PMLevyCOLPEm Resource

From: Bruner, Douglas
Sent: Thursday, November 17, 2011 1:14 PM
To: 'bberger@bellsouth.net'
Cc: 'Hambrick, Gordon A SAJ'; Anderson, Brian; LevyCOL Resource
Subject: CFBC - Levy
Attachments: ML1130707240.pdf

Hi Betty,

It was a please talking with you. Per our conversation, and regarding your concern with dredging in the Cross Florida Barge Canal, I have attached a document from Progress Energy that may assist you with understanding the extent and requirements imposed for dredging in the canal.

Sincerely,

Doug Bruner

Hearing Identifier: Levy_County_COL_Public
Email Number: 929

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Subject: CFBC - Levy
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From: Bruner, Douglas

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Project: 338884
Review Date: 09/07/2011

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Evaluation and Management of Materials Dredged from the Cross Florida Barge Canal for the Construction of Barge Slip, Intake Structure, and Pipeline Facilities Associated with the Levy Nuclear Plant, Florida

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Document Review and Approval

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Evaluation and Management of Materials Dredged from the Cross Florida Barge Canal for the Construction of Barge Slip, Intake Structure, and Pipeline Facilities Associated with the Levy Nuclear Plant, Florida

Prepared for

Progress Energy Florida, Inc.

Prepared by

September 2011

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Acronyms and Abbreviations

CDF	Confined Disposal Facility
CFBC	Cross Florida Barge Canal
CFR	Code of Federal Regulations
COC	Condition of Certification
CREC	Crystal River Energy Complex
CVAA	cold vapor atomic absorption
CWA	Clean Water Act
cy	cubic yard
EPA	U.S. Environmental Protection Agency
ERP	Environmental Resource Permit
FDEP	Florida Department of Environmental Protection
FWC	Florida Fish and Wildlife Conservation Commission
FWS	U.S. Fish and Wildlife Service
GC/MS	gas chromatography/mass spectroscopy
ICP	induced coupled plasma spectroscopy
LNP	Levy Nuclear Plant, Units 1 and 2
MDL	maximum detection limit
MEK	methyl ethyl ketone
mg/kg	milligrams per kilogram
mg/L	milligrams per liter
mm/sec	millimeters per second
NB	no burn
NMFS	National Marine Fisheries Service
NPDES	National Pollutant Discharge Elimination System

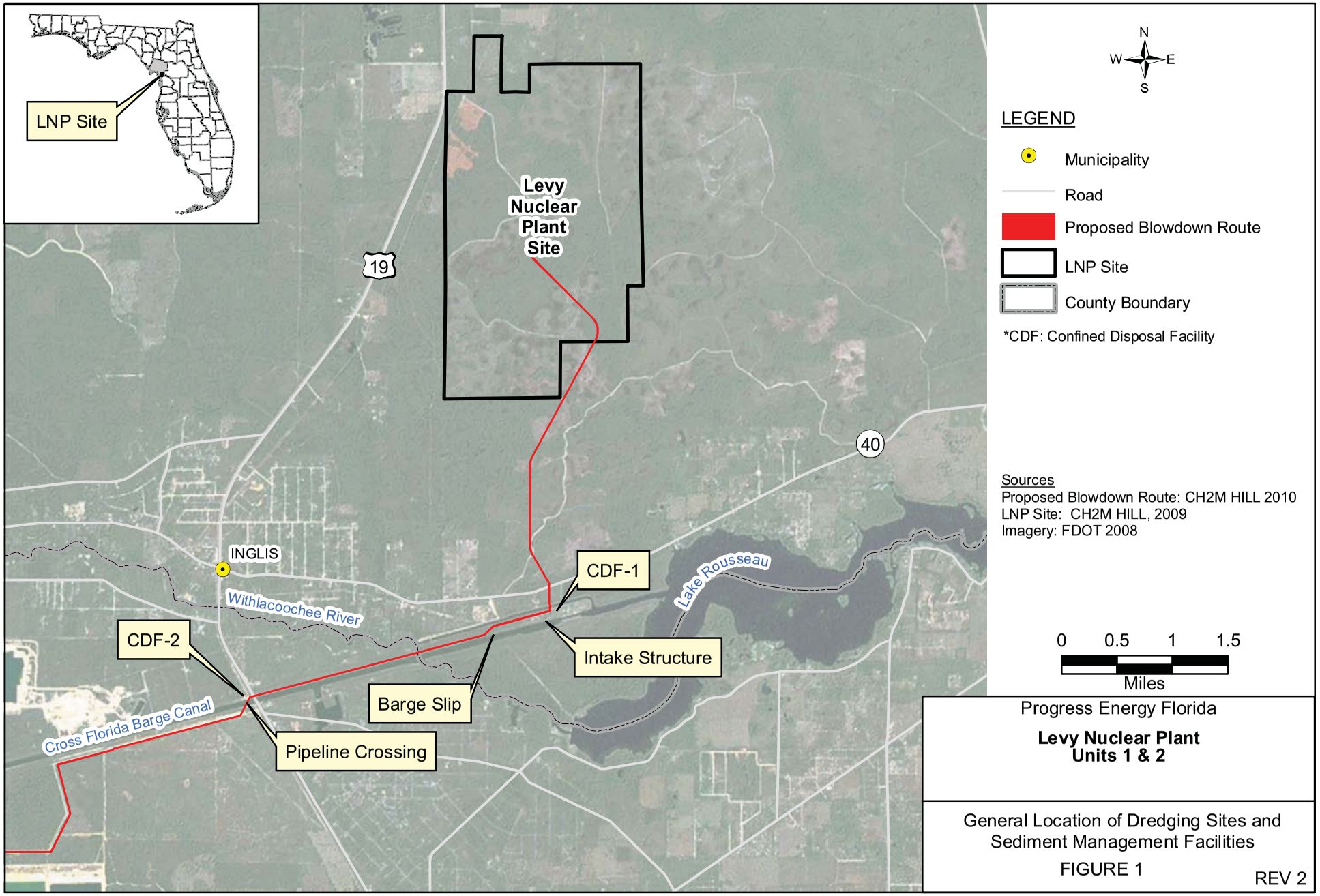
Acronyms and Abbreviations

PCB	polychlorinated biphenyl
PEF	Progress Energy Florida
PQL	practical quantitation limit
ROW	right-of-way
SU	standard units
TCLP	Toxicity Characteristic Leaching Procedure
SVOC	semivolatile organic compound
TMEM	technical memorandum
U	indicates the analyte was analyzed for but not detected
USACE	U.S. Army Corps of Engineers
USCG	U.S. Coast Guard
VOC	volatile organic compound

1.0 Introduction

The dredging of sediments within the Cross Florida Barge Canal (CFBC) will be required for the construction and installation of facilities associated with the Levy Nuclear Plant Units 1 and 2 (LNP). Construction activities may disturb or displace the sediments of the CFBC in three locations: the barge slip, the water intake structure, and at a pipeline crossing. The barge slip will be used to deliver plant components and construction materials and may also be used for delivery of replacement equipment and bulk materials after operation begins. The water intake structure will supply cooling tower makeup water to the LNP. A pipeline right-of-way (ROW) will consist of two blowdown pipes that will convey blowdown water from the LNP to a discharge point in the Crystal River Energy Complex (CREC) discharge canal. The barge slip and intake structure will be located between 0.4 and 0.7 mile west of Inglis Lock. The blowdown pipeline ROW will cross the CFBC just west of the U.S. Highway 19 bridge, approximately 2.5 miles west of Inglis Lock. The locations of the proposed barge slip, intake structure, pipeline crossing, and proposed disposal areas are shown on Figure 1.

This technical memorandum (TMEM) describes the dredging to be conducted and provides the results of chemical analyses conducted on sediments from the areas to be dredged. This TMEM also describes the proposed dredging operation and the measures to be taken to minimize potential environmental impacts. Also described is the sediment management plan including provisions for sediment storage, dewatering, and beneficial reuse.


