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-2016-0297** Date

Application No. 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
P.O. Box 600
Trenton, New Jersey 08625-0600
Attn: Ms. Genevieve Clifton

WATERWAY: Lavallette Beach Channel

LOCATION: Berkley Township, Toms River Township, Seaside Heights Borough and Lavallette Borough, New Jersey.

ACTIVITY: The applicant proposes to hydraulically dredge accumulated sediment from within portions of the Lavallette Beach Channel (see Attachment 1- project plans). This project is being advertised for one Department of the Army authorization project (CENAP-OP-R-2016-0297) as a 10 Year maintenance dredging permit. The project consists of maintenance dredging within Lavallette Beach Channel (#076) located within the Boroughs of Lavallette and Seaside Heights, and Toms River and Berkeley Townships. This maintenance dredging event is limited to dredged material that is located below the proposed depths as indicated in Attachment 1.

Maintenance dredging shall consist of approximately sixty four thousand seven hundred and eighty one cubic yards (64781 yds^3) of sediment consisting of various amounts of sand and silt, from approximately twenty seven thousand and forty seven linear feet (~27,047'). The project depth in the Lavallette Beach Channel is six feet below mean low water (-6' MLW), including one foot (1') of allowable overdredge. The channel design width is 100'. Channel side slopes are 3:1. Maintenance dredging of portions of the channel was last conducted in 2013.

Material will be hydraulically dredged and transported via secure pipeline to the proposed placement location known as Dredge Hole #25 off West Point Island in Barnegat Bay, Lavallette Borough, Ocean Township, Ocean County. The dredge hole is located adjacent to the Lavallette

Beach Channel. The dredged material will be placed in accordance with the dredge hole placement plans #18 & #19 as located in Attachment 1. A more detailed restoration plan is being prepared but not available at the time of this notice. The purpose of placing the sediment in this location is to restore the dredge hole depth to match the surrounding area for SAV to re-vegetate within the dredge hole limits. The dredge sediment transport pipeline, for this dredging event, will be submerged except where necessary to avoid submerged aquatic vegetation (SAV). The pipeline shall be marked as per USCG regulations as needed.

PURPOSE: The applicant's stated purpose is to restore the existing navigation channel to authorized project depth and to provide safe navigation for both commercial and recreational vessels currently using the channels.

A preliminary review of this application indicates that the proposed work will not effect threatened and endangered species. While Atlantic Sturgeon (Acipenser oxyrinchus), Kemp's ridley sea turtle (Lepidochelys kempii), loggerhead sea turtle (Caretta caretta), green sea turtle (Chelonia mydas), leatherback sea turtle (Dermochelys coriacea) and hawksbill sea turtle (Eretmochelys imbricate) are possibly in the vicinity, due to the water depths and boating activity, these species are not likely present.

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 15 days to the District Engineer, U.S. Army Corps of Engineers, Philadelphia District, Wanamaker Building, 100 Penn Square East, Philadelphia, Pennsylvania 19107-3390.

Review of the National Register of Historic Places indicates that no registered properties or properties listed as eligible for inclusion therein are located within the permit area of the

work. The permit area has been so extensively modified and previously dredged that little likelihood exists for the proposed project to impact a historic property.

The Magnuson-Stevens Fishery Conservation and Management Act, as amended by the Sustainable Fisheries Act 1996 (Public Law 104-267), requires all Federal agencies to consult with the National Marine Fisheries Service on all actions, or proposed actions, permitted, funded, or undertaken by the agency that may adversely effect Essential Fish Habitat (EFH). A preliminary assessment of the species listed in the "Guide to Essential Fish Habitat Designations in the Northeastern United States, Volume IV: New Jersey and Delaware", dated March 1999, indicates that the project may adversely affect EFH. In order to avoid or minimize impacts to EFH species from the dredging, specifically Winter Flounder (*Pseudoplueronectes americanus*), the USACE is recommending no in-water work will be authorized between January 1st and May 31st of any given year. As the process proceeds any additional impacts will be reviewed more extensively as more information becomes available.

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.

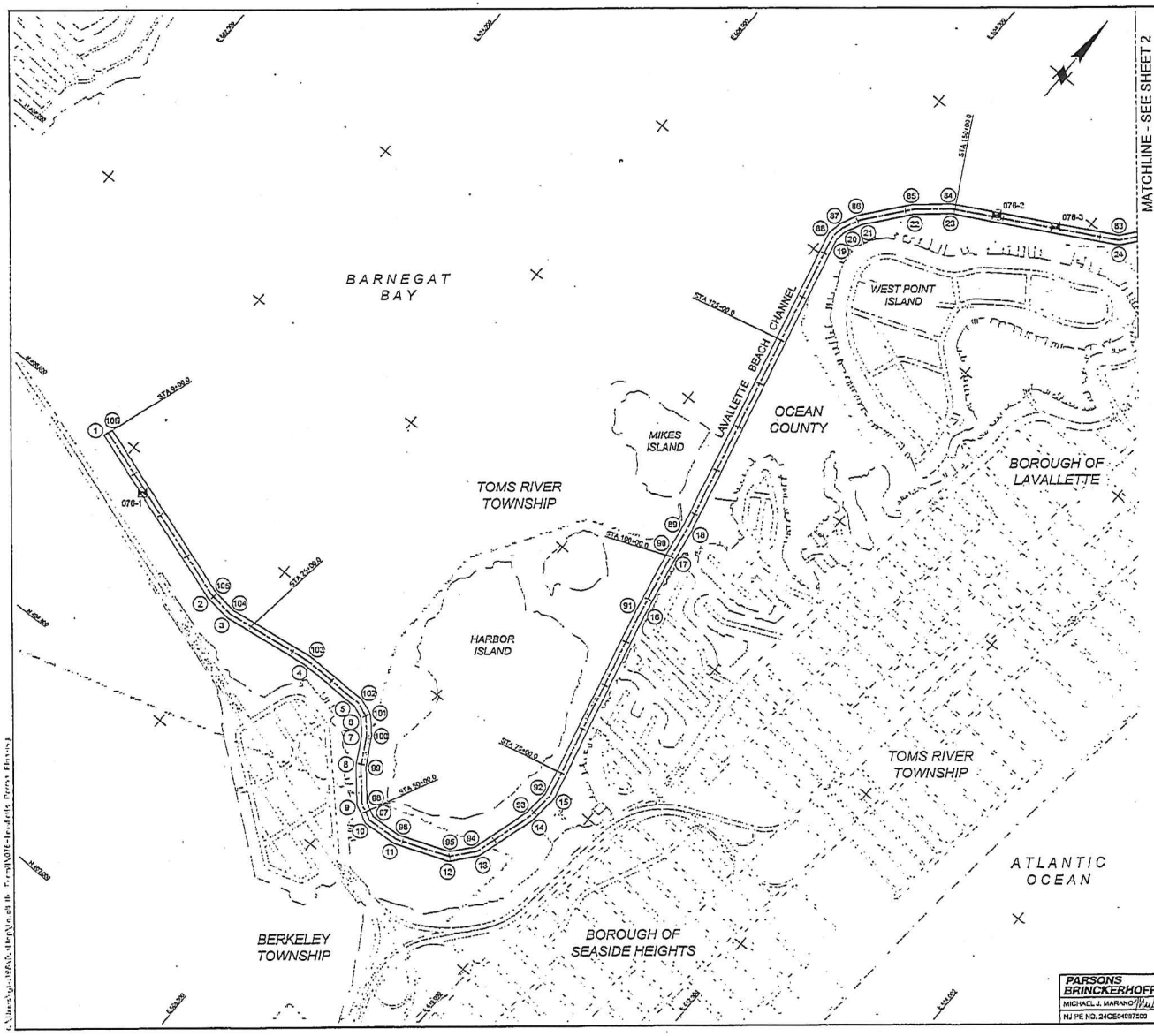
In accordance with Section 401 of the Clean Water Act, a Water Quality Certificate is necessary from the State government in which the work is located. Any comments concerning the work described above which relate to Water Quality considerations should be sent to this office with a copy to the State.

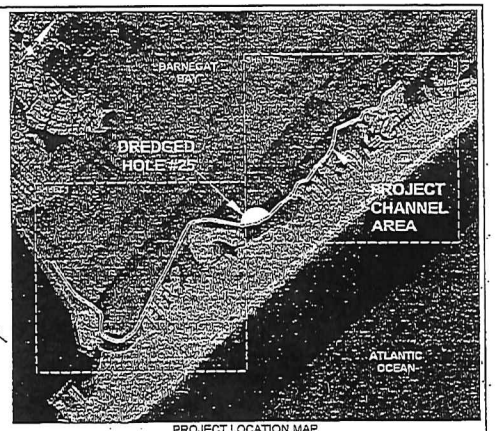
The evaluation of the impact of the work described above on the public interest will include application of the guidelines promulgated by the Administrator, U.S. Environmental Protection Agency, under authority of Section 404(b) of the Clean Water Act.

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.

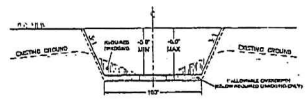
Additional information concerning this permit application may be obtained by calling Mr. Peter Romano at 215-656-6729, via email at peter.t.romano@usace.army.mil or writing this office at the above address.

Samuel L. Reynolds
Acting Chief, Regulatory Branch





PROJECT LOCATION MAP
SCALE: 1" = 3000'



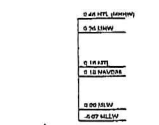
TYPICAL SECTION: LAVALLETTE BEACH CHANNEL
NOT TO SCALE

NOTES:

1. VERTICAL DATUM IS IN REFERENCE TO MEAN LOW WATER (MLW). MLW IS 0.16 FEET BELOW THE NORTH AMERICAN VERTICAL DATUM 1988 (NAVD88). INFORMATION OBTAINED FROM NATIONAL OCEANIC & ATMOSPHERIC ADMINISTRATION (NOAA) VDATUM DATUM TRANSFORMATION PROGRAM.
2. COORDINATES ARE EXPRESSED IN FEET AND REFER TO THE NEW JERSEY STATE PLANE GRID COORDINATE SYSTEM NORTH AMERICAN DATUM OF 1983 (NAD83).
3. EXISTING SHORELINE (MHWL) & DOCK LOCATIONS ARE BASED ON AERIAL IMAGERY AND SHOULD BE CONSIDERED APPROXIMATE.
4. AERIAL IMAGERY IS FROM BING MAPS, DATED SEPTEMBER 2014.

LEGEND

- CHANNEL CENTERLINE
- CHANNEL LIMIT
- APPROXIMATE SHORELINE (MHWL)
- ROAD/PAVEMENT
- MUNICIPALITY LIMIT
- CHANNEL SAMPLE LOCATION



RANGE OF TIDE (FT)
NOT TO SCALE

GRAPHIC SCALE (FT)

PARSONS BRINCKERHOFF
MICHAEL J. MARANO
NJ PE NO. 24GE04097200

REV	DATE	DESCRIPTION	BY	APPR

STATE OF NEW JERSEY
NJDOT OFFICE OF MARITIME RESOURCES

TITLE: MAINTENANCE DREDGING AND CHANNEL IMPROVEMENTS FOR LAVALLETTE BEACH CHANNEL.

CHANNEL ARRANGEMENT & GEOMETRY PLAN

PROJECT: 076 - LAVALLETTE BEACH CHANNEL
BOROUGH OF LAVALLETTE / BOROUGH OF SEASIDE HEIGHTS / TOMS RIVER TOWNSHIP / BERKELEY TOWNSHIP, OCEAN COUNTY, NEW JERSEY

DRAWN BY: SEF
CHECKED BY: MRS
SCALE: AS SHOWN
DATE: APRIL 2016

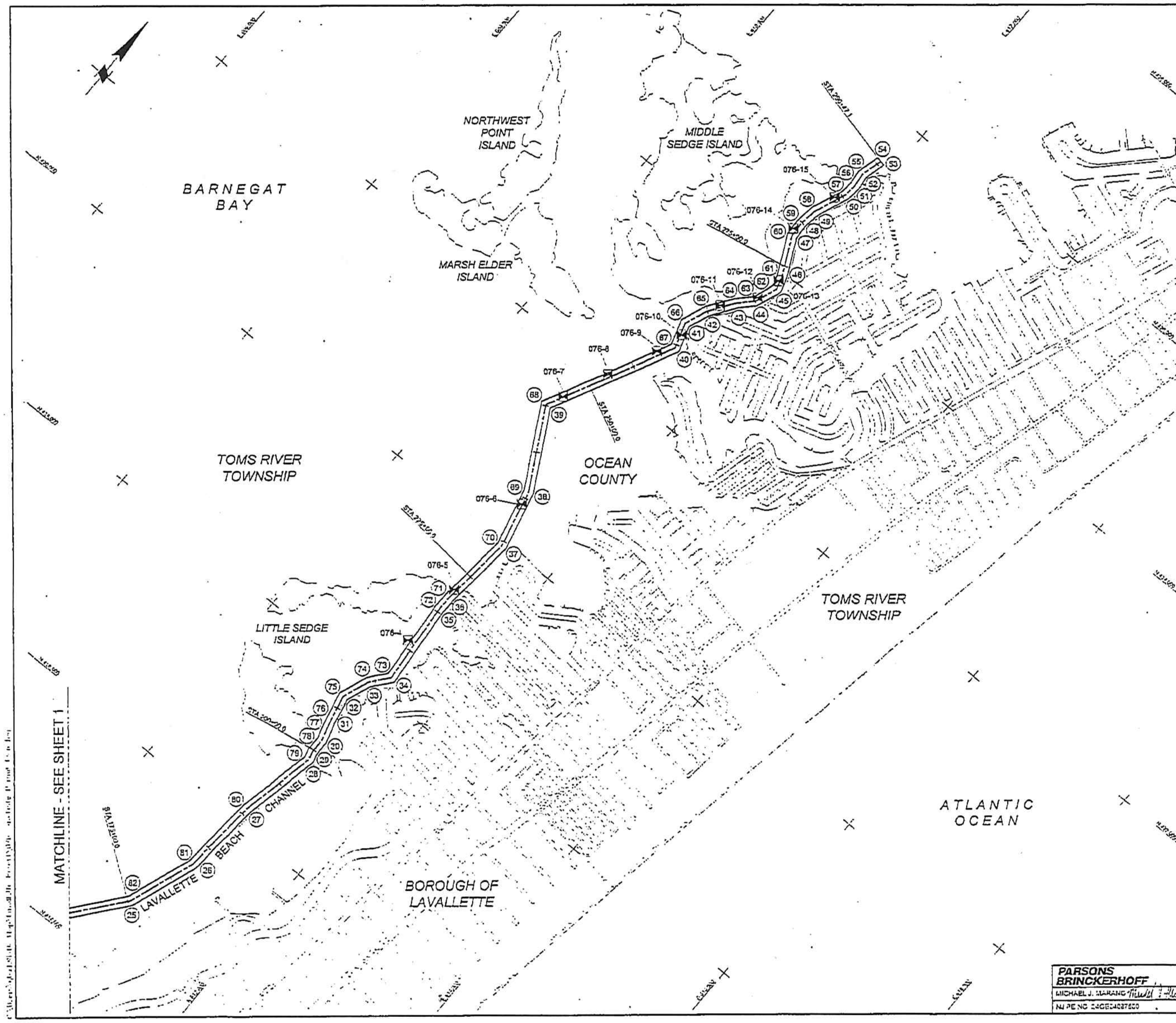
GAHAGAN & BRYANT ASSOCIATES, INC.
CERTIFICATION OF AUTHORIZATION NO 24GA28192700

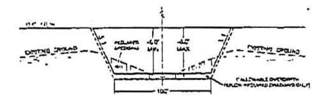
STAN LULEWICZ
NEW JERSEY PROFESSIONAL ENGINEER
NO. 24GE04772000

PROJECT NO

SHEET 1 OF 19

DWG NO PERMIT-01





TYPICAL SECTION: LAVALLETTE BEACH CHANNEL

NOT TO SCALE

NOTES:

1. VERTICAL DATUM IS IN REFERENCE TO MEAN LOW WATER (MLW). MLW IS 0.18 FEET BELOW THE NORTH AMERICAN VERTICAL DATUM 1988 (NAVD88). INFORMATION OBTAINED FROM NATIONAL OCEANIC & ATMOSPHERIC ADMINISTRATION (NOAA) VDATUM DATUM TRANSFORMATION PROGRAM.
2. COORDINATES ARE EXPRESSED IN FEET AND REFER TO THE NEW JERSEY STATE PLANE GRID COORDINATE SYSTEM NORTH AMERICAN DATUM OF 1983 (NAD83).
3. EXISTING SHORELINE (MHWL) & DOCK LOCATIONS ARE BASED ON AERIAL IMAGERY AND SHOULD BE CONSIDERED APPROXIMATE.

