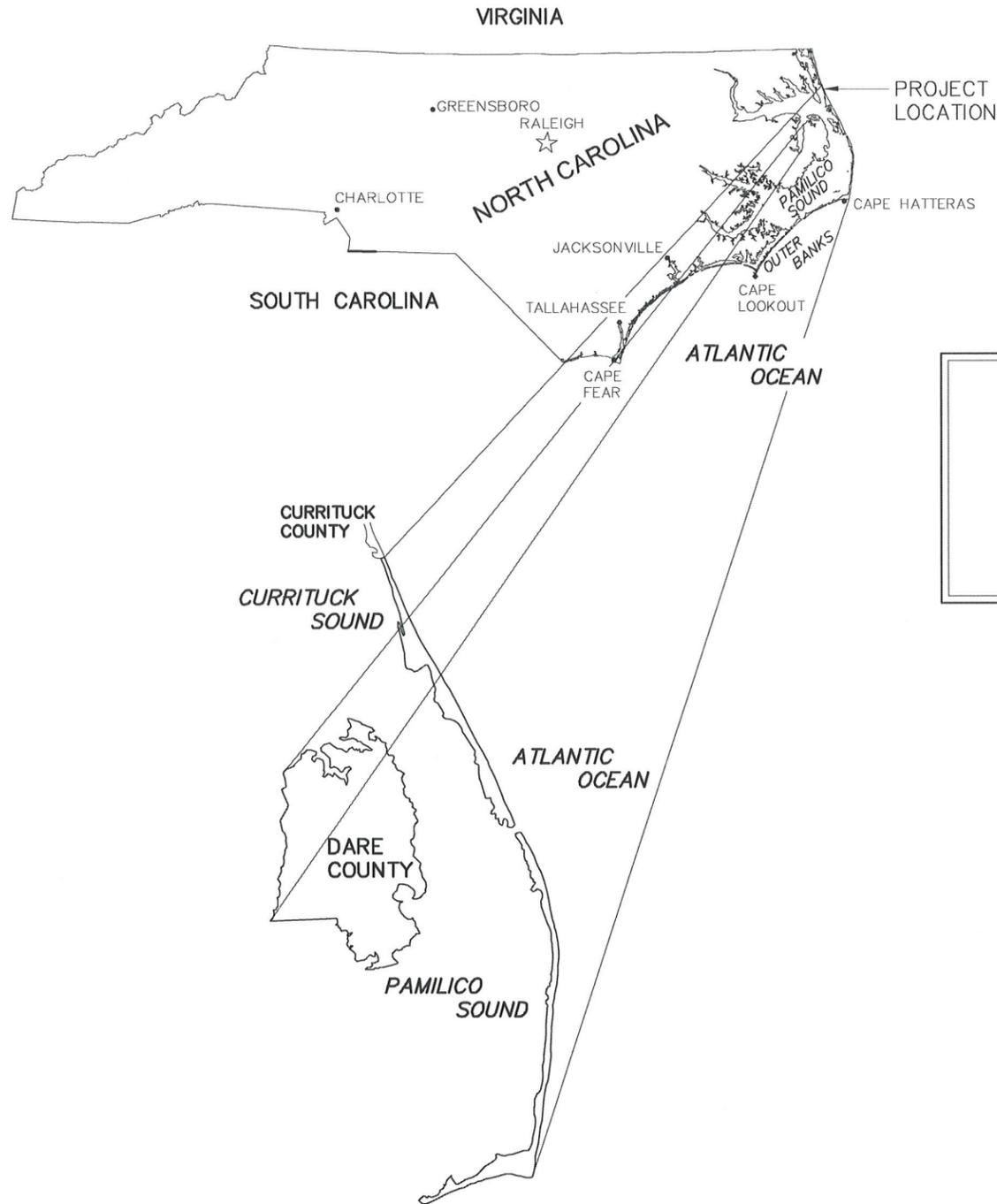
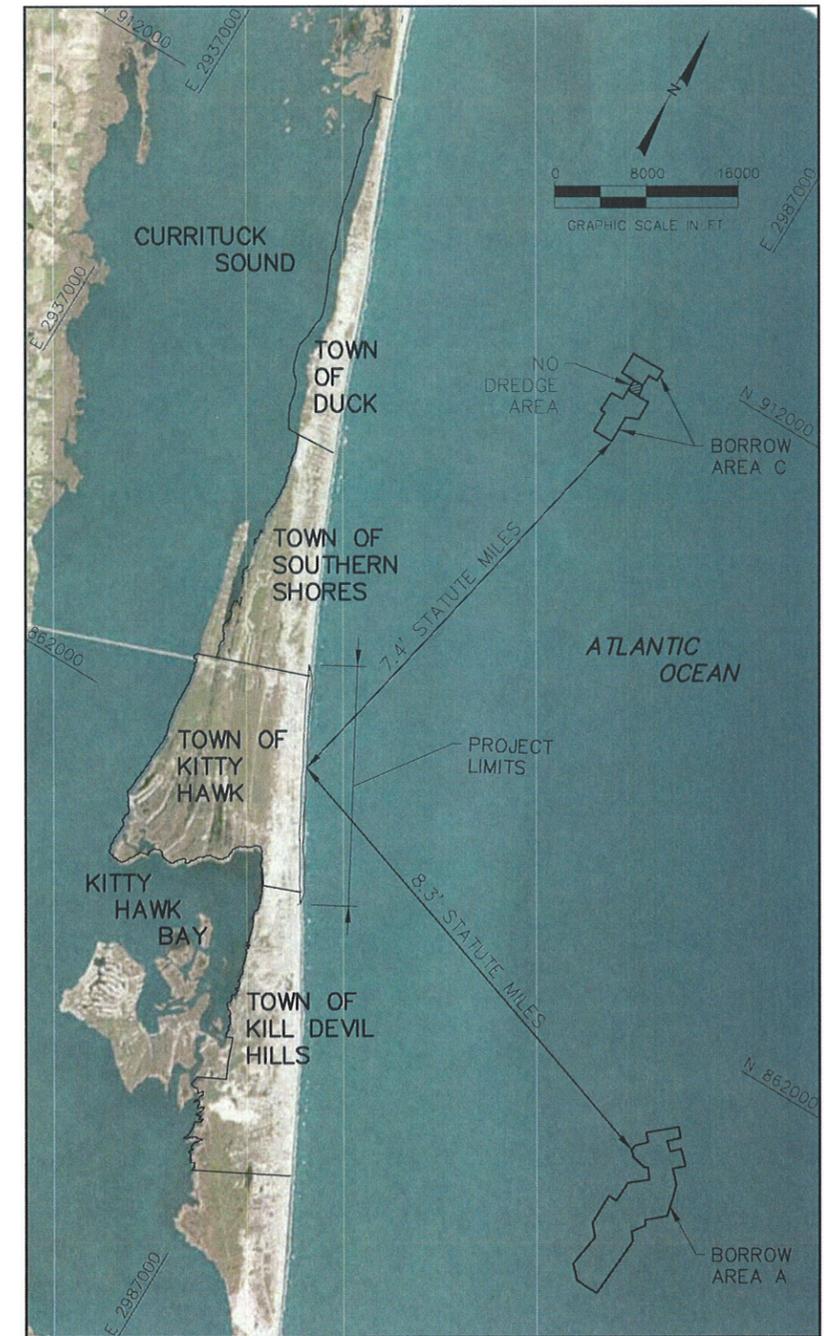


# NORTH DARE COUNTY BEACHES TOWN OF KITTY HAWK BEACH NOURISHMENT PROJECT DARE COUNTY, NORTH CAROLINA



INDEX TO SHEETS	
1	COVER SHEET
2	CONTROL DATA
3	OVERALL PLAN VIEW
4-11	BEACH FILL PLAN VIEWS
12-14	BEACH FILL PROFILES
15	BORROW AREA A PLAN VIEW
16	BORROW AREA A CROSS-SECTIONS
17	BORROW AREA C PLAN VIEW
18	BORROW AREA C CROSS SECTIONS

TWD  
12/14/15



**LOCATION MAP**

REVISIONS	
No.	Description

Designed by: JD	Checked by: AMB
Drawn by: HN	Reviewed by: KW
Date: 7/08/15	Submitted by: KW
Proj. Scale: AS NOTED	Comm. No.: 150440

TOWN OF KITTY HAWK  
BEACH NOURISHMENT PROJECT  
DARE COUNTY, NORTH CAROLINA

P:\North Carolina\Kitty Hawk\1501088 - Design Permit\Send Search\CAD\Construction\1501088.dwg - Dec 02, 2015 @ 3:58pm - hward.rwh

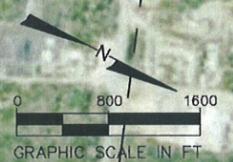
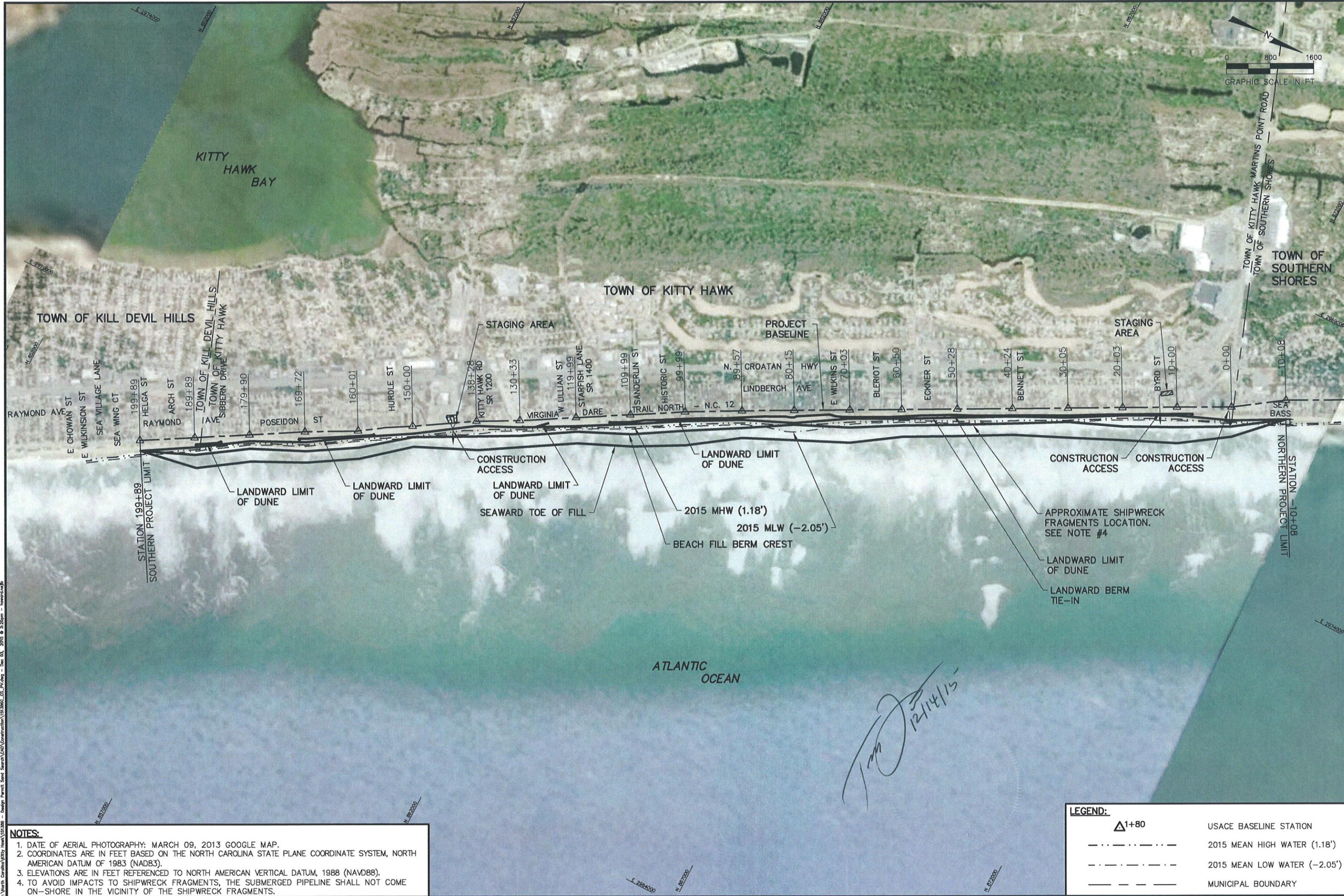
TOWN OF KITTY HAWK PAY PROFILES

