



**US Army Corps
of Engineers**
Philadelphia District

Wanamaker Building
100 Penn Square East
Philadelphia, PA 19107-3390
ATTN: CENAP-OP-R

Public Notice

Public Notice No.
CENAP-OP-R-2019-01139-95

Date
December 9, 2019

Application No.
CENAP-OP-R-2019-01139-95

File No.

In Reply Refer to:
REGULATORY BRANCH

This District has received an application for a Department of the Army permit pursuant to Section 10 of the Rivers and Harbors Act of 1899 (33 U.S.C. 403) and Section 404 of the Clean Water Act (33 U.S.C. 1344).

The purpose of this notice is to solicit comments and recommendations from the public concerning issuance of a Department of the Army permit for the work described below.

APPLICANT: New Jersey Department of Transportation
Office of Maritime Resources
Attn: Ms. Genevieve Clifton
P.O. Box 600
Trenton, New Jersey 08625-0600

WATERWAY: Barnegat Bay - Beach Haven State Channel Complex: Southwick Channel, Bay Harbor Channel, Eastern Channel, Shelter Harbor Channel, Beach Haven Condos Channel, Morrison's Channel, Liberty Thorofare Channel, Buoy 77 Channel, and Penna's Channel.

LOCATION: Beach Haven Borough and Long Beach Township, Long Beach Island, Ocean County, New Jersey.

ACTIVITY: The applicant, New Jersey Department of Transportation – Office of Maritime Resources, has requested Department of the Army authorization to perform ten (10)-year maintenance dredging of nine (9) channels within Barnegat Bay, identified as the Beach Haven State Channel Complex: Southwick Channel, Bay Harbor Channel, Eastern Channel, Shelter Harbor Channel, Beach Haven Condos Channel, Morrison's Channel, Liberty Thorofare Channel, Buoy 77 Channel, and Penna's Channel. All of the work would be accomplished via hydraulic cutterhead dredge. All resultant dredged material, estimated to total approximately 26,747.0-cubic yards of sand and silt, would be transported via floating and submerged pipeline to the Parker Island Confined Disposal Facility (CDF) located in lower Barnegat Bay in Beach Haven Borough, Ocean County, New Jersey. The pipeline would be marked in accordance with U.S. Coast Guard regulations. Return water from the Parker Island CDF is proposed.

Each maintenance dredging event is anticipated to be approximately twelve (12) weeks in duration, including mobilization/demobilization, dredging, and

CDF placement activities. Two (2) or three (3) maintenance dredging events are anticipated to be conducted over the next ten (10)-years.

Southwick Channel (#150):

Maintenance dredging of 2,380.0-cubic yards of shoaled sediments from a 0.08-mile long channel to -5.0-feet below the plane of Mean Low Water (MLW), plus 1.0-foot of allowable overdredge, is proposed. The channel design width is 100.0-linear feet, with 3:1 side slopes.

Bay Harbor Channel (#151):

Maintenance dredging of 2,531.0-cubic yards of shoaled sediments from a 0.08-mile long channel to -5.0-feet below the plane of MLW, plus 1.0-foot of allowable overdredge, is proposed. The channel design width is 100.0-linear feet, with 3:1 side slopes.

Eastern Channel (#152):

Maintenance dredging of 2,162.0-cubic yards of shoaled sediments from a 0.07-mile long channel to -5.0-feet below the plane of MLW, plus 1.0-foot of allowable overdredge, is proposed. The channel design width is 100.0-linear feet, with 3:1 side slopes. The channel design width is 100.0-linear feet, with 3:1 side slopes.

Shelter Harbor Channel (#153):

Maintenance dredging of 3,130.0-cubic yards of shoaled sediments from a 0.10-mile long channel to -5.0-feet below the plane of MLW, plus 1.0-foot of allowable overdredge, is proposed. The channel design width is 100.0-linear feet, with 3:1 side slopes.

Beach Haven Condos Channel (#154):

Maintenance dredging of 1,435.0-cubic yards of shoaled sediments from a 0.05-mile long channel to -5.0-feet below the plane of MLW, plus 1.0-foot of allowable overdredge, is proposed. The channel design width is 100.0-linear feet, with 3:1 side slopes.

Morrison's Channel (#155):

Maintenance dredging of 2,899.0-cubic yards of shoaled sediments from a 0.11-mile long channel to -5.0-feet below the plane of MLW, plus 1.0-foot of allowable overdredge, is proposed. The channel design width is 100.0-linear feet, with 3:1 side slopes.

Liberty Thorofare Channel (#156):

Maintenance dredging of 5,120.0-cubic yards of shoaled sediments from a 1.19-mile long channel to -5.0-feet below the plane of MLW, plus 1.0-foot of allowable overdredge, is proposed. The channel design width is 100.0-linear feet, with 3:1 side slopes.

Buoy 77 Channel (#158):

Maintenance dredging of 3,890.0-cubic yards of shoaled sediments from a 0.34-mile long channel to -5.0-feet below the plane of MLW, plus 1.0-foot of

allowable overdredge, is proposed. The channel design width is 100.0-linear feet, with 3:1 side slopes.

Penna's Channel (#159):

Maintenance dredging of 3,200.0-cubic yards of shoaled sediments from a 0.22-mile long channel to -5.0-feet below the plane of MLW, plus 1.0-foot of allowable overdredge, is proposed. The channel design width is 100.0-linear feet, with 3:1 side slopes.

PURPOSE: The stated purpose of this project is to restore and maintain safe navigational depths for vessels transiting between Long Beach Island and Barnegat Bay.

The decision whether to issue a permit will be based on an evaluation of the activity's probable impact including its cumulative impacts on the public interest. The decision will reflect the national concern for both protection and utilization of important resources. The benefits which reasonably may be expected to accrue from the work must be balanced against its reasonably foreseeable detriments. All factors which may be relevant to the work will be considered including the cumulative effects thereof; among those are conservation, economics, aesthetics, general environmental concerns, wetlands, cultural values, fish and wildlife values, flood hazards, flood plain values, land use, navigation, shore erosion and accretion, recreation, water supply and conservation, water quality, energy needs, safety, food and fiber production, mineral needs and welfare of the people. A Department of the Army permit will be granted unless the District Engineer determines that it would be contrary to the public interest.

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

Comments on the proposed work should be submitted, in writing, within thirty (30) days to the District Engineer, U.S. Army Corps of Engineers, Philadelphia District, Wanamaker Building, 100 Penn Square East, Philadelphia, Pennsylvania 19107-3390.

From a review of this application concerning Section 106 of the National Historic Preservation Act of 1966, the permit area has been so extensively modified from past use, including historical maintenance dredging, that little likelihood exists for the proposed project to impact an historic property.

A preliminary review of this application indicates that the proposed work may affect listed aquatic-based species or their critical habitat. Pursuant to Section 7 of the Endangered Species Act (ESA), the Philadelphia District will evaluate the potential effects from the proposed actions to these species and their habitat, and consult with NOAA Fisheries as appropriate. Consultation will be concluded prior to the final decision on this permit application.

A preliminary review of this application indicates that the proposed work would not affect listed land-based species or their critical habitat. As a result, pursuant to Section 7 of the ESA, consultation with the U.S. Fish and Wildlife Service is not necessary. As the evaluation of this application continues, additional information may become available which could modify this preliminary determination.

The Magnuson-Stevens Fishery Conservation and Management Act requires all federal agencies to consult with the NOAA Fisheries for all actions, or proposed actions, permitted, funded, or undertaken by the agency that may adversely affect Essential Fish Habitat (EFH). A preliminary review of this application indicates that EFH is present within the project area. The Philadelphia District will evaluate the potential effects of the proposed actions on EFH and will consult with NOAA Fisheries as appropriate. Consultation will be concluded prior to the final decision on this permit application.

In accordance with Section 307(c) of the Coastal Zone Management Act of 1972, applicants for Federal Licenses or Permits to conduct an activity affecting land or water uses in a State's coastal zone must provide certification that the activity complies with the State's Coastal Zone Management Program. The applicant has stated that the proposed activity complies with and will be conducted in a manner that is consistent with the approved State Coastal Zone Management (CZM) Program. No permit will be issued until the State has concurred with the applicant's certification or has waived its right to do so. Comments concerning the impact of the proposed and/or existing activity on the State's coastal zone should be sent to this office, with a copy to the State's Office of Coastal Zone Management.

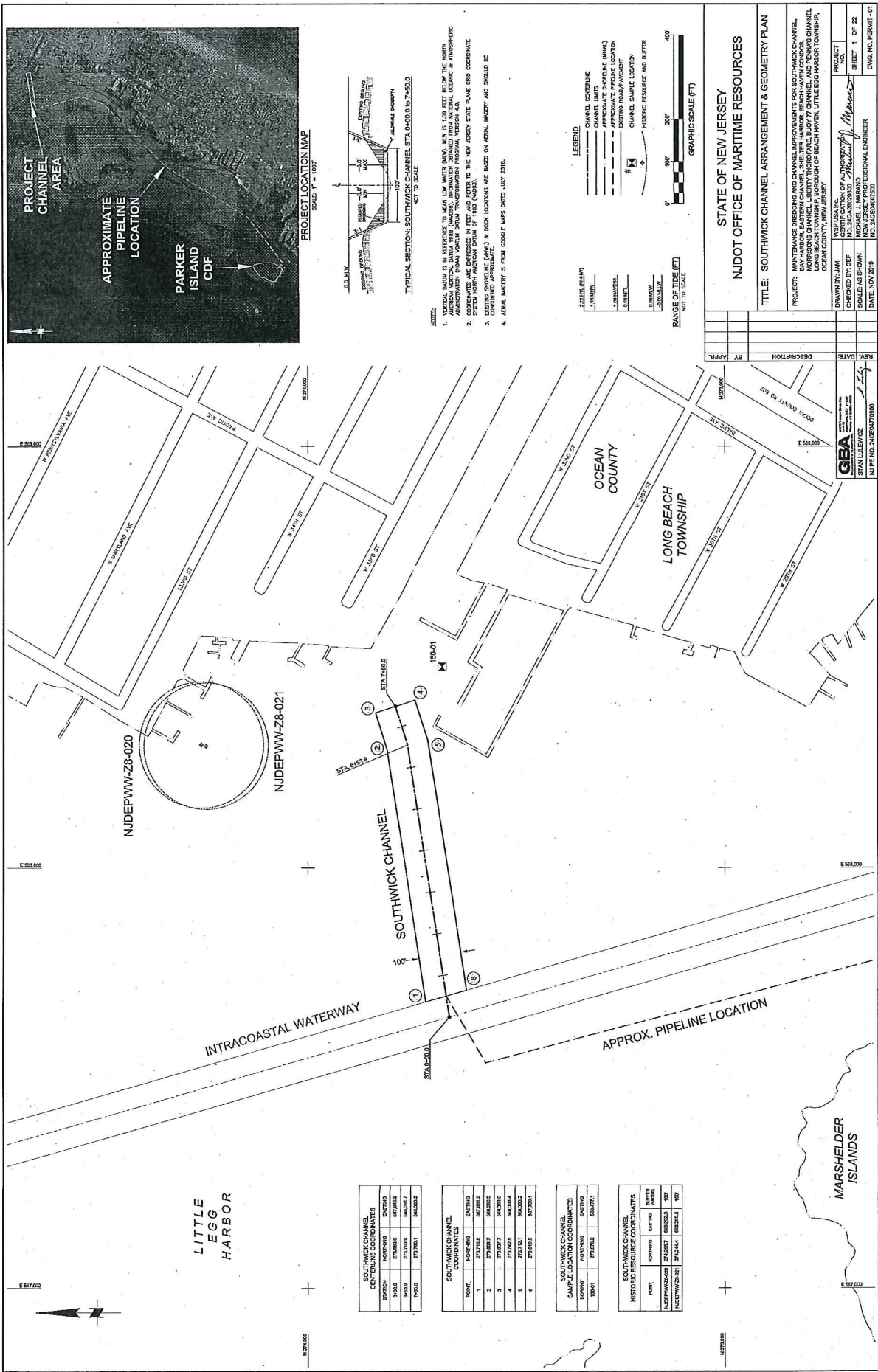
Any person may request, in writing, to the District Engineer, within the comment period specified in this notice, that a public hearing be held to consider this application. Requests for a public hearing shall state in writing, with particularity, the reasons for holding a public hearing.