RANGE OF TIDE (FT)

NOT TO SCALE

LEGEND

- CHANNEL CENTERLINE
- CHANNEL LIMIT
- APPROXIMATE SHORELINE (MHWL)
- ROAD/PAVEMENT
- MUNICIPALITY LIMIT
- CHANNEL SAMPLE LOCATION

0' 500 1000' 2000'

GRAPHIC SCALE (FT)

REV	DATE	DESCRIPTION	BY	APPR

PARSONS BRINCKERHOFF

MICHAEL J. MARANO

NJ PE NO. 24GE24037500

STATE OF NEW JERSEY
NJDOT OFFICE OF MARITIME RESOURCES

TITLE: MAINTENANCE DREDGING AND CHANNEL IMPROVEMENTS FOR LAVALLETTE BEACH CHANNEL

CHANNEL ARRANGEMENT & GEOMETRY PLAN

PROJECT: 076 - LAVALLETTE BEACH CHANNEL BOROUGH OF LAVALLETTE / BOROUGH OF SEASIDE HEIGHTS / TOMS RIVER TOWNSHIP / BERKELEY TOWNSHIP, OCEAN COUNTY, NEW JERSEY

DRAWN BY: SEF	GAHAGAN & BRYANT ASSOCIATES, INC CERTIFICATION OF AUTHORIZATION NO 24GA28192720	PROJECT NO.
CHECKED BY: MRZ		SHEET 2 OF 19
SCALE: AS SHOWN	STAN LULEWICZ NEW JERSEY PROFESSIONAL ENGINEER NO 24GE04773620	
DATE: APRIL 2016		DWG. NO. PERMIT-02

LAVALLETTE BEACH CHANNEL CHANNEL COORDINATES		
POINT	NORTHING	EASTING
1	405,902.7	603,683.4
2	405,291.0	605,564.1
3	405,250.0	605,853.7
4	405,382.6	606,779.0
5	405,370.4	607,422.1
6	405,327.6	607,554.5
7	405,196.1	607,673.5
8	404,932.7	607,834.1
9	404,612.5	608,097.8
10	404,520.6	608,270.8
11	404,528.9	608,641.4
12	404,740.3	609,187.5
13	404,888.0	609,288.9
14	405,640.3	609,572.6
15	406,041.4	609,506.8
16	406,003.7	609,094.4
17	406,683.4	608,950.0
18	408,971.7	608,003.5
19	412,212.5	608,114.1
20	412,337.7	608,120.7
21	412,501.8	608,205.7
22	412,920.2	608,549.0
23	413,175.0	608,830.0
24	414,010.5	610,254.1
25	414,660.1	610,883.8
26	415,380.0	611,155.5
27	416,173.8	611,204.9
28	416,996.0	611,268.0
29	417,086.6	611,243.5
30	417,230.0	611,343.7
31	417,491.1	611,379.9
32	417,712.6	611,330.1
33	417,907.4	611,323.4
34	418,183.0	611,494.8
35	419,042.8	611,403.3
36	419,186.3	611,407.2
37	418,966.4	611,476.5
38	420,304.7	611,326.3
39	421,385.8	610,883.0
40	422,682.3	611,526.2
41	422,950.7	611,439.1
42	423,160.7	611,522.6
43	423,407.3	611,895.4
44	423,558.8	611,819.2
45	423,818.7	611,930.6
46	423,965.4	611,889.7
47	424,355.8	611,637.7
48	424,497.3	611,683.9
49	424,677.1	611,709.2
50	425,017.0	611,842.6
51	425,159.1	611,851.4
52	425,204.4	611,835.3
53	425,514.3	611,898.1

LAVALLETTE BEACH CHANNEL CHANNEL COORDINATES (CONT.)		
POINT	NORTHING	EASTING
54	425,537.6	611,790.8
55	425,300.3	611,733.0
56	425,156.2	611,751.0
57	425,038.8	611,743.8
58	424,702.7	611,611.0
59	424,409.7	611,583.3
60	424,328.0	611,599.9
61	423,920.6	611,795.9
62	423,822.2	611,835.9
63	423,612.2	611,752.0
64	423,470.7	611,617.0
65	423,208.5	611,434.0
66	422,954.2	611,333.0
67	422,190.3	611,418.3
68	421,383.4	610,770.1
69	420,548.1	611,253.5
70	419,950.8	611,375.4
71	419,292.1	611,307.4
72	419,039.6	611,303.1
73	418,194.3	611,381.3
74	418,017.8	611,237.5
75	417,720.6	611,276.3
76	417,468.0	611,176.5
77	417,225.8	611,243.7
78	417,073.0	611,241.5
79	416,937.2	611,266.1
80	416,171.8	611,205.5
81	415,408.9	611,056.6
82	414,719.3	610,801.0
83	414,083.7	610,208.0
84	412,257.0	608,779.0
85	412,098.1	608,477.5
86	412,555.0	608,120.3
87	412,300.6	608,032.9
88	412,227.8	608,012.4
89	408,951.5	608,005.5
90	408,644.0	608,057.8
91	407,981.8	608,096.9
92	405,933.4	609,495.6
93	405,658.8	609,473.7
94	405,035.6	609,298.4
95	404,830.6	609,127.5
96	404,638.0	608,670.7
97	404,622.0	608,301.2
98	404,691.0	608,160.1
99	404,971.0	607,916.1
100	405,255.0	607,755.1
101	405,412.5	607,612.6
102	405,478.0	607,441.6
103	405,492.7	606,772.9
104	405,339.8	605,852.2
105	405,390.1	605,585.4
106	405,997.8	603,713.3

LAVALLETTE BEACH CHANNEL CENTERLINE COORDINATES		
STATION	NORTHING	EASTING
0+00.0	405,950.2	603,697.8
19+73.3	405,341.0	605,574.7
22+53.3	405,309.4	605,853.0
31+85.9	405,442.7	606,775.9
38+41.0	405,428.2	607,431.8
40+04.4	405,378.1	607,583.6
41+99.3	405,225.8	607,714.3
45+25.4	404,941.8	607,875.1
49+10.1	404,652.7	608,120.0
50+91.0	404,571.4	608,290.5
54+32.0	404,588.6	608,631.3
59+95.2	404,708.4	609,157.5
62+86.0	405,011.0	609,343.7
66+48.1	405,640.2	609,523.1
72+17.2	405,837.4	609,546.3
93+42.6	407,992.6	609,045.7
100+20.5	408,654.1	608,906.9
103+40.4	408,901.6	608,854.5
137+03.3	412,230.2	608,063.1
138+20.7	412,352.2	608,081.1
140+20.9	412,528.4	608,162.9
145+70.4	412,983.1	608,513.5
149+67.9	413,216.1	608,808.2
166+95.4	414,049.6	610,321.4
175+26.3	414,694.2	610,843.8
182+77.1	415,398.4	611,106.0
190+93.5	416,185.3	611,156.2
198+98.6	416,994.1	611,217.5
199+79.4	417,079.8	611,293.5
201+32.0	417,232.4	611,291.7
203+84.0	417,479.5	611,237.2
206+30.1	417,726.0	611,178.2
209+34.7	417,992.8	611,281.3
211+64.7	418,270.7	611,432.0
220+30.9	419,041.2	611,353.2
221+78.0	419,380.2	611,357.3
229+55.2	419,962.8	611,425.9
235+76.6	420,566.4	611,370.5
245+31.9	421,384.6	610,870.5
250+45.0	422,686.3	611,472.3
262+44.6	422,952.4	611,386.1
264+04.5	423,184.6	611,470.3
268+05.1	423,425.0	611,636.6
270+07.1	423,585.6	611,795.6
272+56.1	423,820.4	611,878.3
273+88.0	423,947.5	611,842.8
278+27.6	424,341.5	611,648.8
279+83.0	424,498.6	611,633.6
281+70.2	424,680.9	611,660.5
286+41.3	425,027.9	611,791.2
286+71.3	425,157.7	611,807.2
288+12.0	425,297.3	611,784.0
290+47.1	425,526.0	611,839.4

LAVALLETTE BEACH CHANNEL SAMPLE LOCATION COORDINATES		
SAMPLE	NORTHING	EASTING
076-1	405,890.4	604,369.4
076-2	413,406.8	608,107.3
076-3	413,740.9	608,734.7
076-4	414,840.3	611,218.9
076-5	419,207.6	611,343.5
076-6	420,423.0	611,303.1
076-7	421,063.4	610,904.9
076-8	422,034.8	611,111.3
076-9	422,830.1	611,303.7
076-10	422,838.3	611,435.4
076-11	423,317.3	611,544.6
076-12	423,828.7	611,764.0
076-13	423,896.4	611,841.5
076-14	424,411.0	611,680.9
076-15	424,830.2	611,722.6

NOTES:

1. COORDINATES ARE EXPRESSED IN FEET AND REFER TO THE NEW JERSEY STATE PLANE GRID COORDINATE SYSTEM NORTH AMERICAN DATUM OF 1983 (NAD83).

REV	DATE	DESCRIPTION	BY	APPR

STATE OF NEW JERSEY
NJDOT OFFICE OF MARITIME RESOURCES

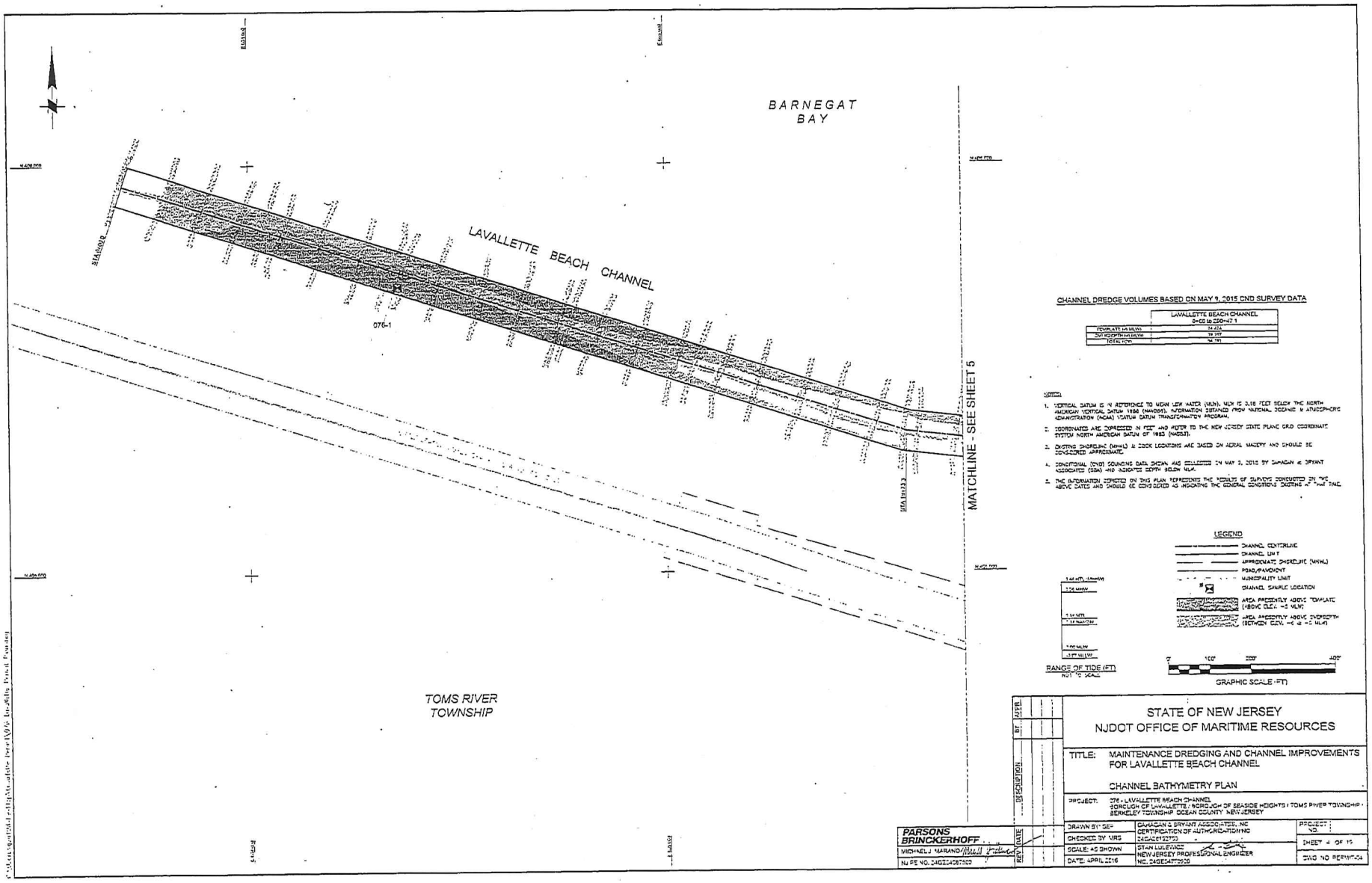
TITLE: MAINTENANCE DREDGING AND CHANNEL IMPROVEMENTS FOR LAVALLETTE BEACH CHANNEL

CHANNEL GEOMETRY & SAMPLING COORDINATE TABLES

PROJECT: 076 - LAVALLETTE BEACH CHANNEL
BOROUGH OF LAVALLETTE / BOROUGH OF SEASIDE HEIGHTS / TOMS RIVER TOWNSHIP / BERKELEY TOWNSHIP, OCEAN COUNTY, NEW JERSEY

PARSONS BRINCKERHOFF
MICHAEL J MARANO
NJ PE NO. 24GE04087500

DRAWN BY: SEF	GAHAGAN & BRYANT ASSOCIATES, INC. CERTIFICATION OF AUTHORIZATION NO. 24GA28102700	PROJECT NO.
CHECKED BY: MRS		SHEET 3 OF 10
SCALE: AS SHOWN	STAN LULEWICZ NEW JERSEY PROFESSIONAL ENGINEER NO. 24GE04770000	DWG NO. PERMIT-03
DATE: APRIL 2010		



PARSONS BRINCKERHOFF

MICHAEL J. MARANO
NJ PE NO. 24GE04087300

REV	DATE	DESCRIPTION	BY	APPR

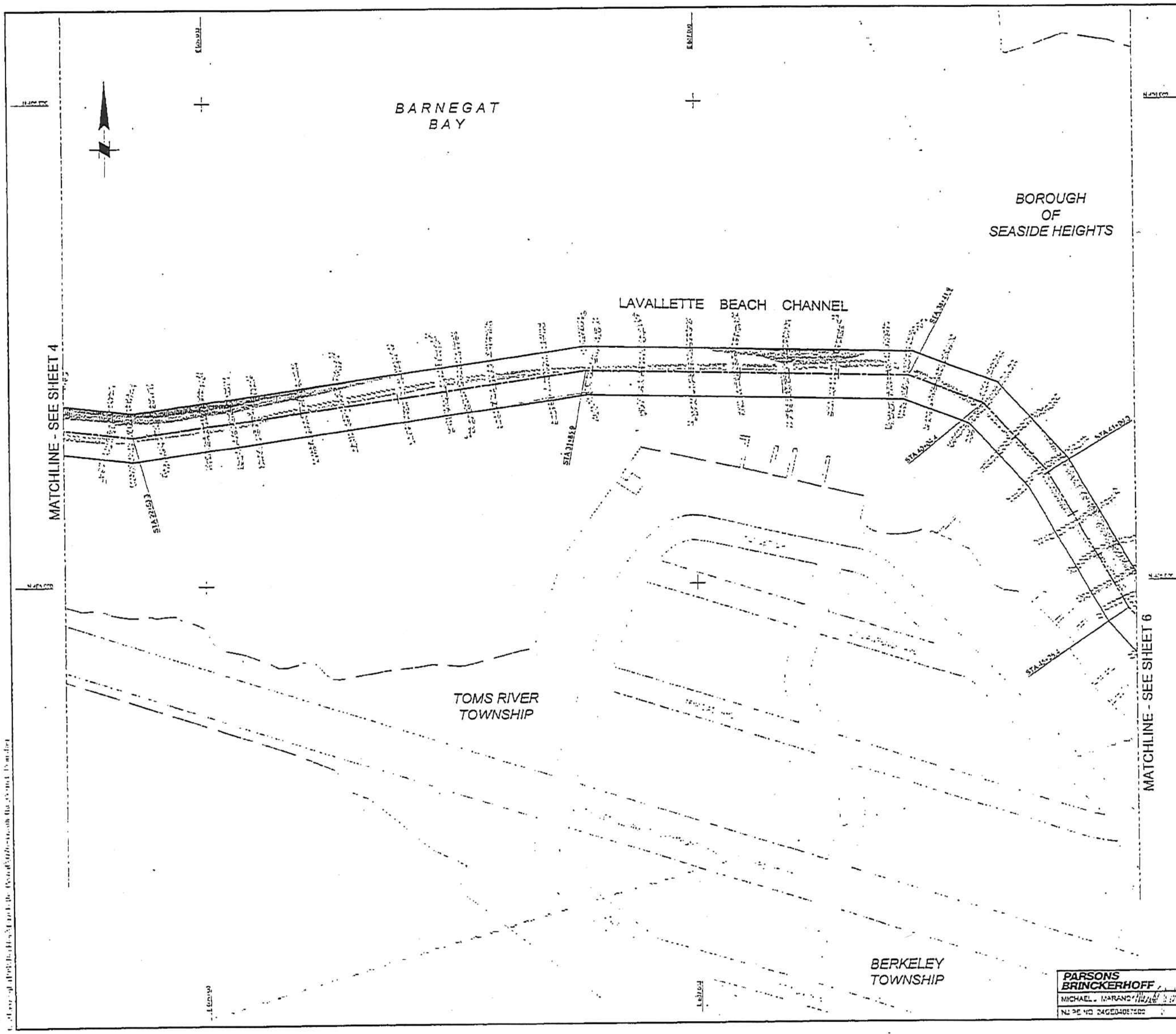
STATE OF NEW JERSEY
NJDOT OFFICE OF MARITIME RESOURCES

TITLE: MAINTENANCE DREDGING AND CHANNEL IMPROVEMENTS FOR LAVALLETTE BEACH CHANNEL

CHANNEL BATHYMETRY PLAN

PROJECT: 076 - LAVALLETTE BEACH CHANNEL
BOROUGH OF LAVALLETTE / BOROUGH OF SEASIDE HEIGHTS / TOMS RIVER TOWNSHIP / BERKELEY TOWNSHIP OCEAN COUNTY, NEW JERSEY

DRAWN BY: SEF	SAMADAN & BRYANT ASSOCIATES, INC CERTIFICATION OF AUTHORIZATION NO. 24GA28122700	PROJECT NO.
CHECKED BY: MRS		SHEET 4 OF 15
SCALE: AS SHOWN	STAN LULEWICZ NEW JERSEY PROFESSIONAL ENGINEER NO. 24GE04772500	DWG NO. BERM1004
DATE: APRIL 2016		



CHANNEL DREDGE VOLUMES BASED ON MAY 9, 2015 CND SURVEY DATA

	LAVALLETTE BEACH CHANNEL
TEMPLATE (-3 MLW)	[illegible]
OVERDEPTH (-4 MLW)	[illegible]
TOTAL (CY)	[illegible]

NOTES:

1. VERTICAL DATUM IS IN REFERENCE TO MEAN LOW WATER (MLW). MLW IS 0.13 FEET BELOW THE NORTH AMERICAN VERTICAL DATUM 1988 (NAVD88). INFORMATION OBTAINED FROM NATIONAL OCEANIC & ATMOSPHERIC ADMINISTRATION (NOAA) VDATUM DATUM TRANSFORMATION PROGRAM.
2. COORDINATES ARE EXPRESSED IN FEET AND REFER TO THE NEW JERSEY STATE PLANE GRID COORDINATE SYSTEM NORTH AMERICAN DATUM OF 1983 (NAD83).
3. EXISTING SHORELINE (MHWL) & DOCK LOCATIONS ARE BASED ON AERIAL IMAGERY AND SHOULD BE CONSIDERED APPROXIMATE.
4. CONDITIONAL (CND) SOUNDING DATA SHOWN WAS COLLECTED ON MAY 9, 2015 BY GAHAGAN & BRYANT ASSOCIATES (GBA) AND INDICATES DEPTH BELOW MLW.
5. THE INFORMATION DEPICTED ON THIS PLAN REPRESENTS THE RESULTS OF SURVEYS CONDUCTED ON THE ABOVE DATES AND SHOULD BE CONSIDERED AS INDICATING THE GENERAL CONDITIONS EXISTING AT THAT TIME.

