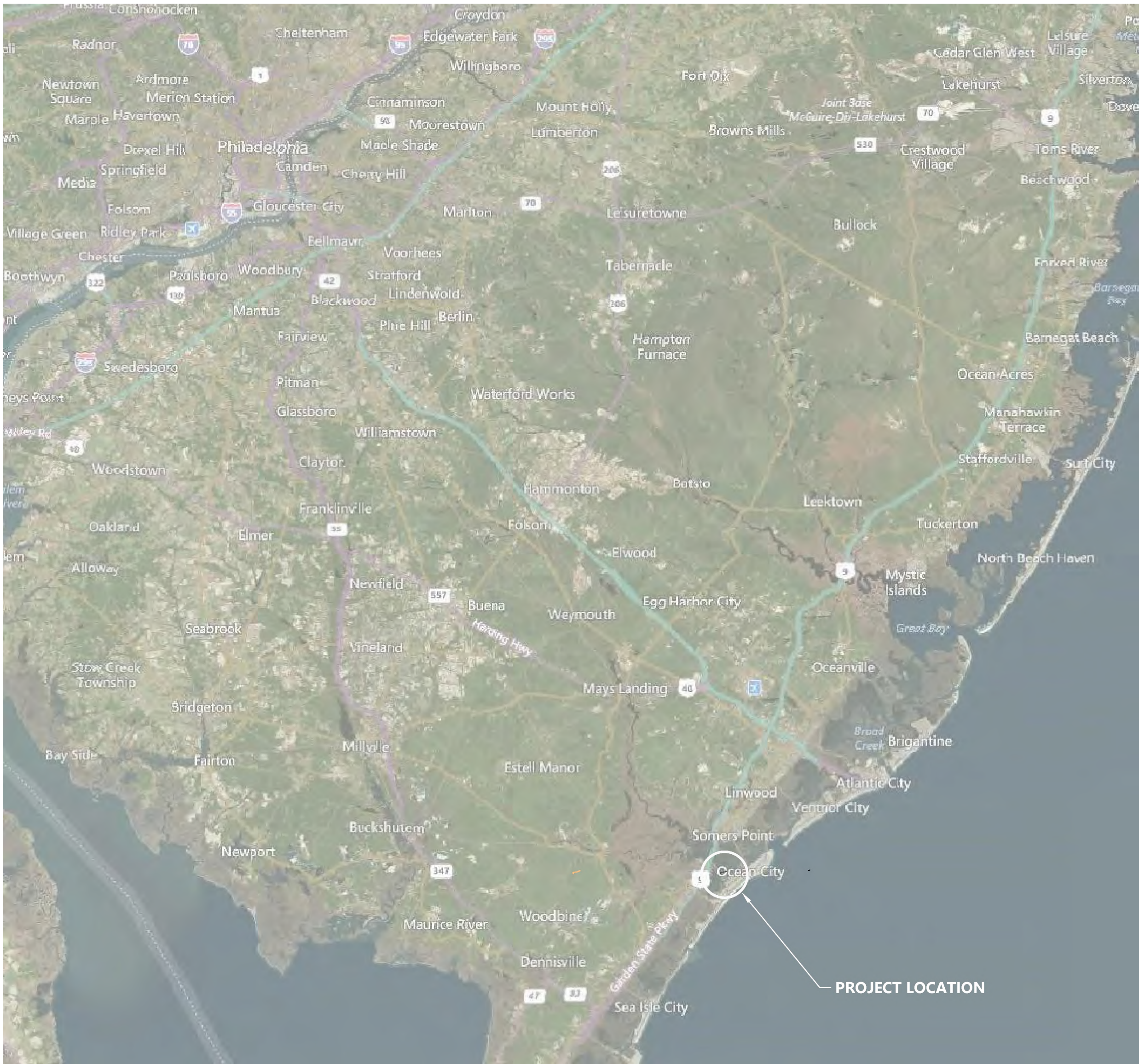


APPENDIX D

Shooting Island Restoration Plans

SHOOTING ISLAND RESTORATION: LIVING SHORELINE AND HABITAT CONSTRUCTION

CITY OF OCEAN CITY, NEW JERSEY CONTRACT NO. 18-32
NATIONAL FISH AND WILDLIFE FOUNDATION GRANT ID 44068



Sheet List Table		
Sheet Number	Sheet Description	Sheet Title
1	T-01	TITLE SHEET
2	G-01	SITE OVERVIEW
3	G-02	GENERAL NOTES AND ABBREVIATIONS
4	E-01	EXISTING CONDITIONS AND PROPOSED LIVING SHORELINE ALIGNMENT
5	C-01	WESTERN LIVING SHORELINE ALIGNMENT LAYOUT STA. 0+00 TO 5+00
6	C-02	WESTERN LIVING SHORELINE ALIGNMENT LAYOUT STA. 5+00 TO 9+00
7	C-03	WESTERN LIVING SHORELINE ALIGNMENT LAYOUT STA. 9+00 TO 12+00
8	C-04	WESTERN LIVING SHORELINE ALIGNMENT LAYOUT STA. 12+00 TO END
9	C-05	NORTHERN LIVING SHORELINE ALIGNMENT LAYOUT STA. 100+00 TO 105+00
10	C-06	NORTHERN LIVING SHORELINE ALIGNMENT LAYOUT STA. 105+00 TO 110+00
11	C-07	NORTHERN LIVING SHORELINE ALIGNMENT LAYOUT STA. 110+00 TO 115+00
12	C-08	NORTHERN LIVING SHORELINE ALIGNMENT LAYOUT STA. 115+00 TO 121+00
13	C-09	NORTHERN LIVING SHORELINE ALIGNMENT LAYOUT STA. 121+00 TO END
14	C-10	DETAILS AND CROSS SECTIONS 1 OF 2
15	C-11	DETAILS AND CROSS SECTIONS 2 OF 2
16	C-12	OYSTER HABITAT BLOCK DETAILS



0 30000 60000
SCALE IN FEET

ONE INCH
= 1000 FEET
AT FULL SIZE, IF NOT ONE
INCH SCALE ACCORDINGLY

K:\Projects\1314-ACT Engineers Inc\NFWF Egg Harbor Bay\Construction Plans\C-001-Design Set.dwg T-01
Oct 10, 2018 11:56am cyrd



REVISIONS					
REV	DATE	BY	APP'D	DESCRIPTION	
1	9/27/2018	BDH	RKM	ADDITION OF SILL WINDOWS AND OYSTER HABITAT BLOCK MODIFICATIONS	

DESIGNED BY: A. CANNON
DRAWN BY: B. HURRY
CHECKED BY: M. HENDERSON
APPROVED BY: R. MOHAN
SCALE: AS NOTED
DATE: OCTOBER 9, 2018

SHOOTING ISLAND RESTORATION CITY OF OCEAN CITY, NJ NATIONAL FISH AND WILDLIFE FOUNDATION GRANT
TITLE SHEET

T-01
SHEET NO. 1 OF 16



SOURCE: Aerial from Bing Maps, 2018
HORIZONTAL DATUM: New Jersey State Plane, NAD83, U.S. Feet.
VERTICAL DATUM: Vertical Datum of 1988 (NAVD88).



REVISIONS					
REV	DATE	BY	APP'D	DESCRIPTION	

DESIGNED BY: A. CANNON
DRAWN BY: B. HURRY
CHECKED BY: M. HENDERSON
APPROVED BY: R. MOHAN
SCALE: AS NOTED
DATE: OCTOBER 9, 2018

SHOOTING ISLAND RESTORATION
CITY OF OCEAN CITY, NJ
NATIONAL FISH AND WILDLIFE FOUNDATION GRANT

SITE OVERVIEW

Oct 10, 2018 11:58am cyard K:\Projects\1314-ACT Engineers Inc\NFWF Egg Harbor Bay\Construction Plans\C-001-Design Set.dwg G-02