LNP Site
Levy Nuclear Plant Site
19
40
INGLIS
Withlacoochee River
Lake Rousseau
CDF-1
CDF-2
Intake Structure
Barge Slip
Cross Florida Barge Canal
Pipeline Crossing
N
W
E
S
LEGEND
Municipality
Road
Proposed Blowdown Route
LNP Site
County Boundary
*CDF: Confined Disposal Facility
Sources
Proposed Blowdown Route: CH2M HILL 2010
LNP Site: CH2M HILL, 2009
Imagery: FDOT 2008
0 0.5 1 1.5
Miles
Progress Energy Florida
Levy Nuclear Plant
Units 1 & 2
General Location of Dredging Sites and Sediment Management Facilities
FIGURE 1
REV 2

2.0 Sediment Removal Activities

2.1 Barge Slip

The structure of the proposed barge slip will be constructed primarily in uplands, with a tie-in to the CFBC that will require dredging from the slip to the main channel. The barge slip is shown in plan view on Figure 2, and cross-section views of the proposed slip are shown on Figures 3 and 4.

The barge slip will be constructed largely away from the existing CFBC shoreline. Most initial excavation will take place in uplands prior to removing an undisturbed earthen buffer (plug) between the excavated area and the canal. Because the proposed initial activities will occur primarily in uplands, only minor sediment displacement and disruption will take place near the water, as silt fences and turbidity curtains will be employed for initial work.

Later, as the slip construction progresses, a coffer dam will be used to isolate the construction work from the CFBC (see Figure 1). Soils will be removed from the shoreline area in the barge slip and intake structure areas using a backhoe. It is anticipated that minor underwater dredging required to connect the slip structure to the CFBC main channel will employ a suction dredge with a cutter head. Harder substrate or limestone materials, if encountered at this location, may require a bucket dredge specifically designed for hard bottom work and/or the use of methods to fracture and loosen the rock prior to excavation. The dredging techniques used may be modified based on the material classification or conditions encountered, subject in cases of blasting or hammering to regulatory agency approval.

Based on available information, it is estimated that less than 2,750 cubic yards (cy) of dredged sediment (and rock) will be removed during construction to provide appropriate shoreline contours and nearshore depths to accommodate barges.

Dredging and any construction activities near water must comply with the State of Florida Conditions of Certification (COCs) for the LNP facility (Florida Department of Environmental Protection [FDEP], 2011). These COCs require that controls be used to limit potential impacts to water quality and also specify that implementable measures be in place to protect aquatic wildlife, including the Florida manatee. Sediment control devices, including, but not limited to, a turbidity curtain or siltation barrier, must be in place during dredging and in-water construction activities. Where turbidity curtains or siltation barriers are used, they must be made of material in which manatees cannot become entangled or entrapped. The COCs also require the presence of manatee observers approved by the Florida Fish and Wildlife Conservation Commission (FWC) during all in-water construction and compliance with Florida's Standard Manatee Conditions for In-Water Work (FWC, 2005).

Any work conducted in waters or wetlands must also be approved by federal agencies, coordinating their review through the Clean Water Act Section 404/Section 10 (CWA 404)

review process. The U.S. Army Corps of Engineers (USACE) serves as the lead agency for CWA 404 permitting and incorporates input received from other federal agencies including the U.S. Fish and Wildlife Service (FWS), National Marine Fisheries Service (NMFS), and the U.S. Coast Guard (USCG).

2.2 Intake Structure

The proposed intake structure will be constructed primarily in uplands with a tie-in to the main channel in the CFBC, similar to the barge slip. The intake structure is shown in plan and cross-section views on Figures 5 and 6, respectively.

The intake structure will be constructed largely behind the existing CFBC shoreline. Most excavation will take place in uplands prior to removing an earthen plug between the excavated area and the canal. Because the proposed activities will occur primarily in uplands, only minor sediment displacement and disruption is expected to take place initially. Later, the coffer dam will be installed and soils will be removed from the shoreline area in the barge slip and intake structure areas using a backhoe. It is anticipated that minor dredging required in this area will employ a suction dredge with a cutter head. Harder substrate or limestone materials, if encountered in this area, may require a bucket dredge specifically designed for hard bottom work and/or the use of methods to fracture and loosen the rock prior to excavation. The dredging techniques used may be modified based on the material classification or conditions encountered, subject in cases of blasting or hammering to regulatory agency approval.

Based on available information, it is estimated that less than 3,500 cy of sediment and rock will be removed during construction to provide appropriate shoreline contours and nearshore depths for the intake structure building, intake culverts, and the area beyond where static screens will be located.

Dredging and any construction activities near water work must comply with the COCs for the LNP facility (FDEP, 2011). The intake structure will be subject to the same permitting requirements for construction as the barge slip.

2.3 Pipeline Crossing

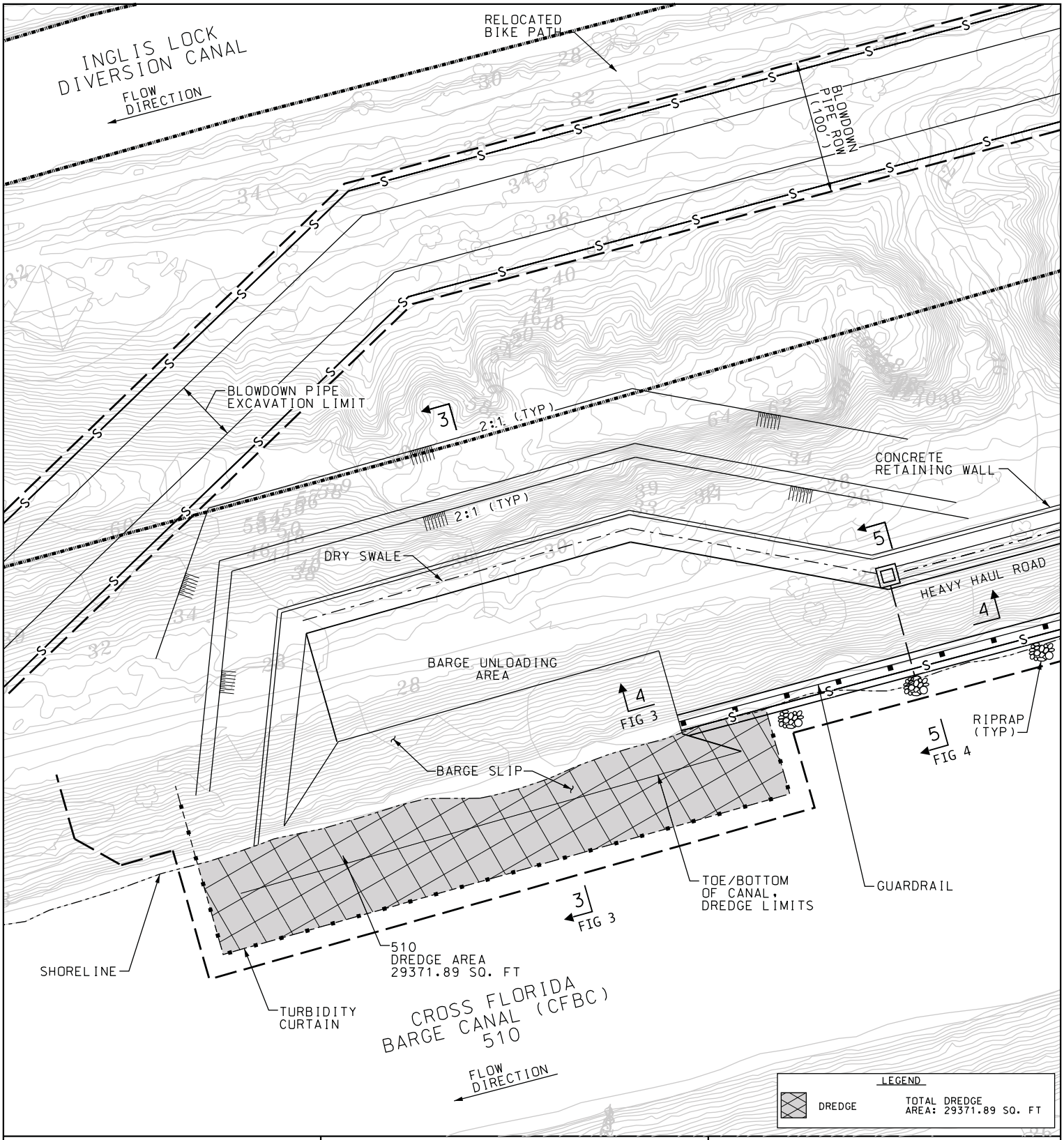
The proposed pipeline crossing will require dredging. Each of the two blowdown pipelines will be 54 inches in diameter and will be buried to a minimum of 3 feet below the CFBC design bottom. A trench with 3:1 side slopes will be excavated to an approximate depth of 10 feet deep and an approximate width of 35 feet. This trench will be dredged to accommodate for the blowdown pipes that will extend across the CFBC, a distance of about 250 feet. This dredging activity will generate approximately 5,650 cy of dredged spoil. Following dredging, it is anticipated that 6 inches to 2 feet of bedding material will be placed in the trench, the pipes laid, and clean cover material used to cover the pipes. Figures 7 and 8 show the plan view and cross-sectional details of the planned dredging and pipeline installation, respectively. Native material taken from the trench or clean commercial material will be used as backfill.