LEGEND:

- CHANNEL CENTERLINE
- CHANNEL LIMIT
- APPROXIMATE SHORELINE (MHWL)
- ROAD/PAVEMENT
- MUNICIPALITY LIMIT
- CHANNEL SAMPLE LOCATION
- AREA PRESENTLY ABOVE TEMPLATE (ABOVE ELEV. -3 MLW)
- AREA PRESENTLY ABOVE OVERDEPTH (BETWEEN ELEV. -3 & -4 MLW)

RANGE OF TIDE (FT)
NOT TO SCALE

GRAPHIC SCALE (FT)
0 100 200 400

STATE OF NEW JERSEY
NJDOT OFFICE OF MARITIME RESOURCES

TITLE: MAINTENANCE DREDGING AND CHANNEL IMPROVEMENTS FOR LAVALLETTE BEACH CHANNEL

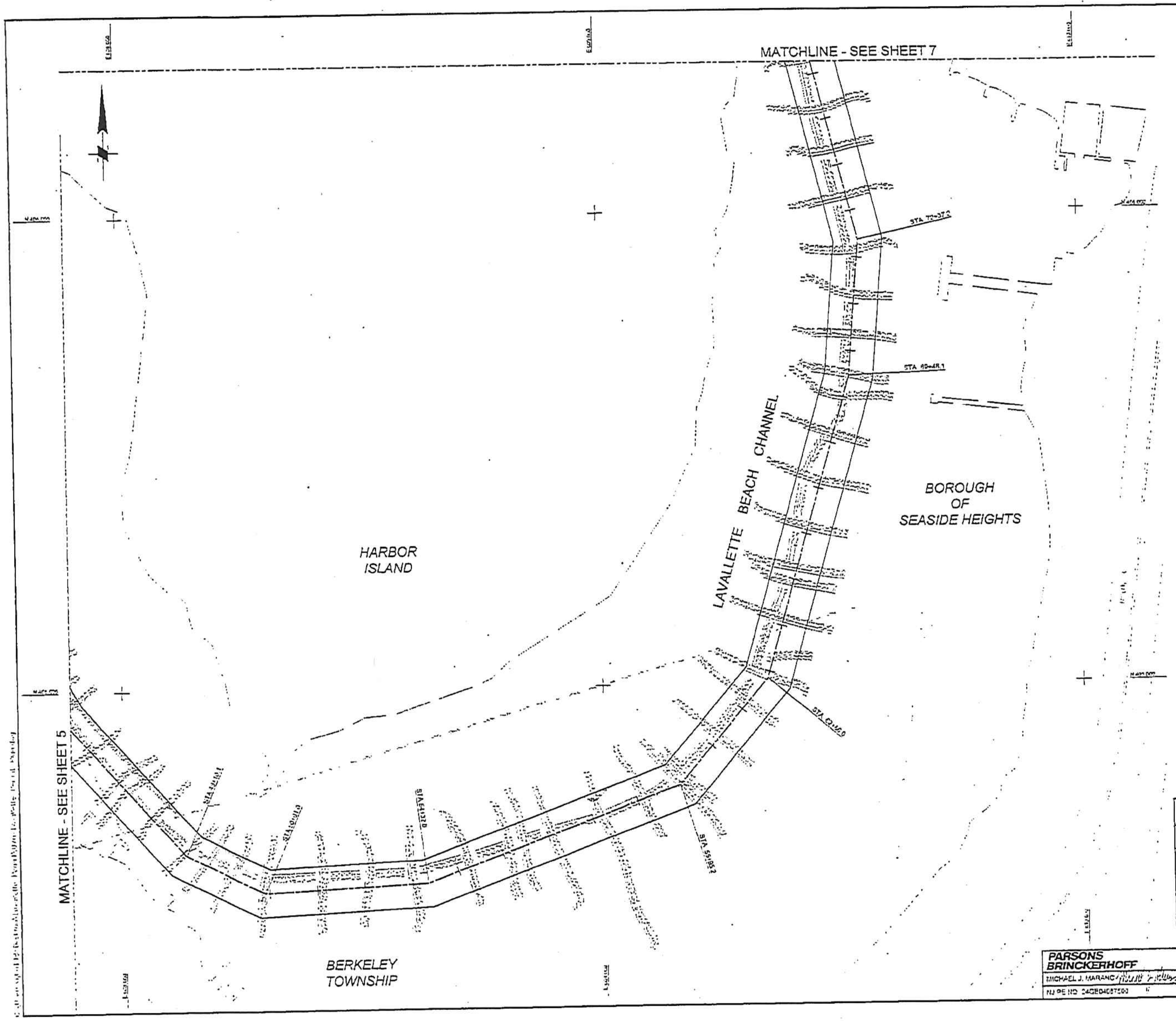
CHANNEL BATHYMETRY PLAN

PROJECT: 373 - LAVALLETTE BEACH CHANNEL
BOROUGH OF LAVALLETTE, BOROUGH OF SEASIDE HEIGHTS / TOMS RIVER TOWNSHIP / BERKELEY TOWNSHIP OCEAN COUNTY NEW JERSEY

DRAWN BY: SEF	GAHAGAN & BRYANT ASSOCIATES, INC. CERTIFICATION OF AUTHORIZATION NO 24GA28192700	PROJECT NO
CHECKED BY: MPS		SHEET 5 OF 13
SCALE AS SHOWN	STAN LULEWICZ NEW JERSEY PROFESSIONAL ENGINEER NO. 24GE04773900	DWG NO PERMIT-05
DATE: APRIL 2015		

REV	DATE	DESCRIPTION	BY	APPR

PARSONS BRINCKERHOFF
MICHAEL J. MARANO
NJ PE NO 24GE04057500



CHANNEL DREDGE VOLUMES BASED ON MAY 9, 2015 CND SURVEY DATA

	LAVALLETTE BEACH CHANNEL 0+00 to 200+47.1
TEMPLATE (-5 MLW)	[illegible]
OVERDEPTH (-6 MLW)	[illegible]
TOTAL (CY)	[illegible]

NOTES:

1. VERTICAL DATUM IS IN REFERENCE TO MEAN LOW WATER (MLW). MLW IS 0.16 FEET BELOW THE NORTH AMERICAN VERTICAL DATUM 1988 (NAVD88). INFORMATION OBTAINED FROM NATIONAL OCEANIC & ATMOSPHERIC ADMINISTRATION (NOAA) VDATUM DATUM TRANSFORMATION PROGRAM.
2. COORDINATES ARE EXPRESSED IN FEET AND REFER TO THE NEW JERSEY STATE PLANE GRID COORDINATE SYSTEM NORTH AMERICAN DATUM OF 1983 (NAD83).
3. EXISTING SHORELINE (MHWL) & DOCK LOCATIONS ARE BASED ON AERIAL IMAGERY AND SHOULD BE CONSIDERED APPROXIMATE.
4. CONVENTIONAL (CND) SOUNDING DATA SHOWN WAS COLLECTED ON MAY 9, 2015 BY GAHAGAN & BRYANT ASSOCIATES (GBA) AND INDICATES DEPTH BELOW MLW.
5. THE INFORMATION DEPICTED ON THIS PLAN REPRESENTS THE RESULTS OF SURVEYS CONDUCTED ON THE ABOVE DATES AND SHOULD BE CONSIDERED AS INDICATING THE GENERAL CONDITIONS EXISTING AT THAT TIME.

LEGEND

- CHANNEL CENTERLINE
- CHANNEL LIMIT
- APPROXIMATE SHORELINE (MHWL)
- ROAD/PAVEMENT
- MUNICIPALITY LINE
- CHANNEL SAMPLE LOCATION
- AREA PRESENTLY ABOVE TEMPLATE (ABOVE ELEV. -5 MLW)
- AREA PRESENTLY ABOVE OVERDEPTH (BETWEEN ELEV. -6 & -5 MLW)

RANGE OF TIDE (FT) NOT TO SCALE

GRAPHIC SCALE (FT) 0 100' 200' 400'

STATE OF NEW JERSEY
NJDOT OFFICE OF MARITIME RESOURCES

TITLE: MAINTENANCE DREDGING AND CHANNEL IMPROVEMENTS FOR LAVALLETTE BEACH CHANNEL

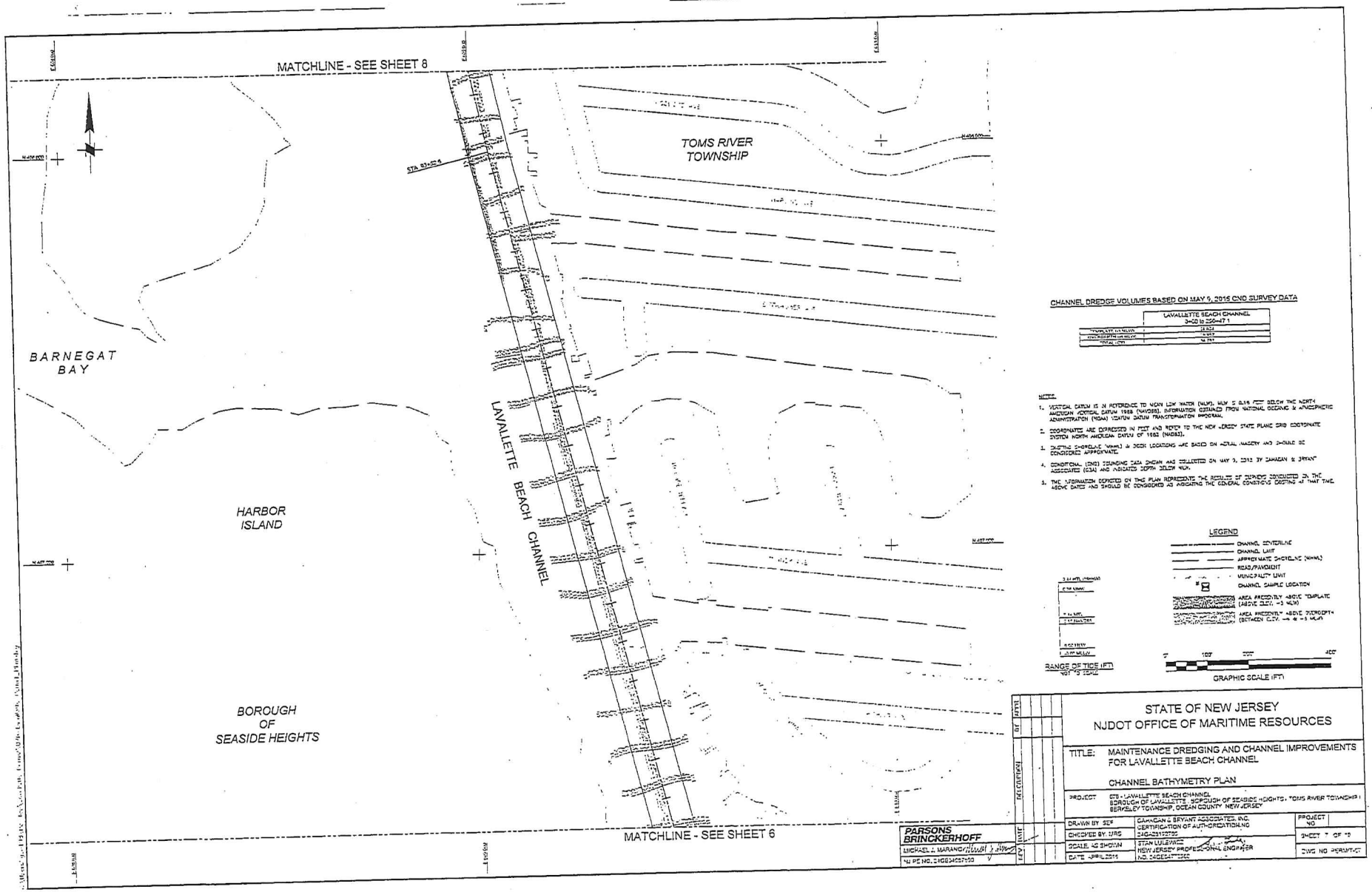
CHANNEL BATHYMETRY PLAN

PROJECT: 076 - LAVALLETTE BEACH CHANNEL BOROUGH OF LAVALLETTE / BOROUGH OF SEASIDE HEIGHTS / TOMS RIVER TOWNSHIP / BERKELEY TOWNSHIP OCEAN COUNTY NEW JERSEY

DRAWN BY: JEF	GAHAGAN & BRYANT ASSOCIATES, INC CERTIFICATION OF AUTHORIZATION NO 24GA28192700	PROJECT NO
CHECKED BY: MPS		SHEET 9 OF 12
SCALE: AS SHOWN	STAN LULEWICZ NEW JERSEY PROFESSIONAL ENGINEER NO 24GE04775000	DWG NO PERMIT-12
DATE: APRIL 2016		

REV	DATE	DESCRIPTION	BY	APPR

PARSONS BRINCKERHOFF
MICHAEL J. MARANO
NJ PE NO 24GE04087500



CHANNEL DREDGE VOLUMES BASED ON MAY 9, 2015 CND SURVEY DATA

	LAVALLETTE BEACH CHANNEL 3+00 to 250+47.1
TOWNSHIP OF TOMS RIVER	14,824
BOROUGH OF SEASIDE HEIGHTS	4,967
TOTAL (CY)	19,791

NOTES:

1. VERTICAL DATUM IS IN REFERENCE TO MEAN LOW WATER (MLW). MLW IS 0.16 FEET BELOW THE NORTH AMERICAN VERTICAL DATUM 1988 (NAVD88). INFORMATION OBTAINED FROM NATIONAL OCEANIC & ATMOSPHERIC ADMINISTRATION (NOAA) VDATUM DATUM TRANSFORMATION PROGRAM.
2. COORDINATES ARE DISPLAYED IN FEET AND REFER TO THE NEW JERSEY STATE PLANE ZONE COORDINATE SYSTEM NORTH AMERICAN DATUM OF 1983 (NAD83).
3. EXISTING SHORELINE (MHW) & DOCK LOCATIONS ARE BASED ON AERIAL IMAGERY AND SHOULD BE CONSIDERED APPROXIMATE.
4. CONDITIONAL (CND) SOUNDING DATA SHOWN WAS COLLECTED ON MAY 9, 2015 BY CAMACAN & BRYANT ASSOCIATES (CBA) AND INDICATES DEPTH BELOW MLW.
5. THE INFORMATION DEPICTED ON THIS PLAN REPRESENTS THE RESULTS OF SURVEYS CONDUCTED ON THE ABOVE DATES AND SHOULD BE CONSIDERED AS INDICATING THE GENERAL CONDITIONS EXISTING AT THAT TIME.

