
NEW JERSEY MARINE TERMINAL ELIZABETH , NEW JERSEY

HYDROGRAPHIC SURVEY ALL BERTHS - SUMMER 2011

PREPARED FOR

THE PORT AUTHORITY

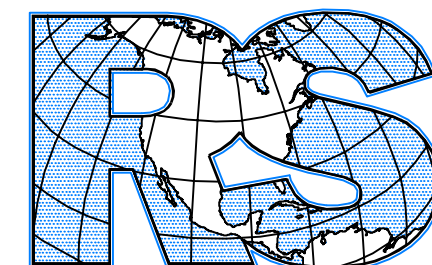
OF NY & NJ



- 1. LOCATION PLAN
- 2. INDEX
- 3. BERTHS



Vicinity Map



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Staten Island, N.Y. 10310
(718) 447-7311

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FILE No : 35396

PREPARED FOR
**THE PORT AUTHORITY
OF NY & NJ**



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Title
**NEW JERSEY
MARINE
TERMINAL**
**HYDROGRAPHIC
SURVEY**

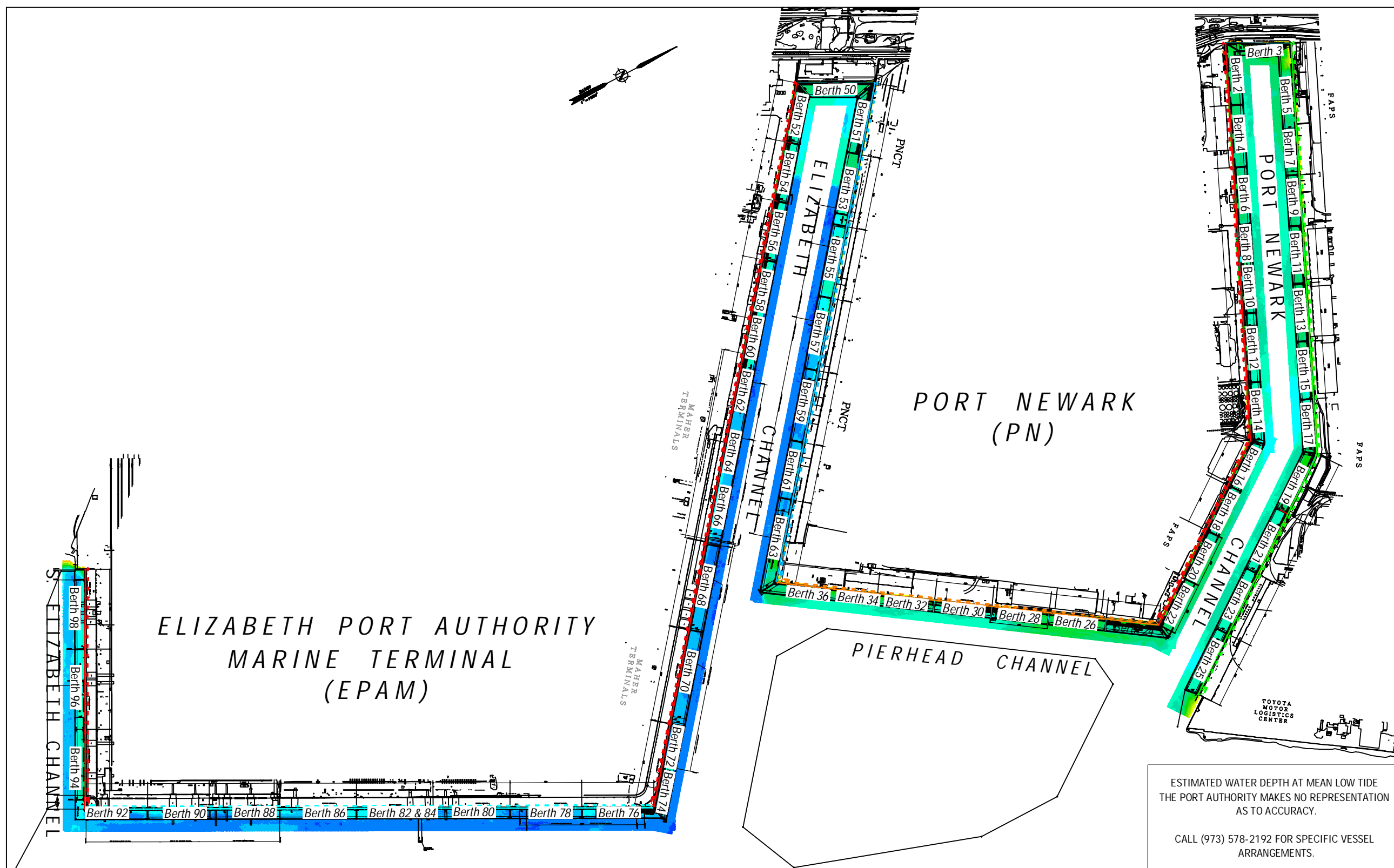
No.	Date	Revision	Approved

VERTICAL CONTROL
Mean Low Water = 2.3' Below 0.00 NGVD '29

HORIZONTAL CONTROL
ALL COORDINATES, BEARING AND DISTANCES ARE REFERENCED TO THE NEW JERSEY PLANE COORDINATE SYSTEM (N.A.D. 83) AS SET FORTH IN N.J.S.A. 51:3-7

This drawing subject to conditions in contract. All inventions, ideas, designs and methods herein are reserved to Port Authority and may not be used without its written consent.

Rogers Surveying RK DWR
Surveyed by RK Drawn by DWR Checked by DWR
Date 06/29/11 Scale 1"= 80'
 07/13/11
Contract Number 410-10-037 Drawing Number 2 of 60
BERTH INDEX



ESTIMATED WATER DEPTH AT MEAN LOW TIDE
THE PORT AUTHORITY MAKES NO REPRESENTATION
AS TO ACCURACY.

CALL (973) 578-2192 FOR SPECIFIC VESSEL
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NOTE:
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THIS SURVEY WAS COMPLETED USING THE FOLLOWING EQUIPMENT:
• Survey Vessel "Red Rogers".
• Reason 7101 MultiBeam.
• TSS 320 POS/MV.
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Volume Report THE DATA USED FOR VOLUME CALCULATIONS IS REPRESENTATIVE OF A LARGER DATA SET. SOUNDINGS USED FOR VOLUME CALCULATIONS ARE ON A 3'X3' GRID WITH THE DEPTH NEAREST TO THE CENTER USED.

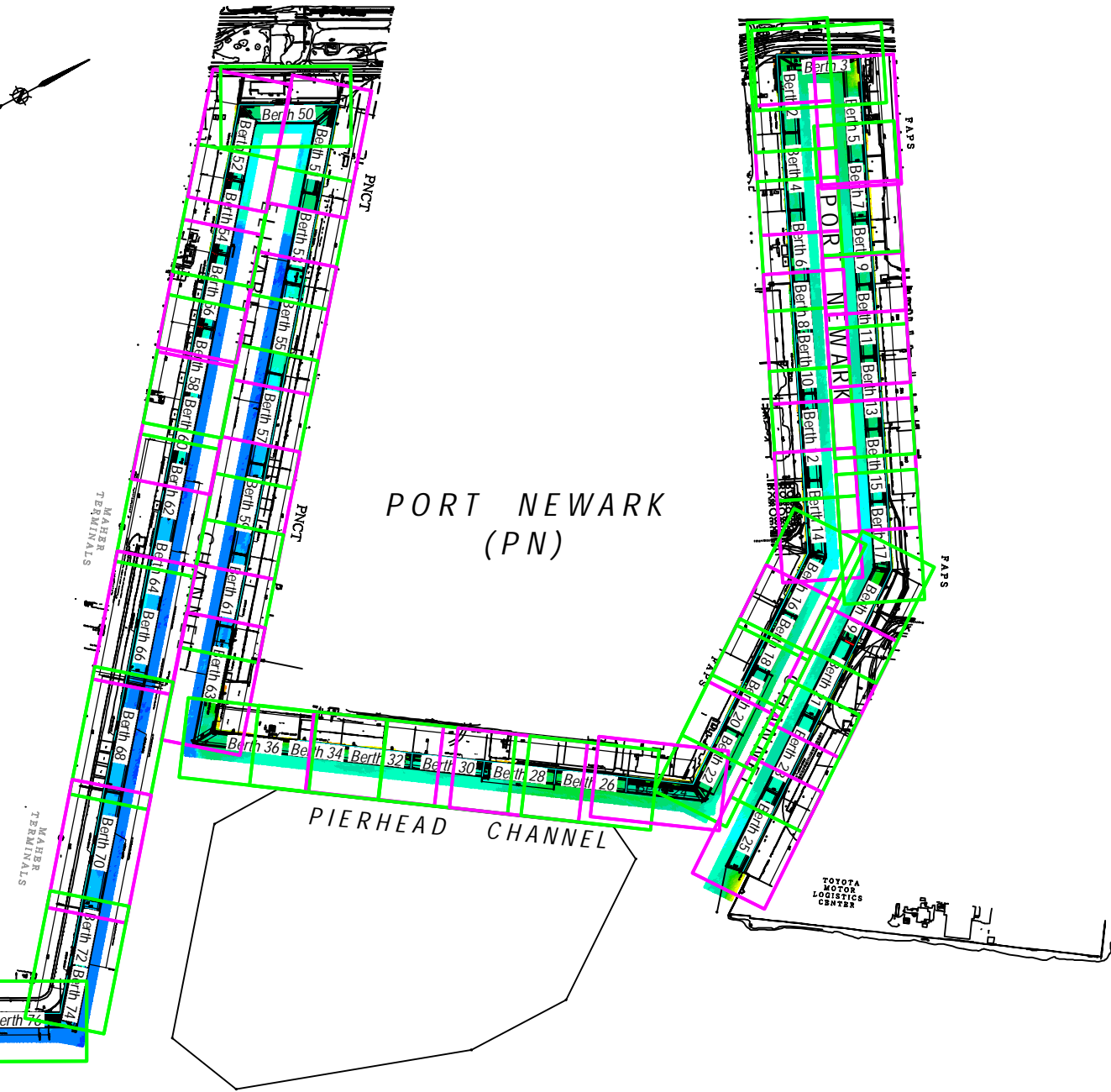
Design Depth	Volume to Dredge Template	Volume of 2' Over dredge	Total Volume

NOTE: BERTH LENGTHS, WIDTHS AND DEEP WATER BERTH DIMENSIONS FROM P.A. PORT DEPARTMENT.
Coordinates are expressed in feet and refer to the NEW JERSEY STATE PLANE (NAD 83) System.
Soundings refer to Mean Low Water as determined by U.S.A.C.E.
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NAVD88 1.11
NGVD29 0.0
MLW (COE) -2.3
I hereby certify to The Port Authority of New York and New Jersey that this map indicates the conditions existing as of the date indicated hereon to the best of my professional knowledge.
William A. Rogers, Jr., P.E., L.S.
New Jersey State # 22254
A.C.S.M. Certified Hydrographer # 151



ELIZABETH PORT AUTHORITY
MARINE TERMINAL
(EPAM)



PORT NEWARK
(PN)

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Surveyed by DWR Drawn by DWR Checked by DWR
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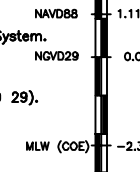
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**Summer 2011 NJMT Volume Calculations
8/10/2011**

The data used for volume calculations is representative of a larger data set. Soundings used for volume calculations are on a 3'X3' grid with the depth nearest to center.

Data was collected between 06/29/11 and 07/13/11 by Rogers Surveying PLLC for the Port Authority of New York and New Jersey.

BERTH 2

DESIGN DEPTH	Volume to Dredge Temp	Volume of 2' Over Dredge	Total Volume
35'	952	3284	4236
	0	0	0
	0	0	0
Totals	952	3284	4236

BERTH 3

DESIGN DEPTH	Volume to Dredge Temp	Volume of 2' Over Dredge	Total Volume
35'	6337	2180	8517
	0	0	0
	0	0	0
Totals	6337	2180	8517

BERTH 4

DESIGN DEPTH	Volume to Dredge Temp	Volume of 2' Over Dredge	Total Volume
35'	8	1779	1787
	0	0	0
	0	0	0
Totals	8	1779	1787

BERTH 5

DESIGN DEPTH	Volume to Dredge Temp	Volume of 2' Over Dredge	Total Volume
35'	10559	5612	16171
	0	0	0
	0	0	0
Totals	10559	5612	16171

BERTH 6

DESIGN DEPTH	Volume to Dredge Temp	Volume of 2' Over Dredge	Total Volume
35'	331	1694	2025
	0	0	0
	0	0	0
Totals	331	1694	2025

BERTH 7

DESIGN DEPTH	Volume to Dredge Temp	Volume of 2' Over Dredge	Total Volume
35'	10559	5612	16171
	0	0	0
	0	0	0
Totals	10559	5612	16171

BERTH 8

DESIGN DEPTH	Volume to Dredge Temp	Volume of 2' Over Dredge	Total Volume
35'	245	592	836
40'	11045	6967	18013
	0	0	0
Totals	11290	7559	18849

BERTH 9

DESIGN DEPTH	Volume to Dredge Temp	Volume of 2' Over Dredge	Total Volume
35'	50	726	776
	0	0	0
	0	0	0
Totals	50	726	776

BERTH 10

DESIGN DEPTH	Volume to Dredge Temp	Volume of 2' Over Dredge	Total Volume
35'	245	592	836
40'	11045	6967	18013
	0	0	0
Totals	11290	7559	18849

BERTH 11

DESIGN DEPTH	Volume to Dredge Temp	Volume of 2' Over Dredge	Total Volume
32'	2	18	21
35'	17	1360	1377
	0	0	0
Totals	19	1378	1398

BERTH 12

DESIGN DEPTH	Volume to Dredge Temp	Volume of 2' Over Dredge	Total Volume
35'	136	456	592
40'	1514	4478	5992
	0	0	0
Totals	1649	4934	6584

BERTH 13

DESIGN DEPTH	Volume to Dredge Temp	Volume of 2' Over Dredge	Total Volume
32'	0	72	72
35'	1	1015	1015
	0	0	0
Totals	1	1086	1087

BERTH 14

DESIGN DEPTH	Volume to Dredge Temp	Volume of 2' Over Dredge	Total Volume
35'	11	210	221
40'	851	3322	4173
	0	0	0
Totals	862	3532	4394

BERTH 15

DESIGN DEPTH	Volume to Dredge Temp	Volume of 2' Over Dredge	Total Volume
32'	0	61	61
35'	2	836	838
	0	0	0
Totals	2	898	899

BERTH 16

DESIGN DEPTH	Volume to Dredge Temp	Volume of 2' Over Dredge	Total Volume
35'	397	572	968
38'	1771	3163	4934
	0	0	0
Totals	2167	3735	5902

BERTH 17

DESIGN DEPTH	Volume to Dredge Temp	Volume of 2' Over Dredge	Total Volume
35'	37	768	805
	0	0	0
	0	0	0
Totals	37	768	805

BERTH 18

DESIGN DEPTH	Volume to Dredge Temp	Volume of 2' Over Dredge	Total Volume
35'	36	293	328
38'	61	2738	2799
	0	0	0
Totals	96	3031	3127

BERTH 19

DESIGN DEPTH	Volume to Dredge Temp	Volume of 2' Over Dredge	Total Volume
34'	1746	751	2496
35'	7897	4515	12412
	0	0	0
Totals	9642	5266	14908

BERTH 20

DESIGN DEPTH	Volume to Dredge Temp	Volume of 2' Over Dredge	Total Volume
35'	215	484	699
38'	933	4042	4976
	0	0	0
Totals	1148	4527	5675

BERTH 21

DESIGN DEPTH	Volume to Dredge Temp	Volume of 2' Over Dredge	Total Volume
35'	0	47	47
40'	1579	5340	6919
	0	0	0
Totals	1579	5386	6965

BERTH 22

DESIGN DEPTH	Volume to Dredge Temp	Volume of 2' Over Dredge	Total Volume
35'	7434	4960	12394
38'	1024	594	1617
	0	0	0
Totals	8458	5553	14011

BERTH 23

DESIGN DEPTH	Volume to Dredge Temp	Volume of 2' Over Dredge	Total Volume
40'	1010	5672	6682
	0	0	0
	0	0	0
Totals	1010	5672	6682

BERTH 24

DESIGN DEPTH	Volume to Dredge Temp	Volume of 2' Over Dredge	Total Volume
35'	645	622	1267
38'	769	654	1423
40'	3043	3381	6424
Totals	4457	4657	9114

BERTH 25

DESIGN DEPTH	Volume to Dredge Temp	Volume of 2' Over Dredge	Total Volume
40'	808	4837	5645
	0	0	0
	0	0	0
Totals	808	4837	5645

BERTH 26

DESIGN DEPTH	Volume to Dredge Temp	Volume of 2' Over Dredge	Total Volume
35'	3657	4519	8176
	0	0	0
	0	0	0
Totals	3657	4519	8176

BERTH 28

DESIGN DEPTH	Volume to Dredge Temp	Volume of 2' Over Dredge	Total Volume
35'	2211	3572	5782
40'	139	136	275
	0	0	0
Totals	2349	3708	6057

BERTH 30

DESIGN DEPTH	Volume to Dredge Temp	Volume of 2' Over Dredge	Total Volume
35'	1012	954	1966
40'	306	2549	2855
	0	0	0
Totals	1317	3503	4821

BERTH 32

DESIGN DEPTH	Volume to Dredge Temp	Volume of 2' Over Dredge	Total Volume
35' N	1557	555	2112
40'	2487	1325	3812

35'	3192	2104	5296
Totals	7237	3984	11220

BERTH 34

DESIGN DEPTH	Volume to Dredge Temp	Volume of 2' Over Dredge	Total Volume
36'	4405	2468	6873
	0	0	0
	0	0	0
Totals	4405	2468	6873

BERTH 36

DESIGN DEPTH	Volume to Dredge Temp	Volume of 2' Over Dredge	Total Volume
36'	10593	5234	15826
	0	0	0
	0	0	0
Totals	10593	5234	15826

BERTH 50

DESIGN DEPTH	Volume to Dredge Temp	Volume of 2' Over Dredge	Total Volume
35'	757	4142	4899
	0	0	0
	0	0	0
Totals	757	4142	4899

BERTH 51

DESIGN DEPTH	Volume to Dredge Temp	Volume of 2' Over Dredge	Total Volume
37'	515	1040	1555
38'	360	764	1123
40'	4291	3799	8090
Totals	5165	5602	10768

BERTH 52

DESIGN DEPTH	Volume to Dredge Temp	Volume of 2' Over Dredge	Total Volume
37'	875	894	1769
38'	406	626	1031
40'	2230	3076	5306
Totals	3510	4595	8106

BERTH 53

DESIGN DEPTH	Volume to Dredge Temp	Volume of 2' Over Dredge	Total Volume
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35'	60	1975	2035
40'	2	214	216
	0	0	0
Totals	63	2189	2252

BERTH 54

DESIGN DEPTH	Volume to Dredge Temp	Volume of 2' Over Dredge	Total Volume
37'	1028	917	1944
38'	353	650	1003
40'	1422	3357	4779
Totals	2803	4923	7726

BERTH 55

DESIGN DEPTH	Volume to Dredge Temp	Volume of 2' Over Dredge	Total Volume
40'	949	2429	3378
	0	0	0
	0	0	0
Totals	949	2429	3378

BERTH 56

DESIGN DEPTH	Volume to Dredge Temp	Volume of 2' Over Dredge	Total Volume
37'	21	150	172
38'	0	58	58
40'	6	505	511
Totals	27	713	740

BERTH 57

DESIGN DEPTH	Volume to Dredge Temp	Volume of 2' Over Dredge	Total Volume
50'	1370	2563	3933
40'	177	300	477
	0	0	0
Totals	1547	2864	4410

BERTH 58

DESIGN DEPTH	Volume to Dredge Temp	Volume of 2' Over Dredge	Total Volume
37'	73	264	338
38'	0	32	32
40'	0	190	190
Totals	74	486	560

BERTH 59

DESIGN DEPTH	Volume to Dredge Temp	Volume of 2' Over Dredge	Total Volume
50'	1127	2652	3778
	0	0	0
	0	0	0
Totals	1127	2652	3778

BERTH 60

DESIGN DEPTH	Volume to Dredge Temp	Volume of 2' Over Dredge	Total Volume
37'	62	197	259
38'	0	2	2
40'	0	278	278
Totals	62	477	539

BERTH 61

DESIGN DEPTH	Volume to Dredge Temp	Volume of 2' Over Dredge	Total Volume
50'	2648	4860	7508
	0	0	0
	0	0	0
Totals	2648	4860	7508

BERTH 62 64

DESIGN DEPTH	Volume to Dredge Temp	Volume of 2' Over Dredge	Total Volume
37'	48	217	266
38'	0	51	51
40'	3	129	132
50'	1467	4030	5497
Totals	1519	4428	5814

BERTH 63

DESIGN DEPTH	Volume to Dredge Temp	Volume of 2' Over Dredge	Total Volume
36'	4813	2657	7471
50'	2394	2646	5041
	0	0	0
Totals	7208	5304	12511

BERTH 66

DESIGN DEPTH	Volume to Dredge Temp	Volume of 2' Over Dredge	Total Volume
45'	853	2643	3497
	0	0	0

	0	0	0
Totals	853	2643	3497

BERTH 68

DESIGN DEPTH	Volume to Dredge Temp	Volume of 2' Over Dredge	Total Volume
50'	1869	4011	5880
	0	0	0
	0	0	0
Totals	1869	4011	5880

BERTH 70

DESIGN DEPTH	Volume to Dredge Temp	Volume of 2' Over Dredge	Total Volume
50'	3349	6136	9485
	0	0	0
	0	0	0
Totals	3349	6136	9485

BERTH 72 - 74

DESIGN DEPTH	Volume to Dredge Temp	Volume of 2' Over Dredge	Total Volume
50'	49	1981	2030
37'	0	316	316
38'	0	948	948
Totals	49	3245	3294

BERTH 76

DESIGN DEPTH	Volume to Dredge Temp	Volume of 2' Over Dredge	Total Volume
37'	67	0	67
38'	0	11	11
40'	0	0	0
50'	5281	0	5281
Totals	5349	11	5360

BERTH 78

DESIGN DEPTH	Volume to Dredge Temp	Volume of 2' Over Dredge	Total Volume
50'	270	2529	2799
	0	0	0
	0	0	0
Totals	270	2529	2799

BERTH 80

DESIGN DEPTH	Volume to Dredge Temp	Volume of 2' Over Dredge	Total Volume
50'	215	3854	4069
	0	0	0
	0	0	0
Totals	215	3854	4069

BERTH 82 - 84

DESIGN DEPTH	Volume to Dredge Temp	Volume of 2' Over Dredge	Total Volume
50'	10487	5599	16086
	0	0	0
	0	0	0
Totals	10487	5599	16086

BERTH 86

DESIGN DEPTH	Volume to Dredge Temp	Volume of 2' Over Dredge	Total Volume
50'	5210	4537	9747
	0	0	0
	0	0	0
Totals	5210	4537	9747

