US Army Corps
Of Engineers
Wilmington District

PUBLIC NOTICE

Issue Date: July 8, 2015
Comment Deadline: July 29, 2015
Corps Action ID Number: SAW-2014-02012

The Wilmington District, Corps of Engineers (Corps) received an application from Mr. Jeffrey Hudson of Onslow County seeking Department of the Army authorization to perform maintenance dredging in the Atlantic Intracoastal Waterway (AIWW), New River Inlet, and Cedar Bush Cut and deposit dredged material along the northern 2 miles of the North Topsail Beach oceanfront associated with an Onslow County Navigation Project in the Town of North Topsail Beach, Onslow County, North Carolina.

Specific plans and location information are described below and shown on the attached plans. This Public Notice and all attached plans are also available on the Wilmington District Web Site at:
http://www.saw.usace.army.mil/Missions/RegulatoryPermitProgram.aspx

Applicant:
Onslow County Planning and Development
Attn: Mr. Jeffery Hudson
4024 Richlands Highway
Jacksonville, North Carolina 28540

Agent (if applicable):
Coastal Planning and Engineering of North Carolina, Inc.
Attn: Mr. Greg Finch
4038 Masonboro Loop Road
Wilmington, North Carolina 28409

Authority

The Corps evaluates this application and decides whether to issue, conditionally issue, or deny the proposed work pursuant to applicable procedures of the following Statutory Authorities:

☒ Section 404 of the Clean Water Act (33 U.S.C. 1344)

☒ Section 10 of the Rivers and Harbors Act of 1899 (33 U.S.C. 403)

☐ Section 103 of the Marine Protection, Research and Sanctuaries Act of 1972 (33 U.S.C. 1413)

Location

Directions to Site: The project site is located along the northern end of north Topsail Beach. From Wilmington, take US Highway 17 North to NC Highway 210, turn right on NC Highway 210 and continue across the Surf City Swing Bridge. Turn left at the first street to continue on NC Highway 210 (locally known as New River Road), and follow until you reach New River Inlet Road. Turn right onto New River Inlet Road and follow until the road dead ends. The project area includes the northernmost 2 miles of North Topsail Beach, a portion of New River Inlet, Cedar Bush Cut, and the Atlantic Intracoastal Waterway (AIWW).

Project Area (acres):	130
Nearest Town:	North Topsail Beach
Nearest Waterway:	AIWW/New River Inlet/ Cedar Bush Cut
River Basin:	White Oak
Latitude and Longitude:	34.446847 N, -77.508681W

Existing Site Conditions

The project site includes the shoreline along the northern most portion of North Topsail Beach (approximately 3,200 linear feet) which currently contains an above average size sandbag revetment, which extends below the elevation of Normal High Water (NHW) along most of the alignment. The current elevation of the beach project ranges from approximately -10' NAVD to approximately 11' NAVD. The project site is adjacent to commercial and residential properties as well as infrastructure for the Town of North Topsail Beach (i.e. New River Inlet Road). The project site is bordered by Onslow Beach to the north, the Atlantic Ocean to the east, and commercial and residential properties to the south and west. The high ground portion of the property is vegetated primarily with American Beach Grass (*Ammophila breviligulata*) and Sea Oats (*Uniola paniculata*). The waters of the project site are classified as SA by the North Carolina Division of Water Resources (NC DWR). The North Carolina Division of Marine Fisheries (NC DMF) has not designated this area of the AIWW and New River/ Atlantic Ocean as a Primary Nursery Area (PNA). The waters adjacent to the proposed project are open to the harvesting of shellfish.

Applicant's Stated Purpose

The applicant states that the purpose of the project is to maintain safe navigation of the existing channels for commercial, recreational and government vessels.

Project Description

The applicant proposes to perform maintenance dredging of the AIWW, New River Inlet, and Cedar Bush Cut through use of a hydraulic pipeline dredge and pipeline, bulldozers, front-end loaders and other earth moving machinery. The project would dredge 164,000 cubic yards of material out of the New River and pump the dredged material by either a submerged or floating pipeline onto the beach (filling approximately 48-acres of beach) at the northern end of North Topsail Beach. For the purpose of distinguishing the proposed dredged areas, the project is separated into the following three areas: 1) The channel leading to Jacksonville (Section I, A-A); 2) The AIWW (Sections II and III, B-B); and 3) New River Inlet (C-C). The soil deposition site includes beach front areas previously approved for fill material under phase I of the North Topsail Beach Shoreline Stabilization Project (CAMA Major Permit No. 79-10 and Corps Action ID: SAW-2004-00344 (ORM number: SAW-2005-00344)). A secondary site (USACE Disposal Area DA-143) has been designated for any non-compatible material that may be encountered. DA-143 is approximately 40 acres in size and is located at the intersection of the AIWW and New River in the area known as Cedar Bush Cut. Each of the three proposed dredged areas have been historically dredged, either by the US Army Corps of Engineers or the Town of North Topsail Beach. A detailed description of the three proposed dredged areas is below:

1) Channel to Jacksonville: The applicant proposes to maintain the 90-foot wide channel to a depth of -10', Mean Low Water (MLW) plus 1-foot of over dredge in 8,000 linear feet of the lower New River extending northward from the AIWW. Historical (2007) vibracore data collected by the USACE found that the material within these samples was described as primarily tan in color, poorly graded coarse sand near the crossing and transitioning to a gray, poorly graded fine sine to a silty sand further up in the channel to Jacksonville. Additional samples collected by the USACE in 2009, are described in a report and found on Figure 2 of the application. Additionally the Town of North Topsail Beach hired a private company to collect vibracore data within the proposed dredged areas in 2015 (see Figure 3 for sample locations). The channel slopes in this area would be constructed at a 3H:1V from the existing grade down to the bottom of the channel.
2) AIWW: Channel maintenance within the AIWW would include dredging portions of the AIWW's Section II and III. These sections have historically been documented to contain beach compatible material based on the USACE's vibracore data. The previously dredged channel dimensions include a 90-foot wide by 5,300-foot long by 12-feet plus 2 feet of overdredge, at a grade of 3H:1V. This work would be located within the intersection of the AIWW/ New River, and is identified as cross section B-B, on site plan drawing 2 of 13.
3) New River Inlet/Cedar Bush Cut: The proposed project area of this section of the project is located within the Cedar Bush Cut/New River Inlet Channel and extends from channel marker #11 to New River Inlet and continues out until reaching the COLREGS demarcation line. The channel would be maintained to a width of 90-feet, except for a 1,200-foot section which is proposed to be

maintained to a width of 140-feet with Cedar Bush Cut. The current authorized channel depth for this section of the project is -6', MLW plus 2' of overdredge. The applicant proposes to deepen this channel to a -8', MLW plus 2' of overdredge. The proposed work would measure approximately 10,000 linear feet in length and the final dredge cut would tie into the existing grade at a 3H:1V slope.

Beach compatible dredged material which meets the state of North Carolina's sediment criteria is proposed to be placed along the northernmost 2 mile stretch of North Topsail Beach. The beach fill template is proposed to extend from the northern tip of North Topsail Beach (from the area near 2390 New River Inlet Road), a distance of approximately 10,560 linear feet south to the area known as "Trade Winds", or "Galleon Bay". The berm crest would extend approximately 200-feet from the seaward toe of the existing dune, east to an area below normal high water level. The application states that beach density would vary, but remain below 35 cubic yards/foot. The top of the proposed berm crest would be constructed to an elevation of approximately +/-6.0 feet NAVD, at a slope of 15:1. According the application, the toe of the fill placement is proposed to extend below the MLW level. No sand or other fill material would be placed on or landward of the temporary construction containment tube or any sandbags within the placement area.

The applicant states that storage of the machinery should not be an issue since they anticipate working 24 hours a day.

Avoidance and Minimization

The applicant provided the following information in support of efforts to avoid and/or minimize impacts to the aquatic environment: The applicant proposes to implement conservation measures to reduce adverse effects or incidental takes of federally listed threatened and endangered (T&E) species described below and detailed in the applicant's Biological Assessment.

1) Construction Practices:
    a. Construction Schedule-Maintenance dredging activities along with the material placement along the shoreline of North Topsail Beach is proposed between November 16 and April 30. Additionally, sand placement and dredge operations conducted outside of the spring and fall, (primary invertebrate production and recruitment periods), will reduce impacts to amphipods, polycheates, crabs, and clams and also assist in minimizing effects to T&E prey sources.
    b. Dredge Type- A hydraulic cutterhead is proposed for the proposed maintenance dredge areas. A cutterhead dredge uses a rotating cutter assembly at the end of a ladder arm to excavate bottom material, which is drawn into the suction arm and pumped to the shoreline. On the beach, pipelines are proposed to transport the sediment into a designated placement area. Bulldozers are proposed to construct seaward shore

parallel dikes to contain the material on the beach, and to shape the beach according to the applicant's cross-section template. The contractor will survey the berm width, height, and slope for compliance during construction.

c. Dredge Positioning- the applicant proposes to utilize an automated dredge positioning and monitoring system in order to provide the dredge operator with real-time display of dredge position, location and depth of the cutterhead to ensure operation within permitted design parameters.
d. Pipeline Positioning- Placement of pipelines along the beach for transporting the dredged material are proposed to be aligned to avoid potential piping plover habitat as much as practicable. The alignment will be coordinated with, and approved by the Corps. As-built pipeline positions will be recorded using GPS technology and included in the final construction observation report.