LEGEND

- CHANNEL CENTERLINE
- CHANNEL LIMIT
- APPROXIMATE SHORELINE (MHW)
- ROAD/PAVEMENT
- MUNICIPALITY LIMIT
- CHANNEL SAMPLE LOCATION
- AREA PRESENTLY ABOVE TEMPLATE (ABOVE -13.0') +3 MLW
- AREA PRESENTLY ABOVE OVERDEPTH (BETWEEN -13.0' +/- & -5 MLW)

RANGE OF TIDE (FT)
NOT TO SCALE

GRAPHIC SCALE (FT)
0 100 200 400

PARSONS BRINCKERHOFF
MICHAEL J. MARANO
NJ PE NO. 24GE04057300

STATE OF NEW JERSEY
NJDOT OFFICE OF MARITIME RESOURCES

TITLE: MAINTENANCE DREDGING AND CHANNEL IMPROVEMENTS FOR LAVALLETTE BEACH CHANNEL

CHANNEL BATHYMETRY PLAN

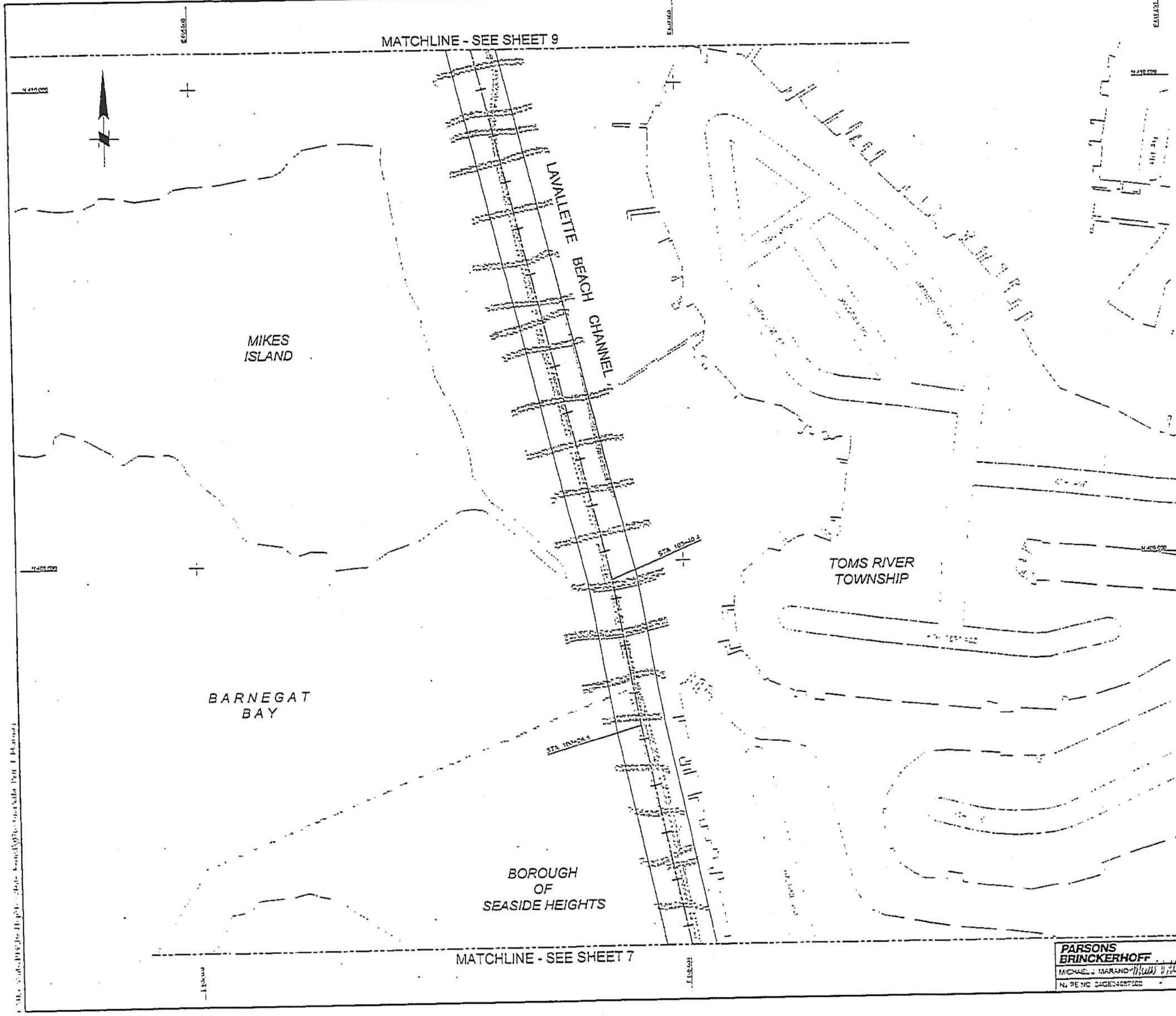
PROJECT: STD - LAVALLETTE BEACH CHANNEL BOROUGH OF LAVALLETTE, BOROUGH OF SEASIDE HEIGHTS, TOMS RIVER TOWNSHIP, BERKELEY TOWNSHIP, OCEAN COUNTY, NEW JERSEY

DRAWN BY: SEK
CHECKED BY: MRG
SCALE: AS SHOWN
DATE: APRIL 2015

CAMACAN & BRYANT ASSOCIATES, INC.
CERTIFICATION OF AUTHORIZATION NO
24GA28127700
STAN LULEWICZ
NEW JERSEY PROFESSIONAL ENGINEER
NO. 24GE04077900

PROJECT NO
SHEET 7 OF 10
DWG NO PERMIT-07

DATE | DESCRIPTION | BY | APP'D



CHANNEL DREDGE VOLUMES BASED ON MAY 9, 2015 CND SURVEY DATA

	LAVALLETTE BEACH CHANNEL 0+00 to 250+47.1
TEMPLATE (-3 MLW)	[illegible]
OVERDEPTH (-4 MLW)	[illegible]
TOTAL (CY)	[illegible]

NOTES:

1. VERTICAL DATUM IS IN REFERENCE TO MEAN LOW WATER (MLW). MLW IS 2.18 FEET BELOW THE NORTH AMERICAN VERTICAL DATUM 1988 (NAVD88). INFORMATION OBTAINED FROM NATIONAL OCEANIC & ATMOSPHERIC ADMINISTRATION (NOAA) VDATUM DATUM TRANSFORMATION PROGRAM.
2. COORDINATES ARE EXPRESSED IN FEET AND REFER TO THE NEW JERSEY STATE PLANE GRID COORDINATE SYSTEM NORTH AMERICAN DATUM OF 1983 (NAD83).
3. EXISTING SHORELINE (MHWL) & DOCK LOCATIONS ARE BASED ON AERIAL IMAGERY AND SHOULD BE CONSIDERED APPROXIMATE.
4. CONDITIONAL (CND) SOUNDING DATA SHOWN WAS COLLECTED ON MAY 9, 2015 BY GAHAGAN & BRYANT ASSOCIATES (GBA) AND INDICATES DEPTH BELOW MLW.
5. THE INFORMATION DEPICTED ON THIS PLAN REPRESENTS THE RESULTS OF SURVEYS CONDUCTED ON THE ABOVE DATES AND SHOULD BE CONSIDERED AS INDICATING THE GENERAL CONDITIONS EXISTING AT THAT TIME.

LEGEND

- CHANNEL CENTERLINE
- CHANNEL LIMIT
- APPROXIMATE SHORELINE (MHWL)
- ROAD/PAVEMENT
- MUNICIPALITY LIMIT
- # CHANNEL SAMPLE LOCATION
- AREA PRESENTLY ABOVE TEMPLATE (ABOVE ELEV. -3 MLW)
- AREA PRESENTLY ABOVE OVERDEPTH (BETWEEN ELEV. -3 & -4 MLW)

RANGE OF TIDE (FT)
NOT TO SCALE

GRAPHIC SCALE (FT)
0 100' 200' 400'

STATE OF NEW JERSEY
NJDOT OFFICE OF MARITIME RESOURCES

TITLE: MAINTENANCE DREDGING AND CHANNEL IMPROVEMENTS FOR LAVALLETTE BEACH CHANNEL

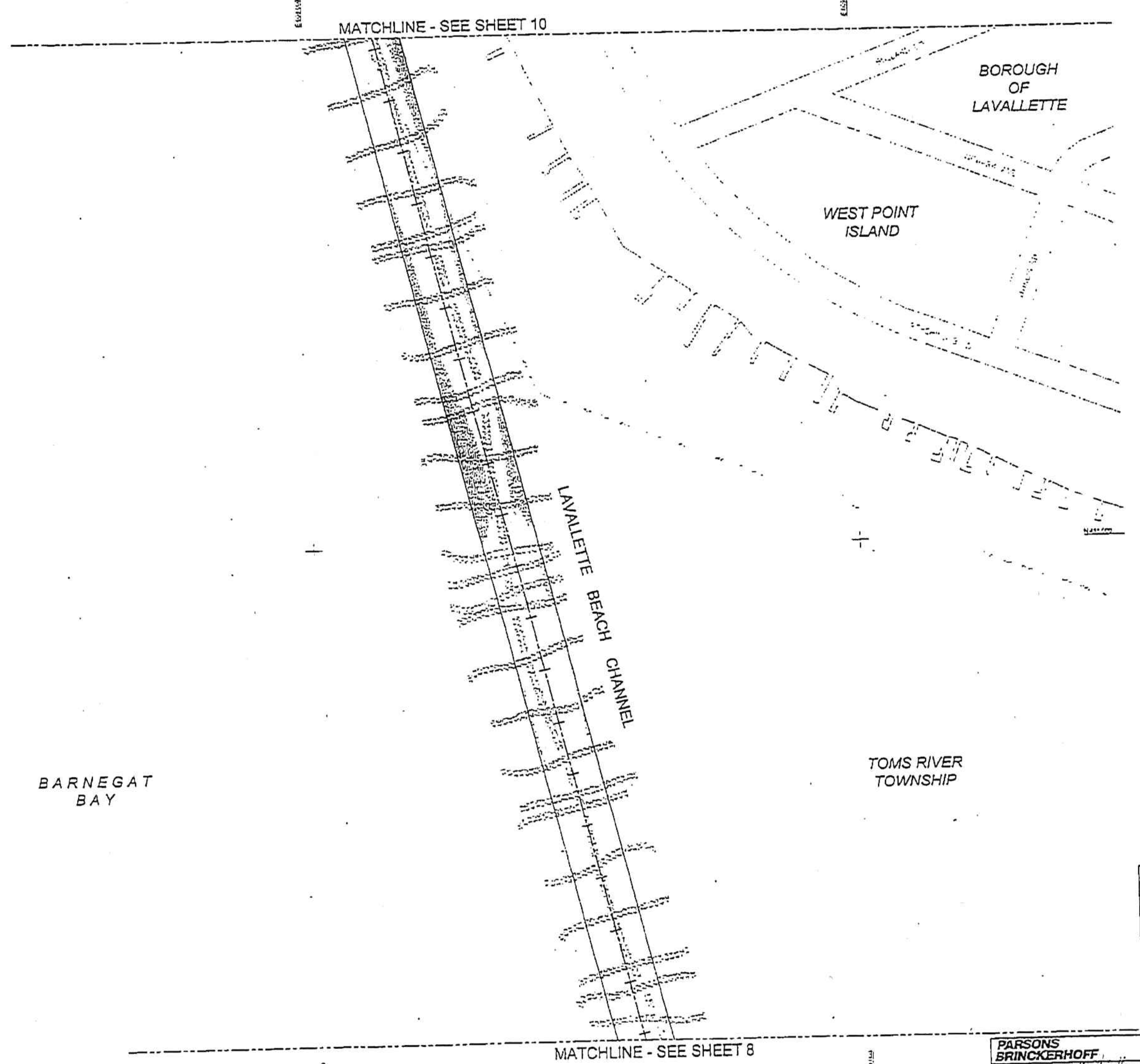
CHANNEL BATHYMETRY PLAN

PROJECT: 573 - LAVALLETTE BEACH CHANNEL
BOROUGH OF LAVALLETTE / BOROUGH OF SEASIDE HEIGHTS / TOMS RIVER TOWNSHIP / BERKELEY TOWNSHIP OCEAN COUNTY, NEW JERSEY

DRAWN BY: SEF	GAHAGAN & BRYANT ASSOCIATES, INC. CERTIFICATION OF AUTHORIZATION NO 24GA28152700	PROJECT NO
CHECKED BY: MPS		SHEET 8 OF 17
SCALE: AS SHOWN	STAN LULEWICZ NEW JERSEY PROFESSIONAL ENGINEER NO 24GE04775300	DWG NO PERMIT-08
DATE: APRIL 2016		

PARSONS BRINCKERHOFF
MICHAEL J. MARANO
NJ PE NO 24GE04087500

REV	DATE	DESCRIPTION	BY	APPR



CHANNEL DREDGE VOLUMES BASED ON MAY 9, 2015 CND SURVEY DATA

	LAVALLETTE BEACH CHANNEL 0+00 to 290+47.1
TEMPLATE (-5 MLW)	[illegible]
OVERDEPTH (-6 MLW)	[illegible]
TOTAL (CY)	[illegible]

NOTES:

1. VERTICAL DATUM IS IN REFERENCE TO MEAN LOW WATER (MLW). MLW IS 0.18 FEET BELOW THE NORTH AMERICAN VERTICAL DATUM 1988 (NAVD88). INFORMATION OBTAINED FROM NATIONAL OCEANIC & ATMOSPHERIC ADMINISTRATION (NOAA) VDATUM DATUM TRANSFORMATION PROGRAM.
2. COORDINATES ARE EXPRESSED IN FEET AND REFER TO THE NEW JERSEY STATE PLANE GRID COORDINATE SYSTEM NORTH AMERICAN DATUM OF 1983 (NAD83).
3. EXISTING SHORELINE (MHWL) & DOCK LOCATIONS ARE BASED ON AERIAL IMAGERY AND SHOULD BE CONSIDERED APPROXIMATE.
4. CONDITIONAL (CND) SOUNDING DATA SHOWN WAS COLLECTED ON MAY 9, 2015 BY GAHAGAN & BRYANT ASSOCIATES (GBA) AND INDICATES DEPTH BELOW MLW.
5. THE INFORMATION DEPICTED ON THIS PLAN REPRESENTS THE RESULTS OF SURVEYS CONDUCTED ON THE ABOVE DATES AND SHOULD BE CONSIDERED AS INDICATING THE GENERAL CONDITIONS EXISTING AT THAT TIME.

LEGEND

- CHANNEL CENTERLINE
- CHANNEL LIMIT
- APPROXIMATE SHORELINE (MHWL)
- ROAD/PAVEMENT
- MUNICIPALITY LIMIT
- CHANNEL SAMPLE LOCATION
- AREA PRESENTLY ABOVE TEMPLATE (ABOVE ELEV. -5 MLW)
- AREA PRESENTLY ABOVE OVERDEPTH (BETWEEN ELEV. -5 & -6 MLW)

RANGE OF TIDE (FT)
NOT TO SCALE

[illegible] MHHW
[illegible] MHW
[illegible] MTL
[illegible] NAVD88
[illegible] MLW
[illegible] MLLW

0' 100' 200' 400'
GRAPHIC SCALE (FT)

REV	DATE	DESCRIPTION	BY	APPR

PARSONS BRINCKERHOFF
MICHAEL J. MARANO
NJ PE NO. 24GE04287500

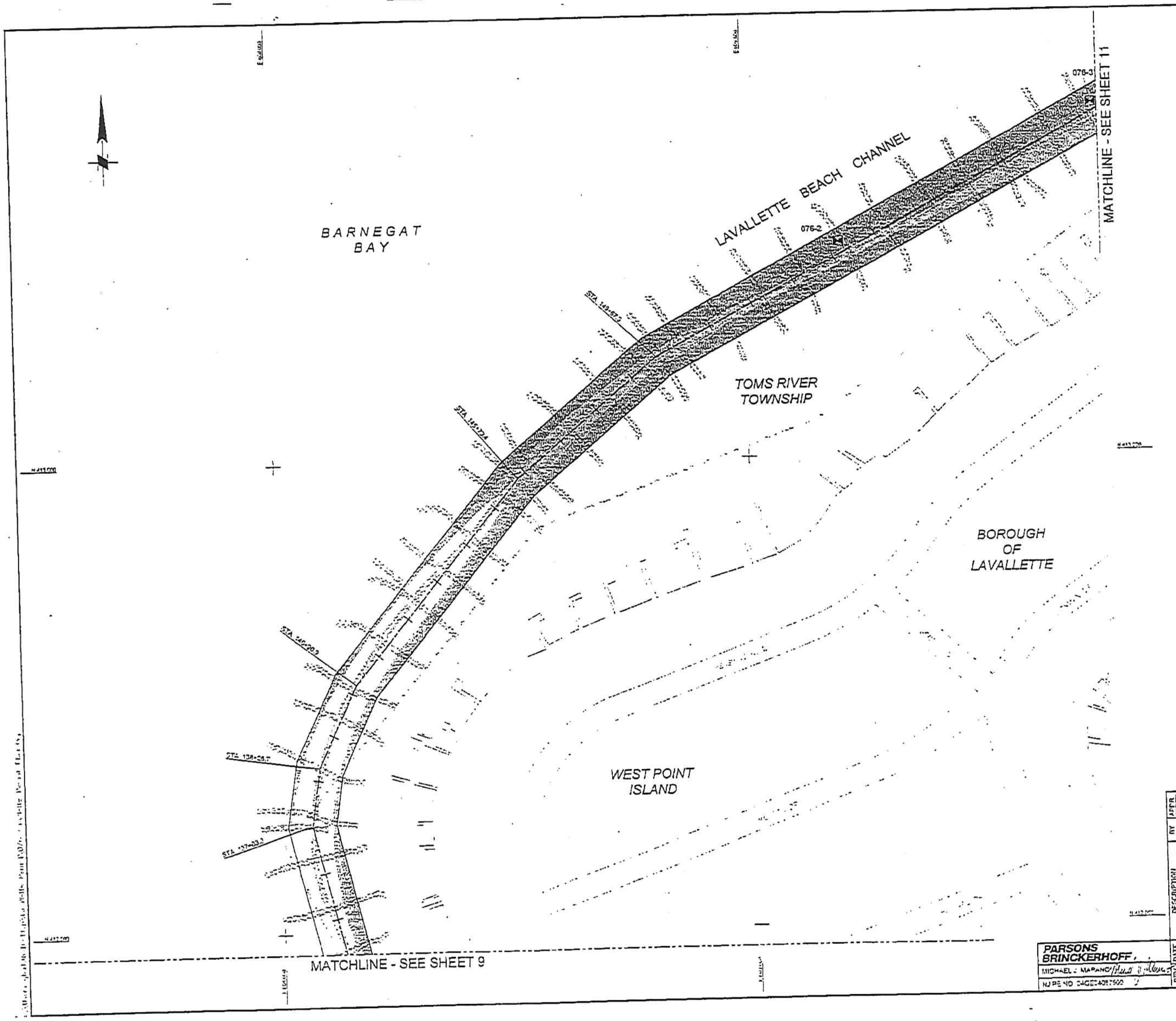
STATE OF NEW JERSEY
NJDOT OFFICE OF MARITIME RESOURCES

TITLE: MAINTENANCE DREDGING AND CHANNEL IMPROVEMENTS FOR LAVALLETTE BEACH CHANNEL

CHANNEL BATHYMETRY PLAN

PROJECT: 078 - LAVALLETTE BEACH CHANNEL
BOROUGH OF LAVALLETTE / BOROUGH OF SEASIDE HEIGHTS / TOMS RIVER TOWNSHIP
BERKELEY TOWNSHIP, OCEAN COUNTY, NEW JERSEY