Additional information concerning this permit application may be obtained by contacting Mr. Robert Youhas of my staff at via email at robert.youhas@usace.army.mil, by phone at 215-656-6729, or by writing this office at the above address.



Edward E. Bonner
Chief, Regulatory Branch

NAP-2019-01139-95



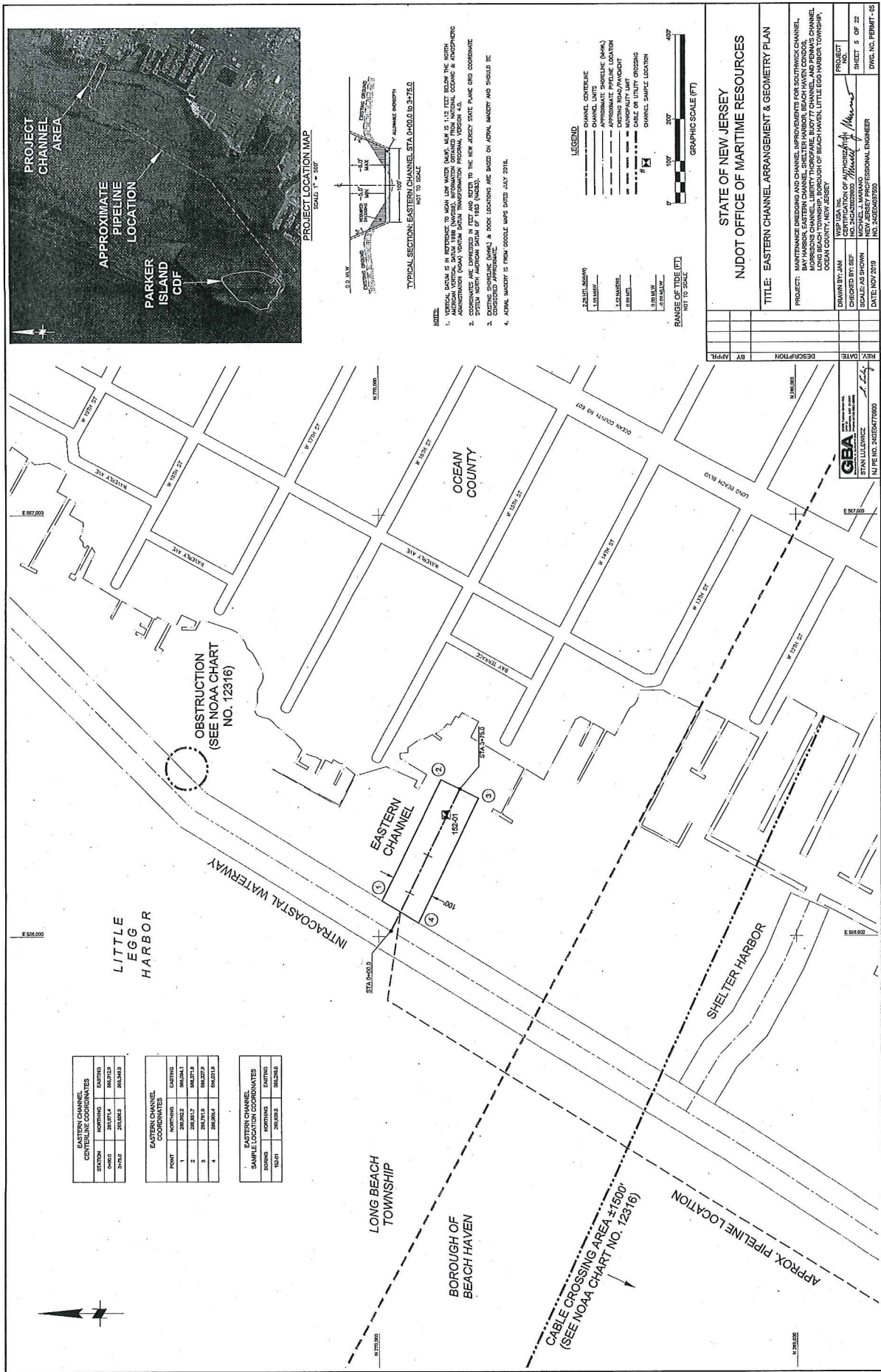
[illegible]

\\NJDOT_248\Esch Haven (150-159)\Plans\Perm\DWG\150-SouthaickChorrel-Perm\ldwg

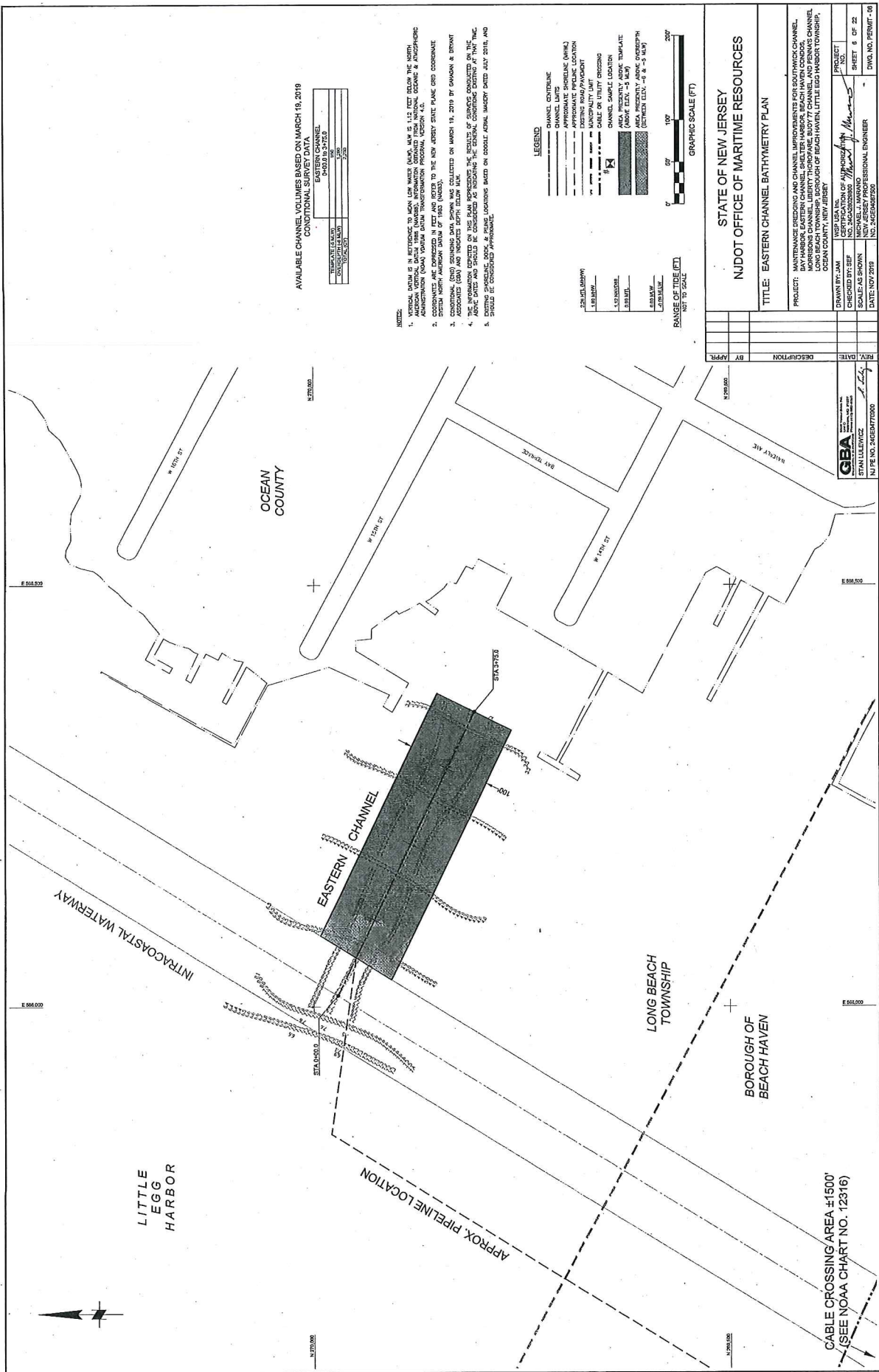
[illegible]

[illegible]