BERTH 88

DESIGN DEPTH	Volume to Dredge Temp	Volume of 2' Over Dredge	Total Volume
50'	6159	4277	10436
	0	0	0
	0	0	0
Totals	6159	4277	10436

BERTH 90

DESIGN DEPTH	Volume to Dredge Temp	Volume of 2' Over Dredge	Total Volume
50'	6065	4133	10199
	0	0	0
	0	0	0
Totals	6065	4133	10199

BERTH 92

DESIGN DEPTH	Volume to Dredge Temp	Volume of 2' Over Dredge	Total Volume
50'	2252	1437	3689
	1177	1071	2248
	0	0	0

Totals	3428	2508	5936
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BERTH 94

DESIGN DEPTH	Volume to Dredge Temp	Volume of 2' Over Dredge	Total Volume
40'	1979	3382	5361
45'	490	260	750
	0	0	0
Totals	2469	3642	6111

BERTH 96

DESIGN DEPTH	Volume to Dredge Temp	Volume of 2' Over Dredge	Total Volume
40'	127	560	687
45'	1407	2022	3429
	0	0	0
Totals	1534	2582	4116

BERTH 98

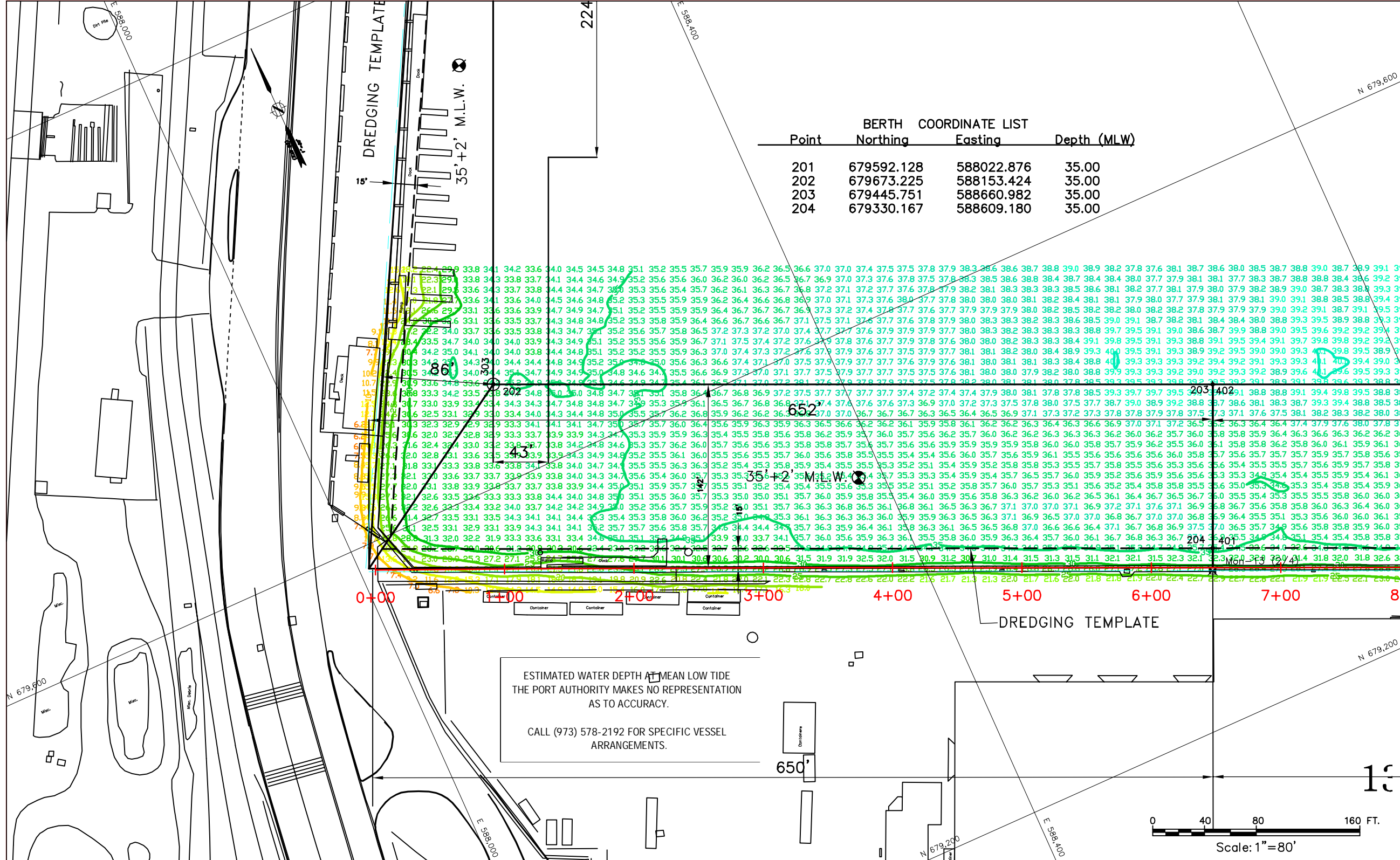
DESIGN DEPTH	Volume to Dredge Temp	Volume of 2' Over Dredge	Total Volume
45'	2506	2775	5281
	0	0	0
	0	0	0
Totals	2506	2775	5281



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BERTH COORDINATE LIST

Point	Northing	Easting	Depth (MLW)
201	679592.128	588022.876	35.00
202	679673.225	588153.424	35.00
203	679445.751	588660.982	35.00
204	679330.167	588609.180	35.00



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0 40 80 160 FT.
Scale: 1"=80'

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MLW (COE) -2.3

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Surveyed by Drawn by Checked by

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BERTH 2

Port Newark Channel

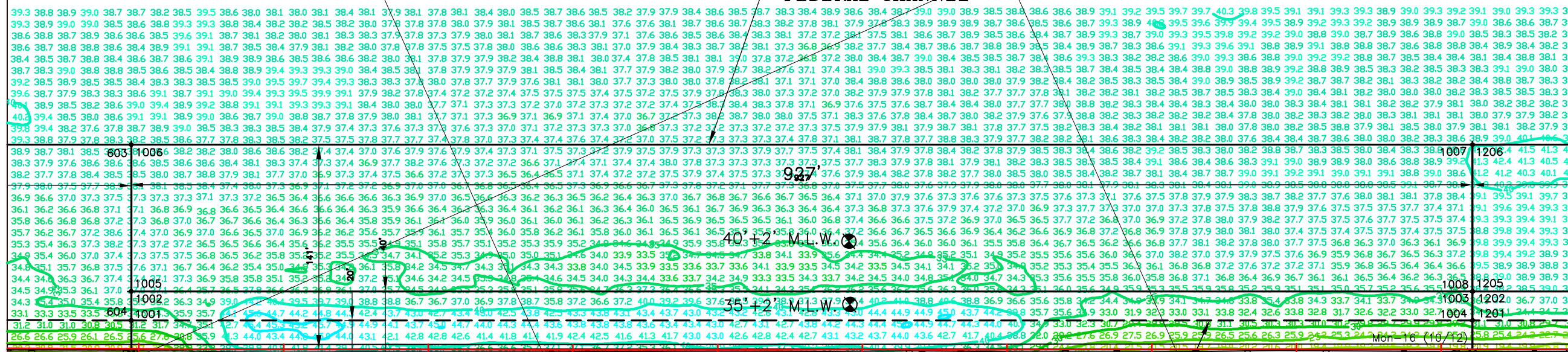
FLOOD
EBB

PREPARED FOR
**THE PORT AUTHORITY
OF NY & NJ**



Rogers Surveying, P.L.L.C.
1837 Richmond Terrace, Staten Island, N.Y. 10310
Tel: (718) 443-7261 Fax: (718) 273-5060
www.rogerssurveying.com
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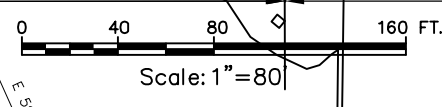
FEDERAL CHANNEL



Title
**NEW JERSEY
MARINE
TERMINAL
HYDROGRAPHIC
SURVEY**

BERTH COORDINATE LIST			
Point	Northing	Easting	Depth (MLW)
1001	678824.799	589749.537	35.00
1002	678843.050	589757.717	35.00
1003	678463.929	590603.517	35.00
1004	678445.678	590595.337	35.00
1005	678843.050	589757.717	40.00
1006	678935.629	589799.208	40.00
1007	678556.555	590645.029	40.00
1008	678463.929	590603.517	40.00

ESTIMATED WATER DEPTH AT MEAN LOW TIDE
THE PORT AUTHORITY MAKES NO REPRESENTATION
AS TO ACCURACY.
CALL (73) 578-2192 FOR SPECIFIC VESSEL
ARRANGEMENTS



NOTE:
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THIS SURVEY WAS COMPLETED USING THE FOLLOWING EQUIPMENT:
• Survey Vessel "Red Rogers"
• Reason 7101 Multibeam
• TSS 320 POS/MV
• Coastal Oceanographics "HYPACK" software

Volume Report			
Design Depth	Volume to Dredge Template	Volume of 2' Over dredge	Total Volume
35'	245 yd3	592 yd3	836 yd3
40'	11,045 yd3	6,967 yd3	18,013 yd3
TOTAL	11,290 yd3	7,559 yd3	18,849 yd3

NOTE: BERTH LENGTHS, WIDTHS AND DEEP WATER BERTH DIMENSIONS FROM P.A. PORT DEPARTMENT.
Coordinates are expressed in feet and refer to the NEW JERSEY STATE PLANE (NAD 83) System.
Soundings refer to Mean Low Water as determined by U.S.A.C.E.
The Plane of Mean Low Water is 2.3 feet below Mean Sea Level (NGVD 29).
Note:
This survey does not guarantee the absence or presence of any underwater obstructions. Diver verification may be required.

NAVD88 1.11
NGVD29 0.0
MLW (COE) -2.3

I hereby certify to The Port Authority of New York and New Jersey that this map indicates the conditions existing as of the date indicated hereon to the best of my professional knowledge.
William A. Rogers, Jr., P.E., L.S.
New Jersey State # 22254
A.C.S.M. Certified Hydrographer # 151

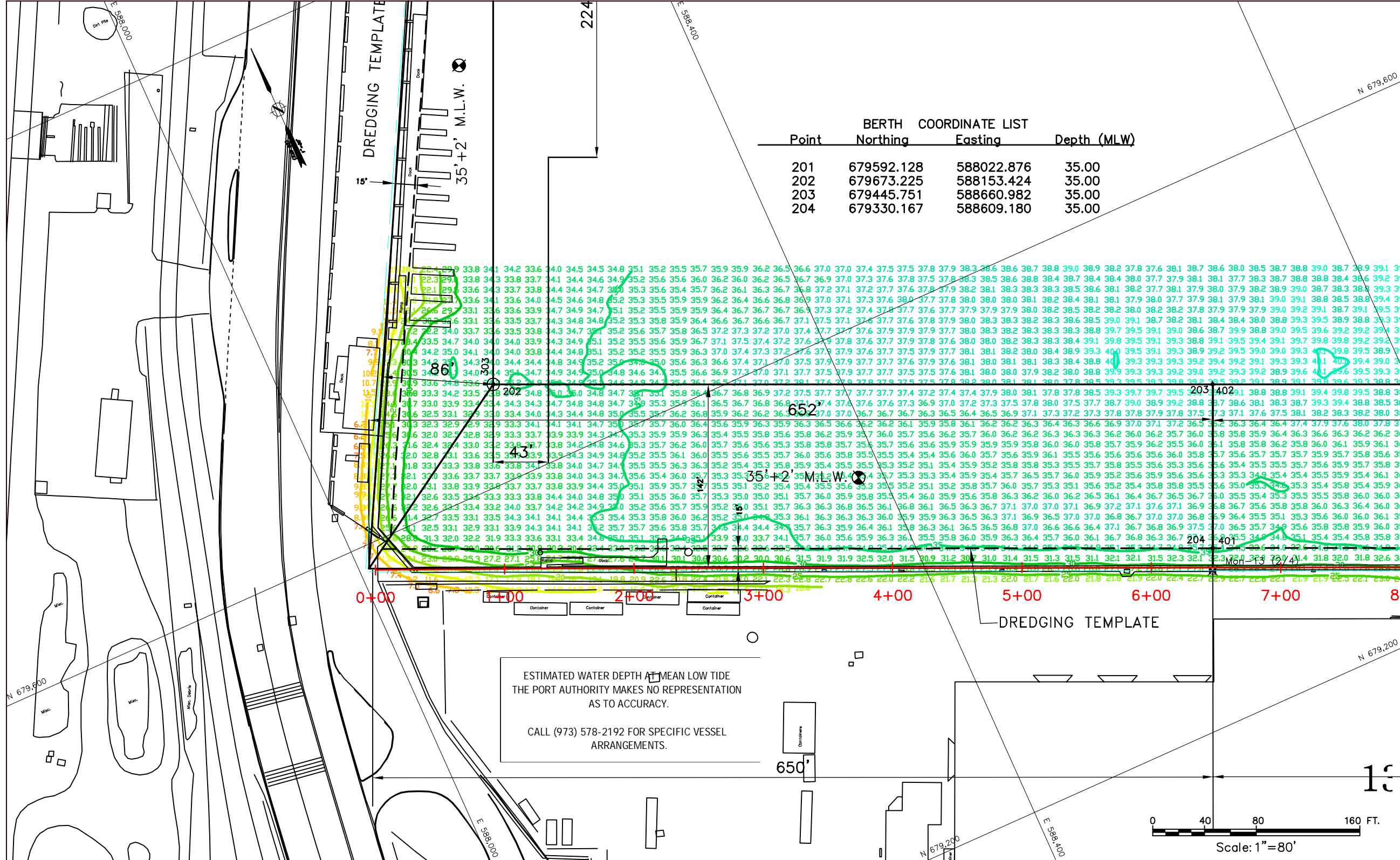
No. Date Revision Approved
VERTICAL CONTROL
Mean Low Water = 2.3' Below 0.00 NGVD '29
HORIZONTAL CONTROL
ALL COORDINATES, BEARING AND DISTANCES ARE REFERENCED TO THE NEW JERSEY PLANE COORDINATE SYSTEM (N.A.D. 83) AS SET FORTH IN N.J.S.A. 51:3-7
This drawing subject to conditions in contract. All inventions, ideas, designs and methods herein are reserved to Port Authority and may not be used without its written consent.
Rogers Surveying RK DWR
Surveyed by Drawn by Checked by
Date 06/29/11 Scale 1"=80'
06/29/11 - 07/13/11
Contract Number Drawing Number
410-10-037 10 of 60
BERTH 8 & 10

PREPARED FOR
**THE PORT AUTHORITY
OF NY & NJ**



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mailto:info@rogerssurveying.com

BERTH COORDINATE LIST			
Point	Northing	Easting	Depth (MLW)
201	679592.128	588022.876	35.00
202	679673.225	588153.424	35.00
203	679445.751	588660.982	35.00
204	679330.167	588609.180	35.00



**NEW JERSEY
MARINE
TERMINAL**

**HYDROGRAPHIC
SURVEY**

No.	Date	Revision	Approved

VERTICAL CONTROL
Mean Low Water = 2.3' Below 0.00 NGVD '29

HORIZONTAL CONTROL
ALL COORDINATES, BEARING AND DISTANCES ARE REFERENCED TO THE NEW JERSEY PLANE COORDINATE SYSTEM (N.A.D. 83) AS SET FORTH IN N.J.S.A. 51:3-7

NOTE:
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THIS SURVEY WAS COMPLETED USING THE FOLLOWING EQUIPMENT:
• Survey Vessel "Ted Rogers"
• Reason 7101 Multibeam
• TSS 320 POS/MV
• Coastal Oceanographics "HYPACK" software

Volume Report			
Design Depth	Volume to Dredge Template	Volume of 2' Over dredge	Total Volume
35'	952 yd3	3,284 yd3	4,236 yd3
TOTAL	952 yd3	3,284 yd3	4,236 yd3

THE DATA USED FOR VOLUME CALCULATIONS IS REPRESENTATIVE OF A LARGER DATA SET. SOUNDINGS USED FOR VOLUME CALCULATIONS ARE ON A 3'X3' GRID WITH THE DEPTH NEAREST TO THE CENTER USED.

NOTE: BERTH LENGTHS, WIDTHS AND DEEP WATER BERTH DIMENSIONS FROM P.A. PORT DEPARTMENT.

Coordinates are expressed in feet and refer to the NEW JERSEY STATE PLANE (NAD 83) System.

Soundings refer to Mean Low Water as determined by U.S.A.C.E.

The Plane of Mean Low Water is 2.3 feet below Mean Sea Level (NGVD 29).

Note:
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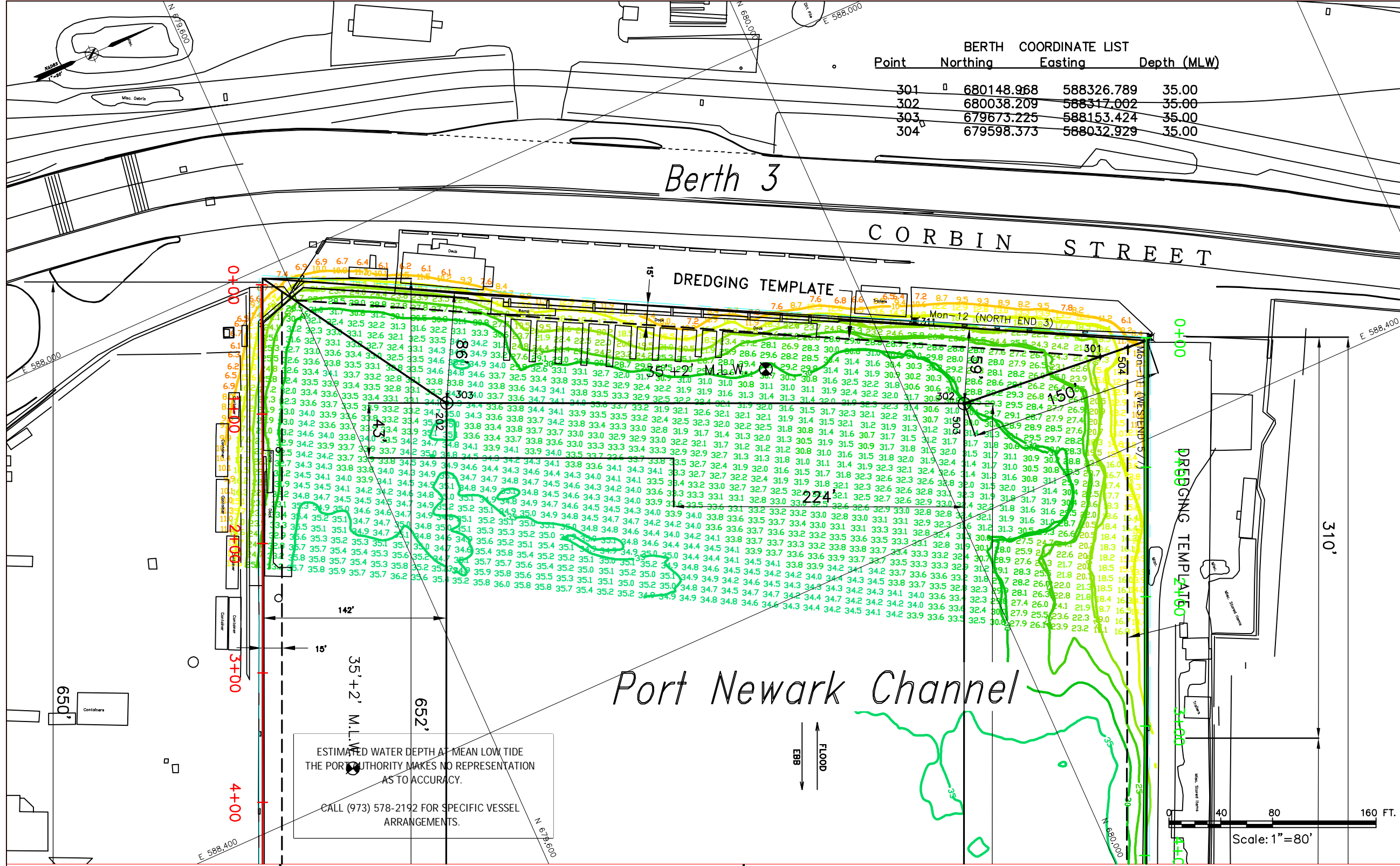
NAVDB 1.11
NGVD29 0.0
MLW (COE) -2.3

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William A. Rogers, Jr., P.E., L.S.
New Jersey State # 22254
A.C.S.M. Certified Hydrographer # 151

Rogers Surveying RK DWR
Surveyed by Drawn by Checked by

Date 06/29/11 - 07/13/11 Scale 1" = 80'
Contract Number 410-10-037 Drawing Number 3 of 60
BERTH 2



Point	BERTH COORDINATE LIST		
	Northing	Easting	Depth (MLW)
301	680148.968	588326.789	35.00
302	680038.209	588317.002	35.00
303	679673.225	588153.424	35.00
304	679598.373	588032.929	35.00

PREPARED FOR
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Title

**NEW JERSEY
 MARINE
 TERMINAL**

**HYDROGRAPHIC
 SURVEY**

No.	Date	Revision	Approved

VERTICAL CONTROL
 Mean Low Water = 2.3' Below 0.00 NGVD '29

HORIZONTAL CONTROL
 ALL COORDINATES, BEARING AND DISTANCES ARE REFERENCED TO THE NEW JERSEY PLANE COORDINATE SYSTEM (N.A.D. 83) AS SET FORTH IN N.J.S.A. 51:3-7

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Rogers Surveying RK DWR
 Surveyed by DWR Drawn by DWR Checked by DWR

Date 06/29/11 - 07/13/11 Scale 1" = 80'
 Contract Number 410-10-037 Drawing Number 4 of 60
BERTH 3

ESTIMATED WATER DEPTH AT MEAN LOW TIDE
 THE PORT AUTHORITY MAKES NO REPRESENTATION
 AS TO ACCURACY.

CALL (973) 578-2192 FOR SPECIFIC VESSEL
 ARRANGEMENTS.

Design Depth	Volume to Dredge Template	Volume of 2' Over dredge	Total Volume
35'	6,337 yd ³	2,180 yd ³	8,517 yd ³
TOTAL	6,337 yd³	2,180 yd³	8,517 yd³

NOTE: BERTH LENGTHS, WIDTHS AND DEEP WATER BERTH DIMENSIONS FROM P.A. PORT DEPARTMENT.

Coordinates are expressed in feet and refer to the NEW JERSEY STATE PLANE (NAD 83) System.

Soundings refer to Mean Low Water as determined by U.S.A.C.E.

The Plane of Mean Low Water is 2.3 feet below Mean Sea Level (NGVD 29).