STATION	EASTING	NORTHING	AZ	DISTANCE TO NEXT
-10+08	2,971,167.48	871,973.14	62.6	108
-9+00	2,971,110.80	872,055.52	62.6	100
-8+00	2,971,054.12	872,137.91	62.6	100
-7+00	2,970,997.44	872,220.29	62.6	100
-6+00	2,970,940.77	872,302.68	62.6	100
-5+00	2,970,884.09	872,385.07	62.6	100
-4+00	2,970,827.41	872,467.45	62.6	100
-3+00	2,970,770.73	872,549.84	62.6	100
-2+00	2,970,714.05	872,632.23	62.6	100
-1+00	2,970,657.37	872,714.62	62.6	100
0+00	2,971,224.20	871,890.80	62.6	100
1+00	2,971,270.34	871,802.08	62.6	100
2+00	2,971,316.49	871,713.36	62.6	100
3+00	2,971,362.63	871,624.65	62.6	100
4+00	2,971,408.77	871,535.93	62.6	100
5+00	2,971,454.92	871,447.21	62.6	100
6+00	2,971,501.06	871,358.49	62.6	100
7+00	2,971,547.20	871,269.78	62.6	100
8+00	2,971,593.35	871,181.06	62.6	100
9+00	2,971,639.49	871,092.34	62.6	100
10+00	2,971,685.63	871,003.62	62.6	100
11+00	2,971,731.77	870,914.90	62.6	100
12+00	2,971,777.91	870,826.18	62.6	100
13+00	2,971,824.05	870,737.46	62.6	100
14+00	2,971,870.19	870,648.74	62.6	100
15+00	2,971,916.33	870,560.02	62.6	100
16+00	2,971,962.47	870,471.30	62.6	100
17+00	2,972,008.61	870,382.58	62.6	100
18+00	2,972,054.75	870,293.86	62.6	100
19+00	2,972,100.89	870,205.14	62.6	103
20+03	2,972,147.03	870,116.42	62.6	97
21+00	2,972,193.17	870,027.70	62.6	100
22+00	2,972,239.31	869,938.98	62.6	100
23+00	2,972,285.45	869,850.26	62.6	100
24+00	2,972,331.59	869,761.54	62.6	100
25+00	2,972,377.73	869,672.82	62.6	100
26+00	2,972,423.87	869,584.10	62.6	100
27+00	2,972,470.01	869,495.38	62.6	100
28+00	2,972,516.15	869,406.66	62.6	100
29+00	2,972,562.29	869,317.94	62.6	105
30+05	2,972,608.43	869,229.22	62.6	95
31+00	2,972,654.57	869,140.50	62.6	100
32+00	2,972,700.71	869,051.78	62.6	100
33+00	2,972,746.85	868,963.06	62.6	100
34+00	2,972,792.99	868,874.34	62.6	100
35+00	2,972,839.13	868,785.62	62.6	100
36+00	2,972,885.27	868,696.90	62.6	100
37+00	2,972,931.41	868,608.18	62.6	100
38+00	2,972,977.55	868,519.46	62.6	100
39+00	2,973,023.69	868,430.74	62.6	124
40+24	2,973,069.83	868,342.02	62.6	76
41+00	2,973,115.97	868,253.30	62.6	100
42+00	2,973,162.11	868,164.58	62.6	100
43+00	2,973,208.25	868,075.86	62.6	100
44+00	2,973,254.39	867,987.14	62.6	100
45+00	2,973,300.53	867,898.42	62.6	100
46+00	2,973,346.67	867,809.70	62.6	100
47+00	2,973,392.81	867,721.00	62.6	100
48+00	2,973,438.95	867,632.28	62.6	100
49+00	2,973,485.09	867,543.56	62.6	128
50+28	2,973,531.23	867,454.84	62.6	72

STATION	EASTING	NORTHING	AZ	DISTANCE TO NEXT
51+00	2,973,577.37	867,366.12	62.6	100
52+00	2,973,623.51	867,277.40	62.6	100
53+00	2,973,669.65	867,188.68	62.6	100
54+00	2,973,715.79	867,100.00	62.6	100
55+00	2,973,761.93	867,011.32	62.6	100
56+00	2,973,808.07	866,922.64	62.6	100
57+00	2,973,854.21	866,833.96	62.6	100
58+00	2,973,900.35	866,745.28	62.6	100
59+00	2,973,946.49	866,656.60	62.6	150
60+50	2,974,044.04	866,538.35	62.6	150
62+00	2,974,114.17	866,405.56	62.6	100
63+00	2,974,160.31	866,316.88	62.6	100
64+00	2,974,206.45	866,228.20	62.6	100
65+00	2,974,252.59	866,139.52	62.6	100
66+00	2,974,298.73	866,050.84	62.6	100
67+00	2,974,344.87	865,962.16	62.6	100
68+00	2,974,391.01	865,873.48	62.6	100
69+00	2,974,437.15	865,784.80	62.6	103
70+03	2,974,483.29	865,696.12	62.6	97
71+00	2,974,529.43	865,607.44	62.6	100
72+00	2,974,575.57	865,518.76	62.6	100
73+00	2,974,621.71	865,430.08	62.6	100
74+00	2,974,667.85	865,341.40	62.6	100
75+00	2,974,714.00	865,252.72	62.6	100
76+00	2,974,760.14	865,164.04	62.6	100
77+00	2,974,806.28	865,075.36	62.6	100
78+00	2,974,852.42	864,986.68	62.6	100
79+00	2,974,898.56	864,898.00	62.6	115
80+15	2,974,944.70	864,809.32	62.6	85
81+00	2,975,001.73	864,720.64	62.6	100
82+00	2,975,048.44	864,631.96	62.6	100
83+00	2,975,095.15	864,543.28	62.6	100
84+00	2,975,141.86	864,454.60	62.6	100
85+00	2,975,188.57	864,365.92	62.6	100
86+00	2,975,235.28	864,277.24	62.6	100
87+00	2,975,281.99	864,188.56	62.6	100
88+00	2,975,328.70	864,100.00	62.6	157
89+57	2,975,401.91	863,968.19	62.6	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	862,878.17	61.5	100
103+00	2,976,052.32	862,790.92	61.5	100
104+00	2,976,102.92	862,703.67	61.5	100
105+00	2,976,153.52	862,616.42	61.5	100
106+00	2,976,204.13	862,529.17	61.5	100
107+00	2,976,254.73	862,441.92	61.5	100
108+00	2,976,305.33	862,354.67	61.5	100
109+00	2,976,355.93	862,267.42	61.5	99
109+99	2,976,406.09	862,180.17	61.5	101
111+00	2,976,457.14	862,102.90	59.6	100
112+00	2,976,507.74	862,016.65	59.6	100

STATION	EASTING	NORTHING	AZ	DISTANCE TO NEXT
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	860,435.98	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	2,978,430.26	858,740.05	59.6	100
151+00	2,978,480.96	858,655.77	59.6	100
152+00	2,978,531.57	858,567.52	59.6	100
153+00	2,978,582.18	858,481.27	59.6	100
154+00	2,978,632.79	858,395.03	59.6	100
155+00	2,978,683.40	858,308.78	59.6	100
156+00	2,978,733.99	858,222.27	59.6	100
157+00	2,978,784.58	858,136.77	59.6	100
158+00	2,978,835.17	858,051.27	59.6	100
159+00	2,978,885.76	857,965.77	59.6	101
160+01	2,978,936.35	857,880.27	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	100
163+00	2,979,108.40	857,632.25	59.6	100
164+00	2,979,155.85	857,544.23	59.6	100
165+00	2,979,203.31	857,456.21	59.6	100
166+00	2,979,250.80	857,368.20	59.6	100
167+00	2,979,298.29	857,280.20	59.6	100
168+00	2,979,345.78	857,192.20	59.6	100
169+00	2,979,393.27	857,104.19	59.6	72
169+72	2,979,427.66	857,040.44	59.6	128
171+00	2,979,492.28	856,930.45	59.6	100
172+00	2,979,542.92	856,844.22	59.6	100
173+00	2,979,593.56	856,758.00	59.6	100

STATION	EASTING	NORTHING	AZ	DISTANCE TO NEXT
174+00	2,979,644.21	856,671.77	59.6	100
175+00	2,979,694.84	856,585.54	59.6	100
176+00	2,979,745.45	856,499.29	59.6	