DRAWN BY: SEF	GAHAGAN & BRYANT ASSOCIATES, INC. CERTIFICATION OF AUTHORIZATION NO. 24GA28132700	PROJECT NO. [illegible]
CHECKED BY: MPS		SHEET 9 OF [illegible]
SCALE: AS SHOWN	STAN LULEWICZ NEW JERSEY PROFESSIONAL ENGINEER NO. 24GE04770900	DWG NO. PERMIT-[illegible]
DATE: APRIL 2015		



CHANNEL DREDGE VOLUMES BASED ON MAY 9, 2015 CND SURVEY DATA

	LAVALLETTE BEACH CHANNEL [illegible]
TEMPLATE [illegible]	[illegible]
OVERDEPTH [illegible]	[illegible]
TOTAL (CY)	[illegible]

NOTES:

1. VERTICAL DATUM IS IN REFERENCE TO MEAN LOW WATER (MLW). MLW IS 0.16 FEET BELOW THE NORTH AMERICAN VERTICAL DATUM 1988 (NAVD88). INFORMATION OBTAINED FROM NATIONAL OCEANIC & ATMOSPHERIC ADMINISTRATION (NOAA) VDATUM DATUM TRANSFORMATION PROGRAM.
2. COORDINATES ARE EXPRESSED IN FEET AND REFER TO THE NEW JERSEY STATE PLANE GRID COORDINATE SYSTEM NORTH AMERICAN DATUM OF 1983 (NAD83).
3. EXISTING SHORELINE (MHW) & DOCK LOCATIONS ARE BASED ON AERIAL IMAGERY AND SHOULD BE CONSIDERED APPROXIMATE.
4. CONDITIONAL (CND) SOUNDING DATA SHOWN WAS COLLECTED ON MAY 9, 2015 BY GAHAGAN & BRYANT ASSOCIATES (GBA) AND INDICATES DEPTH BELOW MLW.
5. THE INFORMATION DEPICTED ON THIS PLAN REPRESENTS THE RESULTS OF SURVEYS CONDUCTED ON THE ABOVE DATES AND SHOULD BE CONSIDERED AS INDICATING THE GENERAL CONDITIONS EXISTING AT THAT TIME.

LEGEND

- CHANNEL CENTERLINE
- CHANNEL LIMIT
- APPROXIMATE SHORELINE (MHW)
- ROAD/PAVEMENT
- MUNICIPALITY LIMIT
- CHANNEL SAMPLE LOCATION
- AREA PRESENTLY ABOVE TEMPLATE (ABOVE ELEV. -5 MLW)
- AREA PRESENTLY ABOVE OVERDEPTH (BETWEEN ELEV. -6 & -5 MLW)

RANGE OF TIDE (FT)
NOT TO SCALE

GRAPHIC SCALE (FT): 0' 100' 200' 400'

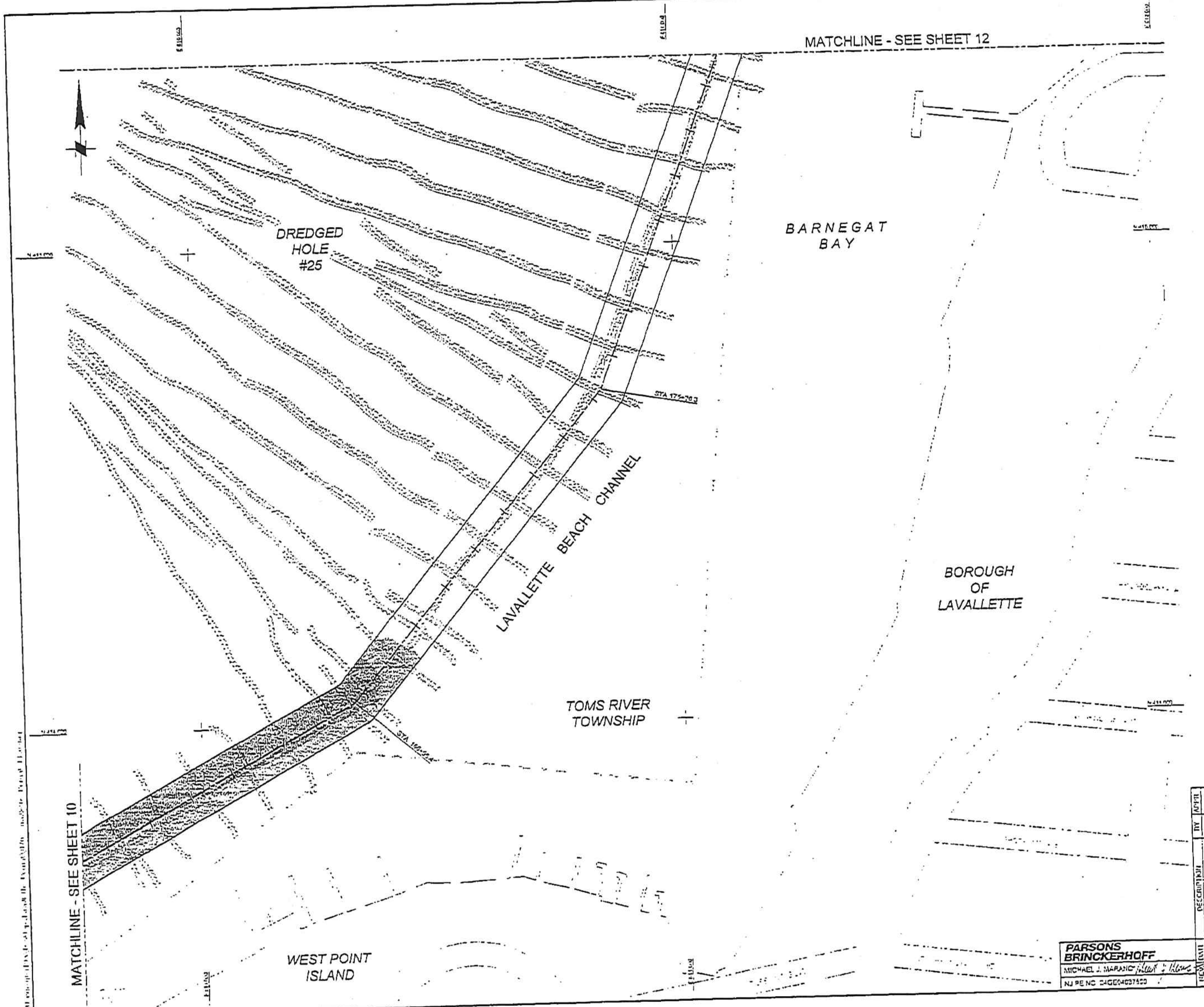
STATE OF NEW JERSEY NJDOT OFFICE OF MARITIME RESOURCES	
TITLE.	MAINTENANCE DREDGING AND CHANNEL IMPROVEMENTS FOR LAVALLETTE BEACH CHANNEL CHANNEL BATHYMETRY PLAN
PROJECT	076 - LAVALLETTE BEACH CHANNEL BOROUGH OF LAVALLETTE / BOROUGH OF SEASIDE HEIGHTS / TOMS RIVER TOWNSHIP / BERKELEY TOWNSHIP, OCEAN COUNTY, NEW JERSEY
DRAWN BY: SEF	GAHAGAN & BRYANT ASSOCIATES, INC. CERTIFICATION OF AUTHORIZATION NO. [illegible]
CHECKED BY: MPS	
SCALE: AS SHOWN	STAN LULEWICZ NEW JERSEY PROFESSIONAL ENGINEER NO. [illegible]
DATE: APRIL 2016	PROJECT NO. / SHEET 10 OF 19 / DWG NO. PERMIT-10

REV	DATE	DESCRIPTION	BY	APPR.

PARSONS BRINCKERHOFF

MICHAEL J. MARANO

NJ PE NO. [illegible]



CHANNEL DREDGE VOLUMES BASED ON MAY 9, 2015 CND SURVEY DATA

	LAVALLETTE BEACH CHANNEL 0+00 to 200+47.1
TEMPLATE (-4 MLW)	[illegible]
OVERDEPTH (-5 MLW)	[illegible]
TOTAL (CY)	[illegible]

NOTES:

1. VERTICAL DATUM IS IN REFERENCE TO MEAN LOW WATER (MLW). MLW IS 0.18 FEET BELOW THE NORTH AMERICAN VERTICAL DATUM 1988 (NAVD88). INFORMATION OBTAINED FROM NATIONAL OCEANIC & ATMOSPHERIC ADMINISTRATION (NOAA) VDATUM DATUM TRANSFORMATION PROGRAM.
2. COORDINATES ARE EXPRESSED IN FEET AND REFER TO THE NEW JERSEY STATE PLANE GRID COORDINATE SYSTEM NORTH AMERICAN DATUM OF 1983 (NAD83).
3. EXISTING SHORELINE (MHW) & DOCK LOCATIONS ARE BASED ON AERIAL IMAGERY AND SHOULD BE CONSIDERED APPROXIMATE.
4. CONDITIONAL (CND) SOUNDING DATA SHOWN WAS COLLECTED ON MAY 9, 2015 BY CAHAGAN & BRYANT ASSOCIATES (CBA) AND INDICATES DEPTH BELOW MLW.
5. THE INFORMATION DEPICTED ON THIS PLAN REPRESENTS THE RESULTS OF SURVEYS CONDUCTED ON THE ABOVE DATES AND SHOULD BE CONSIDERED AS INDICATING THE GENERAL CONDITIONS EXISTING AT THAT TIME.

LEGEND

- CHANNEL CENTERLINE
- CHANNEL LIMIT
- APPROXIMATE SHORELINE (MHW)
- ROAD/PAVEMENT
- MUNICIPALITY LIMIT
- CHANNEL SAMPLE LOCATION
- AREA PRESENTLY ABOVE TEMPLATE (ABOVE ELEV. -4 MLW)
- AREA PRESENTLY ABOVE OVERDEPTH (BETWEEN ELEV. -4 & -5 MLW)

RANGE OF TIDE (FT)
NOT TO SCALE

GRAPHIC SCALE (FT)
0 100' 200 400'

STATE OF NEW JERSEY
NJDOT OFFICE OF MARITIME RESOURCES

TITLE: MAINTENANCE DREDGING AND CHANNEL IMPROVEMENTS FOR LAVALLETTE BEACH CHANNEL

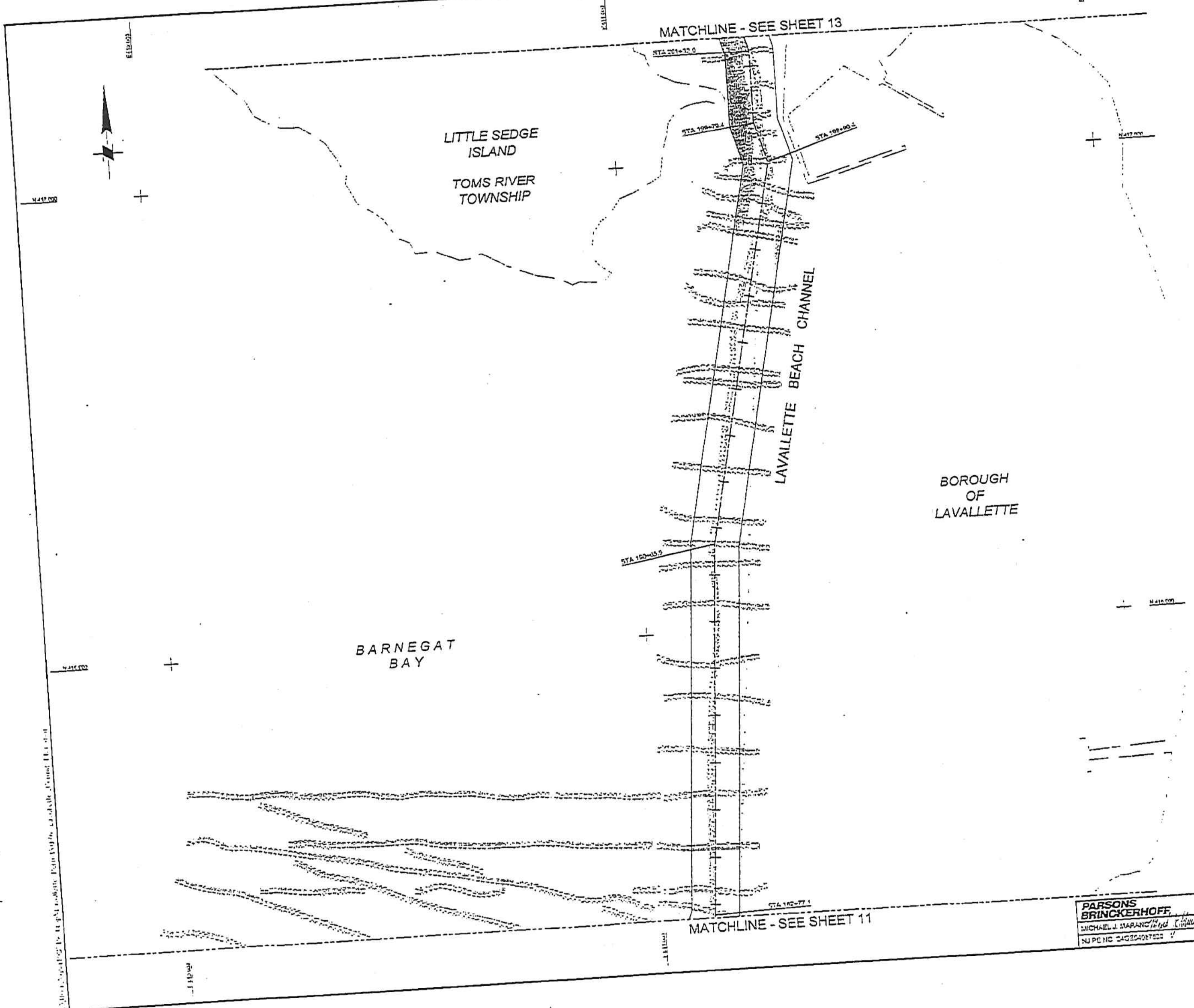
CHANNEL BATHYMETRY PLAN

PROJECT: 276 - LAVALLETTE BEACH CHANNEL
BOROUGH OF LAVALLETTE, BOROUGH OF SEASIDE HEIGHTS / TOMS RIVER TOWNSHIP
BERKELEY TOWNSHIP, OCEAN COUNTY, NEW JERSEY

DRAWN BY SEF	CAHAGAN & BRYANT ASSOCIATES, INC CERTIFICATION OF AUTHORIZATION NO. 24GA28100700	PROJECT NO
CHECKED BY MRG		SHEET 11 OF 13
SCALE AS SHOWN	STAN LULEWICZ NEW JERSEY PROFESSIONAL ENGINEER NO. 24GE04770500	DWG NO PERMIT-11
DATE APRIL 2014		

REV	DATE	DESCRIPTION	BY	APPR

PARSONS BRINCKERHOFF
MICHAEL J. MARANO
NJ PE NO. 24GE04037500



CHANNEL DREDGE VOLUMES BASED ON MAY 9, 2015 CND SURVEY DATA

	LAVALLETTE BEACH CHANNEL 0+00 to 200+47.1
TEMPLATE (-5 MLW)	[illegible]
OVERDEPTH (-6 MLW)	[illegible]
TOTAL (CY)	[illegible]

NOTES:

1. VERTICAL DATUM IS IN REFERENCE TO MEAN LOW WATER (MLW). MLW IS 0.16 FEET BELOW THE NORTH AMERICAN VERTICAL DATUM 1988 (NAVD88). INFORMATION OBTAINED FROM NATIONAL OCEANIC & ATMOSPHERIC ADMINISTRATION (NOAA) VDATUM DATUM TRANSFORMATION PROGRAM.
2. COORDINATES ARE EXPRESSED IN FEET AND REFER TO THE NEW JERSEY STATE PLANE GRID COORDINATE SYSTEM NORTH AMERICAN DATUM OF 1983 (NAD83).
3. EXISTING SHORELINE (MHWL) & DOCK LOCATIONS ARE BASED ON AERIAL IMAGERY AND SHOULD BE CONSIDERED APPROXIMATE.
4. CONDITIONAL (CND) SOUNDING DATA SHOWN WAS COLLECTED ON MAY 9, 2015 BY GAHAGAN & BRYANT ASSOCIATES (GBA) AND INDICATES DEPTH BELOW MLW.
5. THE INFORMATION DEPICTED ON THIS PLAN REPRESENTS THE RESULTS OF SURVEYS CONDUCTED ON THE ABOVE DATES AND SHOULD BE CONSIDERED AS INDICATING THE GENERAL CONDITIONS EXISTING AT THAT TIME.