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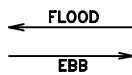
NAVD88 1.11
 NGVD29 0.0
 MLW (COE) -2.3

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 New Jersey State # 22254
 A.C.S.M. Certified Hydrographer # 151

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 THIS SURVEY WAS COMPLETED USING THE FOLLOWING EQUIPMENT:
 • Survey Vessel "Red Rogers".
 • Reson 7101 Multibeam.
 • TSS 320 POS/MV.
 • Coastal Oceanographics "HYPACK" software

Port Newark Channel

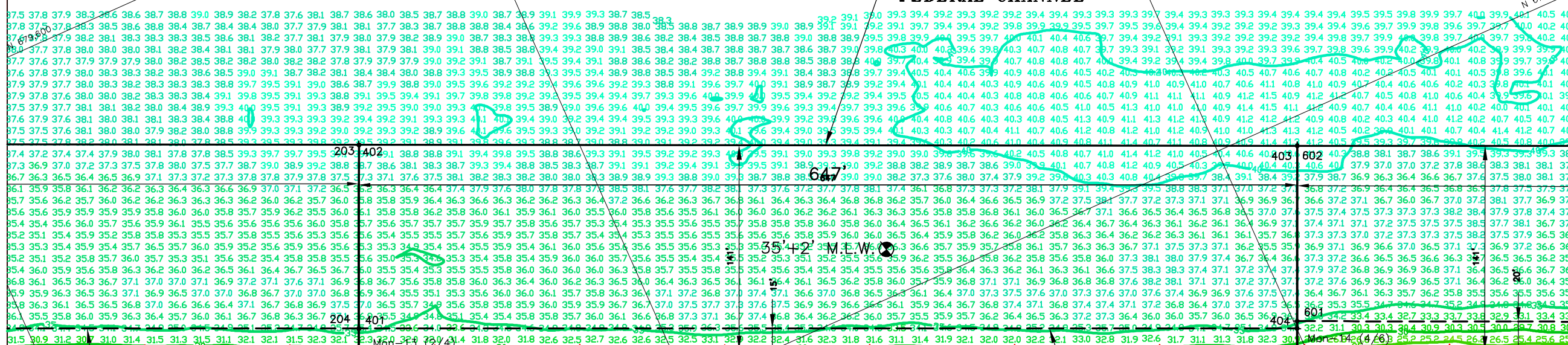


Point	BERTH Northing	COORDINATE LIST Easting	Depth (MLW)
401	679330.167	588609.180	35.00
402	679445.751	588660.982	35.00
403	679180.970	589251.783	35.00
404	679066.061	589200.284	35.00

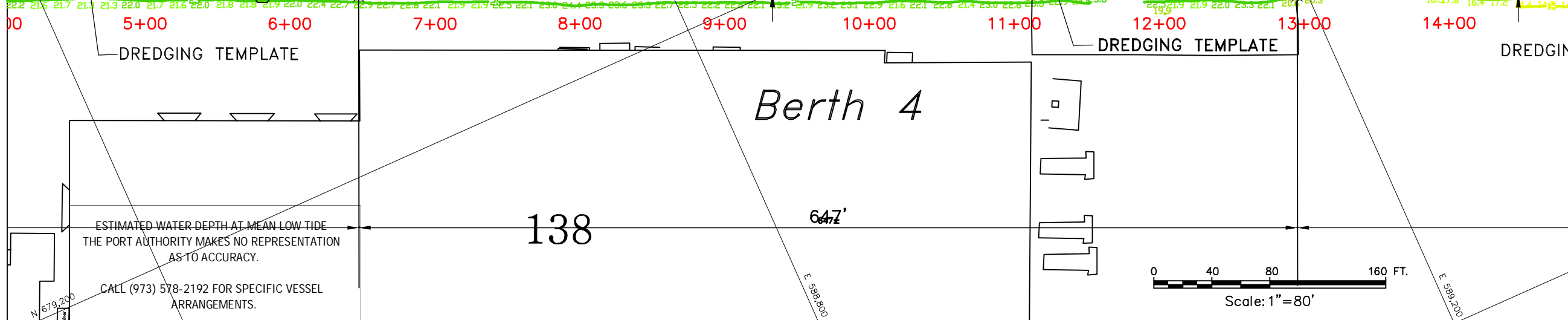
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Title
NEW JERSEY MARINE TERMINAL
HYDROGRAPHIC SURVEY



NOTE: THE INFORMATION DEPICTED ON THIS MAP REPRESENTS THE RESULTS OF SURVEYS MADE ON THE DATES INDICATED AND CAN ONLY BE CONSIDERED AS INDICATING THE GENERAL CONDITIONS EXISTING AT THAT TIME. THE DATA IS REPRESENTATIVE OF A LARGER DATA SET. SOUNDINGS AND CONTOURS SHOWN ARE FROM 8'X16" GRID NEAREST TO CENTER. COORDINATES REFER TO THE NEW JERSEY MERCATOR SYSTEM (NAD 1983) SOUNDINGS REFER TO THE PLANE OF MEAN LOW WATER THE PLANE OF MEAN LOW WATER IS 2.3 FEET BELOW NGVD (1929) THE SOUNDING DATA DEPICTED ON THIS MAP WAS COLLECTED USING CLASS 2 SURVEY STANDARDS IN ACCORDANCE WITH EM 1110 2 1003. THIS SURVEY WAS COMPLETED USING THE FOLLOWING EQUIPMENT:
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• Reson 7101 Multibeam
• TSS 320 POS/MV
• Coastal Oceanographics "HYPACK" software

Volume Report

Design Depth	Volume to Dredge Template	Volume of 2' Over dredge	Total Volume
35'	8 yd ³	1,779 yd ³	1,787 yd ³
TOTAL	8 yd³	1,779 yd³	1,787 yd³

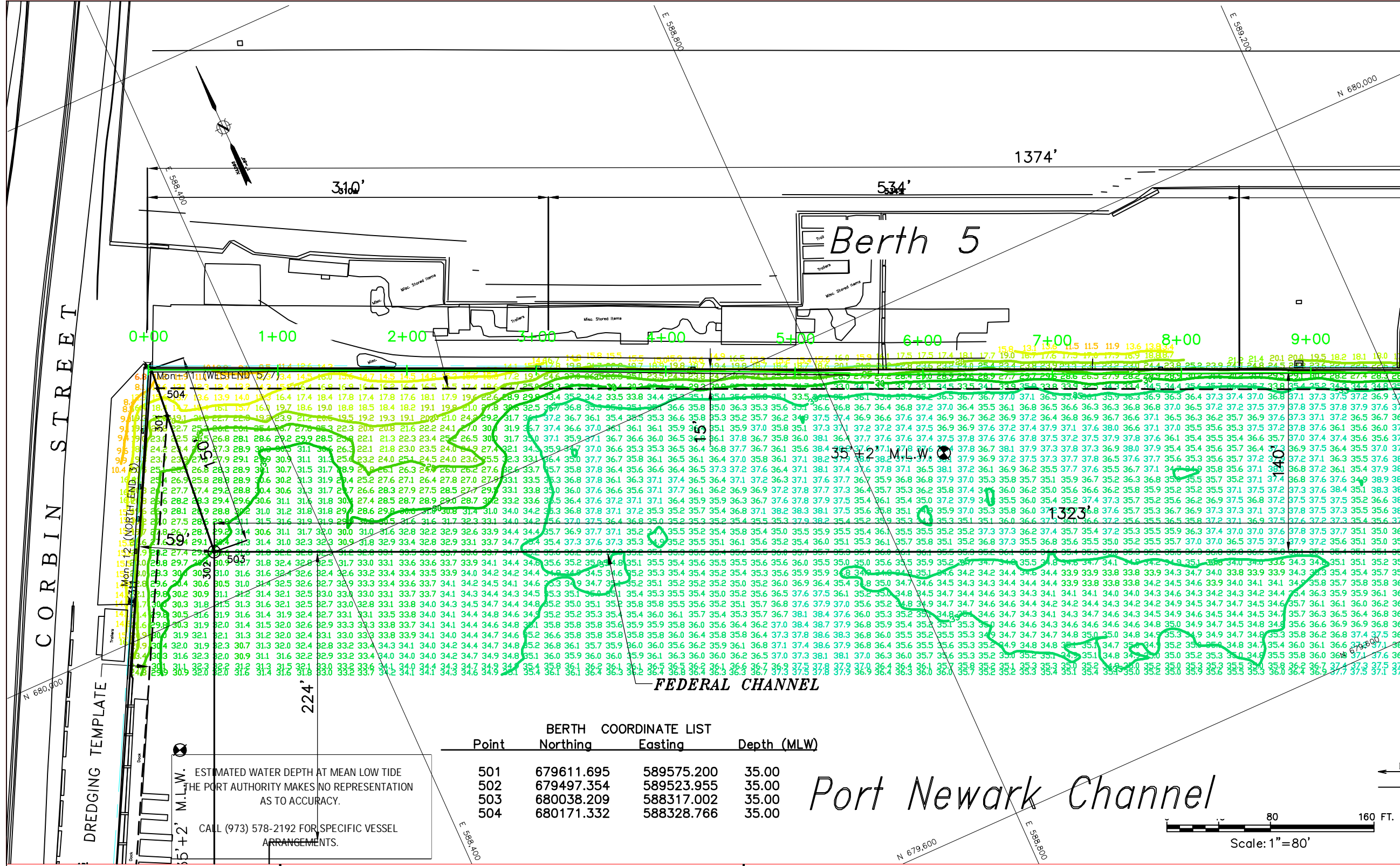
NOTE: BERTH LENGTHS, WIDTHS AND DEEP WATER BERTH DIMENSIONS FROM P.A. PORT DEPARTMENT.
Coordinates are expressed in feet and refer to the NEW JERSEY STATE PLANE (NAD 83) System.
Soundings refer to Mean Low Water as determined by U.S.A.C.E.
The Plane of Mean Low Water is 2.3 feet below Mean Sea Level (NGVD 29).
Note: This survey does not guarantee the absence or presence of any underwater obstructions. Diver verification may be required.

NAVDB 1.11
NGVD29 0.0
MLW (COE) -2.3
I hereby certify to The Port Authority of New York and New Jersey that this map indicates the conditions existing as of the date indicated hereon to the best of my professional knowledge.
William A. Rogers, Jr., P.E., L.S.
New Jersey State # 22254
A.C.S.M. Certified Hydrographer # 151

No. Date Revision Approved
VERTICAL CONTROL
Mean Low Water = 2.3' Below 0.00 NGVD '29
HORIZONTAL CONTROL
ALL COORDINATES, BEARING AND DISTANCES ARE REFERENCED TO THE NEW JERSEY PLANE COORDINATE SYSTEM (N.A.D. 83) AS SET FORTH IN N.J.S.A. 51:3-7
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Rogers Surveying RK DWR
Surveyed by Drawn by Checked by
Date 06/29/11 Scale 1"= 80'
07/13/11
Contract Number Drawing Number
410-10-037 5 of 60
BERTH 4



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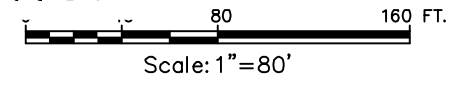


Title
NEW JERSEY MARINE TERMINAL
HYDROGRAPHIC SURVEY

BERTH COORDINATE LIST

Point	Northing	Easting	Depth (MLW)
501	679611.695	589575.200	35.00
502	679497.354	589523.955	35.00
503	680038.209	588317.002	35.00
504	680171.332	588328.766	35.00

Port Newark Channel



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• Coastal Oceanographics "HYPACK" software

Volume Report

THE DATA USED FOR VOLUME CALCULATIONS IS REPRESENTATIVE OF A LARGER DATA SET. SOUNDINGS USED FOR VOLUME CALCULATIONS ARE ON A 3'X3' GRID WITH THE DEPTH NEAREST TO THE CENTER USED.

Design Depth	Volume to Dredge Template	Volume of 2' Over dredge	Total Volume
35'	10,559 yd3	5,612 yd3	16,171 yd3
TOTAL	10,559 yd3	5,612 yd3	16,171 yd3

NOTE: BERTH LENGTHS, WIDTHS AND DEEP WATER BERTH DIMENSIONS FROM P.A. PORT DEPARTMENT.

Coordinates are expressed in feet and refer to the NEW JERSEY STATE PLANE (NAD 83) System.
SOUNDINGS refer to Mean Low Water as determined by U.S.A.C.E.
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NAVDB8 1.11
System.
NGVD29 0.0
MLW (COE) -2.3

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New Jersey State # 22254
A.C.S.M. Certified Hydrographer # 151

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Rogers Surveying RK DWR
Surveyed by Drawn by Checked by

Date 06/29/11 - 07/13/11 Scale 1"=80'
Contract Number Drawing Number
410-10-037 6 of 60
BERTH 5 & 7

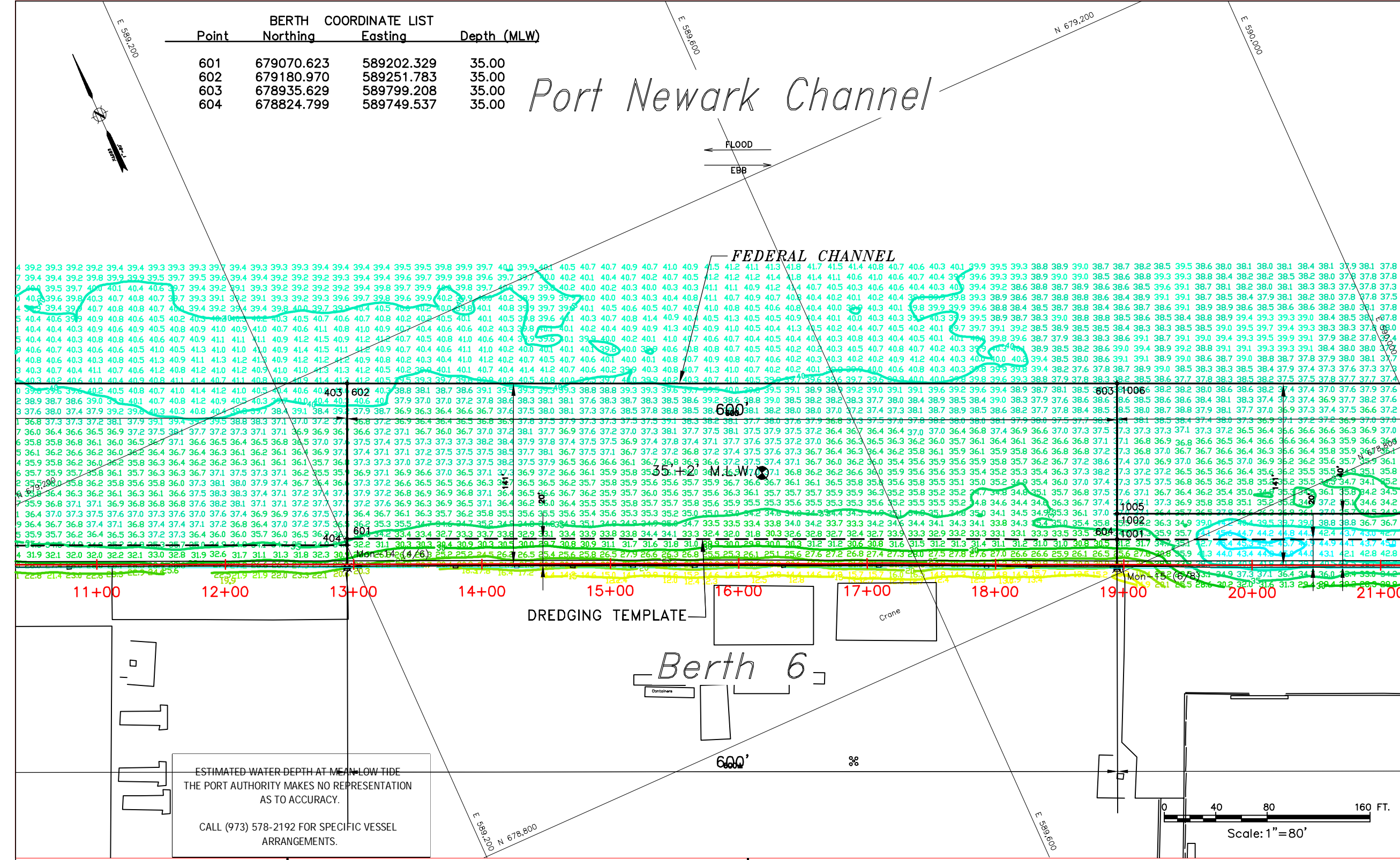
Point	BERTH COORDINATE LIST		
	Northing	Easting	Depth (MLW)
601	679070.623	589202.329	35.00
602	679180.970	589251.783	35.00
603	678935.629	589799.208	35.00
604	678824.799	589749.537	35.00

Port Newark Channel

PREPARED FOR
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Title
NEW JERSEY MARINE TERMINAL
HYDROGRAPHIC SURVEY

No. Date Revision Approved
VERTICAL CONTROL
Mean Low Water = 2.3' Below 0.00 NGVD '29
HORIZONTAL CONTROL
ALL COORDINATES, BEARING AND DISTANCES ARE REFERENCED TO THE NEW JERSEY PLANE COORDINATE SYSTEM (N.A.D. 83) AS SET FORTH IN N.J.S.A. 51:3-7

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Rogers Surveying RK DWR
Surveyed by DWR Drawn by DWR Checked by DWR
Date 06/29/11 Scale 1"=80'
Contract Number 410-10-037 Drawing Number 7 of 60
BERTH 6

NOTE: THE INFORMATION DEPICTED ON THIS MAP REPRESENTS THE RESULTS OF SURVEYS MADE ON THE DATES INDICATED AND CAN ONLY BE CONSIDERED AS INDICATING THE GENERAL CONDITIONS EXISTING AT THAT TIME. THE DATA IS REPRESENTATIVE OF A LARGER DATA SET. SOUNDINGS AND CONTOURS SHOWN ARE FROM 8'x16" GRID NEAREST TO CENTER. COORDINATES REFER TO THE NEW JERSEY MERCATOR SYSTEM (NAD 1983) SOUNDINGS REFER TO THE PLANE OF MEAN LOW WATER THE PLANE OF MEAN LOW WATER IS 2.3 FEET BELOW NGVD (1929) THE SOUNDING DATA DEPICTED ON THIS MAP WAS COLLECTED USING CLASS 2 SURVEY STANDARDS IN ACCORDANCE WITH EM 1110 2 1003.
THIS SURVEY WAS COMPLETED USING THE FOLLOWING EQUIPMENT:
• Survey Vessel "Red Rogers"
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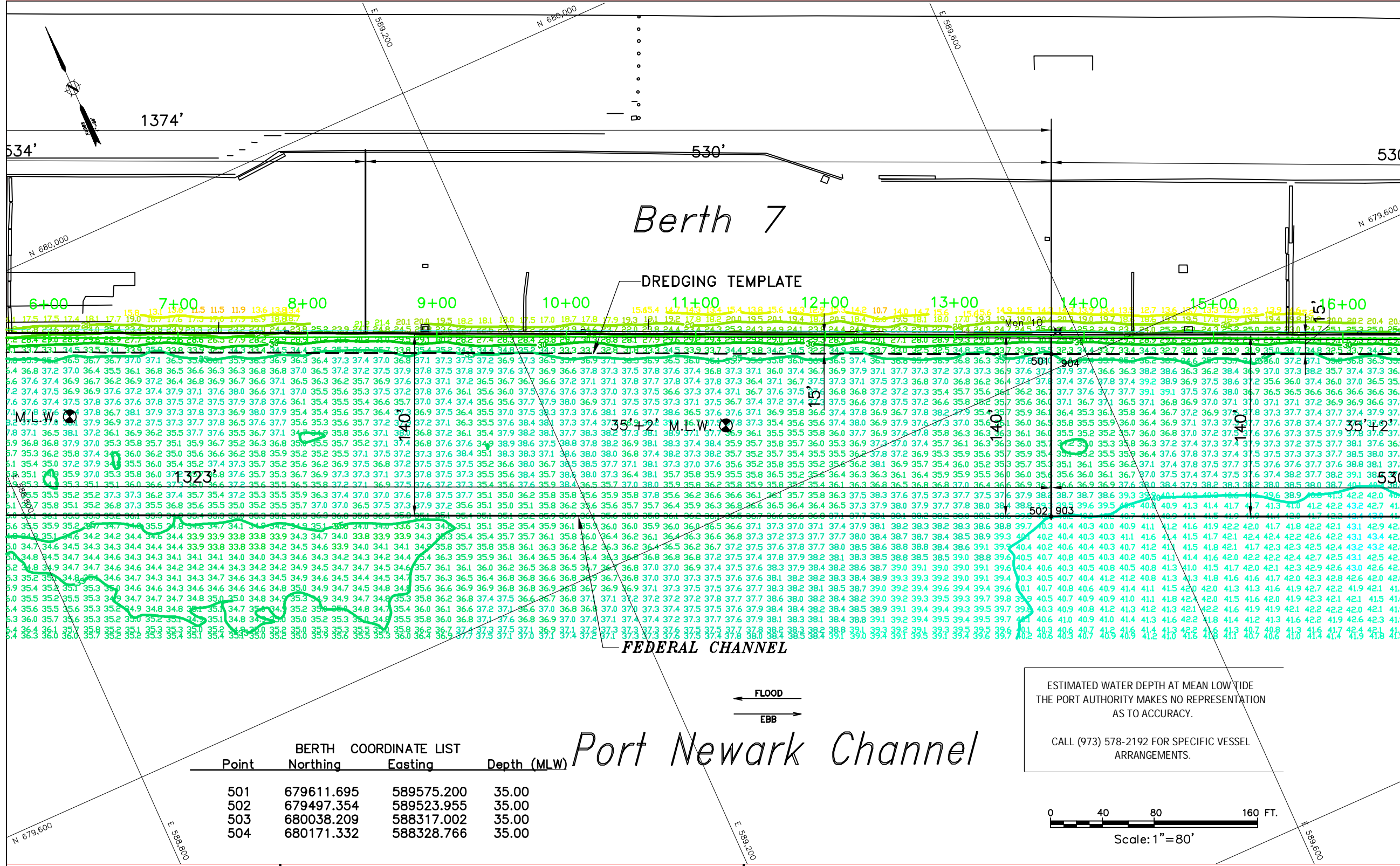
Volume Report			
Design Depth	Volume to Dredge Template	Volume of 2' Over dredge	Total Volume
35'	331 yd3	1,694 yd3	2,025 yd3
TOTAL	331 yd3	1,694 yd3	2,025 yd3

NOTE: BERTH LENGTHS, WIDTHS AND DEEP WATER BERTH DIMENSIONS FROM P.A. PORT DEPARTMENT.
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NAVDB 1.11
NGVD29 0.0
MLW (COE) -2.3
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New Jersey State # 22254
A.C.S.M. Certified Hydrographer # 151



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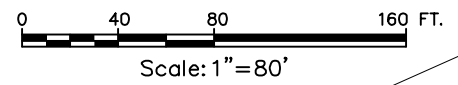
Title
NEW JERSEY MARINE TERMINAL
HYDROGRAPHIC SURVEY

No.	Date	Revision	Approved

VERTICAL CONTROL
Mean Low Water = 2.3' Below 0.00 NGVD '29

HORIZONTAL CONTROL
ALL COORDINATES, BEARING AND DISTANCES ARE REFERENCED TO THE NEW JERSEY PLANE COORDINATE SYSTEM (N.A.D. 83) AS SET FORTH IN N.J.S.A. 51:3-7

ESTIMATED WATER DEPTH AT MEAN LOW TIDE
THE PORT AUTHORITY MAKES NO REPRESENTATION AS TO ACCURACY.
CALL (973) 578-2192 FOR SPECIFIC VESSEL ARRANGEMENTS.