**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:**

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

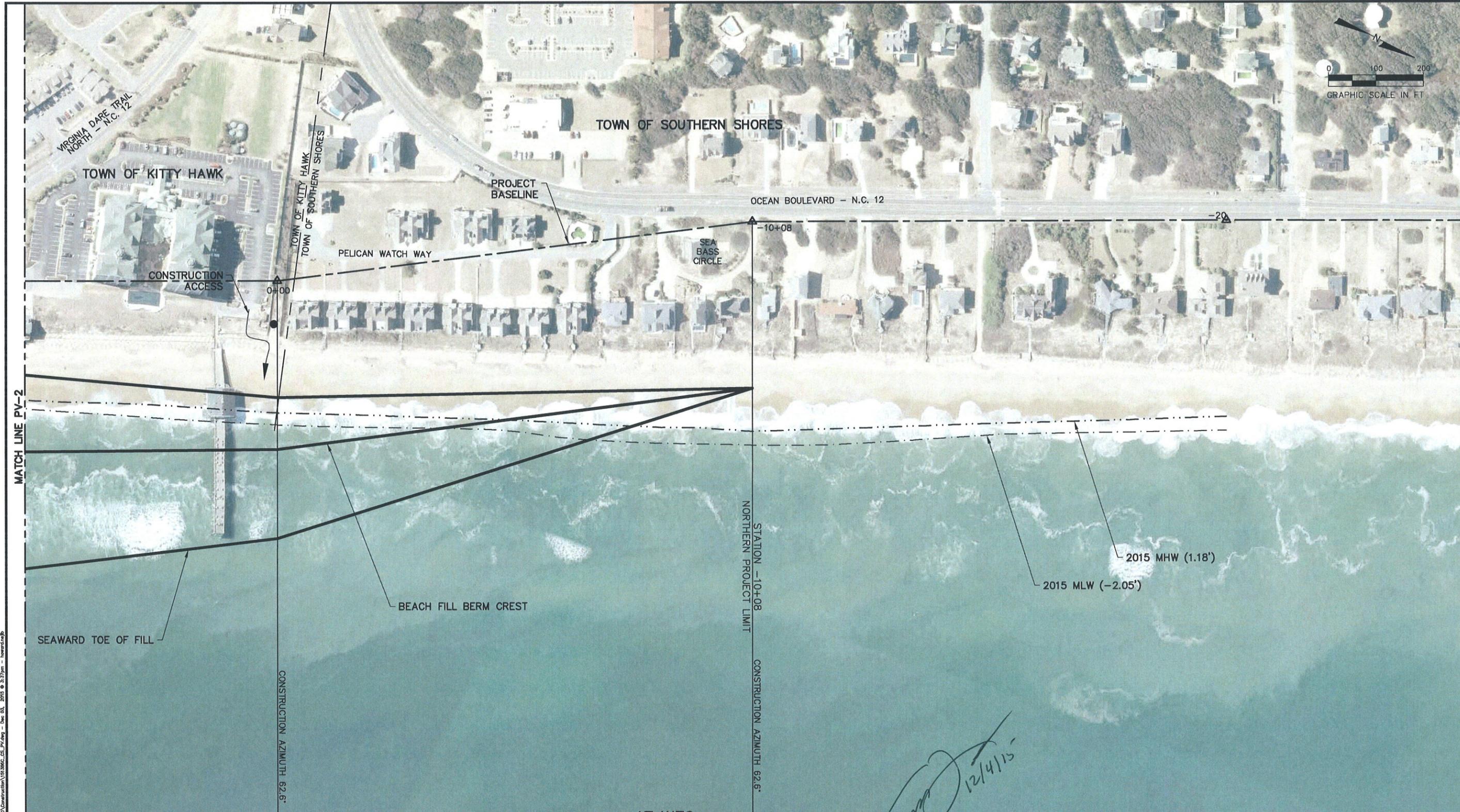
**COASTAL PLANNING & ENGINEERING, INC.**  
OF North Carolina, inc.  
4038 MASONBORO LOOP RD.  
WILMINGTON, NC 28409  
www.CPE.com  
PH: (910) 791-9494  
FAX: (910) 791-4129

Checked by:	Reviewed by:	Submitted by:	Comm. No.:
AMB	KW	KW	150440

Designed by:	Drawn by:	Date:	Plot Scale:
JD	HN	7/08/15	AS NOTED

Reference File:	Revisions
TOWN OF KITTY HAWK BEACH NOURISHMENT PROJECT DARE COUNTY, NORTH CAROLINA	
OVERALL PLAN VIEW	
DRAWING NO.	
<b>OV</b>	
SHEET 3 OF 18	

*Handwritten signature and date: 12/14/15*



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No.	Date	Description

Designed by:	J.D.	Checked by:	AMB
Drawn by:	HN	Reviewed by:	KW
Date:	7/08/15	Submitted by:	KW
Plot Scale:	AS NOTED	Comm. No.:	150440

TOWN OF KITTY HAWK  
 BEACH NOURISHMENT PROJECT  
 DARE COUNTY, NORTH CAROLINA  
 PLAN VIEW  
 DRAWING NO.  
**PV-1**  
 SHEET 4 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 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 STARTER 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 TOWN OF KITTY HAWK SHALL COME SOLELY FROM THE AREA OUTLINED WITHIN BORROW AREA A, REFERENCED AS THE "TOWN OF KITTY HAWK 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.

**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

*J. [Signature]*  
 12/4/15

P:\North Carolina\Kitty Hawk\10101088 - Design Permit\Sand Beach\Construction\10101088-C5\_PV.dwg - Date: 03/20/15 @ 3:27pm - hnmr15a@p



**NOTES:**

1. DATE OF AERIAL PHOTOGRAPHY: 2012.
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**LEGEND:**

▲1+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

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WILMINGTON, NC 28409  
www.CPE.com

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

No.	Date	Description

Reference Files:  
 Designed by: JJD  
 Drawn by: HN  
 Date: 7/08/15  
 Plot Scale: AS NOTED

Checked by: AMB  
 Reviewed by: KW  
 Submitted by: KW  
 Comm. No.: 150440

TOWN OF KITTY HAWK  
 BEACH NOURISHMENT PROJECT  
 DARE COUNTY, NORTH CAROLINA

**PLAN VIEW**

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

P:\North Carolina\Kitty Hawk\1513286 - Beach Nourish - Plan View - 1513286.dwg - Dec 03, 2015 2:09pm - hewitt.cpe







**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).
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**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 MASONBORO LOOP RD.  
WILMINGTON, NC 28409  
www.CPE.com  
PH: (910) 791-9494  
FAX: (910) 791-4129

No.	Date	Description

Checked by:	AMB
Reviewed by:	KW
Submitted by:	KW
Date:	7/08/15
Plot Scale:	AS NOTED
Comm. No.:	150440

TOWN OF KITTY HAWK  
BEACH NOURISHMENT PROJECT  
DARE COUNTY, NORTH CAROLINA

PLAN VIEW

DRAWING NO.  
**PV-5**

SHEET 8 OF 18

P:\North Carolina\Kitty Hawk\103088 - Design\Permit\Sand\Borrow\CA03\Construction\151366C\_05\_Plan.dwg - Dec 15, 2015 @ 12:11pm - hawndw@p



**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 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 STARTER 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 TOWN OF KITTY HAWK SHALL COME SOLELY FROM THE AREA OUTLINED WITHIN BORROW AREA A, REFERENCED AS THE "TOWN OF KITTY HAWK 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.

**LEGEND:**

$\triangle 1+80$	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

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FAX (910) 791-4129

No.	Date	Description

Designed by: JD	Checked by: AMB	Reference Files:	Submitted by: KW	Comm. No.: 150440
Drawn by: HN	Reviewed by: KW	TOWN OF KITTY HAWK BEACH NOURISHMENT PROJECT DARE COUNTY, NORTH CAROLINA	Date: 7/08/15	Plat. No.: AS NOTED
PLAN VIEW				

DRAWING NO.  
**PV-6**

SHEET 9 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 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 STARTER 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 TOWN OF KITTY HAWK SHALL COME SOLELY FROM THE AREA OUTLINED WITHIN BORROW AREA A, REFERENCED AS THE "TOWN OF KITTY HAWK 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.

**LEGEND:**

$\triangle 1+80$	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

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No.	Date	Description

Designed by: JD	Checked by: AMB	Submitted by: KW	Comm. No.: 150440
Drawn by: HN	Reviewed by: KW	Date: 7/08/15	Pict. Scale: AS NOTED

**PLAN VIEW**

TOWN OF KITTY HAWK  
BEACH NOURISHMENT PROJECT  
DARE COUNTY, NORTH CAROLINA

DRAWING NO.  
**PV-7**

SHEET 10 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 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 STARTER 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 TOWN OF KITTY HAWK SHALL COME SOLELY FROM THE AREA OUTLINED WITHIN BORROW AREA A, REFERENCED AS THE "TOWN OF KITTY HAWK 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.
  7. 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

MATCH LINE PV-7

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FAX (910) 791-4129

No.	Date	Description

Reference Files:	Designed by: JH	Checked by: AMB	Drawn by: HJN	Reviewed by: KW	Submitted by: KW	Comm. No.: 150440
	Date: 7/08/15		Prep Scale: AS NOTED			