LEGEND

- CHANNEL CENTERLINE
- CHANNEL LIMIT
- APPROXIMATE SHORELINE (MHWL)
- ROAD/PAVEMENT
- MUNICIPALITY LIMIT
- CHANNEL SAMPLE LOCATION
- AREA PRESENTLY ABOVE TEMPLATE (ABOVE ELEV. -5 MLW)
- AREA PRESENTLY ABOVE OVERDEPTH (BETWEEN ELEV. -5 & -6 MLW)

RANGE OF TIDE (FT)
NOT TO SCALE

GRAPHIC SCALE (FT)
0 100' 200' 400'

STATE OF NEW JERSEY
NJDOT OFFICE OF MARITIME RESOURCES

TITLE: MAINTENANCE DREDGING AND CHANNEL IMPROVEMENTS FOR LAVALLETTE BEACH CHANNEL

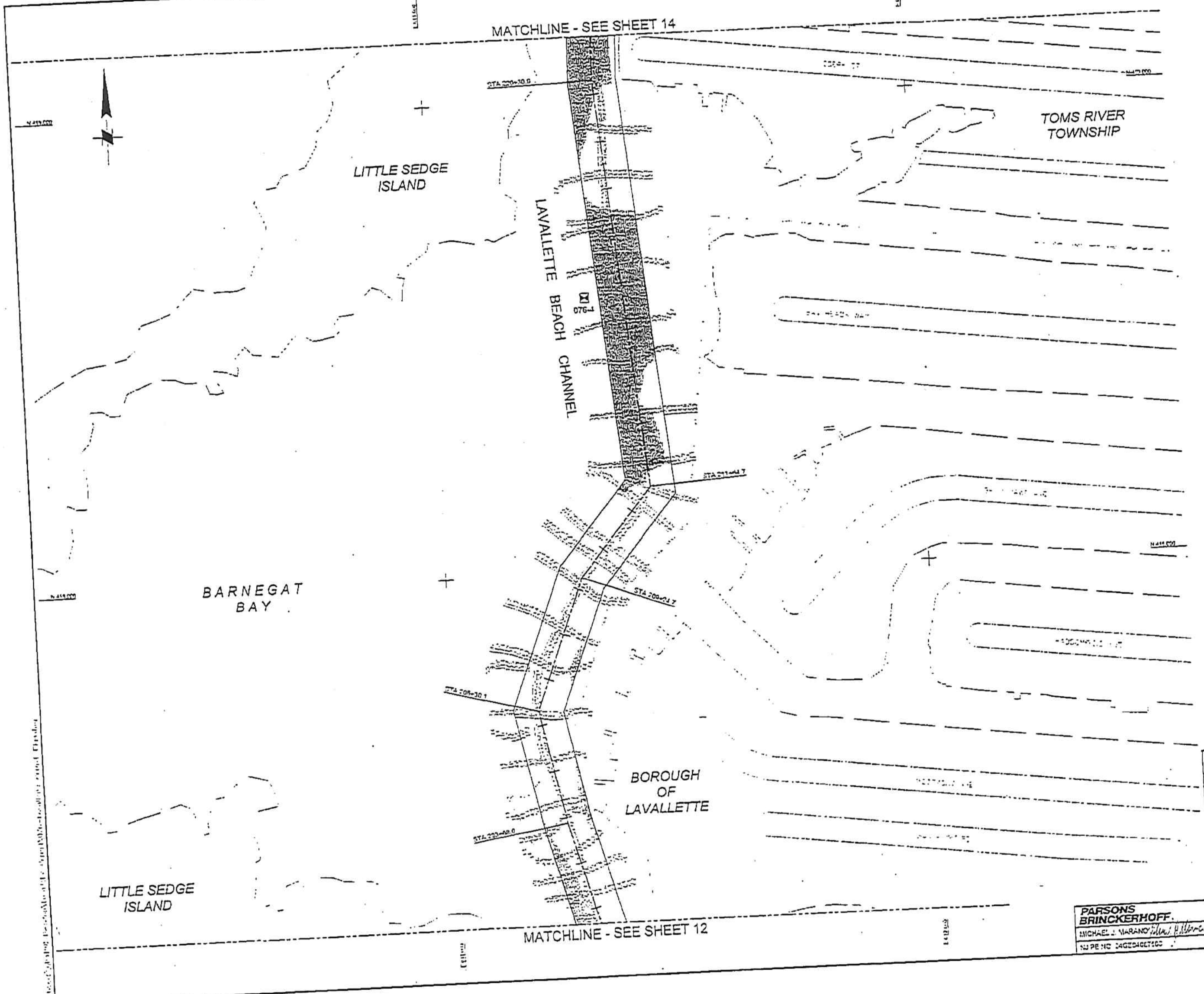
CHANNEL BATHYMETRY PLAN

PROJECT: 376 - LAVALLETTE BEACH CHANNEL
BOROUGH OF LAVALLETTE / BOROUGH OF SEASIDE HEIGHTS / TOMS RIVER TOWNSHIP / BERKELEY TOWNSHIP, OCEAN COUNTY, NEW JERSEY

REV	DATE	DESCRIPTION	BY	APPD

DRAWN BY: SEF	GAHAGAN & BRYANT ASSOCIATES, INC. CERTIFICATION OF AUTHORIZATION NO. [illegible]	PROJECT NO.
CHECKED BY: WRS	STAN LULEWICZ NEW JERSEY PROFESSIONAL ENGINEER NO. [illegible]	SHEET 12 OF 13
SCALE: AS SHOWN		DWG. NO. PERMIT-12
DATE: APRIL 2016		

PARSONS BRINCKERHOFF
MICHAEL J. MARANO
NJ PE NO. [illegible]



CHANNEL DREDGE VOLUMES BASED ON MAY 9, 2015 CND SURVEY DATA

	LAVALLETTE BEACH CHANNEL 0+00 to 290+47.1
TEMPLATE (-5 MLW)	[illegible]
OVERDEPTH (-6 MLW)	[illegible]
TOTAL (CY)	[illegible]

NOTES:

1. VERTICAL DATUM IS IN REFERENCE TO MEAN LOW WATER (MLW). MLW IS 3.18 FEET BELOW THE NORTH AMERICAN VERTICAL DATUM 1988 (NAVD88). INFORMATION OBTAINED FROM NATIONAL OCEANIC & ATMOSPHERIC ADMINISTRATION (NOAA) VDATUM DATUM TRANSFORMATION PROGRAM.
2. COORDINATES ARE EXPRESSED IN FEET AND REFER TO THE NEW JERSEY STATE PLANE GRID COORDINATE SYSTEM NORTH AMERICAN DATUM OF 1983 (NAD83).
3. EXISTING SHORELINE (MHWL) & DOCK LOCATIONS ARE BASED ON AERIAL IMAGERY AND SHOULD BE CONSIDERED APPROXIMATE.
4. CONDITIONAL (CND) SOUNDING DATA SHOWN WAS COLLECTED ON MAY 9, 2015 BY GAHAGAN & BRYANT ASSOCIATES (GBA) AND INDICATES DEPTH BELOW MLW.
5. THE INFORMATION DEPICTED ON THIS PLAN REPRESENTS THE RESULTS OF SURVEYS CONDUCTED ON THE ABOVE DATES AND SHOULD BE CONSIDERED AS INDICATING THE GENERAL CONDITIONS EXISTING AT THAT TIME.

LEGEND

- CHANNEL CENTERLINE
- CHANNEL LIMIT
- APPROXIMATE SHORELINE (MHWL)
- ROAD/PAVEMENT
- MUNICIPALITY LIMIT
- CHANNEL SAMPLE LOCATION
- AREA PRESENTLY ABOVE TEMPLATE (ABOVE ELEV. -5 MLW)
- AREA PRESENTLY ABOVE OVERDEPTH (BETWEEN ELEV. -6 & -5 MLW)

RANGE OF TIDE (FT)
NOT TO SCALE

GRAPHIC SCALE (FT)
0' 100' 200' 400'

STATE OF NEW JERSEY
NJDOT OFFICE OF MARITIME RESOURCES

TITLE: MAINTENANCE DREDGING AND CHANNEL IMPROVEMENTS FOR LAVALLETTE BEACH CHANNEL

CHANNEL BATHYMETRY PLAN

PROJECT: 076 - LAVALLETTE BEACH CHANNEL
BOROUGH OF LAVALLETTE / BOROUGH OF SEASIDE HEIGHTS / TOMS RIVER TOWNSHIP / BERKELEY TOWNSHIP OCEAN COUNTY NEW JERSEY

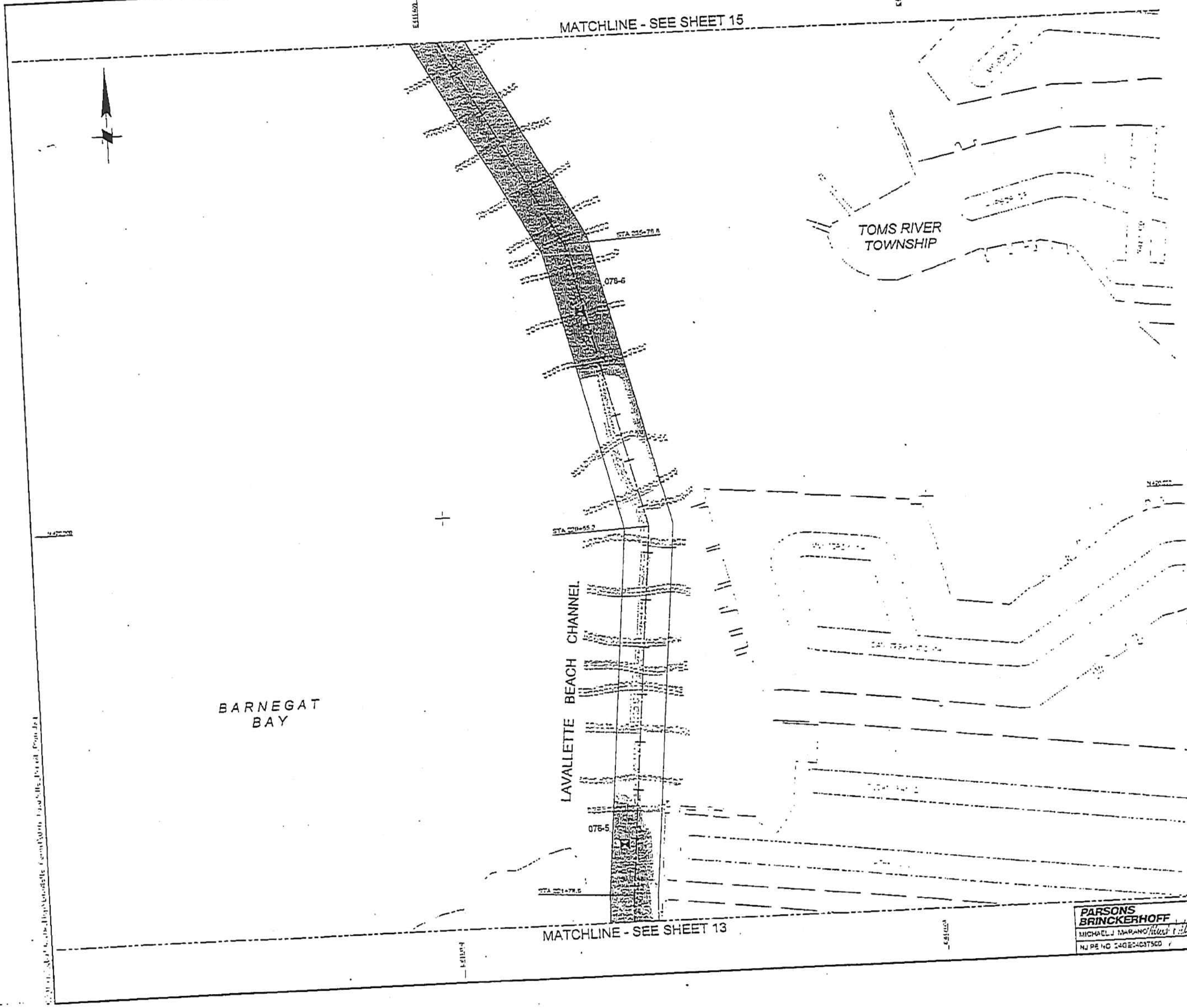
REV	DATE	DESCRIPTION	BY	APPR

PARSONS BRINCKERHOFF.
MICHAEL J. MARANO
NJ PE NO. 24GE04067500

DRAWN BY: SEF
CHECKED BY: MRS
SCALE: AS SHOWN
DATE: APRIL 2016

GAHAGAN & BRYANT ASSOCIATES, INC
CERTIFICATION OF AUTHORIZATION NO. 24GA28152700
STAN LULEWICZ
NEW JERSEY PROFESSIONAL ENGINEER
NO. 24GE04770900

PROJECT NO.
SHEET 13 OF 19
DWG NO. PERMIT-13



CHANNEL DREDGE VOLUMES BASED ON MAY 9, 2015 CND SURVEY DATA

	LAVALLETTE BEACH CHANNEL 0+00 to 230+47.1
TEMPLATE (-3 MLW) (CY)	[illegible]
OVERDEPTH (-4 MLW) (CY)	[illegible]
TOTAL (CY)	[illegible]

NOTES:

1. VERTICAL DATUM IS IN REFERENCE TO MEAN LOW WATER (MLW). MLW IS 0.18 FEET BELOW THE NORTH AMERICAN VERTICAL DATUM 1988 (NAVD88). INFORMATION OBTAINED FROM NATIONAL OCEANIC & ATMOSPHERIC ADMINISTRATION (NOAA) VDATUM DATUM TRANSFORMATION PROGRAM.
2. COORDINATES ARE EXPRESSED IN FEET AND REFER TO THE NEW JERSEY STATE PLANE GRID COORDINATE SYSTEM NORTH AMERICAN DATUM OF 1983 (NAD83).
3. EXISTING SHORELINE (MHWL) & DOCK LOCATIONS ARE BASED ON AERIAL IMAGERY AND SHOULD BE CONSIDERED APPROXIMATE.
4. CONDITIONAL (CND) SOUNDING DATA SHOWN WAS COLLECTED ON MAY 9, 2015 BY GAHAGAN & BRYANT ASSOCIATES (GBA) AND INDICATES DEPTH BELOW MLW.
5. THE INFORMATION DEPICTED ON THIS PLAN REPRESENTS THE RESULTS OF SURVEYS CONDUCTED ON THE ABOVE DATES AND SHOULD BE CONSIDERED AS INDICATING THE GENERAL CONDITIONS EXISTING AT THAT TIME.