Point	BERTH COORDINATE LIST		Depth (MLW)
	Northing	Easting	
501	679611.695	589575.200	35.00
502	679497.354	589523.955	35.00
503	680038.209	588317.002	35.00
504	680171.332	588328.766	35.00

Volume Report			
Design Depth	Volume to Dredge Template	Volume of 2' Over dredge	Total Volume
35'	10,559 yd3	5,612 yd3	16,171 yd3
TOTAL	10,559 yd3	5,612 yd3	16,171 yd3

NOTE: BERTH LENGTHS, WIDTHS AND DEEP WATER BERTH DIMENSIONS FROM P.A. PORT DEPARTMENT.

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Soundings refer to Mean Low Water as determined by U.S.A.C.E.

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NGVD29 0.0
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New Jersey State # 22254
A.C.S.M. Certified Hydrographer # 151

Rogers Surveying RK DWR
Surveyed by Drawn by Checked by

Date 06/29/11 Scale 1" = 80'
07/13/11

Contract Number 410-10-037 Drawing Number 8 of 60

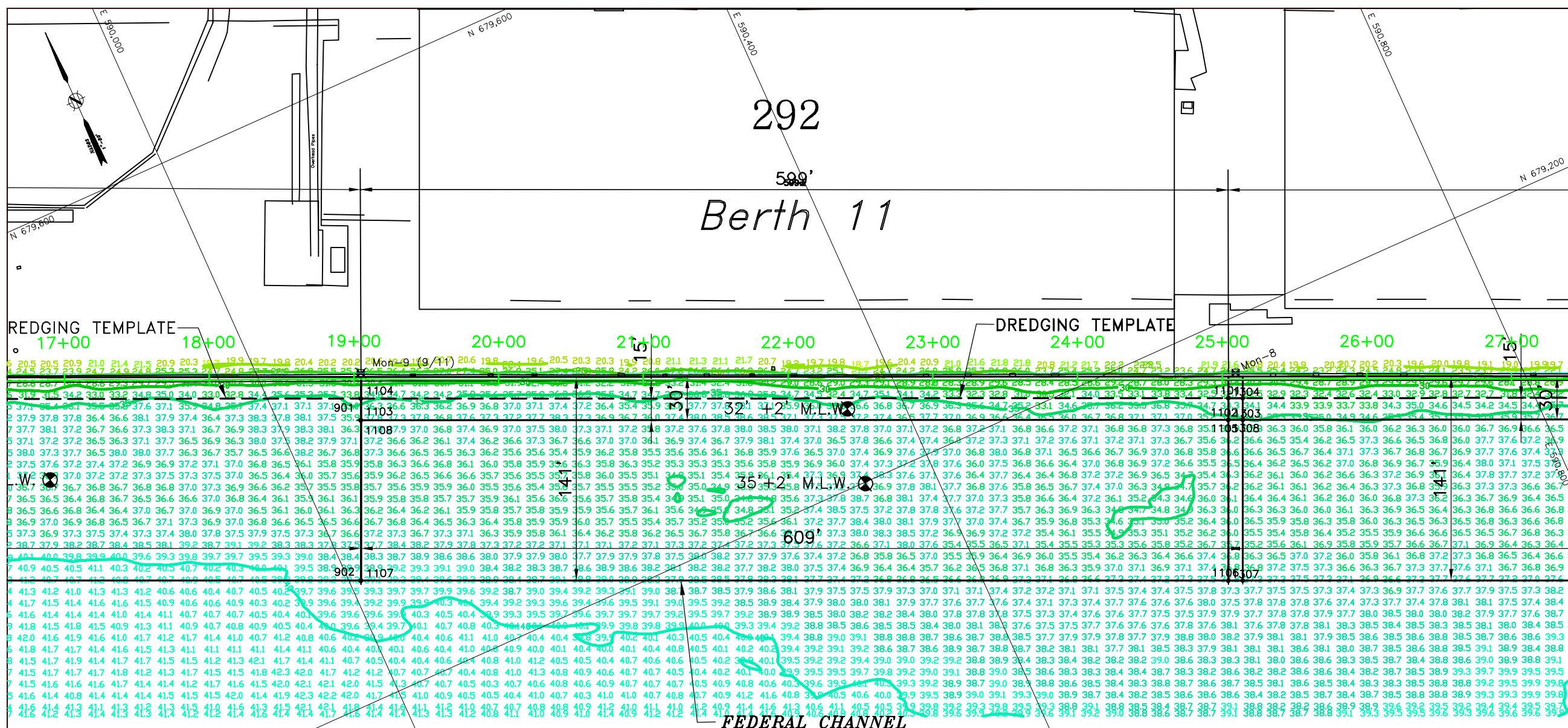
BERTH 7

NOTE:
THE INFORMATION DEPICTED ON THIS MAP REPRESENTS THE RESULTS OF SURVEYS MADE ON THE DATES INDICATED AND CAN ONLY BE CONSIDERED AS INDICATING THE GENERAL CONDITIONS EXISTING AT THAT TIME. THE DATA IS REPRESENTATIVE OF A LARGER DATA SET. SOUNDINGS AND CONTOURS SHOWN ARE FROM 8'X16' GRID NEAREST TO CENTER. COORDINATES REFER TO THE NEW JERSEY MERCATOR SYSTEM (NAD 1983) SOUNDINGS REFER TO THE PLANE OF MEAN LOW WATER THE PLANE OF MEAN LOW WATER IS 2.3 FEET BELOW NGVD (1929) THE SOUNDING DATA DEPICTED ON THIS MAP WAS COLLECTED USING CLASS 2 SURVEY STANDARDS IN ACCORDANCE WITH EM 1110 2 1003.
THIS SURVEY WAS COMPLETED USING THE FOLLOWING EQUIPMENT:
• Survey Vessel "Ted Rogers".
• Reson 7101 Multibeam.
• TSS 320 POS/MV.
• Coastal Oceanographics "HYPACK" software

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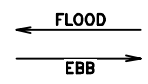
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1837 Richmond Terrace, Staten Island, N.Y. 10310
Tel: (718) 442-7201 Fax: (718) 273-3000
www.rogerssurveying.com
www.rdgmap.com



Title
NEW JERSEY MARINE TERMINAL
HYDROGRAPHIC SURVEY

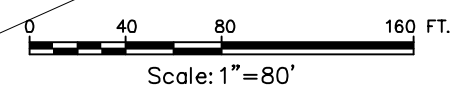
BERTH COORDINATE LIST			
Point	Northing	Easting	Depth (MLW)
1101	679146.449	590615.387	32.00
1102	679132.760	590609.253	32.00
1103	679381.731	590052.947	32.00
1104	679395.419	590059.082	32.00
1105	679132.760	590609.253	35.00
1106	679031.327	590563.793	35.00
1107	679280.532	590007.593	35.00
1108	679381.731	590052.947	35.00

Port Newark Channel



ESTIMATED WATER DEPTH AT MEAN LOW TIDE
THE PORT AUTHORITY MAKES NO REPRESENTATION
AS TO ACCURACY.

CALL (973) 578-2192 FOR SPECIFIC VESSEL
ARRANGEMENTS.



No.	Date	Revision	Approved

VERTICAL CONTROL
Mean Low Water = 2.3' Below 0.00 NGVD '29

HORIZONTAL CONTROL
ALL COORDINATES, BEARING AND DISTANCES ARE REFERENCED TO THE NEW JERSEY PLANE COORDINATE SYSTEM (N.A.D. 83) AS SET FORTH IN N.J.S.A. 51:3-7

NOTE: THE INFORMATION DEPICTED ON THIS MAP REPRESENTS THE RESULTS OF SURVEYS MADE ON THE DATES INDICATED AND CAN ONLY BE CONSIDERED AS INDICATING THE GENERAL CONDITIONS EXISTING AT THAT TIME. THE DATA IS REPRESENTATIVE OF A LARGER DATA SET. SOUNDINGS AND CONTOURS SHOWN ARE FROM 8'x16" GRID NEAREST TO CENTER. COORDINATES REFER TO THE NEW JERSEY MERCATOR SYSTEM (NAD 1983) SOUNDINGS REFER TO THE PLANE OF MEAN LOW WATER THE PLANE OF MEAN LOW WATER IS 2.3 FEET BELOW NGVD (1929) THE SOUNDING DATA DEPICTED ON THIS MAP WAS COLLECTED USING CLASS 2 SURVEY STANDARDS IN ACCORDANCE WITH EM 1110.2-1003.
THIS SURVEY WAS COMPLETED USING THE FOLLOWING EQUIPMENT:
• Survey Vessel "Red Rogers"
• Reson 7101 Multibeam
• TSS 320 POS/MV
• Coastal Oceanographics "HYPACK" software

Volume Report			
Design Depth	Volume to Dredge Template	Volume of 2' Over dredge	Total Volume
32'	2 yd3	18 yd3	21 yd3
35'	17 yd3	1,360 yd3	1,377 yd3
TOTAL	19 yd3	1,378 yd3	1,398 yd3

NOTE: BERTH LENGTHS, WIDTHS AND DEEP WATER BERTH DIMENSIONS FROM P.A. PORT DEPARTMENT.

Coordinates are expressed in feet and refer to the NEW JERSEY STATE PLANE (NAD 83) System.
Soundings refer to Mean Low Water as determined by U.S.A.C.E.
The Plane of Mean Low Water is 2.3 feet below Mean Sea Level (NGVD 29).

Note: This survey does not guarantee the absence or presence of any underwater obstructions. Diver verification may be required.

NAVDB 1.11
NGVD29 0.0
MLW (COE) -2.3

I hereby certify to The Port Authority of New York and New Jersey that this map indicates the conditions existing as of the date indicated hereon to the best of my professional knowledge.

William A. Rogers, Jr., P.E., L.S.
New Jersey State # 22254
A.C.S.M. Certified Hydrographer # 151

This drawing subject to conditions in contract. All inventions, ideas, designs and methods herein are reserved to Port Authority and may not be used without its written consent.

Rogers Surveying RK DWR
Surveyed by Drawn by Checked by

Date 06/29/11 Scale 1"=80'
07/13/11

Contract Number 410-10-037 Drawing Number 11 of 60
BERTH 11

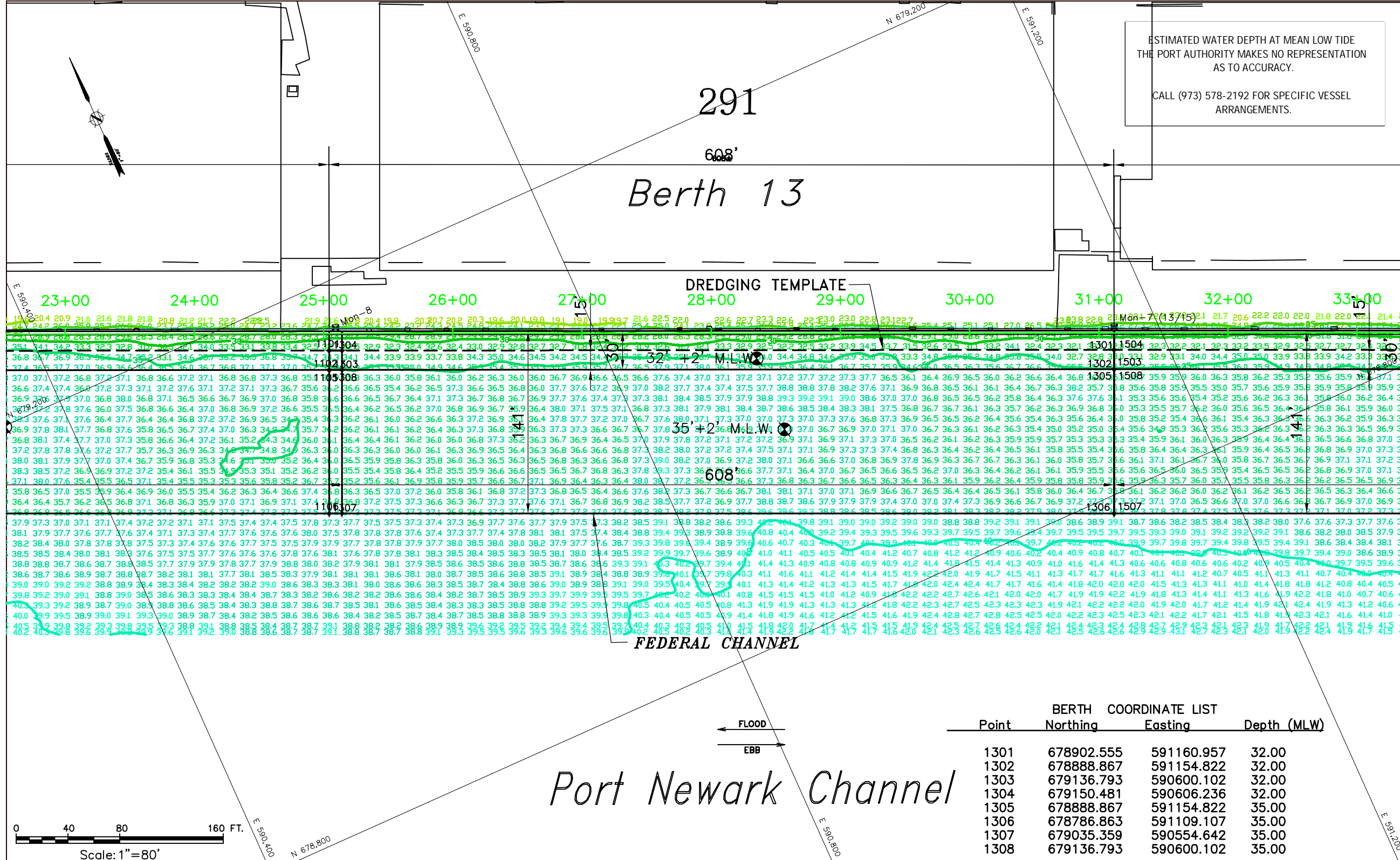
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ESTIMATED WATER DEPTH AT MEAN LOW TIDE
THE PORT AUTHORITY MAKES NO REPRESENTATION
AS TO ACCURACY.

CALL (973) 578-2192 FOR SPECIFIC VESSEL
ARRANGEMENTS.



Title
**NEW JERSEY
MARINE
TERMINAL**

**HYDROGRAPHIC
SURVEY**

Point	BERTH COORDINATE LIST		Depth (MLW)
	Northing	Easting	
1301	678902.555	591160.957	32.00
1302	678888.867	591154.822	32.00
1303	679136.793	590600.102	32.00
1304	679150.481	590606.236	32.00
1305	678888.867	591154.822	35.00
1306	678786.863	591109.107	35.00
1307	679035.359	590554.642	35.00
1308	679136.793	590600.102	35.00

No. Date Revision Approved

VERTICAL CONTROL
Mean Low Water = 2.3' Below 0.00 NGVD '29

HORIZONTAL CONTROL
ALL COORDINATES, BEARING AND DISTANCES ARE REFERENCED TO THE NEW JERSEY PLANE COORDINATE SYSTEM (N.A.D. 83) AS SET FORTH IN N.J.S.A. 51:3-7

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Rogers Surveying RK DWR
Surveyed by Drawn by Checked by

Date 06/29/11 Scale 1" = 80'
07/13/11
Contract Number 410-10-037 Drawing Number 13 of 60
BERTH 13

NOTE: THE INFORMATION DEPICTED ON THIS MAP REPRESENTS THE RESULTS OF SURVEYS MADE ON THE DATES INDICATED AND CAN ONLY BE CONSIDERED AS INDICATING THE GENERAL CONDITIONS EXISTING AT THAT TIME. THE DATA IS REPRESENTATIVE OF A LARGER DATA SET. SOUNDINGS AND CONTOURS SHOWN ARE FROM 8'X16" GRID NEAREST TO CENTER. COORDINATES REFER TO THE NEW JERSEY MERCATOR SYSTEM (NAD 1983). SOUNDINGS REFER TO THE PLANE OF MEAN LOW WATER. THE PLANE OF MEAN LOW WATER IS 2.3 FEET BELOW NGVD (1929). THE SOUNDING DATA DEPICTED ON THIS MAP WAS COLLECTED USING CLASS 2 SURVEY STANDARDS IN ACCORDANCE WITH EM 1110.2-1003.
THIS SURVEY WAS COMPLETED USING THE FOLLOWING EQUIPMENT:
• Survey Vessel "Ted Rogers"
• Reson 7101 Multibeam
• TSS 320 POS/MV
• Coastal Oceanographics "HYPACK" software

Volume Report			
Design Depth	Volume to Dredge Template	Volume of 2' Over dredge	Total Volume
32'	0 yd3	72 yd3	72 yd3
35'	1 yd3	1,015 yd3	1,015 yd3
TOTAL	1 yd3	1,086 yd3	1,087 yd3

NOTE: BERTH LENGTHS, WIDTHS AND DEEP WATER BERTH DIMENSIONS FROM P.A. PORT DEPARTMENT.

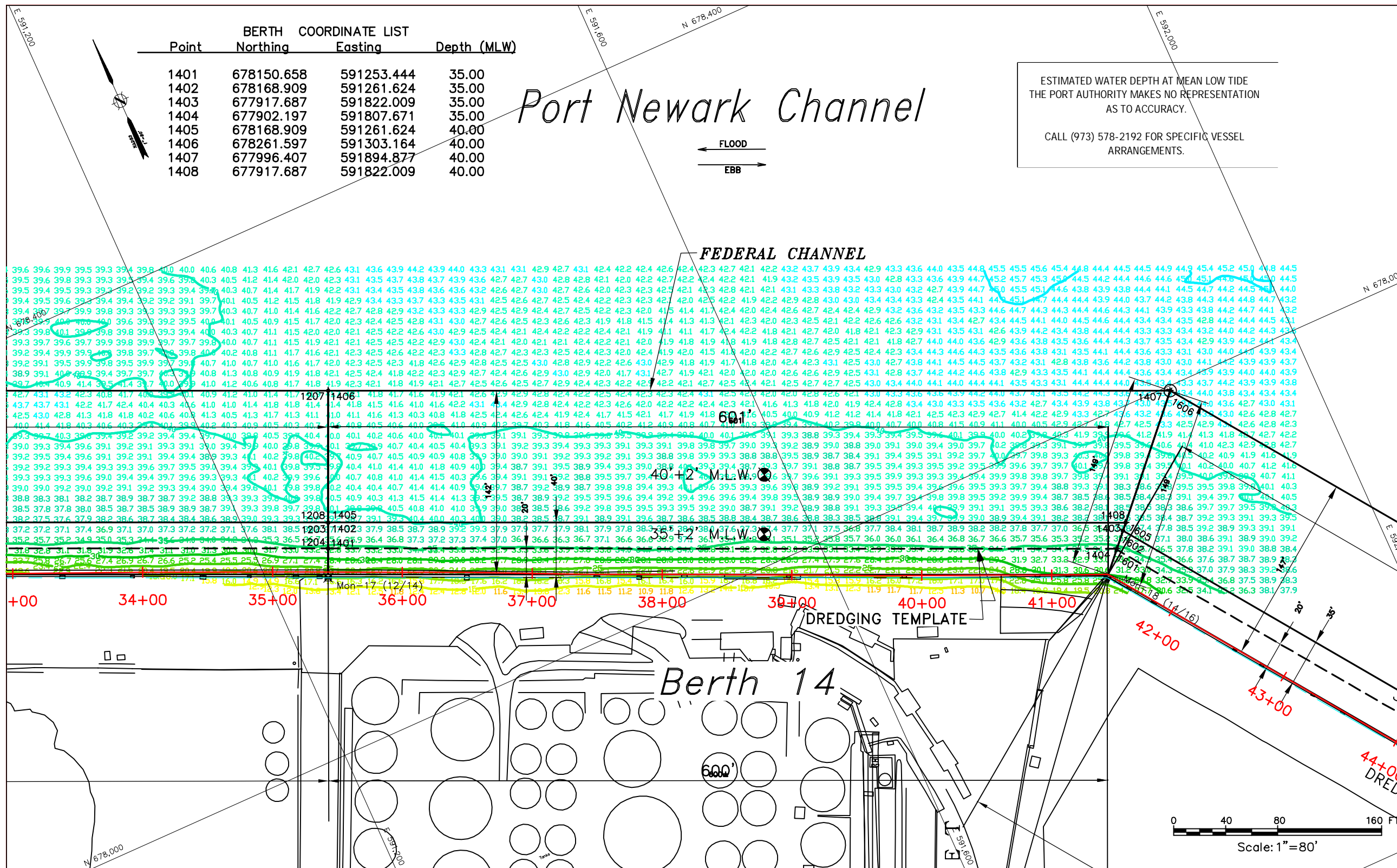
Coordinates are expressed in feet and refer to the NEW JERSEY STATE PLANE (NAD 83) System.
Soundings refer to Mean Low Water as determined by U.S.A.C.E.
The Plane of Mean Low Water is 2.3 feet below Mean Sea Level (NGVD 29).

Note:
This survey does not guarantee the absence or presence of any underwater obstructions. Diver verification may be required.

NAVDB8 1.11
System.
NGVD29 0.0

I hereby certify to The Port Authority of New York and New Jersey that this map indicates the conditions existing as of the date indicated hereon to the best of my professional knowledge.

MLW (COE) -2.3
William A. Rogers, Jr., P.E., L.S.
New Jersey State # 22254
A.C.S.M. Certified Hydrographer # 151



BERTH COORDINATE LIST			
Point	Northing	Easting	Depth (MLW)
1401	678150.658	591253.444	35.00
1402	678168.909	591261.624	35.00
1403	677917.687	591822.009	35.00
1404	677902.197	591807.671	35.00
1405	678168.909	591261.624	40.00
1406	678261.597	591303.164	40.00
1407	677996.407	591894.877	40.00
1408	677917.687	591822.009	40.00

Port Newark Channel

ESTIMATED WATER DEPTH AT MEAN LOW TIDE
THE PORT AUTHORITY MAKES NO REPRESENTATION
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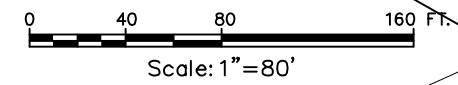


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info@rogerssurveying.com

FEDERAL CHANNEL

**NEW JERSEY
MARINE
TERMINAL**

**HYDROGRAPHIC
SURVEY**



NOTE: THE INFORMATION DEPICTED ON THIS MAP REPRESENTS THE RESULTS OF SURVEYS MADE ON THE DATES INDICATED AND CAN ONLY BE CONSIDERED AS INDICATING THE GENERAL CONDITIONS EXISTING AT THAT TIME. THE DATA IS REPRESENTATIVE OF A LARGER DATA SET. SOUNDINGS AND CONTOURS SHOWN ARE FROM 8'X16' GRID NEAREST TO CENTER. COORDINATES REFER TO THE NEW JERSEY MERCATOR SYSTEM (NAD 1983). SOUNDINGS REFER TO THE PLANE OF MEAN LOW WATER THE PLANE OF MEAN LOW WATER IS 2.3 FEET BELOW NGVD (1929) THE SOUNDING DATA DEPICTED ON THIS MAP WAS COLLECTED USING CLASS 2 SURVEY STANDARDS IN ACCORDANCE WITH EM 1110.2-1003.
THIS SURVEY WAS COMPLETED USING THE FOLLOWING EQUIPMENT:
• Survey Vessel "Red Rogers".
• Reason 7101 Multibeam.
• TSS 320 POS/MV.
• Coastal Oceanographics "HYPACK" software

Volume Report			
Design Depth	Volume to Dredge Template	Volume of 2' Over dredge	Total Volume
35'	11 yd ³	210 yd ³	221 yd ³
40'	851 yd ³	3,322 yd ³	4,173 yd ³
TOTAL	862 yd³	3,532 yd³	4,394 yd³

NOTE: BERTH LENGTHS, WIDTHS AND DEEP WATER BERTH DIMENSIONS FROM P.A. PORT DEPARTMENT.
Coordinates are expressed in feet and refer to the NEW JERSEY STATE PLANE (NAD 83) System.
Soundings refer to Mean Low Water as determined by U.S.A.C.E.
The Plane of Mean Low Water is 2.3 feet below Mean Sea Level (NGVD 29).
Notes:
This survey does not guarantee the absence or presence of any underwater obstructions. Diver verification may be required.