GENERAL NOTES

1. THE OWNER'S REPRESENTATIVE SHALL BE NOTIFIED IN WRITING OF ANY CONDITIONS THAT VARY MATERIALLY FROM THOSE SHOWN IN THE CONTRACT DOCUMENTS.
2. THE CONTRACTOR'S WORK SHALL NOT VARY FROM THE DRAWINGS WITHOUT THE WRITTEN APPROVAL OF THE OWNER'S REPRESENTATIVE.
3. DETAILS SHOWN ARE TYPICAL; SIMILAR DETAILS APPLY TO SIMILAR CONDITIONS UNLESS OTHERWISE NOTED.
4. THE CONTRACTOR SHALL COMPLY WITH ALL REQUIRED PERMITS AND OTHER APPLICABLE REGULATORY REQUIREMENTS.
5. THE CONTRACTOR SHALL ABIDE BY THE REQUIREMENTS OF THE TECHNICAL SPECIFICATIONS AND THE CONTRACTOR'S HEALTH AND SAFETY PLAN (HASP), AS APPROPRIATE, AS WELL AS APPLICABLE OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION (OSHA) REGULATIONS.
6. THE CONTRACTOR IS RESPONSIBLE FOR SAFETY OF SITE PERSONNEL.
7. THE CONTRACTOR SHALL ADEQUATELY PROTECT ALL EXISTING STRUCTURES OR UTILITIES. ANY DAMAGE TO EXISTING STRUCTURES, SHORELINES, OR UTILITIES SHALL BE THE SOLE RESPONSIBILITY OF THE CONTRACTOR.
8. THE CONTRACTOR IS RESPONSIBLE FOR OBTAINING ALL UTILITY MARKOUTS AND FORWARDING CONFIRMATION OF NOTIFICATION TO THE OWNER'S REPRESENTATIVE. THE CONTRACTOR SHALL BE RESPONSIBLE TO OBTAIN ANY AND ALL NECESSARY PERMITS FROM THE AFFECTED UTILITY COMPANIES AND FOR SCHEDULING OF INSPECTIONS BY UTILITY COMPANY PERSONNEL, IF REQUIRED, DURING CONSTRUCTION.
9. THE CONTRACTOR SHALL BE RESPONSIBLE FOR SEDIMENT CONTROL MEASURES DURING THE CONSTRUCTION PERIOD, AS REQUIRED BY THE PERMITS, LOCAL ORDINANCES, PLANS, AND SPECIFICATIONS.
10. THE CONTRACTOR IS RESPONSIBLE FOR MAINTAINING A NEAT AND ORDERLY SITE, YARD AND GROUNDS. REMOVE AND DISPOSE OFF SITE ALL RUBBISH, WASTE MATERIALS, LITTER, AND ALL FOREIGN SUBSTANCES. PROMPTLY NOTIFY APPROPRIATE AUTHORITIES AND OWNER'S REPRESENTATIVE, AND REMOVE PETRO-CHEMICAL SPILLS, STAINS AND OTHER FOREIGN DEPOSITS IN ACCORDANCE WITH LOCAL, STATE, AND FEDERAL REGULATIONS.
11. THE CONTRACTOR SHALL FIELD VERIFY SEDIMENT PHYSICAL PROPERTIES AND OTHER SITE FEATURES. CONTRACTOR ACKNOWLEDGES THAT THEY HAVE UNDERTAKEN ANY PRE-BID INVESTIGATION THEY DEEM NECESSARY TO DETERMINE TO COMPOSITION, SIZE, SHAPE, LOCATION AND DEPTH OF MATERIALS THAT WILL BE ENCOUNTERED.
12. NON-CONFORMING MATERIALS OR CONDITIONS SHALL BE REPORTED TO THE OWNER'S REPRESENTATIVE PRIOR TO CORRECTIVE ACTION. ANY SUCH ACTION SHALL REQUIRE APPROVAL BY THE OWNER'S REPRESENTATIVE.
13. THE CONTRACTOR IS ADVISED THAT ALL LOCAL PUBLIC NUISANCE LAWS AND NOISE ORDINANCES SHALL BE OBSERVED DURING THE COURSE OF CONSTRUCTION.
14. THE CONTRACTOR SHALL RESTORE ALL PUBLIC OR PRIVATE PROPERTY AFFECTED BY CONSTRUCTION ACTIVITIES TO AT LEAST AS GOOD OF CONDITION AS BEFORE CONSTRUCTION ACTIVITIES, AS DETERMINED BY THE OWNER'S REPRESENTATIVE.
15. IN THE EVENT OF CONFLICT BETWEEN THESE DRAWINGS AND THE TECHNICAL SPECIFICATIONS THE TECHNICAL SPECIFICATIONS SHALL GOVERN.
16. THE CONTRACTOR SHALL NOT STORE OR STAGE EQUIPMENT OR MATERIALS ON SHOOTING ISLAND
17. CONSTRUCTION ELEVATIONS HAVE BEEN ESTABLISHED CONSIDERING ANTICIPATED SETTLEMENT AND CONSOLIDATION ESTIMATES.
18. SILL WINDOWS HAVE BEEN DESIGNED AND POSITIONED IN ACCORDANCE WITH USACE AND NOAA RECOMMENDATIONS.

DATUM NOTES

1. HORIZONTAL DATUM: NEW JERSEY STATE PLANE, NAD 83, U.S. FEET.
2. VERTICAL DATUM: NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD88)

DATA SOURCES

1. BATHYMETRIC SURVEY DATA WAS COLLECTED BY ACT ENGINEERS IN FEBRUARY 2017.
2. BASEMAPS PROVIDED BY THE CITY OF OCEAN CITY, JULY 2015



REVISIONS					
REV	DATE	BY	APP'D	DESCRIPTION	
1	9/27/2018	BDH	RKM	ADDITION OF SILL WINDOWS AND OYSTER HABITAT BLOCK MODIFICATIONS	

DESIGNED BY:	A. CANNON
DRAWN BY:	B. HURRY
CHECKED BY:	M. HENDERSON
APPROVED BY:	R. MOHAN
SCALE:	AS NOTED
DATE:	OCTOBER 9, 2018

SHOOTING ISLAND RESTORATION CITY OF OCEAN CITY, NJ NATIONAL FISH AND WILDLIFE FOUNDATION GRANT	
GENERAL NOTES AND ABBREVIATIONS	

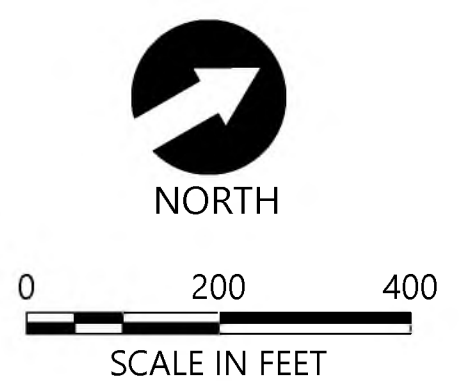
G-02
SHEET NO. 3 OF 16

ONE INCH
AT FULL SIZE. IF NOT ONE
INCH SCALE ACCORDINGLY



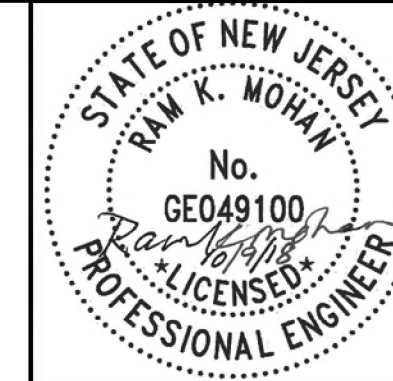
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Spring High Tide	2.22
Mean Higher High Water Line	1.95
Mean High Water	1.55
Mean Low Water	-2.23
Mean Lower Low Water	-2.38

- LEGEND:**
- PROPOSED LIVING SHORELINE SILL
 - PROPOSED OYSTER HABITAT BLOCKS
 - 1978 SHORELINE
 - 1978 TIDAL CREEK
 - 2017 SURVEY ELEVATION CONTOURS, 1 AND 5 FOOT, NAVD88
 - 2017 SURVEY SHORELINE (ELEVATION 0, NAVD88)
 - 2017 SURVEY OPEN WATER BOUNDARY
 - 2017 SURVEY OSPREY NEST
 - GREEN 265 CHANNEL MARKER



- NOTES:**
- HORIZONTAL DATUM: NEW JERSEY STATE PLANE, NAD83, U.S. FEET.
 - VERTICAL DATUM: NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD88)
 - AERIAL IMAGERY WAS OBTAINED FROM THE NJGIN INFORMATION WAREHOUSE, DATED 2007.

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Oct 10, 2018 11:57am cward



REVISIONS				
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2	7/26/2018	BDH	RKM	ADDITION OF SILL VENTS
3	9/27/2018	BDH	RKM	ADDITION OF SILL WINDOWS AND OYSTER HABITAT BLOCK MODIFICATIONS