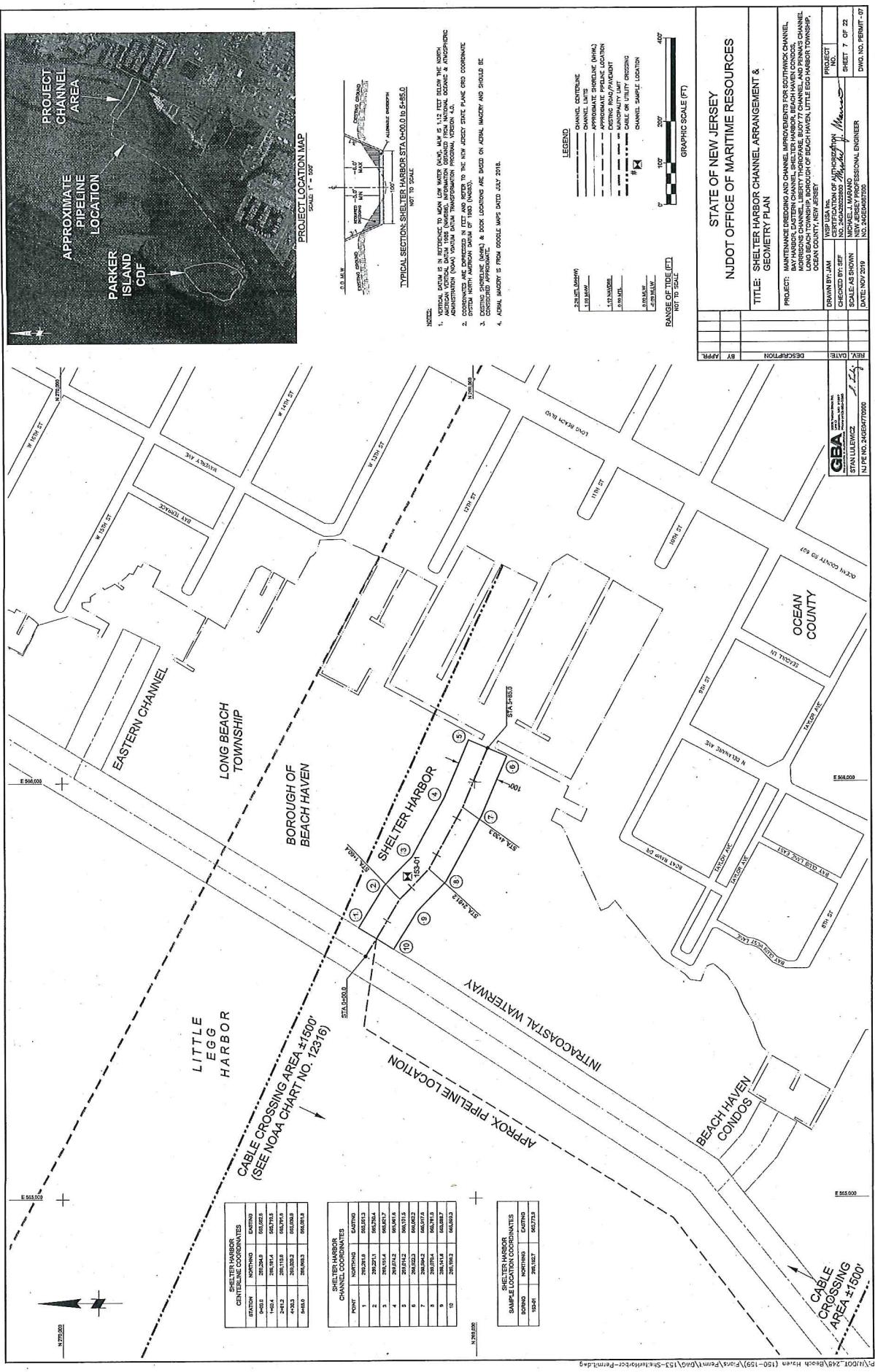
NAD-2019-01139-95



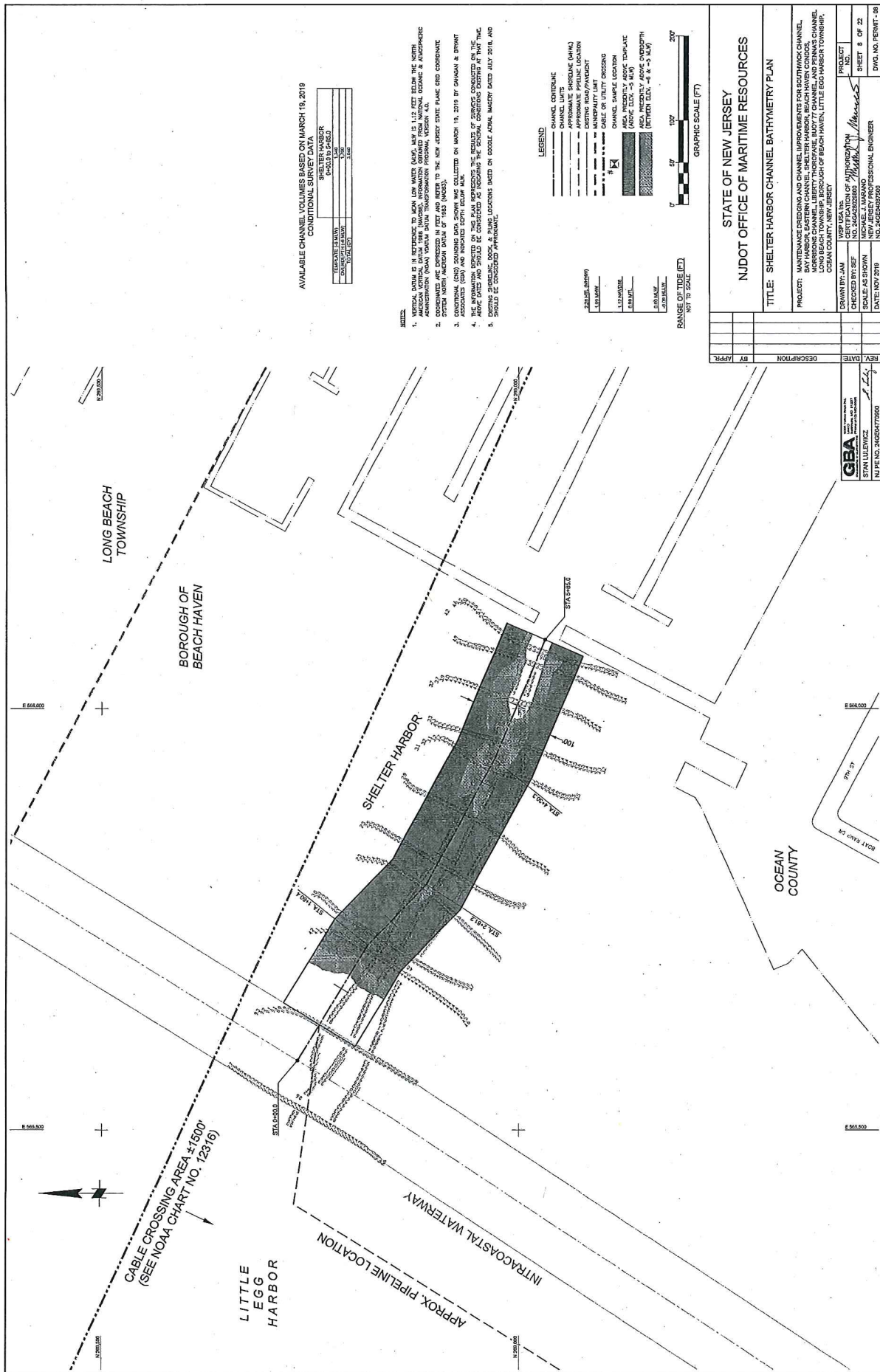
NAD-2019-01139-95



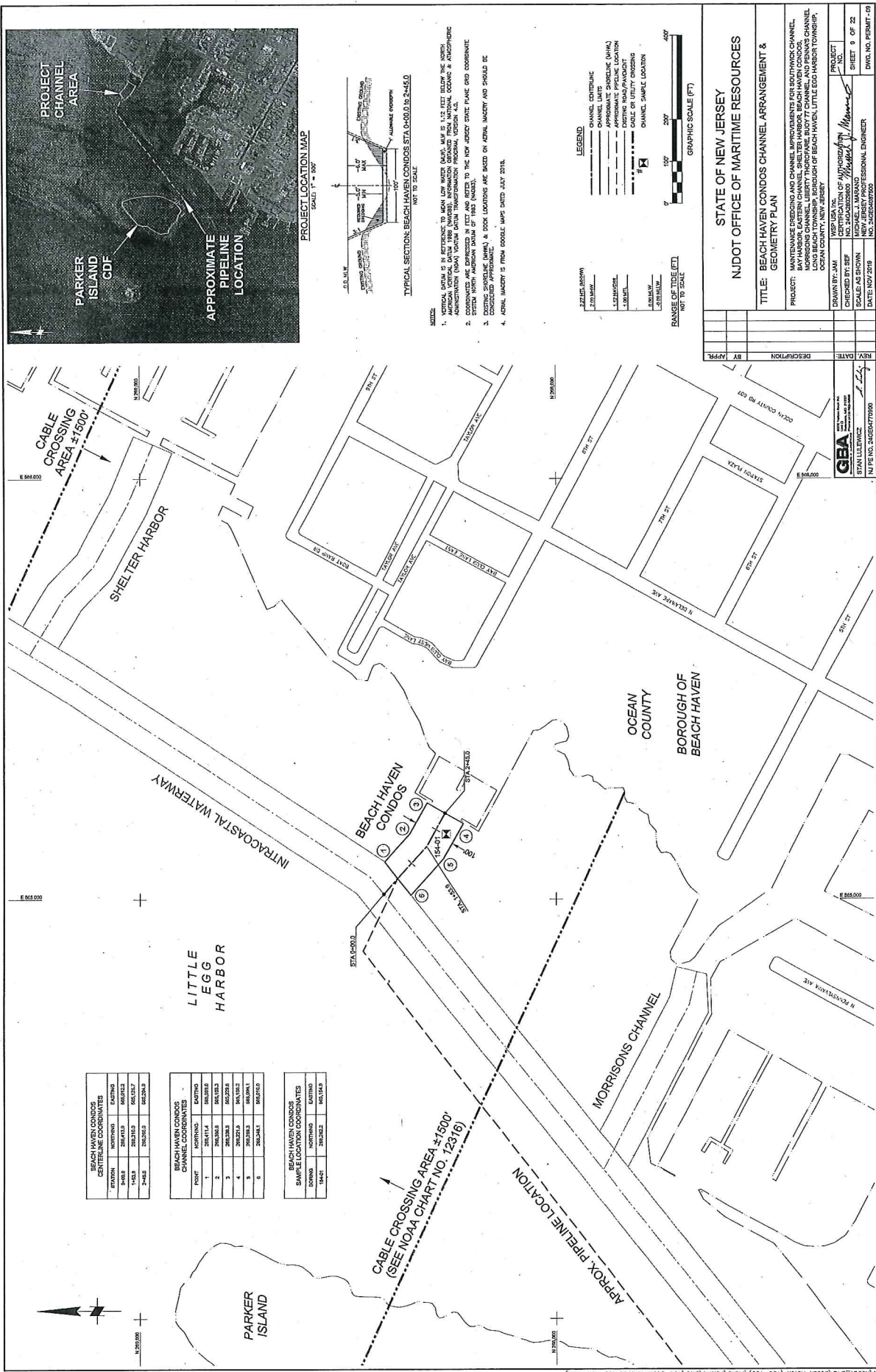
NAD-2019-01139-95



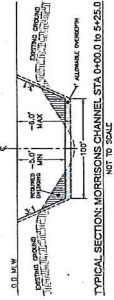
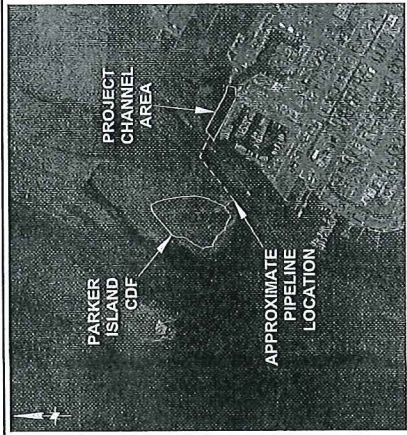
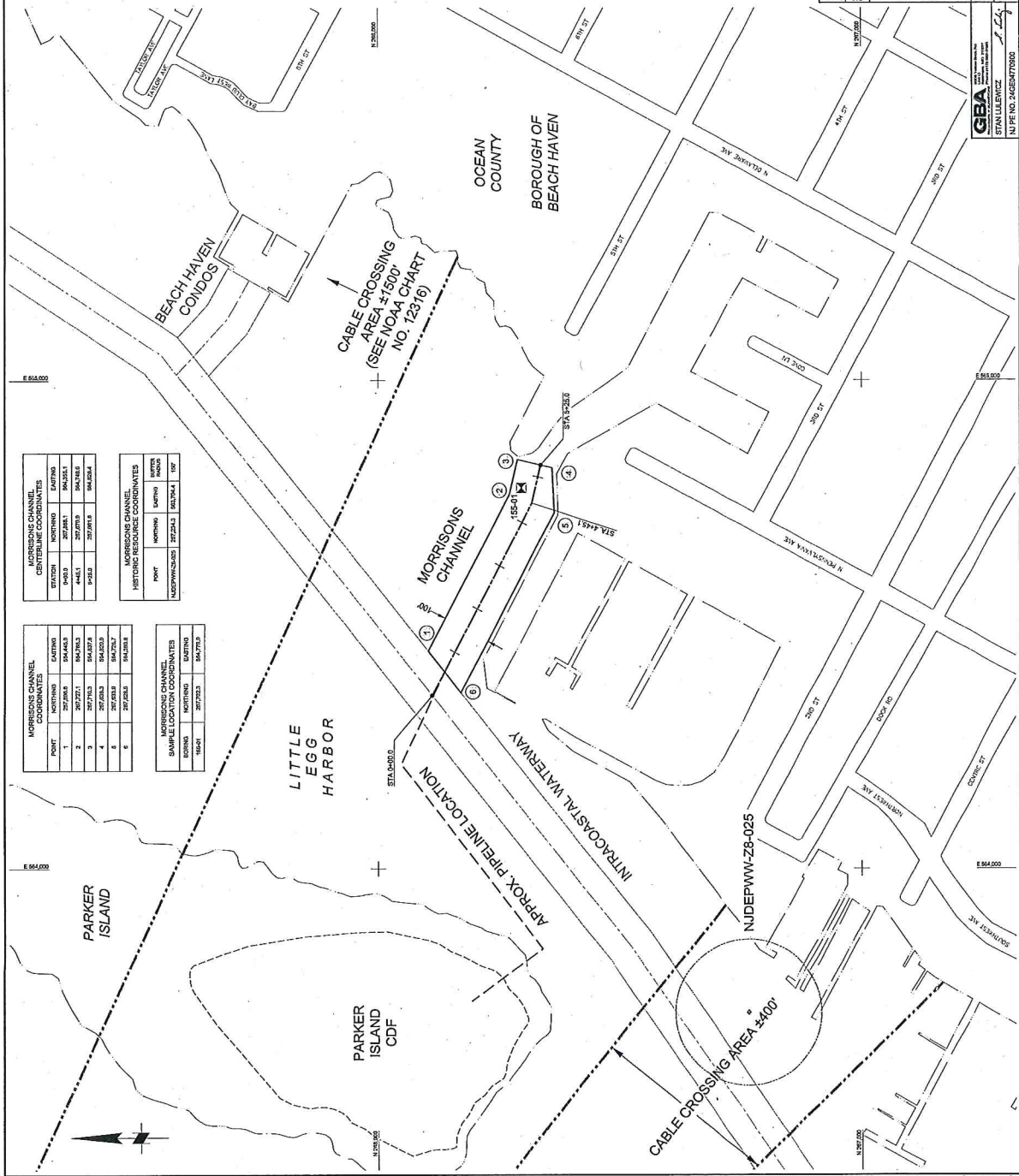
NAP-2019-01139-95



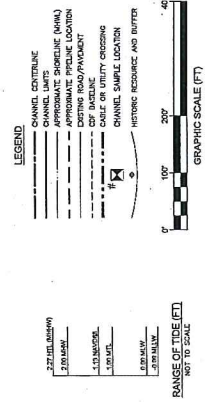
NAP-2019-01139-95



NAD-2019-01159-95



- NOTES:**
- VERTICAL DATUM IS 8' REFERENCE TO MEAN LOW WATER (MLW) IS 1.3' FEET BELOW THE NORTH ATLANTIC VERTICAL DATUM 1988 (NAVD83). INFORMATION OBTAINED FROM NATIONAL OCEANIC & ATMOSPHERIC ADMINISTRATION (NOAA) CHART NO. 12316.
 - COORDINATES ARE DERIVED IN FEET AND INCHES TO THE NEAREST WHOLE INCH FROM THE DATUM.
 - EXISTING SURVEY CHANNEL & DOCK LOCATIONS ARE BASED ON AERIAL PHOTOGRAPHY DATED JULY 2018.
 - AERIAL PHOTOGRAPHY IS FROM GOOGLE MAPS DATED JULY 2018.



STATE OF NEW JERSEY
NUDOT OFFICE OF MARITIME RESOURCES

TITLE: MORRISONS CHANNEL ARRANGEMENT & GEOMETRY PLAN

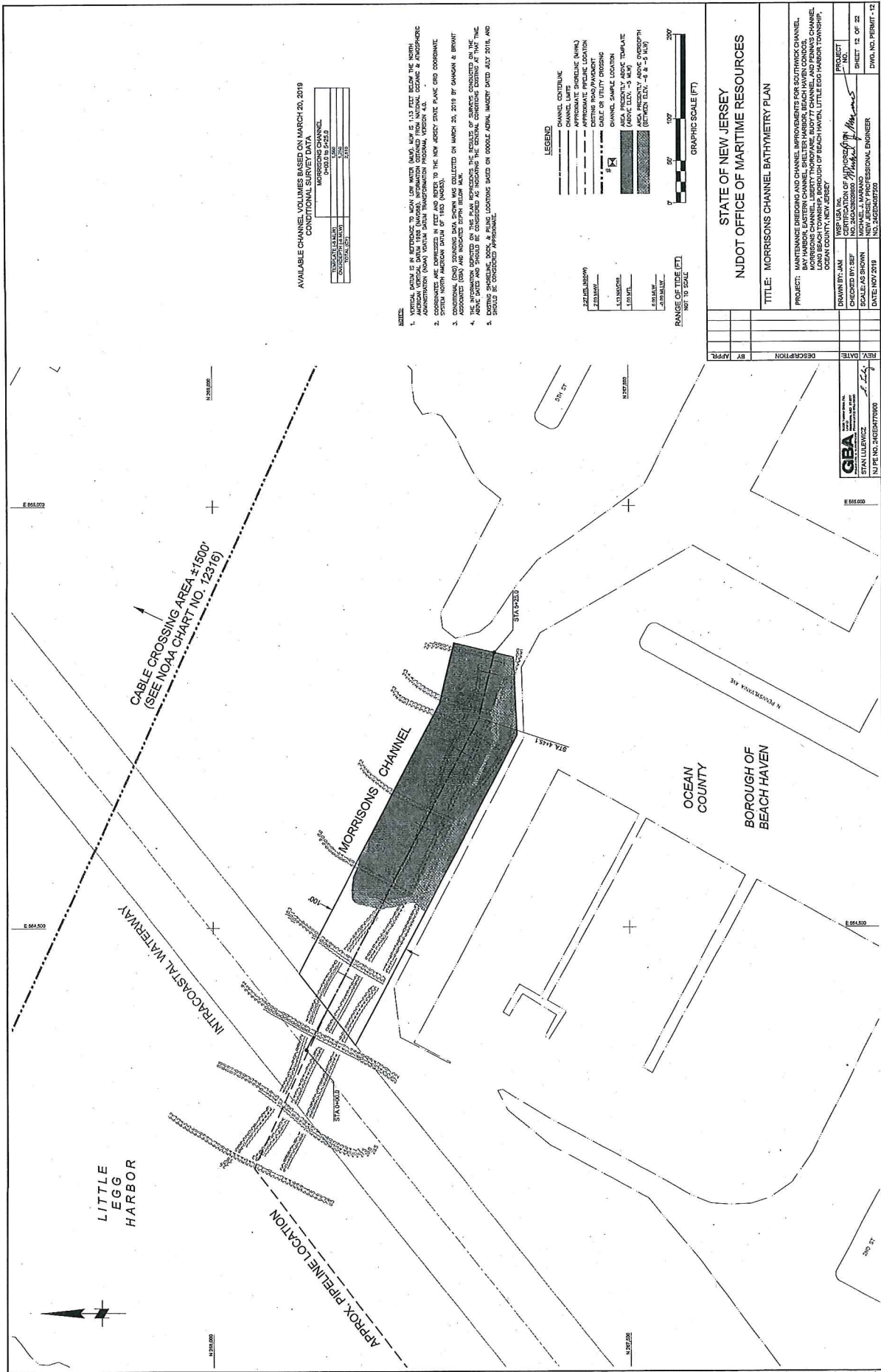