2) Monitoring:
    a. Construction Observations-The applicant proposes to monitor construction activities mainly during daylight hours, however also states that random, nighttime observations may be conducted. The construction activities will be observed by an individual with training or experience in construction observation and testing, and that is also knowledgeable of the project design and permit conditions. A coastal engineer will coordinate with the field observer. Material placed on the beach will have multiple daily QA/QC observations, and the Corps and appropriate resource agencies with be contacted to determine a course of action if incompatible material is placed on the beach.
    b. Sediment Characteristics- The proposed areas of maintenance dredging contain beach compatible sand per the state sediment criteria. During construction, material will be monitored for compatibility with state sediment criteria and if necessary, quantitative assessments will be conducted for grain size, wet Munsell color, and content of gravel, granular and silt. The sand evaluation records are proposed to be included within the Engineer's inspection reports and submitted to the Corps and NC DCM for verification. Post construction, compaction of placed material will be inspected with NC DCM and the Corps. Additional work may be necessary to reduce compaction, such as tilling, based upon consultation with the appropriate agencies.
    c. Escarpments- Immediately after construction, visual surveys of escarpments will be conducted. Escarpments that exceed 18 inches for greater than 100 feet are proposed to be graded to match adjacent grades on the beach.
    d. Water Quality and Pipeline Observations- Turbidity monitoring during construction will be managed by the contractor, and daily visual turbidity level inspections will be performed. Additionally, the pipeline transporting the dredged material will be monitored during construction to avoid

adverse impacts associated with a leaking pipeline or coupling which may result in sediment plumes, siltation, and/or elevated turbidity levels.

Compensatory Mitigation

The applicant offered the following compensatory mitigation plan to offset unavoidable functional loss to the aquatic environment: The applicant did not provide a compensatory mitigation plan with the application and does not propose to provide compensatory mitigation, since there will be no permanent impacts to aquatic resources, including wetlands.

Essential Fish Habitat

Pursuant to the Magnuson-Stevens Fishery Conservation and Management Act, this Public Notice initiates the Essential Fish Habitat (EFH) consultation requirements. The Corps' initial determination is that the proposed project
may affect, but not likely to adversely affect EFH or associated fisheries managed by the South Atlantic or Mid Atlantic Fishery Management Councils or the National Marine Fisheries Service.

Cultural Resources

Pursuant to Section 106 of the National Historic Preservation Act of 1966, Appendix C of 33 CFR Part 325, and the 2005 Revised Interim Guidance for Implementing Appendix C, the District Engineer consulted district files and records and the latest published version of the National Register of Historic Places and initially determines that:

☐ Should historic properties, or properties eligible for inclusion in the National Register, be present within the Corps' permit area; the proposed activity requiring the DA permit (the undertaking) is a type of activity that will have no potential to cause an effect to an historic properties.

☒ No historic properties, nor properties eligible for inclusion in the National Register, are present within the Corps' permit area; therefore, there will be no historic properties affected. The Corps subsequently requests concurrence from the SHPO (or THPO).

☐ Properties ineligible for inclusion in the National Register are present within the Corps' permit area; there will be no historic properties affected by the proposed work. The Corps subsequently requests concurrence from the SHPO (or THPO).

☐ Historic properties, or properties eligible for inclusion in the National Register, are present within the Corps' permit area; however, the undertaking will have no

adverse effect on these historic properties. The Corps subsequently requests concurrence from the SHPO (or THPO).

☐ Historic properties, or properties eligible for inclusion in the National Register, are present within the Corps' permit area; moreover, the undertaking may have an adverse effect on these historic properties. The Corps subsequently initiates consultation with the SHPO (or THPO).

☐ The proposed work takes place in an area known to have the potential for the presence of prehistoric and historic cultural resources; however, the area has not been formally surveyed for the presence of cultural resources. No sites eligible for inclusion in the National Register of Historic Places are known to be present in the vicinity of the proposed work. Additional work may be necessary to identify and assess any historic or prehistoric resources that may be present.

The District Engineer's final eligibility and effect determination will be based upon coordination with the SHPO and/or THPO, as appropriate and required, and with full consideration given to the proposed undertaking's potential direct and indirect effects on historic properties within the Corps-indentified permit area.

Endangered Species

Pursuant to the Endangered Species Act of 1973, the Corps reviewed the project area, examined all information provided by the applicant and consulted the latest North Carolina Natural Heritage Database. Based on available information:

☐ The Corps determines that the proposed project would not affect federally listed endangered or threatened species or their formally designated critical habitat.

☒ The Corps determines that the proposed project may affect federally listed endangered or threatened species or their formally designated critical habitat. Under separate letter, the Corps will request to initiate consultation pursuant to Section 7 of the ESA and will not make a permit decision until the consultation process is complete.

☐ The Corps is not aware of the presence of species listed as threatened or endangered or their critical habitat formally designated pursuant to the Endangered Species Act of 1973 (ESA) within the project area. The Corps will make a final determination on the effects of the proposed project upon additional review of the project and completion of any necessary biological assessment and/or consultation with the U.S. Fish and Wildlife Service and/or National Marine Fisheries Service.

Other Required Authorizations

The Corps forwards this notice and all applicable application materials to the appropriate State agencies for review.

North Carolina Division of Water Resources (NCDWR): The Corps will generally not make a final permit decision until the NCDWR issues, denies, or waives the state Certification as required by Section 401 of the Clean Water Act (PL 92-500). The receipt of the application and this public notice, combined with the appropriate application fee, at the NCDWR Central Office in Raleigh constitutes initial receipt of an application for a 401 Certification. A waiver will be deemed to occur if the NCDWR fails to act on this request for certification within sixty days of receipt of a complete application. Additional information regarding the 401 Certification may be reviewed at the NCDWR Central Office, 401 and Buffer Permitting Unit, 512 North Salisbury Street, Raleigh, North Carolina 27604-2260. All persons desiring to make comments regarding the application for a 401 Certification should do so, in writing, by July 29, 2015 to:

NCDWR Central Office
Attention: Ms. Karen Higgins, 401 and Buffer Permitting Unit
(USPS mailing address): 1617 Mail Service Center, Raleigh, NC 27699-1617

Or,

(physical address): 512 North Salisbury Street, Raleigh, North Carolina 27604

North Carolina Division of Coastal Management (NCDCM):

☒ The application included a certification that the proposed work complies with and would be conducted in a manner that is consistent with the approved North Carolina Coastal Zone Management Program. Pursuant to 33 CFR 325.2 (b)(2) the Corps cannot issue a Department of Army (DA) permit for the proposed work until the applicant submits such a certification to the Corps and the NCDCM, and the NCDCM notifies the Corps that it concurs with the applicant's consistency certification.

☐ Based upon all available information, the Corps determines that this application for a Department of Army (DA) permit does not involve an activity which would affect the coastal zone, which is defined by the Coastal Zone Management (CZM) Act (16 U.S.C. § 1453).

Evaluation

The decision whether to issue a permit will be based on an evaluation of the probable impacts including cumulative impacts of the proposed activity on the public interest.

That decision will reflect the national concern for both protection and utilization of important resources. The benefit which reasonably may be expected to accrue from the proposal must be balanced against its reasonably foreseeable detriments. All factors which may be relevant to the proposal will be considered including the cumulative effects thereof; among those are conservation, economics, aesthetics, general environmental concerns, wetlands, historic properties, fish and wildlife values, flood hazards, flood plain values (in accordance with Executive Order 11988), land use, navigation, shoreline 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 discharge of dredged or fill materials in waters of the United States, the evaluation of the impact of the activity on the public interest will include application of the Environmental Protection Agency's 404(b)(1) guidelines.