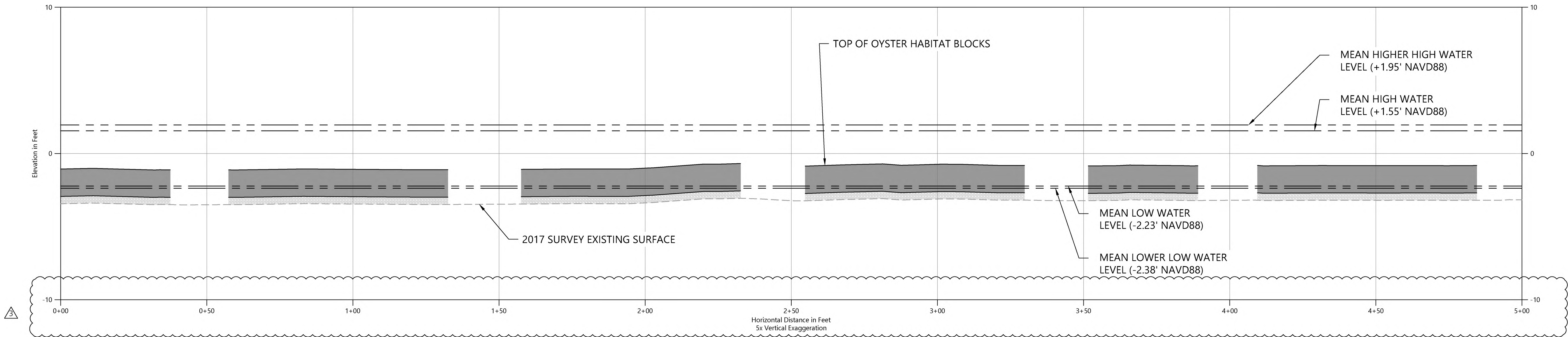
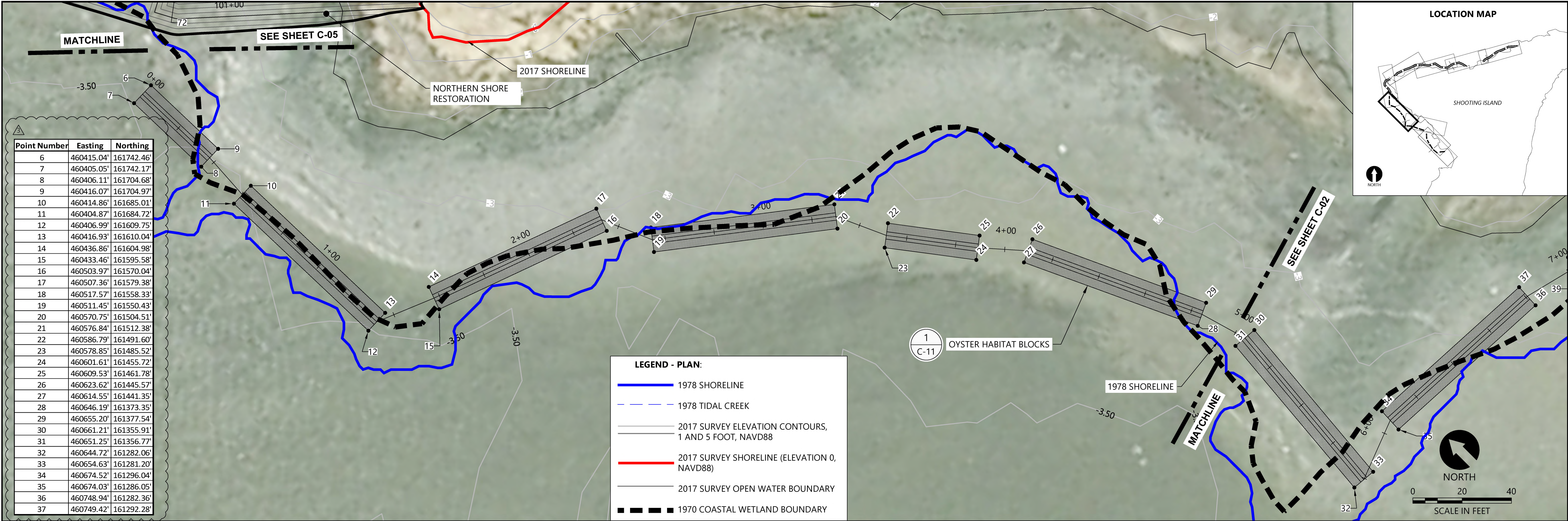
DESIGNED BY: A. CANNON
DRAWN BY: B. HURRY
CHECKED BY: M. HENDERSON
APPROVED BY: R. MOHAN
SCALE: AS NOTED
DATE: OCTOBER 9, 2018

SHOOTING ISLAND RESTORATION
CITY OF OCEAN CITY, NJ
NATIONAL FISH AND WILDLIFE FOUNDATION GRANT

EXISTING CONDITIONS AND PROPOSED LIVING SHORELINE ALIGNMENT

E-01

SHEET NO. **4** OF **16**



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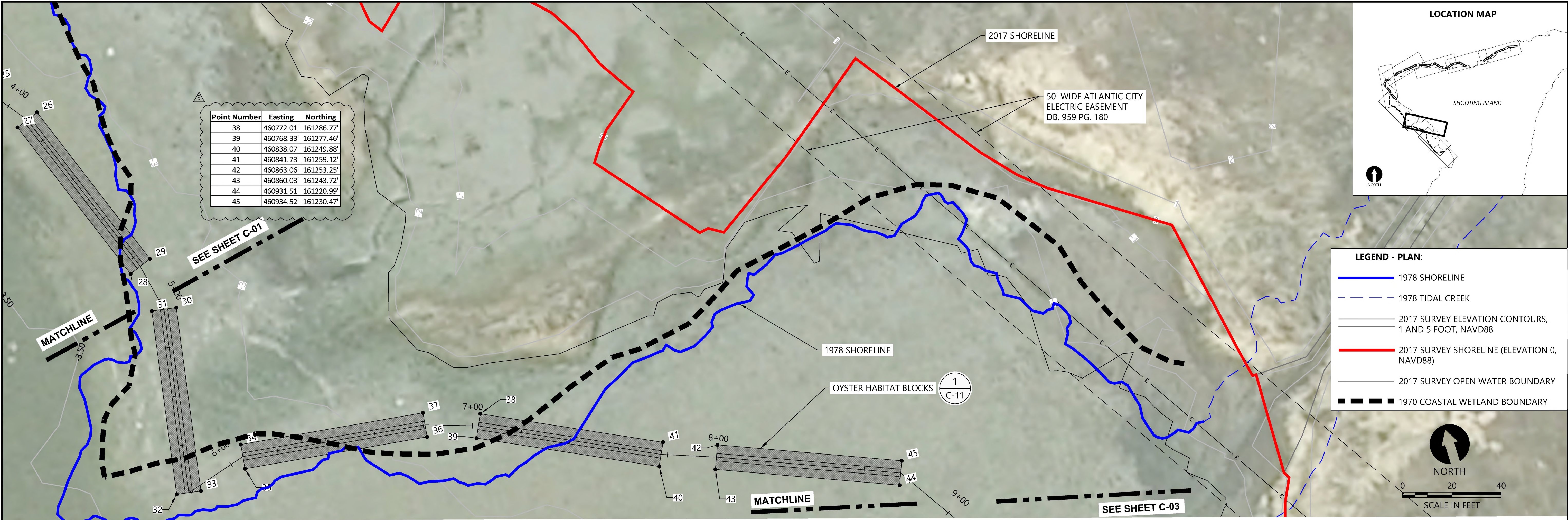


REVISIONS					
REV	DATE	BY	APP'D	DESCRIPTION	
1	9/27/2018	BDH	RKM	ADDITION OF SILL WINDOWS AND OYSTER HABITAT BLOCK MODIFICATIONS	

DESIGNED BY: A. CANNON
DRAWN BY: B. HURRY
CHECKED BY: M. HENDERSON
APPROVED BY: R. MOHAN
SCALE: AS NOTED
DATE: OCTOBER 9, 2018

SHOOTING ISLAND RESTORATION
CITY OF OCEAN CITY, NJ
NATIONAL FISH AND WILDLIFE FOUNDATION GRANT

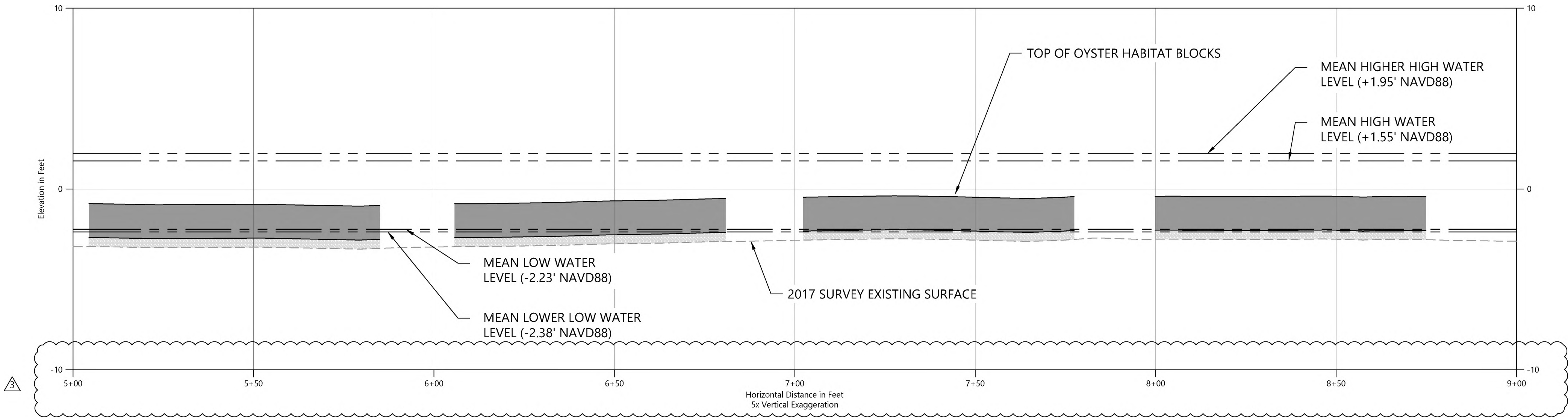
WESTERN LIVING SHORELINE
ALIGNMENT LAYOUT STA. 0+00 TO 5+00



Point Number	Easting	Northing
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39	460768.33'	161277.46'
40	460838.07'	161249.88'
41	460841.73'	161259.12'
42	460863.06'	161253.25'
43	460860.03'	161243.72'
44	460931.51'	161220.99'
45	460934.52'	161230.47'

- LEGEND - PLAN:
- 1978 SHORELINE
 - 1978 TIDAL CREEK
 - 2017 SURVEY ELEVATION CONTOURS, 1 AND 5 FOOT, NAVD88
 - 2017 SURVEY SHORELINE (ELEVATION 0, NAVD88)
 - 2017 SURVEY OPEN WATER BOUNDARY
 - 1970 COASTAL WETLAND BOUNDARY

PLAN



PROFILE

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REVISIONS					
REV	DATE	BY	APP'D	DESCRIPTION	
1	9/27/2018	BDH	RKM	ADDITION OF SILL WINDOWS AND OYSTER HABITAT BLOCK MODIFICATIONS	

DESIGNED BY: A. CANNON
DRAWN BY: B. HURRY
CHECKED BY: M. HENDERSON
APPROVED BY: R. MOHAN
SCALE: AS NOTED
DATE: OCTOBER 9, 2018