NAVDB 1.11
System.
NGVD29 0.0
I hereby certify to The Port Authority of New York and New Jersey that this map indicates the conditions existing as of the date indicated hereon to the best of my professional knowledge.
MLW (COE) -2.3
William A. Rogers, Jr., P.E., L.S.
New Jersey State # 22254
A.C.S.M. Certified Hydrographer # 151

No. Date Revision Approved

VERTICAL CONTROL
Mean Low Water = 2.3' Below 0.00 NGVD '29

HORIZONTAL CONTROL
ALL COORDINATES, BEARING AND DISTANCES ARE REFERENCED TO THE NEW JERSEY PLANE COORDINATE SYSTEM (N.A.D. 83) AS SET FORTH IN N.J.S.A. 51:3-7

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Rogers Surveying RK DWR
Surveyed by DWR Drawn by DWR Checked by DWR

Date 06/29/11 Scale 1" = 80'
07/13/11

Contract Number 410-10-037 Drawing Number 14 of 60

BERTH 14

PREPARED FOR
**THE PORT AUTHORITY
OF NY & NJ**



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info@rogerssurveying.com

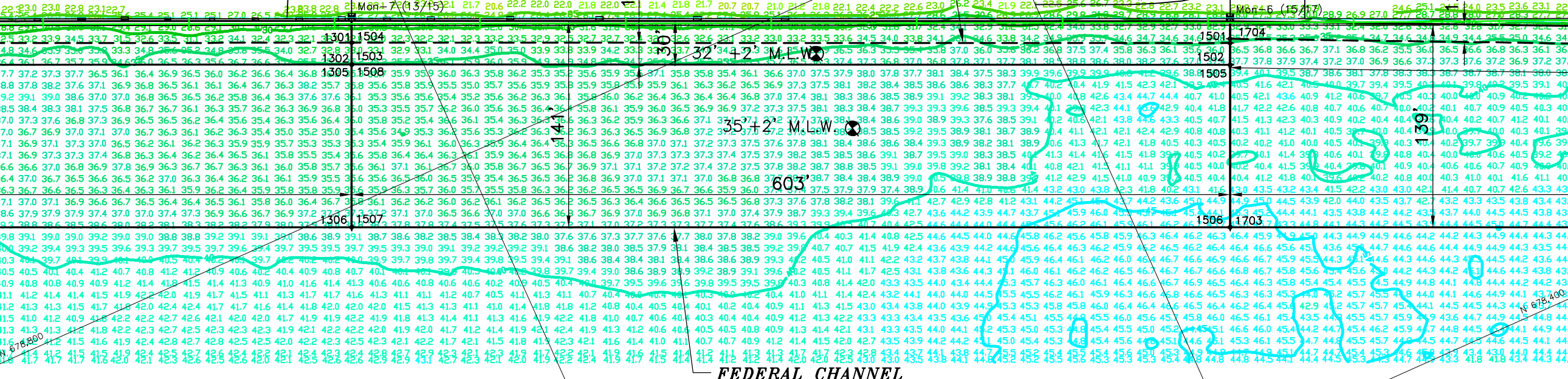
ESTIMATED WATER DEPTH AT MEAN LOW TIDE
THE PORT AUTHORITY MAKES NO REPRESENTATION
AS TO ACCURACY.

CALL (973) 578-2192 FOR SPECIFIC VESSEL
ARRANGEMENTS.

290
603'
Berth 15

DREDGING TEMPLATE

29+00 30+00 31+00 32+00 33+00 34+00 35+00 36+00 37+00 38+00 39+00



Title
**NEW JERSEY
MARINE
TERMINAL

HYDROGRAPHIC
SURVEY**

No.	Date	Revision	Approved

VERTICAL CONTROL
Mean Low Water = 2.3' Below 0.00 NGVD '29

HORIZONTAL CONTROL
ALL COORDINATES, BEARING AND DISTANCES ARE REFERENCED TO THE NEW JERSEY PLANE COORDINATE SYSTEM (N.A.D. 83) AS SET FORTH IN N.J.S.A. 51:3-7

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Rogers Surveying RK DWR
Surveyed by DWR Drawn by DWR Checked by DWR

Date 06/29/11 Scale 1"=80'
07/13/11
Contract Number 410-10-037 Drawing Number 15 of 60
BERTH 15

BERTH COORDINATE LIST			
Point	Northing	Easting	Depth (MLW)
1501	678655.578	591711.352	32.00
1502	678641.890	591705.217	32.00
1503	678888.867	591154.822	32.00
1504	678902.555	591160.957	32.00
1505	678641.890	591705.217	35.00
1506	678540.140	591659.616	35.00
1507	678786.863	591109.107	35.00
1508	678888.867	591154.822	35.00

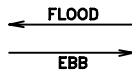
Volume Report			
Design Depth	Volume to Dredge Template	Volume of 2' Over dredge	Total Volume
32'	0 yd3	61 yd3	61 yd3
35'	2 yd3	836 yd3	838 yd3
TOTAL	2 yd3	898 yd3	899 yd3

NOTE: BERTH LENGTHS, WIDTHS AND DEEP WATER BERTH DIMENSIONS FROM P.A. PORT DEPARTMENT.
Coordinates are expressed in feet and refer to the NEW JERSEY STATE PLANE (NAD 83) System.
Soundings refer to Mean Low Water as determined by U.S.A.C.E.
The Plane of Mean Low Water is 2.3 feet below Mean Sea Level (NGVD 29).
Note: This survey does not guarantee the absence or presence of any underwater obstructions. Diver verification may be required.

NAVDB8 1.11
System.
NGVD29 0.0
MLW (COE) -2.3
I hereby certify to The Port Authority of New York and New Jersey that this map indicates the conditions existing as of the date indicated hereon to the best of my professional knowledge.
William A. Rogers, Jr., P.E., L.S.
New Jersey State # 22254
A.C.S.M. Certified Hydrographer # 151

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THIS SURVEY WAS COMPLETED USING THE FOLLOWING EQUIPMENT:
• Survey Vessel "Red Rogers".
• Reson 7101 Multibeam.
• TSS 320 POS/MV.
• Coastal Oceanographics "HYPACK" software

Port Newark Channel



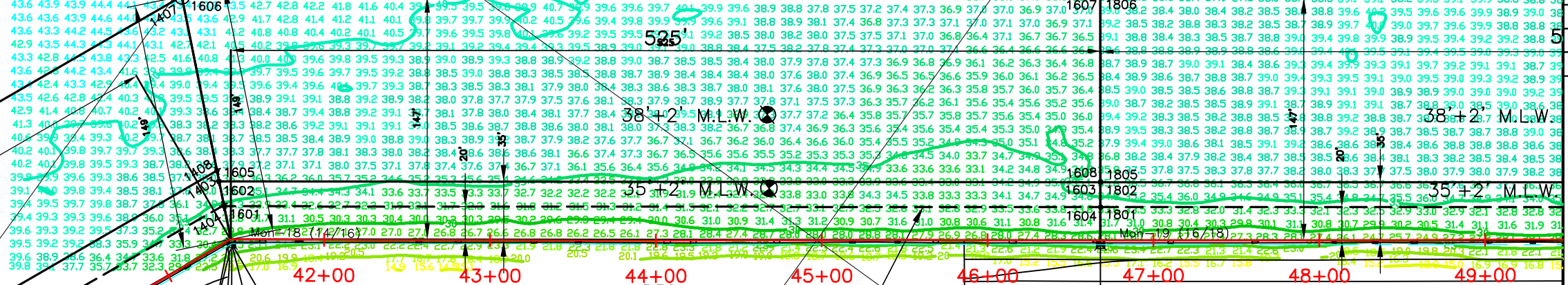
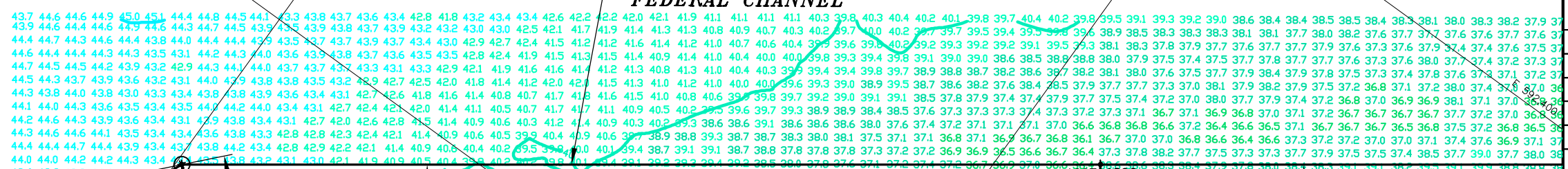
ESTIMATED WATER DEPTH AT MEAN LOW TIDE
THE PORT AUTHORITY MAKES NO REPRESENTATION
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www.rogerssurveying.com



Point	BERTH COORDINATE LIST		Depth (MLW)
	Northing	Easting	
1601	677901.680	591807.192	35.00
1602	677913.727	591816.997	35.00
1603	677481.772	592128.597	35.00
1604	677472.981	592116.443	35.00
1605	677913.727	591816.997	38.00
1606	677996.407	591894.877	38.00
1607	677547.408	592219.413	38.00
1608	677481.772	592128.597	38.00

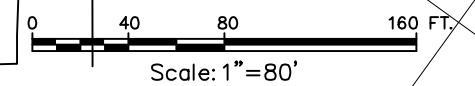
**NEW JERSEY
MARINE
TERMINAL**

**HYDROGRAPHIC
SURVEY**

No. Date Revision Approved

VERTICAL CONTROL
Mean Low Water = 2.3' Below 0.00 NGVD '29

HORIZONTAL CONTROL
ALL COORDINATES, BEARING AND DISTANCES ARE REFERENCED TO THE NEW JERSEY PLANE COORDINATE SYSTEM (N.A.D. 83) AS SET FORTH IN N.J.S.A. 51:3-7



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THIS SURVEY WAS COMPLETED USING THE FOLLOWING EQUIPMENT:

- Survey Vessel "Red Rogers"
- Reason 7101 Multibeam.
- TSS 320 POS/MV.
- Coastal Oceanographics "HYPACK" software

Design Depth	Volume to Dredge Template	Volume of 2' Over dredge	Total Volume
35'	397 yd ³	572 yd ³	968 yd ³
38'	1,771 yd ³	3,163 yd ³	4,934 yd ³
TOTAL	2,167 yd ³	3,735 yd ³	5,902 yd ³

NOTE: BERTH LENGTHS, WIDTHS AND DEEP WATER BERTH DIMENSIONS FROM P.A. PORT DEPARTMENT.

Coordinates are expressed in feet and refer to the NEW JERSEY STATE PLANE (NAD 83) System.

Soundings refer to Mean Low Water as determined by U.S.A.C.E.

The Plane of Mean Low Water is 2.3 feet below Mean Sea Level (NGVD 29).

Note: This survey does not guarantee the absence or presence of any underwater obstructions. Diver verification may be required.

NAVD88 1.11
System.
NGVD29 0.0

I hereby certify to The Port Authority of New York and New Jersey that this map indicates the conditions existing as of the date indicated hereon to the best of my professional knowledge.

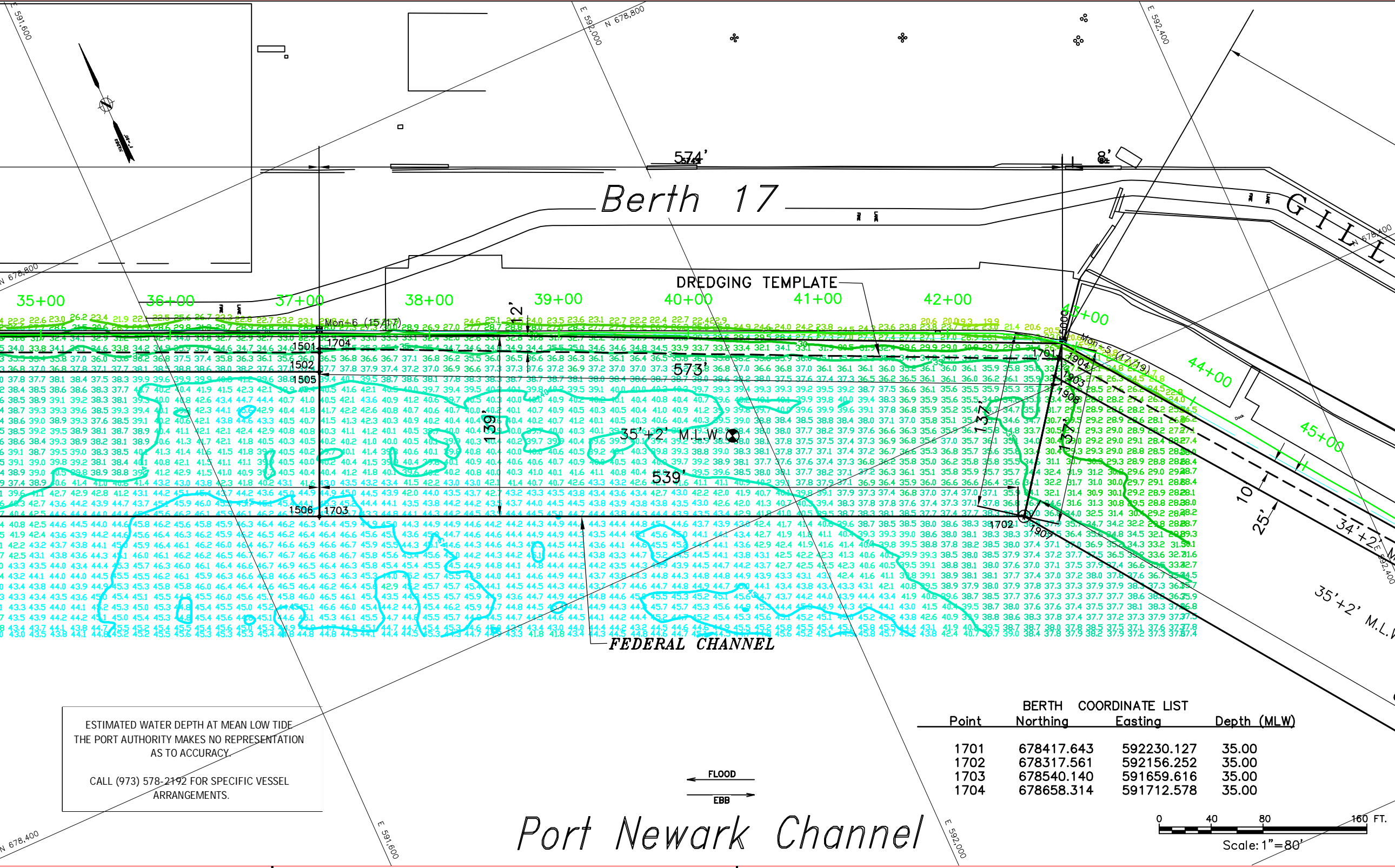
William A. Rogers, Jr., P.E., L.S.
New Jersey State # 22254
A.C.S.M. Certified Hydrographer # 151

MLW (COE) -2.3

Rogers Surveying RK DWR
Surveyed by Drawn by Checked by

Date 06/29/11 - 07/13/11 Scale 1"= 80'
Contract Number 410-10-037 Drawing Number 16 of 60

BERTH 16



PREPARED FOR
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www.rogersurveying.net
www.rsdyn.com

Title

NEW JERSEY MARINE TERMINAL

HYDROGRAPHIC SURVEY

No.	Date	Revision	Approved

VERTICAL CONTROL
Mean Low Water = 2.3' Below 0.00 NGVD '29

HORIZONTAL CONTROL

ALL COORDINATES, BEARING AND DISTANCES ARE REFERENCED TO THE NEW JERSEY PLANE COORDINATE SYSTEM (N.A.D. 83) AS SET FORTH IN N.J.S.A. 51:3-7

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Rogers Surveying RK DWR
Surveyed by DWR Drawn by RK Checked by DWR

Date 06/29/11 - 07/13/11 Scale 1" = 80'
Contract Number 410-10-037 Drawing Number 17 of 60

BERTH 17

NOTE: THE INFORMATION DEPICTED ON THIS MAP REPRESENTS THE RESULTS OF SURVEYS MADE ON THE DATES INDICATED AND CAN ONLY BE CONSIDERED AS INDICATING THE GENERAL CONDITIONS EXISTING AT THAT TIME. THE DATA IS REPRESENTATIVE OF A LARGER DATA SET. SOUNDINGS AND CONTOURS SHOWN ARE FROM 8'x16" GRID NEAREST TO CENTER. COORDINATES REFER TO THE NEW JERSEY MERCATOR SYSTEM (NAD 1983). SOUNDINGS REFER TO THE PLANE OF MEAN LOW WATER THE PLANE OF MEAN LOW WATER IS 2.3 FEET BELOW NGVD (1929) THE SOUNDING DATA DEPICTED ON THIS MAP WAS COLLECTED USING CLASS 2 SURVEY STANDARDS IN ACCORDANCE WITH EM 1110 2 1003.
THIS SURVEY WAS COMPLETED USING THE FOLLOWING EQUIPMENT:
• Survey Vessel "Ted Rogers".
• Reason 7101 Multibeam.
• TSS 320 POS/MV.
• Coastal Oceanographics "HYPACK" software

Volume Report

THE DATA USED FOR VOLUME CALCULATIONS IS REPRESENTATIVE OF A LARGER DATA SET. SOUNDINGS USED FOR VOLUME CALCULATIONS ARE ON A 3'x3' GRID WITH THE DEPTH NEAREST TO THE CENTER USED.

Design Depth	Volume to Dredge Template	Volume of 2' Over dredge	Total Volume
35'	37 yd ³	768 yd ³	805 yd ³
TOTAL	37 yd³	768 yd³	805 yd³

NOTE: BERTH LENGTHS, WIDTHS AND DEEP WATER BERTH DIMENSIONS FROM P.A. PORT DEPARTMENT.

Coordinates are expressed in feet and refer to the NEW JERSEY STATE PLANE (NAD 83) System.
SOUNDINGS refer to Mean Low Water as determined by U.S.A.C.E.
The Plane of Mean Low Water is 2.3 feet below Mean Sea Level (NGVD 29).

Note:
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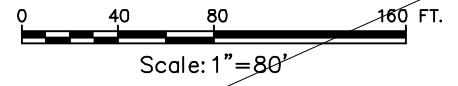
Point	BERTH COORDINATE LIST		Depth (MLW)
	Northing	Easting	
1701	678417.643	592230.127	35.00
1702	678317.561	592156.252	35.00
1703	678540.140	591659.616	35.00
1704	678658.314	591712.578	35.00

ESTIMATED WATER DEPTH AT MEAN LOW TIDE
THE PORT AUTHORITY MAKES NO REPRESENTATION AS TO ACCURACY.

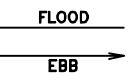
CALL (973) 578-2192 FOR SPECIFIC VESSEL ARRANGEMENTS.

← FLOOD
EBB →

Port Newark Channel



Port Newark Channel



ESTIMATED WATER DEPTH AT MEAN LOW TIDE
THE PORT AUTHORITY MAKES NO REPRESENTATION
AS TO ACCURACY.

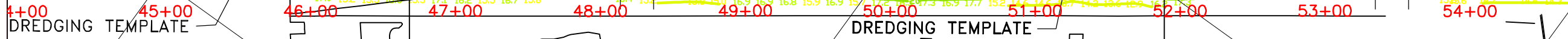
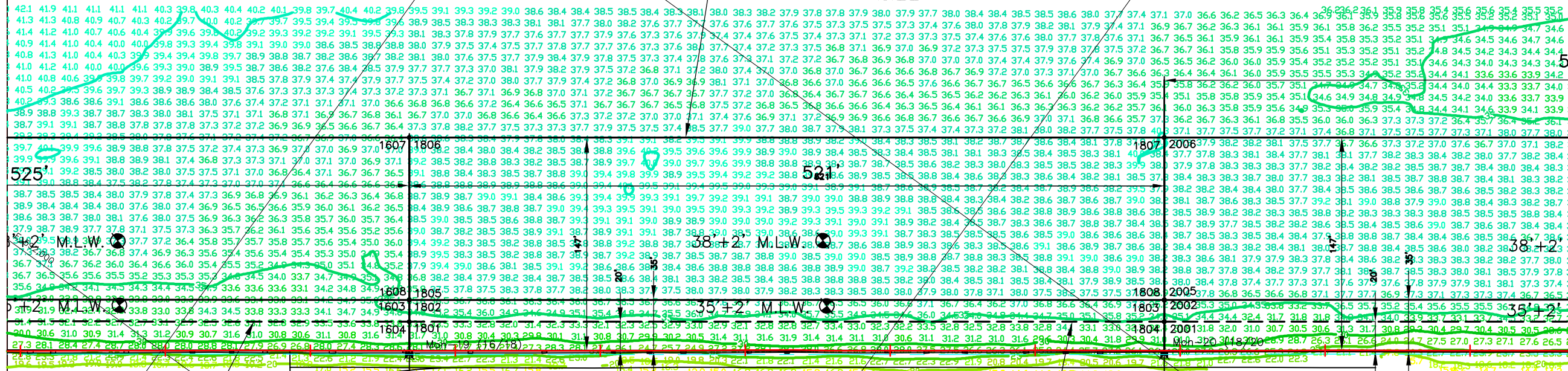
CALL (973) 578-2192 FOR SPECIFIC VESSEL
ARRANGEMENTS.