Commenting Information

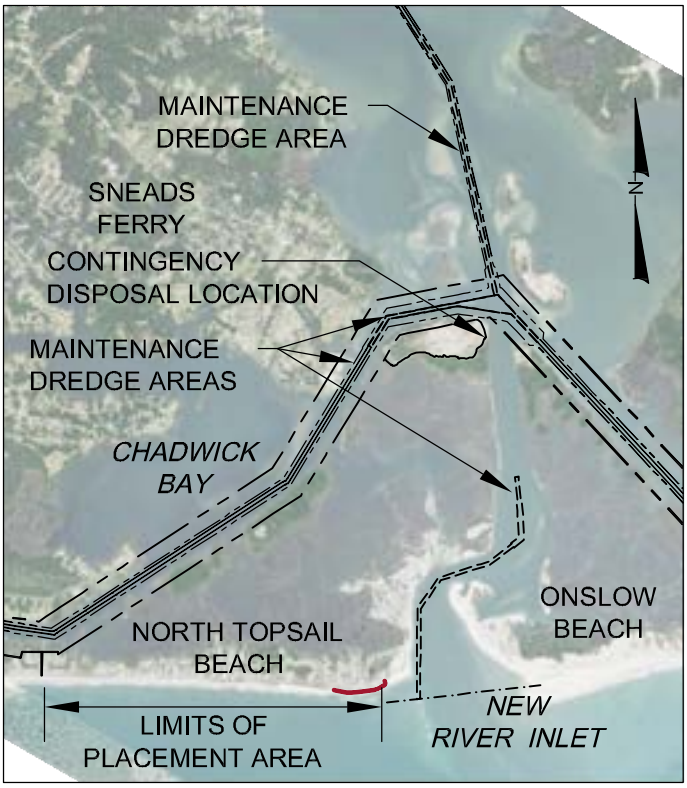
The Corps of Engineers is soliciting comments from the public; Federal, State and local agencies and officials, including any consolidated State Viewpoint or written position of the Governor; Indian Tribes and other interested parties in order to consider and evaluate the impacts of this proposed activity. Any comments received will be considered by the Corps of Engineers to determine whether to issue, modify, condition or deny a permit for this proposal. To make this decision, comments are used to assess impacts on endangered species, historic properties, water quality, general environmental effects and the other public interest factors listed above. Comments are used in the preparation of an Environmental Assessment (EA) and/or an Environmental Impact Statement (EIS) pursuant to the National Environmental Policy Act (NEPA). Comments are also used to determine the need for a public hearing and to determine the overall public interest of the proposed activity.

Any person may request, in writing, within the comment period specified in this notice, that a public hearing be held to consider the application. Requests for public hearings shall state, with particularity, the reasons for holding a public hearing. Requests for a public hearing shall be granted, unless the District Engineer determines that the issues raised are insubstantial or there is otherwise no valid interest to be served by a hearing.

The Corps of Engineers, Wilmington District will receive written comments pertinent to the proposed work, as outlined above, until 5pm, July 29, 2015. Comments should be submitted to Ms. Liz Hair, Wilmington Regulatory Field Office, 69 Darlington Avenue, Wilmington, North Carolina 28403 , at (910) 251-4049.

ONSLOW COUNTY NAVIGATION PERMITTING

ONSLOW COUNTY, NORTH CAROLINA



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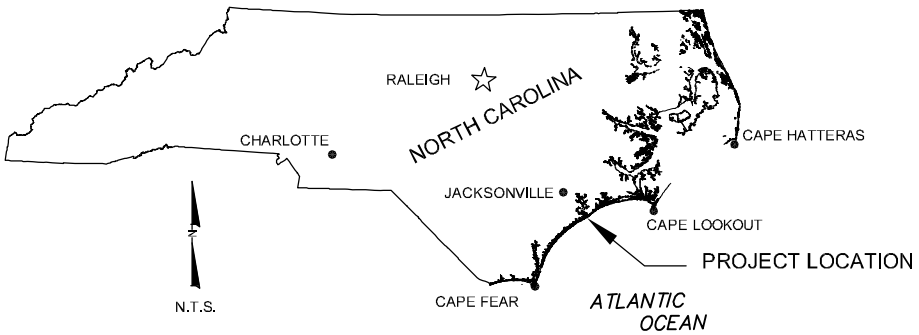
INDEX TO SHEETS



NOT FOR CONSTRUCTION
FOR REGULATORY REVIEW ONLY

DATE

REVISIONS		
DATE	BY	DESCRIPTION
4/14/15		REVISIONS PER DCM COMMENTS
5/21/15		REVISIONS PER DCM COMMENTS

ONLOW COUNTY NAVIGATION PERMITTING
ONSLOW COUNTY, NORTH CAROLINA
COVER SHEET

COASTAL PLANNING & ENGINEERING, INC.
OF NORTH CAROLINA, INC.
4038 MASONBORO LOOP RD.
WILMINGTON, N.C. 28409
PH. (904) 791-9494
FAX (904) 7914129

DATE: 4/9/15
BY: GK
COMM NO.: 153262
SHEET: 1 OF 13

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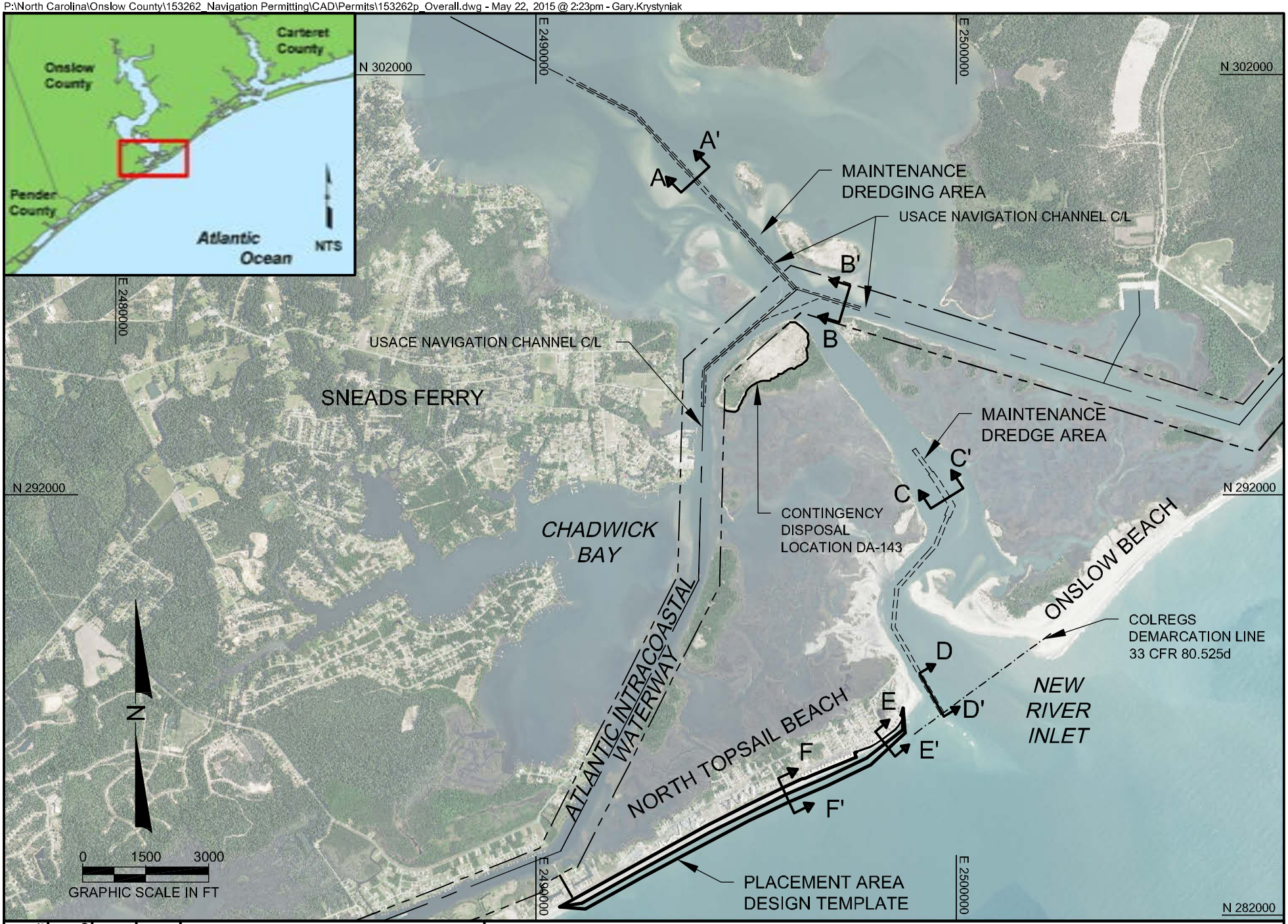

SHEET: 2 OF 13	COMM NO.: 153262	GK	DATE: 4/9/15	**COASTAL PLANNING & ENGINEERING, INC.** **A CB&I COMPANY** 2481 N.W. BOCA RATON BOULEVARD BOCA RATON, FLORIDA 33431 PH. (561) 391-8102 FAX (561) 391-9116 www.CoastalPlanning.net C.O.A. FL. #4028	**ONSLOW COUNTY NAVIGATION PERMITTING** **ONSLOW COUNTY, NORTH CAROLINA** **PROJECT PLAN VIEW**