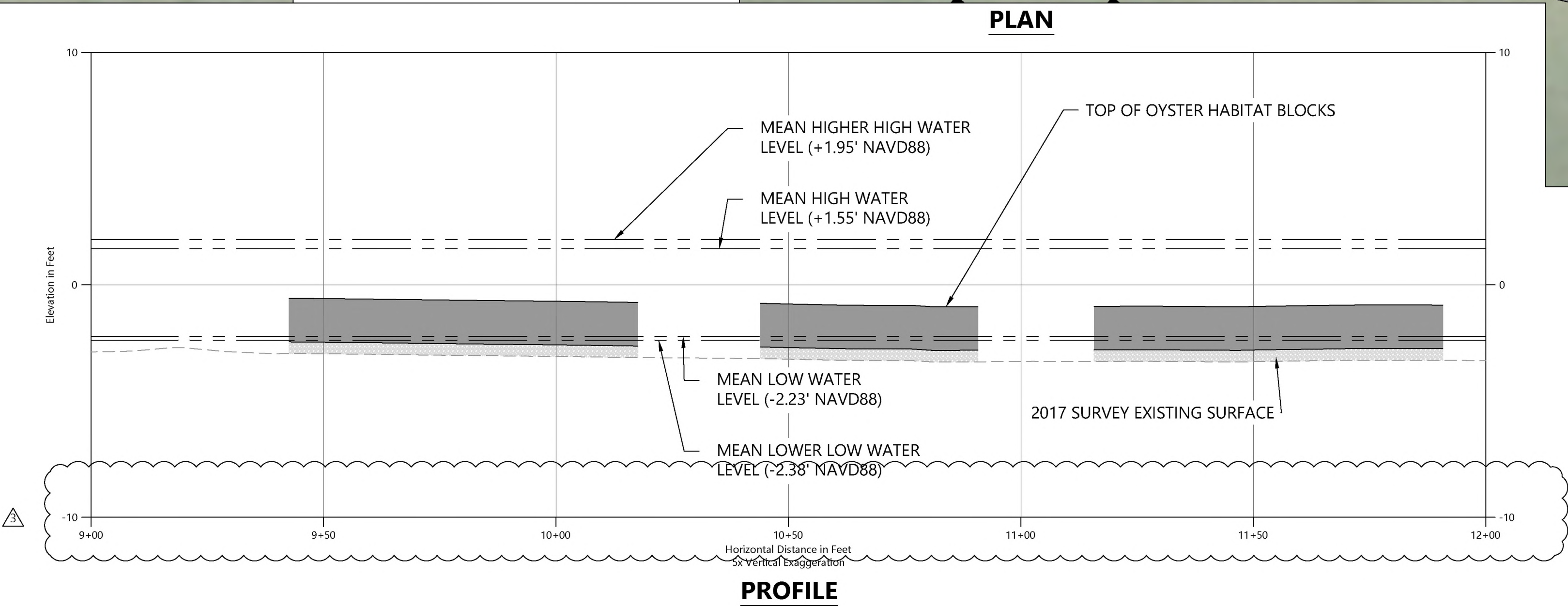
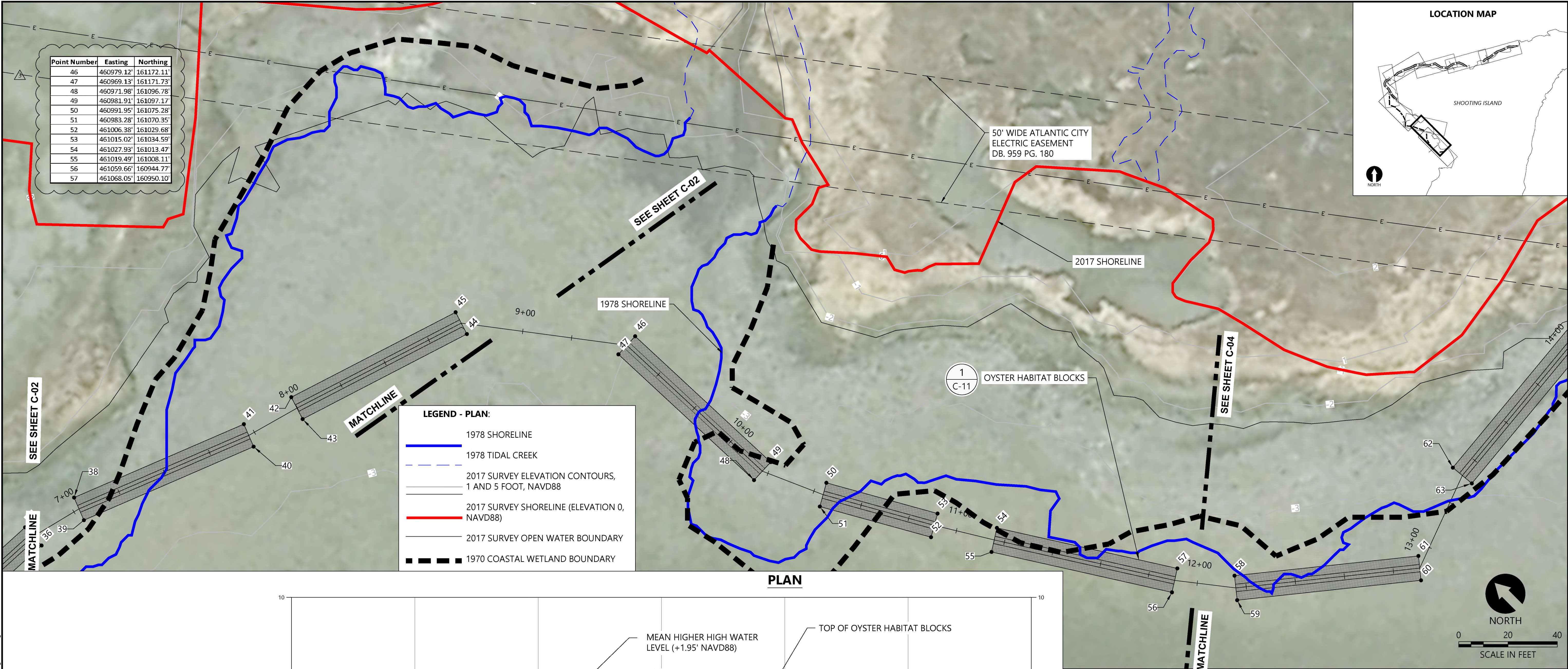
SHOOTING ISLAND RESTORATION
CITY OF OCEAN CITY, NJ
NATIONAL FISH AND WILDLIFE FOUNDATION GRANT