Dredging in this area will employ a suction dredge with a cutter head. Harder substrate or limestone materials, if encountered in this area, may require a bucket dredge specifically

designed for hard bottom work and/or the use of methods to fracture and loosen the rock prior to excavation. The dredging techniques used may be modified based on the material classification or conditions encountered, subject in cases of blasting or hammering to regulatory agency approval.

Dredging and any construction activities near water work must comply with the COCs for the LNP facility (FDEP, 2011). The COCs require that controls be used to limit potential impacts to water quality and also specify implementable measures be in place to protect aquatic wildlife. While the type of sediment barriers and controls will differ from the barge slip and intake structure, the permitting process and requirements will be similar. Sediment control devices, including but not limited to a turbidity curtain or siltation barrier, must be in place during dredging and in-water construction activities. Where turbidity curtains or siltation barriers are used, they must be made of material in which manatees cannot become entangled or entrapped. The COCs also require the presence of manatee observers approved by the FWC during all in-water construction and compliance with Florida's Standard Manatee Conditions for In-Water Work (FWC, 2005).

Any work conducted in waters or wetlands must also be approved by federal agencies coordinating their review through the CWA 404 review process. The USACE serves as the lead agency and incorporates input received from other federal agencies.



SCALE IN FEET

0 100 200

NORTH

Progress Energy Florida

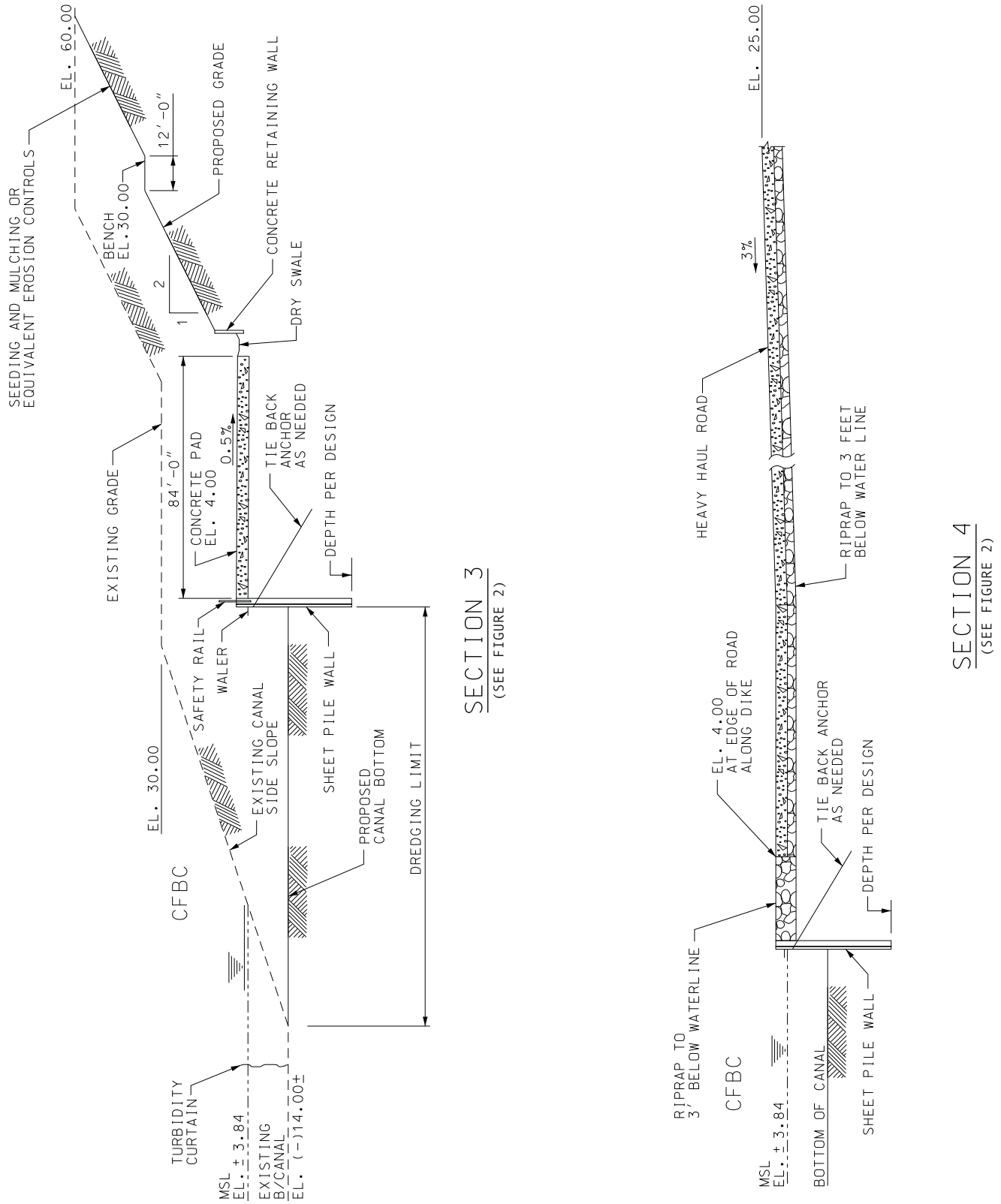
Levy Nuclear Plant
Units 1 and 2

Barge Slip – Plan View

FIGURE 2

Source: Sargent & Lundy, LLC, 2011.

Rev 2



SCALE IN FEET
NONE

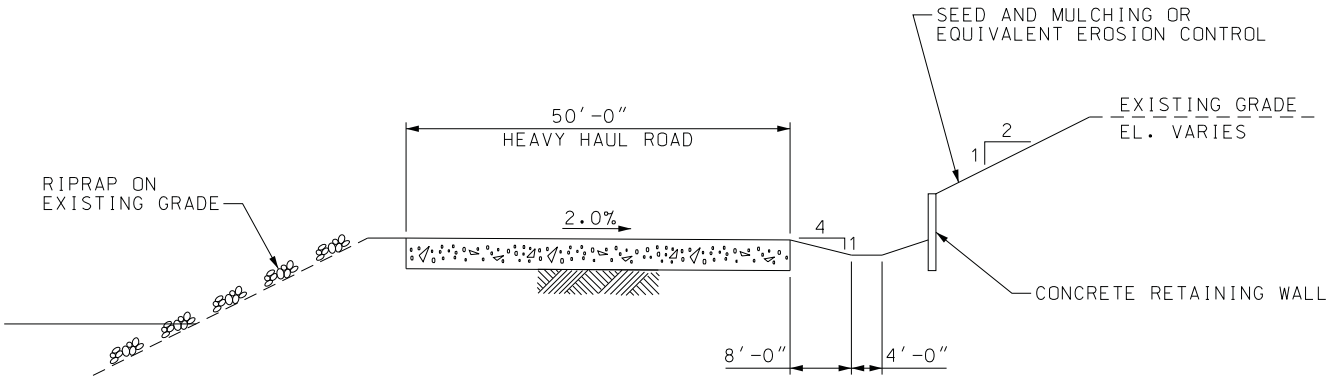
Progress Energy Florida
Levy Nuclear Plant Units 1 and 2

Barge Slip – Cross-Sections

FIGURE 3

Source: Sargent & Lundy, LLC, 2011.

