND BASE COURSE AS REQUIRED TO BRING ROADBED UP TO GRADE.
(K)	GEOTEXTILE FABRIC FOR SOIL STABILIZATION.
(T)	EARTH MATERIAL



GRAPHIC SCALE



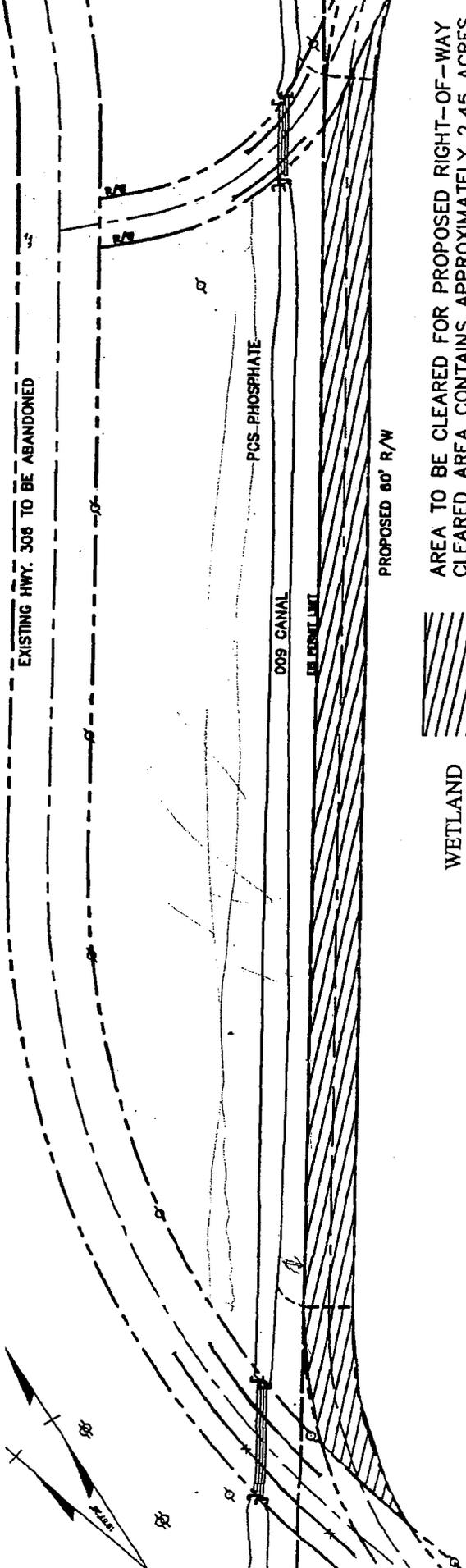
20  
CF200105912 B-22-03

**ROBERT M. CHILES, P.E.**  
ENGINEERS AND CONSULTANTS  
NEW BERN, NORTH CAROLINA

DATE: B-22-2003  
JOB NO.: 2001059  
SCALE: 1" = 10'



TYPICAL CROSS SECTION  
HIGHWAY 306 RELOCATION

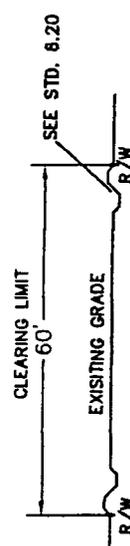
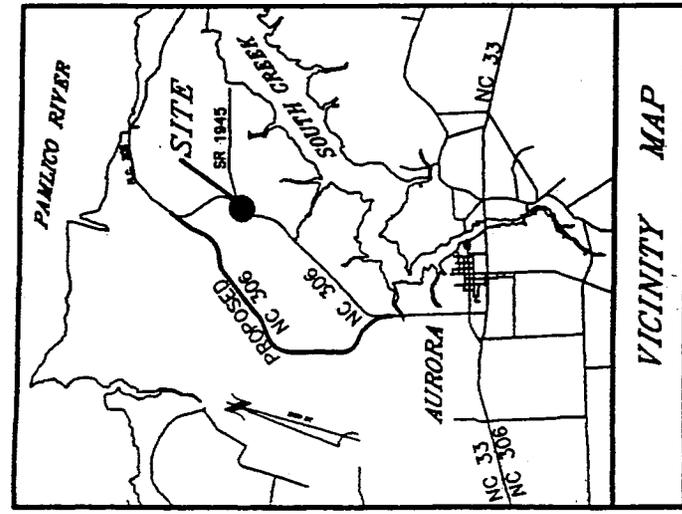