WESTERN LIVING SHORELINE
ALIGNMENT LAYOUT STA. 5+00 TO 9+00

C-02

SHEET NO. 6 OF 16

ONE INCH
AT FULL SIZE, IF NOT ONE
INCH SCALE ACCORDINGLY





REV	DATE	BY	APP'D	DESCRIPTION
1	9/27/2018	BDH	RKM	ADDITION OF SILL WINDOWS AND OYSTER HABITAT BLOCK MODIFICATIONS

DESIGNED BY: A. CANNON

DRAWN BY: B. HURRY

CHECKED BY: M. HENDERSON

APPROVED BY: R. MOHAN

SCALE: AS NOTED

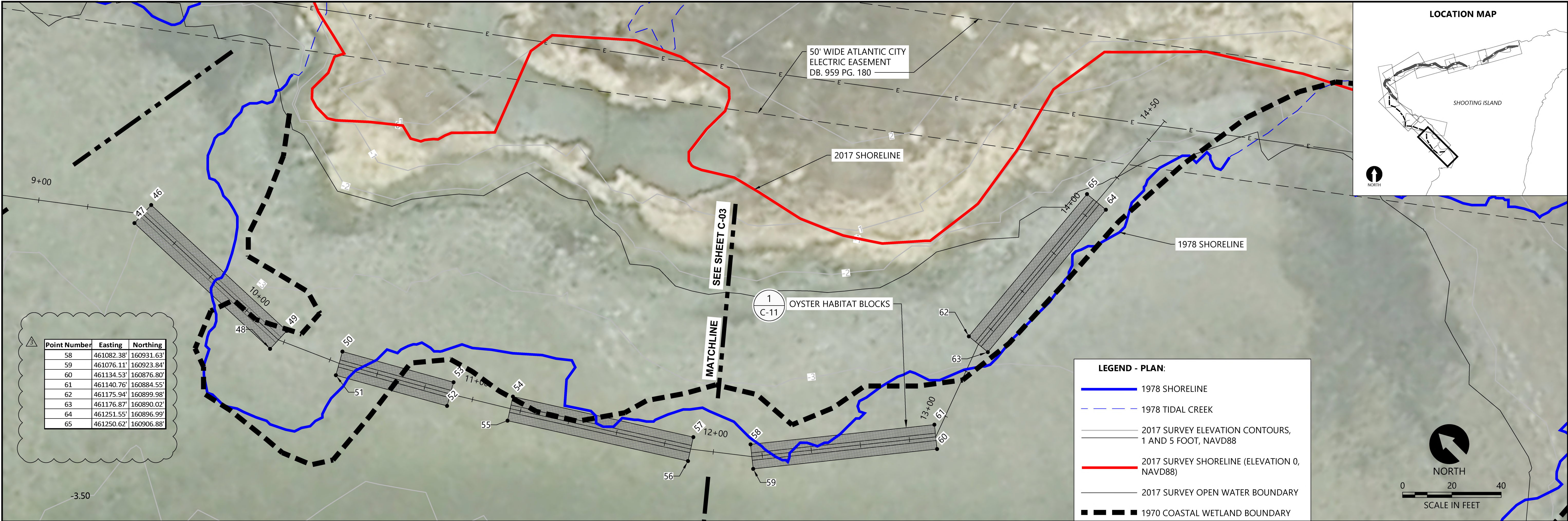
DATE: OCTOBER 9, 2018

SHOOTING ISLAND RESTORATION
CITY OF OCEAN CITY, NJ
NATIONAL FISH AND WILDLIFE FOUNDATION GRANT

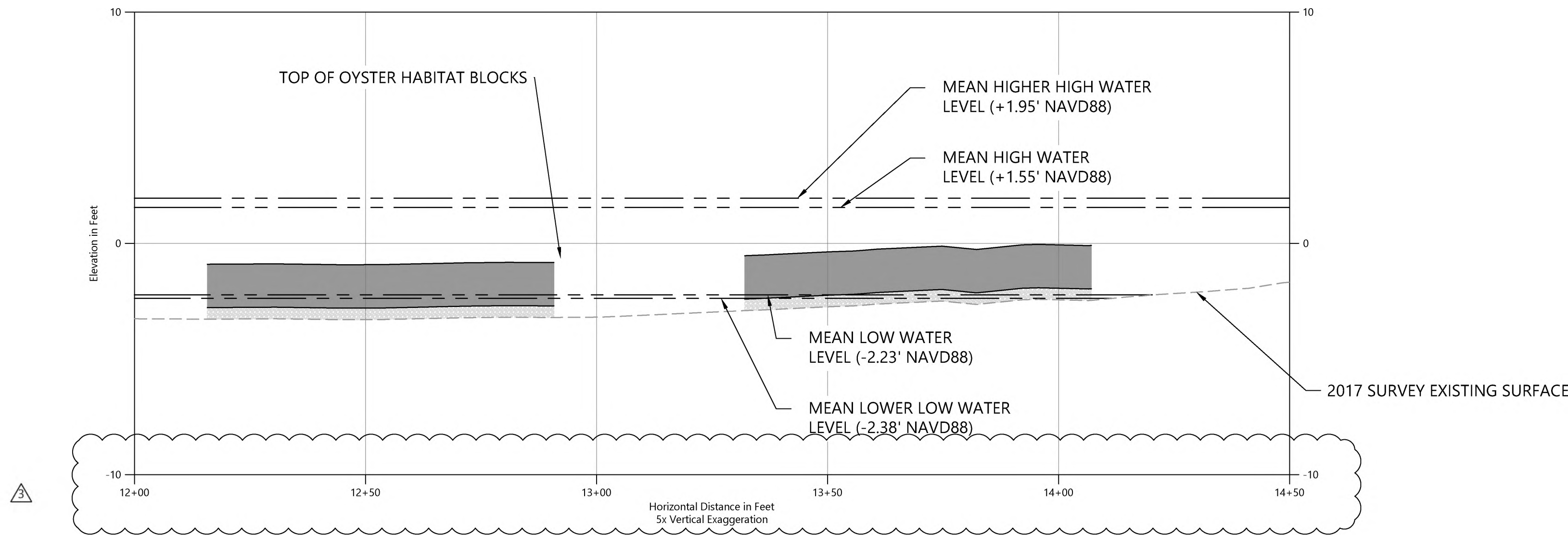
WESTERN LIVING SHORELINE
ALIGNMENT LAYOUT STA. 9+00 TO 12+00

C-03

SHEET NO. **7** OF **16**



PLAN



PROFILE

ONE INCH
AT FULL SIZE, IF NOT ONE
INCH SCALE ACCORDINGLY

K:\Projects\1314-ACT Engineers Inc\NFWF Egg Harbor Bay\Construction Plans\C-001-Design Set.dwg C-04 Oct 10, 2018 12:00pm cyard



REVISIONS					
REV	DATE	BY	APP'D	DESCRIPTION	
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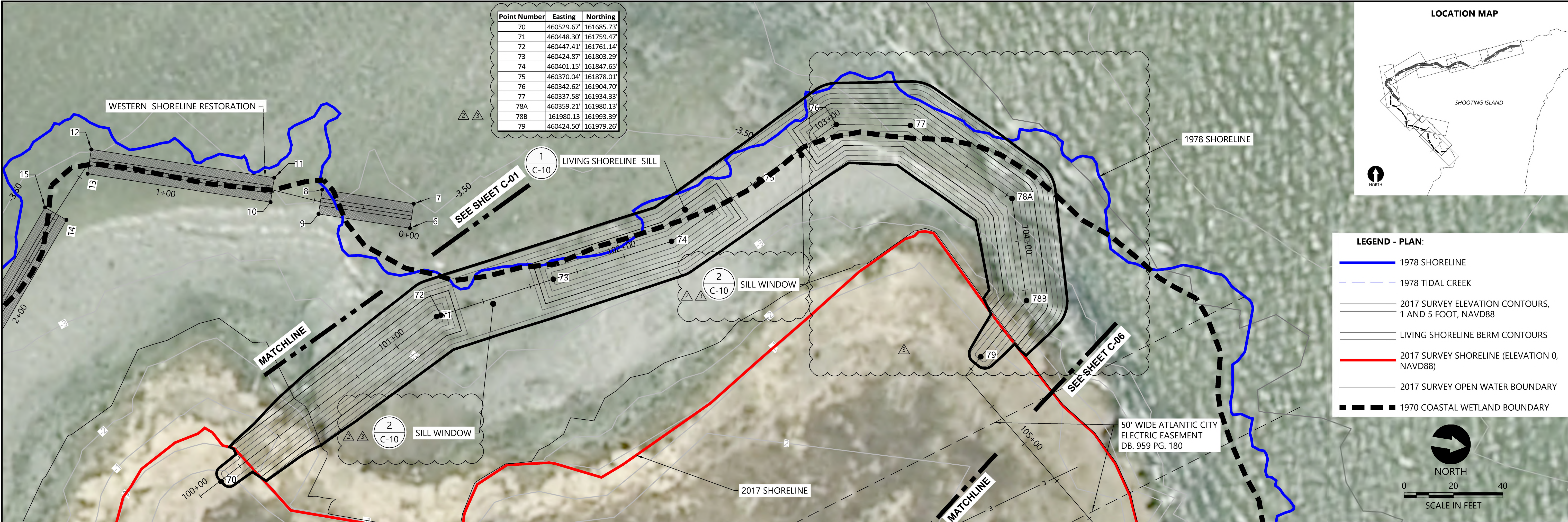
DESIGNED BY: A. CANNON
DRAWN BY: B. HURRY
CHECKED BY: M. HENDERSON
APPROVED BY: R. MOHAN
SCALE: AS NOTED
DATE: OCTOBER 9, 2018

SHOOTING ISLAND RESTORATION
CITY OF OCEAN CITY, NJ
NATIONAL FISH AND WILDLIFE FOUNDATION GRANT

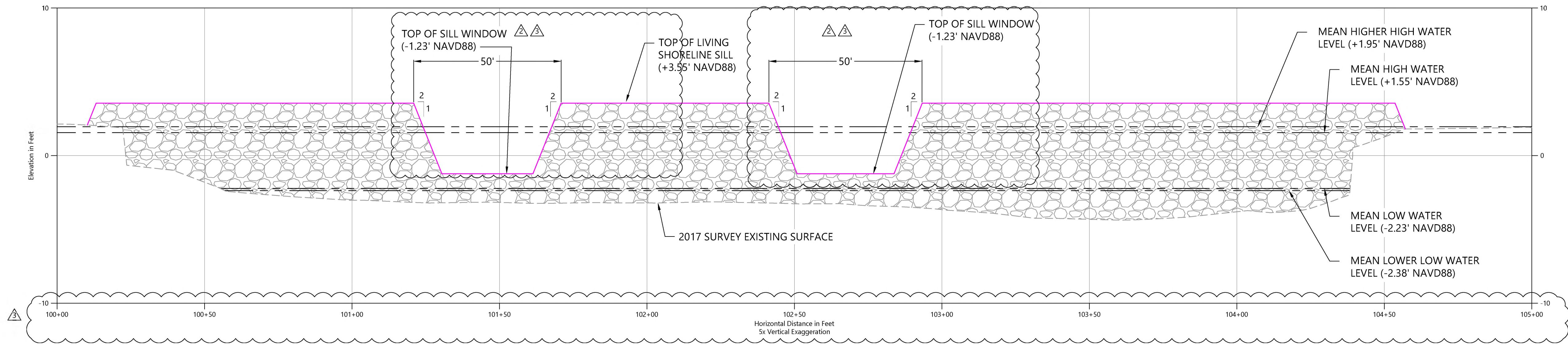
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ALIGNMENT LAYOUT STA. 12+00 TO END

C-04

SHEET NO. 8 OF 16



PLAN



ONE INCH
= 10 FEET
AT FULL SIZE, IF NOT ONE
INCH SCALE ACCORDINGLY

K:\Projects\1314-ACT Engineers Inc\NFWF Egg Harbor Bay\Construction Plans\C-001-Design Set.dwg C-05
Oct 10, 2018 12:00pm cnyard



REVISIONS					
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2	9/27/2018	BDH	RKM	ADDITION OF SILL WINDOWS AND OYSTER HABITAT BLOCK MODIFICATIONS	