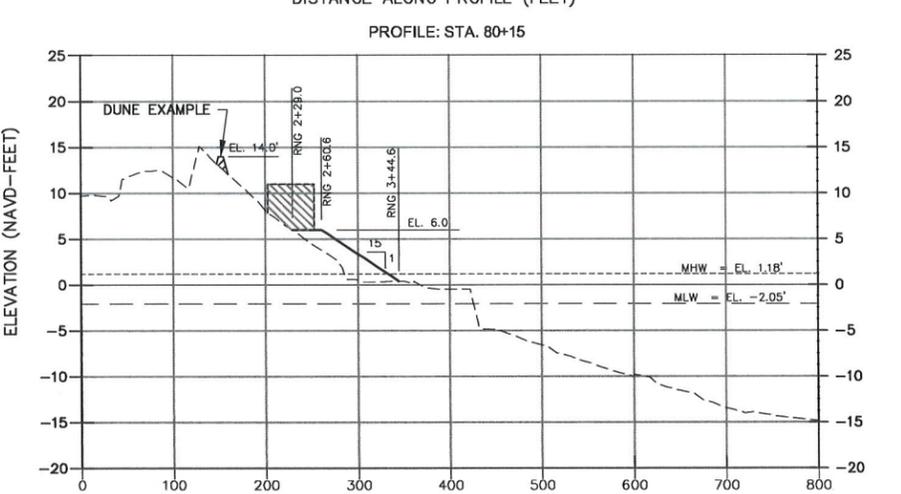
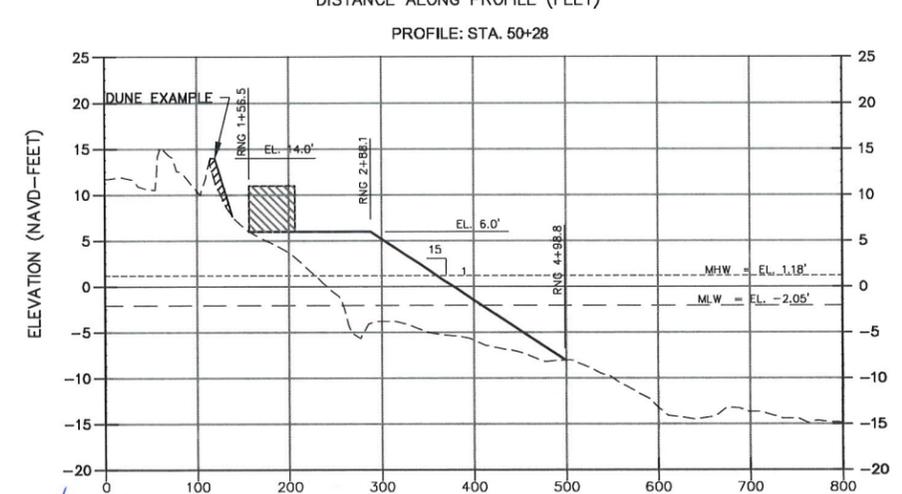
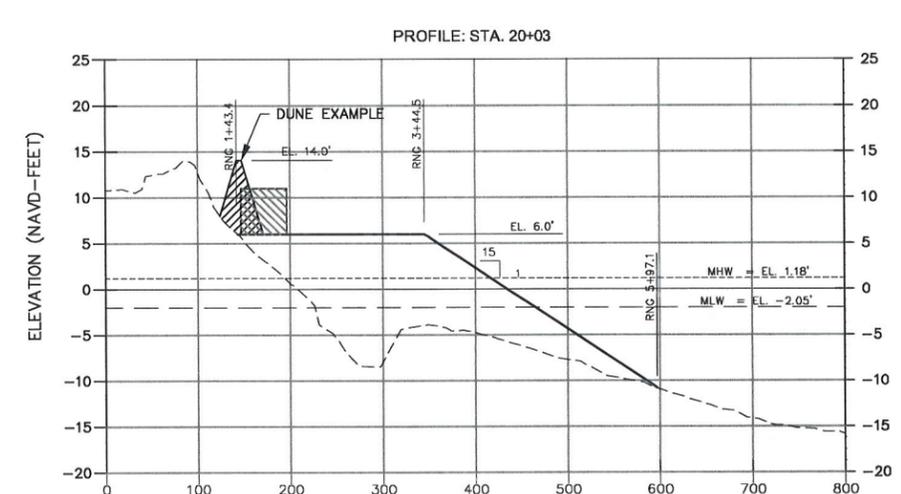
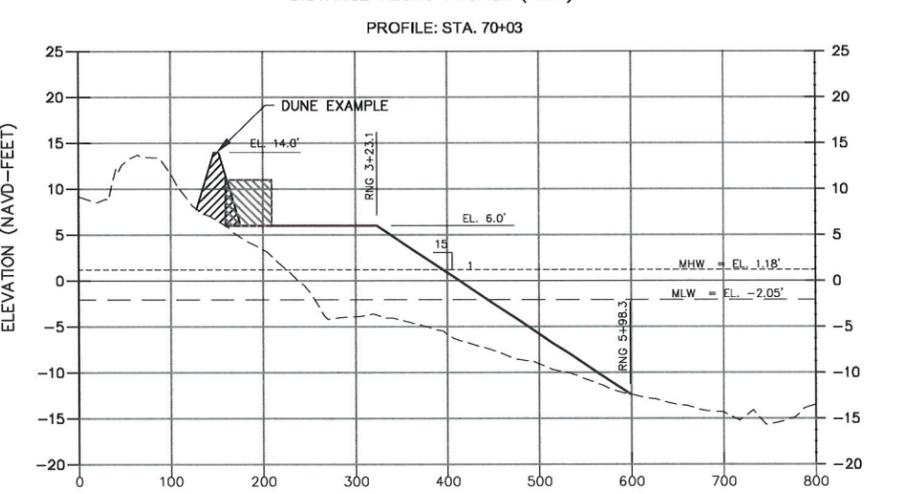
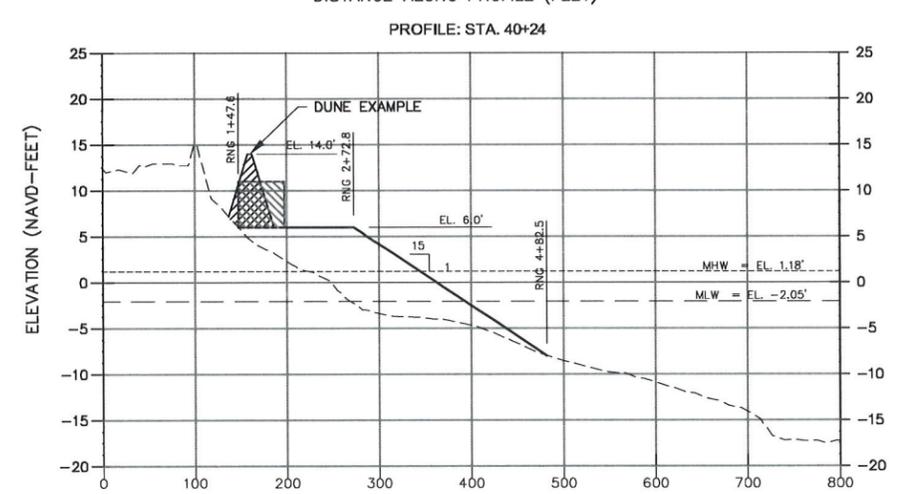
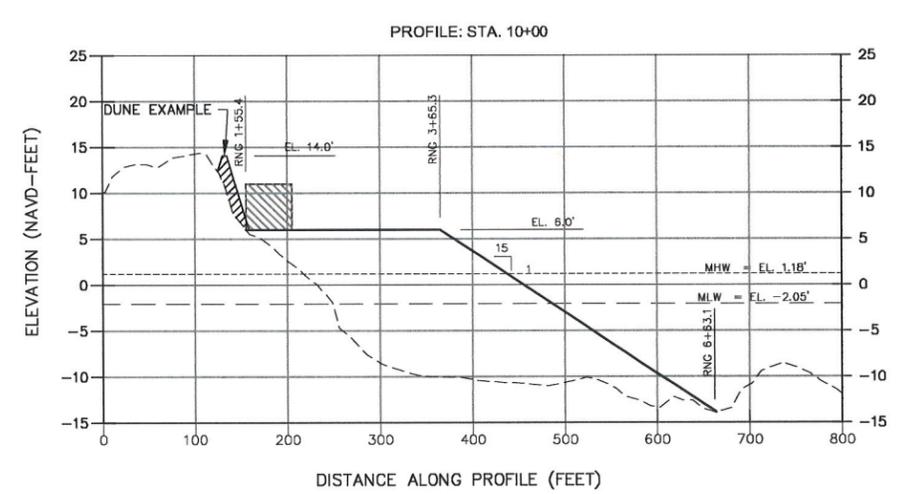
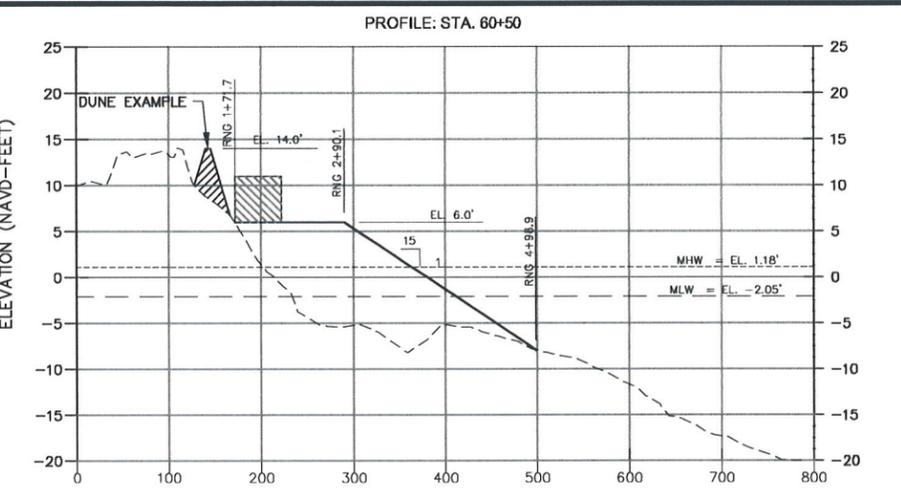
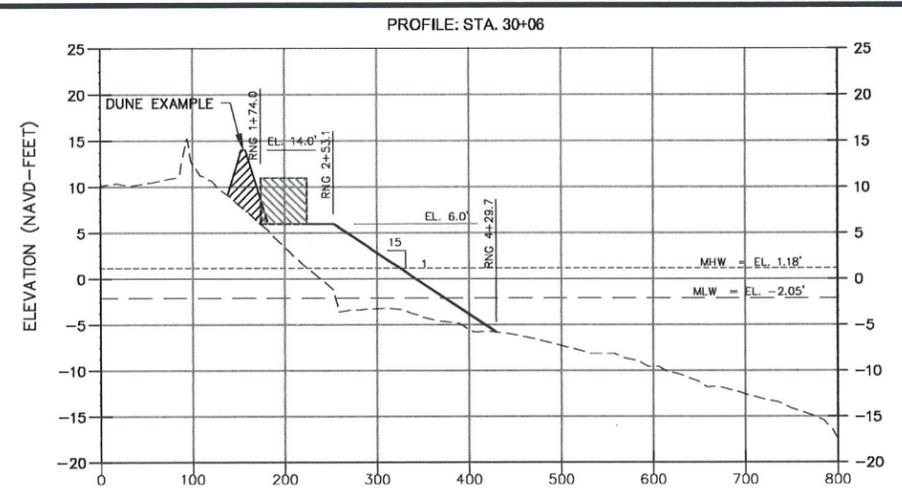
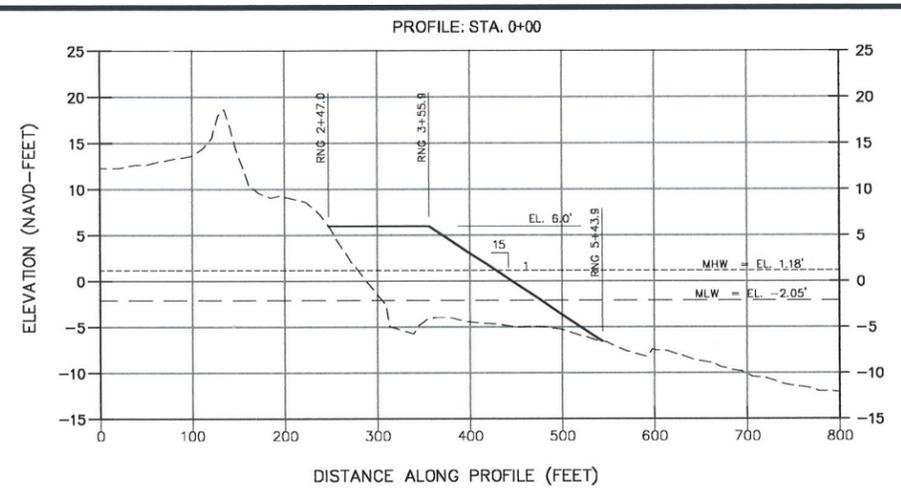
**PLAN VIEW**

TOWN OF KITTY HAWK  
BEACH NOURISHMENT PROJECT  
DARE COUNTY, NORTH CAROLINA

DRAWING NO. **PV-8**

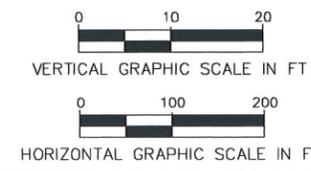
SHEET 11 OF 18

P:\North Carolina\Kitty Hawk\151386 - Design Permit\Sand Storage\Construction\151386\_XS.dwg - Feb 18, 2016 9:36am - cpe/kyh/psk