PROJECT: MAINTENANCE DREDGING AND CHANNEL IMPROVEMENTS FOR SOUTHWICK CHANNEL, MORRISONS CHANNEL, LIBERTY THROUGH, BODY 77 CHANNEL, AND PINNAC CHANNEL, LONG BEACH TOWNSHIP, BOROUGH OF BEACH HAVEN, LITTLE EGG HARBOR TOWNSHIP, OCEAN COUNTY, NEW JERSEY

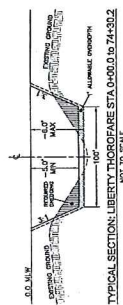
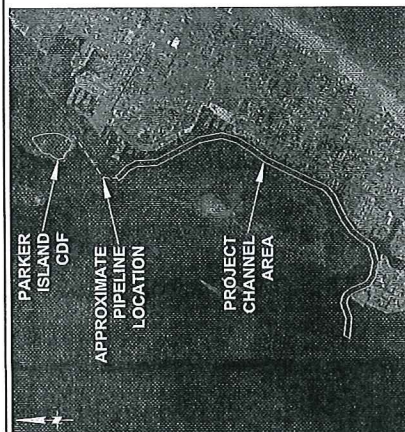
DRAWN BY: JAM
CHECKED BY: JEP
SCALE: AS SHOWN
DATE: NOV 2018

PROJECT NO.: 144
SHEET NO.: 11 OF 22
DRAWN BY: JAM
CHECKED BY: JEP
SCALE: AS SHOWN
DATE: NOV 2018

NEW JERSEY PROFESSIONAL ENGINEER
NO. 2453677000

N40-2019-01159-95

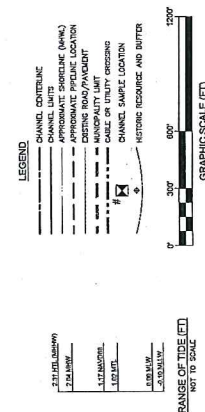




NOTES:

1. VERT
AMER
ADMIN
2. COOP
SYSTE
3. DIST
CONC
4. ADRA

1. VERTICAL DATUM IS IN REFERENCE TO MEAN LOW WATER (MLW). MLW IS 1.17 FEET BELOW THE NORTH AMERICAN VERTICAL DATUM 1988 (NAVD83). INFORMATION OBTAINED FROM NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION (NOAA) DATUM TRANSFORMATION PROGRAM, VERSION 4.0.
2. COORDINATES ARE EXPRESSED IN FEET AND REFER TO THE NEW JERSEY STATE PLANE GRID COORDINATE SYSTEM NORTH AMERICAN DATUM OF 1983 (NAD83).
3. DITCHING SHOULDERLINE (HWA) & DOCK LOCATIONS ARE BASED ON AERIAL IMAGERY AND SHOULD BE CONSIDERED APPROXIMATE.
4. AERIAL IMAGERY IS FROM GOOGLE MAPS DATED JULY 2016.