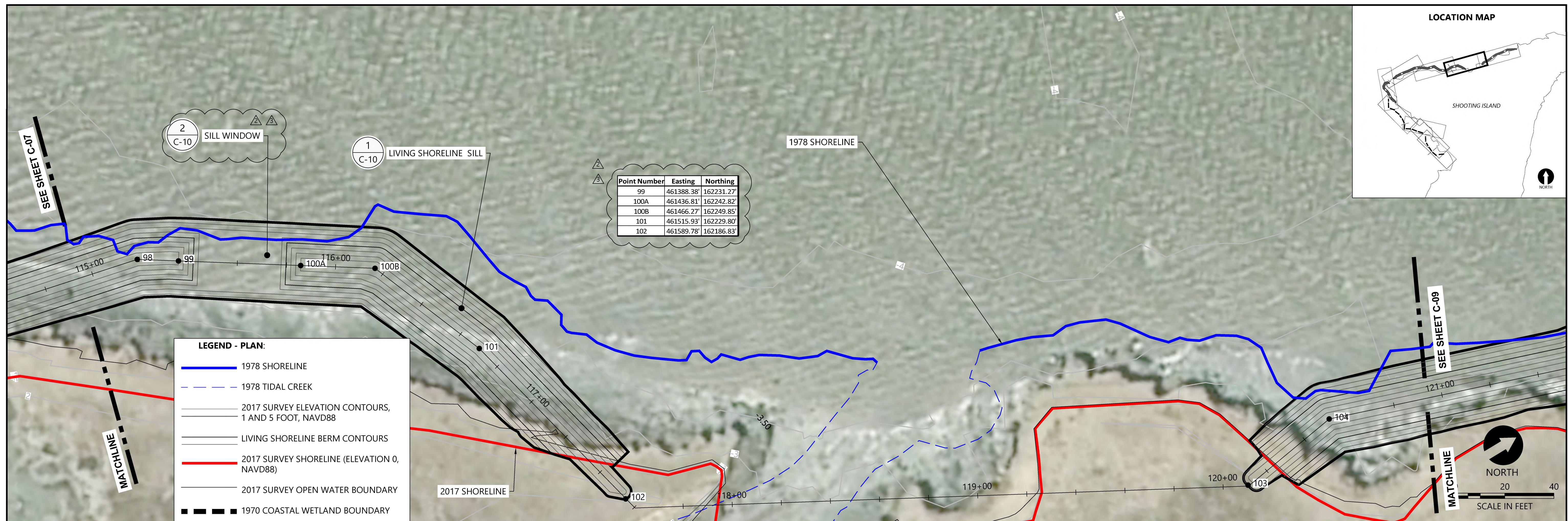
DESIGNED BY: A. CANNON
DRAWN BY: B. HURRY
CHECKED BY: M. HENDERSON
APPROVED BY: R. MOHAN
SCALE: AS NOTED
DATE: OCTOBER 9, 2018

SHOOTING ISLAND RESTORATION
CITY OF OCEAN CITY, NJ
NATIONAL FISH AND WILDLIFE FOUNDATION GRANT

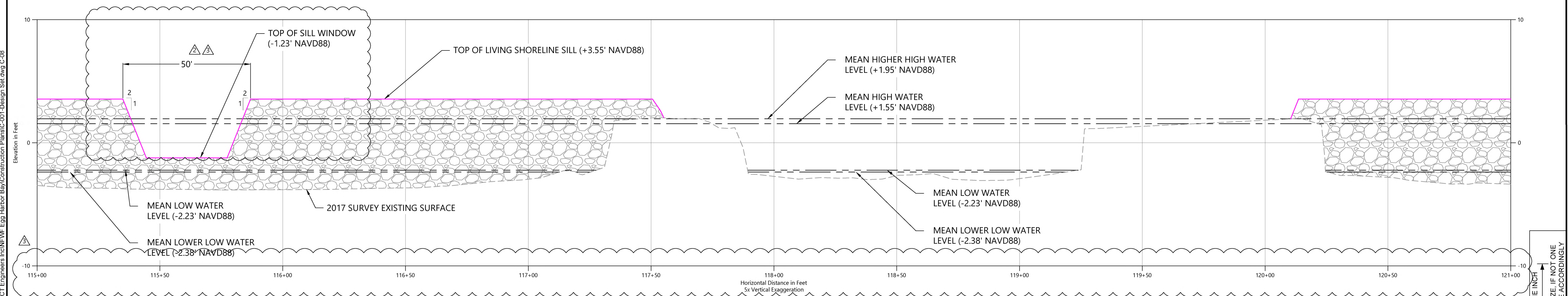
NORTHERN LIVING SHORELINE
ALIGNMENT LAYOUT STA. 100+00 TO
105+00

C-05

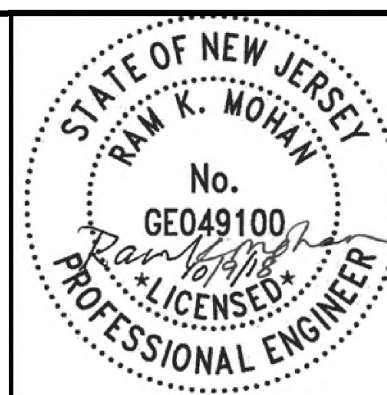
SHEET NO. 9 OF 16



PLAN



PROFILE



REVISIONS				
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3	9/27/2018	BDH	RKM	ADDITION OF SILL WINDOWS AND OYSTER HABITAT BLOCK MODIFICATIONS

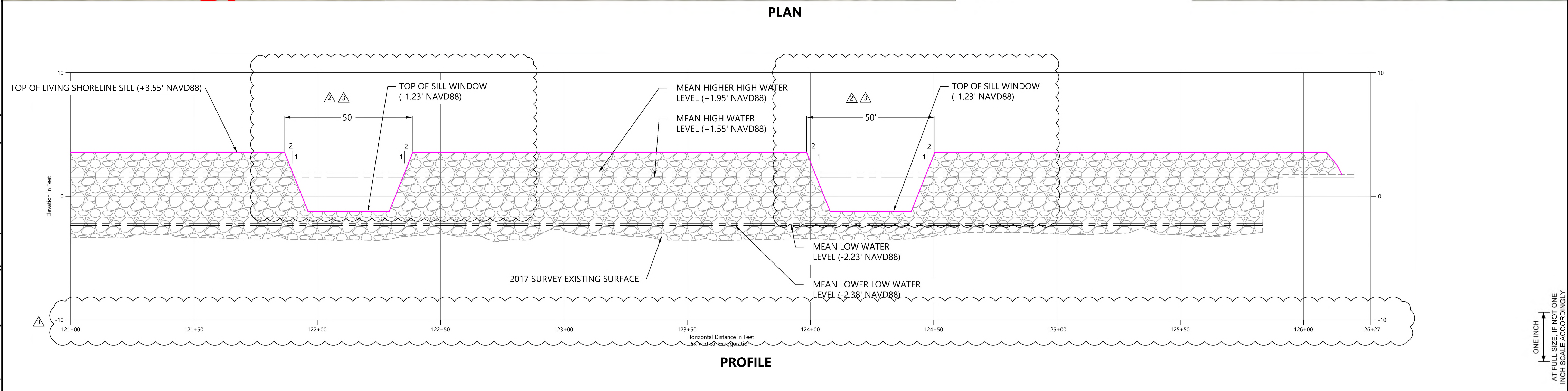
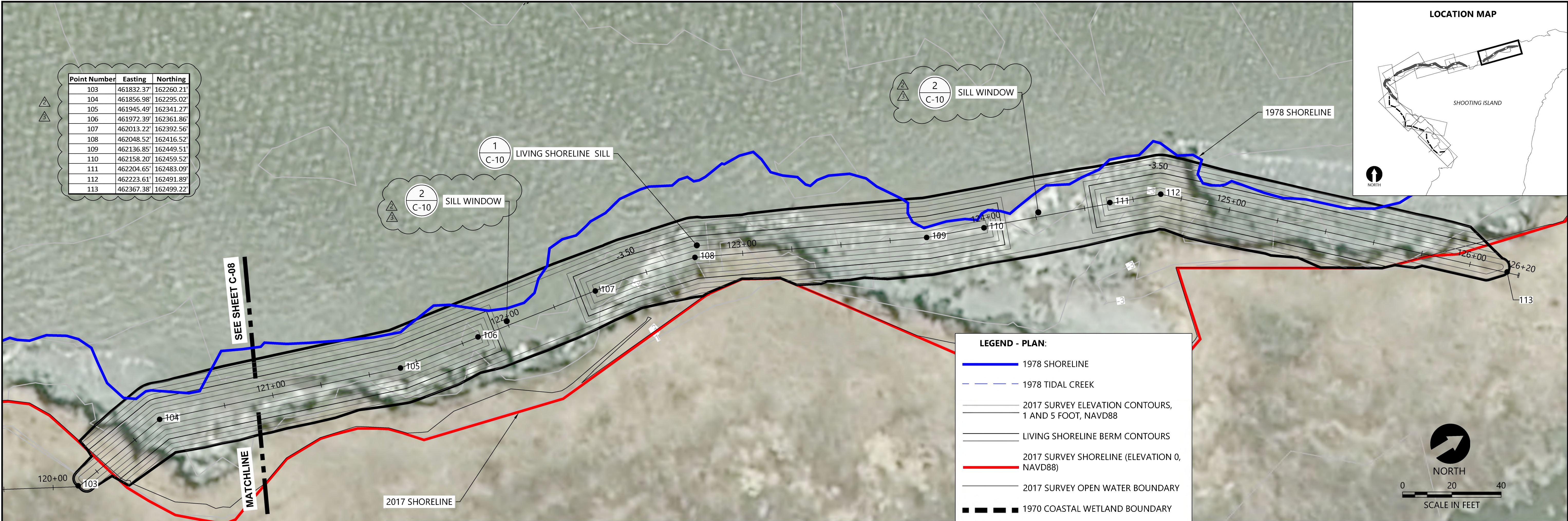
DESIGNED BY: A. CANNON
DRAWN BY: B. HURRY
CHECKED BY: M HENDERSON
APPROVED BY: R MOHAN
SCALE: AS NOTED
DATE: OCTOBER 9, 2018