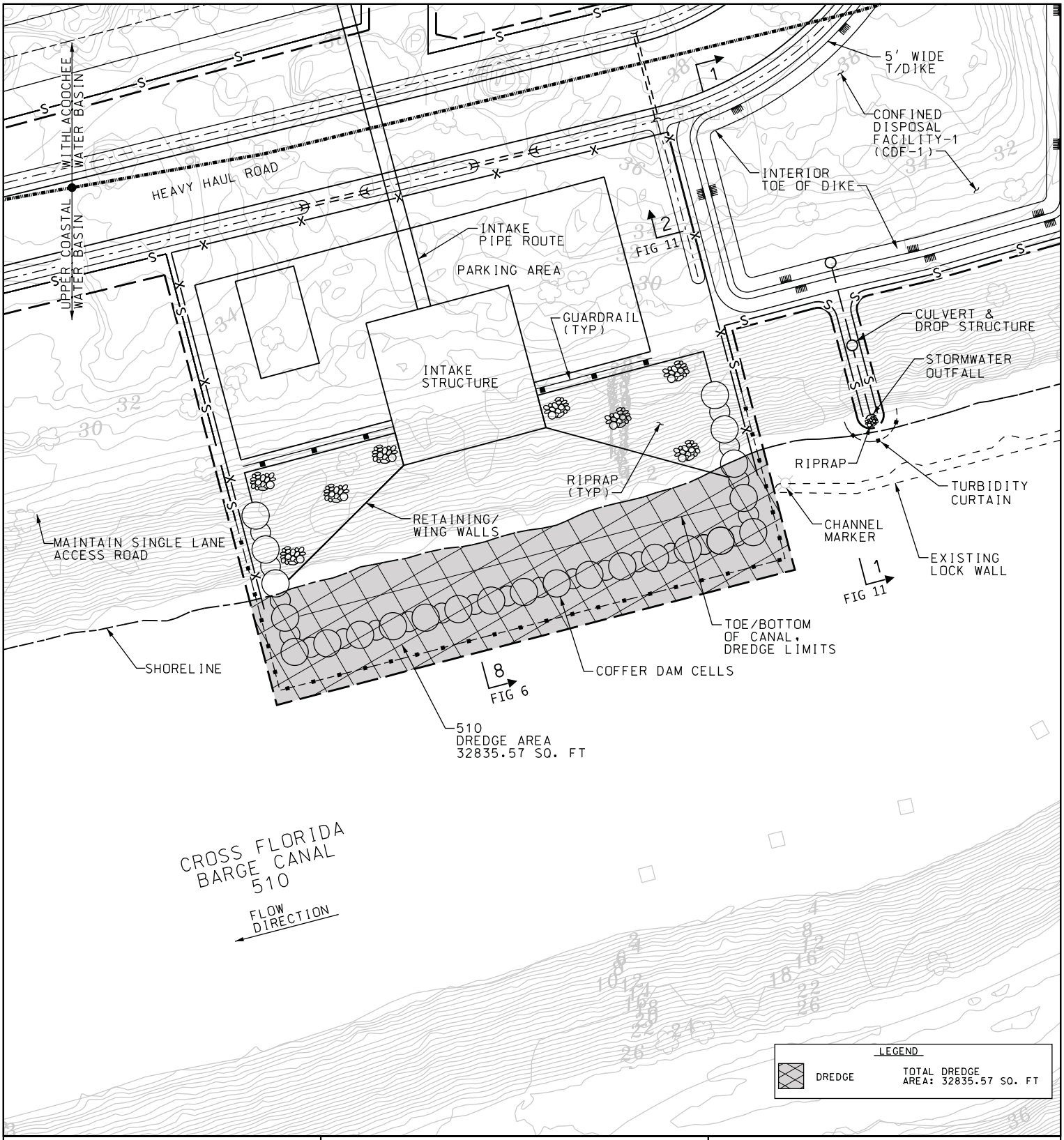
Rev 2



SECTION 5

(SEE FIGURE 2)

	SCALE IN FEET NONE	Progress Energy Florida **Levy Nuclear Plant** **Units 1 and 2**
		Barge Slip – Cross-Section FIGURE 4
	Source: Sargent & Lundy, LLC, 2011.	Rev 2



SCALE IN FEET

0 100 200

NORTH

Progress Energy Florida

Levy Nuclear Plant Units 1 and 2

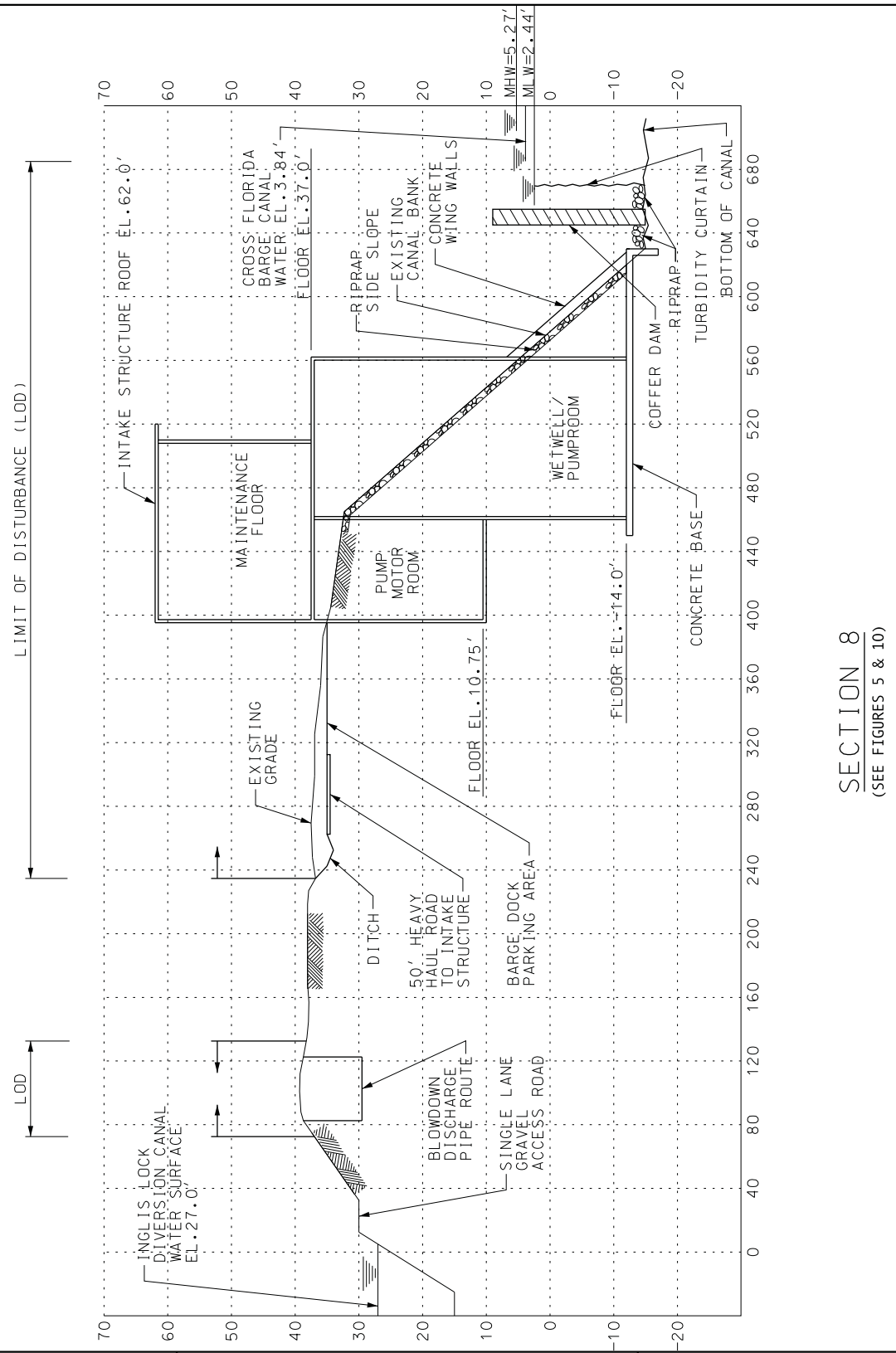
Note: CDF as shown is representative and is subject to modification based on technical considerations and to meet property owner requirements.

Intake Structure – Plan View

FIGURE 5

Source: Sargent & Lundy, LLC, 2011.

