

Change Order

Change Order Number: 002

Contractor: Great Lakes Dredge & Dock Company, LLC.

Page 1 of 3

Date: June 27, 2017

Dare County Beach Nourishment Project**Description:**

In recent months, the Town of Southern Shores approached the County and ENGINEER regarding the potential to be included in the Dare County Beach Nourishment Project. The Town of Southern Shores in coordination with the ENGINEER and the Town of Kitty Hawk have obtained all authorizations, permits, and permit modifications required to allow for the construction of a beach fill along 2,500 feet of their ocean beach. The beach fill includes a 1,500-foot main fill section within the Town of Southern Shores and a 1,000 foot taper that was previously included at the Kitty Hawk/Southern Shores Town border. Attachment 1 includes drawings showing the fill placement requirements for the additional work along the Southern Shores beach.

Through negotiations with the Contractor an agreed upon cost of \$85,000 for Additional Mobilization and Demobilization and \$9.70 per cubic yard for Hydraulic Beach Fill Placement has been established. Payment for mobilization will be made in accordance with Section 10 of the Supplemental General Conditions. Payment for Hydraulic Beach Fill Placement will be made in accordance with Section 14 of the Supplemental General Conditions.

Specifications have been amended to account for the change in work established by this change order. The Kitty Hawk Project is now referred to as the "Kitty Hawk Beach Nourishment Project with Southern Shores Extension". The following amended Contract Documents are included in this change order as attachments:

- Attachment 1. Plan Drawings for Kitty Hawk Beach Nourishment Project with Southern Shores Extension
- Attachment 2. 00900 Supplemental General Conditions
- Attachment 3. 01000 Technical Provisions
- Attachment 4. 01100 Supplemental Technical Provisions (Environmental Protection & Monitoring)
- Attachment 5. Appendix E – NC DENR CAMA and Water Quality Permits
- Attachment 6. Appendix F – Batched USFWS Biological Opinion for the Duck, Kitty Hawk with Southern Shores Extension and Kill Devil Hills Shoreline Protection Projects and three (3) Amendments.
- Attachment 7. Appendix G – National Marine Fisheries Service ESA – Section 7 Consultation Biological Opinion
- Attachment 8. Appendix J – BOEM Lease OCS-A 0513 and First Amendment
- Attachment 9. Appendix K* – Department of the Army Permits for Duck, Kitty Hawk and Kill Devil Hills Shoreline Protection Projects and the amendment to the Kitty Hawk Permit, which includes the Southern Shores Extension.

* Appendix K was not included as one of the original appendices to the agreement.

Change Order	Change Order Number: 002
Contractor: Great Lakes Dredge & Dock Company, LLC.	Page 2 of 3
	Date: June 27, 2017

Dare County Beach Nourishment Project

Purpose:
 To include a beach fill along a 2,500 ft. section of the Town of Southern Shores as an extension of the Kitty Hawk Project.

Contract Quantity:
 The Mobilization/Demobilization (Southern Shores) quantity increased from 0 to 1.
 The Hydraulic Beach Fill volume for the Town of Southern Shores Extension has increased from 0 cy to 80,000 cy.
 Other quantities remain unchanged.
 The quantities for Change Order 001 and 002 are provided in the table below.

Contract Time:
 No change has been made to the contract time.

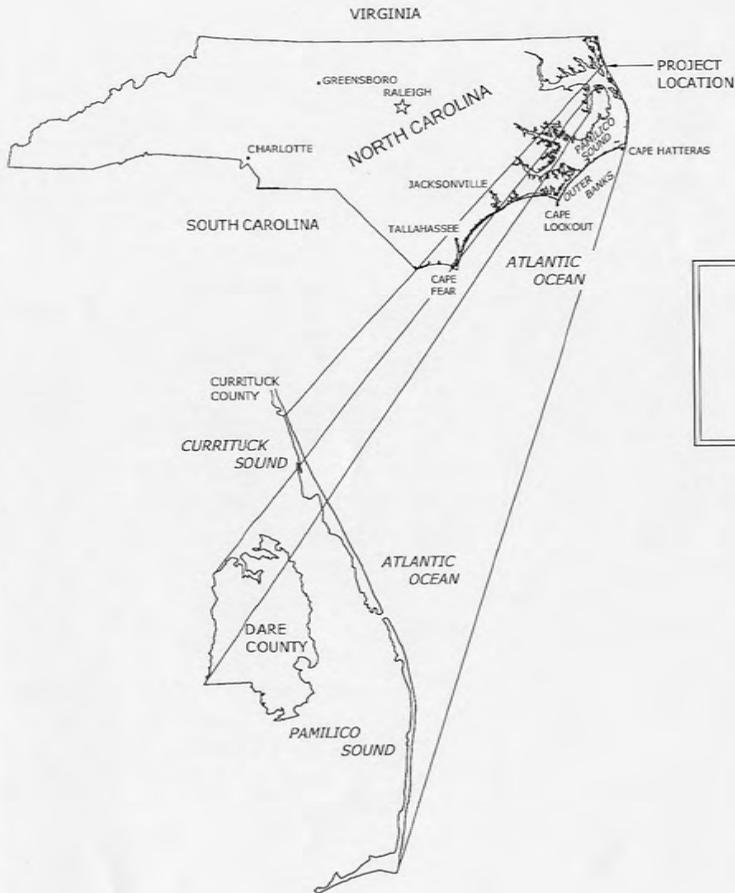
Contract Cost:
 The Mobilization/Demobilization (Southern Shores) cost has increased \$85,000 from \$0.00 to \$85,000.00.
 The cost for the Hydraulic Beach Fill for the Town of Southern Shores Extension has increased from \$0.00 to \$776,000.00.
 The total contract cost has increased \$861,000.00 from \$39,392,850.00 to \$40,253,850.00.
 The bid and change order costs are provided in the table below.

CPE-NC Agreement:	Prime CONTRACTOR Agreement:	Dare County Agreement:
Agreed (Y/N): Yes	Agreed (Y/N): YES	Approved (Y/N): Yes
Signature/Title/Date: <i>Julie D...</i> Project Manager 6/28/17	Signature/Title/Date: <i>Russell T. Zimmerman</i> VICE PRESIDENT 7/26/17	Signature/Title/Date: <i>[Signature]</i>

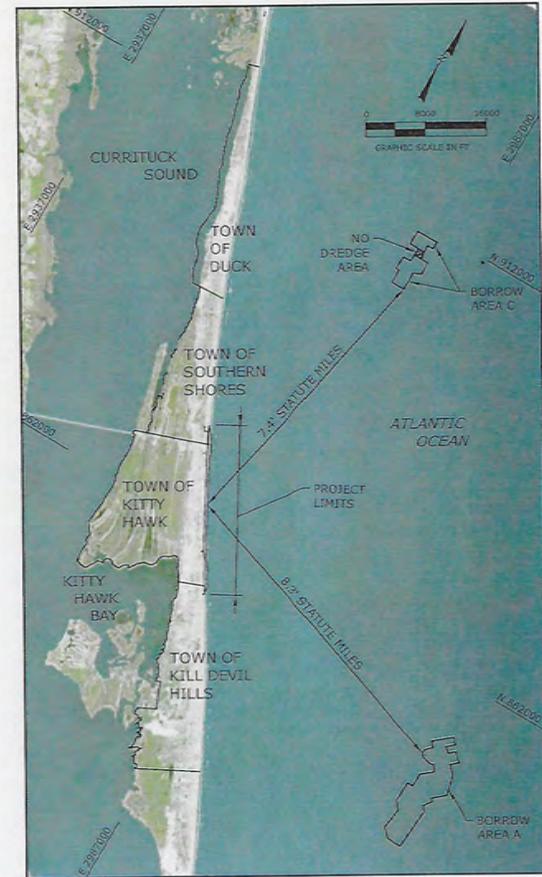
"This instrument has been preaudited in the manner required by the Local Government Budget and Fiscal Control Act."
Sally DeFosse 6/27/17

Item No.	Item	Unit	CO#1 Quantity	CO#2 Quantity	Unit Prices	CO#1 Cost	CO#2 Cost
I. A.	Mobilization/Demobilization	L.S.	1	1	\$8,150,000.00	\$8,150,000.00	\$8,150,000.00
I.A.-1.	Mobilization/Demobilization (Southern Shores)	L.S.	0	1	\$85,000.00	\$0.00	\$85,000.00
I. B.	Performance and Payment Bond	L.S.	1	1	\$300,000.00	\$300,000.00	\$300,000.00
I. C.	Compliance Surveys of Borrow Area	L.S.	1	1	\$64,000.00	\$64,000.00	\$64,000.00
I. D.	Sea Turtle Abundance Trawling	Days	0	0	\$4,600.00	\$0.00	\$0.00
II. A.	Hydraulic Beach Fill (Town of Duck)	C.Y.	1,180,000	1,180,000	\$8.60	\$10,148,000.00	\$10,148,000.00
II. A-1.	Optional Additional 20% Beach Fill if only Borrow Area C is used to Construct the Town of Duck	C.Y.	236,000	236,000	\$0.00	\$0.00	\$0.00
II. B.	Staging Area Beach Access Mats	L.F.	1,120	1,120	\$105.00	\$117,600.00	\$117,600.00
III. A.	Hydraulic Beach Fill (Town of Kitty Hawk)	C.Y.	1,765,000	1,765,000	\$7.65	\$13,502,250.00	\$13,502,250.00
III. B.	Hydraulic Beach Fill (Town of Southern Shores)	C.Y.	0	80,000	\$9.70	\$0.00	\$776,000.00
IV. A.	Hydraulic Beach Fill (Town of Kill Devil Hills)	C.Y.	840,000	840,000	\$7.40	\$6,216,000.00	\$6,216,000.00
Additive Items							
V. A.	Sand Fencing (Kitty Hawk)	10 Ft Sections	1,900	1,900	\$40.00	\$76,000.00	\$76,000.00
Discretionary Items							
VI. A.	Mobilization/Demobilization for Beach Discharge Screening	L.S.	0	0	\$70,000.00	\$0.00	\$0.00
VI. B.	Beach Discharge Screening	Days	0	0	\$3,500.00	\$0.00	\$0.00
VI. C.	Removal of Screened Beach Discharge Material	C.Y.	0	0	\$11.55	\$0.00	\$0.00
VI. D.	Dredge Intake Screening	C.Y.	0	0	\$2.30	\$0.00	\$0.00
VI. E.	Mobilization for Removal of Oversized Material from Constructed Beach	L.S.	0	0	\$8,000.00	\$0.00	\$0.00
VI. F.	Removal of Oversized Material from Constructed Beach	Days	0	0	\$3,200.00	\$0.00	\$0.00
VII. A.	Turbidity Monitoring	Days	0	0	\$2,250.00	\$0.00	\$0.00
VII. B.	Mobilization/Demobilization for Tilling	L.S.	0	0	\$5,500.00	\$0.00	\$0.00
VII. C.	Beach Tilling	Acre	0	0	\$585.00	\$0.00	\$0.00
VII. D.	Sea Turtle Relocation Trawling	Days	180	180	\$4,550.00	\$819,000.00	\$819,000.00
VII. E.	Hopper Dredge Standby Rate (Per Dredge)	Days	0	0	\$210,000.00	\$0.00	\$0.00
VII. F.	Cutterhead Dredge Standby Rate (Per Dredge)	Days	0	0	\$177,500.00	\$0.00	\$0.00
VIII. A.	Sand Fencing (Kill Devil Hills)	10 Ft Sections	0	0	\$40.00	\$0.00	\$0.00
VIII. B.	Sand Fencing (Duck)	10 Ft Sections	0	0	\$40.00	\$0.00	\$0.00
Total						\$39,392,850.00	\$40,253,850.00

NORTH DARE COUNTY BEACHES TOWN OF KITTY HAWK BEACH NOURISHMENT PROJECT WITH SOUTHERN SHORES EXTENSION DARE COUNTY, NORTH CAROLINA



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LOCATION MAP

COASTAL PLANNING & ENGINEERING, Inc.
OF North Carolina, Inc.