DATE	DRAWN BY: JMB	CERTIFICATION OF: <i>Michael J. Marano</i>	PROJECT NO.	13
DATE NOV 2019	SOULAS & HOVNS	MICHAEL J. MARANO	NEW JERSEY PROFESSIONAL ENGINEER	SHEET 13 OF 22
DESCRIPTION	<p>TITLE: LIBERTY THORPARE CHANNEL ARRANGEMENT & GEOMETRY PLAN</p> <p>PROJECT: MAINTENANCE DESIGNING AND CHANNEL IMPROVEMENTS FOR SOUTHWICK CHANNEL, BAY HARBOR, EASTERN CHANNEL, BIGGEST HARBOR, WESTERN CHANNEL, AND SPANNA'S CHANNEL, LONG BEACH MARSH, LIBERTY TOWNSHIP, BEACH HAVEN, LITTLE EGG HARBOR TOWNSHIP, OCEAN COUNTY, NEW JERSEY</p>			
BY: JMB	<p>STATE OF NEW JERSEY</p> <p>NJDOT OFFICE OF MARITIME RESOURCES</p>			

DATE	NO	NAME	STREET	CITY	STATE	ZIP
<p>ATLANTIC OCEAN</p>			<p>GBA <small>GENERAL BUILDING ASSOCIATION 1515 K STREET, N.W. WASHINGTON, D.C. 20005</small></p>			
<p>STAN LULEWICZ</p>			<p>STAN LULEWICZ <small>144</small> 246 FIAAT 770000</p>			
<p>NI PR NO. 246 FIAAT 770000</p>			<p>NI PR NO. 246 FIAAT 770000</p>			

N482-2019-01139-95

LIBERTY THORCFARE CENTERLINE COORDINATES			
POINT	NORTHING	EASTING	DEPTH
1	294,000.0	601,151.1	10.0
2	294,000.0	601,151.1	10.0
3	294,000.0	601,151.1	10.0
4	294,000.0	601,151.1	10.0
5	294,000.0	601,151.1	10.0
6	294,000.0	601,151.1	10.0
7	294,000.0	601,151.1	10.0
8	294,000.0	601,151.1	10.0
9	294,000.0	601,151.1	10.0
10	294,000.0	601,151.1	10.0
11	294,000.0	601,151.1	10.0
12	294,000.0	601,151.1	10.0
13	294,000.0	601,151.1	10.0
14	294,000.0	601,151.1	10.0
15	294,000.0	601,151.1	10.0
16	294,000.0	601,151.1	10.0
17	294,000.0	601,151.1	10.0
18	294,000.0	601,151.1	10.0
19	294,000.0	601,151.1	10.0
20	294,000.0	601,151.1	10.0
21	294,000.0	601,151.1	10.0
22	294,000.0	601,151.1	10.0
23	294,000.0	601,151.1	10.0
24	294,000.0	601,151.1	10.0
25	294,000.0	601,151.1	10.0
26	294,000.0	601,151.1	10.0
27	294,000.0	601,151.1	10.0
28	294,000.0	601,151.1	10.0
29	294,000.0	601,151.1	10.0
30	294,000.0	601,151.1	10.0
31	294,000.0	601,151.1	10.0
32	294,000.0	601,151.1	10.0
33	294,000.0	601,151.1	10.0
34	294,000.0	601,151.1	10.0
35	294,000.0	601,151.1	10.0
36	294,000.0	601,151.1	10.0
37	294,000.0	601,151.1	10.0
38	294,000.0	601,151.1	10.0
39	294,000.0	601,151.1	10.0
40	294,000.0	601,151.1	10.0
41	294,000.0	601,151.1	10.0
42	294,000.0	601,151.1	10.0
43	294,000.0	601,151.1	10.0
44	294,000.0	601,151.1	10.0
45	294,000.0	601,151.1	10.0
46	294,000.0	601,151.1	10.0
47	294,000.0	601,151.1	10.0
48	294,000.0	601,151.1	10.0
49	294,000.0	601,151.1	10.0
50	294,000.0	601,151.1	10.0
51	294,000.0	601,151.1	10.0
52	294,000.0	601,151.1	10.0

LIBERTY THORCFARE CHANNEL COORDINATES			
POINT	NORTHING	EASTING	DEPTH
1	294,000.0	601,151.1	10.0
2	294,000.0	601,151.1	10.0
3	294,000.0	601,151.1	10.0
4	294,000.0	601,151.1	10.0
5	294,000.0	601,151.1	10.0
6	294,000.0	601,151.1	10.0
7	294,000.0	601,151.1	10.0
8	294,000.0	601,151.1	10.0
9	294,000.0	601,151.1	10.0
10	294,000.0	601,151.1	10.0
11	294,000.0	601,151.1	10.0
12	294,000.0	601,151.1	10.0
13	294,000.0	601,151.1	10.0
14	294,000.0	601,151.1	10.0
15	294,000.0	601,151.1	10.0
16	294,000.0	601,151.1	10.0
17	294,000.0	601,151.1	10.0
18	294,000.0	601,151.1	10.0
19	294,000.0	601,151.1	10.0
20	294,000.0	601,151.1	10.0
21	294,000.0	601,151.1	10.0
22	294,000.0	601,151.1	10.0
23	294,000.0	601,151.1	10.0
24	294,000.0	601,151.1	10.0
25	294,000.0	601,151.1	10.0
26	294,000.0	601,151.1	10.0
27	294,000.0	601,151.1	10.0
28	294,000.0	601,151.1	10.0
29	294,000.0	601,151.1	10.0
30	294,000.0	601,151.1	10.0
31	294,000.0	601,151.1	10.0
32	294,000.0	601,151.1	10.0
33	294,000.0	601,151.1	10.0
34	294,000.0	601,151.1	10.0
35	294,000.0	601,151.1	10.0
36	294,000.0	601,151.1	10.0
37	294,000.0	601,151.1	10.0
38	294,000.0	601,151.1	10.0
39	294,000.0	601,151.1	10.0
40	294,000.0	601,151.1	10.0
41	294,000.0	601,151.1	10.0
42	294,000.0	601,151.1	10.0
43	294,000.0	601,151.1	10.0
44	294,000.0	601,151.1	10.0
45	294,000.0	601,151.1	10.0
46	294,000.0	601,151.1	10.0
47	294,000.0	601,151.1	10.0
48	294,000.0	601,151.1	10.0
49	294,000.0	601,151.1	10.0
50	294,000.0	601,151.1	10.0
51	294,000.0	601,151.1	10.0
52	294,000.0	601,151.1	10.0

LIBERTY THORCFARE SAMPLE LOCATION COORDINATES			
POINT	NORTHING	EASTING	DEPTH
1	294,000.0	601,151.1	10.0
2	294,000.0	601,151.1	10.0
3	294,000.0	601,151.1	10.0
4	294,000.0	601,151.1	10.0
5	294,000.0	601,151.1	10.0
6	294,000.0	601,151.1	10.0
7	294,000.0	601,151.1	10.0
8	294,000.0	601,151.1	10.0
9	294,000.0	601,151.1	10.0
10	294,000.0	601,151.1	10.0
11	294,000.0	601,151.1	10.0
12	294,000.0	601,151.1	10.0
13	294,000.0	601,151.1	10.0
14	294,000.0	601,151.1	10.0
15	294,000.0	601,151.1	10.0
16	294,000.0	601,151.1	10.0
17	294,000.0	601,151.1	10.0
18	294,000.0	601,151.1	10.0
19	294,000.0	601,151.1	10.0
20	294,000.0	601,151.1	10.0
21	294,000.0	601,151.1	10.0
22	294,000.0	601,151.1	10.0
23	294,000.0	601,151.1	10.0
24	294,000.0	601,151.1	10.0
25	294,000.0	601,151.1	10.0
26	294,000.0	601,151.1	10.0
27	294,000.0	601,151.1	10.0
28	294,000.0	601,151.1	10.0
29	294,000.0	601,151.1	10.0
30	294,000.0	601,151.1	10.0
31	294,000.0	601,151.1	10.0
32	294,000.0	601,151.1	10.0
33	294,000.0	601,151.1	10.0
34	294,000.0	601,151.1	10.0
35	294,000.0	601,151.1	10.0
36	294,000.0	601,151.1	10.0
37	294,000.0	601,151.1	10.0
38	294,000.0	601,151.1	10.0
39	294,000.0	601,151.1	10.0
40	294,000.0	601,151.1	10.0
41	294,000.0	601,151.1	10.0
42	294,000.0	601,151.1	10.0
43	294,000.0	601,151.1	10.0
44	294,000.0	601,151.1	10.0
45	294,000.0	601,151.1	10.0
46	294,000.0	601,151.1	10.0
47	294,000.0	601,151.1	10.0
48	294,000.0	601,151.1	10.0
49	294,000.0	601,151.1	10.0
50	294,000.0	601,151.1	10.0
51	294,000.0	601,151.1	10.0
52	294,000.0	601,151.1	10.0

LIBERTY THORCFARE HISTORIC RESOURCE COORDINATES			
POINT	NORTHING	EASTING	DEPTH
1	294,000.0	601,151.1	10.0
2	294,000.0	601,151.1	10.0
3	294,000.0	601,151.1	10.0
4	294,000.0	601,151.1	10.0
5	294,000.0	601,151.1	10.0
6	294,000.0	601,151.1	10.0
7	294,000.0	601,151.1	10.0
8	294,000.0	601,151.1	10.0
9	294,000.0	601,151.1	10.0
10	294,000.0	601,151.1	10.0
11	294,000.0	601,151.1	10.0
12	294,000.0	601,151.1	10.0
13	294,000.0	601,151.1	10.0
14	294,000.0	601,151.1	10.0
15	294,000.0	601,151.1	10.0
16	294,000.0	601,151.1	10.0
17	294,000.0	601,151.1	10.0
18	294,000.0	601,151.1	10.0
19	294,000.0	601,151.1	10.0
20	294,000.0	601,151.1	10.0
21	294,000.0	601,151.1	10.0
22	294,000.0	601,151.1	10.0
23	294,000.0	601,151.1	10.0
24	294,000.0	601,151.1	10.0
25	294,000.0	601,151.1	10.0
26	294,000.0	601,151.1	10.0
27	294,000.0	601,151.1	10.0
28	294,000.0	601,151.1	10.0
29	294,000.0	601,151.1	10.0
30	294,000.0	601,151.1	10.0
31	294,000.0	601,151.1	10.0
32	294,000.0	601,151.1	10.0
33	294,000.0	601,151.1	10.0
34	294,000.0	601,151.1	10.0
35	294,000.0	601,151.1	10.0
36	294,000.0	601,151.1	10.0
37	294,000.0	601,151.1	10.0
38	294,000.0	601,151.1	10.0
39	294,000.0	601,151.1	10.0
40	294,000.0	601,151.1	10.0
41	294,000.0	601,151.1	10.0
42	294,000.0	601,151.1	10.0
43	294,000.0	601,151.1	10.0
44	294,000.0	601,151.1	10.0
45	294,000.0	601,151.1	10.0
46	294,000.0	601,151.1	10.0
47	294,000.0	601,151.1	10.0
48	294,000.0	601,151.1	10.0
49	294,000.0	601,151.1	10.0
50	294,000.0	601,151.1	10.0
51	294,000.0	601,151.1	10.0
52	294,000.0	601,151.1	10.0

NOTES:
1. COORDINATES ARE GIVEN IN UTM ZONE 18Q UTM TO THE NEW JERSEY STATE PLANE GRID COORDINATE SYSTEM WITH AN EPOCH DATE OF 1985 (NAD83).