Rev 2



SECTION 8
(SEE FIGURES 5 & 10)

SCALE IN FEET
H: 1"=100'
V: 1'=25'

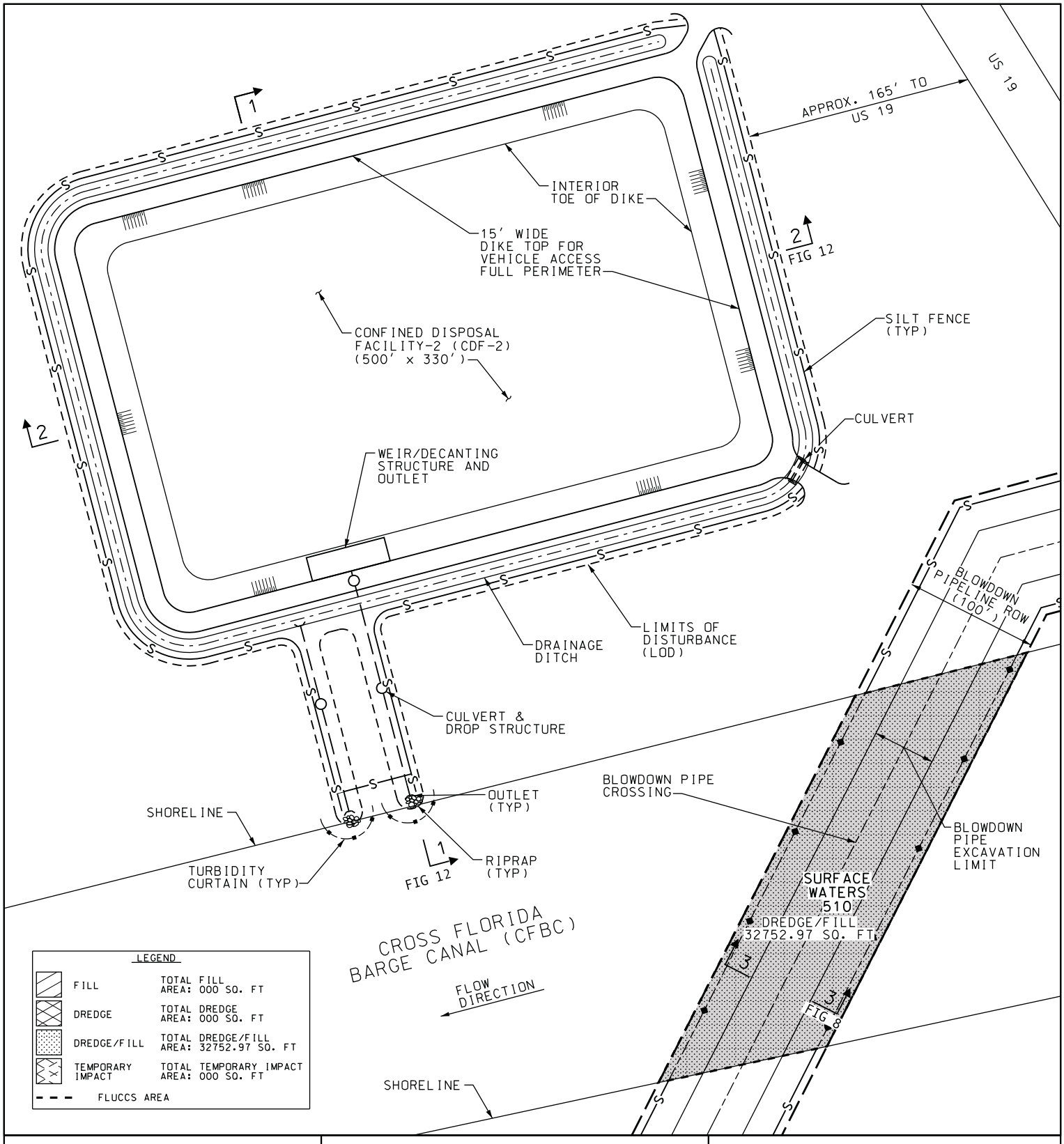
Progress Energy Florida
Levy Nuclear Plant Units 1 and 2

Intake Structure – Cross-Section

FIGURE 6

Source: Sargent & Lundy, LLC, 2011.

Rev 2



Note: CDF as shown is representative and is subject to modification based on technical considerations and to meet property owner requirements.

Source: Sargent & Lundy, LLC, 2011.

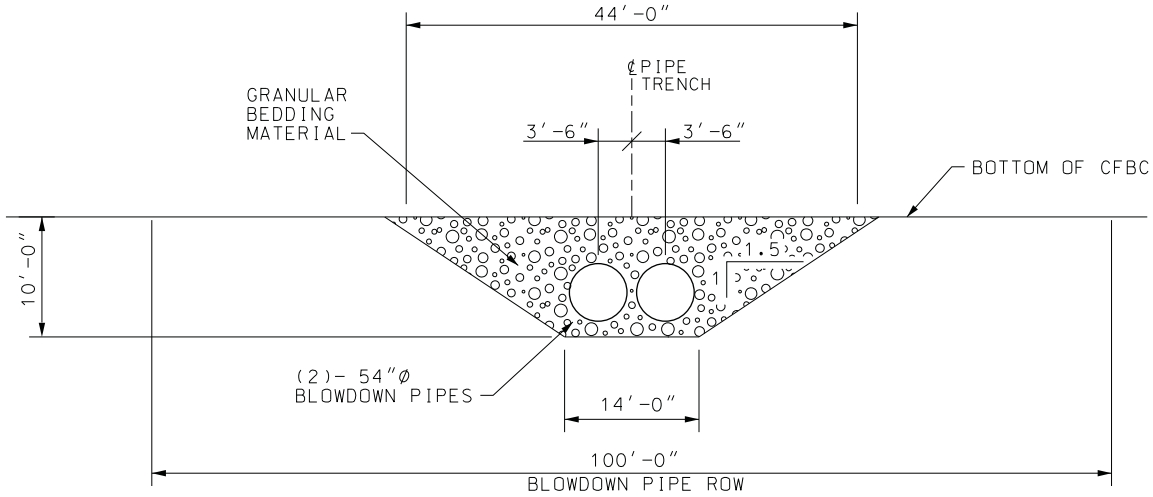
Progress Energy Florida

Levy Nuclear Plant Units 1 and 2

Location of Makeup Water Blowdown Pipeline Crossing on the Cross Florida Barge Canal and CDF-2 – Plan View

FIGURE 7

Rev 2



TYPICAL BLOWDOWN PIPE ROW CROSSING CFBC

SECTION 3

(SEE FIGURE 7)

SCALE IN FEET

0 20 40

NORTH

Progress Energy Florida

Levy Nuclear Plant
Units 1 and 2

Makeup Water Blowdown Pipeline Installation in the Cross Florida Barge Canal – Cross-Section

FIGURE 8

Source: Sargent & Lundy, LLC, 2011.