4038 MASONBORO LOOP RD.
WILMINGTON, NC 28409
www.CPE.com

PH: (910) 791-9404
FAX: (910) 791-4128

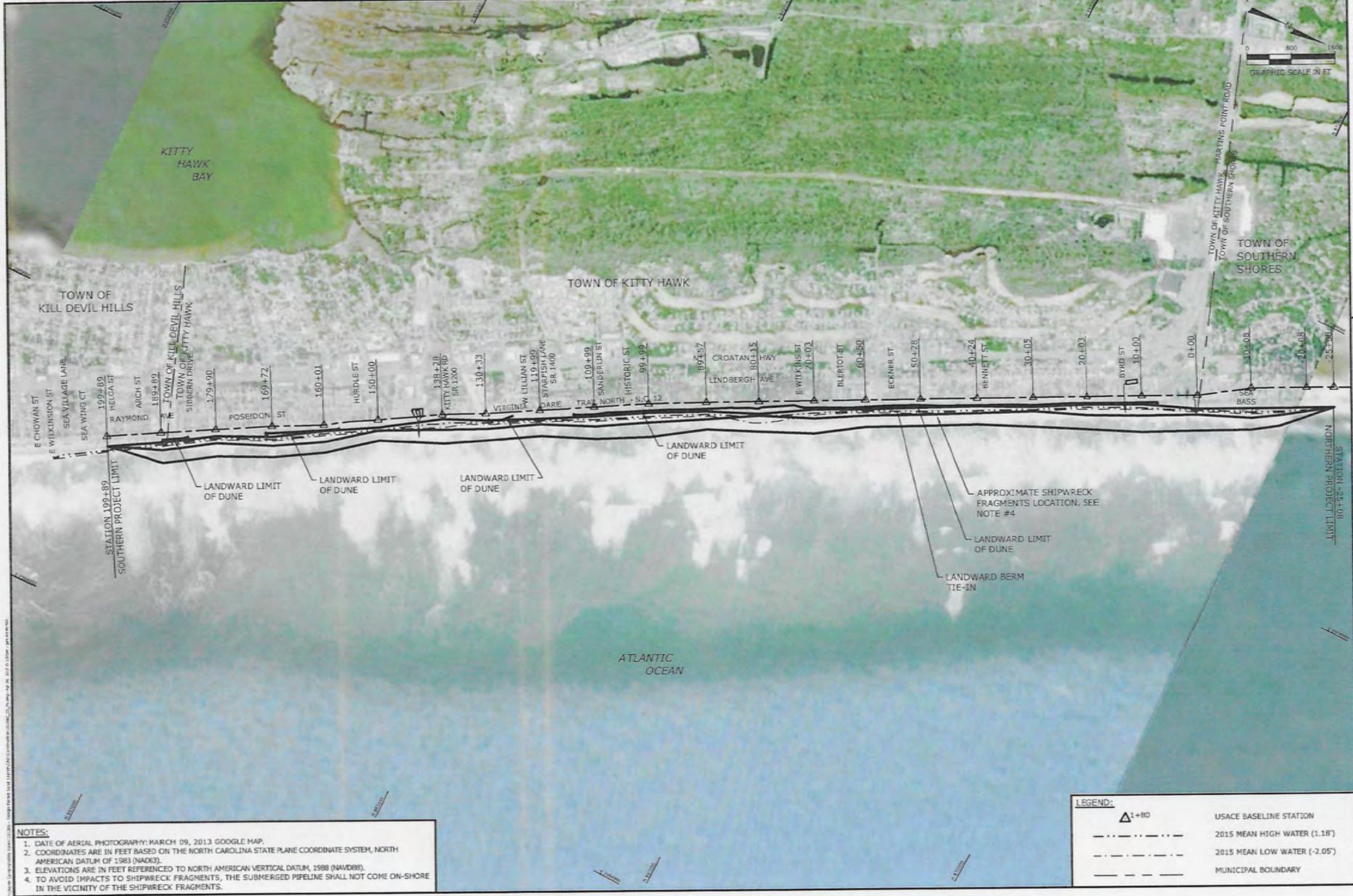
DATE: 03/24/2012	SCALE: AS SHOWN	PROJECT NO.: 03020012	SHEET NO.: 001
DESIGNED BY: ABB	CHECKED BY: RW	DATE: 4/28/17	SCALE: 3D
PROJECT: TOWN OF KITTY HAWK BEACH NOURISHMENT PROJECT WITH SOUTHERN SHORES EXTENSION DARE COUNTY, NORTH CAROLINA	DRAWING NO.: CS	SHEET: 1 OF 18	COVER SHEET

TOWN OF KITTY HAWK PAY PROFILES

STATION	EASTING	NORTHING	AZ	DISTANCE TO NEXT
-25+08	2,969,940.54	874,051.06	62.8	100
-24+08	2,970,066.39	873,962.81	62.8	100
-23+08	2,970,052.20	873,873.92	62.8	100
-22+08	2,970,048.01	873,785.03	62.8	100
-21+08	2,970,143.82	873,695.14	62.8	100
-20+08	2,970,189.62	873,607.24	62.8	100
-19+08	2,970,235.00	873,518.54	62.8	100
-18+08	2,970,282.37	873,429.92	62.8	100
-17+08	2,970,328.67	873,341.30	62.8	100
-16+08	2,970,375.00	873,252.68	62.8	100
-15+08	2,970,421.33	873,164.06	62.8	100
-14+08	2,970,467.67	873,075.44	62.8	100
-13+08	2,970,514.00	872,986.83	62.8	100
-12+08	2,970,560.33	872,898.21	62.8	100
-11+08	2,970,606.66	872,809.56	62.8	100
-10+08	2,970,653.00	872,720.97	62.8	106
-9+00	2,970,714.05	872,632.23	62.8	100
-8+00	2,970,770.73	872,543.84	62.8	100
-7+00	2,970,827.41	872,455.45	62.8	100
-6+00	2,970,884.09	872,367.07	62.8	100
-5+00	2,970,940.77	872,278.68	62.8	100
-4+00	2,970,997.44	872,190.29	62.8	100
-3+00	2,971,054.12	872,101.91	62.8	100
-2+00	2,971,110.80	872,013.52	62.8	100
-1+00	2,971,167.48	871,925.14	62.8	106
0+00	2,971,224.16	871,836.75	62.8	100
1+00	2,971,270.84	871,748.36	62.8	100
2+00	2,971,316.49	871,659.97	62.8	100
3+00	2,971,362.14	871,571.58	62.8	100
4+00	2,971,407.79	871,483.19	62.8	100
5+00	2,971,453.44	871,394.80	62.8	100
6+00	2,971,500.00	871,306.41	62.8	100
7+00	2,971,547.00	871,218.02	62.8	100
8+00	2,971,594.00	871,129.63	62.8	100
9+00	2,971,639.99	871,041.24	62.8	100
10+00	2,971,685.98	870,952.85	62.8	100
11+00	2,971,732.26	870,864.46	62.8	100
12+00	2,971,778.94	870,776.07	62.8	100
13+00	2,971,825.62	870,687.68	62.8	100
14+00	2,971,872.30	870,599.29	62.8	100
15+00	2,971,918.98	870,510.90	62.8	100
16+00	2,971,965.66	870,422.51	62.8	100
17+00	2,972,012.34	870,334.12	62.8	100
18+00	2,972,058.99	870,245.73	62.8	100
19+00	2,972,105.67	870,157.34	62.8	103
20+00	2,972,152.35	870,068.95	62.8	97
21+00	2,972,199.00	869,980.56	62.8	100
22+00	2,972,245.68	869,892.17	62.8	100
23+00	2,972,292.36	869,803.78	62.8	100
24+00	2,972,338.84	869,715.39	62.8	100
25+00	2,972,385.56	869,627.00	62.8	100
26+00	2,972,432.27	869,538.61	62.8	100
27+00	2,972,478.99	869,450.22	62.8	100
28+00	2,972,525.71	869,361.83	62.8	100
29+00	2,972,572.42	869,273.44	62.8	105
30+05	2,972,621.99	869,230.04	62.8	95
31+00	2,972,665.85	869,141.65	62.8	100
32+00	2,972,712.59	869,053.26	62.8	100
33+00	2,972,759.31	868,964.87	62.8	100
34+00	2,972,806.04	868,876.48	62.8	100
35+00	2,972,852.76	868,788.09	62.8	100
36+00	2,972,899.48	868,700.00	62.8	100
37+00	2,972,946.21	868,611.61	62.8	100
38+00	2,972,992.94	868,523.22	62.8	100
39+00	2,973,039.66	868,434.83	62.8	124
40+24	2,973,097.45	868,329.69	62.8	76

STATION	EASTING	NORTHING	AZ	DISTANCE TO NEXT
41+00	2,973,133.11	868,262.31	62.8	100
42+00	2,973,179.83	868,173.89	62.8	100
43+00	2,973,225.54	868,085.48	62.8	100
44+00	2,973,271.26	867,997.06	62.8	100
45+00	2,973,317.98	867,908.64	62.8	100
46+00	2,973,364.70	867,820.23	62.8	100
47+00	2,973,411.42	867,731.81	62.8	100
48+00	2,973,458.14	867,643.39	62.8	100
49+00	2,973,504.86	867,554.98	62.8	128
50+28	2,973,556.68	867,466.57	62.8	72
51+00	2,973,600.28	867,378.14	62.8	100
52+00	2,973,647.00	867,289.73	62.8	100
53+00	2,973,693.72	867,201.31	62.8	100
54+00	2,973,740.44	867,112.90	62.8	100
55+00	2,973,787.16	867,024.48	62.8	100
56+00	2,973,833.88	866,936.06	62.8	103
57+00	2,973,880.59	866,847.65	62.8	100
58+00	2,973,927.31	866,759.23	62.8	100
59+00	2,973,974.03	866,670.82	62.8	150
60+50	2,974,044.04	866,538.35	62.8	150
62+00	2,974,114.17	866,405.88	62.8	100
63+00	2,974,160.88	866,317.47	62.8	100
64+00	2,974,207.59	866,229.06	62.8	100
65+00	2,974,254.30	866,140.65	62.8	100
66+00	2,974,301.00	866,052.24	62.8	100
67+00	2,974,347.71	865,963.83	62.8	100
68+00	2,974,394.42	865,875.42	62.8	100
69+00	2,974,441.13	865,787.01	62.8	103
70+03	2,974,489.14	865,698.60	62.8	97
71+00	2,974,534.55	865,609.77	62.8	103
72+00	2,974,581.27	865,521.36	62.8	100
73+00	2,974,627.98	865,432.94	62.8	100
74+00	2,974,674.70	865,344.53	62.8	100
75+00	2,974,721.42	865,256.11	62.8	100
76+00	2,974,768.14	865,167.70	62.8	100
77+00	2,974,814.86	865,079.29	62.8	100
78+00	2,974,861.58	864,990.88	62.8	100
79+00	2,974,908.29	864,902.47	62.8	115
80+15	2,974,952.02	864,800.83	62.8	85
81+00	2,975,001.73	864,725.61	62.8	100
82+00	2,975,048.44	864,637.19	62.8	100
83+00	2,975,095.16	864,548.77	62.8	100
84+00	2,975,141.87	864,460.35	62.8	100
85+00	2,975,188.59	864,371.94	62.8	100
86+00	2,975,235.30	864,283.52	62.8	100
87+00	2,975,282.02	864,195.10	62.8	100
88+00	2,975,328.73	864,106.68	62.8	157
89+57	2,975,401.31	863,968.19	62.8	43
90+00	2,975,422.63	863,930.10	61.5	100
91+00	2,975,470.41	863,842.25	61.5	100
92+00	2,975,518.20	863,754.41	61.5	100
93+00	2,975,565.99	863,666.57	61.5	100
94+00	2,975,613.77	863,578.72	61.5	100
95+00	2,975,661.56	863,490.88	61.5	100
96+00	2,975,709.35	863,403.04	61.5	100
97+00	2,975,757.13	863,315.19	61.5	100
98+00	2,975,804.92	863,227.35	61.5	100
99+00	2,975,852.71	863,139.51	61.5	99
99+99	2,975,900.20	863,052.18	61.5	101
101+00	2,975,951.11	862,965.42	61.5	100
102+00	2,976,001.72	862,879.17	61.5	100
103+00	2,976,052.32	862,792.92	61.5	100
104+00	2,976,102.92	862,706.67	61.5	100
105+00	2,976,153.52	862,620.41	61.5	100
106+00	2,976,204.13	862,534.16	61.5	100
107+00	2,976,254.73	862,447.91	61.5	100

STATION	EASTING	NORTHING	AZ	DISTANCE TO NEXT
108+00	2,976,305.33	862,361.66	61.5	100
109+00	2,976,355.93	862,275.41	61.5	99
109+99	2,976,405.09	862,189.91	61.5	101
111+00	2,976,457.14	862,102.50	59.6	100
112+00	2,976,507.74	862,016.65	59.6	100
113+00	2,976,558.34	861,930.39	59.6	100
114+00	2,976,608.94	861,844.14	59.6	100
115+00	2,976,659.54	861,757.89	59.6	100
116+00	2,976,710.14	861,671.63	59.6	100
117+00	2,976,760.73	861,585.38	59.6	100
118+00	2,976,811.33	861,499.13	59.6	100
119+00	2,976,861.93	861,412.87	59.6	99
119+99	2,976,911.94	861,327.71	59.6	101
121+00	2,976,963.14	861,240.37	59.6	100
122+00	2,977,013.75	861,154.12	59.6	100
123+00	2,977,064.35	861,067.87	59.6	100
124+00	2,977,114.96	860,981.62	59.6	100
125+00	2,977,165.57	860,895.37	59.6	100
126+00	2,977,216.17	860,809.12	59.6	100
127+00	2,977,266.78	860,722.87	59.6	100
128+00	2,977,317.39	860,636.62	59.6	100
129+00	2,977,367.99	860,550.37	59.6	133
130+33	2,977,435.12	860,435.88	59.6	67
131+00	2,977,466.99	860,376.63	59.6	100
132+00	2,977,514.30	860,288.53	59.6	100
133+00	2,977,561.61	860,200.43	59.6	100
134+00	2,977,608.93	860,112.33	59.6	100
135+00	2,977,656.24	860,024.23	59.6	100
136+00	2,977,703.55	859,936.13	59.6	100
137+00	2,977,750.86	859,848.03	59.6	128
138+28	2,977,811.33	859,735.48	59.6	72
139+00	2,977,849.46	859,674.13	59.6	100
140+00	2,977,902.27	859,589.21	59.6	100
141+00	2,977,955.08	859,504.29	59.6	100
142+00	2,978,007.89	859,419.37	59.6	100
143+00	2,978,060.69	859,334.45	59.6	100
144+00	2,978,113.50	859,249.54	59.6	100
145+00	2,978,166.31	859,164.62	59.6	100
146+00	2,978,219.12	859,079.70	59.6	100
147+00	2,978,271.93	858,994.78	59.6	100
148+00	2,978,324.73	858,909.86	59.6	100
149+00	2,978,377.54	858,824.94	59.6	100
150+00	2,978,430.35	858,740.05	59.6	100
151+00	2,978,483.16	858,655.17	59.6	100
152+00	2,978,535.97	858,570.28	59.6	100
153+00	2,978,588.78	858,485.37	59.6	100
154+00	2,978,641.59	858,399.03	59.6	100
155+00	2,978,694.40	858,308.78	59.6	100
156+00	2,978,739.68	858,226.27	59.6	100
157+00	2,978,796.41	858,143.77	59.6	100
158+00	2,978,852.92	858,061.27	59.6	100
159+00	2,978,909.43	857,978.77	59.6	101
160+01	2,978,965.94	857,896.27	59.6	99
161+00	2,979,013.50	857,808.30	59.6	100
162+00	2,979,060.95	857,720.28	59.6	108
163+00	2,979,108.40	857,6		



NOTES:

1. DATE OF AERIAL PHOTOGRAPHY: MARCH 09, 2013 GOOGLE MAP.
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. TO AVOID IMPACTS TO SHIPWRECK FRAGMENTS, THE SUBMERGED PIPELINE SHALL NOT COME ON-SHORE IN THE VICINITY OF THE SHIPWRECK FRAGMENTS.