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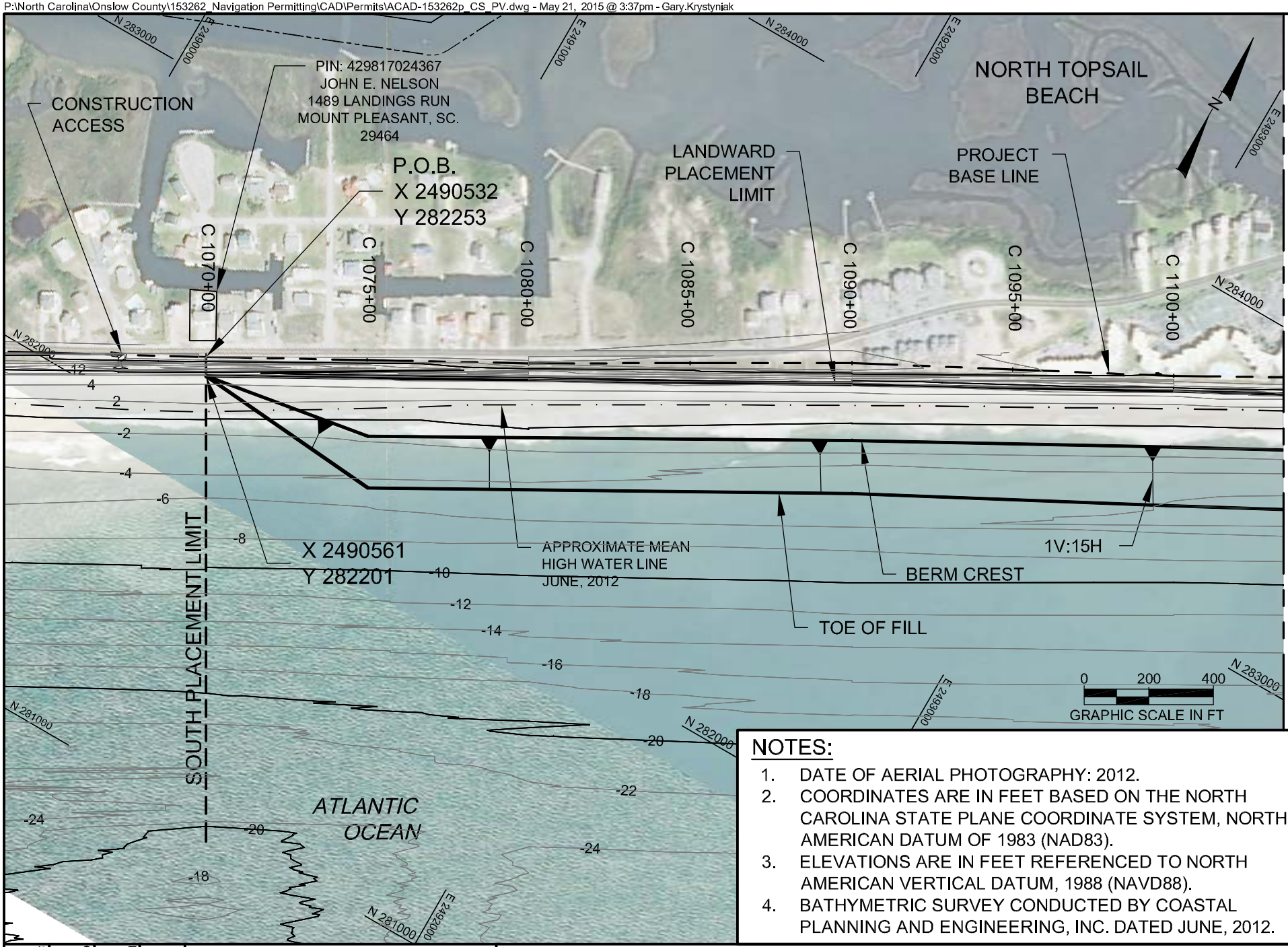

NOTES:

1. DATE OF AERIAL PHOTOGRAPHY: 2012.
2. COORDINATES ARE IN FEET BASED ON THE NORTH CAROLINA STATE PLANE COORDINATE SYSTEM, NORTH AMERICAN DATUM OF 1983 (NAD83).
3. ELEVATIONS ARE IN FEET REFERENCED TO NORTH AMERICAN VERTICAL DATUM, 1988 (NAVD88).
4. BATHYMETRIC SURVEY CONDUCTED BY COASTAL PLANNING AND ENGINEERING, INC. DATED JUNE, 2012.

SHEET:	COMM NO.:	BY:	DATE:		TITLE:
3 OF 13	153262	GK	4/9/15	COASTAL PLANNING & ENGINEERING, INC. OF NORTH CAROLINA, INC. 4038 MASONBORO LOOP RD, WILMINGTON, N.C. 28409 PH. (904) 791-9494 FAX (904) 7914129	ONSLOW COUNTY NAVIGATION PERMITTING ONSLOW COUNTY, NORTH CAROLINA PLACEMENT AREA PLAN VIEW

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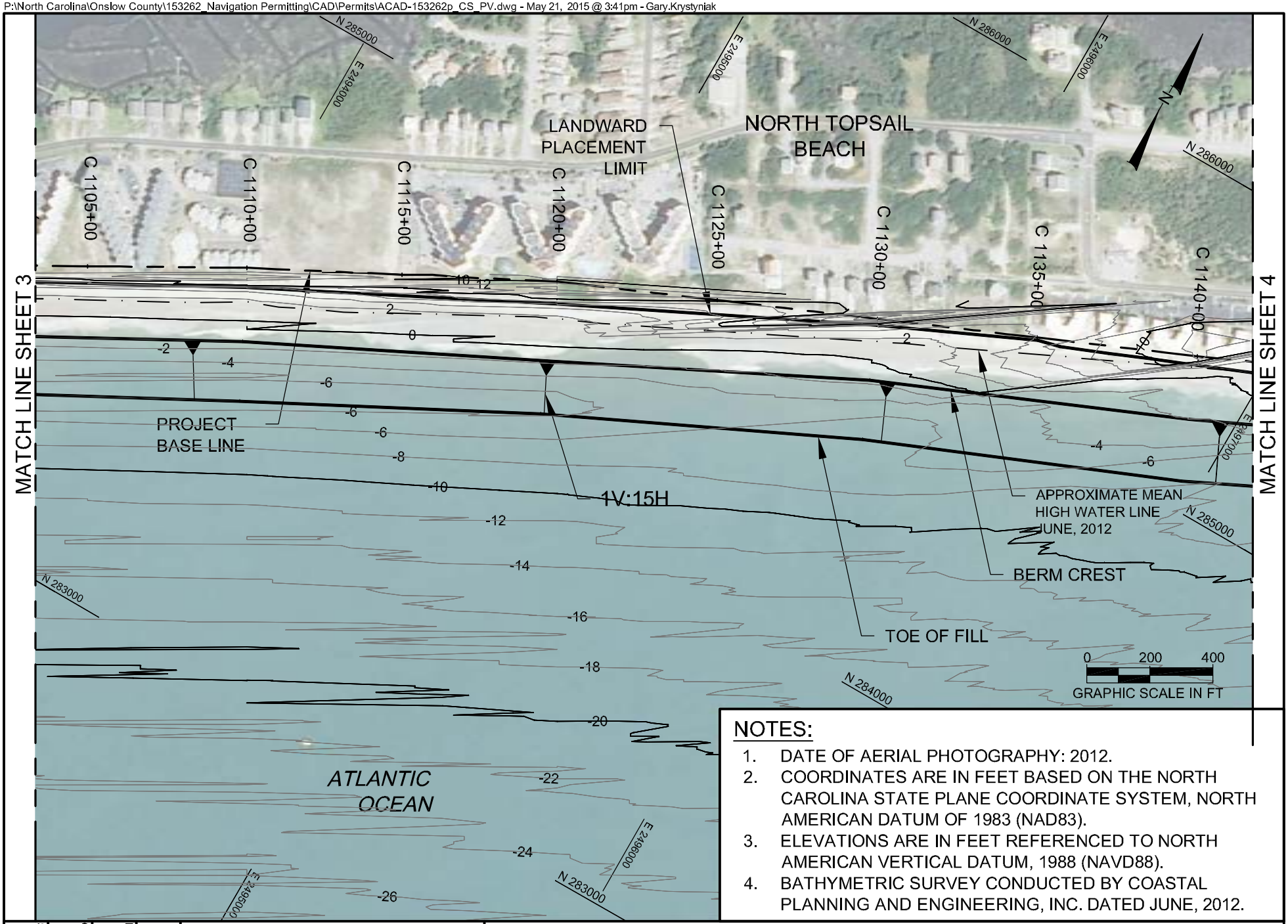

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4 OF 13	153262	GK	4/9/15	COASTAL PLANNING & ENGINEERING, INC. OF NORTH CAROLINA, INC. 4038 MASONBORO LOOP RD, WILMINGTON, N.C. 28409 PH. (904) 791-9494 FAX (904) 7914129	ONSLOW COUNTY NAVIGATION PERMITTING ONSLOW COUNTY, NORTH CAROLINA PLACEMENT AREA PLAN VIEW