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

*Handwritten signature and date: 2/22/2016*



- NOTES:**
- ELEVATIONS SHOWN ARE IN FEET REFERENCED TO NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD88).
  - BATHYMETRIC SURVEY PERFORMED MAY 2015, BY CPE-NC.
  - THE CONSTRUCTION TEMPLATES AND VOLUMES MAY BE REVISED BY THE ENGINEER BASED ON THE PRE-CONSTRUCTION SURVEY TO REFLECT CHANGES IN FIELD CONDITIONS.
  - THE MATERIAL FOR THE 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).
  - 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	No.	Date	Description
1	2/19/16	UPDATE NOTE 4	

Checked by: AVB  
 Drawn by: JH  
 Date: 7/08/15  
 Prof. Scale: AS NOTED

Designed by: JD  
 Reviewed by: KW  
 Submitted by: KW  
 Comm. No.: 150440  
 AS NOTED

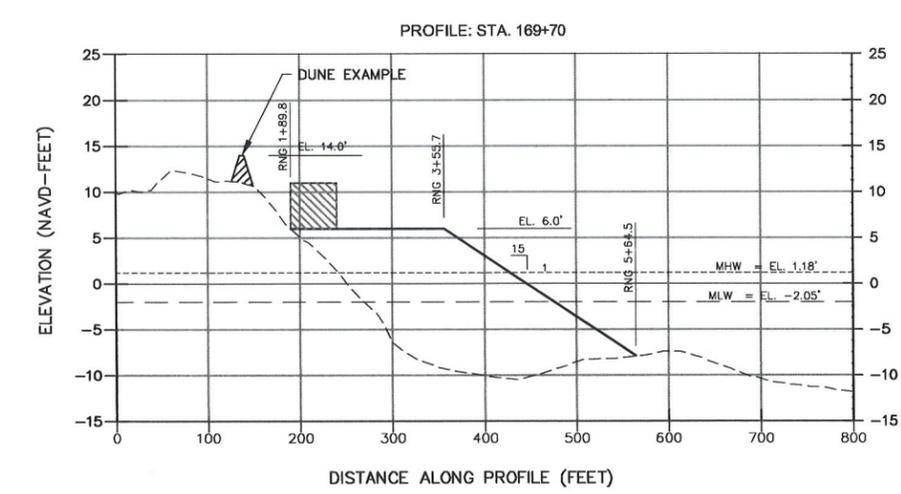
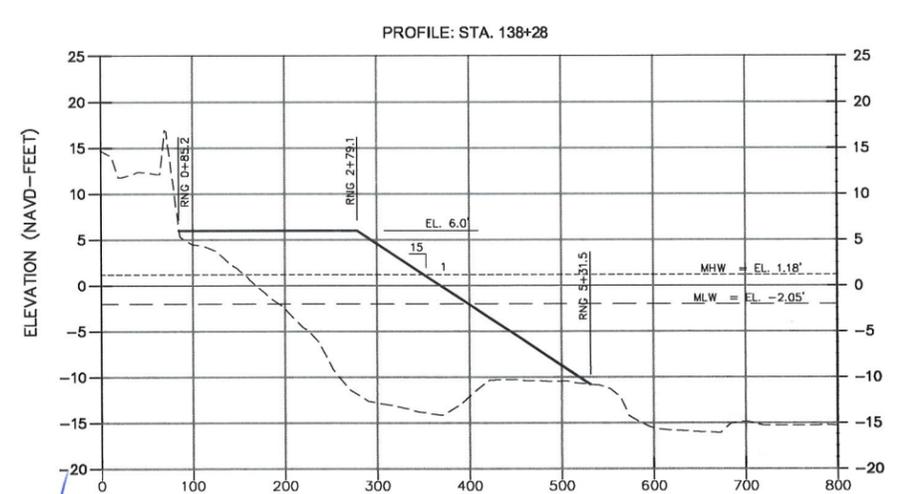
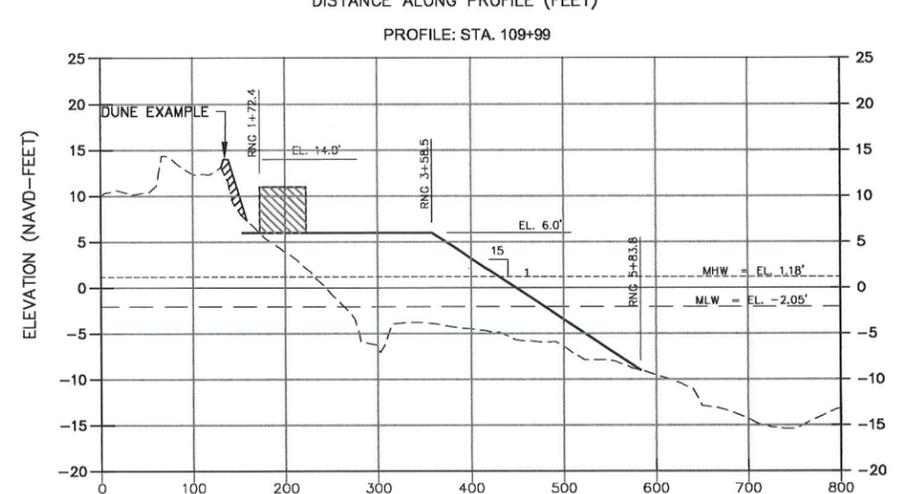
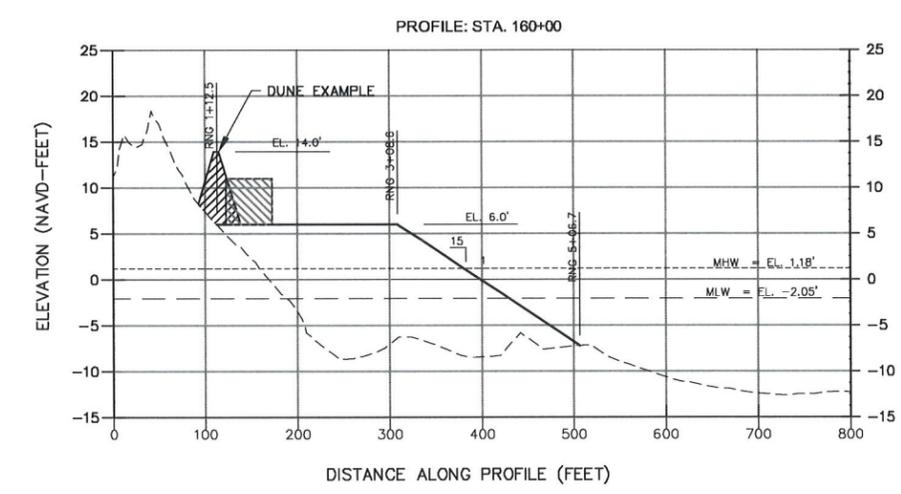
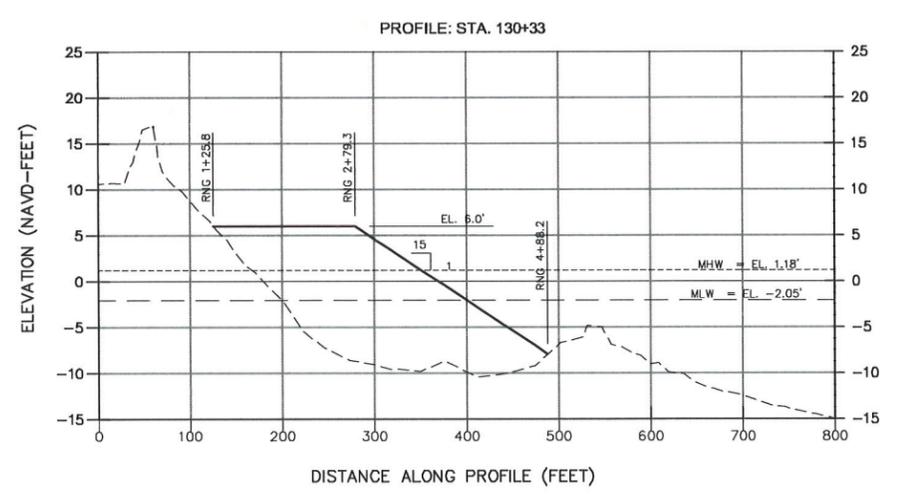
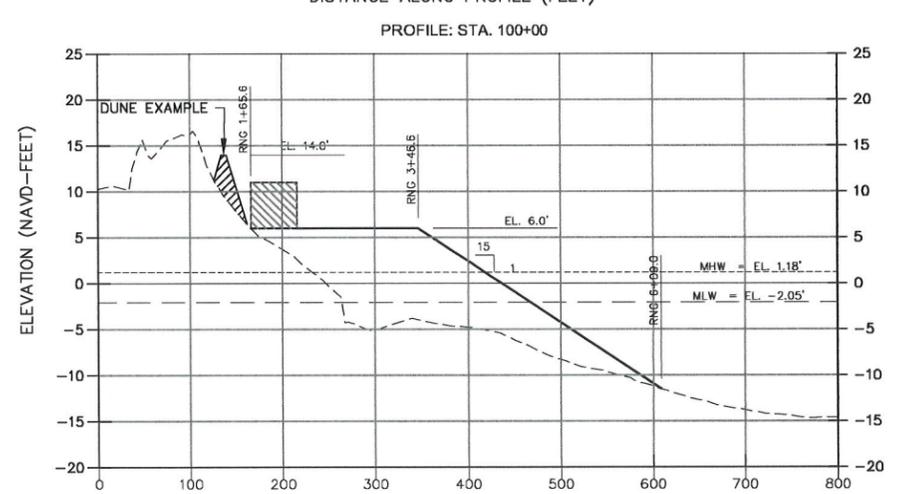
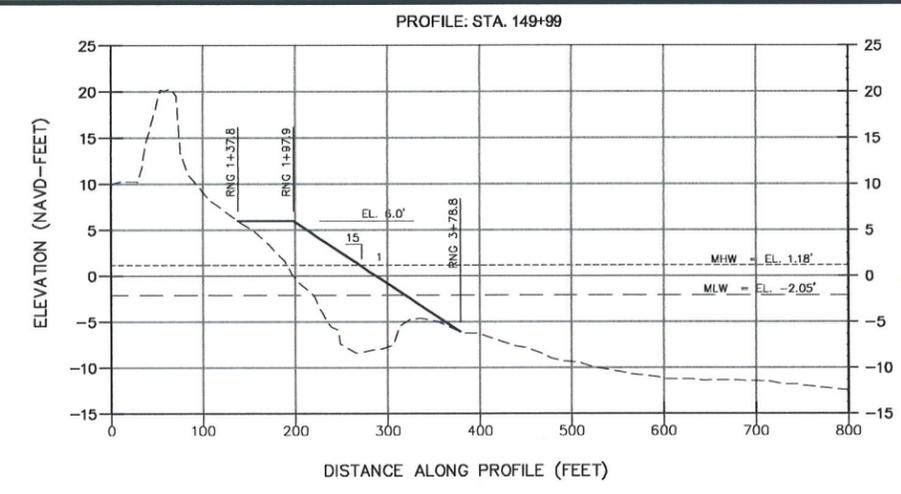
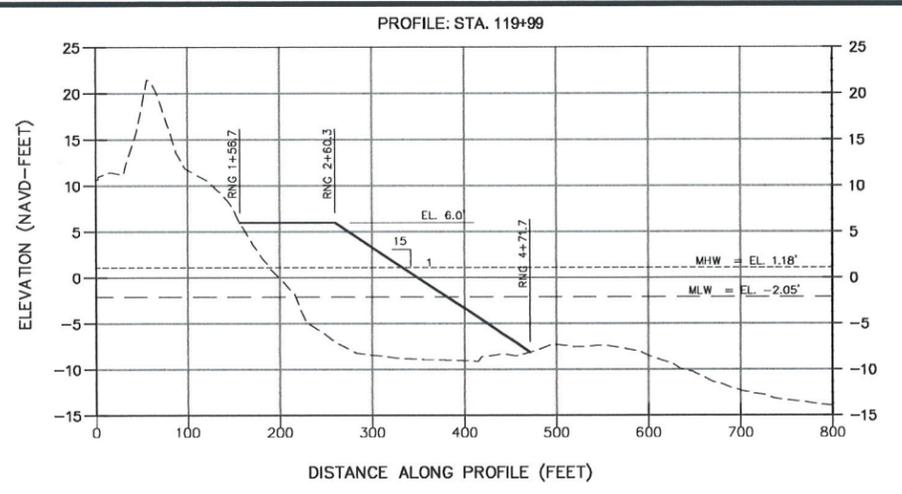
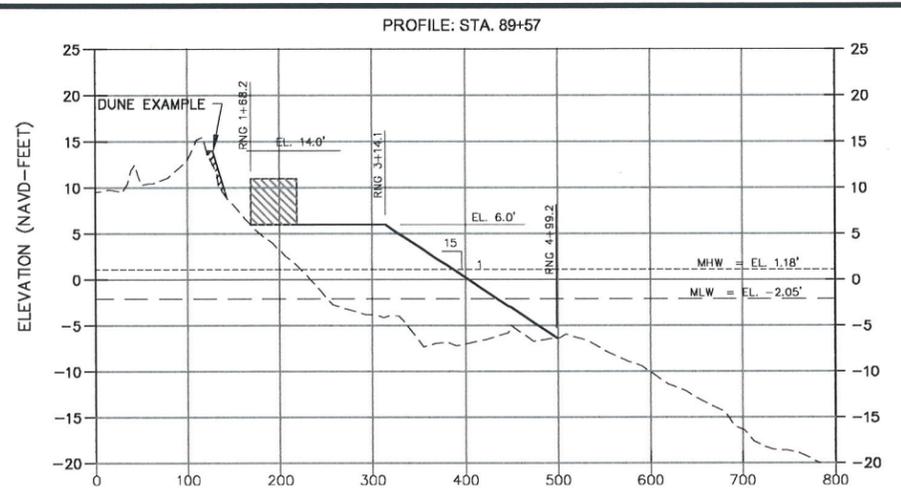
TOWN OF KITTY HAWK  
 BEACH NOURISHMENT PROJECT  
 DARE COUNTY, NORTH CAROLINA