LEGEND:

Δ 1+80	USACE BASELINE STATION
-----	2015 MEAN HIGH WATER (1.18')
-----	2015 MEAN LOW WATER (-2.05')
-----	MUNICIPAL BOUNDARY

Coastal Planning & Engineering, Inc.
 OF North Carolina, Inc.
 4038 MASONBROOK LOOP RD.
 WILMINGTON, NC 28409
 PH: (910)791-9494
 FAX: (910) 791-4129
 www.CPEI.com

Project No.	13-0001
Client	TOWN OF KITTY HAWK
Scale	AS SHOWN
Date	4/28/17
Drawn By	AW
Checked By	AW
Project Manager	AW
Project Engineer	AW
Project Surveyor	AW
Project Designer	AW
Project Checker	AW
Project Approver	AW

TOWN OF KITTY HAWK BEACH NOURISHMENT PROJECT WITH SOUTHERN SHORES EXTENSION DADE COUNTY, NORTH CAROLINA

OVERALL PLAN VIEW

DRAWING NO. **OV**

SHEET 3 OF 18



- NOTES:**
- DATE OF AERIAL PHOTOGRAPHY: 2012.
 - COORDINATES ARE IN FEET BASED ON THE NORTH CAROLINA STATE PLANE COORDINATE SYSTEM, NORTH AMERICAN DATUM OF 1983 (NAD83).
 - ELEVATIONS ARE IN FEET REFERENCED TO NORTH AMERICAN VERTICAL DATUM, 1988 (NAVD88).
 - THE MATERIAL USED TO CONSTRUCT THE TEMPLATE AS SHOWN IN THE PLANS FOR THE TOWNS OF KITTY HAWK AND SOUTHERN SHORES SHALL COME SOLELY FROM THE AREA OUTLINED IN BORROW AREA A, REFERENCED AS THE TOWNS OF KITTY HAWK AND SOUTHERN SHORES ALLOWABLE DREDGE AREA. NO OTHER PORTIONS OF BORROW AREA A AND/OR C MAY BE USED TO CONSTRUCT THE TEMPLATE AS SHOWN IN THE PLANS FOR THE TOWNS OF KITTY HAWK AND SOUTHERN SHORES.
 - THE TOWN OF SOUTHERN SHORES DUNE MAY BE RE-SHAPED WITHIN THE LIMITS OF THE MAY 2015 EXISTING CONDITIONS, AND IS DEPENDENT ON THE CONDITIONS AT THE TIME OF CONSTRUCTION. THE RE-SHAPED TOWN OF SOUTHERN SHORES DUNE WILL STAY WITHIN THE HORIZONTAL AND VERTICAL LIMITS OF THE MAY 2015 EXISTING CONDITIONS ILLUSTRATED ON THE BEACH FILL PROFILES SHOWN ON SHEET 12 OF 18. THE RE-SHAPED TOWN OF SOUTHERN SHORES DUNE SHALL NOT EXTEND ABOVE THE MAXIMUM MAY 2015 EXISTING ELEVATION OF 23.4 FEET, NAVD.

LEGEND:

Δ +80	USACE BASELINE STATION
-----	2015 MEAN HIGH WATER (1.18')
-----	2015 MEAN LOW WATER (-2.05')
-----	MUNICIPAL BOUNDARY
●	NORTH CAROLINA BEACH ACCESS AS IDENTIFIED BY DIVISION OF COASTAL MANAGEMENT

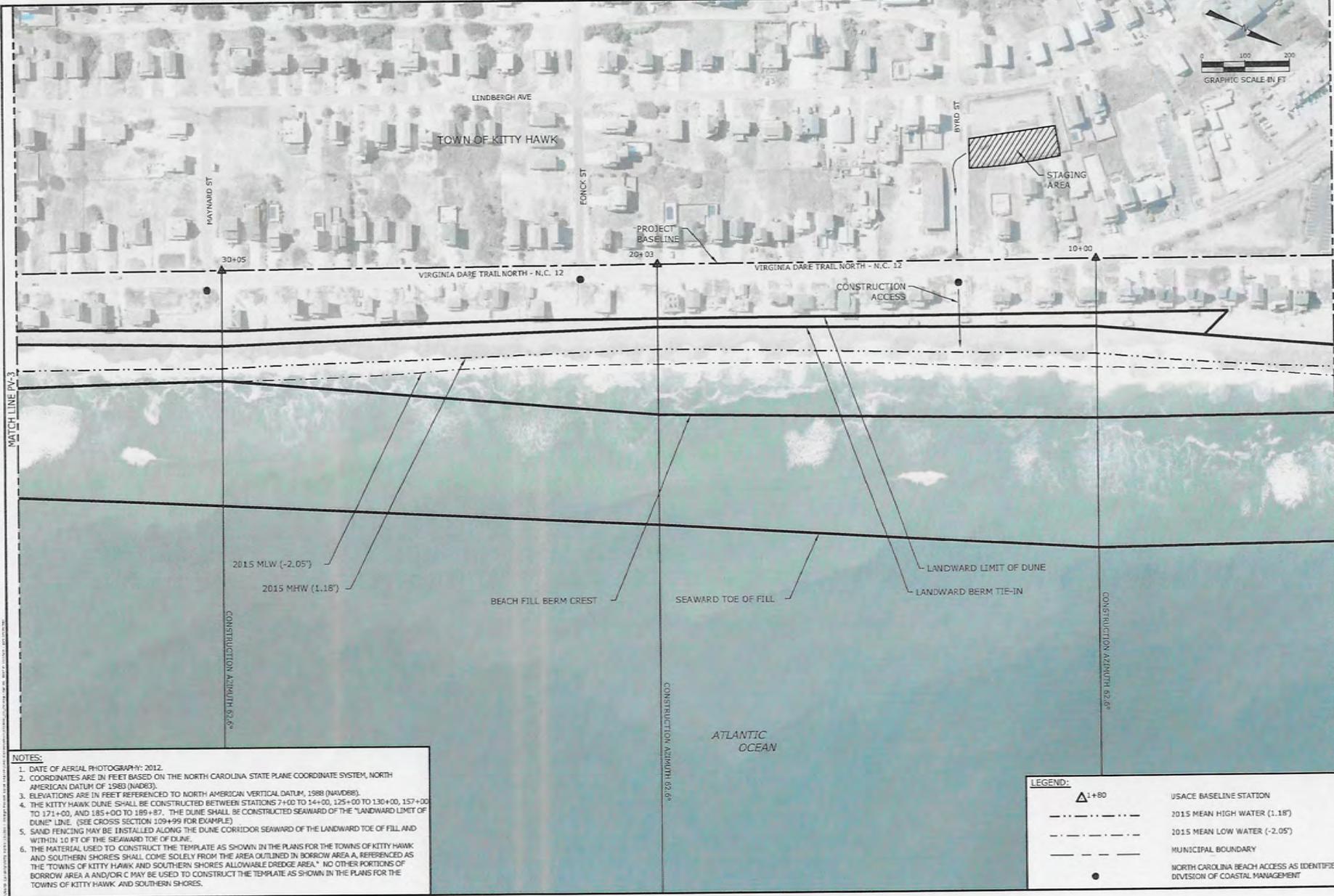
Coastal Planning & Engineering, Inc.
 OF North Carolina, Inc.
 4038 MASONBORO LOOP RD.
 WILMINGTON, NC 28409
 PH: (910) 791-6464
 FAX: (910) 791-1109
 www.CPEI.com

Checked by: AMB	Reviewed by: JD	Date: 4/28/17	Project No: 160204612	Revision: 01
Designed by: JD	Drawn by: JD	Scale: AS SHOWN	Client: AS SHOWN	Sheet: 01 of 04

PLAN VIEW

TOWN OF KITTY HAWK BEACH NOURISHMENT PROJECT WITH SOUTHERN SHORES EXTENSION DAIE COUNTY, NORTH CAROLINA

DRAWING NO. **PV-1**
 SHEET 4 OF 18



- NOTES:**
1. DATE OF AERIAL PHOTOGRAPH: 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. THE KITTY HAWK DUNE SHALL BE CONSTRUCTED BETWEEN STATIONS 7+00 TO 14+00, 125+00 TO 130+00, 157+00 TO 171+00, AND 185+00 TO 189+87. THE DUNE SHALL BE CONSTRUCTED SEAWARD OF THE "LANDWARD LIMIT OF DUNE" LINE. (SEE CROSS SECTION 109+99 FOR EXAMPLE).
 5. SAND FENCING MAY BE INSTALLED ALONG THE DUNE CORRIDOR SEAWARD OF THE LANDWARD TOE OF FILL AND WITHIN 10 FT OF THE SEAWARD TOE OF DUNE.
 6. THE MATERIAL USED TO CONSTRUCT THE TEMPLATE AS SHOWN IN THE PLANS FOR THE TOWNS OF KITTY HAWK AND SOUTHERN SHORES SHALL COME SOLELY FROM THE AREA OUTLINED IN BORROW AREA A, REFERENCED AS THE "TOWNS OF KITTY HAWK AND SOUTHERN SHORES ALLOWABLE DREDGE AREA." NO OTHER PORTIONS OF BORROW AREA A AND/OR C MAY BE USED TO CONSTRUCT THE TEMPLATE AS SHOWN IN THE PLANS FOR THE TOWNS OF KITTY HAWK AND SOUTHERN SHORES.

LEGEND:

	USACE BASELINE STATION
	2015 MEAN HIGH WATER (1.18')
	2015 MEAN LOW WATER (-2.05')
	MUNICIPAL BOUNDARY
	NORTH CAROLINA BEACH ACCESS AS IDENTIFIED BY DIVISION OF COASTAL MANAGEMENT