BY	APR
DESCRIPTION	
STATE OF NEW JERSEY NJDOT OFFICE OF MARITIME RESOURCES	
TITLE: LIBERTY THORCFARE CHANNEL GEOMETRY & SAMPLING COORDINATE TABLES	
PROJECT: MAINTENANCE DREDGING AND CHANNEL IMPROVEMENTS FOR SOUTHWICK CHANNEL, LIBERTY THORCFARE CHANNEL, LIBERTY THORCFARE, BAYVIEW CHANNEL, AND PENNA'S CHANNEL, LONG BEACH TOWNSHIP, PORT OF BEACH HAVEN, LITTLE EGG HARBOR TOWNSHIP, OCEAN COUNTY, NEW JERSEY	
DRAWN BY: JAM	CHECKED BY: SEF
NO. 2465487000	NO. 2465487000
DATE: NOV 2019	DATE: NOV 2019
PROJECT NO.	SHEET 14 OF 22
NO. 2465487000	DWG. NO. EMBIT-14

GBA
Geotechnical & Building Analysis
INCORPORATED
1000 ROUTE 100
SUITE 100
FREEHOLD, NJ 07728
TEL: 732-465-7700
FAX: 732-465-7701
WWW.GBA-INC.COM

STATE OF NEW JERSEY
NJDOT OFFICE OF MARITIME RESOURCES
LIBERTY THORCFARE CHANNEL GEOMETRY &
SAMPLING COORDINATE TABLES
NO. 2465487000

[illegible]

\\JDOT-248\Beach Haven (150-159)\Plans\Farm\156-LibertyInshore-Farm\ldag

STATE OF NEW JERSEY
NJDOT OFFICE OF MARITIME RESOURCES

TITLE: LIBERTY THORFARE CHANNEL BATHYMETRY PLAN

PROJECT: MAINTENANCE DREDGING AND CHANNEL IMPROVEMENTS FOR SOUTHWICK CHANNEL, BAY HARBOR, EASTERN CHANNEL, SHUTTER-HARBOR, BEACH HARBOR, CONDOZ, LONG BEACH TOWNSHIP, BOROUGH OF BEACH HAVEN, LITTLE EGG HARBOR TOWNSHIP, OCEAN COUNTY, NEW JERSEY

DRAWN BY: JAM
CHECKED BY: SEF
SCALE AS SHOWN
DATE: NOV 2019

PROJECT NO.: 2406040000
SHEET 18 OF 22
DWG. NO. PERMIT-18

LIBERTY THORFARE
CHANNEL CENTERLINE
APPROXIMATE SHORELINE (MMLW)
APPROXIMATE PRIVATE LOCATION
CHANNEL SAMPLE LOCATION
HISTORIC RESOURCE AND BUFFER
AREA PREVIOUSLY ABOVE OVERTOPPED
AREA PREVIOUSLY ABOVE OVERTOPPED (BETWEEN ELEV. -4 & -5 MLLW)

GRAPHIC SCALE (FT)
0 100 200 400

RANGE OF TIDE (FT)
NOT TO SCALE

LIBERTY THORFARE
STATIONING
STATION 20+00.0
STATION 20+100.0
STATION 20+200.0
STATION 20+300.0
STATION 20+400.0
STATION 20+500.0
STATION 20+600.0
STATION 20+700.0
STATION 20+750.0

MORDECAI ISLAND
LITTLE EGG HARBOR
OCEAN COUNTY
BOROUGH OF BEACH HAVEN

MATCHLINE - SEE SHEET 17
MATCHLINE - SEE SHEET 15

10' 0"

10' 0"

MATCHLINE - SEE SHEET 16

GBA

STAN LUEWICZ

PIE NO. 24GB477000

STATE OF NEW JERSEY
NUDOT OFFICE OF MARITIME RESOURCES

TITLE: BUOY 77 CHANNEL ARRANGEMENT & GEOMETRY PLAN

PROJECT: MAINTENANCE DESIGN AND CHANNEL IMPROVEMENTS FOR SOUTHWEST CHANNEL, BAY HARBOR, EASTERN CHANNEL, SHELTER HARBOR, BEACH HARBOR, CORDELL HARBOR, LITTLE EGG HARBOR, PENNA'S CHANNEL, LONG BEACH TOWNSHIP, BOROUGHS OF BEACH HAVEN, LITTLE EGG HARBOR TOWNSHIP, OCEAN COUNTY, NEW JERSEY

LEGEND

- CHANNEL CENTERLINE
- CHANNEL LIMIT
- APPROXIMATE SHORELINE (MRL)
- APPROXIMATE PIPELINE LOCATION
- APPROXIMATE TOWNSHIP BOUNDARY
- MUNICIPALITY LIMIT
- RAIL OR UTILITY CROSSING
- CHANNEL SAMPLE LOCATION
- HISTORIC RESOURCE AND BUFFER

NOTES:

- VERTICAL DATUM IS IN REFERENCE TO MEAN LOW WATER (MLW). JULY 15, 1987, 12.12 FEET BELOW THE NORTH DATUM.
- ADJUSTMENT: ADJUSTED TO THE NEW JERSEY STATE PLANE COORDINATE SYSTEM.
- COORDINATES ARE EXPRESSED IN FEET AND INCHES TO THE NEW JERSEY STATE PLANE COORDINATE SYSTEM.
- EXISTING CHANNEL (DASHED) & DOCK LOCATIONS ARE BASED ON AERIAL MAPS DATED JAN 2018.
- AERIAL MAPS ARE FROM GOOGLE MAPS DATED JAN 2018.

PROJECT LOCATION MAP
 SCALE: 1" = 1000'

TYPICAL SECTION: BUOY 77 CHANNEL STA 0+00.0 TO 50+00.0
 NOT TO SCALE

GRAPHIC SCALE (FT)
 0 200' 400' 600'

RANGE OF TIME (FT)
 NOT TO SCALE

PROJECT LOCATION MAP
 SCALE: 1" = 1000'

LEGEND

- CHANNEL CENTERLINE
- CHANNEL LIMIT
- APPROXIMATE SHORELINE (MRL)
- APPROXIMATE PIPELINE LOCATION
- APPROXIMATE TOWNSHIP BOUNDARY
- MUNICIPALITY LIMIT
- RAIL OR UTILITY CROSSING
- CHANNEL SAMPLE LOCATION
- HISTORIC RESOURCE AND BUFFER

NOTES:

- VERTICAL DATUM IS IN REFERENCE TO MEAN LOW WATER (MLW). JULY 15, 1987, 12.12 FEET BELOW THE NORTH DATUM.
- ADJUSTMENT: ADJUSTED TO THE NEW JERSEY STATE PLANE COORDINATE SYSTEM.
- COORDINATES ARE EXPRESSED IN FEET AND INCHES TO THE NEW JERSEY STATE PLANE COORDINATE SYSTEM.
- EXISTING CHANNEL (DASHED) & DOCK LOCATIONS ARE BASED ON AERIAL MAPS DATED JAN 2018.
- AERIAL MAPS ARE FROM GOOGLE MAPS DATED JAN 2018.

PROJECT LOCATION MAP
 SCALE: 1" = 1000'

TYPICAL SECTION: BUOY 77 CHANNEL STA 0+00.0 TO 50+00.0
 NOT TO SCALE

GRAPHIC SCALE (FT)
 0 200' 400' 600'

RANGE OF TIME (FT)
 NOT TO SCALE

PROJECT LOCATION MAP
 SCALE: 1" = 1000'

LEGEND

- CHANNEL CENTERLINE
- CHANNEL LIMIT
- APPROXIMATE SHORELINE (MRL)
- APPROXIMATE PIPELINE LOCATION
- APPROXIMATE TOWNSHIP BOUNDARY
- MUNICIPALITY LIMIT
- RAIL OR UTILITY CROSSING
- CHANNEL SAMPLE LOCATION
- HISTORIC RESOURCE AND BUFFER

NOTES:

- VERTICAL DATUM IS IN REFERENCE TO MEAN LOW WATER (MLW). JULY 15, 1987, 12.12 FEET BELOW THE NORTH DATUM.
- ADJUSTMENT: ADJUSTED TO THE NEW JERSEY STATE PLANE COORDINATE SYSTEM.
- COORDINATES ARE EXPRESSED IN FEET AND INCHES TO THE NEW JERSEY STATE PLANE COORDINATE SYSTEM.
- EXISTING CHANNEL (DASHED) & DOCK LOCATIONS ARE BASED ON AERIAL MAPS DATED JAN 2018.
- AERIAL MAPS ARE FROM GOOGLE MAPS DATED JAN 2018.

PROJECT LOCATION MAP
 SCALE: 1" = 1000'

TYPICAL SECTION: BUOY 77 CHANNEL STA 0+00.0 TO 50+00.0
 NOT TO SCALE

GRAPHIC SCALE (FT)
 0 200' 400' 600'

RANGE OF TIME (FT)
 NOT TO SCALE

PROJECT LOCATION MAP
 SCALE: 1" = 1000'

LEGEND

- CHANNEL CENTERLINE
- CHANNEL LIMIT
- APPROXIMATE SHORELINE (MRL)
- APPROXIMATE PIPELINE LOCATION
- APPROXIMATE TOWNSHIP BOUNDARY
- MUNICIPALITY LIMIT
- RAIL OR UTILITY CROSSING
- CHANNEL SAMPLE LOCATION
- HISTORIC RESOURCE AND BUFFER

NOTES:

- VERTICAL DATUM IS IN REFERENCE TO MEAN LOW WATER (MLW). JULY 15, 1987, 12.12 FEET BELOW THE NORTH DATUM.
- ADJUSTMENT: ADJUSTED TO THE NEW JERSEY STATE PLANE COORDINATE SYSTEM.
- COORDINATES ARE EXPRESSED IN FEET AND INCHES TO THE NEW JERSEY STATE PLANE COORDINATE SYSTEM.
- EXISTING CHANNEL (DASHED) & DOCK LOCATIONS ARE BASED ON AERIAL MAPS DATED JAN 2018.
- AERIAL MAPS ARE FROM GOOGLE MAPS DATED JAN 2018.