WETLAND

AREA TO BE CLEARED FOR PROPOSED RIGHT-OF-WAY  
 CLEARED AREA CONTAINS APPROXIMATELY 2.45 ACRES

NOTES:

APPROXIMATE FILL VOLUME: 11,000 CUBIC YARDS  
 VOLUME BASED UPON:  
 1,850 FT CENTERLINE LENGTH  
 20 FT WIDE TRAVEL LANE  
 4 FT SHOULDERS  
 4 FT FILL DEPTH  
 52 FT BASE WIDTH  
 3:1 SIDE SLOPES



TYPICAL X-SECTION OF PROPOSED  
 RIGHT OF WAY CLEARING  
 NOT TO SCALE



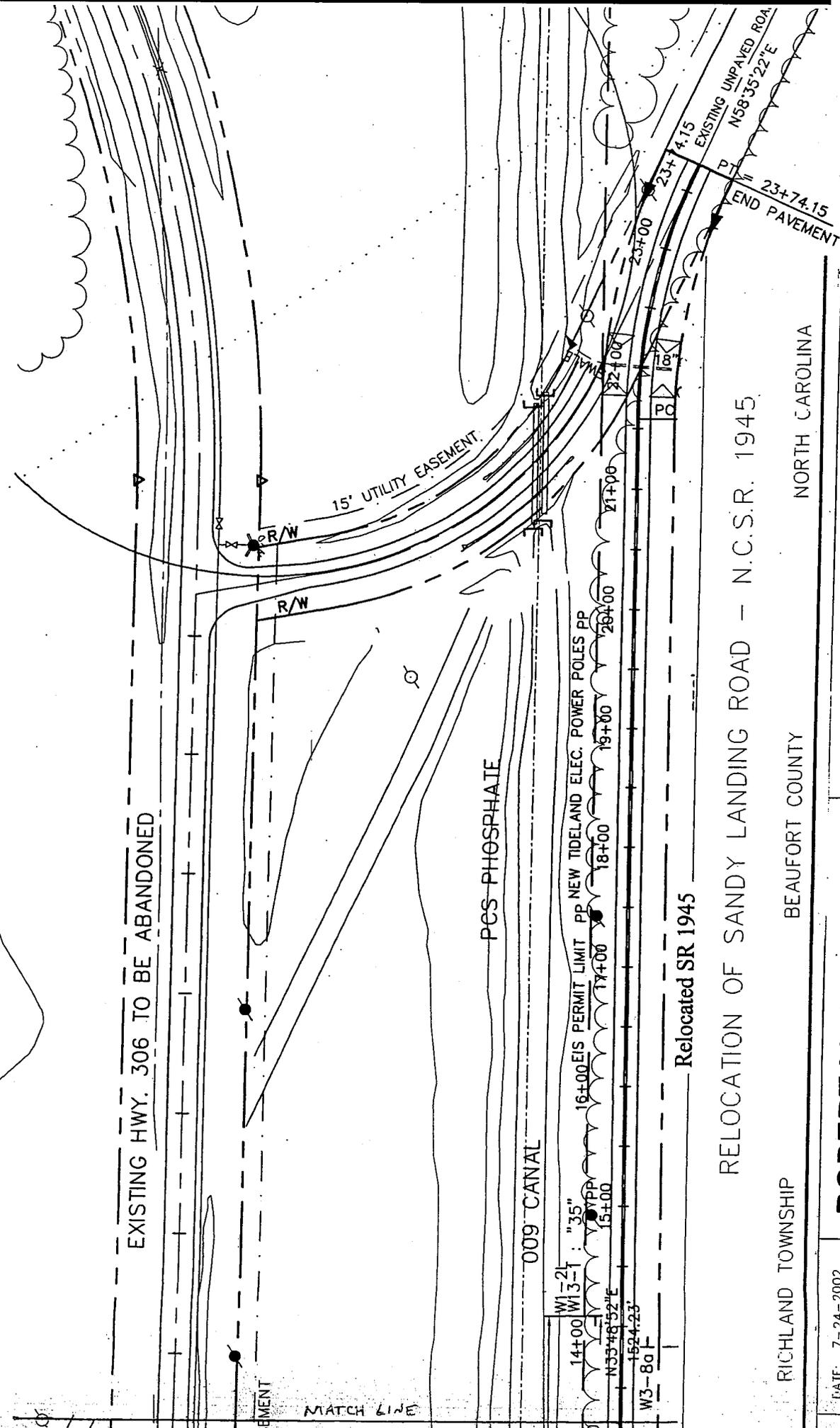
NEW CONNECTOR ROAD  
 BETWEEN SR 1945  
 (SANDY LANDING ROAD)  
 AND EXISTING NC HWY 306