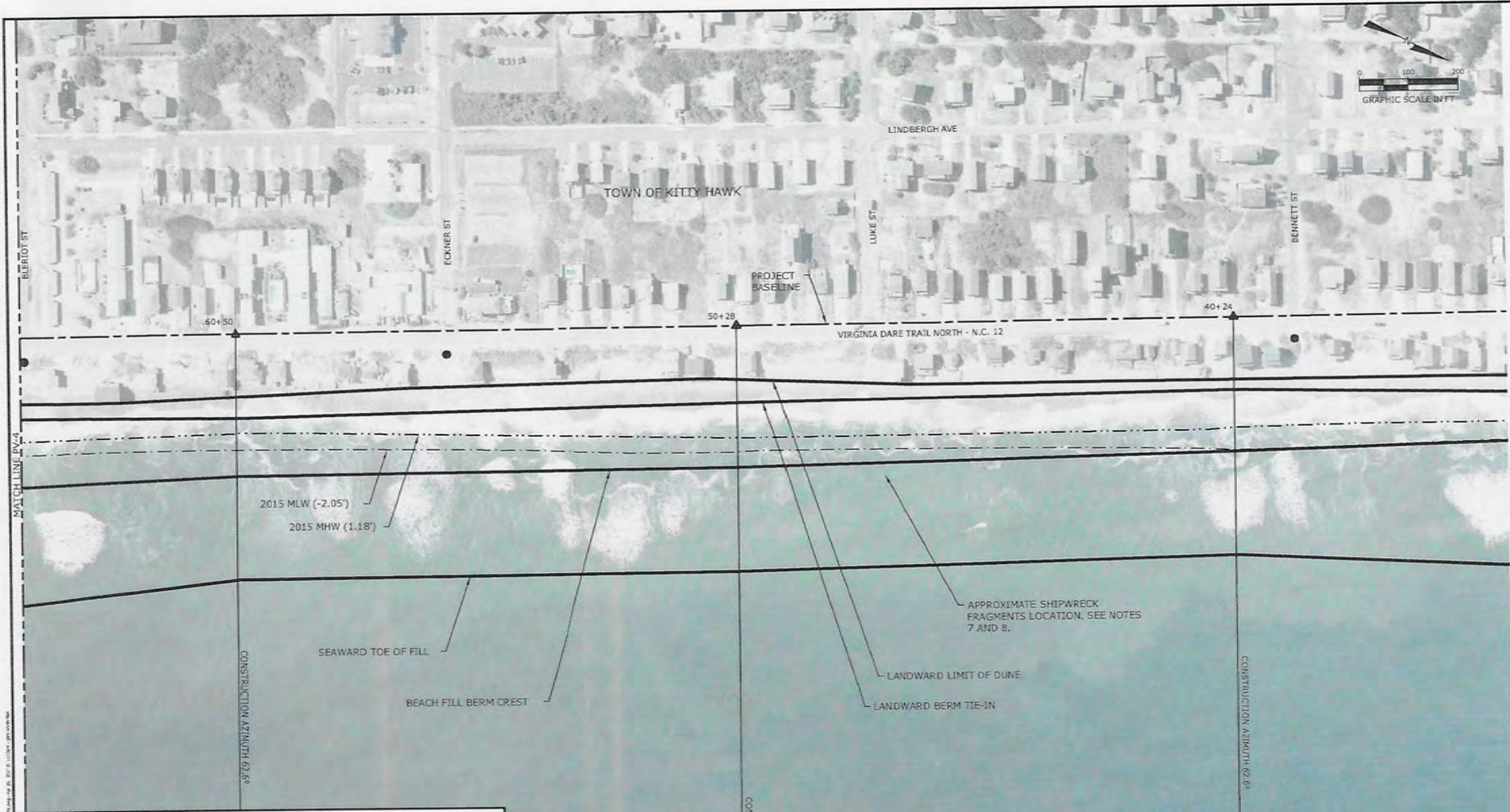
COASTAL PLANNING & ENGINEERING, Inc.
 of North Carolina, Inc.
 4038 HARBOR LOOP RD.
 WILMINGTON, NC 28409
 PH: (910) 791-6664
 FAX: (910) 791-1128
 www.CPE.com

PROJECT NO.	142017	DATE	1/2017	DRAWN BY	JTB
ISSUED BY	AW	DATE	4/28/17	PROJECT NO.	142017
DATE	4/28/17	ISSUED BY	JTB	DATE	4/28/17
PROJECT NO.	142017	DATE	4/28/17	ISSUED BY	JTB

TOWN OF KITTY HAWK BEACH MOULDSHMENT PROJECT WITH SOUTHERN SHORES EXTENSION DAIRIE COUNTY, NORTH CAROLINA

PLAN VIEW

DRAWING NO. **PV-2**
 SHEET 5 OF 18



- 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. THE KITTY HAWK DUNE SHALL BE CONSTRUCTED BETWEEN STATIONS 7+00 TO 14+00, 125+00 TO 130+00, 157+00 TO 171+00, AND 185+00 TO 189+87. THE DUNE SHALL BE CONSTRUCTED SEAWARD OF THE "LANDWARD LIMIT OF DUNE" LINE. (SEE CROSS SECTION 109+99 FOR EXAMPLE)
 5. SAND FENCING MAY BE INSTALLED ALONG THE DUNE CORRIDOR SEAWARD OF THE LANDWARD TOE OF FILL AND WITHIN 10 FT OF THE SEAWARD TOE OF DUNE.
 6. THE MATERIAL USED TO CONSTRUCT THE TEMPLATE AS SHOWN IN THE PLANS FOR THE TOWNS OF KITTY HAWK AND SOUTHERN SHORES SHALL COME SOLELY FROM THE AREA OUTLINED IN BORROW AREA A, REFERENCED AS THE TOWNS OF KITTY HAWK AND SOUTHERN SHORES ALLOWABLE DREDGE AREA. NO OTHER PORTIONS OF BORROW AREA A AND/OR C MAY BE USED TO CONSTRUCT THE TEMPLATE AS SHOWN IN THE PLANS FOR THE TOWNS OF KITTY HAWK AND SOUTHERN SHORES.
 7. THE CONTRACTOR SHALL EXERCISE ALL AVAILABLE PRECAUTIONS TO AVOID DAMAGE TO SHIPWRECK FRAGMENTS. BEACH FILL MATERIAL SHALL BE USED TO COVER THE SHIPWRECK FRAGMENTS.
 8. TO AVOID IMPACTS TO SHIPWRECK FRAGMENTS, THE SUBMERGED PIPELINE SHALL NOT COME ON-SHORE IN THE VICINITY OF THE SHIPWRECK FRAGMENTS.

LEGEND:

	USACE BASELINE STATION
	2015 MEAN HIGH WATER (1.18')
	2015 MEAN LOW WATER (-2.05')
	MUNICIPAL BOUNDARY
	NORTH CAROLINA BEACH ACCESS AS IDENTIFIED BY DIVISION OF COASTAL MANAGEMENT

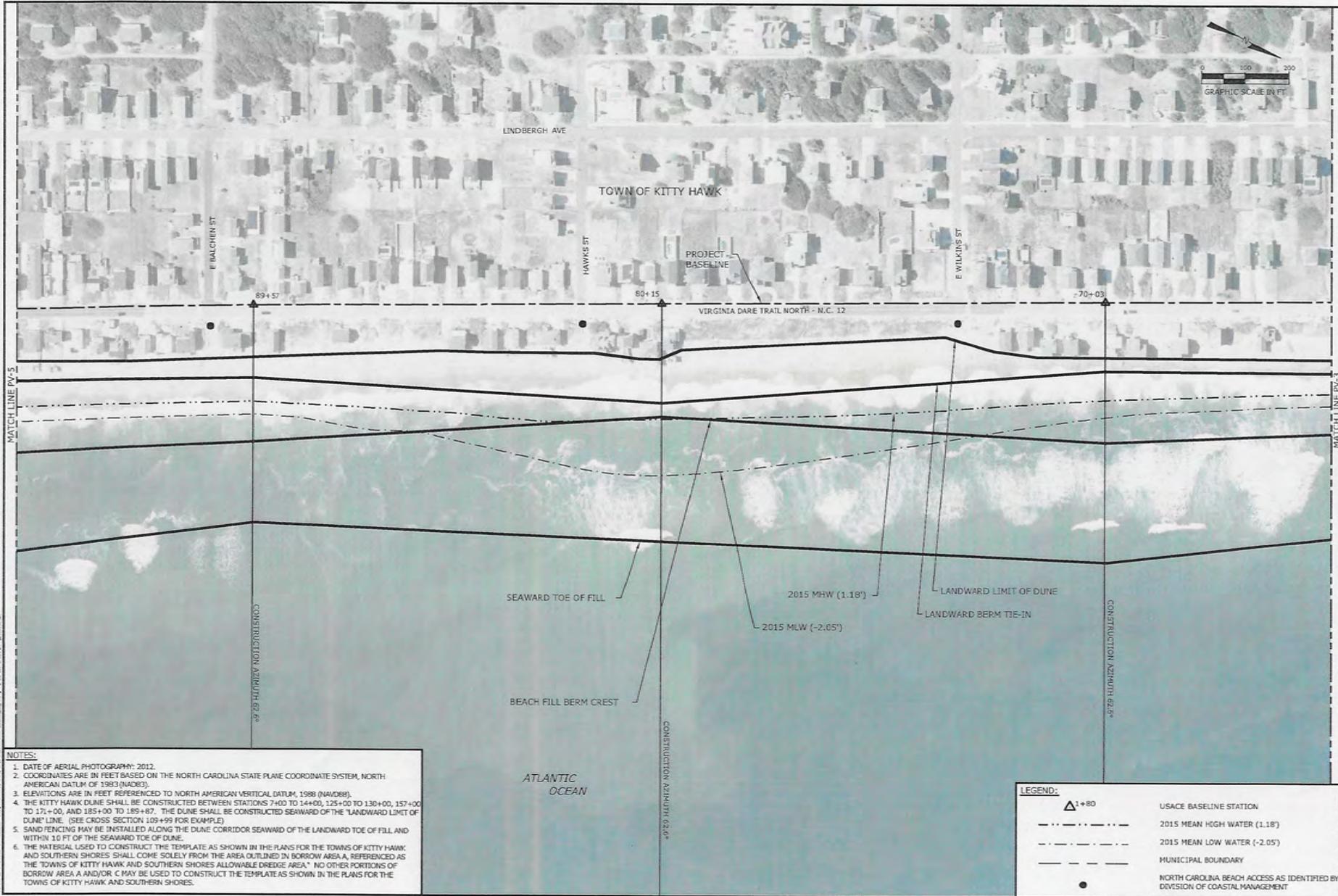
COASTAL PLANNING & ENGINEERING, INC.
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WILMINGTON, NC 28409
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PRJ. (010)178-4664
PAC. (010) 731-4129

NO.	DATE	DESCRIPTION	BY	CHKD.	APP'D.
1	10/28/17	SOUTHERN SHORES EXTENSION	AM	AM	AM
2	11/17/17	REVISED	AM	AM	AM
3	12/12/17	REVISED	AM	AM	AM
4	01/24/18	REVISED	AM	AM	AM
5	02/28/18	REVISED	AM	AM	AM
6	03/21/18	REVISED	AM	AM	AM
7	04/11/18	REVISED	AM	AM	AM
8	04/11/18	REVISED	AM	AM	AM
9	04/11/18	REVISED	AM	AM	AM
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98	04/11/18	REVISED	AM	AM	AM
99	04/11/18	REVISED	AM	AM	AM
100	04/11/18	REVISED	AM	AM	AM

PLAN VIEW

DRAWING NO. **PV-3**
SHEET 6 OF 18



- 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. THE KITTY HAWK DUNE SHALL BE CONSTRUCTED BETWEEN STATIONS 7+00 TO 14+00, 125+00 TO 130+00, 157+00 TO 174+00, AND 185+00 TO 189+87. THE DUNE SHALL BE CONSTRUCTED SEAWARD OF THE LANDWARD LIMIT OF DUNE LINE. (SEE CROSS SECTION 109+99 FOR EXAMPLE)
 5. SAND FENCING MAY BE INSTALLED ALONG THE DUNE CORRIDOR SEAWARD OF THE LANDWARD TOE OF FILL AND WITHIN 10 FT OF THE SEAWARD TOE OF DUNE.
 6. THE MATERIAL USED TO CONSTRUCT THE TEMPLATE AS SHOWN IN THE PLANS FOR THE TOWNS OF KITTY HAWK AND SOUTHERN SHORES SHALL COME SOLELY FROM THE AREA OUTLINED IN BORROW AREA A, REFERENCED AS THE "TOWNS OF KITTY HAWK AND SOUTHERN SHORES ALLOWABLE DREDGE AREA." NO OTHER PORTIONS OF BORROW AREA A AND/OR C MAY BE USED TO CONSTRUCT THE TEMPLATE AS SHOWN IN THE PLANS FOR THE TOWNS OF KITTY HAWK AND SOUTHERN SHORES.

LEGEND:

	USACE BASELINE STATION
	2015 MEAN HIGH WATER (1.18')
	2015 MEAN LOW WATER (-2.05')
	MUNICIPAL BOUNDARY
	NORTH CAROLINA BEACH ACCESS AS IDENTIFIED BY DIVISION OF COASTAL MANAGEMENT

COASTAL PLANNING & ENGINEERING, Inc.
OF North Carolina, Inc.