LEGEND

- CHANNEL CENTERLINE
- CHANNEL LIMIT
- APPROXIMATE SHORELINE (MHWL)
- ROAD/PAVEMENT
- MUNICIPALITY LIMIT
- CHANNEL SAMPLE LOCATION
- AREA PRESENTLY ABOVE TEMPLATE (ABOVE ELEV. -3 MLW)
- AREA PRESENTLY ABOVE OVERDEPTH (BETWEEN ELEV. -3 & -4 MLW)

RANGE OF TIDE (FT)
NOT TO SCALE

GRAPHIC SCALE (FT): 0' 100' 200' 400'

REV	DATE	DESCRIPTION	BY	APPR

PARSONS BRINCKERHOFF
MICHAEL J. MARANO
NJ PE NO. 24GE04037500

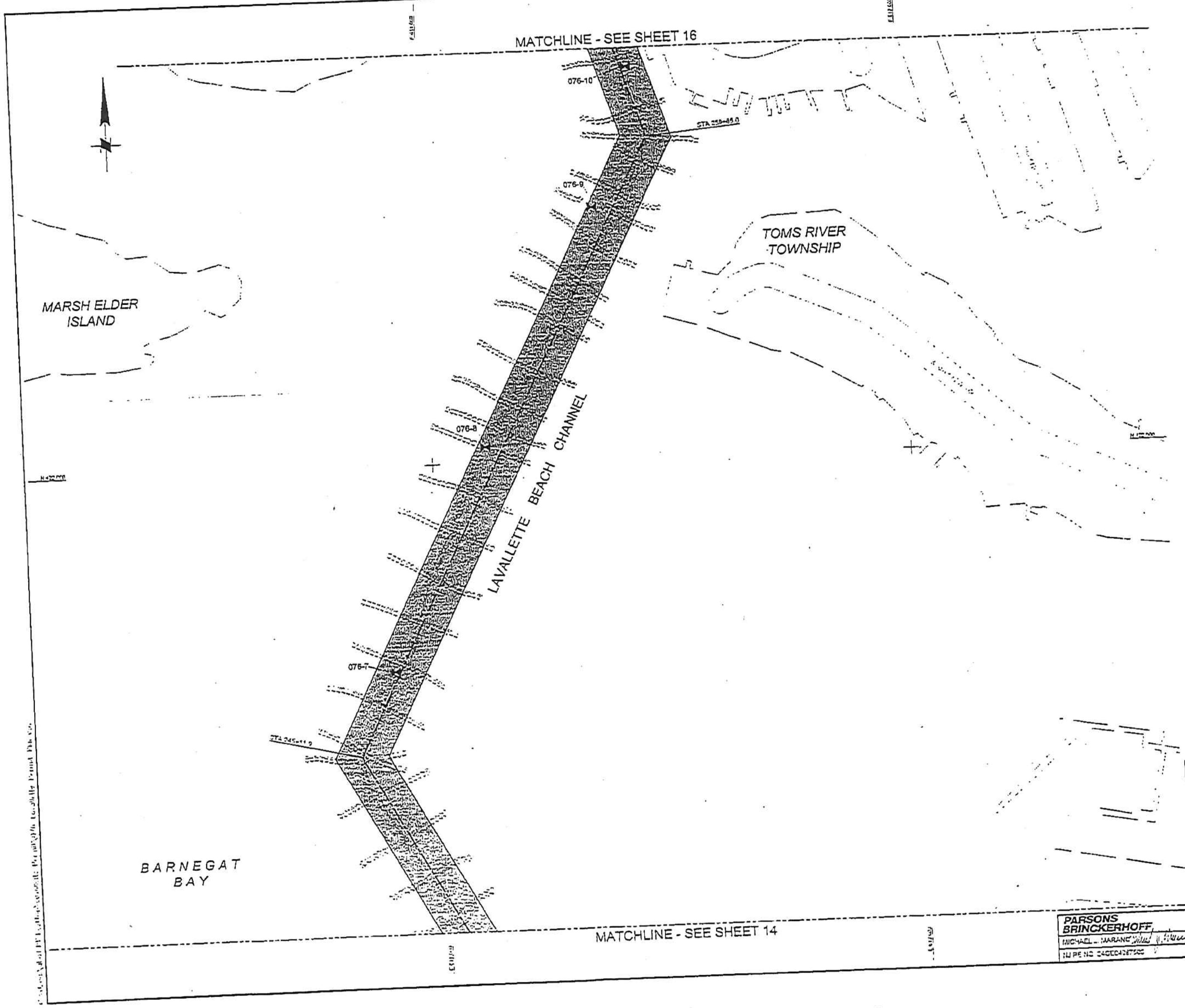
STATE OF NEW JERSEY
NJDOT OFFICE OF MARITIME RESOURCES

TITLE: MAINTENANCE DREDGING AND CHANNEL IMPROVEMENTS FOR LAVALLETTE BEACH CHANNEL

CHANNEL BATHYMETRY PLAN

PROJECT: 078 - LAVALLETTE BEACH CHANNEL, BOROUGH OF LAVALLETTE, BOROUGH OF SEASIDE HEIGHTS, TOMS RIVER TOWNSHIP, BERKELEY TOWNSHIP, OCEAN COUNTY, NEW JERSEY

DRAWN BY: SEF	GAHAGAN & BRYANT ASSOCIATES INC. CERTIFICATION OF AUTHORIZATION NO. [illegible]	PROJECT NO. 1
CHECKED BY: MRS		SHEET 14 OF 19
SCALE: AS SHOWN	STAN LULEWICZ, NEW JERSEY PROFESSIONAL ENGINEER	DWG NO. PERMIT-14
DATE: APRIL 2016	NO. 24GE[illegible]	



CHANNEL DREDGE VOLUMES BASED ON MAY 9, 2015 CND SURVEY DATA

	LAVALLETTE BEACH CHANNEL 0+00 to 200+47.1
TEMPLATE (CY)	[illegible]
OVERDEPTH (CY)	[illegible]
TOTAL (CY)	[illegible]

NOTES:

1. VERTICAL DATUM IS IN REFERENCE TO MEAN LOW WATER (MLW). MLW IS 3.18 FEET BELOW THE NORTH AMERICAN VERTICAL DATUM 1988 (NAVD88). INFORMATION OBTAINED FROM NATIONAL OCEANIC & ATMOSPHERIC ADMINISTRATION (NOAA) VDATUM DATUM TRANSFORMATION PROGRAM.
2. COORDINATES ARE EXPRESSED IN FEET AND REFER TO THE NEW JERSEY STATE PLANE GRID COORDINATE SYSTEM NORTH AMERICAN DATUM OF 1983 (NAD83).
3. EXISTING SHORELINE (MHWL) & DOCK LOCATIONS ARE BASED ON AERIAL IMAGERY AND SHOULD BE CONSIDERED APPROXIMATE.
4. CONDITIONAL (CND) SOUNDING DATA SHOWN WAS COLLECTED ON MAY 9, 2015 BY GAHAGAN & BRYANT ASSOCIATES (GBA) AND INDICATES DEPTH BELOW MLW.
5. THE INFORMATION DEPICTED ON THIS PLAN REPRESENTS THE RESULTS OF SURVEYS CONDUCTED ON THE ABOVE DATES AND SHOULD BE CONSIDERED AS INDICATING THE GENERAL CONDITIONS EXISTING AT THAT TIME.

LEGEND

- CHANNEL CENTERLINE
- CHANNEL LIMIT
- APPROXIMATE SHORELINE (MHWL)
- ROAD/PAVEMENT
- MUNICIPALITY LIMIT
- CHANNEL SAMPLE LOCATION
- AREA PRESENTLY ABOVE TEMPLATE (ABOVE ELEV. -3 MLW)
- AREA PRESENTLY ABOVE OVERDEPTH (BETWEEN ELEV. -4 & -3 MLW)

RANGE OF TIDE (FT)
NOT TO SCALE

GRAPHIC SCALE (FT)
0 100' 200' 400'

STATE OF NEW JERSEY
NJDOT OFFICE OF MARITIME RESOURCES

TITLE: MAINTENANCE DREDGING AND CHANNEL IMPROVEMENTS FOR LAVALLETTE BEACH CHANNEL

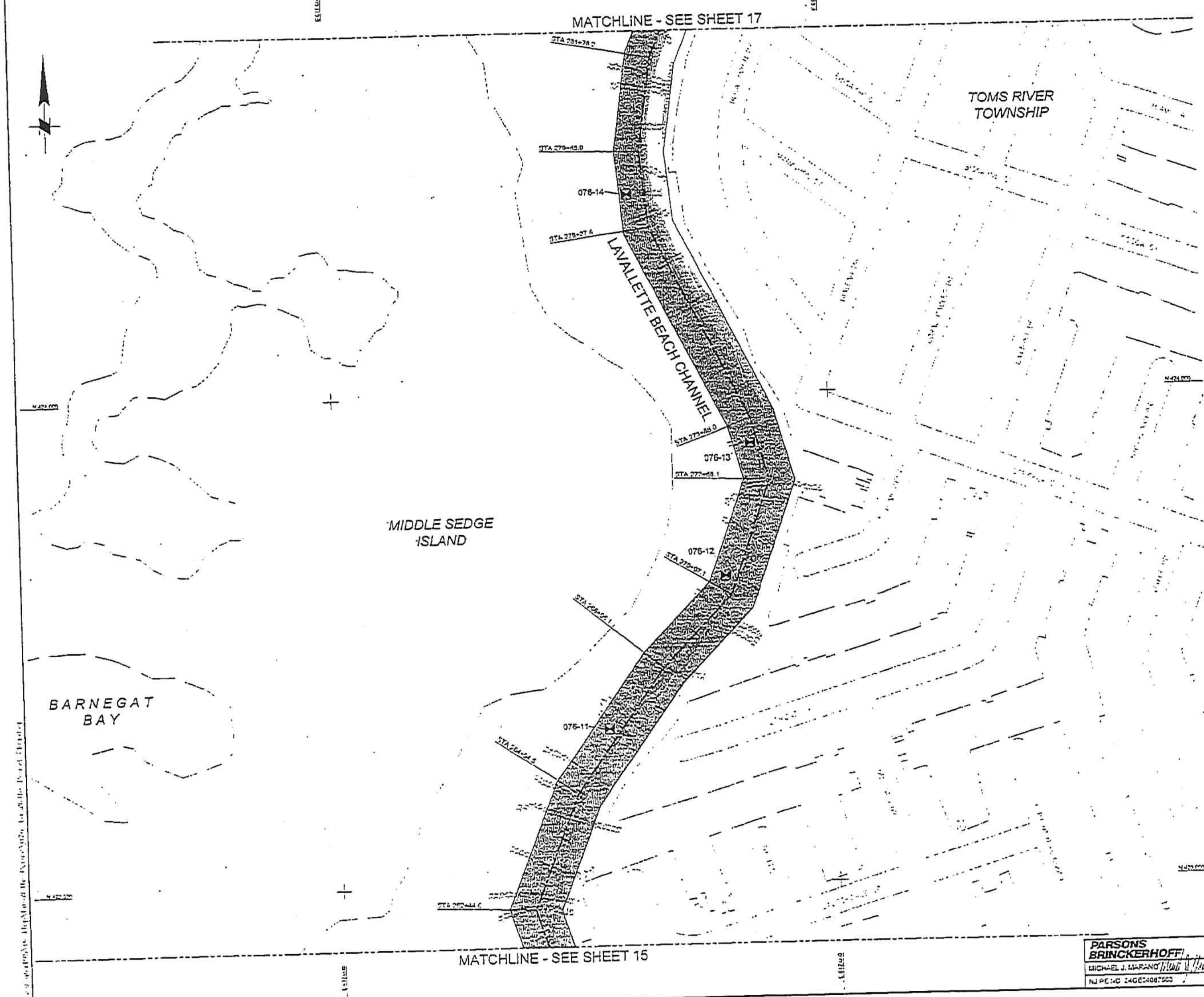
CHANNEL BATHYMETRY PLAN

PROJECT: 076 - LAVALLETTE BEACH CHANNEL BOROUGH OF LAVALLETTE, BOROUGH OF SEASIDE HEIGHTS, TOMS RIVER TOWNSHIP, BERKELEY TOWNSHIP, OCEAN COUNTY, NEW JERSEY

DRAWN BY: SEF	GAHAGAN & BRYANT ASSOCIATES, INC CERTIFICATION OF AUTHORIZATION NO 24GA28132700	PROJECT NO	
CHECKED BY: MRS		SHEET 15 OF 17	
SCALE: AS SHOWN	STAN LULEWICZ NEW JERSEY PROFESSIONAL ENGINEER NO. 24GE04770300	DWG. NO. PERMIT-15	
DATE: APRIL 2015			

REV	DATE	DESCRIPTION	BY	APPR

PARSONS BRINCKERHOFF
MICHAEL J. MARANO
NJ PE NO. 24GE04267500



CHANNEL DREDGE VOLUMES BASED ON MAY 9, 2015 CND SURVEY DATA

	LAVALLETTE BEACH CHANNEL 0+00 to 290+47.1
TEMPLATE (-3 MLW)	[illegible]
OVERDEPTH (-5 MLW)	[illegible]
TOTAL (CY)	[illegible]

NOTES:

1. VERTICAL DATUM IS IN REFERENCE TO MEAN LOW WATER (MLW). MLW IS 0.18 FEET BELOW THE NORTH AMERICAN VERTICAL DATUM 1988 (NAVD88). INFORMATION OBTAINED FROM NATIONAL OCEANIC & ATMOSPHERIC ADMINISTRATION (NOAA) VDATUM DATUM TRANSFORMATION PROGRAM.
2. COORDINATES ARE EXPRESSED IN FEET AND REFER TO THE NEW JERSEY STATE PLANE GRID COORDINATE SYSTEM NORTH AMERICAN DATUM OF 1983 (NAD83).
3. EXISTING SHORELINE (MHWL) & DOCK LOCATIONS ARE BASED ON AERIAL IMAGERY AND SHOULD BE CONSIDERED APPROXIMATE.
4. CONDITIONAL (CND) SOUNDING DATA SHOWN WAS COLLECTED ON MAY 9, 2015 BY GAHAGAN & BRYANT ASSOCIATES (GBA) AND INDICATES DEPTH BELOW MLW.
5. THE INFORMATION DEPICTED ON THIS PLAN REPRESENTS THE RESULTS OF SURVEYS CONDUCTED ON THE ABOVE DATES AND SHOULD BE CONSIDERED AS INDICATING THE GENERAL CONDITIONS EXISTING AT THAT TIME.

LEGEND

- CHANNEL CENTERLINE
- CHANNEL LIMIT
- APPROXIMATE SHORELINE (MHWL)
- ROAD/PAVEMENT
- MUNICIPALITY LIMIT
- CHANNEL SAMPLE LOCATION
- AREA PRESENTLY ABOVE TEMPLATE (ABOVE ELEV. -3 MLW)
- AREA PRESENTLY ABOVE OVERDEPTH (BETWEEN ELEV. -5 & -3 MLW)

RANGE OF TIDE (FT)
NOT TO SCALE

0' 100' 200' 400'
GRAPHIC SCALE (FT)

STATE OF NEW JERSEY
NJDOT OFFICE OF MARITIME RESOURCES

TITLE: MAINTENANCE DREDGING AND CHANNEL IMPROVEMENTS FOR LAVALLETTE BEACH CHANNEL

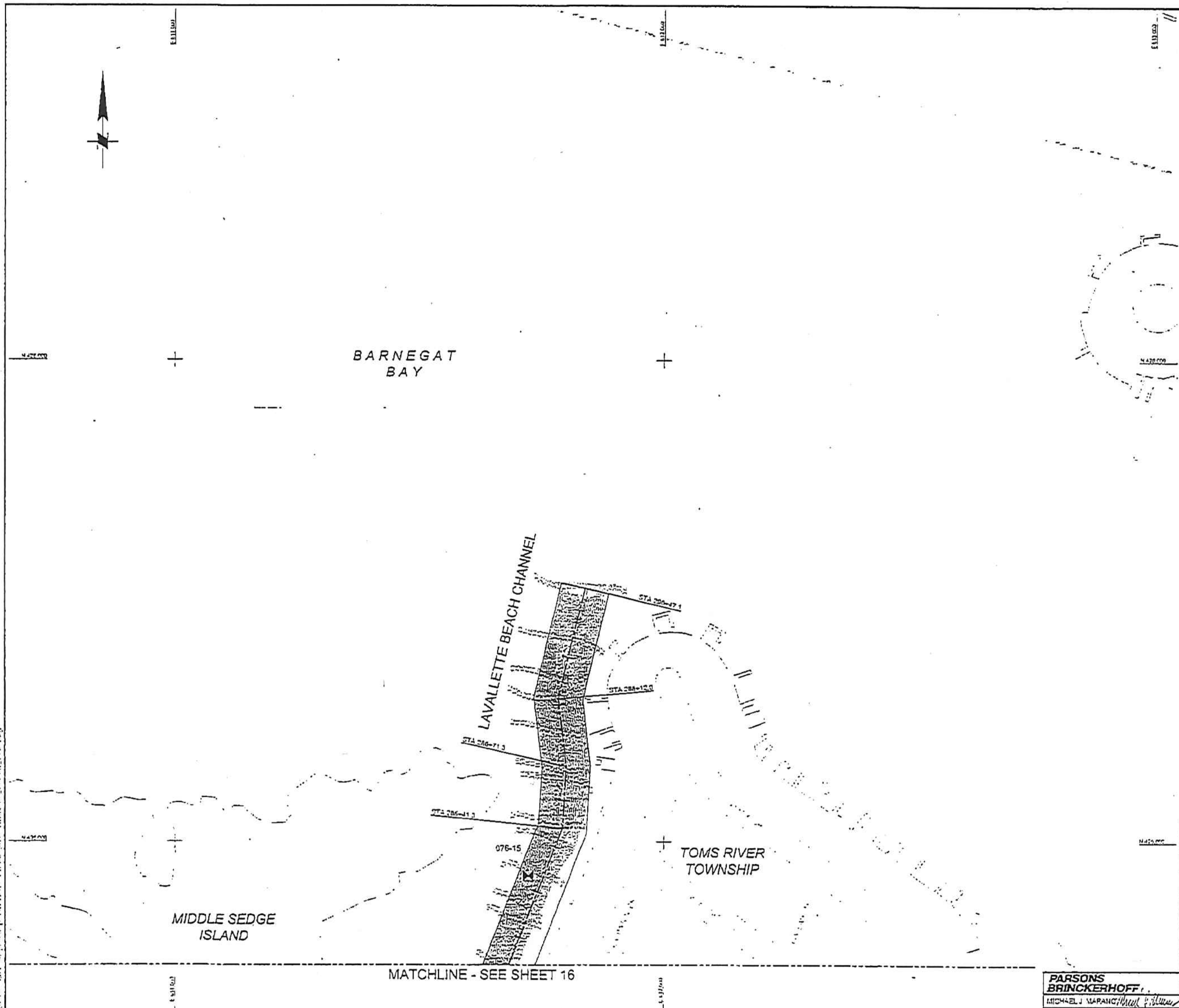
CHANNEL BATHYMETRY PLAN

PROJECT: 076 - LAVALLETTE BEACH CHANNEL
BOROUGH OF LAVALLETTE · BOROUGH OF SEASIDE HEIGHTS · TOMS RIVER TOWNSHIP
BERKELEY TOWNSHIP, OCEAN COUNTY, NEW JERSEY