PROJECT LOCATION MAP
 SCALE: 1" = 1000'

TYPICAL SECTION: BUOY 77 CHANNEL STA 0+00.0 TO 50+00.0
 NOT TO SCALE

GRAPHIC SCALE (FT)
 0 200' 400' 600'

RANGE OF TIME (FT)
 NOT TO SCALE

PROJECT LOCATION MAP
 SCALE: 1" = 1000'

LEGEND

- CHANNEL CENTERLINE
- CHANNEL LIMIT
- APPROXIMATE SHORELINE (MRL)
- APPROXIMATE PIPELINE LOCATION
- APPROXIMATE TOWNSHIP BOUNDARY
- MUNICIPALITY LIMIT
- RAIL OR UTILITY CROSSING
- CHANNEL SAMPLE LOCATION
- HISTORIC RESOURCE AND BUFFER

NOTES:

- VERTICAL DATUM IS IN REFERENCE TO MEAN LOW WATER (MLW). JULY 15, 1987, 12.12 FEET BELOW THE NORTH DATUM.
- ADJUSTMENT: ADJUSTED TO THE NEW JERSEY STATE PLANE COORDINATE SYSTEM.
- COORDINATES ARE EXPRESSED IN FEET AND INCHES TO THE NEW JERSEY STATE PLANE COORDINATE SYSTEM.
- EXISTING CHANNEL (DASHED) & DOCK LOCATIONS ARE BASED ON AERIAL MAPS DATED JAN 2018.
- AERIAL MAPS ARE FROM GOOGLE MAPS DATED JAN 2018.

PROJECT LOCATION MAP
 SCALE: 1" = 1000'

TYPICAL SECTION: BUOY 77 CHANNEL STA 0+00.0 TO 50+00.0
 NOT TO SCALE

GRAPHIC SCALE (FT)
 0 200' 400' 600'

RANGE OF TIME (FT)
 NOT TO SCALE

PROJECT LOCATION MAP
 SCALE: 1" = 1000'

LEGEND

- CHANNEL CENTERLINE
- CHANNEL LIMIT
- APPROXIMATE SHORELINE (MRL)
- APPROXIMATE PIPELINE LOCATION
- APPROXIMATE TOWNSHIP BOUNDARY
- MUNICIPALITY LIMIT
- RAIL OR UTILITY CROSSING
- CHANNEL SAMPLE LOCATION
- HISTORIC RESOURCE AND BUFFER

NOTES:

- VERTICAL DATUM IS IN REFERENCE TO MEAN LOW WATER (MLW). JULY 15, 1987, 12.12 FEET BELOW THE NORTH DATUM.
- ADJUSTMENT: ADJUSTED TO THE NEW JERSEY STATE PLANE COORDINATE SYSTEM.
- COORDINATES ARE EXPRESSED IN FEET AND INCHES TO THE NEW JERSEY STATE PLANE COORDINATE SYSTEM.
- EXISTING CHANNEL (DASHED) & DOCK LOCATIONS ARE BASED ON AERIAL MAPS DATED JAN 2018.
- AERIAL MAPS ARE FROM GOOGLE MAPS DATED JAN 2018.

PROJECT LOCATION MAP
 SCALE: 1" = 1000'

TYPICAL SECTION: BUOY 77 CHANNEL STA 0+00.0 TO 50+00.0
 NOT TO SCALE

GRAPHIC SCALE (FT)
 0 200' 400' 600'

RANGE OF TIME (FT)
 NOT TO SCALE

PROJECT LOCATION MAP
 SCALE: 1" = 1000'

LEGEND

- CHANNEL CENTERLINE
- CHANNEL LIMIT
- APPROXIMATE SHORELINE (MRL)
- APPROXIMATE PIPELINE LOCATION
- APPROXIMATE TOWNSHIP BOUNDARY
- MUNICIPALITY LIMIT
- RAIL OR UTILITY CROSSING
- CHANNEL SAMPLE LOCATION
- HISTORIC RESOURCE AND BUFFER

NOTES:

- VERTICAL DATUM IS IN REFERENCE TO MEAN LOW WATER (MLW). JULY 15, 1987, 12.12 FEET BELOW THE NORTH DATUM.
- ADJUSTMENT: ADJUSTED TO THE NEW JERSEY STATE PLANE COORDINATE SYSTEM.
- COORDINATES ARE EXPRESSED IN FEET AND INCHES TO THE NEW JERSEY STATE PLANE COORDINATE SYSTEM.
- EXISTING CHANNEL (DASHED) & DOCK LOCATIONS ARE BASED ON AERIAL MAPS DATED JAN 2018.
- AERIAL MAPS ARE FROM GOOGLE MAPS DATED JAN 2018.

PROJECT LOCATION MAP
 SCALE: 1" = 1000'

TYPICAL SECTION: BUOY 77 CHANNEL STA 0+00.0 TO 50+00.0
 NOT TO SCALE

GRAPHIC SCALE (FT)
 0 200' 400' 600'

RANGE OF TIME (FT)
 NOT TO SCALE

PROJECT LOCATION MAP
 SCALE: 1" = 1000'

LEGEND

- CHANNEL CENTERLINE
- CHANNEL LIMIT
- APPROXIMATE SHORELINE (MRL)
- APPROXIMATE PIPELINE LOCATION
- APPROXIMATE TOWNSHIP BOUNDARY
- MUNICIPALITY LIMIT
- RAIL OR UTILITY CROSSING
- CHANNEL SAMPLE LOCATION
- HISTORIC RESOURCE AND BUFFER

NOTES:

- VERTICAL DATUM IS IN REFERENCE TO MEAN LOW WATER (MLW). JULY 15, 1987, 12.12 FEET BELOW THE NORTH DATUM.
- ADJUSTMENT: ADJUSTED TO THE NEW JERSEY STATE PLANE COORDINATE SYSTEM.
- COORDINATES ARE EXPRESSED IN FEET AND INCHES TO THE NEW JERSEY STATE PLANE COORDINATE SYSTEM.
- EXISTING CHANNEL (DASHED) & DOCK LOCATIONS ARE BASED ON AERIAL MAPS DATED JAN 2018.</

STATE OF NEW JERSEY
NJDOT OFFICE OF MARITIME RESOURCES

TITLE: BUOY 77 CHANNEL BATHYMETRY PLAN

PROJECT: MAINTENANCE DREDGING AND CHANNEL IMPROVEMENTS FOR SOUTHWICK CHANNEL, BAY HARBOR, EASTERN CHANNEL, SHELTER HARBOR, BEACH HAVEN CONDOS, MORRISONS CHANNEL, LIBERTY THOROFARE, BLOT 77 CHANNEL, AND PENNA'S CHANNEL. LONG BEACH TOWNSHIP, BOROUGH OF BEACH HAVEN, LITTLE EGG HARBOR TOWNSHIP, OCEAN COUNTY, NEW JERSEY

DRAWN BY: JAM CHECKED BY: SEF SCALE: AS SHOWN DATE: NOV 2019	WSP USA INC. CERTIFICATION OF AUTHORIZATION NO. 24CDA03028000 	PROJECT NO. SHEET 10 OF 22 DWG. NO. PERMIT - 10 NO. 24CDE04087500
---	--	--

GBA
8008 Indian School Rd.
Suite D
Lawrence, MO 64507
Phone 913 842-0055
FAX 913 842-0056

STAN LULEWICZ

PE NO. 24GE04770000

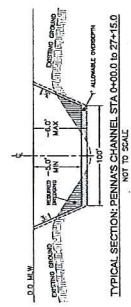
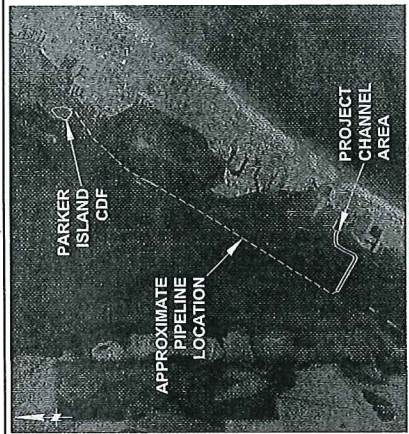
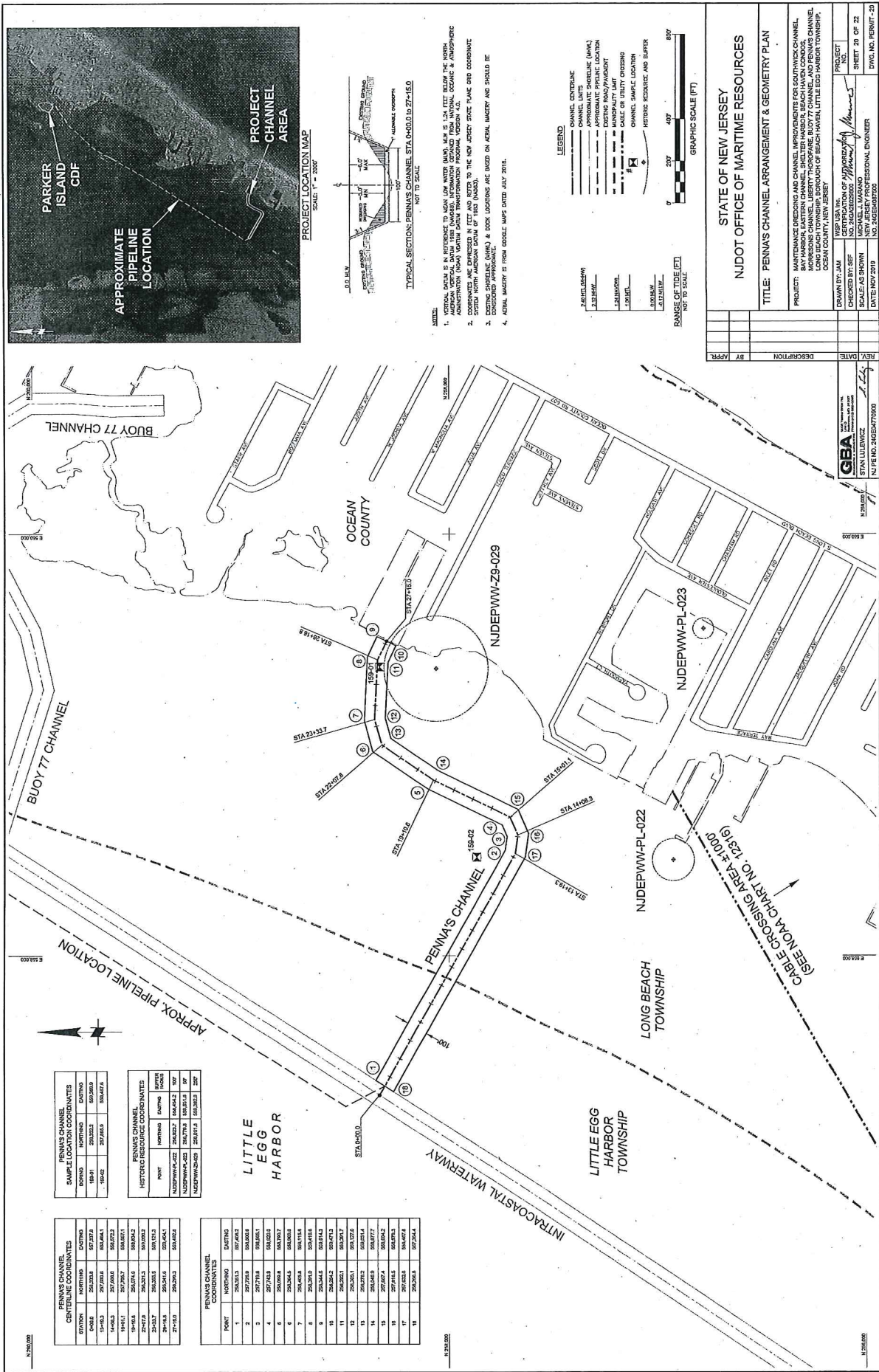
ROSDENIA AVE