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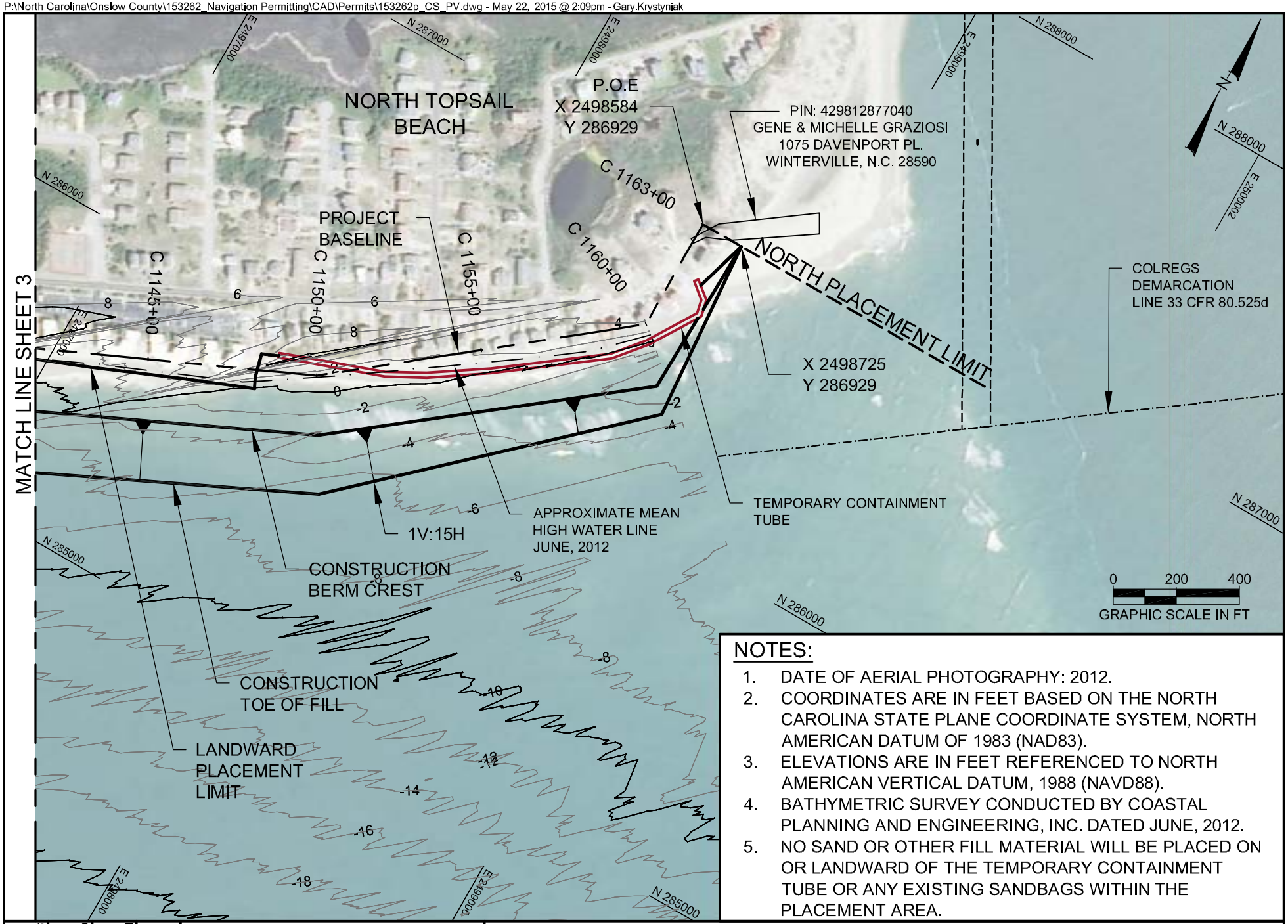

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4. BATHYMETRIC SURVEY CONDUCTED BY COASTAL PLANNING AND ENGINEERING, INC. DATED JUNE, 2012.
5. NO SAND OR OTHER FILL MATERIAL WILL BE PLACED ON OR LANDWARD OF THE TEMPORARY CONTAINMENT TUBE OR ANY EXISTING SANDBAGS WITHIN THE PLACEMENT AREA.

SHEET: 5 OF 13
COMM NO.: 153262
BY: GK
DATE: 4/9/15

COASTAL PLANNING & ENGINEERING, INC.
OF NORTH CAROLINA, INC.
4038 MASONBORO LOOP RD.
WILMINGTON, N.C. 28409
PH. (904) 791-9494
FAX (904) 7914129

TITLE:

ONSLOW COUNTY NAVIGATION PERMITTING
ONSLOW COUNTY, NORTH CAROLINA
PLACEMENT AREA PLAN VIEW

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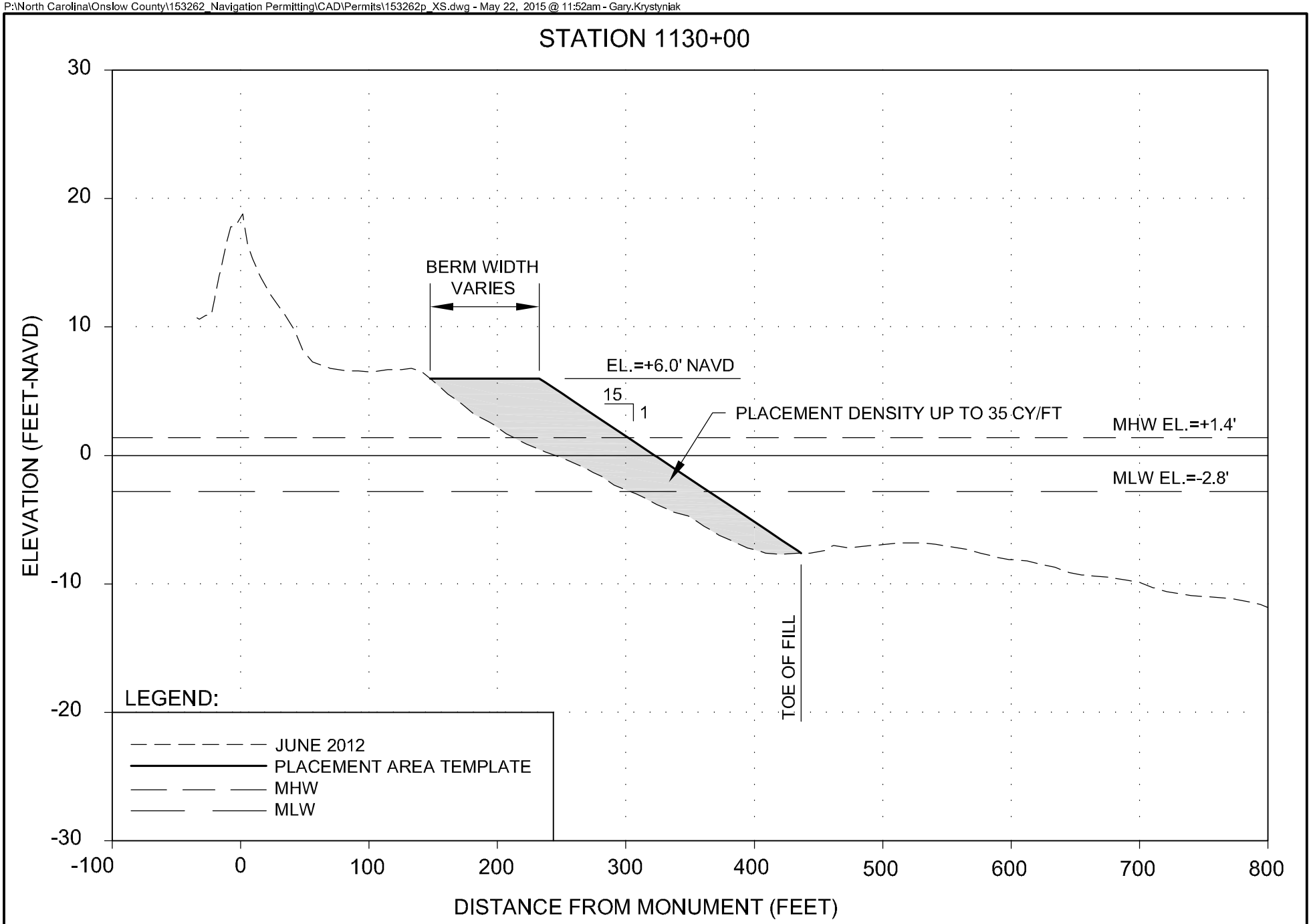

SHEET: 6 OF 13	COMM NO.: 153262	BY: GK	DATE: 4/9/15	COASTAL PLANNING & ENGINEERING, INC. OF NORTH CAROLINA, INC. 4038 MASONBORO LOOP RD. WILMINGTON, N.C. 28409 PH. (904) 791-9494 FAX (904) 7914129	TITLE:	ONSLOW COUNTY NAVIGATION PERMITTING ONSLOW COUNTY, NORTH CAROLINA PLACEMENT AREA PROFILE E-E'