4008 MASONBRO LOOP RD.
WILMINGTON, NC 28409
www.CPE.com

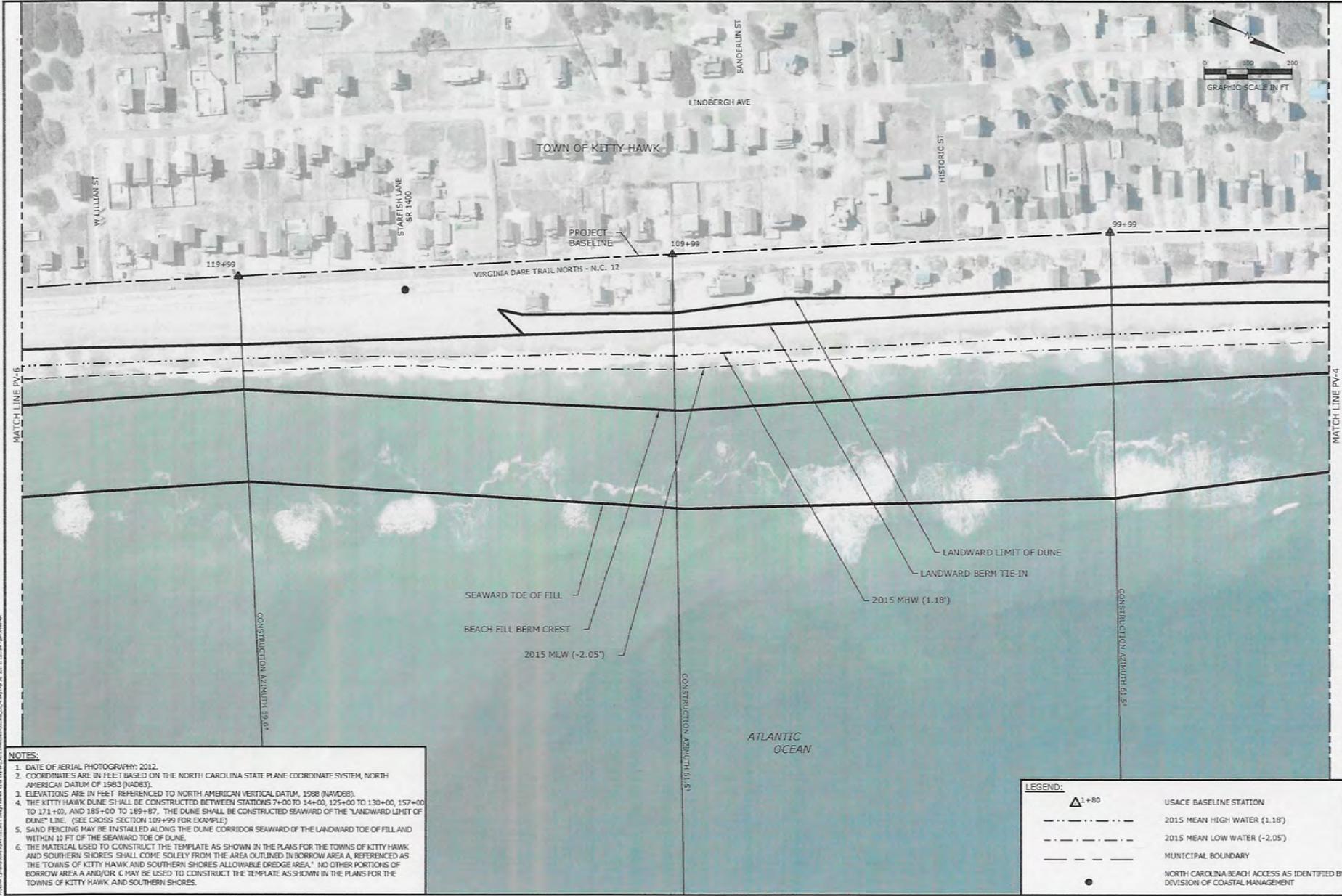
PH: (910)791-9494
FAX: (910) 791-4129

Checked by:	ANG
Designed by:	JJD
Drawn by:	JK
Date:	4/26/17
AS NOTED	

PLAN VIEW

DRAWING NO. **PV-4**

SHEET 7 OF 18



- 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. THE KITTY HAWK DUNE SHALL BE CONSTRUCTED BETWEEN STATIONS 7+00 TO 24+00, 125+00 TO 130+00, 157+00 TO 171+00, AND 185+00 TO 189+87. THE DUNE SHALL BE CONSTRUCTED SEAWARD OF THE "LANDWARD LIMIT OF DUNE" LINE. (SEE CROSS SECTION 109+99 FOR EXAMPLE)
 5. SAND FENCING MAY BE INSTALLED ALONG THE DUNE CORRIDOR SEAWARD OF THE LANDWARD TOE OF FILL AND WITHIN 10 FT OF THE SEAWARD TOE OF DUNE.
 6. THE MATERIAL USED TO CONSTRUCT THE TEMPLATE AS SHOWN IN THE PLANS FOR THE TOWNS OF KITTY HAWK AND SOUTHERN SHORES SHALL COME SOLELY FROM THE AREA OUTLINED IN BORROW AREA A, REFERENCED AS THE "TOWNS OF KITTY HAWK AND SOUTHERN SHORES ALLOWABLE DREDGE AREA." NO OTHER PORTIONS OF BORROW AREA A AND/OR C MAY BE USED TO CONSTRUCT THE TEMPLATE AS SHOWN IN THE PLANS FOR THE TOWNS OF KITTY HAWK AND SOUTHERN SHORES.

LEGEND:

	USACE BASELINE STATION
	2015 MEAN HIGH WATER (1.18')
	2015 MEAN LOW WATER (-2.05')
	MUNICIPAL BOUNDARY
	NORTH CAROLINA BEACH ACCESS AS IDENTIFIED BY DIVISION OF COASTAL MANAGEMENT

COASTAL PLANNING & ENGINEERING, Inc.
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 4038 MASONBRO LOOP RD.
 WILMINGTON, NC 28409
 www.CPE.com
 PH: (910)791-6464
 FAX: (910) 791-4129

NO.	REVISION	DATE	BY	CHKD BY
1	1/2/2017	6:30/24512	JD	ARB

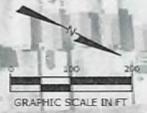
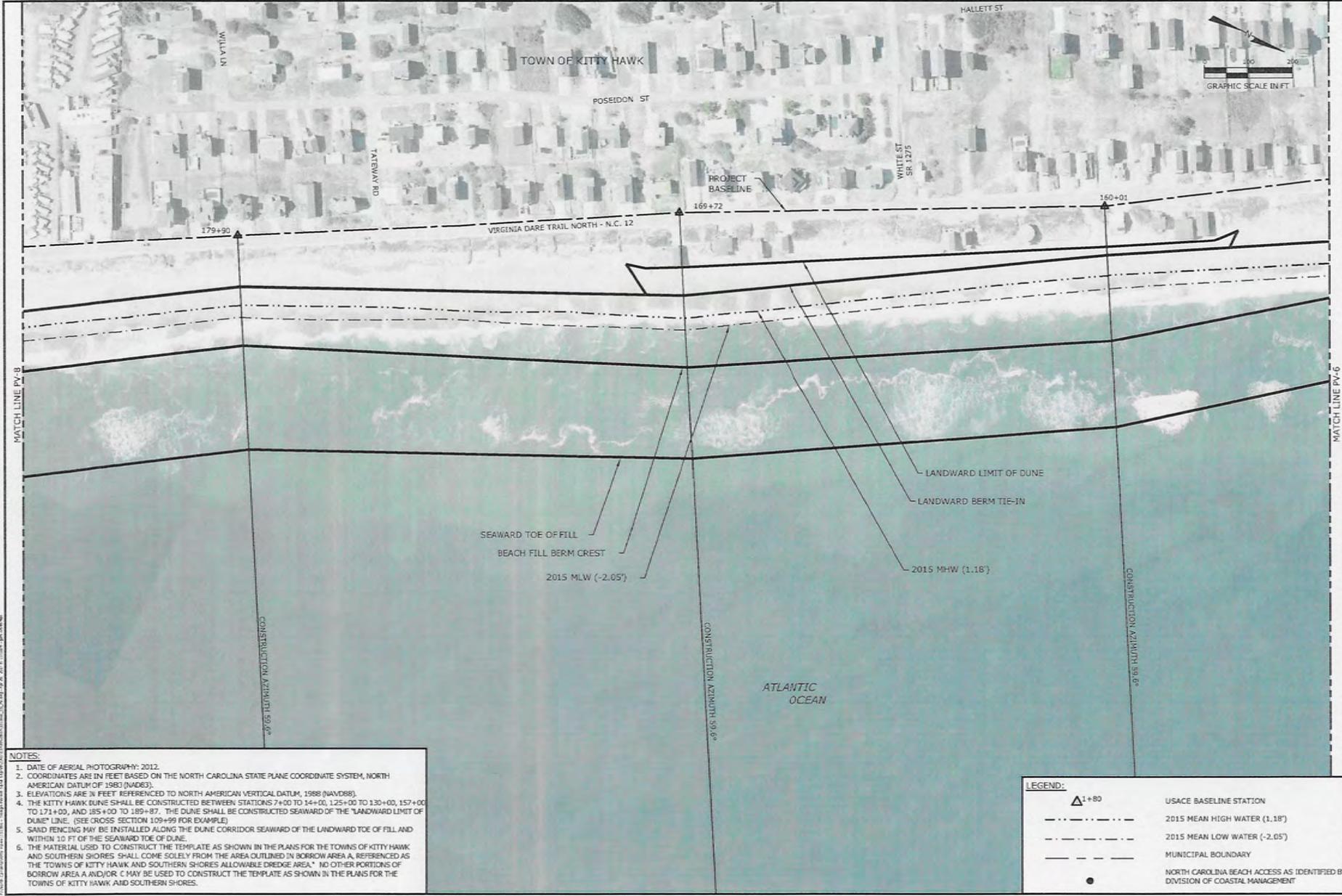
Checked By: ARB
 Drawn By: JD
 Date: 4/28/17
 A.S. NOTED

Refer to File: TOWN OF KITTY HAWK BEACH NOURISHMENT PROJECT - DIVISION OF COASTAL MANAGEMENT - DUNE COUNTY, NORTH CAROLINA

PLAN VIEW

DRAWING NO. **PV-5**

SHEET 8 OF 18



- NOTES:**
1. DATE OF AERIAL PHOTOGRAPH: 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. THE KITTY HAWK DUINE SHALL BE CONSTRUCTED BETWEEN STATIONS 7+00 TO 14+00, 125+00 TO 130+00, 157+00 TO 171+00, AND 185+00 TO 189+87. THE DUINE SHALL BE CONSTRUCTED SEAWARD OF THE "LANDWARD LIMIT OF DUINE" LINE. (SEE CROSS SECTION 109+99 FOR EXAMPLE)
 5. SAND FENCING MAY BE INSTALLED ALONG THE DUINE CORRIDOR SEAWARD OF THE LANDWARD TOE OF FILL AND WITHIN 10 FT OF THE SEAWARD TOE OF DUINE.
 6. THE MATERIAL USED TO CONSTRUCT THE TEMPLATE AS SHOWN IN THE PLANS FOR THE TOWNS OF KITTY HAWK AND SOUTHERN SHORES SHALL COME SOLELY FROM THE AREA OUTLINED IN BORROW AREA A, REFERENCED AS THE TOWNS OF KITTY HAWK AND SOUTHERN SHORES ALLOWABLE DREDGE AREA.* NO OTHER PORTIONS OF BORROW AREA A AND/OR C MAY BE USED TO CONSTRUCT THE TEMPLATE AS SHOWN IN THE PLANS FOR THE TOWNS OF KITTY HAWK AND SOUTHERN SHORES.

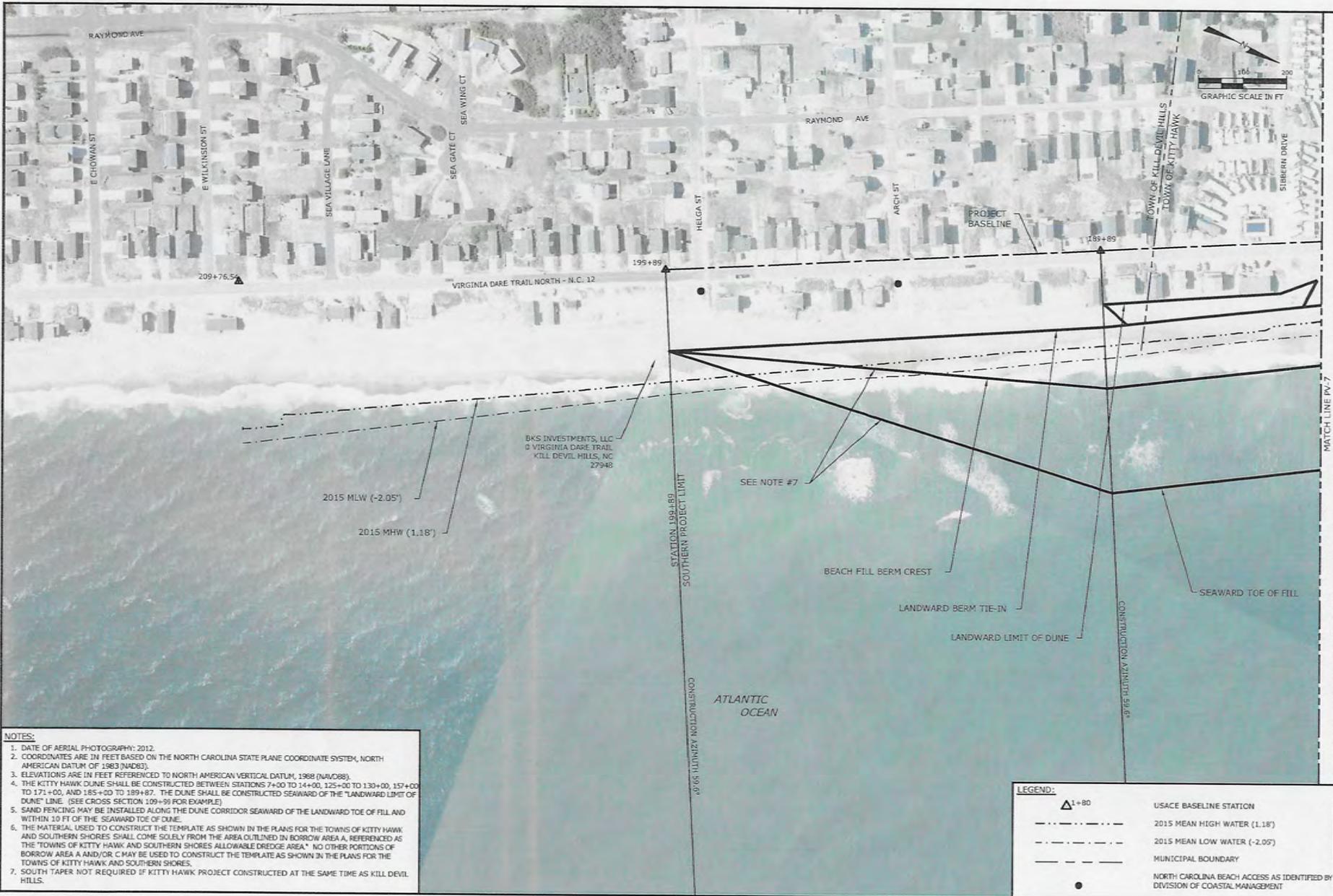
LEGEND:

Δ +80	USACE BASELINE STATION
--- · --- · --- · ---	2015 MEAN HIGH WATER (1.18')
--- · --- · --- · ---	2015 MEAN LOW WATER (-2.05')
---	MUNICIPAL BOUNDARY
●	NORTH CAROLINA BEACH ACCESS AS IDENTIFIED BY DIVISION OF COASTAL MANAGEMENT

COASTAL PLANNING & ENGINEERING, Inc.
 OF North Carolina, Inc.
 4028 MACDONALD LOOP #102
 WILMINGTON, NC 28409
 PH: (910)791-9484
 FAX: (910) 791-4129
 www.CPE.com

NO.	REVISIONS	DATE	BY	CHKD.
1	ISSUE FOR PERMIT			

PROJECT NO: 109-99
 SHEET NO: 10 OF 18
 DRAWING NO: PV-7



- NOTES:**
- DATE OF AERIAL PHOTOGRAPHY: 2012.
 - COORDINATES ARE IN FEET BASED ON THE NORTH CAROLINA STATE PLANE COORDINATE SYSTEM, NORTH AMERICAN DATUM OF 1983 (NAD83).
 - ELEVATIONS ARE IN FEET REFERENCED TO NORTH AMERICAN VERTICAL DATUM, 1988 (NAVD88).
 - THE KITTY HAWK DUNE SHALL BE CONSTRUCTED BETWEEN STATIONS 7+00 TO 14+00, 125+00 TO 130+00, 157+00 TO 171+00, AND 185+00 TO 189+87. THE DUNE SHALL BE CONSTRUCTED SEAWARD OF THE "LANDWARD LIMIT OF DUNE" LINE. (SEE CROSS SECTION 109+99 FOR EXAMPLE)
 - SAND FENCING MAY BE INSTALLED ALONG THE DUNE CORRIDOR SEAWARD OF THE LANDWARD TOE OF FILL AND WITHIN 10 FT OF THE SEAWARD TOE OF DUNE.
 - THE MATERIAL USED TO CONSTRUCT THE TEMPLATE AS SHOWN IN THE PLANS FOR THE TOWNS OF KITTY HAWK AND SOUTHERN SHORES SHALL COME SOLELY FROM THE AREA OUTLINED IN BORROW AREA A, REFERENCED AS THE "TOWNS OF KITTY HAWK AND SOUTHERN SHORES ALLOWABLE DREDGE AREA". NO OTHER PORTIONS OF BORROW AREA A AND/OR C MAY BE USED TO CONSTRUCT THE TEMPLATE AS SHOWN IN THE PLANS FOR THE TOWNS OF KITTY HAWK AND SOUTHERN SHORES.
 - SOUTH TAPER NOT REQUIRED IF KITTY HAWK PROJECT CONSTRUCTED AT THE SAME TIME AS KILL DEVIL HILLS.

LEGEND:

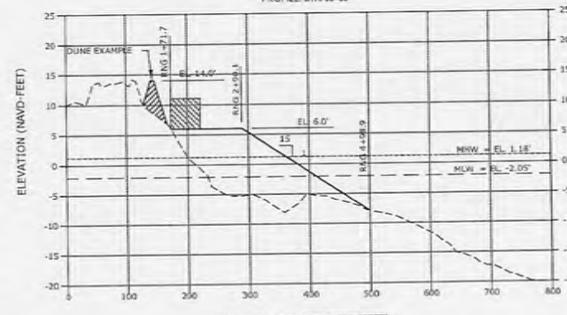
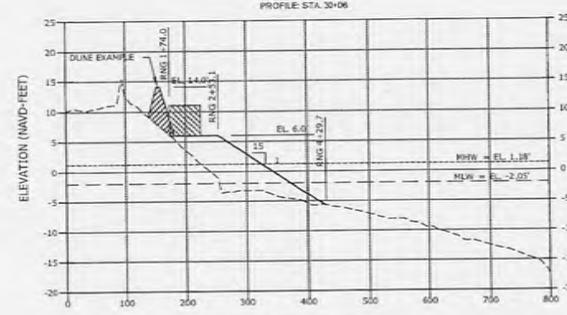
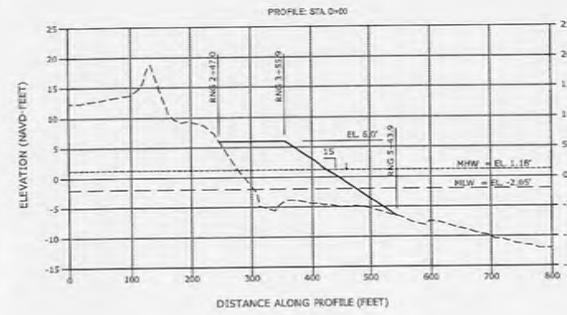
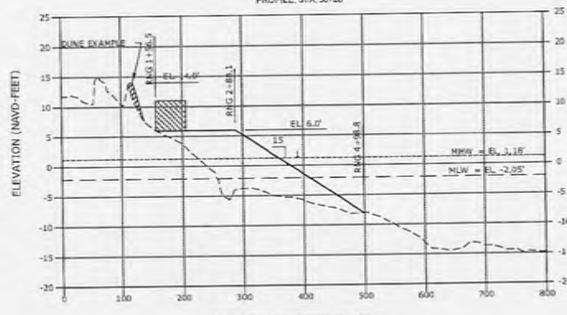
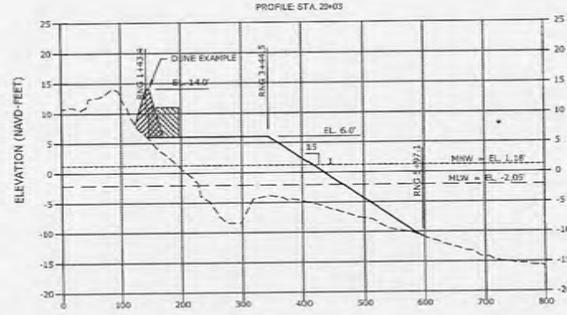
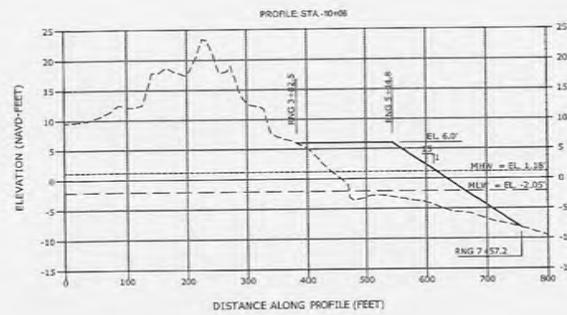
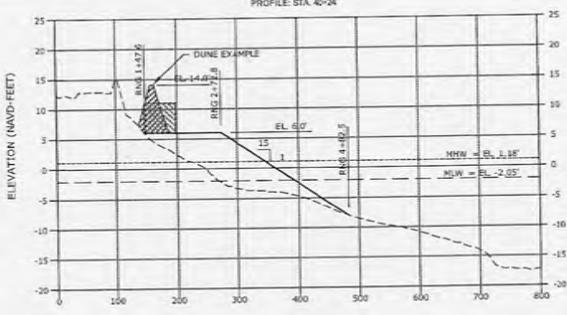
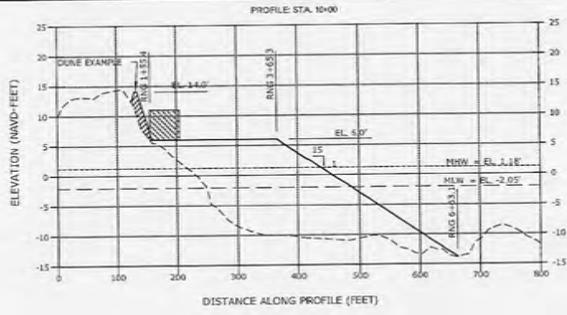
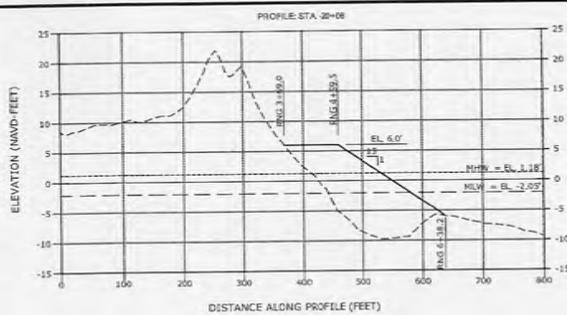
	USACE BASELINE STATION
	2015 MEAN HIGH WATER (1.18')
	2015 MEAN LOW WATER (-2.05')
	MUNICIPAL BOUNDARY
	NORTH CAROLINA BEACH ACCESS AS IDENTIFIED BY DIVISION OF COASTAL MANAGEMENT

COASTAL PLANNING & ENGINEERING, INC.
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FAX: (910) 791-4129
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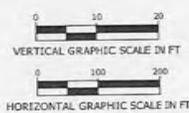
NO.	DATE	DESCRIPTION
1	11/21/17	SOUTHERN PROJECT LIMIT
2	11/21/17	CONSTRUCTION 2/21/17 59.0'
3	11/21/17	2015 MLW (-2.05')
4	11/21/17	2015 MHW (1.18')
5	11/21/17	BEACH FILL BERM CREST
6	11/21/17	LANDWARD BERM TIE-IN
7	11/21/17	LANDWARD LIMIT OF DUNE
8	11/21/17	SEA WARD TOE OF FILL
9	11/21/17	PROJECT BASELINE
10	11/21/17	CONSTRUCTION 2/21/17 59.0'