Il 100.000

£ 559,000

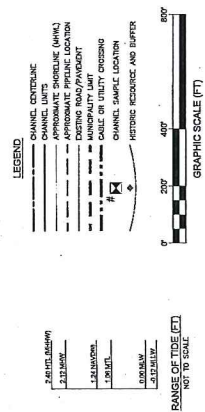
\\NJ001-248\

N48-2019-01139-95



NOTES:

- 1. ALL ELEVATIONS ARE IN REFERENCE TO MCM (LOW WATER) UNLESS NOTED OTHERWISE. MCM IS 1.24 FEET BELOW THE NORTH AMERICAN VERTICAL DATUM 1988 (NAVD83). INFORMATION OBTAINED FROM NATIONAL OCEANIC & ATMOSPHERIC ADMINISTRATION (NOAA) CHART NO. 11350, SHEET 1, AND SHEET 2, IS USED TO DETERMINE THE MCM ELEVATION.
- 2. THE PROJECT CHANNEL IS LOCATED IN THE CENTER OF THE CHANNEL AND IS TO BE MAINTAINED AS SUCH.
- 3. EXISTING CHANNEL (UNB) & DOCK LOCATIONS ARE BASED ON AERIAL IMAGERY AND SHOULD BE CORROBORATED WITH OTHER SOURCES.
- 4. AERIAL IMAGERY IS FROM GOOGLE MAPS DATED JULY 2014.



STATE OF NEW JERSEY NUDOT OFFICE OF MARITIME RESOURCES	
TITLE: PENNA'S CHANNEL ARRANGEMENT & GEOMETRY PLAN	
PROJECT: MAINTENANCE DREDGING AND CHANNEL IMPROVEMENTS FOR SOUTHWICK CHANNEL, BAY HARBOR, SOUTHERN CHANNEL, SHELTER HARBOR, BEACH HARBOR, CHOCOLATE CHANNEL, LONG BEACH TOWNSHIP, BOROUGHS OF BEACH HARBOR, LITTLE EGG HARBOR TOWNSHIP, OCEAN COUNTY, NEW JERSEY	
DRAWN BY: JAM	PROJECT NO.
CHECKED BY: JEF	NO. 2460000000
SCALE: AS SHOWN	NEW JERSEY PROFESSIONAL ENGINEER
DATE: NOV 2019	NO. 2460000000
DWS: NO. PERMIT-20	

PENNA'S CHANNEL SAMPLE LOCATION COORDINATES			
POINT	NORTHING	EASTING	UTM
1	194500	257400	19QAG00
2	194500	257400	19QAG00

PENNA'S CHANNEL HISTORIC RESOURCE COORDINATES			
POINT	NORTHING	EASTING	UTM
1	194500	257400	19QAG00
2	194500	257400	19QAG00

PENNA'S CHANNEL CENTERLINE COORDINATES			
POINT	NORTHING	EASTING	UTM
1	194500	257400	19QAG00
2	194500	257400	19QAG00

PENNA'S CHANNEL COORDINATES			
POINT	NORTHING	EASTING	UTM
1	194500	257400	19QAG00
2	194500	257400	19QAG00

N 2500 000

N 2500 000

[illegible]

TEMPLATE (48 MLW)	1.629
ONE HOUR PTH (48 MLW)	1.600
TOTAL (CY)	3.400

1. VERTICAL COORDINATE IS IN REFERENCE TO NORTH LOW WATER (NLW). NLW IS 2.34 FEET BELOW THE NORTH AMERICAN VERTICAL DATUM 1988 (NAVD83). INFORMATION OBTAINED FROM NAVAL OCEANIC & ATMOSPHERIC ADMINISTRATION (NOAA) DATUM DATA TRANSFORMATION PROGRAM, VERSION 4.0.
2. COORDINATES ARE EXPRESSED IN FEET AND ARE REFERRED TO THE NEW JERSEY STATE PLANE GRID COORDINATE SYSTEM NORTH AMERICAN DATUM OF 1983 (NAD83).
3. CONDITIONAL (CON) SOUNDING DATA SHOWN WAS COLLECTED ON MARCH 14, 2018 BY CAMARON & BRIANT ASSOCIATES (C&B) AND INDICATES DEPTH BELOW NLW.
4. THE INFORMATION EXPRESSED ON THIS PLAN REPRESENTS THE RESULTS OF SURVEY CONDUCTED ON THE ABOVE DATA AND SHOULD BE CONSIDERED AS INDICATING THE GENERAL CONDITIONS EXISTING AT THAT TIME. EXISTING SHORELINE, ROCKS & PIERED CONDITIONS BASED ON GOOGLE AIRCRAFT IMAGERY DATING JULY 2015 AND 2016.

LEGEND

-----	CHANNEL CENTERLINE
-----	CHANNEL LIMITS
-----	APPROXIMATE SHORELINE (MHW)
-----	APPROXIMATE PIPELINE LOCATION
-----	DISTING ROAD/PAVEMENT
-----	MUNICIPALITY LIMIT
#	SAMPLE LOCATION
⊗	HISTORIC RESOURCE AND BUFFER
-----	AREA PREVIOUSLY ABOVE TEMPLATE (ABOVE ELEV. -5 MHW)
-----	AREA PREVIOUSLY ABOVE OVERFLOW (BELOW ELEV. -5.8 -3.5 MHW)

2.43 HPL (0.05000)	2.72 HPL	1.24 HPL (0.05000)	1.00 HPL	0.00 HPL
--------------------	----------	--------------------	----------	----------

RANGE OF TIDE (FT)
NOT TO SCALE



0' 100' 200' 400'

GRAPHIC SCALE (FT)

STATE OF NEW JERSEY
NJDOT OFFICE OF MARITIME RESOURCES

TITLE: PENNA'S CHANNEL BATHYMETRY PLAN

PROJECT: MAINTENANCE DREDGING AND CHANNEL IMPROVEMENTS FOR SOUTHWICK CHANNEL, BAY HARBOR, EASTERN CHANNEL, SHELTER HARBOR, BEACH HAVEN CONDOS, MORRISONS CHANNEL, LIBERTY THORCFARF, BUOY 77 CHANNEL, AND PENNA'S CHANNEL LONG BEACH TOWNSHIP, BOROUGH OF BEACH HAVEN, LITTLE EGGS HARBOR TOWNSHIP, OCEAN COUNTY, NEW JERSEY

DRAWN BY: JAM CHECKED BY: SEF SCALE: AS SHOWN DATE: NOV 2019	WSP USA INC. NO. 24G020020000 MICHAEL J. MARANO NEW JERSEY PROFESSIONAL ENGINEER NO. 24G050007500	PROJECT NO. SHEET 21 OF 22 DWG. NO. PERMIT-21
---	---	---

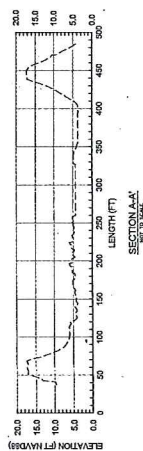
NJDEPWW-PL-022

GBA
8004 Vermont Street NW
Level 3
Baltimore, MD 21228
Phone (410) 492-4000
Fax (410) 492-4001

STAN LULEWICZ

PIPE NO. 24GF0477000

DATE: NOV 2019
NEW JERSEY PROFESSIONAL ENGINEER
NO. 24JCEM067500
DWG. NO. PERMIT - 21

[illegible]

NUMBER OF PLANS OFF STAGE 2 STROKE TABLE				TOTAL PWS VOLUME (MG)	
ELEV. (FT)	AREA (SF)	AREA (AC)	0	0	0
3	432	442	442	0	0
4	4743	485	485	0	0
5	13330	3358	3358	3358	0
6	16654	4086	4086	4086	0
7	18378	6498	6498	13795	0
8	19232	5551	5551	11860	0
9	19823	5050	5050	25400	0
10	18889	5251	5251	31480	0
11	17491	5371	5371	38210	0
12	16058	5640	5640	44725	0
13	15045	6180	6180	51385	0
14	13341	6780	6780	58125	0
15	11670	8461	8461	64900	0
16	10505	8770	8770	71400	0

Notes:

1. LOCATION DATA IS IN ACCORDANCE TO THE NORTH AMERICAN VERTICAL DATUM (NAVD83). INFORMATION OBTAINED FROM NAVAL, OCEANIC & INTERPLANETARY ADMINISTRATION (NOAA) NAUTIC CHART TRANSFORMATION PROGRAM, VERSION 4.0.
2. COORDINATES ARE EXPRESSED IN FEET AND REFER TO THE NEW JERSEY STATE PLANE GRID COORDINATE SYSTEM NORTH AMERICAN DATUM OF 1983 (NAD83).
3. TYPICAL SECTION AND STRAT STRANGE VOLUMES SHOWN ARE BASED ON DRONE PHOTOGRAMMETRIC DATA COLLECTED ON SEPTEMBER 4, 2016.
4. AERIAL PHOTOGRAPHS ARE FROM DRONICRAFT PHOTOGRAPHY, DATED SEPTEMBER 4, 2016 AND GOOGLE MAPS.



-1.72 MSW

GRAPHIC SCALE (FT)

120' 240'

STATE OF NEW JERSEY
NJDOT OFFICE OF MARITIME RESOURCES

TITLE: PARKER ISLAND CONFINED DISPOSAL FACILITY

PROJECT: MAINTENANCE DREDGING AND CHANNEL IMPROVEMENTS FOR SOUTHWICK CHANNEL, BAY HARBOR, EASTERN CHANNEL, SHELTER HARBOR, BEACH HAVEN CONDOS, MORRISONS CHANNEL, LIBERTY THORPSCARE, BLOY 77 CHANNEL, AND PENNA'S CHANNEL, LONG BEACH TOWNSHIP, BOROUGH OF BEACH HAVEN, LITTLE EGGS HARBOR TOWNSHIP, OCEAN COUNTY, NEW JERSEY

OCEAN COUNTY, NEW JERSEY		GRADIENT
DATE	WATER YEAR	

DRAWN BY: JAM	CERTIFICATION OF AUTHORIZATION <i>M.</i>	PROJECT NO.
WSP USA 1716		

CHECKED BY: SEF	NO. 240A202000	MICHAEL J. MARANO	SHEET 22
-----------------	----------------	-------------------	----------

DATE AS SHOWN: 11/1/2010
NEW JERSEY PROFESSIONAL ENGINEER
P.W.C. NO. P. 0000000000

DATE NOV 2019	NO. 240E04087500
---------------	------------------