	<p align="center">SHOOTING ISLAND RESTORATION CITY OF OCEAN CITY, NJ NATIONAL FISH AND WILDLIFE FOUNDATION GRANT</p>	
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**NORTHERN LIVING SHORELINE
ALIGNMENT LAYOUT STA. 115+00 TO
121+00**

C-08

SHEET NO. 12 OF 16





REVISIONS				
REV	DATE	BY	APP'D	DESCRIPTION
1	7/26/2018	BDH	RKM	ADDITION OF SILL VENTS
2	9/27/2018	BDH	RKM	ADDITION OF SILL WINDOWS AND OYSTER HABITAT BLOCK MODIFICATIONS

DESIGNED BY: A. CANNON

DRAWN BY: B. HURRY

CHECKED BY: M. HENDERSON

APPROVED BY: R. MOHAN

SCALE: AS NOTED

DATE: OCTOBER 9, 2018

SHOOTING ISLAND RESTORATION
CITY OF OCEAN CITY, NJ
NATIONAL FISH AND WILDLIFE FOUNDATION GRANT

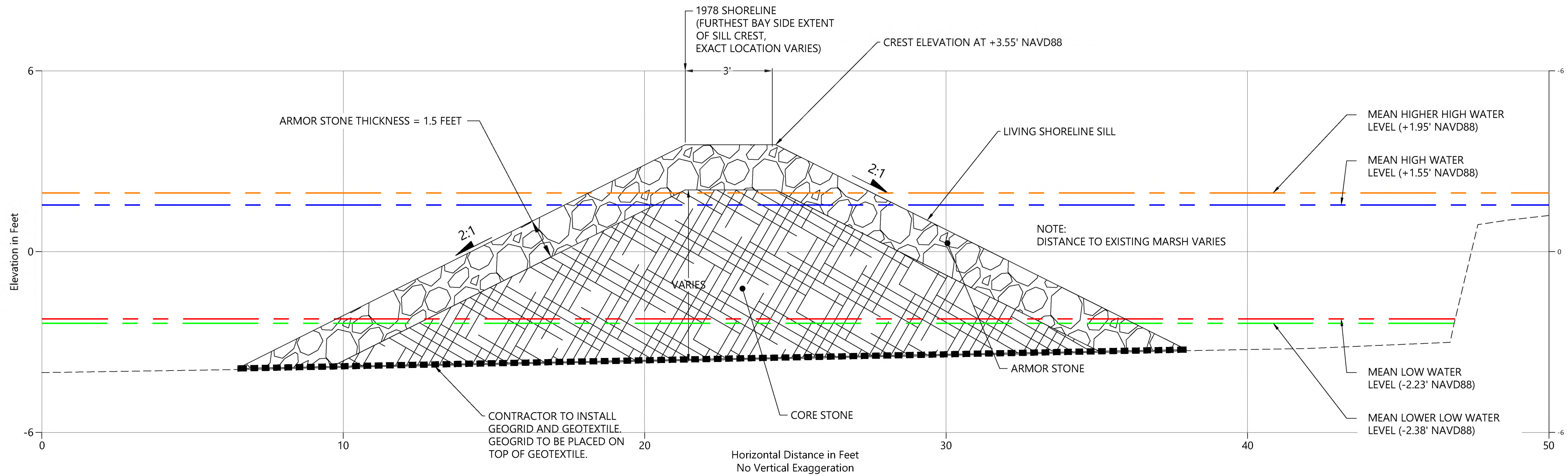
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ALIGNMENT LAYOUT STA. 121+00 TO END

C-09

SHEET NO. **13** OF **16**

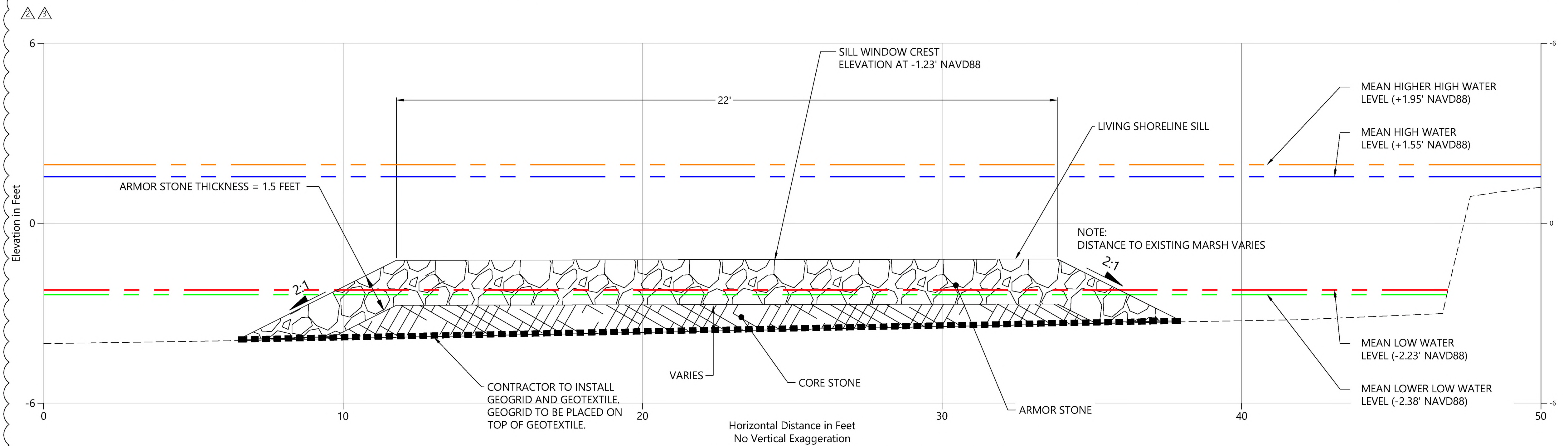
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Oct 10, 2018 12:02pm cyard



1 TYPICAL LIVING SHORELINE CROSS SECTION
C-10 SCALE: 1" = 2'

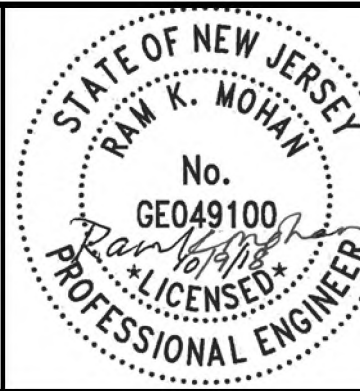
- LEGEND - PROFILE:
- Existing Surface Elevation
 - Mean Higher High Water Level (+1.95' NAVD88)
 - Mean High Water Level (+1.55' NAVD88)
 - Mean Low Water Level (-2.23' NAVD88)
 - Mean Lower Low Water Level (-2.38' NAVD88)



2 TYPICAL SILL WINDOW CROSS SECTION
C-10 SCALE: 1" = 2'

0 2 4
SCALE IN FEET

ONE INCH
AT FULL SIZE, IF NOT ONE
INCH SCALE ACCORDINGLY



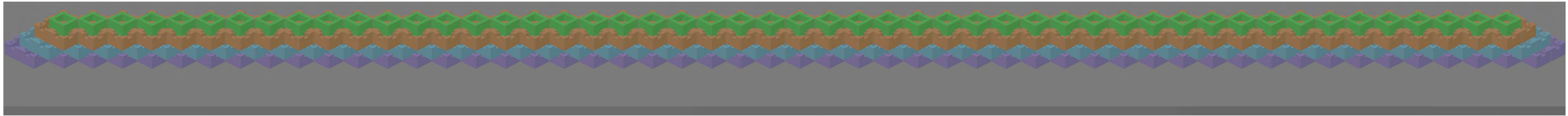
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1	7/26/2018	BDH	RKM	ADDITION OF SILL VENTS	
2	9/27/2018	BDH	RKM	ADDITION OF SILL WINDOWS AND OYSTER HABITAT BLOCK MODIFICATIONS	

DESIGNED BY: A. CANNON
DRAWN BY: B. HURRY
CHECKED BY: M. HENDERSON
APPROVED BY: R. MOHAN
SCALE: AS NOTED
DATE: OCTOBER 9, 2018