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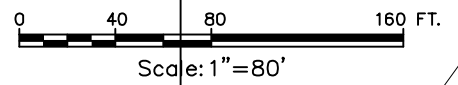
Rogers Surveying, P.L.L.C.
1837 Richmond Terrace, Staten Island, N.Y. 10310
Tel: (718) 443-7261 Fax: (718) 273-5069
www.rogerssurveying.com
info@rogerssurveying.com

FEDERAL CHANNEL



Berth 18

BERTH COORDINATE LIST			
Point	Northing	Easting	Depth (MLW)
1801	677472.981	592116.443	35.00
1802	677481.768	592128.600	35.00
1803	677059.542	592433.782	35.00
1804	677050.755	592421.625	35.00
1805	677481.768	592128.600	38.00
1806	677547.408	592219.413	38.00
1807	677125.183	592524.597	38.00
1808	677059.542	592433.782	38.00



Title
**NEW JERSEY
MARINE
TERMINAL**

**HYDROGRAPHIC
SURVEY**

NOTE:
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THIS SURVEY WAS COMPLETED USING THE FOLLOWING EQUIPMENT:
• Survey Vessel "Ted Rogers"
• Reson 7101 Multibeam
• TSS 320 POS/MV
• Coastal Oceanographics "HYPACK" software

Volume Report			
Design Depth	Volume to Dredge Template	Volume of 2' Over dredge	Total Volume
35'	36 yd3	293 yd3	328 yd3
38'	61 yd3	2,738 yd3	2,799 yd3
TOTAL	96 yd3	3,031 yd3	3,127 yd3

NOTE: BERTH LENGTHS, WIDTHS AND DEEP WATER BERTH DIMENSIONS FROM P.A. PORT DEPARTMENT.

Coordinates are expressed in feet and refer to the NEW JERSEY STATE PLANE (NAD 83) System.

Soundings refer to Mean Low Water as determined by U.S.A.C.E.

The Plane of Mean Low Water is 2.3 feet below Mean Sea Level (NGVD 29).

Note:
This survey does not guarantee the absence or presence of any underwater obstructions. Diver verification may be required.

NAVDB8 1.11
NGVD29 0.0
MLW (COE) -2.3

I hereby certify to The Port Authority of New York and New Jersey that this map indicates the conditions existing as of the date indicated hereon to the best of my professional knowledge.

William A. Rogers, Jr., P.E., L.S.
New Jersey State # 22254
A.C.S.M. Certified Hydrographer # 151

Rogers Surveying RK DWR
Surveyed by Drawn by Checked by

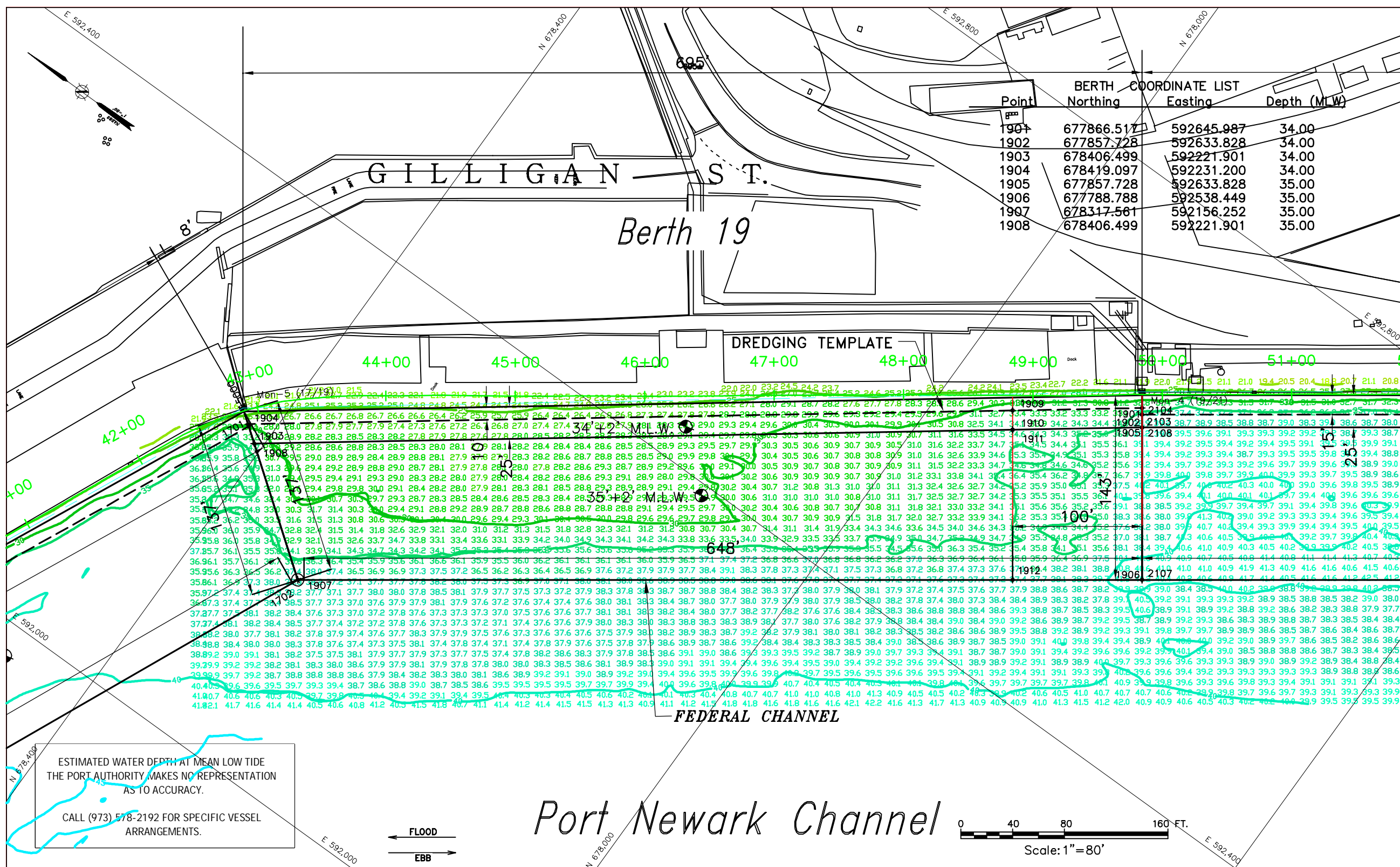
Date 06/29/11 Scale 1" = 80'
06/29/11 - 07/13/11
Contract Number 410-10-037 Drawing Number 18 of 60
BERTH 18

PREPARED FOR
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OF NY & NJ



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1837 Richmond Terrace, Staten Island, N.Y. 10310
Tel: (718) 442-7201 Fax: (718) 273-5869
www.rogerssurveying.com

Point	BERTH Northing	COORDINATE LIST Easting	Depth (MLW)
1901	677866.517	592645.987	34.00
1902	677857.728	592633.828	34.00
1903	678406.499	592221.901	34.00
1904	678419.097	592231.200	34.00
1905	677857.728	592633.828	35.00
1906	677788.788	592538.449	35.00
1907	678317.561	592156.252	35.00
1908	678406.499	592221.901	35.00



NEW JERSEY MARINE TERMINAL
HYDROGRAPHIC SURVEY

No. Date Revision Approved

VERTICAL CONTROL
Mean Low Water = 2.3' Below 0.00 NGVD '29

HORIZONTAL CONTROL
ALL COORDINATES, BEARING AND DISTANCES ARE REFERENCED TO THE NEW JERSEY PLANE COORDINATE SYSTEM (N.A.D. 83) AS SET FORTH IN N.J.S.A. 51:3-7

ESTIMATED WATER DEPTH AT MEAN LOW TIDE
THE PORT AUTHORITY MAKES NO REPRESENTATION AS TO ACCURACY.
CALL (973) 578-2192 FOR SPECIFIC VESSEL ARRANGEMENTS.

Volume Report

Design Depth	Volume to Dredge Template	Volume of 2' Over dredge	Total Volume
34'	1,746 yd3	751 yd3	2,496 yd3
35'	7,897 yd3	4,515 yd3	12,412 yd3
TOTAL	9,642 yd3	5,266 yd3	14,908 yd3

NOTE: BERTH LENGTHS, WIDTHS AND DEEP WATER BERTH DIMENSIONS FROM P.A. PORT DEPARTMENT.

Coordinates are expressed in feet and refer to the NEW JERSEY STATE PLANE (NAD 83) System.

Soundings refer to Mean Low Water as determined by U.S.A.C.E.

The Plane of Mean Low Water is 2.3 feet below Mean Sea Level (NGVD 29).

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NAVD88 1.11
NGVD29 0.0
MLW (COE) -2.3

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William A. Rogers, Jr., P.E., L.S.
New Jersey State # 22254
A.C.S.M. Certified Hydrographer # 151

Rogers Surveying RK DWR
Surveyed by Drawn by Checked by

Date 06/29/11 Scale 1"= 80'
07/13/11

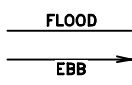
Contract Number 410-10-037 Drawing Number 19 of 60

BERTH 19

NOTE: THE INFORMATION DEPICTED ON THIS MAP REPRESENTS THE RESULTS OF SURVEYS MADE ON THE DATES INDICATED AND CAN ONLY BE CONSIDERED AS INDICATING THE GENERAL CONDITIONS EXISTING AT THAT TIME. THE DATA IS REPRESENTATIVE OF A LARGER DATA SET. SOUNDINGS AND CONTOURS SHOWN ARE FROM 8'X16" GRID NEAREST TO CENTER. COORDINATES REFER TO THE NEW JERSEY MERCATOR SYSTEM (NAD 1983). SOUNDINGS REFER TO THE PLANE OF MEAN LOW WATER. THE PLANE OF MEAN LOW WATER IS 2.3 FEET BELOW NGVD (1929). THE SOUNDING DATA DEPICTED ON THIS MAP WAS COLLECTED USING CLASS 2 SURVEY STANDARDS IN ACCORDANCE WITH EM 1110.2-1003.

THIS SURVEY WAS COMPLETED USING THE FOLLOWING EQUIPMENT:
• Survey Vessel "Red Rogers"
• Reson 7101 Multibeam
• TSS 320 POS/MV
• Coastal Oceanographics "HYPACK" software

Port Newark Channel

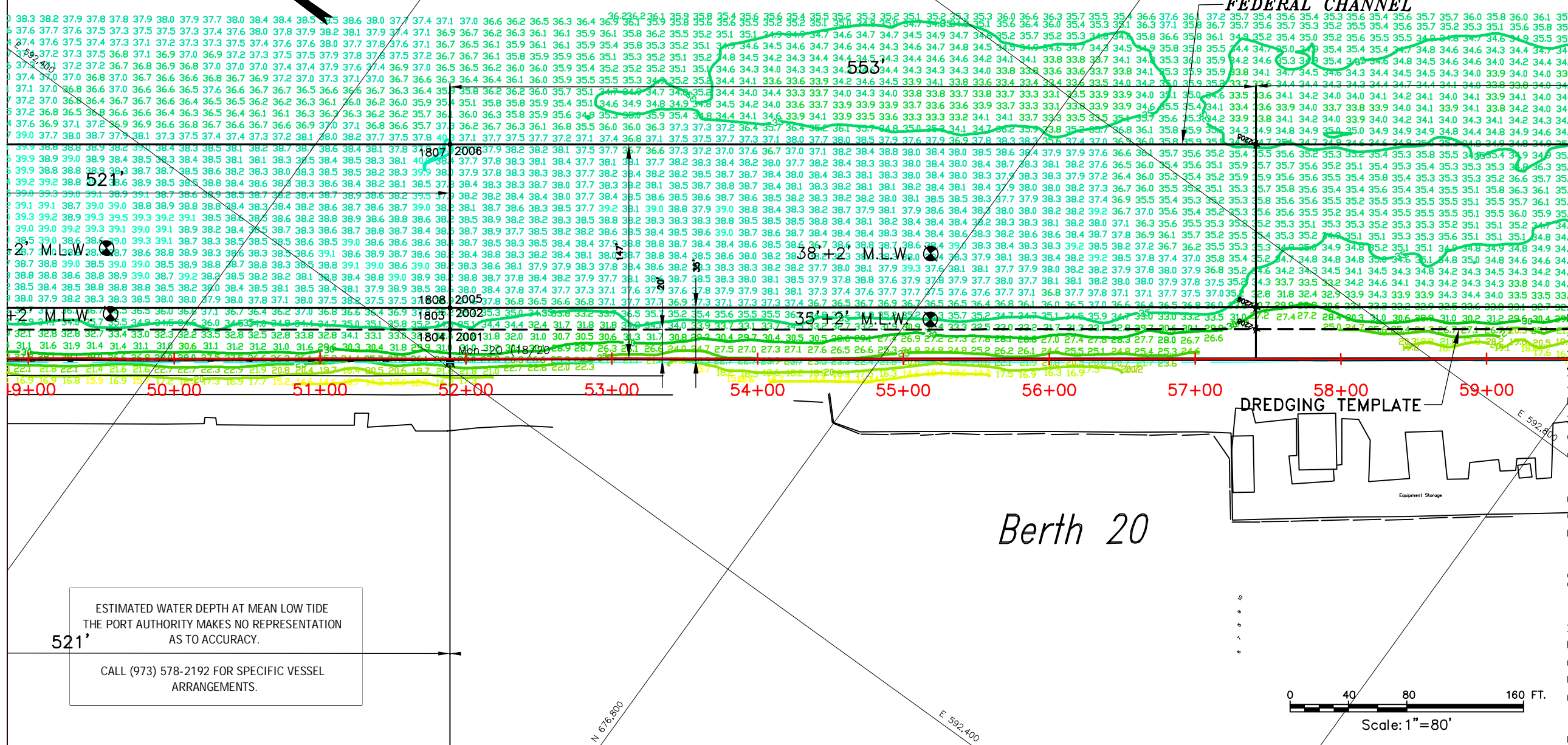


Point	BERTH COORDINATE LIST		Depth (MLW)
	Northing	Easting	
677050.755	592421.625	35.00	
677059.542	592433.782	35.00	
676611.878	592757.691	35.00	
2208	676603.091	592745.534	35.00
2005	677059.542	592433.782	38.00
2006	677125.183	592524.597	38.00
2205	676677.359	592848.284	38.00
2206	676611.878	592757.691	38.00

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www.rogerssurveying.com
info@rogerssurveying.com



Title
NEW JERSEY MARINE TERMINAL
HYDROGRAPHIC SURVEY

No. Date Revision Approved
VERTICAL CONTROL
Mean Low Water = 2.3' Below 0.00 NGVD '29
HORIZONTAL CONTROL
ALL COORDINATES, BEARING AND DISTANCES ARE REFERENCED TO THE NEW JERSEY PLANE COORDINATE SYSTEM (N.A.D. 83) AS SET FORTH IN N.J.S.A. 51:3-7

This drawing subject to conditions in contract. All inventions, ideas, designs and methods herein are reserved to Port Authority and may not be used without its written consent.
Rogers Surveying
Surveyed by Drawn by Checked by
Date 06/29/11 Scale 1" = 80'
07/13/11
Contract Number 410-10-037 Drawing Number 20 of 60
BERTH 20

ESTIMATED WATER DEPTH AT MEAN LOW TIDE
THE PORT AUTHORITY MAKES NO REPRESENTATION
AS TO ACCURACY.

CALL (973) 578-2192 FOR SPECIFIC VESSEL
ARRANGEMENTS.

Design Depth	Volume to Dredge Template	Volume of 2' Over dredge	Total Volume
35'	215 yd3	484 yd3	699 yd3
38'	933 yd3	4,042 yd3	4,976 yd3
TOTAL	1,148 yd3	4,527 yd3	5,675 yd3

NOTE: BERTH LENGTHS, WIDTHS AND DEEP WATER BERTH DIMENSIONS FROM P.A. PORT DEPARTMENT.
Coordinates are expressed in feet and refer to the NEW JERSEY STATE PLANE (NAD 83) System.
Soundings refer to Mean Low Water as determined by U.S.A.C.E.
The Plane of Mean Low Water is 2.3 feet below Mean Sea Level (NGVD 29).
Note: This survey does not guarantee the absence or presence of any underwater obstructions. Diver verification may be required.

NAVDB8 1.11
System.
NGVD29 0.0
MLW (COE) -2.3
I hereby certify to The Port Authority of New York and New Jersey that this map indicates the conditions existing as of the date indicated hereon to the best of my professional knowledge.
William A. Rogers, Jr., P.E., L.S.
New Jersey State # 22254
A.C.S.M. Certified Hydrographer # 151

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• Survey Vessel "Red Rogers"
• Reason 7101 Multibeam
• TSS 320 POS/MV.
• Coastal Oceanographics "HYPACK" software

PREPARED FOR
THE PORT AUTHORITY
OF NY & NJ



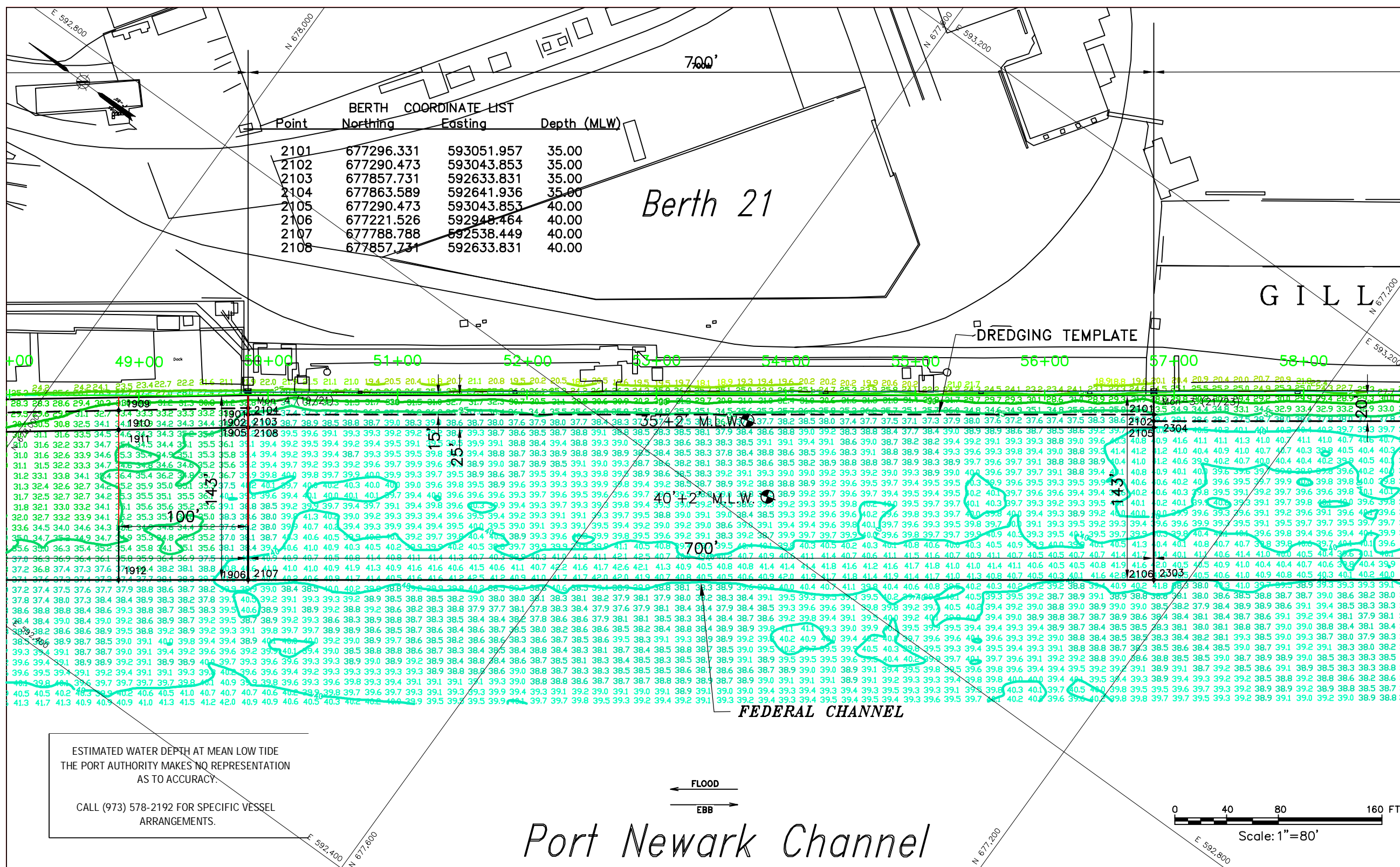
Rogers Surveying, P.L.L.C.
1837 Richmond Terrace, Staten Island, N.Y. 10310
Tel: (718) 442-7201 Fax: (718) 273-5869
www.rogerssurveying.com

BERTH COORDINATE LIST			
Point	Northing	Easting	Depth (MLW)
2101	677296.331	593051.957	35.00
2102	677290.473	593043.853	35.00
2103	677857.731	592633.831	35.00
2104	677863.589	592641.936	35.00
2105	677290.473	593043.853	40.00
2106	677221.526	592948.464	40.00
2107	677788.788	592538.449	40.00
2108	677857.731	592633.831	40.00

Berth 21

GILL

DREDGING TEMPLATE



Title
NEW JERSEY MARINE TERMINAL
HYDROGRAPHIC SURVEY

No.	Date	Revision	Approved

VERTICAL CONTROL
Mean Low Water = 2.3' Below 0.00 NGVD '29

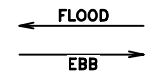
HORIZONTAL CONTROL
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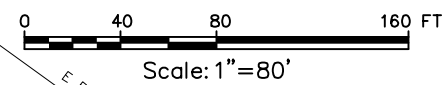
Rogers Surveying RK DWR
Surveyed by DWR Drawn by DWR Checked by DWR
Date 06/29/11 Scale 1"=80'
 06/29/11 - 07/13/11
Contract Number 410-10-037 Drawing Number 21 of 60
BERTH 21

ESTIMATED WATER DEPTH AT MEAN LOW TIDE
THE PORT AUTHORITY MAKES NO REPRESENTATION
AS TO ACCURACY.

CALL (973) 578-2192 FOR SPECIFIC VESSEL
ARRANGEMENTS.