BEACH FILL PROFILES

DRAWING NO. XS-1

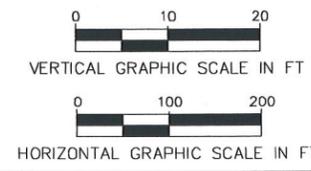
SHEET 12 OF 18

P:\North Carolina\Kitty Hawk\13-386 - Design\Permit\_Sand\_Survey\13-386-XS.dwg - Feb 18, 2016 @ 3:36pm - gpr/km/ryndick



**LEGEND:**  
 - - - - - EXISTING GRADE MAY 2015  
 \_\_\_\_\_ DESIGN TEMPLATE  
 - · - · - · MEAN HIGH WATER LINE (MHW)  
 - · - - - MEAN LOW WATER LINE (MLW)  
 [Symbol] DUNE  
 [Hatched Box] TEMPORARY BEACH FILL STOCKPILE  
 [Symbol] LOCATION TO CONSTRUCT DUNE

*Handwritten signature and date:*  
 [Signature]  
 2/24/2016



- NOTES:**
- ELEVATIONS SHOWN ARE IN FEET REFERENCED TO NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD88).
  - BATHYMETRIC SURVEY PERFORMED MAY 2015, BY CPE-NC.
  - THE CONSTRUCTION TEMPLATES AND VOLUMES MAY BE REVISED BY THE ENGINEER BASED ON THE PRE-CONSTRUCTION SURVEY TO REFLECT CHANGES IN FIELD CONDITIONS.
  - THE MATERIAL FOR THE 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).
  - 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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 www.CPE.com

REVISIONS	No.	Date	Description
1. 12/18/16 UPDATE NOTE 4.			

Checked by: ANB  
 Reviewed by: KW  
 Submitted by: KW  
 Date: 7/08/15  
 Plot Scale: AS NOTED  
 Comm. No.: 150440

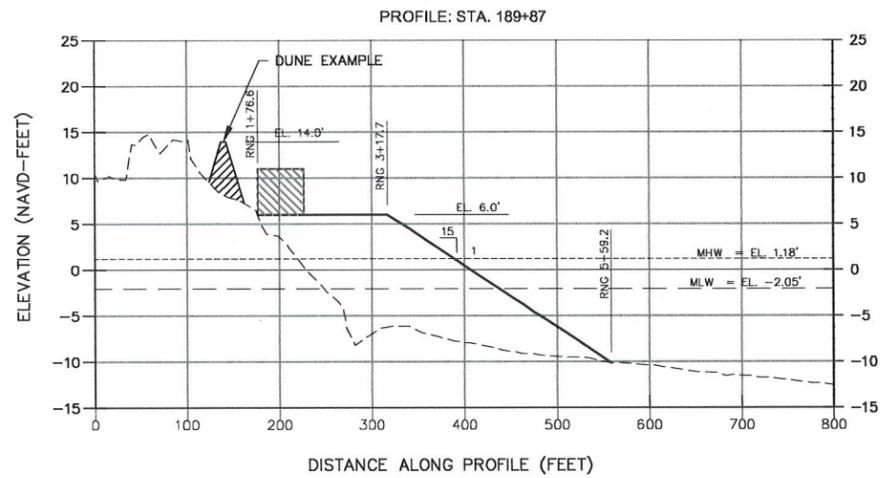
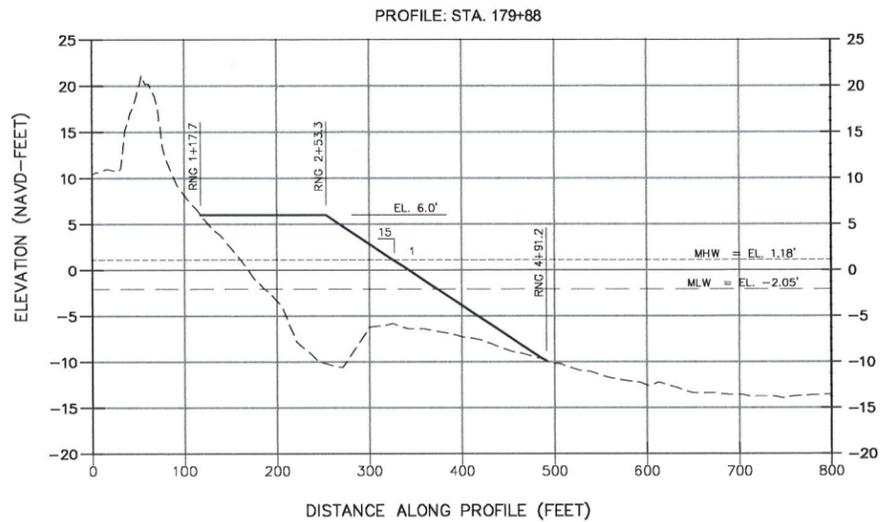
Designed by: JJD  
 Drawn by: RN  
 Reference File:

TOWN OF KITTY HAWK  
 BEACH NOURISHMENT PROJECT  
 DARE COUNTY, NORTH CAROLINA

BEACH FIL PROFILES

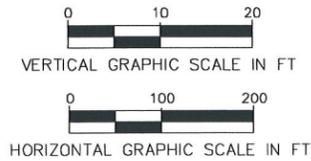
DRAWING NO. XS-2

SHEET 13 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

*[Handwritten signature]*  
2/22/2016



- 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 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.

P:\North Carolina\Kitty Hawk\151386 - Design Permit\Soil Search\GD\Construction\151386C\_XS.dwg - Feb 18, 2016 @ 3:35pm - gpr/krysp/ak

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REVISIONS	
No.	Description
1	2/19/16 UPDATE NOTE 4.

Designed by: JD	Checked by: AMB
Drawn by: RN	Reviewed by: KW
Date: 7/08/15	Submitted by: KW
Plot Scale: AS NOTED	Comm. No.: 15CA40

TOWN OF KITTY HAWK  
BEACH NOURISHMENT PROJECT  
DARE COUNTY, NORTH CAROLINA  
BEACH FIL PROFILES  
DRAWING NO. XS-3  
SHEET 14 OF 18