Rev 2

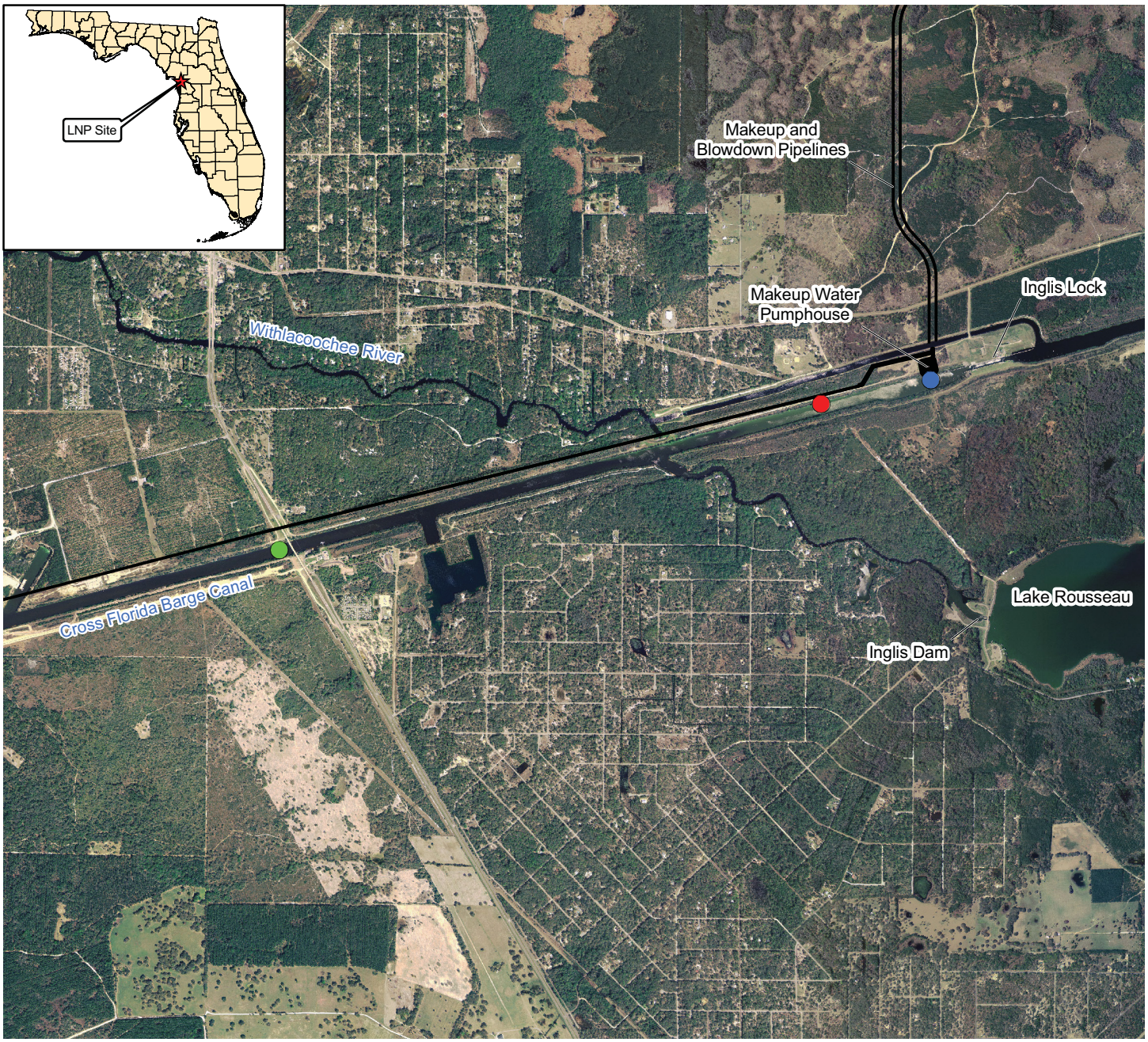
3.0 Evaluation of Sediments

USACE has published guidance regarding the evaluation of dredged material proposed for disposal (USACE, 2003). This guidance states that sediments from areas with no current or historic sources of contaminant do not require evaluation. Based on the distance from any known sources of contamination, the CFBC sediments in the areas to be dredged would not require testing. To comply with a request from FDEP, however, a toxicity characterization of sediments in the CFBC in areas that may be disrupted by construction of the LNP was conducted. This characterization was intended to provide information that will support decisions regarding the disposition of dredged sediments.

Sampling was conducted on January 28, 2009, at three locations in the CFBC (see Figure 9). These locations were situated in the vicinity of the proposed LNP intake structure, barge slip, and pipeline crossing. At each location, three grab samples were collected: one from the canal center and one between the center and both shorelines. These three grab samples were combined into one composite sample for analysis. The sediment samples were sent to a Florida-certified laboratory for Toxicity Characteristic Leaching Procedure (TCLP) analysis. TCLP analysis is a U.S. Environmental Protection Agency (EPA) test method used to characterize potential waste in soil as either hazardous or non-hazardous (EPA, 2011). The sediment samples were analyzed for the following compounds:

- Volatile organic compounds (VOCs) (gas chromatography/mass spectroscopy [GC/MS]) by EPA Method SW846 8260B
- Semivolatile organic compounds (SVOCs) (GC/MS) by EPA Method SW846 8270C
- Organochlorine pesticides and polychlorinated biphenyls (PCBs) (GC) by EPA Methods SW846 8081 and 8082
- Herbicides (GC) by EPA Method SW846 8151A
- Metals (induced coupled plasma spectroscopy [ICP]) by EPA Method SW846 6010B
- Mercury (cold vapor atomic absorption [CVAA]) by EPA Method SW846 7470A
- Ignitability for solids by EPA Method SW846 1030
- Reactive cyanide by EPA Method SW846 9012
- Reactive sulfide by EPA Method SW846 9034
- pH by EPA Method SW846 9045C

Results from each of the three sediment sample locations are shown on Table 1. The maximum concentration permitted according to 40 Code of Federal Regulations (CFR) Chapter 1 261.24 for all compounds is provided in Table 1, along with the method detection limit (MDL) and practical quantitation limit (PQL) obtained by the laboratory for each analyte. The laboratory analyses met the PQL requirements for all tests. Results from each of the three sediment samples were "undetected" for all analytes tested. Sediments sampled from each of the three locations in the CFBC are considered non-hazardous.



LEGEND

Sediment Sampling Location

- Station X
- Station Y
- Station Z

SCALE IN MILES

0 0.5 1

N W E S

Progress Energy Florida

Levy Nuclear Plant
Units 1 and 2

CFBC Sampling Locations for TCLP Analysis of Sediments

FIGURE 9

Rev 2

Sources: Sargent & Lundy, LLC, 2011; Labins, 2004.

TABLE 1
CFBC Sediment TCLP Analysis Results, January 28, 2009

				CFBC Location X		CFBC Location Y		CFBC Location Z	
	Maximum Concentration	MDL	PQL	Result	Qualifier	Result	Qualifier	Result	Qualifier
Volatile Organic Compounds (mg/L)									
Benzene	0.5	0.0064	0.02	0.02	U	0.02	U	0.02	U
Carbon tetrachloride	0.5	0.0054	0.02	0.02	U	0.02	U	0.02	U
Chlorobenzene	100	0.0068	0.02	0.02	U	0.02	U	0.02	U
Chloroform	6	0.0058	0.02	0.02	U	0.02	U	0.02	U
1,2-Dichloroethane	0.5	0.0062	0.02	0.02	U	0.02	U	0.02	U
1,1-Dichloroethene	0.7	0.0072	0.02	0.02	U	0.02	U	0.02	U
2-Butanone (MEK)	200	0.012	0.2	0.2	U	0.2	U	0.2	U
Tetrachloroethene	0.7	0.0056	0.02	0.02	U	0.02	U	0.02	U
Trichloroethene	0.5	0.008	0.02	0.02	U	0.02	U	0.02	U
Vinyl chloride	0.2	0.004	0.02	0.02	U	0.02	U	0.02	U
Semivolatile Organic Compounds (mg/L)									
1,4-Dichlorobenzene	7.5	0.0025	0.05	0.05	U	0.05	U	0.05	U
2.4-Dinitrotoluene	0.13	0.0025	0.05	0.05	U	0.05	U	0.05	U
Hexachloroethane	3	0.0025	0.05	0.05	U	0.05	U	0.05	U
Hexachlorobenzene	0.13	0.0025	0.05	0.05	U	0.05	U	0.05	U
Hexachlorobutadiene	0.5	0.025	0.05	0.05	U	0.05	U	0.05	U
Methyl phenols, total	200	0.0082	0.1	0.1	U	0.1	U	0.1	U
Nitrobenzene	2	0.0025	0.05	0.05	U	0.05	U	0.05	U

TABLE 1
CFBC Sediment TCLP Analysis Results, January 28, 2009

				CFBC Location X		CFBC Location Y		CFBC Location Z	
	Maximum Concentration	MDL	PQL	Result	Qualifier	Result	Qualifier	Result	Qualifier
Pentachlorophenol	100	0.025	0.25	0.25	U	0.25	U	0.25	U
Pyridine	5	0.05	0.25	0.25	U	0.25	U	0.25	U
2,4,5-Trichlorophenol	400	0.004	0.05	0.05	U	0.05	U	0.05	U
2,4,6-Trichlorophenol	2	0.0025	0.05	0.05	U	0.05	U	0.05	U
Pesticides (mg/L)									
Chlordane	0.03	0.0025	0.025	0.025	U	0.025	U	0.025	U
Endrin	0.02	0.0039	0.005	0.005	U	0.005	U	0.005	U
gamma-BHC (Lindane)	0.4	0.0003	0.0025	0.0025	U	0.0025	U	0.0025	U
Methoxychlor	10	0.025	0.025	0.025	U	0.025	U	0.025	U
Heptachlor	0.008	0.00023	0.0025	0.0025	U	0.0025	U	0.0025	U
Heptachlor epoxide	0.008	0.00035	0.0025	0.0025	U	0.0025	U	0.0025	U
Toxaphene	0.5	0.065	0.25	0.25	U	0.25	U	0.25	U
Herbicides (mg/L)									
2.4-D	10	0.0061	0.05	0.05	U	0.05	U	0.05	U
Silvex (2,4,5-TP)	1	0.0047	0.05	0.05	U	0.05	U	0.05	U
Metals (mg/L)									
Arsenic		0.059	0.2	0.2	U	0.2	U	0.2	U
Barium	100	0.02	1	1	U	1	U	1	U
Cadmium	1	0.0053	0.1	0.1	U	0.1	U	0.1	U
Chromium	5	0.013	0.2	0.2	U	0.2	U	0.2	U

TABLE 1
CFBC Sediment TCLP Analysis Results, January 28, 2009

				CFBC Location X		CFBC Location Y		CFBC Location Z	
	Maximum Concentration	MDL	PQL	Result	Qualifier	Result	Qualifier	Result	Qualifier
Lead	5	0.023	0.2	0.2	U	0.2	U	0.2	U
Selenium	1	0.036	0.5	0.5	U	0.5	U	0.5	U
Silver	5	0.0051	0.1	0.1	U	0.1	U	0.1	U
Mercury	0.2	0.008	0.02	0.02	U	0.02	U	0.02	U
General Chemistry									
Ignitability (mm/sec)				NB		NB		NB	
Corrosivity (pH in SU)				8.21		8.12		8.17	
Reactive Cyanide (mg/kg)			10	10	U	10	U	10	U
Reactive Sulfide (mg/kg)			50	50	U	50	U	50	U

MDL maximum detection limit
NB No burn. The three samples did not ignite and therefore a value could not be determined.
MEK methyl ethyl ketone
mg/kg milligrams per kilogram
mg/L milligrams per liter
mm/sec millimeters per second
PQL practical quantitation limit
SU standard units
U Indicates the analyte was analyzed for but not detected.