DATE: 03-24-03  
 JOB NO.: 2001059  
 SCALE: 1" = 200'

ROBERT M. CHILES, P.E.  
 ENGINEERS AND CONSULTANTS  
 NEW BERN, NORTH CAROLINA





EXISTING HWY. 306 TO BE ABANDONED

15' UTILITY EASEMENT

PCS PHOSPHATE

009 CANAL

Relocated SR 1945

RELOCATION OF SANDY LANDING ROAD - N.C.S.R. 1945

RICHLAND TOWNSHIP

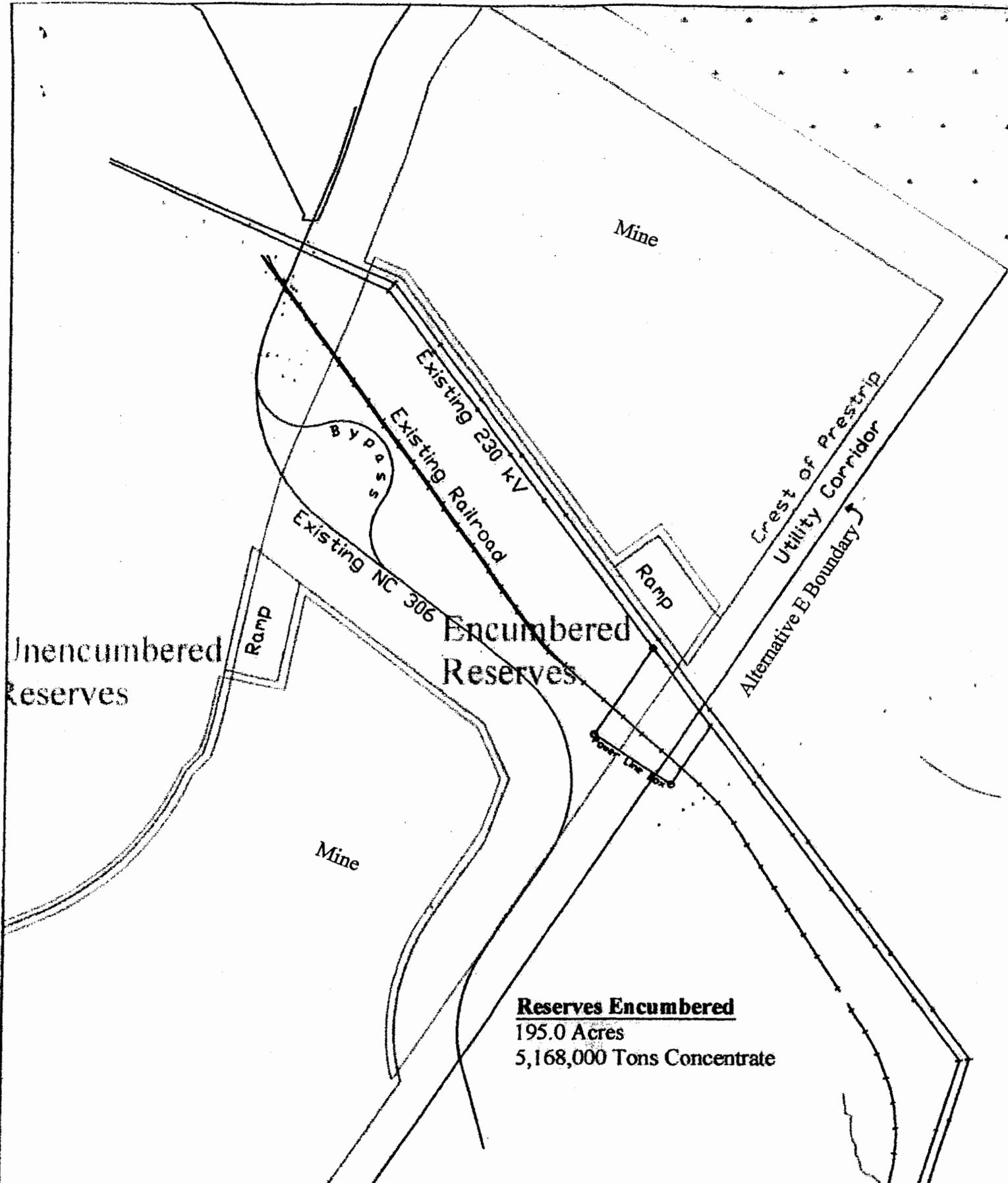
BEAUFORT COUNTY

NORTH CAROLINA

DATE: 7-24-2002  
 JOB NO. 2002125  
 SCALE: AS SHOWN  
 DWN BY: LRW  
 CHK BY: JLR, JR

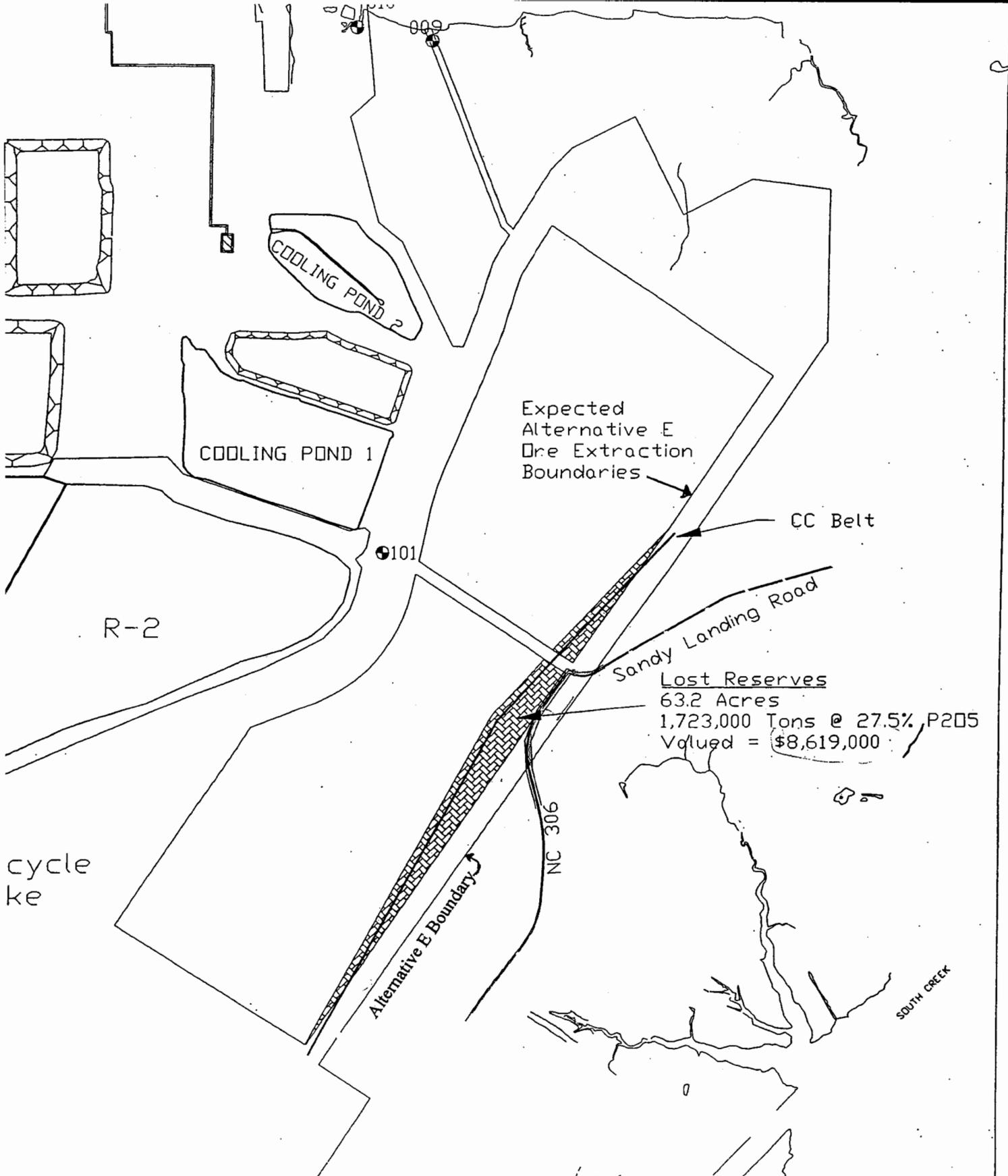
**ROBERT M. CHILES, P.E.**  
 ENGINEERS AND CONSULTANTS  
 NEW BERN, NORTH CAROLINA