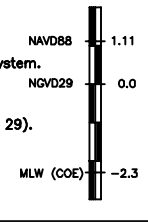
Port Newark Channel



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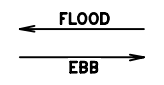
Volume Report			
Design Depth	Volume to Dredge Template	Volume of 2' Over dredge	Total Volume
35'	0 yd3	47 yd3	47 yd3
40'	1,579 yd3	5,340 yd3	6,919 yd3
TOTAL	1,579 yd3	5,386 yd3	6,965 yd3

NOTE: BERTH LENGTHS, WIDTHS AND DEEP WATER BERTH DIMENSIONS FROM P.A. PORT DEPARTMENT.
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Soundings refer to Mean Low Water as determined by U.S.A.C.E.
The Plane of Mean Low Water is 2.3 feet below Mean Sea Level (NGVD 29).
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New Jersey State # 22254
A.C.S.M. Certified Hydrographer # 151

Port Newark Channel



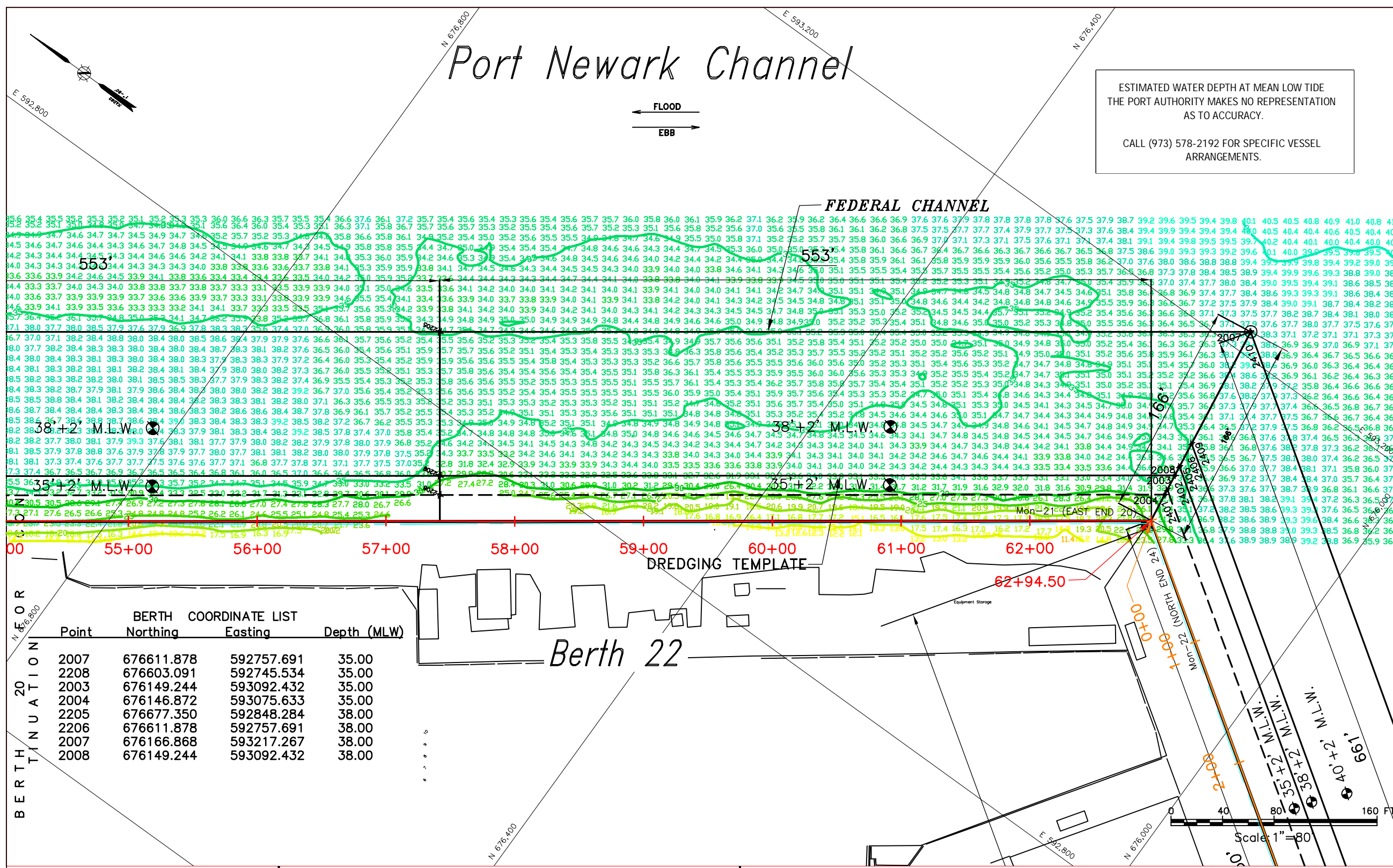
ESTIMATED WATER DEPTH AT MEAN LOW TIDE
THE PORT AUTHORITY MAKES NO REPRESENTATION
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Title
**NEW JERSEY
MARINE
TERMINAL
HYDROGRAPHIC
SURVEY**

No. Date Revision Approved

VERTICAL CONTROL
Mean Low Water = 2.3' Below 0.00 NGVD '29

HORIZONTAL CONTROL
ALL COORDINATES, BEARING AND DISTANCES ARE REFERENCED TO THE NEW JERSEY PLANE COORDINATE SYSTEM (N.A.D. 83) AS SET FORTH IN N.J.S.A. 51:3-7

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Rogers Surveying RK DWR
Surveyed by Drawn by Checked by

Date 06/29/11 Scale 1"=80'
07/13/11

Contract Number 410-10-037 Drawing Number 22 of 60
BERTH 22

BERTH COORDINATE LIST			
Point	Northing	Easting	Depth (MLW)
2007	676611.878	592757.691	35.00
2208	676603.091	592745.534	35.00
2003	676149.244	593092.432	35.00
2004	676146.872	593075.633	35.00
2205	676677.350	592848.284	38.00
2206	676611.878	592757.691	38.00
2007	676166.868	593217.267	38.00
2008	676149.244	593092.432	38.00

Volume Report			
Design Depth	Volume to Dredge Template	Volume of 2' Over dredge	Total Volume
35'	1,024 yd3	594 yd3	1,617 yd3
38'	7,434 yd3	4,960 yd3	12,394 yd3
TOTAL	8,458 yd3	5,553 yd3	14,011 yd3

NOTE: BERTH LENGTHS, WIDTHS AND DEEP WATER BERTH DIMENSIONS FROM P.A. PORT DEPARTMENT.

Coordinates are expressed in feet and refer to the NEW JERSEY STATE PLANE (NAD 83) System.

Soundings refer to Mean Low Water as determined by U.S.A.C.E.

The Plane of Mean Low Water is 2.3 feet below Mean Sea Level (NGVD 29).

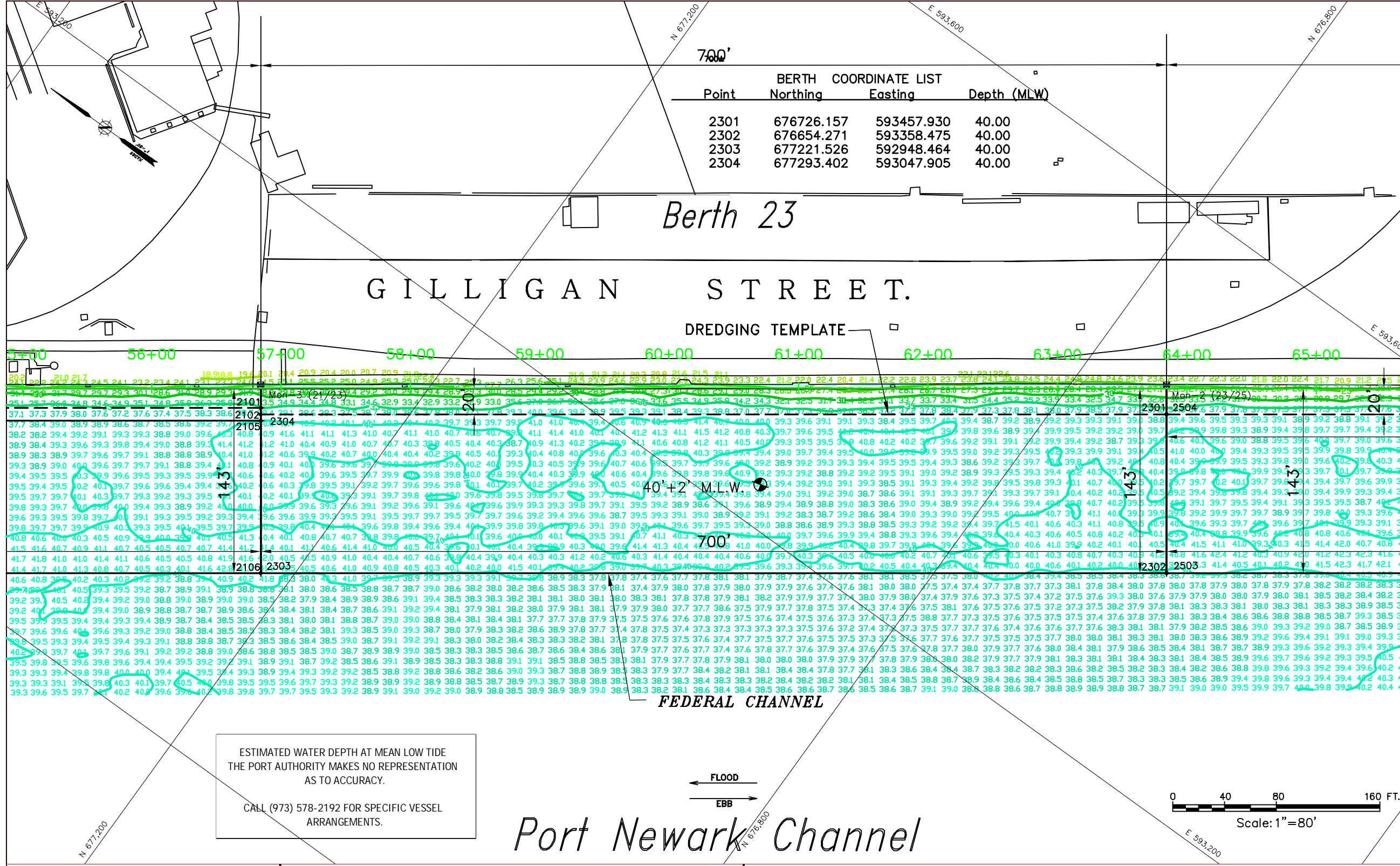
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NAVD88 1.11
System.
NGVD29 0.0
MLW (COE) -2.3

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• Survey Vessel "Ted Rogers".
• Reason 7101 Multibeam.
• TSS 320 POS/MV.
• Coastal Oceanographics "HYPACK" software



Point	BERTH COORDINATE LIST		
	Northing	Easting	Depth (MLW)
2301	676726.157	593457.930	40.00
2302	676654.271	593358.475	40.00
2303	677221.526	592948.464	40.00
2304	677293.402	593047.905	40.00

PREPARED FOR
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www.rogerssurveying.com
rds@rogerssurveying.com

Title

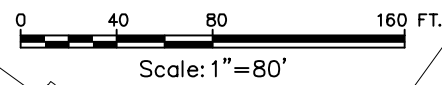
**NEW JERSEY
MARINE
TERMINAL**

**HYDROGRAPHIC
SURVEY**

No.	Date	Revision	Approved

VERTICAL CONTROL
Mean Low Water = 2.3' Below 0.00 NGVD '29

HORIZONTAL CONTROL
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ESTIMATED WATER DEPTH AT MEAN LOW TIDE
THE PORT AUTHORITY MAKES NO REPRESENTATION
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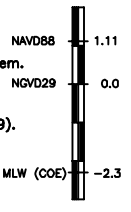
Port Newark Channel

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• Survey Vessel "Red Rogers"
• Reson 7101 Multibeam
• TSS 320 POS/MV
• Coastal Oceanographics "HYPACK" software

Volume Report			
Design Depth	Volume to Dredge Template	Volume of 2' Over dredge	Total Volume
40'	1,010 yd3	5,672 yd3	6,682 yd3
TOTAL	1,010 yd3	5,672 yd3	6,682 yd3

NOTE: BERTH LENGTHS, WIDTHS AND DEEP WATER BERTH DIMENSIONS FROM P.A. PORT DEPARTMENT.

Coordinates are expressed in feet and refer to the NEW JERSEY STATE PLANE (NAD 83) System.
Soundings refer to Mean Low Water as determined by U.S.A.C.E.
The Plane of Mean Low Water is 2.3 feet below Mean Sea Level (NGVD 29).
Note:
This survey does not guarantee the absence or presence of any underwater obstructions. Diver verification may be required.



I hereby certify to The Port Authority of New York and New Jersey that this map indicates the conditions existing as of the date indicated hereon to the best of my professional knowledge.
William A. Rogers, Jr., P.E., L.S.
New Jersey State # 22254
A.C.S.M. Certified Hydrographer # 151

This drawing subject to conditions in contract. All inventions, ideas, designs and methods herein are reserved to Port Authority and may not be used without it's written consent.

Rogers Surveying RK DWR
Surveyed by Drawn by Checked by
Date 06/29/11 Scale 1"= 80'
07/13/11
Contract Number 410-10-037 Drawing Number 23 of 60
BERTH 23

PREPARED FOR
THE PORT AUTHORITY
OF NY & NJ



Rogers Surveying, P.L.L.C.
1837 Richmond Terrace, Staten Island, N.Y. 10310
Tel: (718) 443-7291 Fax: (718) 273-3869
www.rogerssurveying.com

Title

**NEW JERSEY
MARINE
TERMINAL**

**HYDROGRAPHIC
SURVEY**

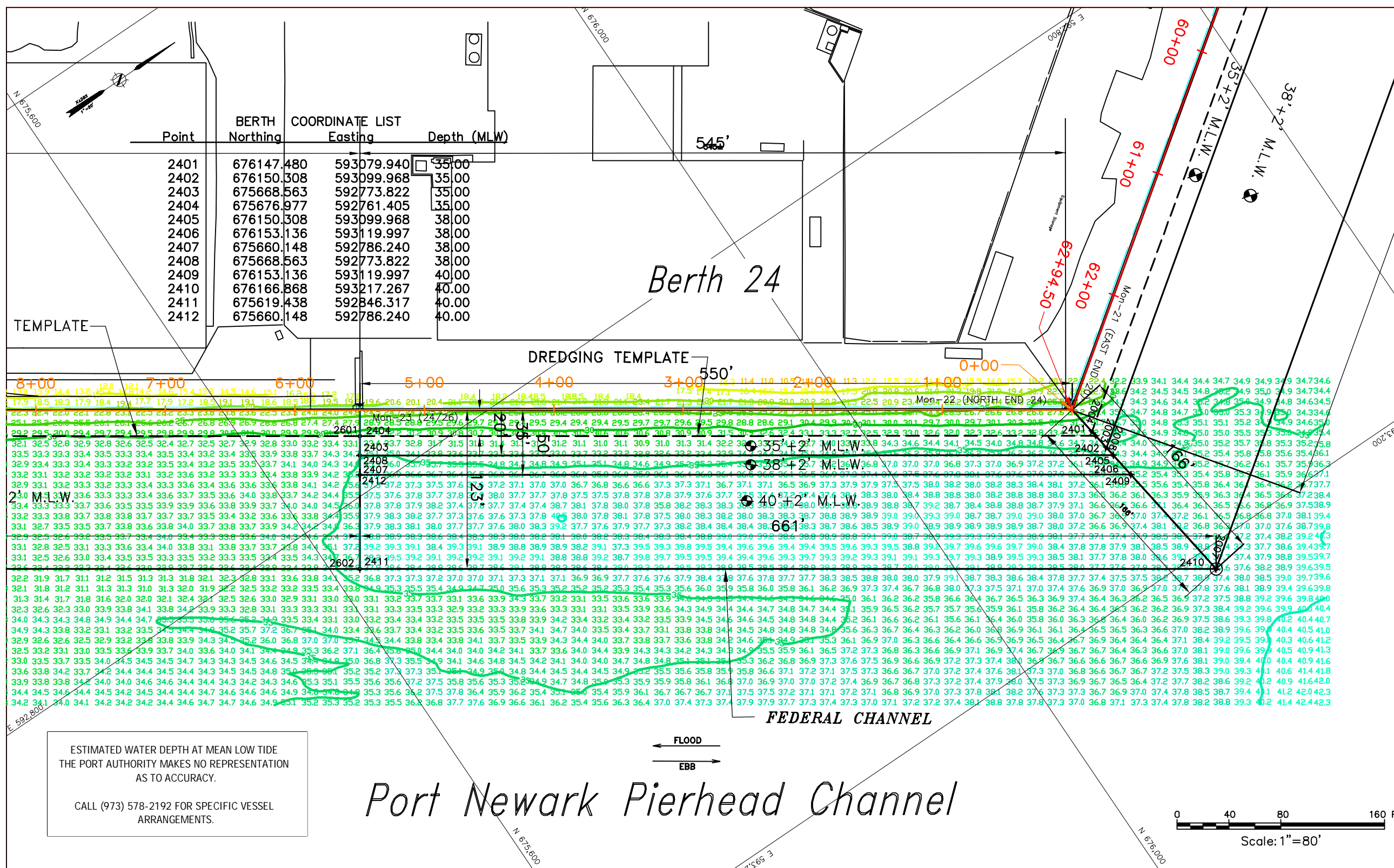
No. Date Revision Approved

VERTICAL CONTROL
Mean Low Water = 2.3' Below 0.00 NGVD '29

HORIZONTAL CONTROL
ALL COORDINATES, BEARING AND DISTANCES ARE REFERENCED TO THE NEW JERSEY PLANE COORDINATE SYSTEM (N.A.D. 83) AS SET FORTH IN N.J.S.A. 51:3-7

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Rogers Surveying RK DWR
Surveyed by Drawn by Checked by
Date 06/29/11 Scale 1"= 80'
07/13/11
Contract Number 410-10-037 Drawing Number 24 of 60
BERTH 24



Point	BERTH Northing	COORDINATE LIST Easting	Depth (MLW)
2401	676147.480	593079.940	35.00
2402	676150.308	593099.968	35.00
2403	675668.563	592773.822	35.00
2404	675676.977	592761.405	35.00
2405	676150.308	593099.968	38.00
2406	676153.136	593119.997	38.00
2407	675660.148	592786.240	38.00
2408	675668.563	592773.822	38.00
2409	676153.136	593119.997	40.00
2410	676166.868	593217.267	40.00
2411	675619.438	592846.317	40.00
2412	675660.148	592786.240	40.00

DREDGING TEMPLATE

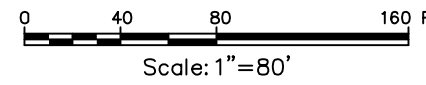
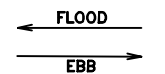
Berth 24

FEDERAL CHANNEL

Port Newark Pierhead Channel

ESTIMATED WATER DEPTH AT MEAN LOW TIDE
THE PORT AUTHORITY MAKES NO REPRESENTATION
AS TO ACCURACY.

CALL (973) 578-2192 FOR SPECIFIC VESSEL
ARRANGEMENTS.



NOTE:
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THIS SURVEY WAS COMPLETED USING THE FOLLOWING EQUIPMENT:
• Survey Vessel "Ted Rogers"
• Reson 7101 Multibeam
• TSS 320 POS/MV
• Coastal Oceanographics "HYPACK" software

Design Depth	Volume to Dredge Template	Volume of 2' Over dredge	Total Volume
35'	645 yd3	622 yd3	1,267 yd3
38'	769 yd3	654 yd3	1,423 yd3
40'	3,043 yd3	3,381 yd3	6,424 yd3
TOTAL	4,457 yd3	4,657 yd3	9,114 yd3

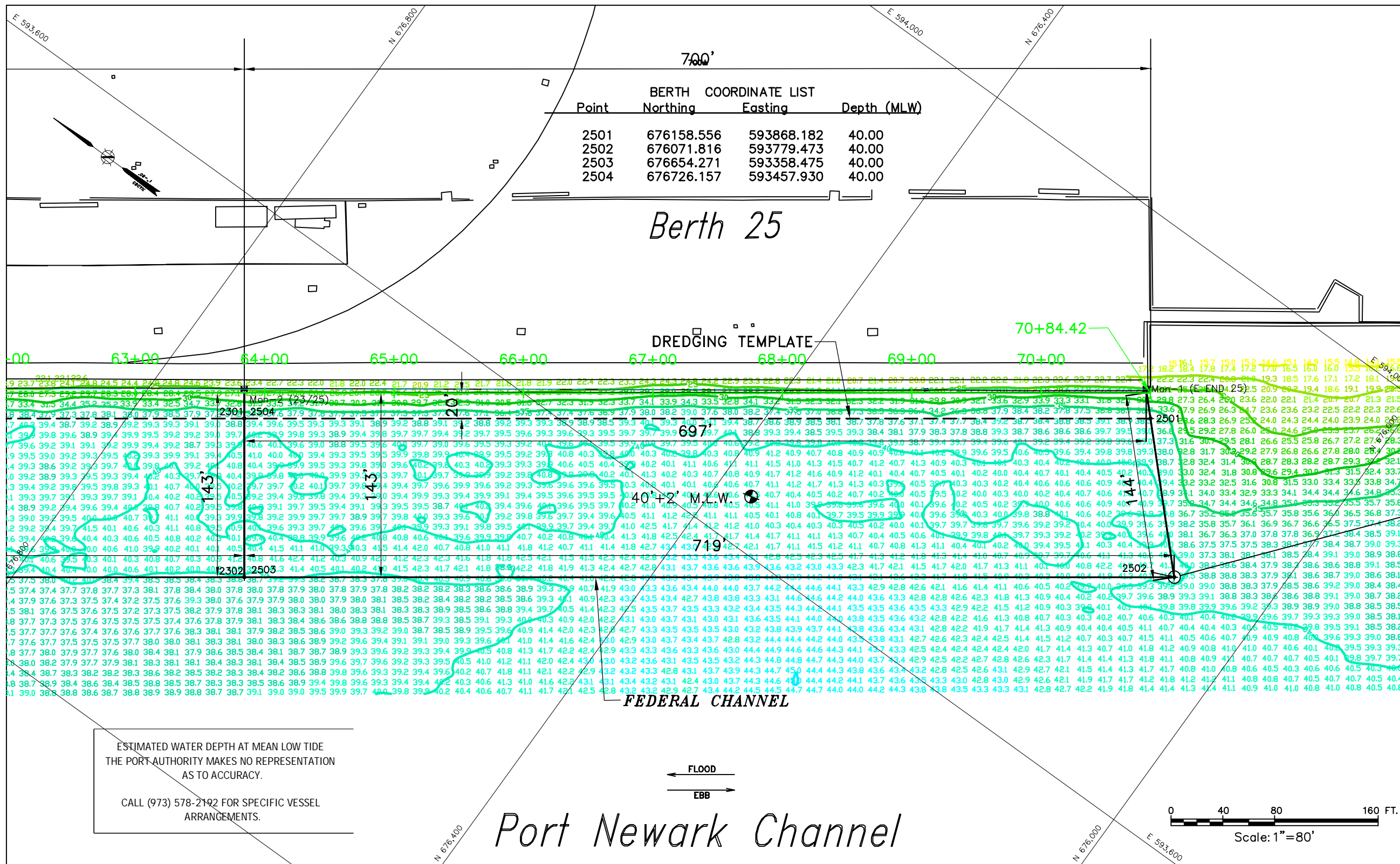
NOTE: BERTH LENGTHS, WIDTHS AND DEEP WATER BERTH DIMENSIONS FROM P.A. PORT DEPARTMENT.
Coordinates are expressed in feet and refer to the NEW JERSEY STATE PLANE (NAD 83) System.
Soundings refer to Mean Low Water as determined by U.S.A.C.E.
The Plane of Mean Low Water is 2.3 feet below Mean Sea Level (NGVD 29).

Note:
This survey does not guarantee the absence or presence of any underwater obstructions. Diver verification may be required.

NAVD88 1.11
System.
NGVD29 0.0
MLW (COE) -2.3

I hereby certify to The Port Authority of New York and New Jersey that this map indicates the conditions existing as of the date indicated hereon to the best of my professional knowledge.