PLAN VIEW

DRAWING NO. **PV-8**
SHEET 11 OF 28



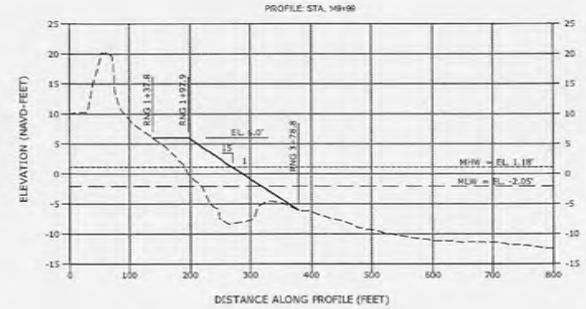
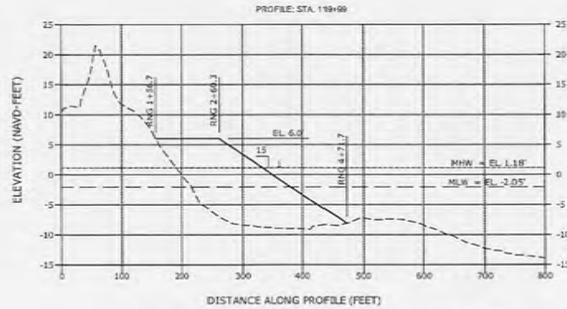
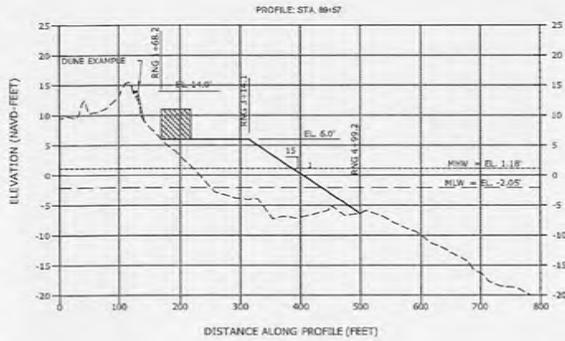
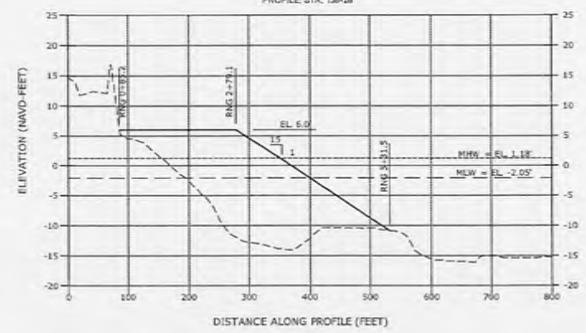
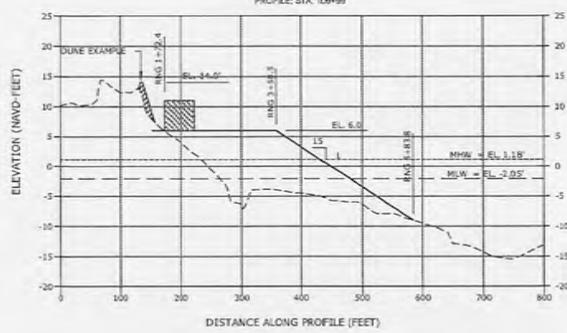
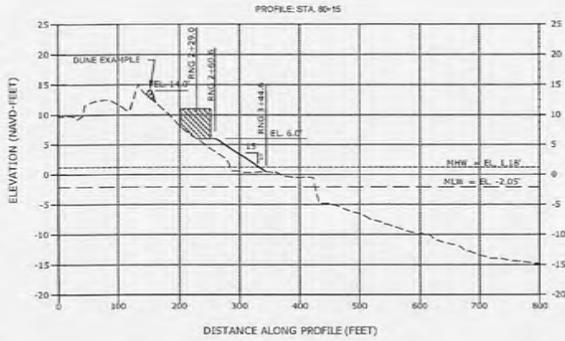
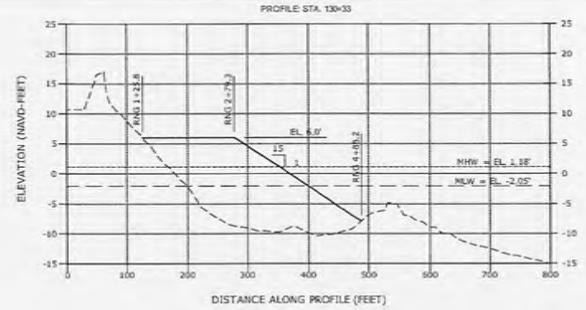
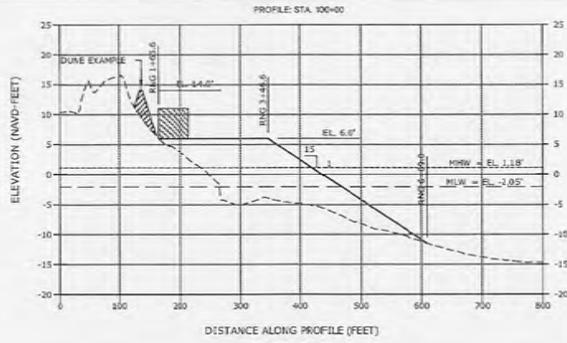
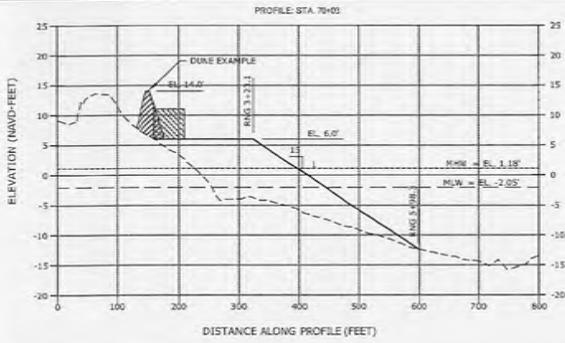
- LEGEND:**
- EXISTING GRADE MAY 2015
 - DESIGN TEMPLATE
 - MEAN HIGH WATER LINE (MHW)
 - MEAN LOW WATER LINE (MLW)
 - DUNE TEMPORARY BEACH FILL STOCKPILE
 - LOCATION TO CONSTRUCT DUNE



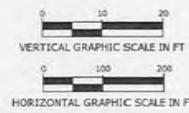
- NOTES:**
1. ELEVATIONS SHOWN ARE IN FEET REFERENCED TO NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD88).
 2. BATHYMETRIC SURVEY PERFORMED MAY 2015, BY CPE-NC.
 3. THE CONSTRUCTION TEMPLATES AND VOLUMES MAY BE REVISED BY THE ENGINEER BASED ON THE PRE-CONSTRUCTION SURVEY TO REFLECT CHANGES IN FIELD CONDITIONS.
 4. THE MATERIAL FOR THE KITTY HAWK DUNE MAY EITHER BE INITIALLY PLACED WITHIN THE LIMITS OF THE TEMPORARY DUNE STOCKPILE LOCATION AS SHOWN IN THE PLANS OR PLACED DIRECTLY ON THE BEACH PROFILE TO CONSTRUCT THE DUNE. PLACEMENT OF THE DUNE MATERIAL WITHIN THE TEMPORARY DUNE STOCKPILE LOCATION IS OPTIONAL. IF THE DUNE MATERIAL IS PLACED WITHIN THE TEMPORARY DUNE STOCKPILE LOCATION, UPON COMPLETION OF THE POST-PLACEMENT SURVEY, AND PRIOR TO FINAL COMPLETION, THE MATERIAL SHALL BE RELOCATED TO CONSTRUCT THE DUNE. IF THE DUNE MATERIAL IS PLACED DIRECTLY ON THE BEACH PROFILE WITHOUT BEING FIRST PLACED WITHIN THE TEMPORARY DUNE STOCKPILE LOCATION, THE CONTRACTOR SHALL INCLUDE THE DUNE MATERIAL IN THE POST-PLACEMENT SURVEY (AD).
 5. THE TEMPORARY DUNE STOCKPILE LIMITS ARE LARGER THAN THE REQUIRED DUNE FILL VOLUME TO PROVIDE THE CONTRACTOR WITH FLEXIBILITY IN STOCKPILING THE MATERIAL WITHIN THE TEMPORARY DUNE STOCKPILE LIMITS. THE CONTRACTOR MAY STOCKPILE MATERIAL AT HIS/HER DISCRETION WITHIN THE TEMPORARY DUNE STOCKPILE LIMITS.

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REVISIONS	DATE	BY	CHECKED BY	APPROVED BY	PROJECT NO.
1	6/28/17	JD	JD	JD	17-002246.2
TOWN OF KITTY HAWK BEACH NOURISHMENT PROJECT WITH SOUTHERN SHORES EXTENSION DADE COUNTY, NORTH CAROLINA					
BEACH FILL PROFILES					
DRAWING NO. XS-1					
SHEET 12 OF 18					



- LEGEND:**
- EXISTING GRADE MAY 2015
 - DESIGN TEMPLATE
 - MEAN HIGH WATER LINE (MHW)
 - MEAN LOW WATER LINE (MLW)
 - DUNE TEMPORARY BEACH FILL STOCKPILE
 - LOCATION TO CONSTRUCT DUNE

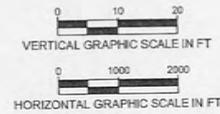
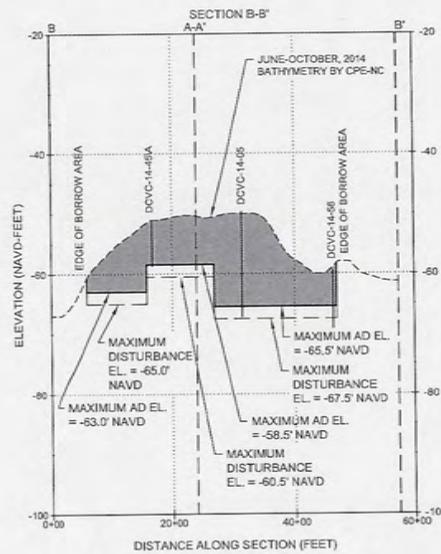
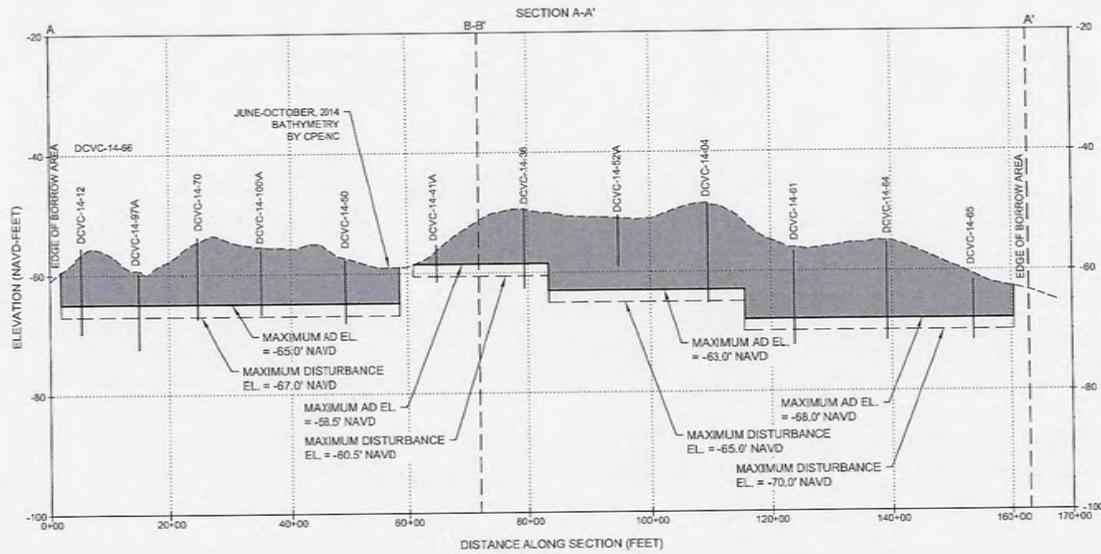


- NOTES:**
1. ELEVATIONS SHOWN ARE IN FEET REFERENCED TO NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD88).
 2. BATHYMETRIC SURVEY PERFORMED MAY 2015, BY CPE-NC.
 3. THE CONSTRUCTION TEMPLATES AND VOLUMES MAY BE REVISED BY THE ENGINEER BASED ON THE PRE-CONSTRUCTION SURVEY TO REFLECT CHANGES IN FIELD CONDITIONS.
 4. THE MATERIAL FOR THE KITTY HAWK DUNE MAY EITHER BE INITIALLY PLACED WITHIN THE LIMITS OF THE TEMPORARY DUNE STOCKPILE LOCATION AS SHOWN IN THE PLANS OR PLACED DIRECTLY ON THE BEACH PROFILE TO CONSTRUCT THE DUNE. PLACEMENT OF THE DUNE MATERIAL WITHIN THE TEMPORARY DUNE STOCKPILE LOCATION IS OPTIONAL. IF THE DUNE MATERIAL IS PLACED WITHIN THE TEMPORARY DUNE STOCKPILE LOCATION, UPON COMPLETION OF THE POST-PLACEMENT SURVEY, AND PRIOR TO FINAL COMPLETION, THE MATERIAL SHALL BE RELOCATED TO CONSTRUCT THE DUNE. IF THE DUNE MATERIAL IS PLACED DIRECTLY ON THE BEACH PROFILE WITHOUT BEING FIRST PLACED WITHIN THE TEMPORARY DUNE STOCKPILE LOCATION, THE CONTRACTOR SHALL INCLUDE THE DUNE MATERIAL IN THE POST-PLACEMENT SURVEY (AD).
 5. THE TEMPORARY DUNE STOCKPILE LIMITS ARE LARGER THAN THE REQUIRED DUNE FILL VOLUME TO PROVIDE THE CONTRACTOR WITH FLEXIBILITY IN STOCKPILING THE MATERIAL WITHIN THE TEMPORARY DUNE STOCKPILE LIMITS. THE CONTRACTOR MAY STOCKPILE MATERIAL AT HIS/HER DISCRETION WITHIN THE TEMPORARY DUNE STOCKPILE LIMITS.