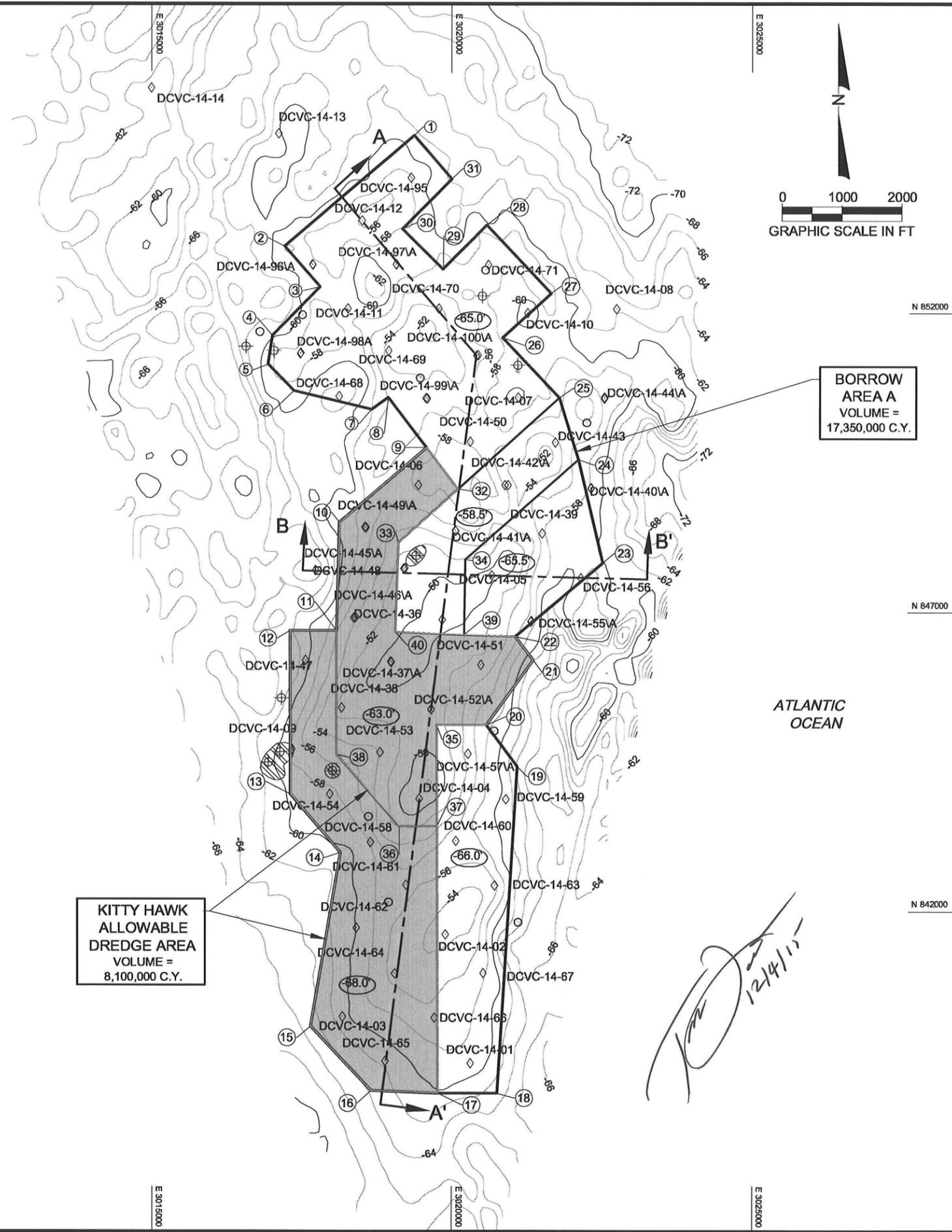
**LEGEND:**

- 66.0' MAXIMUM AFTER DREDGE ELEVATION (FT. NAVD88)
- BATHYMETRIC CONTOUR
- TAR CULTURAL RESOURCE AVOIDANCE AREA (NO DREDGE ZONE/NO ANCHOR)
- CPE-NC 2014 VIBRACORES
- CPE-NC 2014 MAGNETIC ANOMALIES
- CPE-NC 2014 SIDESCAN SONAR ANOMALIES
- 37 BORROW AREA COORDINATE ID (SEE SHEET 12)
- TOWN OF KITTY HAWK ALLOWABLE DREDGE AREA VOLUME = 8,100,000 CY

**NOTES:**

1. COORDINATES ARE IN FEET BASED ON NORTH CAROLINA STATE PLANE COORDINATE SYSTEM, NORTH AMERICAN DATUM OF 1988 (NAD88).
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 SHALL COME SOLELY FROM THE AREA OUTLINED WITHIN BORROW AREA A, REFERENCED AS THE "TOWN OF KITTY HAWK 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. SEE TECHNICAL PROVISION 8.

BORROW AREA COORDINATE TABLE		
POINT ID	EASTING	NORTHING
1	3019370.9	854970.6
2	3017204.5	853123.7
3	3017798.4	852448.2
4	3016995.7	851633.8
5	3016928.0	851150.8
6	3017357.5	850708.4
7	3018654.8	850392.9
8	3018932.5	850596.0
9	3019568.9	849757.4
10	3018120.0	848511.3
11	3018069.8	846700.6
12	3017289.0	846700.2
13	3017302.1	843966.8
14	3018139.0	842988.7
15	3017637.6	840084.1
16	3018653.3	839011.8
17	3019763.8	838967.9
18	3020753.7	838966.2
19	3021081.7	844430.1
20	3020569.7	845124.3
21	3021352.1	846205.8
22	3021047.1	846601.5
23	3022507.8	847829.8
24	3022106.3	849556.7
25	3021784.4	850590.2
26	3020836.5	851593.4
27	3021646.9	852335.9
28	3020574.6	853476.8
29	3019847.3	852740.9
30	3019168.0	853414.4
31	3019995.4	854247.1
32	3020095.7	849063.5
33	3019106.0	848168.8
34	3020217.4	847888.2
35	3019742.8	845124.3
36	3019117.8	843436.6
37	3019748.5	843429.8
38	3018069.8	844635.9
39	3020197.4	846629.9
40	3019050.6	846678.1



**BORROW AREA A**  
VOLUME =  
17,350,000 C.Y.

**KITTY HAWK ALLOWABLE DREDGE AREA**  
VOLUME =  
8,100,000 C.Y.

*[Handwritten signature]*  
12/4/15

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

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PH: (910) 791-9484  
FAX: (910) 791-4129

No.	Date	Description

Reference Files: Designed by: **KM** Drawn by: **HN** Date: **7/28/15** Plot Scale: **AS NOTED**

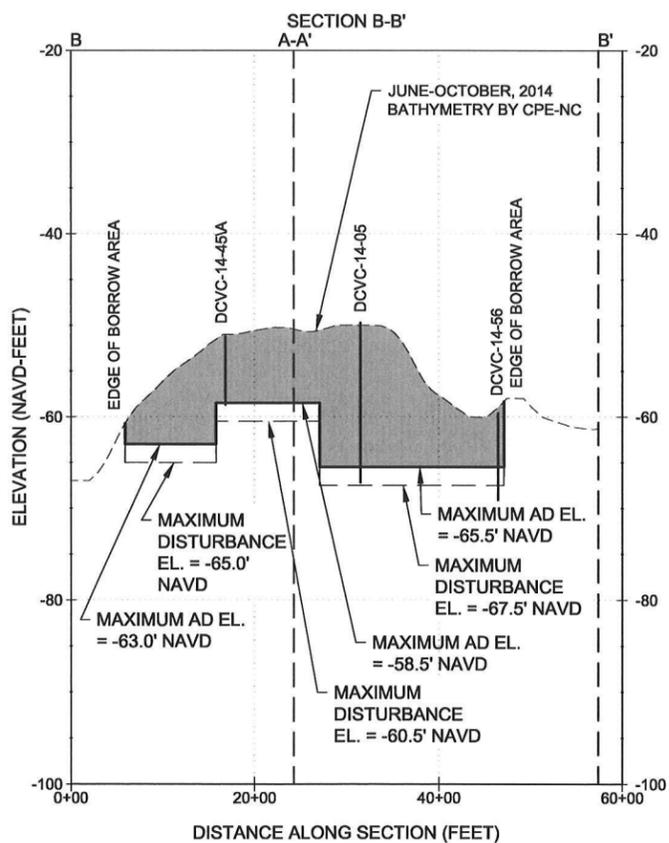
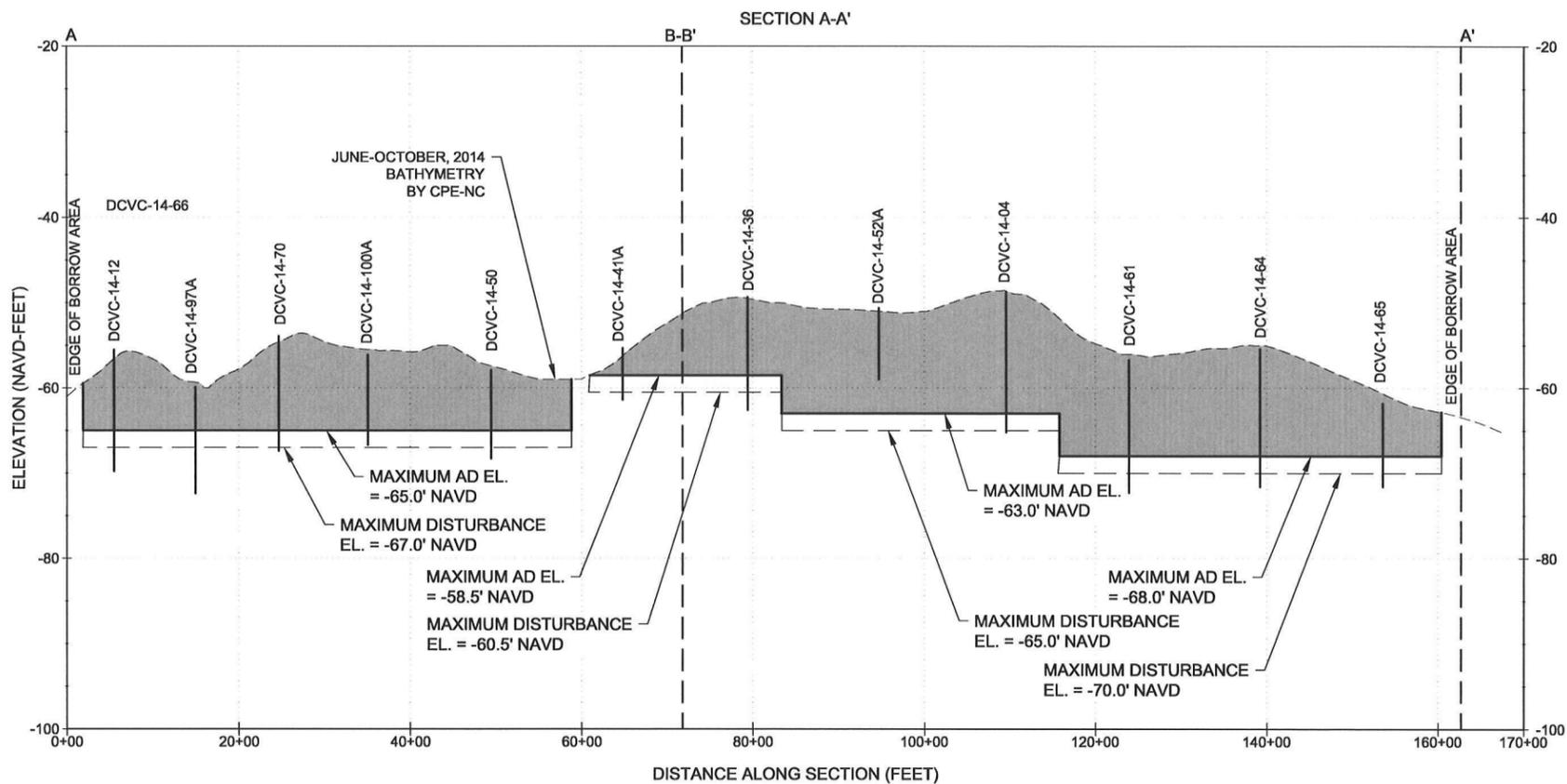
Checked by: **AMB** Reviewed by: **KW** Submitted by: **KW** Comm. No.: **150440**

TOWN OF KITTY HAWK  
BEACH NOURISHMENT PROJECT  
DARE COUNTY, NORTH CAROLINA

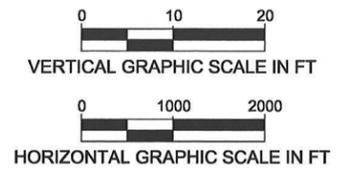
BORROW AREA A PLAN VIEW

DRAWING NO.  
**BA-A**

SHEET 15 OF 18



*[Handwritten signature]*  
12/4/15



- 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 SHALL COME SOLELY FROM THE AREA OUTLINED WITHIN BORROW AREA A, REFERENCED AS THE "TOWN OF KITTY HAWK 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. SEE TECHNICAL PROVISION 8.