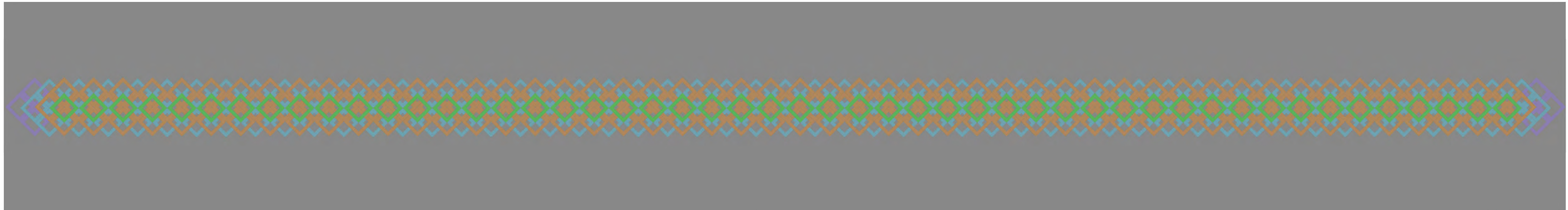
SHOOTING ISLAND RESTORATION
CITY OF OCEAN CITY, NJ
NATIONAL FISH AND WILDLIFE FOUNDATION GRANT
DETAILS AND CROSS SECTIONS 1 OF 2

C-10
SHEET NO. 14 OF 16

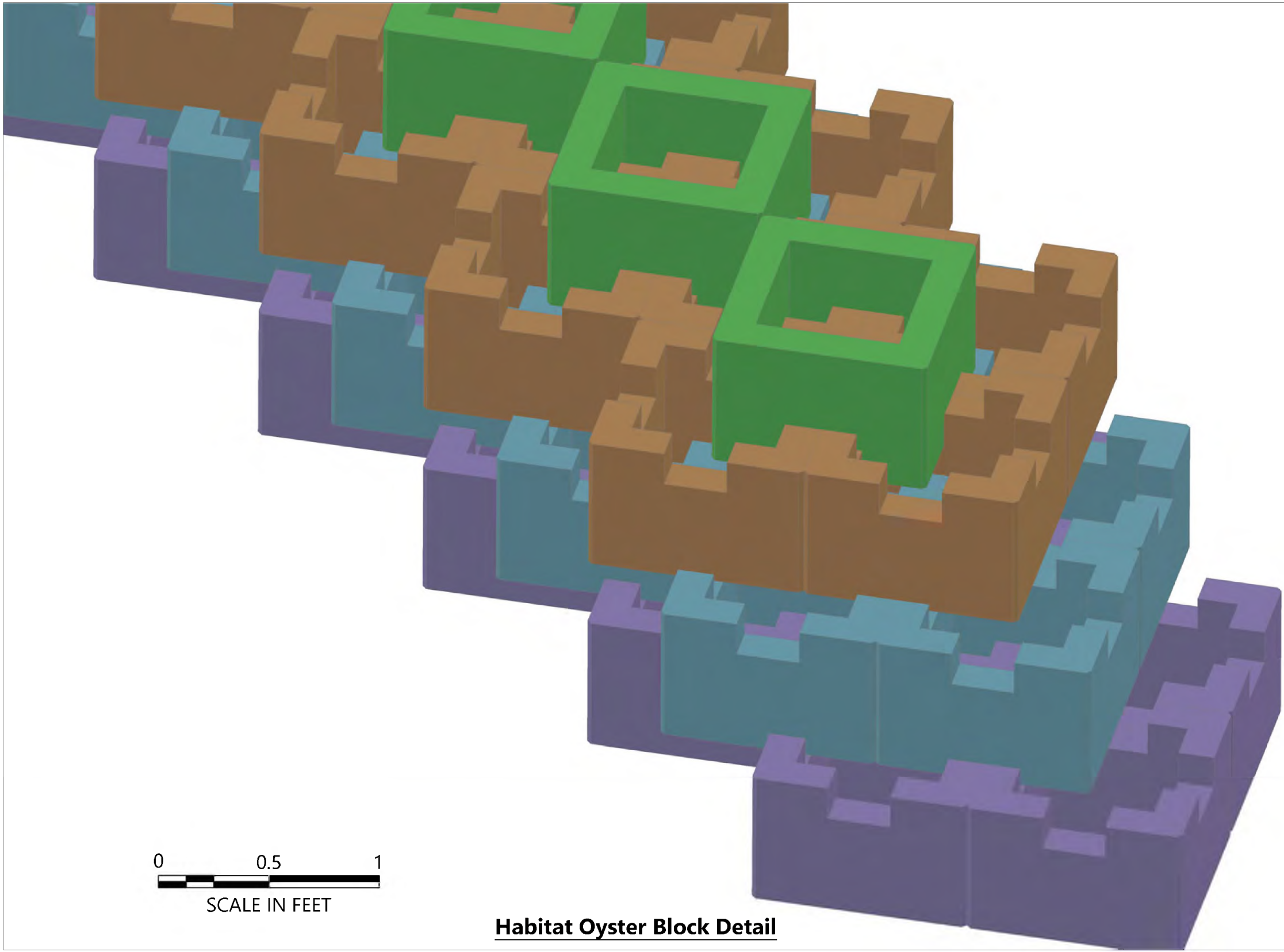
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Oct 10, 2018 12:02pm ctyard



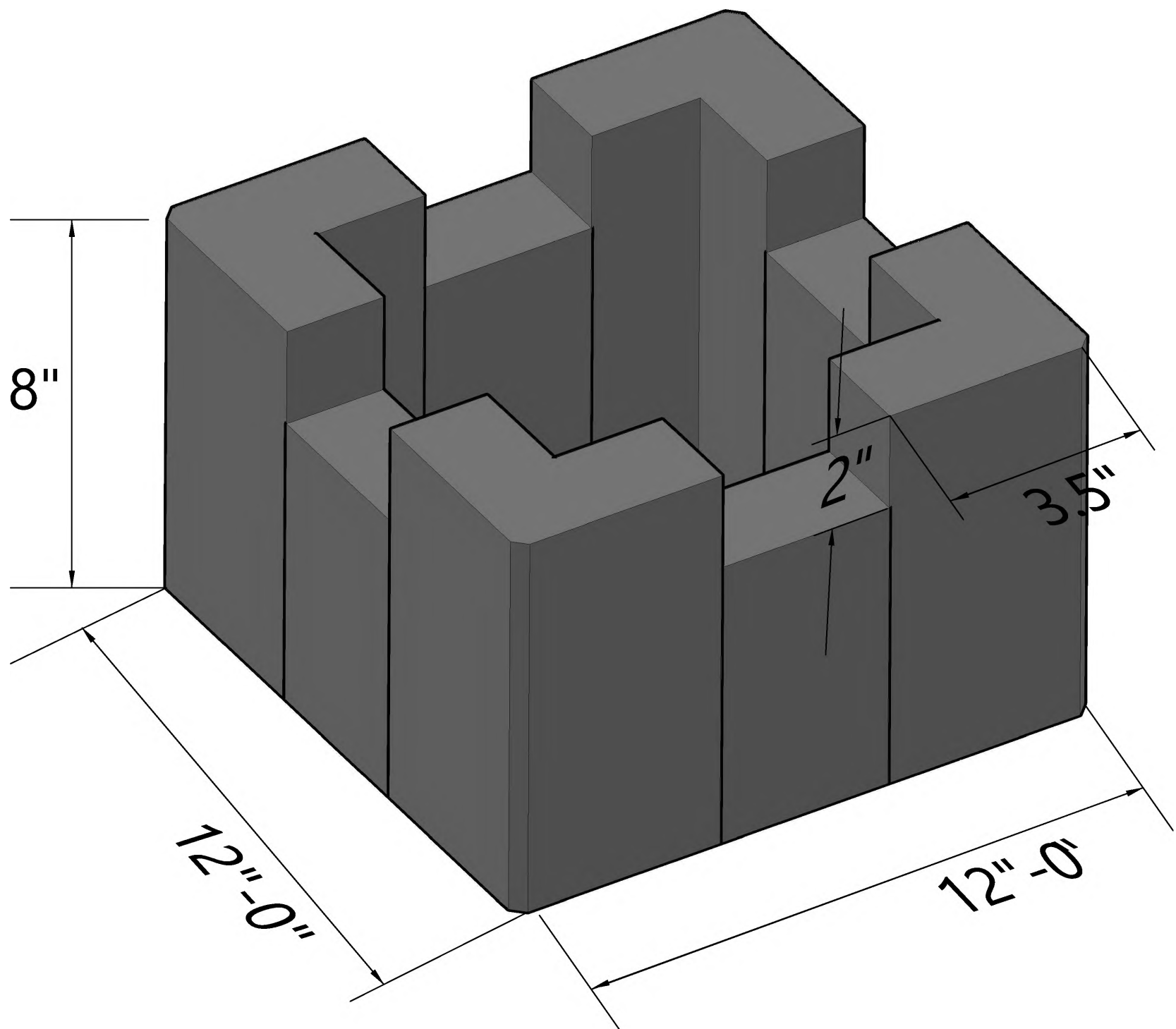
Isometric View 1



Plan View



Habitat Oyster Block Detail



Oyster Habitat Block Dimensions

ONE INCH
AT FULL SIZE, IF NOT ONE
INCH SCALE ACCORDINGLY



REVISIONS					
REV	DATE	BY	APP'D	DESCRIPTION	

DESIGNED BY: A. CANNON
DRAWN BY: B. HURRY
CHECKED BY: M. HENDERSON
APPROVED BY: R. MOHAN
SCALE: AS NOTED
DATE: OCTOBER 9, 2018

SHOOTING ISLAND RESTORATION
CITY OF OCEAN CITY, NJ
NATIONAL FISH AND WILDLIFE FOUNDATION GRANT

OYSTER HABITAT BLOCK DETAILS