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REVISIONS		DATE	BY	CHKD
1	REVISED			
2	REVISED			
3	REVISED			
4	REVISED			
5	REVISED			

DRAWING NO. **XS-2**
 SHEET 13 OF 18



- NOTES:**
- ELEVATIONS ARE IN FEET BASED ON THE NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD88).
 - BATHYMETRIC SURVEY PERFORMED JUNE-OCTOBER, 2014, BY CPE-NC.
 - THE MAXIMUM AFTER DREDGE (AD) ELEVATIONS SHOWN ARE THE MAXIMUM DEPTHS ALLOWED WITHIN THE BORROW AREA PER THE PERMITS AND BASED ON THE AD SURVEY. THE MATERIAL USED TO CONSTRUCT THE TEMPLATE AS SHOWN IN THE PLANS FOR THE TOWN OF KITTY HAWK AND THE TOWN OF SOUTHERN SHORES SHALL COME SOLELY FROM THE AREA OUTLINED WITHIN BORROW AREA A, REFERENCED AS THE TOWN OF KITTY HAWK AREA A, AND THE TOWN OF SOUTHERN SHORES ALLOWABLE DREDGE AREA. NO OTHER PORTIONS OF BORROW AREA A AND/OR C MAY BE USED TO CONSTRUCT THE TEMPLATE AS SHOWN IN THE PLANS FOR THE TOWN OF KITTY HAWK AND THE TOWN OF SOUTHERN SHORES. SEE TECHNICAL PROVISION 8.
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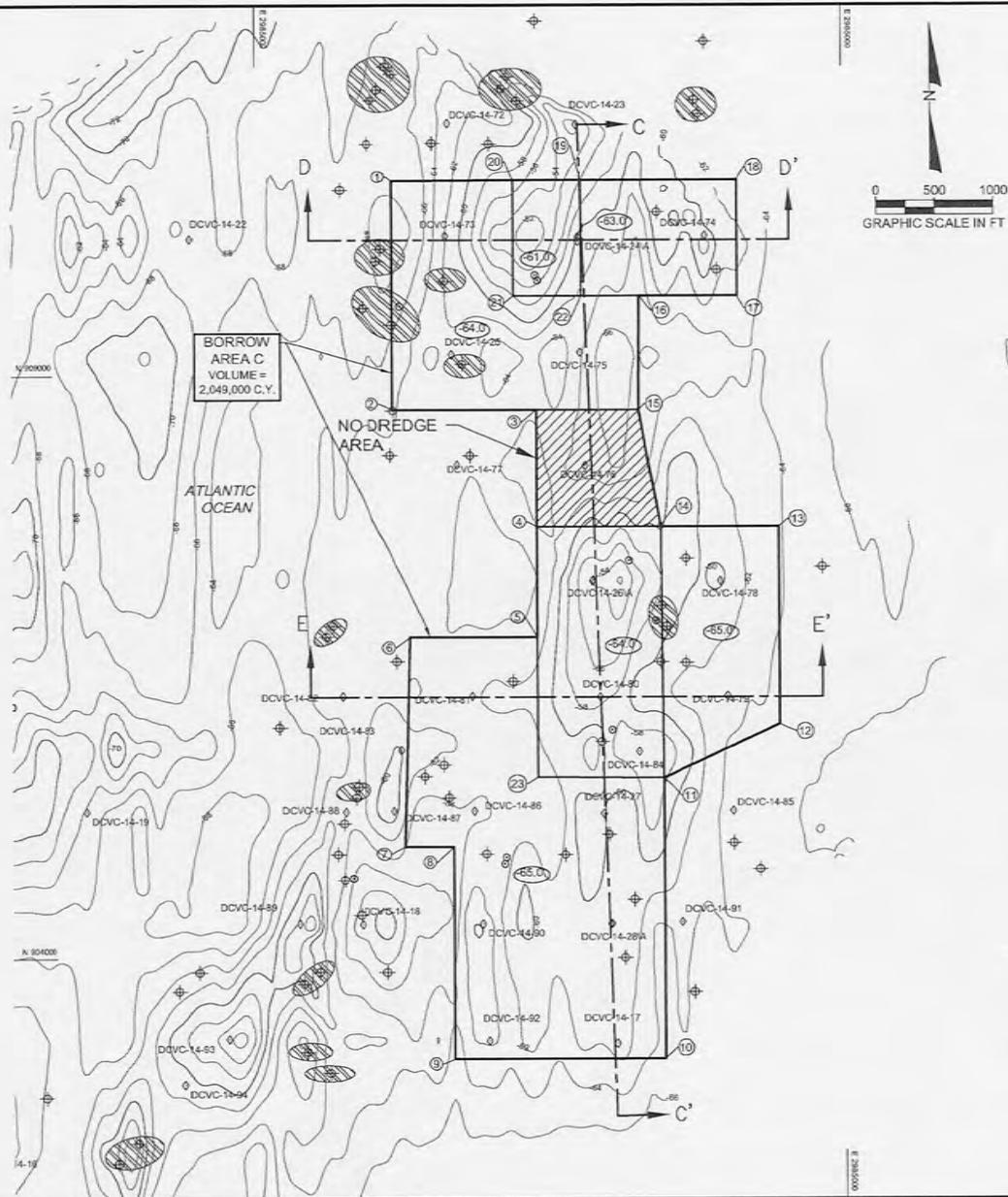
COASTAL PLANNING & ENGINEERING, Inc.
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 FAX (910) 791-4128
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PROJECT NO.	17-03271	DATE	05/20/17
PROJECT NAME	TOWN OF KITTY HAWK BEACH REHABILITATION PROJECT WITH SOUTHERN SHORES EXTENSION DARE COUNTY, NORTH CAROLINA		
DESIGNED BY	AM	DATE	04/28/17
DRAWN BY	DL	DATE	04/28/17
CHECKED BY	KW	DATE	05/20/17
APPROVED BY	JD	DATE	05/20/17
SCALE	AS NOTED		
PROJECT	TOWN OF KITTY HAWK BEACH REHABILITATION PROJECT WITH SOUTHERN SHORES EXTENSION DARE COUNTY, NORTH CAROLINA		
CROSS-SECTION	BORROW AREA A CROSS-SECTIONS		
DRAWING NO.	XS-1		
SHEET	18 OF 18		

- LEGEND:**
- 66.0 MAXIMUM AFTER DREDGE ELEVATION (FT. NAVD88)
 - BATHYMETRIC CONTOUR
 - TAR CULTURAL RESOURCE AVOIDANCE AREA (NO DREDGE ZONE/NO ANCHOR)
 - NO DREDGE ZONE
 - CPE-NC 2014 VIBRACORES
 - CPE-NC 2014 MAGNETIC ANOMALIES
 - CPE-NC 2014 SIDESCAN SONAR ANOMALIES
 - BORROW AREA COORDINATE ID (SEE SHEET 16)

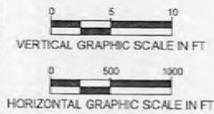
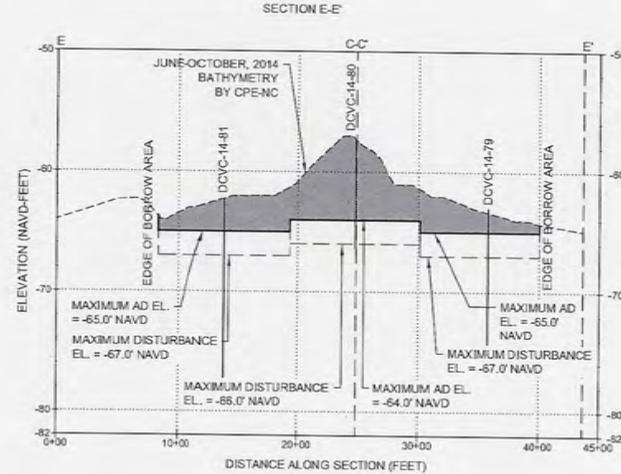
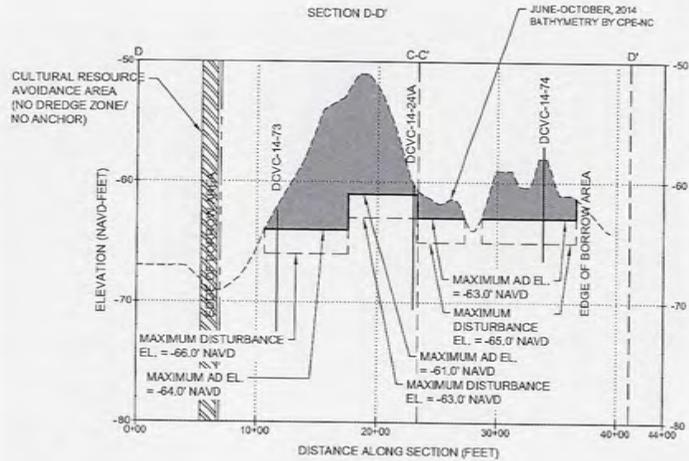
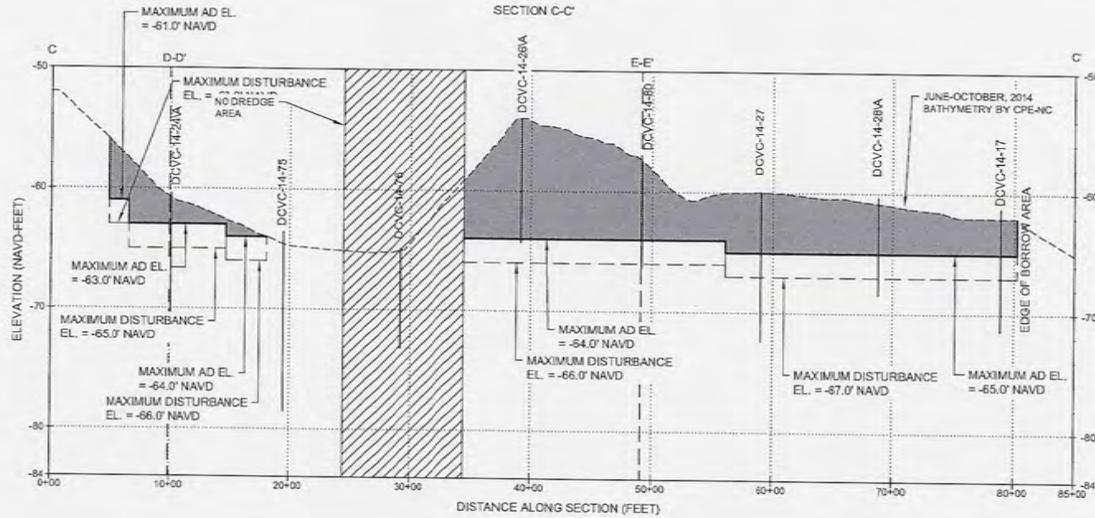
1. COORDINATES ARE IN FEET BASED ON NORTH CAROLINA STATE PLANE COORDINATE SYSTEM, NORTH AMERICAN DATUM OF 1983 (NAD83).
2. BATHYMETRIC SURVEY PERFORMED JUNE-OCTOBER, 2014, BY CPE-NC.
3. ELEVATIONS ARE IN FEET BASED ON THE NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD88).
4. THE MAXIMUM AFTER DREDGE (AD) ELEVATIONS SHOWN ARE THE MAXIMUM DEPTHS ALLOWED WITHIN THE BORROW AREA PER THE PERMITS AND BASED ON THE AD SURVEY.
5. THE MATERIAL USED TO CONSTRUCT THE TEMPLATE AS SHOWN IN THE PLANS FOR THE TOWN OF KITTY HAWK AND THE TOWN OF SOUTHERN SHORES SHALL COME SOLELY FROM THE AREA OUTLINED WITHIN BORROW AREA A, REFERENCED AS THE "TOWN OF KITTY HAWK AND THE TOWN OF SOUTHERN SHORES ALLOWABLE DREDGE AREA." NO OTHER PORTIONS OF BORROW AREA A AND/OR C MAY BE USED TO CONSTRUCT THE TEMPLATE AS SHOWN IN THE PLANS FOR THE TOWN OF KITTY HAWK AND THE TOWN OF SOUTHERN SHORES. SEE TECHNICAL PROVISION 8.

BORROW AREA COORDINATE TABLE		
POINT ID	EASTING	NORTHING
1	2981154.0	910671.3
2	2981154.0	908707.9
3	2982388.3	908708.4
4	2982388.3	907702.7
5	2982388.3	906756.8
6	2981296.1	906756.8
7	2981247.1	904958.1
8	2981664.5	904955.1
9	2981664.5	903135.4
10	2983469.1	903135.4
11	2983469.1	905545.8
12	2984454.3	906008.4
13	2984454.3	907703.2
14	2983451.5	907702.7
15	2983264.8	908708.7
16	2983272.4	909684.5
17	2984111.1	909684.5
18	2984111.1	910678.2
19	2982779.4	910680.3
20	2982204.0	910678.2
21	2982204.0	909684.5
22	2982778.6	909684.5
23	2982388.3	905552.5



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BORROW AREA C PLAN VIEW
 DRAWING NO. BA-C
 SHEET 17 OF 28



NOTES:

- ELEVATIONS ARE IN FEET BASED ON THE NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD88).
- BATHYMETRIC SURVEY PERFORMED JUNE-OCTOBER, 2014, BY CPE-NC.
- THE MAXIMUM AFTER DREDGE (AD) ELEVATIONS SHOWN ARE THE MAXIMUM DEPTHS ALLOWED WITHIN THE BORROW AREA PER THE PERMITS AND BASED ON THE AD SURVEY.
- THE MATERIAL USED TO CONSTRUCT THE TEMPLATE AS SHOWN IN THE PLANS FOR THE TOWN OF KITTY HAWK AND THE TOWN OF SOUTHERN SHORES SHALL COME SOLELY FROM THE AREA OUTLINED WITHIN BORROW AREA A, REFERENCED AS THE "TOWN OF KITTY HAWK AND THE TOWN OF SOUTHERN SHORES ALLOWABLE DREDGE AREA." NO OTHER PORTIONS OF BORROW AREA A AND/OR C MAY BE USED TO CONSTRUCT THE TEMPLATE AS SHOWN IN THE PLANS FOR THE TOWN OF KITTY HAWK AND THE TOWN OF SOUTHERN SHORES. SEE TECHNICAL PROVISION 8.

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NO.	REVISIONS	DATE	BY	AS NOTED
1	11/2/17			
	OUTLINE STUDY			

TOWN OF KITTY HAWK BEACH NEIGHBORHOOD
 PROJECT WITH SOUTHERN SHORES EXTENSION
 DADE COUNTY, NORTH CAROLINA

BORROW AREA C CROSS-SECTIONS
 DRAWING NO. **XS-1**
 SHEET 18 OF 18