**PCS Phosphate**  
 AURORA DIVISION



**Reserves Encumbered**  
 195.0 Acres  
 5,168,000 Tons Concentrate

By: J.P. Schmid	Title: NCPC Alt. E Reserves	 AURORA DIVISION
Date: 7-31-03	Encumbered by Existing NC 306, Railroad, & 230 kV Power Line	
Scale: 1" = 1,000'		Location:
Rev.:		Dwg. No.



J.P. Schmid te8-26-04	Title: Lost Reserves Due to Nat Relocating Sandy Landing Road	
scale = 2,000' v.:		Location: Dwg. No.

AS-BUILT REPORT FOR THE 1,168 ACRES OF HARDWOOD  
WETLANDS RESTORATION ON SECTIONS C AND D OF THE  
PCS PHOSPHATE COMPANY, INC. PARKER FARM

Prepared for:  
PCS PHOSPHATE COMPANY, INC.  
Environmental Affairs  
Aurora, North Carolina

Prepared by:  
CZR INCORPORATED  
4709 College Acres Drive, Suite 2  
Wilmington, North Carolina

June 1996

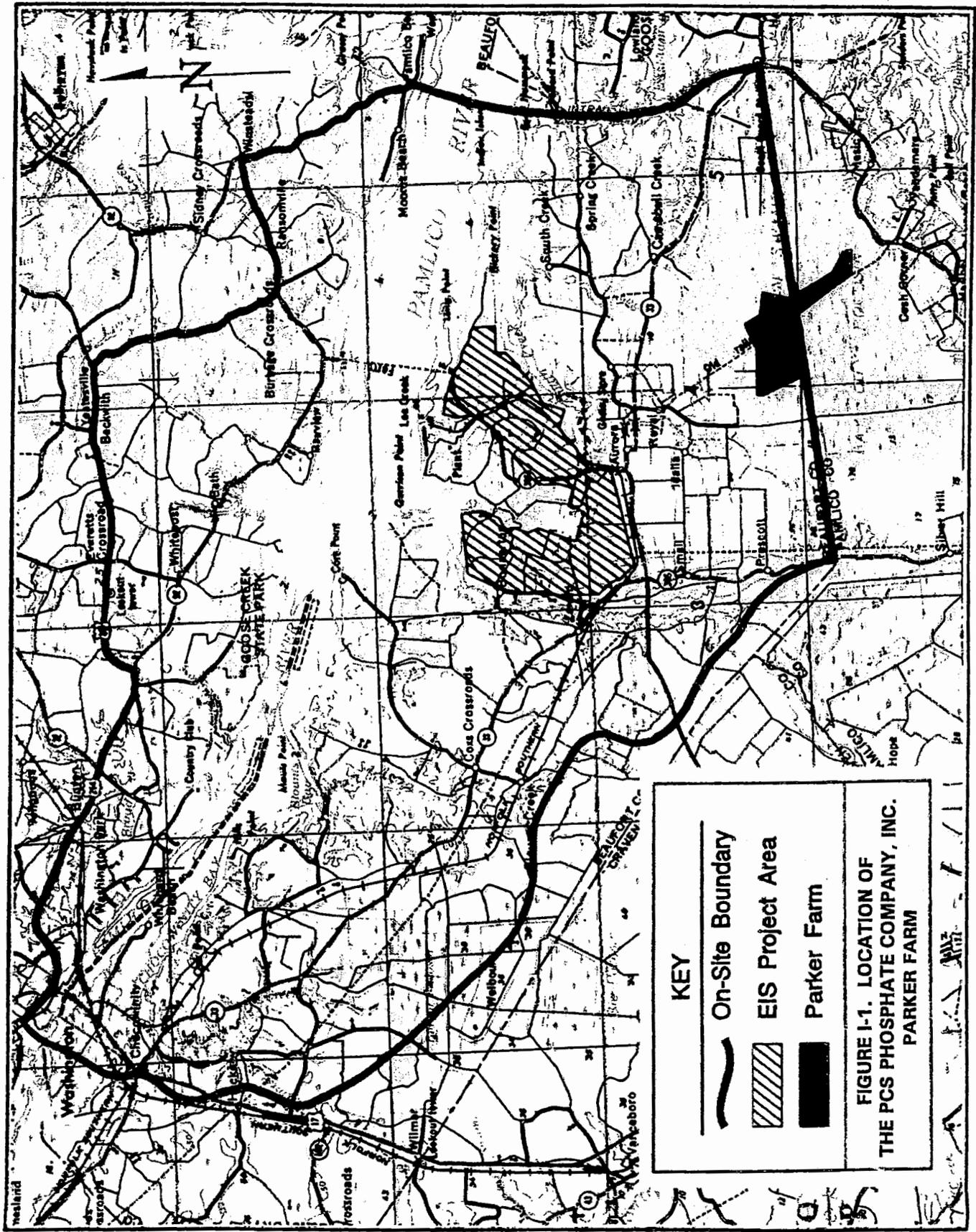
## I. INTRODUCTION

In 1995, PCS Phosphate Company, Inc. (PCS Phosphate) initiated a hardwood wetlands restoration project on a 1,168-acre portion (Sections C and D) of the Parker Farm. The Parker Farm, a 2,800-acre tract located in southern Beaufort County and northern Pamlico County, North Carolina, was purchased by PCS Phosphate in October 1994 (Figures I-1, I-2, and I-3). The tract is east of Bay City Road (SR 1002), approximately four miles southeast of Aurora, in the area known as Gum Swamp. Two sections comprise the 1,168 acres that were restored in late 1995 and early 1996. Section C is 539 acres and Section D is 629 acres. Eight subsections of Section D (totalling 108 acres) were ditched, but never cleared. Section D is further divided by an access road (hereafter referred to as Access Road) with D2 being the northwest corner and D1 being