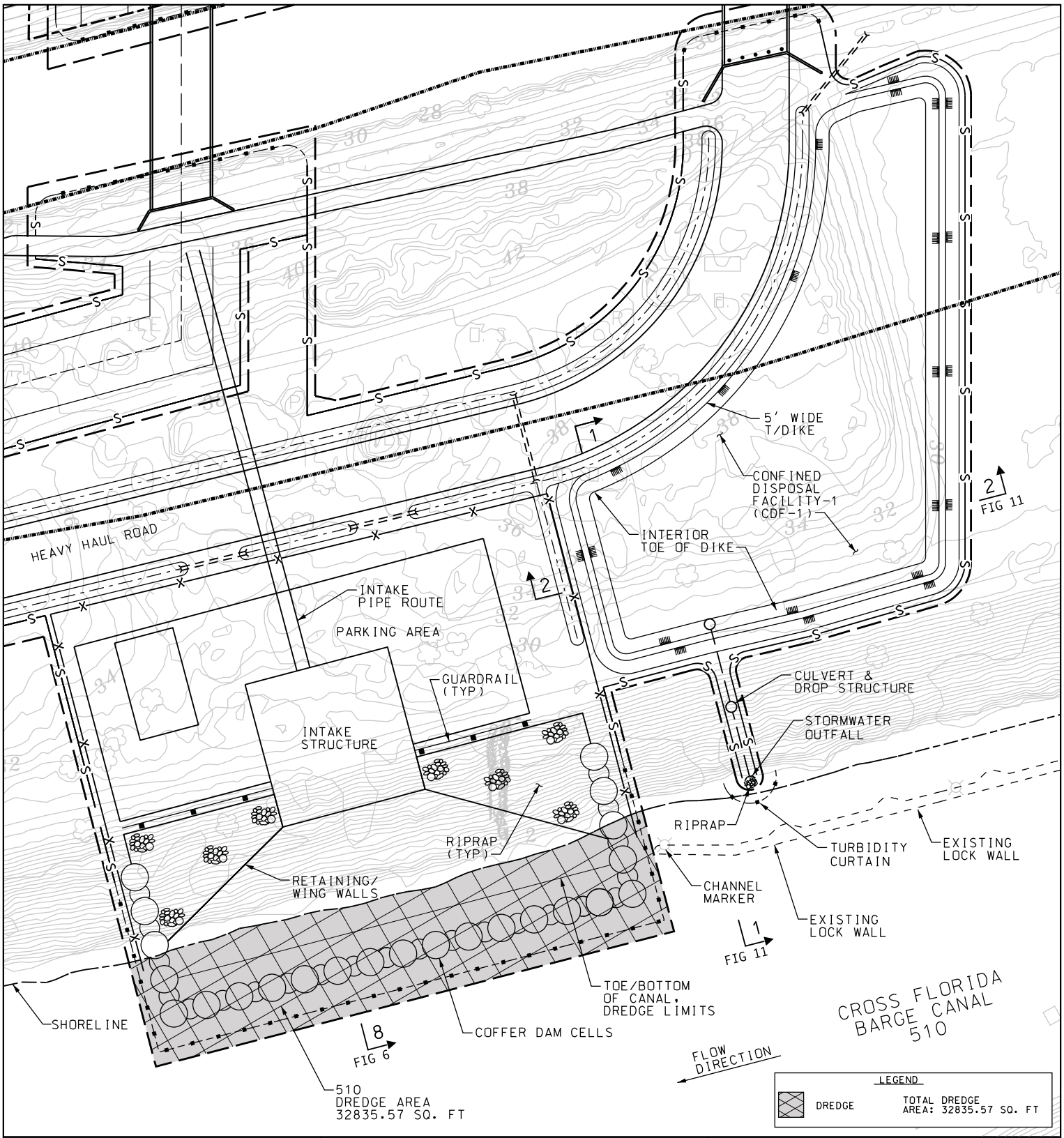
4.0 Sediment Management Plan

Dredged material will be pumped and delivered through temporary piping to a Confined Disposal Facility (CDF) where the material will be dewatered and stored during construction. There are two proposed CDFs (CDF-1 and CDF-2), and the general location of each CDF is shown on Figure 1. CDF-1 is located just northeast of the proposed Intake Structure. CDF-2 is located on the north shore of the CFBC, near the location where the blowdown pipelines cross the CFBC. Plan views of CDF-1 and CDF-2 are shown in Figures 10 and 7, respectively. Cross sections of CDF-1 and CDF-2 are provided in Figures 11 and 12, respectively. The locations and configurations of CDF-1 and CDF-2 are provisional and subject to modification based on discussions with landowners and regulatory agencies.

The testing results described in Section 3.0 indicate that the dredged sediments can be handled and used as clean material. Dredged materials will be pumped to the nearest CDF for confinement and dewatering. Suction and cutter dredge equipment used to excavate material creates a slurry that is estimated to be 15 to 20 percent solids. To be conservative, a value of 15 percent was used in calculations for CDF sizing. The CDFs will be designed to contain the full volume of dredged material generated as well as maintain a foot of freeboard during a 25-year design rainfall event, the typical FDEP requirement.

Following settling, water will be discharged from the CDFs back into the CFBC. The dredged material will dry in the CDFs and be hauled to the LNP site for beneficial use as general fill for roads, buildings, or berms. The CDF sites will be restored to their original grade after they are no longer needed.

State and federal permit requirements for these confinement facilities will be addressed through the overall project permitting. Dredging and associated disposal activities will be addressed through the state's post-certification Environmental Resource Permit (ERP) process and the CWA 404 permitThe use of sovereign submerged lands will also be addressed as a post-certification submittal per the COCs. However, a separate construction or temporary National Pollutant Discharge Elimination System (NPDES) permit may also be required to address these discharges. The CDFs will be managed and designed to comply with all federal and state water quality requirements.



Progress Energy Florida

Levy Nuclear Plant Units 1 and 2

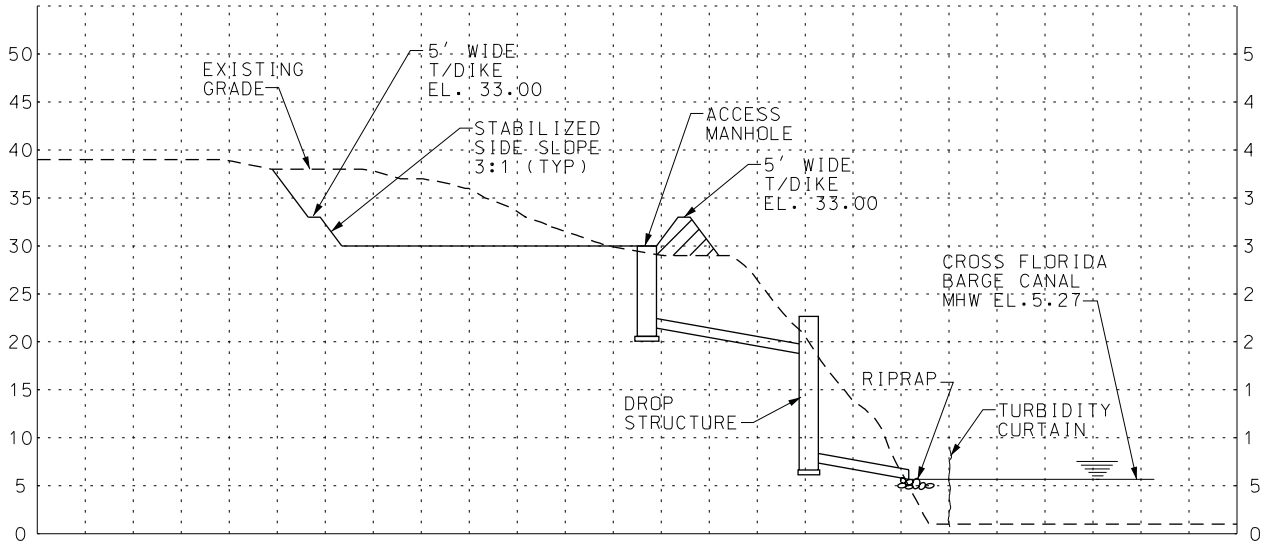
Note: CDF as shown is representative and is subject to modification based on technical considerations and to meet property owner requirements.