DRAWN BY: SEP	GAHAGAN & BRYANT ASSOCIATES, INC. CERTIFICATION OF AUTHORIZATION NO. [illegible]	PROJECT NO.
CHECKED BY: MRS		SHEET [illegible] OF [illegible]
SCALE: AS SHOWN	STAN LULEWICZ NEW JERSEY PROFESSIONAL ENGINEER NO. [illegible]	DWG. NO. PERMIT-16
DATE: APRIL 2016		

REV	DATE	DESCRIPTION	BY	APPR

PARSONS BRINCKERHOFF
MICHAEL J. MARANO
NJ PE NO. [illegible]



CHANNEL DREDGE VOLUMES BASED ON MAY 9, 2015 CND SURVEY DATA

	LAVALLETTE BEACH CHANNEL 0+00 to 290+47.1
TEMPLATE (-6 MLW)	[illegible]
OVERDEPTH (-8 MLW)	[illegible]
TOTAL CY	[illegible]

NOTES:

1. VERTICAL DATUM IS IN REFERENCE TO MEAN LOW WATER (MLW). MLW IS 2.18 FEET BELOW THE NORTH AMERICAN VERTICAL DATUM 1988 (NAVD88). INFORMATION OBTAINED FROM NATIONAL OCEANIC & ATMOSPHERIC ADMINISTRATION (NOAA) [illegible] DATUM TRANSFORMATION PROGRAM.
2. COORDINATES ARE EXPRESSED IN FEET AND REFER TO THE NEW JERSEY STATE PLANE GRID COORDINATE SYSTEM NORTH AMERICAN DATUM OF 1983 (NAD83).
3. EXISTING SHORELINE (MHWL) & DOCK LOCATIONS ARE BASED ON AERIAL IMAGERY AND SHOULD BE CONSIDERED APPROXIMATE.
4. CONDITIONAL (CND) SOUNDING DATA SHOWN WAS COLLECTED ON MAY 9, 2015 BY GAHAGAN & BRYANT ASSOCIATES (GBA) AND INDICATES DEPTH BELOW MLW.
5. THE INFORMATION DEPICTED ON THIS PLAN REPRESENTS THE RESULTS OF SURVEYS CONDUCTED ON THE ABOVE DATES AND SHOULD BE CONSIDERED AS INDICATING THE GENERAL CONDITIONS EXISTING AT THAT TIME.

LEGEND

- CHANNEL CENTERLINE
- CHANNEL LIMIT
- APPROXIMATE SHORELINE (MHWL)
- ROAD/PAVEMENT
- MUNICIPALITY LIMIT
- CHANNEL SAMPLE LOCATION
- AREA PRESENTLY ABOVE TEMPLATE (ABOVE ELEV. -6 MLW)
- AREA PRESENTLY ABOVE OVERDEPTH (BETWEEN ELEV. -6 & -8 MLW)

RANGE OF TIDE (FT)
NOT TO SCALE

GRAPHIC SCALE (FT)
0' 100' 200' 400'

REV	DATE	DESCRIPTION	BY	APPR

PARSONS BRINCKERHOFF
MICHAEL J. MARANO
NJ PE NO. 24GE04087500

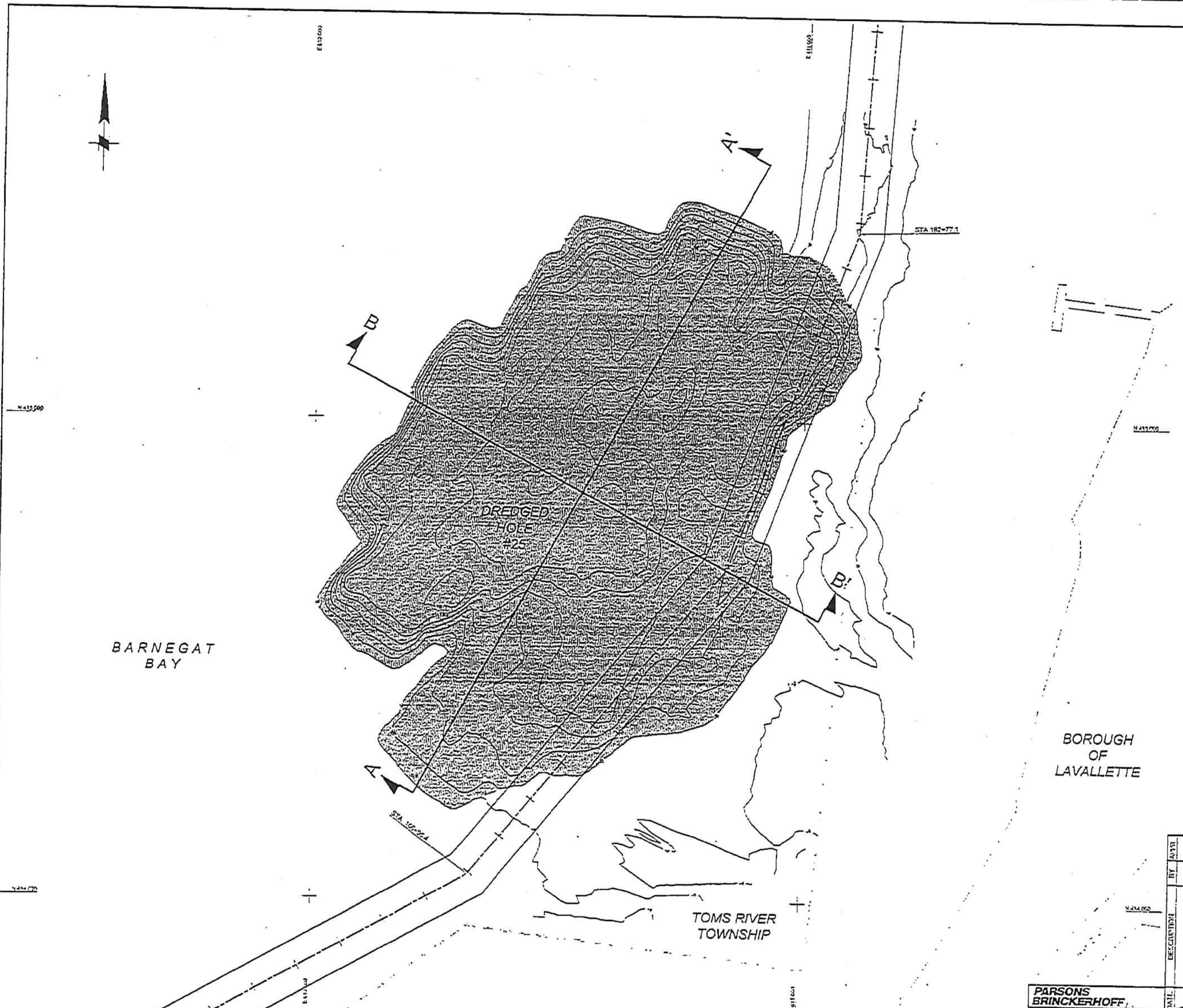
STATE OF NEW JERSEY
NJDOT OFFICE OF MARITIME RESOURCES

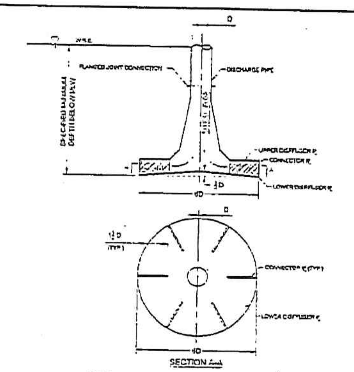
TITLE: MAINTENANCE DREDGING AND CHANNEL IMPROVEMENTS FOR LAVALLETTE BEACH CHANNEL

CHANNEL BATHYMETRY PLAN

PROJECT: 076 - LAVALLETTE BEACH CHANNEL
BOROUGH OF LAVALLETTE / BOROUGH OF SEASIDE HEIGHTS / TOMS RIVER TOWNSHIP / BERKELEY TOWNSHIP, OCEAN COUNTY, NEW JERSEY

DRAWN BY: SEF	GAHAGAN & BRYANT ASSOCIATES, INC. CERTIFICATION OF AUTHORIZATION NO. 24GA28132700	PROJECT NO.
CHECKED BY: MRS		SHEET 17 OF 19
SCALE: AS SHOWN	STAN LULEWICZ NEW JERSEY PROFESSIONAL ENGINEER NO. 24GE04770300	
DATE: APRIL 2015		DWG NO. PERMIT-17





TYPICAL DISCHARGE PIPELINE & DIFFUSER DETAIL
NOT TO SCALE

DREDGED HOLE #25 STORAGE VOLUMES	
ELEVATION (MLW)	STORAGE (CY)
-20 to -19	136
-19 to -18	3,105
-18 to -17	9,353
-17 to -16	12,904
-16 to -15	16,389
-15 to -14	14,575
-14 to -13	20,550
-13 to -12	22,331
-12 to -11	24,427
-11 to -10	23,630
-10 to -9	23,717
-9 to -8	32,563
TOTAL (CY)	217,343

NOTES:

1. VERTICAL DATUM IS IN REFERENCE TO MEAN LOW WATER (MLW). MLW IS 2.?8 FEET BELOW THE NORTH AMERICAN VERTICAL DATUM 1988 (NAVD88). INFORMATION OBTAINED FROM NATIONAL OCEANIC & ATMOSPHERIC ADMINISTRATION (NOAA) VDATUM DATUM TRANSFORMATION PROGRAM.
2. COORDINATES ARE EXPRESSED IN FEET AND REFER TO THE NEW JERSEY STATE PLANE GRID COORDINATE SYSTEM NORTH AMERICAN DATUM OF 1983 (NAD83).
3. EXISTING SHORELINE (MHWL) & DOCK LOCATIONS ARE BASED ON AERIAL IMAGERY AND SHOULD BE CONSIDERED APPROXIMATE.
4. DREDGED HOLE #25 EXISTING CONTOUR DATA SHOWN WAS COLLECTED ON MAY 22, 2015 BY GAHAGAN & BRYANT ASSOCIATES (GBA) AND OCTOBER 22, 2012 BY STOCKTON UNIVERSITY (SU).
5. THE INFORMATION DEPICTED ON THIS PLAN REPRESENTS THE RESULTS OF SURVEYS CONDUCTED ON THE ABOVE DATES AND SHOULD BE CONSIDERED AS INDICATING THE GENERAL CONDITIONS EXISTING AT THAT TIME.

LEGEND

- CHANNEL CENTERLINE
- CHANNEL LIMIT
- APPROXIMATE SHORELINE (MHWL)
- ROAD/PAVEMENT
- EXISTING 2' CONTOUR (DREDGED HOLE #25)
- MUNICIPALITY LIMIT
- APPROX. MATERIAL PLACEMENT LIMIT (ELEV. -6 TO -8 MLW)

RANGE OF TIDE (FT)
NOT TO SCALE

0' 100' 200' 400'
GRAPHIC SCALE (FT)

STATE OF NEW JERSEY
NJDOT OFFICE OF MARITIME RESOURCES

TITLE: MAINTENANCE DREDGING AND CHANNEL IMPROVEMENTS FOR LAVALLETTE BEACH CHANNEL

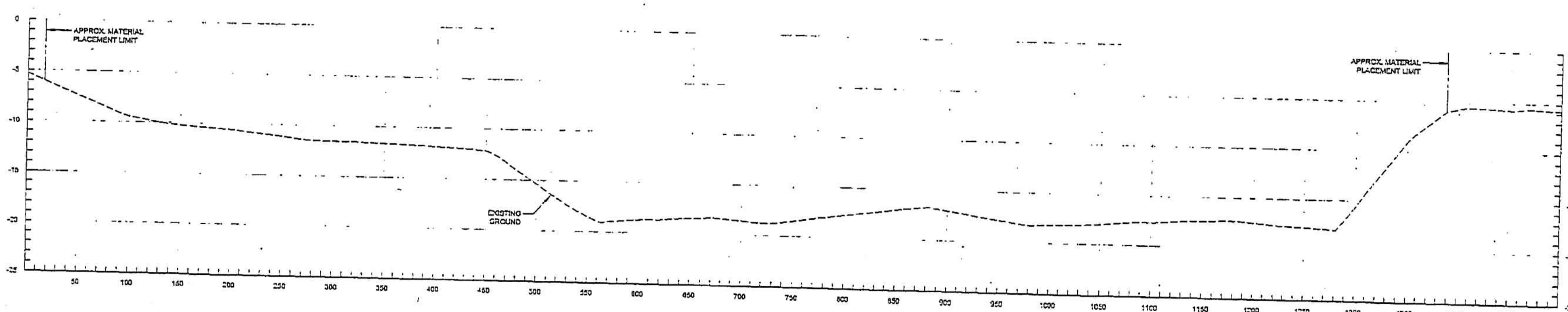
DREDGED HOLE #25 PLACEMENT PLAN

PROJECT: 070 - LAVALLETTE BEACH CHANNEL
BOROUGH OF LAVALLETTE / BOROUGH OF SEASIDE HEIGHTS, TOMS RIVER TOWNSHIP / BERKELEY TOWNSHIP, OCEAN COUNTY, NEW JERSEY

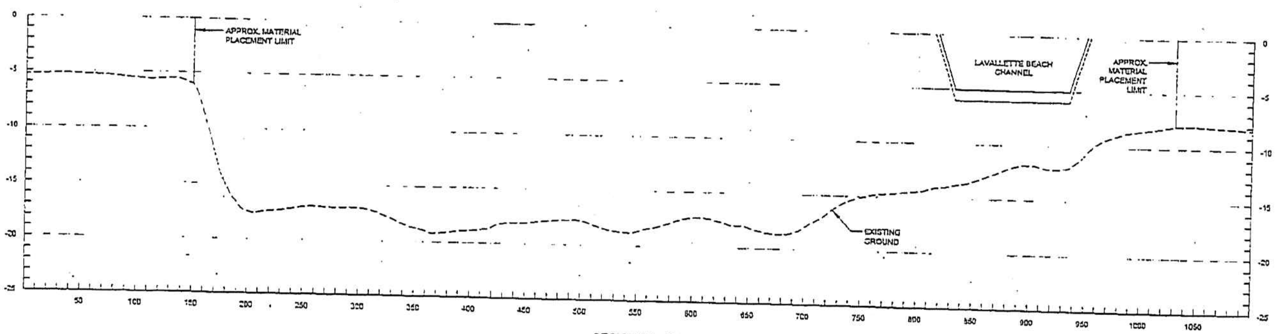
REV	DATE	DESCRIPTION	BY	APPR

PARSONS BRINCKERHOFF
MICHAEL J. MARANO
NJ PE NO. 24GE24287500

DRAWN BY: SEF	GAHAGAN & BRYANT ASSOCIATES INC CERTIFICATION OF AUTHORIZATION NO 24GA28192726	PROJECT NO.
CHECKED BY: MRG		
SCALE: AS SHOWN	STAN LULEWICZ NEW JERSEY PROFESSIONAL ENGINEER NO. 24GE04770500	SHEET 18 OF 19
DATE: APRIL 2015		DWG NO. PERMIT-18



SECTION A - A'
H SCALE: 1"=50' V SCALE: 1"=5'



SECTION B - B'
H SCALE: 1"=50' V SCALE: 1"=5'

RANGE OF TIDE (FT)

LEGEND

- EXISTING GROUND (DREDGED HOLE #25)
- REQUIRED CHANNEL TEMPLATE
- ALLOWABLE CHANNEL OVERDEPTH TEMPLATE
- APPROXIMATE MATERIAL PLACEMENT LIMIT

REV	DATE	DESCRIPTION	BY	APPR

STATE OF NEW JERSEY
NJDOT OFFICE OF MARITIME RESOURCES

TITLE: MAINTENANCE DREDGING AND CHANNEL IMPROVEMENTS FOR LAVALLETTE BEACH CHANNEL

DREDGED HOLE #25 CROSS SECTIONS

PROJECT: 379 - LAVALLETTE BEACH CHANNEL
BOROUGH OF LAVALLETTE / BOROUGH OF SEASIDE HEIGHTS / TOMS RIVER TOWNSHIP / BERKELEY TOWNSHIP, OCEAN COUNTY, NEW JERSEY

PARSONS BRINCKERHOFF
MICHAEL J. MARANO
NJ PE NO. 24GE04087500

DRAWN BY: SEF	GAHAGAN & BRYANT ASSOCIATES, INC. CERTIFICATION OF AUTHORIZATION NO. 24GA28102700	PROJECT NO.
CHECKED BY: MPS		
SCALE: AS SHOWN	STAN LULEWICZ NEW JERSEY PROFESSIONAL ENGINEER NO. 24GE04770600	SHEET 19 OF 19
DATE: APRIL 2018		DWG NO. PERMIT-19