the main part south of the Access Road (Figure I-3). The fields in Sections C and D were defined by the Natural Resources Conservation Service (NRCS) as ditched "prior converted croplands." The total area of prior-converted croplands on Sections C and D is 1,060 acres. Sections C and D were active croplands through mid-1995, with wheat planted on the majority of both fields. The northwestern end of D1 and all of D2 had lain fallow during 1995.

The restoration of Sections C and D is intended to fulfill part of the compensatory wetlands mitigation requirements involved with Alternative B (or any other alternative permitted by the U.S. Army Corps of Engineers), which is outlined in the "Draft Environmental Impact Statement for the PCS Phosphate Mine Continuation, Aurora, North Carolina" (U.S. Army Corps of Engineers 1994). Alternative B will impact approximately 3,069 acres of Section 404 jurisdictional areas over 20 years. These impacts will be mitigated through a combination of restoration of prior-converted croplands to hardwood wetlands, restoration and enhancement of drained woodland wetlands, restoration and creation of bottomland hardwoods, creation of marsh and open water, and preservation of wetlands and contiguous uplands along South Creek and in the headwaters of Vandemere Creek.

The goal of this restoration project is to restore Sections C and D of the Parker Farm from well-drained agricultural fields and woodlands to forested wetlands. The success of the restoration effort will be determined by the re-establishment of a wetland hydroperiod and the presence of an acceptable density of trees at the end of the monitoring period.