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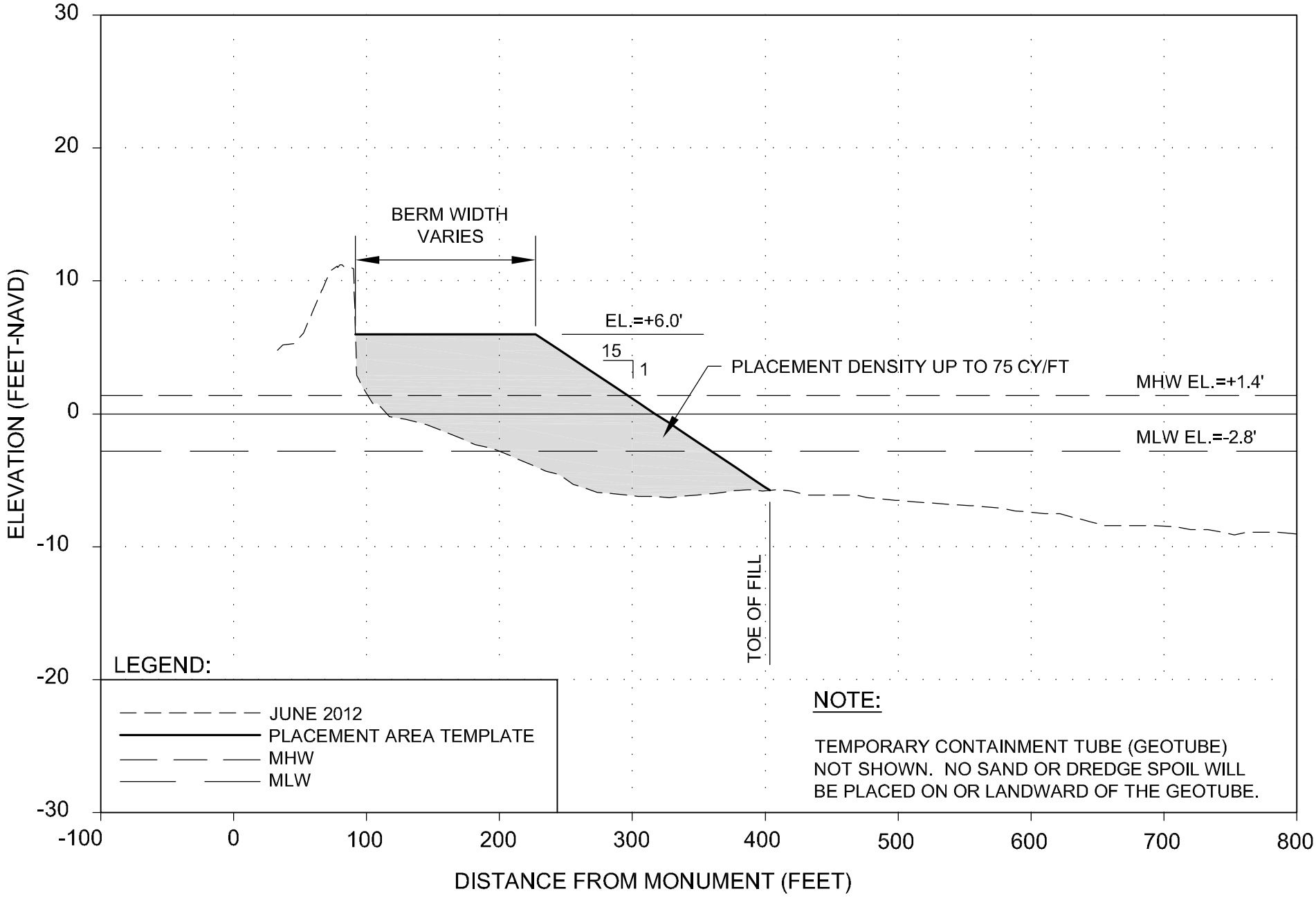

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7 OF 13	153262	GK	4/9/15	**COASTAL PLANNING & ENGINEERING, INC. OF NORTH CAROLINA, INC.** 4038 MASONBORO LOOP RD. WILMINGTON, N.C. 28409 PH. (904) 791-9494 FAX (904) 7914129	**ONSLOW COUNTY NAVIGATION PERMITTING** **ONSLOW COUNTY, NORTH CAROLINA** **PLACEMENT AREA PROFILE F-F'**

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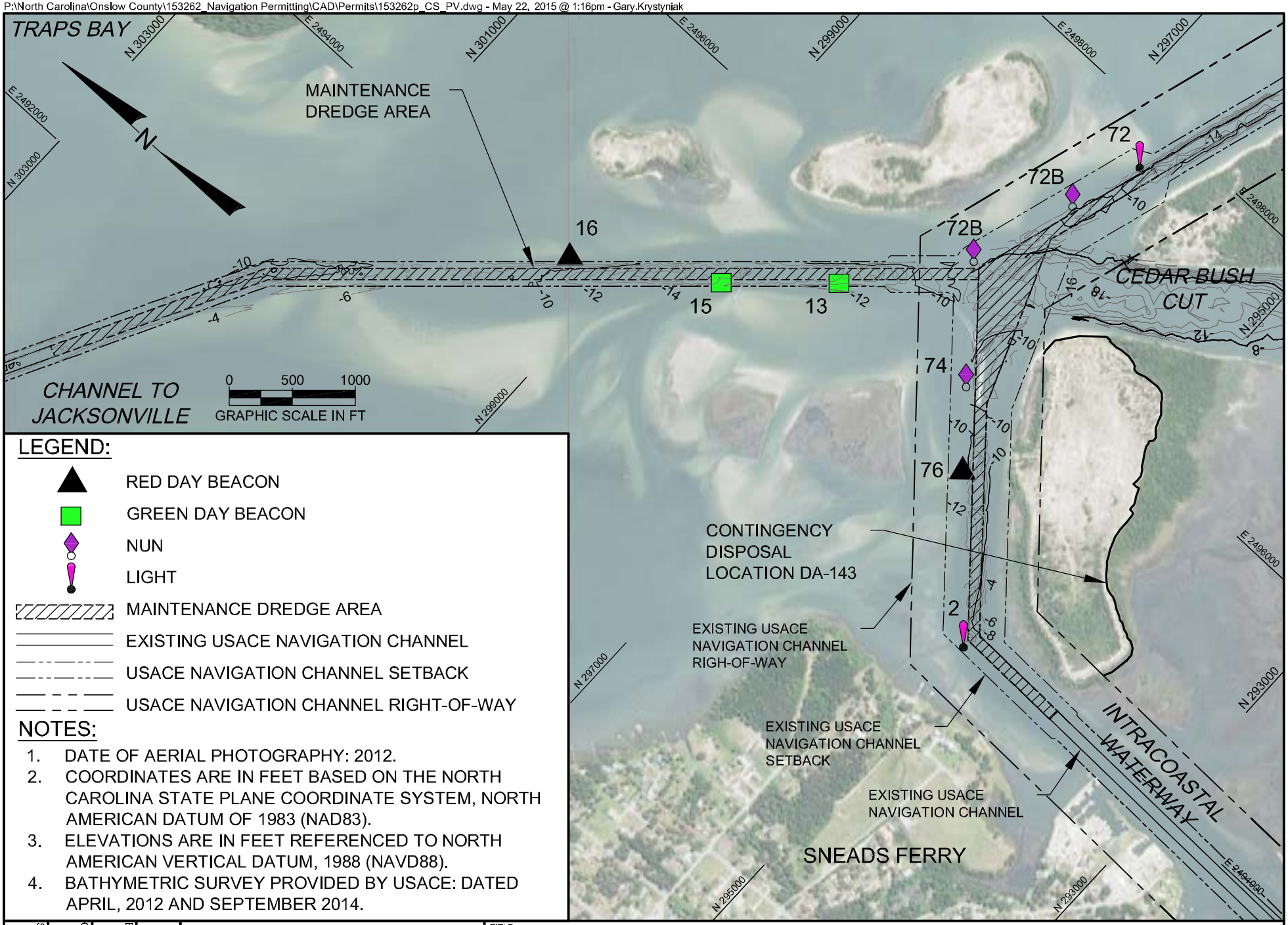

LEGEND:

- RED DAY BEACON
- GREEN DAY BEACON
- NUN
- LIGHT
- MAINTENANCE DREDGE AREA
- EXISTING USACE NAVIGATION CHANNEL
- USACE NAVIGATION CHANNEL SETBACK
- USACE NAVIGATION CHANNEL RIGHT-OF-WAY