CDF-1 – Plan View

FIGURE 10

Source: Sargent & Lundy, LLC, 2011.

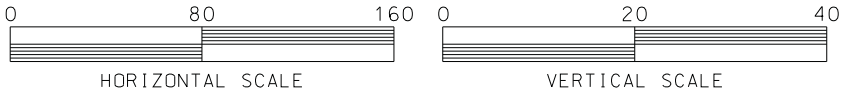
Rev 2

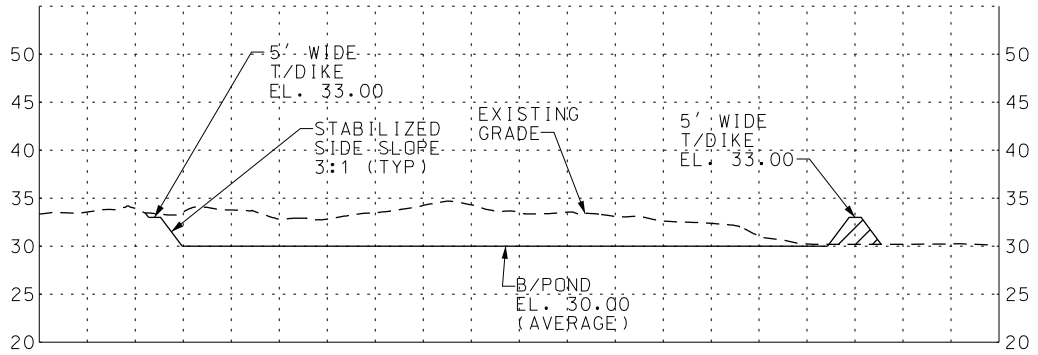


TEMPORARY DREDGE POND (CDF-1)

SECTION 1

(SEE FIGURES 5 & 10)

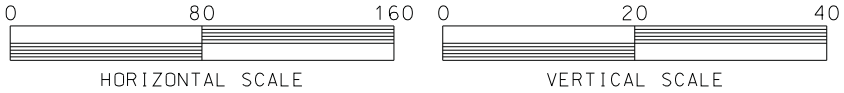




TEMPORARY DREDGE POND (CDF-1)

SECTION 2

(SEE FIGURES 5 & 10)



SCALE IN FEET

REFER TO SECTION

NORTH

Progress Energy Florida

Levy Nuclear Plant Units 1 and 2

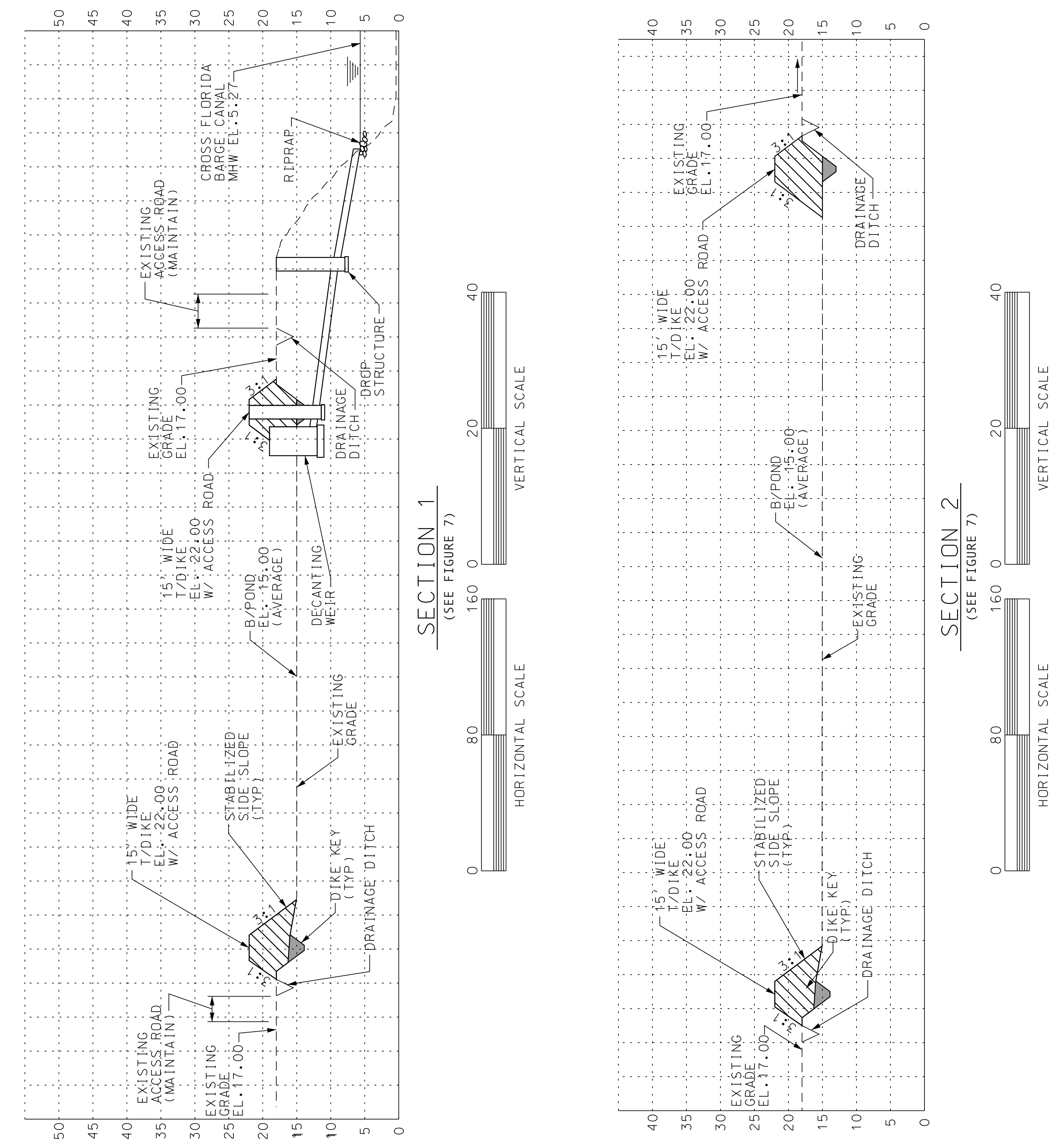
Note: CDF as shown is representative and is subject to modification based on technical considerations and to meet property owner requirements.

CDF-1 – Cross-Sections

FIGURE 11

Source: Sargent & Lundy, LLC, 2011.

Rev 2



SCALE IN FEET
REFER TO SECTION

NORTH

Progress Energy Florida

Levy Nuclear Plant
Units 1 and 2

Note: CDF as shown is representative and is subject to modification based on technical considerations and to meet property owner requirements.

CDF-2 – Cross-Sections

FIGURE 12

Source: Sargent & Lundy, LLC, 2011.

Rev 2

5.0 Conclusions

Dredging of CFBC sediment will be required for the construction and installation of facilities associated with the LNP. Construction activities in three areas are expected to displace the sediments of the CFBC: the barge slip, the intake structure, and the pipeline crossing. Each of these facilities is critical to the LNP project.

Analyses of sediment samples in the vicinity of the proposed dredging operations were conducted using EPA's TCLP protocol and no contamination was detected. Dredging and dredge material containment operations will be conducted in full compliance with project-specific COCs and regulatory criteria to minimize potential impacts to the environment. Following dewatering, dredged materials will be beneficially used at project areas requiring fill, such as roads and building foundations.

6.0 References

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U.S. Environmental Protection Agency (EPA). 2011. Test methods are accessible through: http://www.epa.gov/osa/fem/methcollectns.htm. Accessed June 17, 2011.