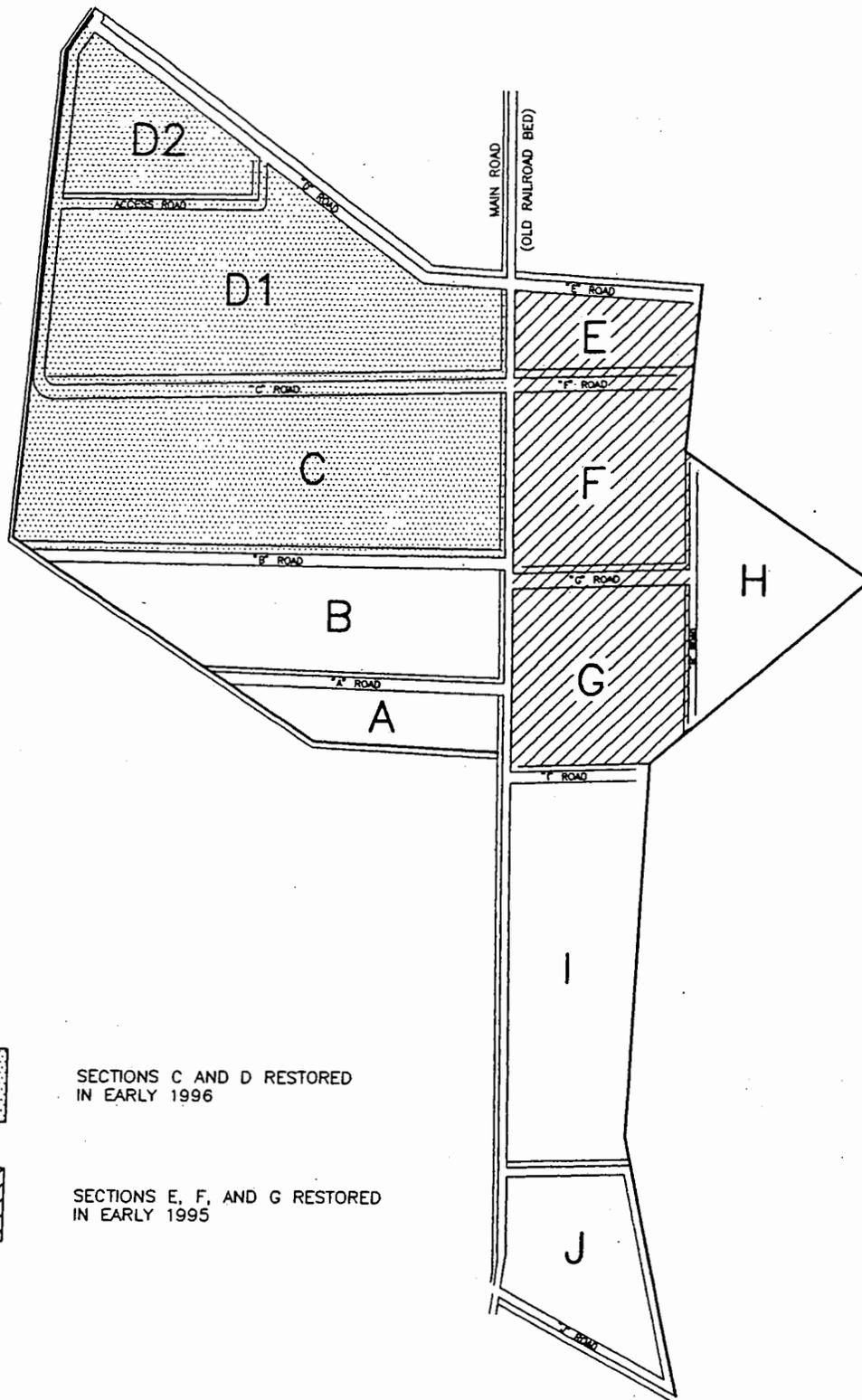
PCS Phosphate was assisted in the restoration process by 1) CZR Incorporated (CZR), an environmental consulting firm who provided planning, design, planting supervision, field investigations, and hydrology and vegetation monitoring; 2) Sawyer's Land Developing, Inc. who conducted the land alteration, ditch/canal plugging and filling, berm/water bar construction, and other related services; 3) Robert M. Chiles, P.E., Engineers, Consultants, and Marine Surveyors, who provided a survey for the project; 4) Coastal Reforestation, Inc. who provided and supervised the planting crews; and 5) Rutland Air, Inc., who provided the herbicide application.



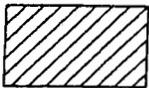
**KEY**

- On-Site Boundary
- ▨ EIS Project Area
- Parker Farm

**FIGURE I-1. LOCATION OF THE PCS PHOSPHATE COMPANY, INC. PARKER FARM**



SECTIONS C AND D RESTORED  
IN EARLY 1996



SECTIONS E, F, AND G RESTORED  
IN EARLY 1995

SECTIONS RESTORED IN 1995 AND 1996		
<b>PCS PHOSPHATE COMPANY, INC. PARKER FARM WETLANDS MITIGATION</b>		
SCALE: NTS	APPROVED BY:	DRAWN BY: JEJ/FKP
DATE: 6/14/96		FILE: FIG1-2.DWG
 <b>CZR</b> INCORPORATED <small>ENVIRONMENTAL CONSULTANTS</small>	4708 COLLEGE ACRES DRIVE SUITE 2 WILMINGTON, NORTH CAROLINA 28403 TEL 910/392-9233 FAX 910/382-9139	CP#1745.45
		FIGURE 1-3