**COASTAL PLANNING & ENGINEERING, INC.**  
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FAX (910) 791-4129

REVISIONS	Checked by:	Drawn by:	Date:	Project No.:	Description:
	AMV	HN	7/7/08/15	15CH40	
	KW	HN			
	KW	HN			

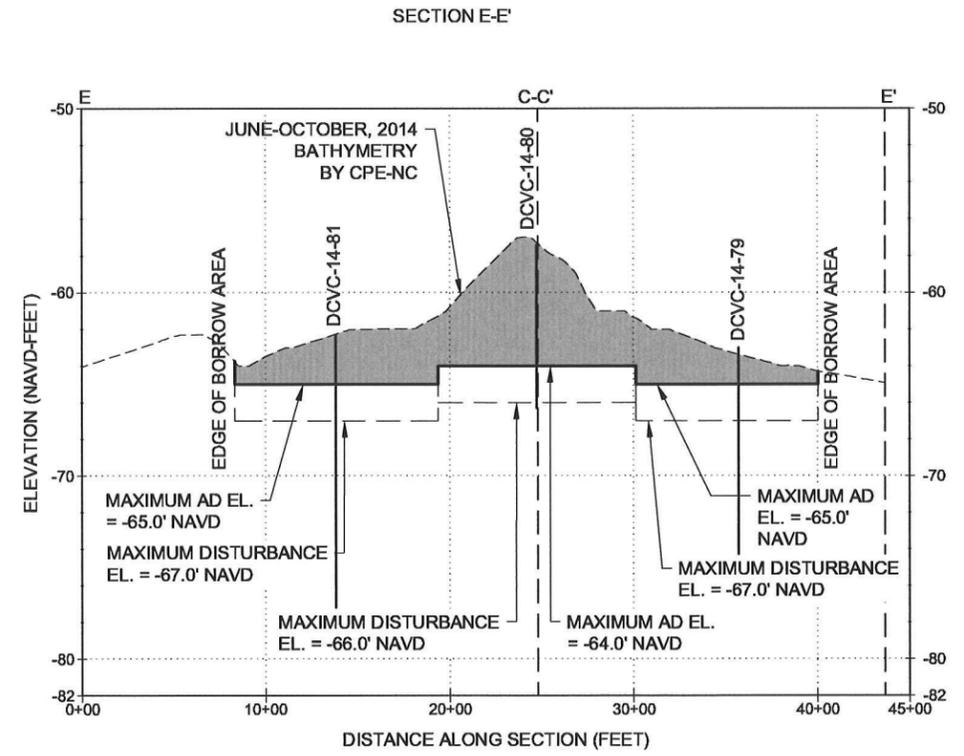
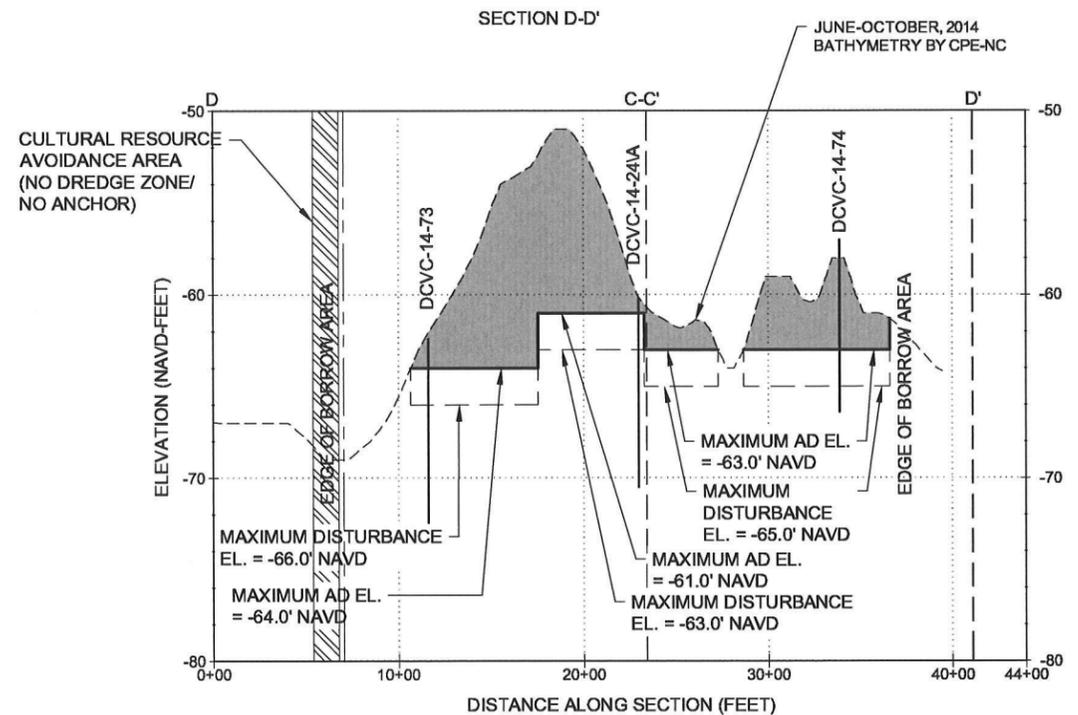
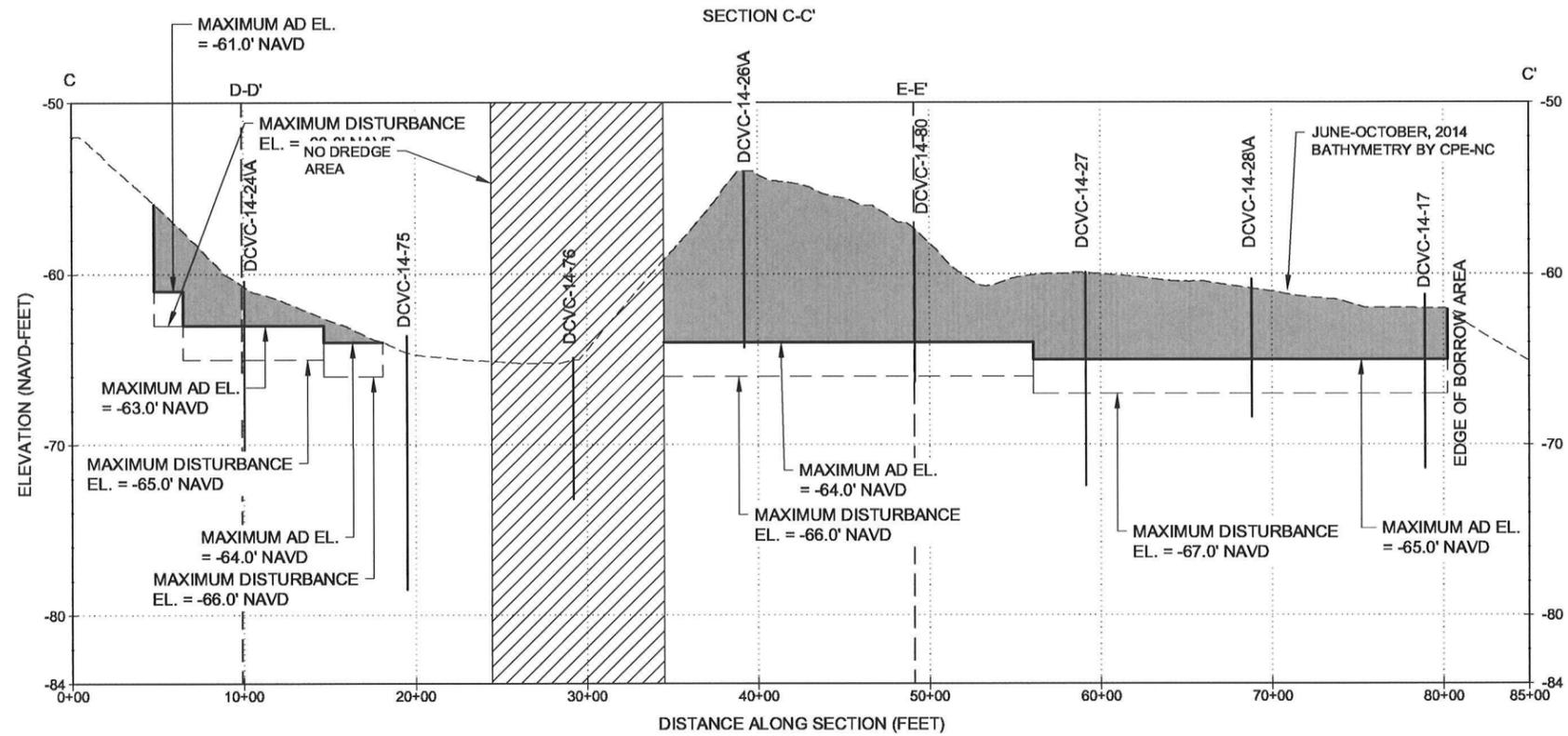
TOWN OF KITTY HAWK  
BEACH NOURISHMENT PROJECT  
DARE COUNTY, NORTH CAROLINA

BORROW AREA A CROSS-SECTIONS

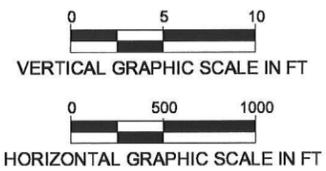
DRAWING NO. XS-1

SHEET 16 OF 18





*Handwritten signature and date: 12/14/15*



- NOTES:**
- ELEVATIONS ARE IN FEET BASED ON THE NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD88).
  - BATHYMETRIC SURVEY PERFORMED JUNE-OCTOBER, 2014, BY CPE-NC.
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Designed by:	KM	Drawn by:	HN	Date:	7/7/08/15	Plot Scale:	AS NOTED

TOWN OF KITTY HAWK  
 BEACH NOURISHMENT PROJECT  
 DARE COUNTY, NORTH CAROLINA

BORROW AREA C CROSS-SECTIONS

DRAWING NO. **XS-1**

SHEET 18 OF 18