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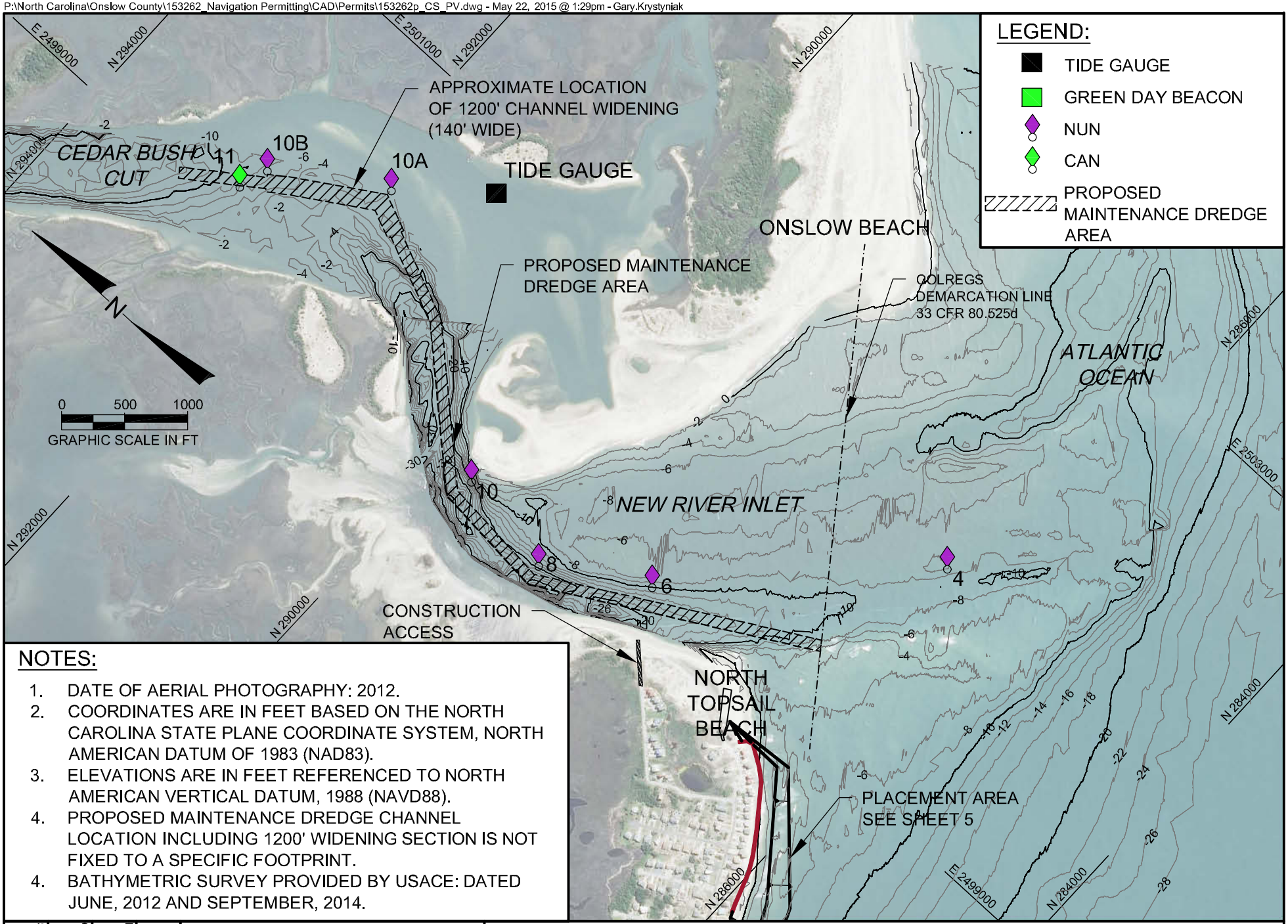
2. COORDINATES ARE IN FEET BASED ON THE NORTH CAROLINA STATE PLANE COORDINATE SYSTEM, NORTH AMERICAN DATUM OF 1983 (NAD83).
3. ELEVATIONS ARE IN FEET REFERENCED TO NORTH AMERICAN VERTICAL DATUM, 1988 (NAVD88).
4. BATHYMETRIC SURVEY PROVIDED BY USACE: DATED APRIL, 2012 AND SEPTEMBER 2014.

SHEET:	COMM NO.:	BY:	DATE:		TITLE:
8 OF 13	153262	GK	4/9/15	COASTAL PLANNING & ENGINEERING, INC. OF NORTH CAROLINA, INC. 4038 MASONBORO LOOP RD, WILMINGTON, N.C. 28409 PH. (904) 791-9494 FAX (904) 7914129	ONSLOW COUNTY NAVIGATION PERMITTING ONSLOW COUNTY, NORTH CAROLINA MAINTENANCE DREDGE AREA PLAN VIEW

P:\North Carolina\Onslow County\153262_Navigation Permitting\CAD\Permits\153262p_CS_PV.dwg - May 22, 2015 @ 1:29pm - Gary.Krystyniak

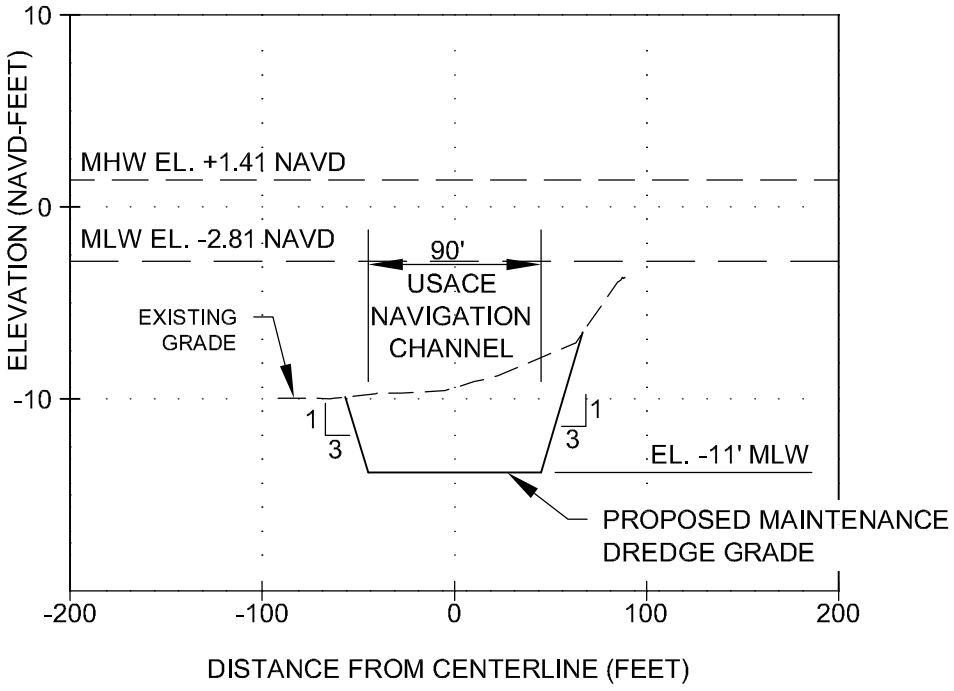


NOTES:

1. DATE OF AERIAL PHOTOGRAPHY: 2012.
2. COORDINATES ARE IN FEET BASED ON THE NORTH CAROLINA STATE PLANE COORDINATE SYSTEM, NORTH AMERICAN DATUM OF 1983 (NAD83).
3. ELEVATIONS ARE IN FEET REFERENCED TO NORTH AMERICAN VERTICAL DATUM, 1988 (NAVD88).
4. PROPOSED MAINTENANCE DREDGE CHANNEL LOCATION INCLUDING 1200' WIDENING SECTION IS NOT FIXED TO A SPECIFIC FOOTPRINT.
4. BATHYMETRIC SURVEY PROVIDED BY USACE: DATED JUNE, 2012 AND SEPTEMBER, 2014.

SHEET:	COMM NO.:	BY:	DATE:		TITLE:
9 OF 13	153262	GK	4/9/15	COASTAL PLANNING & ENGINEERING, INC. OF NORTH CAROLINA, INC. 4038 MASONBORO LOOP RD, WILMINGTON, N.C. 28409 PH. (904) 791-9494 FAX (904) 7914129	ONSLOW COUNTY NAVIGATION PERMITTING ONSLOW COUNTY, NORTH CAROLINA MAINTENANCE DREDGE AREA PLAN VIEW

SECTION A-A'



NOTES:

1. ELEVATIONS ARE IN FEET REFERENCED TO NORTH AMERICAN VERTICAL DATUM, 1988 (NAVD88).

2. EXISTING GRADE REPRESENTS US ARMY CORPS OF ENGINEERS INLETS & CROSSINGS SURVEYS, NEW RIVER INLET CROSSING & CEDAR BUSH CUT DATED NOVEMBER 7, 2014.

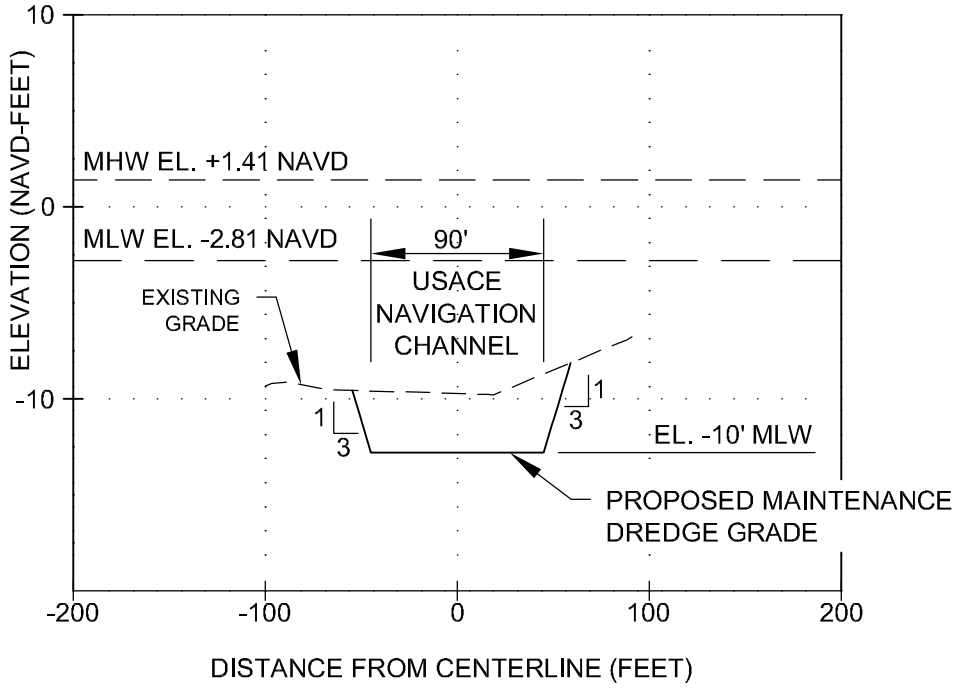
ONSLOW COUNTY NAVIGATION PERMITTING
ONSLOW COUNTY, NORTH CAROLINA
PROFILE A-A

TITLE:

COASTAL PLANNING & ENGINEERING, INC.
OF NORTH CAROLINA, INC.
4038 MASONBORO LOOP RD.
WILMINGTON, N.C. 28409
PH. (904) 791-9494
FAX (904) 7914129

DATE: 4/9/15
BY: GK
COMM NO.: 153262
SHEET: 10 OF 13

SECTION B-B'



NOTES:

1. ELEVATIONS ARE IN FEET REFERENCED TO NORTH AMERICAN VERTICAL DATUM, 1988 (NAVD88).

2. EXISTING GRADE REPRESENTS US ARMY CORPS OF ENGINEERS INLETS & CROSSINGS SURVEYS, NEW RIVER INLET CROSSING & CEDAR BUSH CUT DATED NOVEMBER 7, 2014.

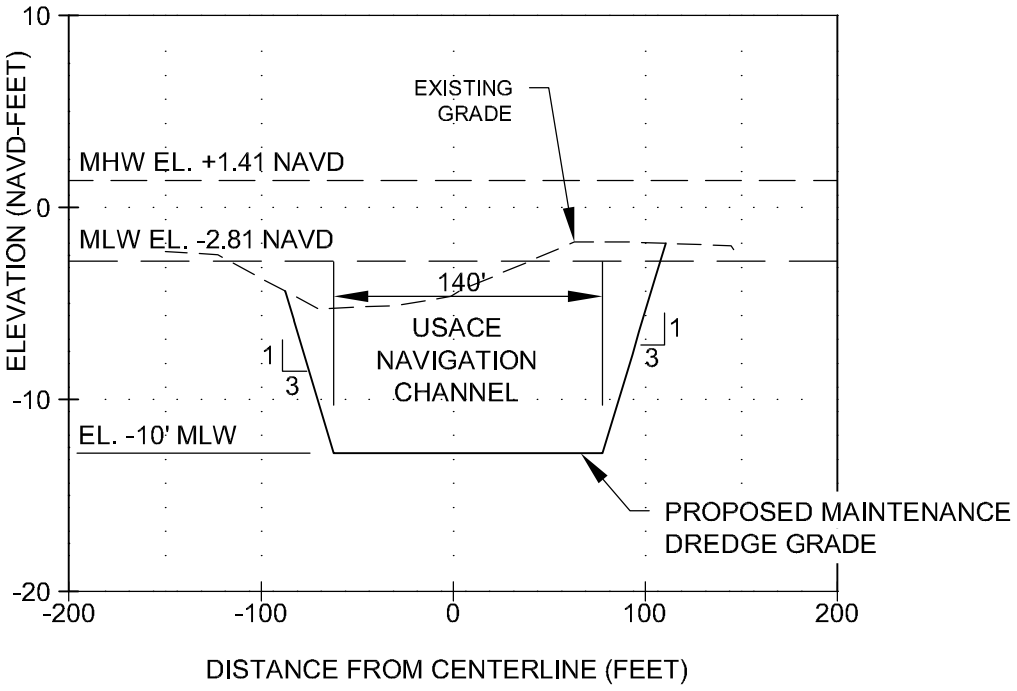
ONSLOW COUNTY NAVIGATION PERMITTING
ONSLOW COUNTY, NORTH CAROLINA
PROFILE B-B'

TITLE:

COASTAL PLANNING & ENGINEERING, INC.
OF NORTH CAROLINA, INC.
4038 MASONBORO LOOP RD.
WILMINGTON, N.C. 28409
PH. (904) 791-9494
FAX (904) 7914129

DATE: 4/9/15
BY: GK
COMM NO.: 153262
SHEET: 11 OF 13

SECTION C-C'



NOTES:

1. ELEVATIONS ARE IN FEET REFERENCED TO NORTH AMERICAN VERTICAL DATUM, 1988 (NAVD88).

2. EXISTING GRADE REPRESENTS US ARMY CORPS OF ENGINEERS INLETS & CROSSINGS SURVEYS, NEW RIVER INLET CROSSING & CEDAR BUSH CUT DATED NOVEMBER 7, 2014.

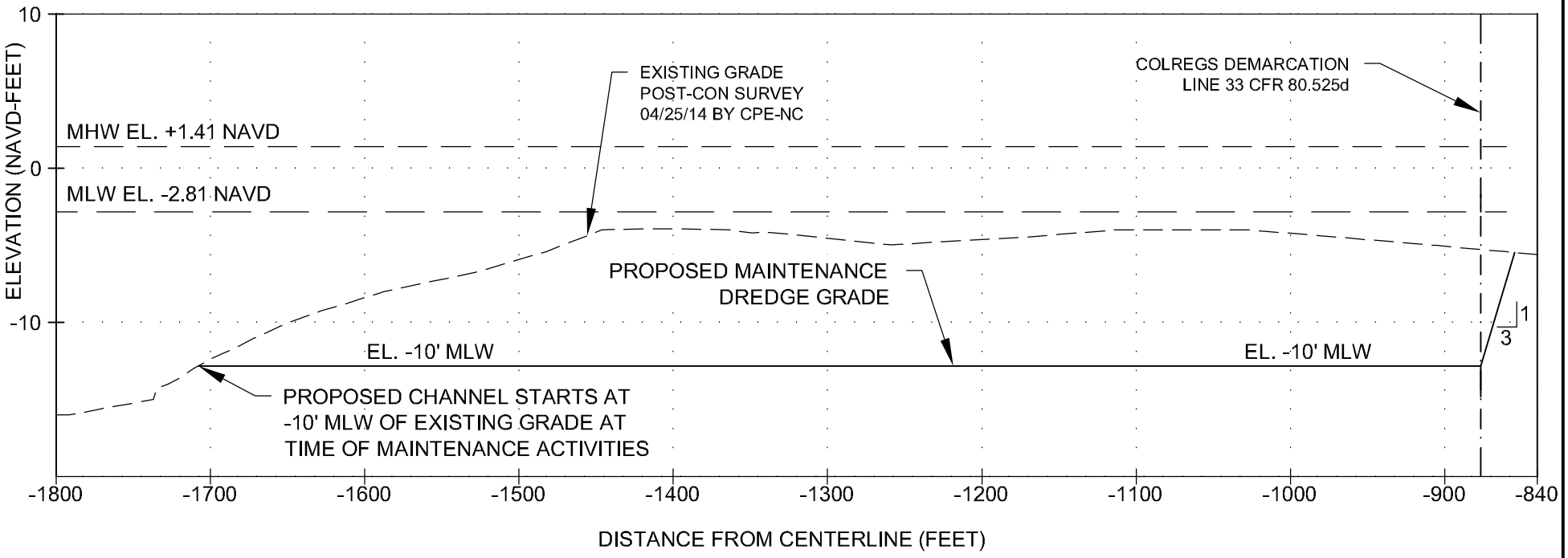
ONSLOW COUNTY NAVIGATION PERMITTING
ONSLOW COUNTY, NORTH CAROLINA
PROFILE C-C'

TITLE:

COASTAL PLANNING & ENGINEERING, INC.
OF NORTH CAROLINA, INC.
4038 MASONBORO LOOP RD.
WILMINGTON, N.C. 28409
PH. (904) 791-9494
FAX (904) 7914129

DATE: 4/9/15
BY: GK
COMM NO.: 153262
SHEET: 12 OF 13

SECTION D-D'



SHEET:	COMM NO.:	BY:	DATE:		TITLE:
13 OF 13	153262	GK	4/9/15	**COASTAL PLANNING & ENGINEERING, INC. OF NORTH CAROLINA, INC.** 4038 MASONBORO LOOP RD. WILMINGTON, N.C. 28409 PH. (904) 791-9494 FAX (904) 7914129	**ONSLOW COUNTY NAVIGATION PERMITTING** **ONSLOW COUNTY, NORTH CAROLINA** **PROFILE D-D' -1800 TO -860**