William A. Rogers, Jr., P.E., L.S.
New Jersey State # 22254
A.C.S.M. Certified Hydrographer # 151



BERTH COORDINATE LIST

Point	Northing	Easting	Depth (MLW)
2501	676158.556	593868.182	40.00
2502	676071.816	593779.473	40.00
2503	676654.271	593358.475	40.00
2504	676726.157	593457.930	40.00

Berth 25

DREDGING TEMPLATE

Estimated water depth at mean low tide. The Port Authority makes no representation as to accuracy.

CALL (973) 578-2192 FOR SPECIFIC VESSEL ARRANGEMENTS.

FLOOD →
← **EBB**

Port Newark Channel

FEDERAL CHANNEL

NEW JERSEY MARINE TERMINAL HYDROGRAPHIC SURVEY

PREPARED FOR
THE PORT AUTHORITY
OF NY & NJ



Rogers Surveying, P.L.L.C.
1837 Richmond Terrace, Staten Island, N.Y. 10310
Tel: (718) 443-7261 Fax: (718) 473-5869
www.rogerssurveying.com
info@rogerssurveying.com

Title

NEW JERSEY MARINE TERMINAL HYDROGRAPHIC SURVEY

No.	Date	Revision	Approved

VERTICAL CONTROL
Mean Low Water = 2.3' Below 0.00 NGVD '29

HORIZONTAL CONTROL
ALL COORDINATES, BEARING AND DISTANCES ARE REFERENCED TO THE NEW JERSEY PLANE COORDINATE SYSTEM (N.A.D. 83) AS SET FORTH IN N.J.S.A. 51:3-7

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Rogers Surveying RK DWR
Surveyed by Drawn by Checked by
Date 06/29/11 Scale 1"=80'
07/13/11
Contract Number 410-10-037 Drawing Number 25 of 60
BERTH 25

NOTE:
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THIS SURVEY WAS COMPLETED USING THE FOLLOWING EQUIPMENT:
• Survey Vessel "Red Rogers"
• Reason 7101 Multibeam
• TSS 320 POS/MV
• Coastal Oceanographics "HYPACK" software

Volume Report

THE DATA USED FOR VOLUME CALCULATIONS IS REPRESENTATIVE OF A LARGER DATA SET. SOUNDINGS USED FOR VOLUME CALCULATIONS ARE ON A 3'X3' GRID WITH THE DEPTH NEAREST TO THE CENTER USED.

Design Depth	Volume to Dredge Template	Volume of 2' Over dredge	Total Volume
40'	808 yd3	4,837 yd3	5,645 yd3
TOTAL	808 yd3	4,837 yd3	5,645 yd3

NOTE: BERTH LENGTHS, WIDTHS AND DEEP WATER BERTH DIMENSIONS FROM P.A. PORT DEPARTMENT.

Coordinates are expressed in feet and refer to the NEW JERSEY STATE PLANE (NAD 83) System.
SOUNDINGS refer to Mean Low Water as determined by U.S.A.C.E.
The Plane of Mean Low Water is 2.3 feet below Mean Sea Level (NGVD 29).

NAVD88 1.11
NGVD29 0.0
MLW (COE) -2.3

Notes:
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William A. Rogers, Jr., P.E., L.S.
New Jersey State # 22254
A.C.S.M. Certified Hydrographer # 151

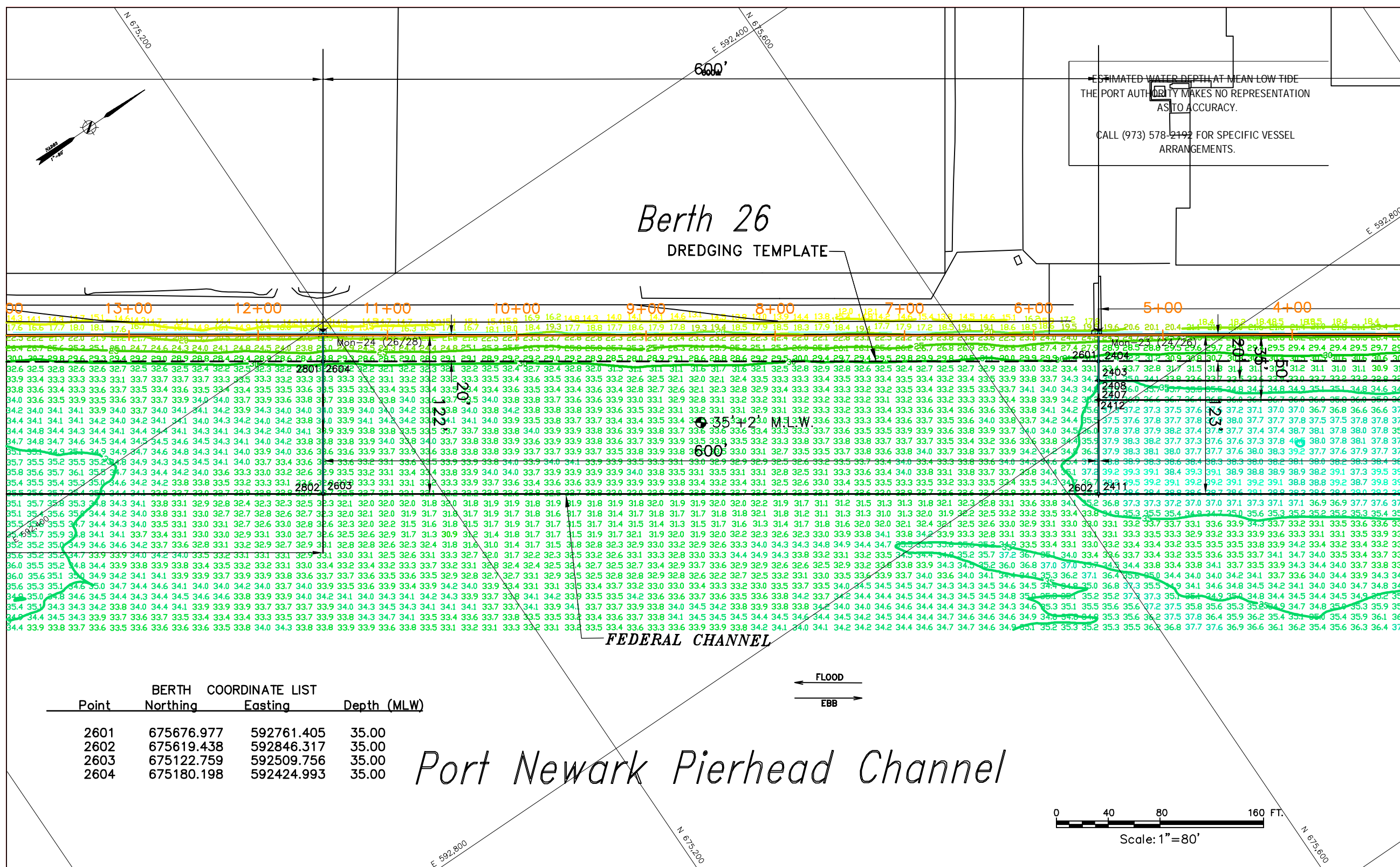
PREPARED FOR
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www.nysurveying.com

ESTIMATED WATER DEPTH AT MEAN LOW TIDE
THE PORT AUTHORITY MAKES NO REPRESENTATION
AS TO ACCURACY.
CALL (973) 578-2492 FOR SPECIFIC VESSEL
ARRANGEMENTS.

Berth 26 DREDGING TEMPLATE



Title
**NEW JERSEY
MARINE
TERMINAL
HYDROGRAPHIC
SURVEY**

No.	Date	Revision	Approved

VERTICAL CONTROL
Mean Low Water = 2.3' Below 0.00 NGVD '29

HORIZONTAL CONTROL
ALL COORDINATES, BEARING AND DISTANCES ARE REFERENCED TO THE NEW JERSEY PLANE COORDINATE SYSTEM (N.A.D. 83) AS SET FORTH IN N.J.S.A. 51:3-7

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Rogers Surveying RK DWR
Surveyed by DWR Drawn by DWR Checked by DWR
Date 06/29/11 Scale 1" = 80'
07/13/11
Contract Number 410-10-037 Drawing Number 26 of 60
BERTH 26

Point	BERTH COORDINATE LIST		Depth (MLW)
	Northing	Easting	
2601	675676.977	592761.405	35.00
2602	675619.438	592846.317	35.00
2603	675122.759	592509.756	35.00
2604	675180.198	592424.993	35.00

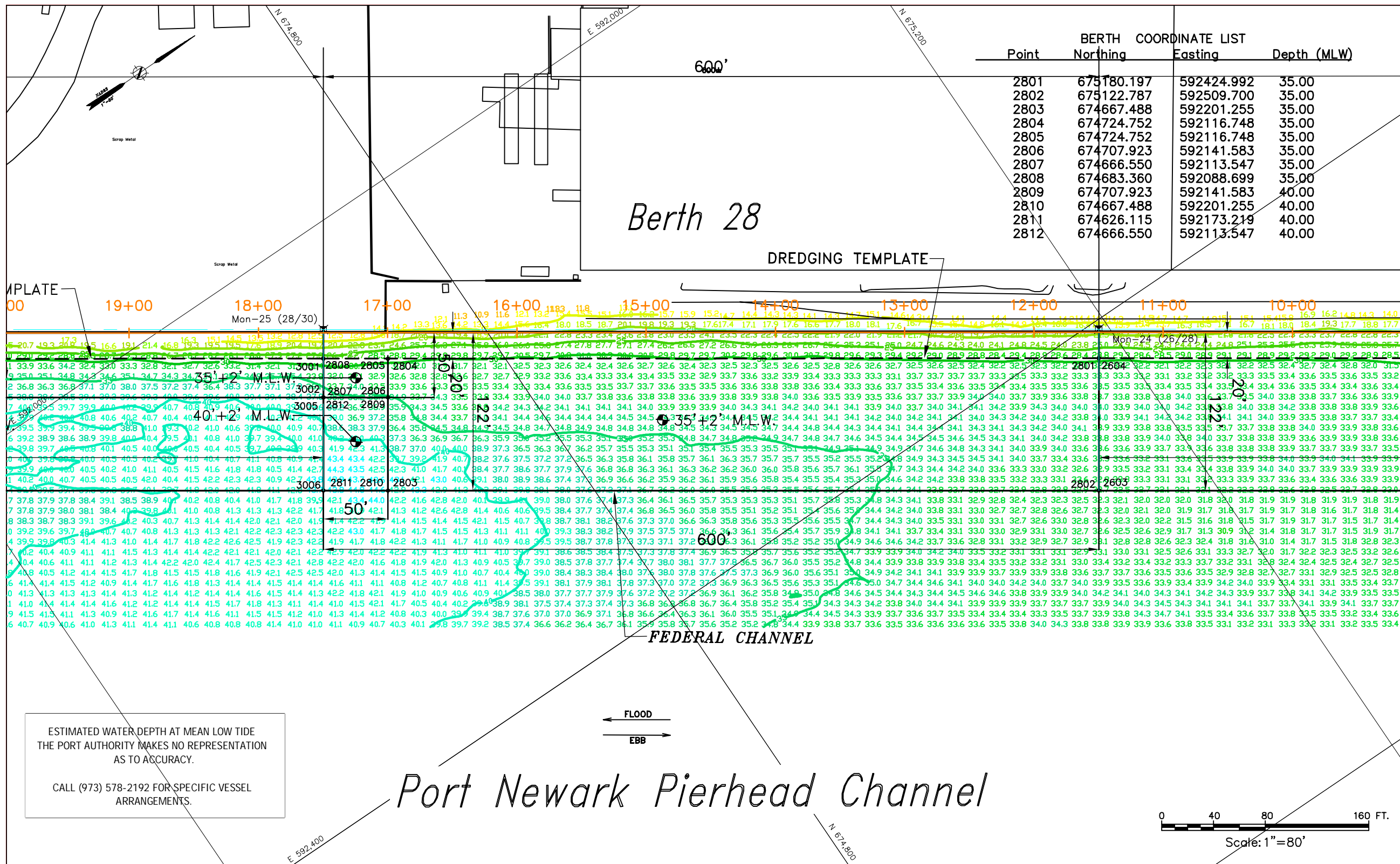
Port Newark Pierhead Channel

Volume Report			
Design Depth	Volume to Dredge Template	Volume of 2' Over dredge	Total Volume
35'	3,657 yd ³	4,519 yd ³	8,176 yd ³
TOTAL	3,657 yd ³	4,519 yd ³	8,176 yd ³

NOTE: BERTH LENGTHS, WIDTHS AND DEEP WATER BERTH DIMENSIONS FROM P.A. PORT DEPARTMENT.
Coordinates are expressed in feet and refer to the NEW JERSEY STATE PLANE (NAD 83) System.
Soundings refer to Mean Low Water as determined by U.S.A.C.E.
The Plane of Mean Low Water is 2.3 feet below Mean Sea Level (NGVD 29).
Note: This survey does not guarantee the absence or presence of any underwater obstructions. Diver verification may be required.

NAVDB8 1.11
NGVD29 0.0
MLW (COE) -2.3
I hereby certify to The Port Authority of New York and New Jersey that this map indicates the conditions existing as of the date indicated hereon to the best of my professional knowledge.
William A. Rogers, Jr., P.E., L.S.
New Jersey State # 22254
A.C.S.M. Certified Hydrographer # 151

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THIS SURVEY WAS COMPLETED USING THE FOLLOWING EQUIPMENT:
• Survey Vessel "Red Rogers".
• Reason 7101 Multibeam.
• TSS 320 POS/MV.
• Coastal Oceanographics "HYPACK" software



Point	COORDINATE LIST		
	BERTH Northing	Eastings	Depth (MLW)
2801	675180.197	592424.992	35.00
2802	675122.787	592509.700	35.00
2803	674667.488	592201.255	35.00
2804	674724.752	592116.748	35.00
2805	674724.752	592116.748	35.00
2806	674707.923	592141.583	35.00
2807	674666.550	592113.547	35.00
2808	674683.360	592088.699	35.00
2809	674707.923	592141.583	40.00
2810	674667.488	592201.255	40.00
2811	674626.115	592173.219	40.00
2812	674666.550	592113.547	40.00

PREPARED FOR
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OF NY & NJ



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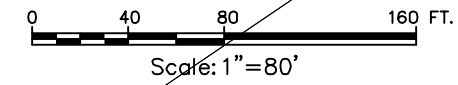
Title
NEW JERSEY MARINE TERMINAL
HYDROGRAPHIC SURVEY

No. Date Revision Approved
VERTICAL CONTROL
Mean Low Water = 2.3' Below 0.00 NGVD '29
HORIZONTAL CONTROL
ALL COORDINATES, BEARING AND DISTANCES ARE REFERENCED TO THE NEW JERSEY PLANE COORDINATE SYSTEM (N.A.D. 83) AS SET FORTH IN N.J.S.A. 51:3-7

ESTIMATED WATER DEPTH AT MEAN LOW TIDE
THE PORT AUTHORITY MAKES NO REPRESENTATION
AS TO ACCURACY.

CALL (973) 578-2192 FOR SPECIFIC VESSEL
ARRANGEMENTS.

Port Newark Pierhead Channel



NOTE:
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THIS SURVEY WAS COMPLETED USING THE FOLLOWING EQUIPMENT:
• Survey Vessel "Ted Rogers"
• Reson 7101 Multibeam
• TSS 320 POS/MV
• Coastal Oceanographics "HYPACK" software

Volume Report			
Design Depth	Volume to Dredge Template	Volume of 2' Over dredge	Total Volume
35'	2,211 yd3	3,572 yd3	5,782 yd3
40'	139 yd3	136 yd3	275 yd3
TOTAL	2,349 yd3	3,708 yd3	6,057 yd3

NOTE: BERTH LENGTHS, WIDTHS AND DEEP WATER BERTH DIMENSIONS FROM P.A. PORT DEPARTMENT.
Coordinates are expressed in feet and refer to the NEW JERSEY STATE PLANE (NAD 83) System.
Soundings refer to Mean Low Water as determined by U.S.A.C.E.
The Plane of Mean Low Water is 2.3 feet below Mean Sea Level (NGVD 29).

Note:
This survey does not guarantee the absence or presence of any underwater obstructions. Diver verification may be required.

NAVDB 1.11
NGVD29 0.0
MLW (COE) -2.3
I hereby certify to The Port Authority of New York and New Jersey that this map indicates the conditions existing as of the date indicated hereon to the best of my professional knowledge.

William A. Rogers, Jr., P.E., L.S.
New Jersey State # 22254
A.C.S.M. Certified Hydrographer # 151

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Rogers Surveying RK DWR
Surveyed by Drawn by Checked by

Date 06/29/11 - 07/13/11 Scale 1" = 80'
Contract Number 410-10-037 Drawing Number 27 of 60
BERTH 28

PREPARED FOR
**THE PORT AUTHORITY
OF NY & NJ**



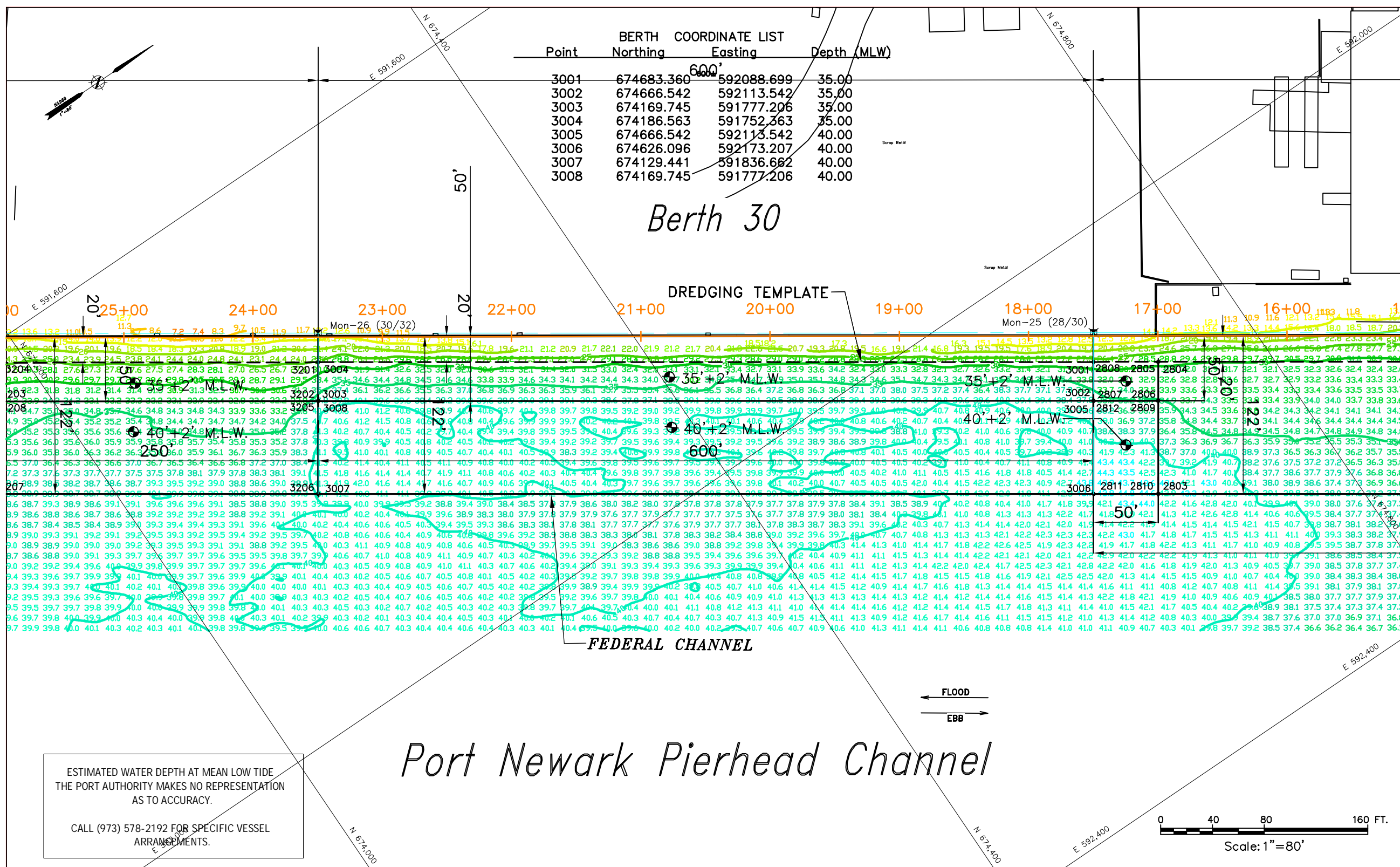
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Tel: (718) 443-7241 Fax: (718) 273-3060
www.rogerssurveying.com
www.nysurveyors.com

BERTH COORDINATE LIST

Point	Northing	Easting	Depth (MLW)
3001	674683.360	592088.699	35.00
3002	674666.542	592113.542	35.00
3003	674169.745	591777.206	35.00
3004	674186.563	591752.363	35.00
3005	674666.542	592113.542	40.00
3006	674626.096	592173.207	40.00
3007	674129.441	591836.662	40.00
3008	674169.745	591777.206	40.00

Berth 30

DREDGING TEMPLATE



Title
**NEW JERSEY
MARINE
TERMINAL**
**HYDROGRAPHIC
SURVEY**

No.	Date	Revision	Approved

VERTICAL CONTROL
Mean Low Water = 2.3' Below 0.00 NGVD '29

HORIZONTAL CONTROL
ALL COORDINATES, BEARING AND DISTANCES ARE REFERENCED TO THE NEW JERSEY PLANE COORDINATE SYSTEM (N.A.D. 83) AS SET FORTH IN N.J.S.A. 51:3-7

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Rogers Surveying RK DWR
Surveyed by DWR Drawn by DWR Checked by DWR
Date 06/29/11 Scale 1" = 80'
 07/13/11
Contract Number 410-10-037 Drawing Number 28 of 60
BERTH 30

ESTIMATED WATER DEPTH AT MEAN LOW TIDE
THE PORT AUTHORITY MAKES NO REPRESENTATION
AS TO ACCURACY.

CALL (973) 578-2192 FOR SPECIFIC VESSEL
ARRANGEMENTS.

Volume Report

THE DATA USED FOR VOLUME CALCULATIONS IS REPRESENTATIVE OF A LARGER DATA SET. SOUNDINGS USED FOR VOLUME CALCULATIONS ARE ON A 3'X3' GRID WITH THE DEPTH NEAREST TO THE CENTER USED.

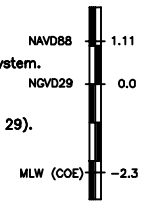
Design Depth	Volume to Dredge Template	Volume of 2' Over dredge	Total Volume
35'	1,012 yd3	954 yd3	1,966 yd3
40'	306 yd3	2,549 yd3	2,855 yd3
TOTAL	1,317 yd3	3,503 yd3	4,821 yd3

NOTE: BERTH LENGTHS, WIDTHS AND DEEP WATER BERTH DIMENSIONS FROM P.A. PORT DEPARTMENT.

Coordinates are expressed in feet and refer to the NEW JERSEY STATE PLANE (NAD 83) System.
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THIS SURVEY WAS COMPLETED USING THE FOLLOWING EQUIPMENT:
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• Reason 7101 Multibeam
• TSS 320 POS/MV
• Coastal Oceanographics "HYPACK" software



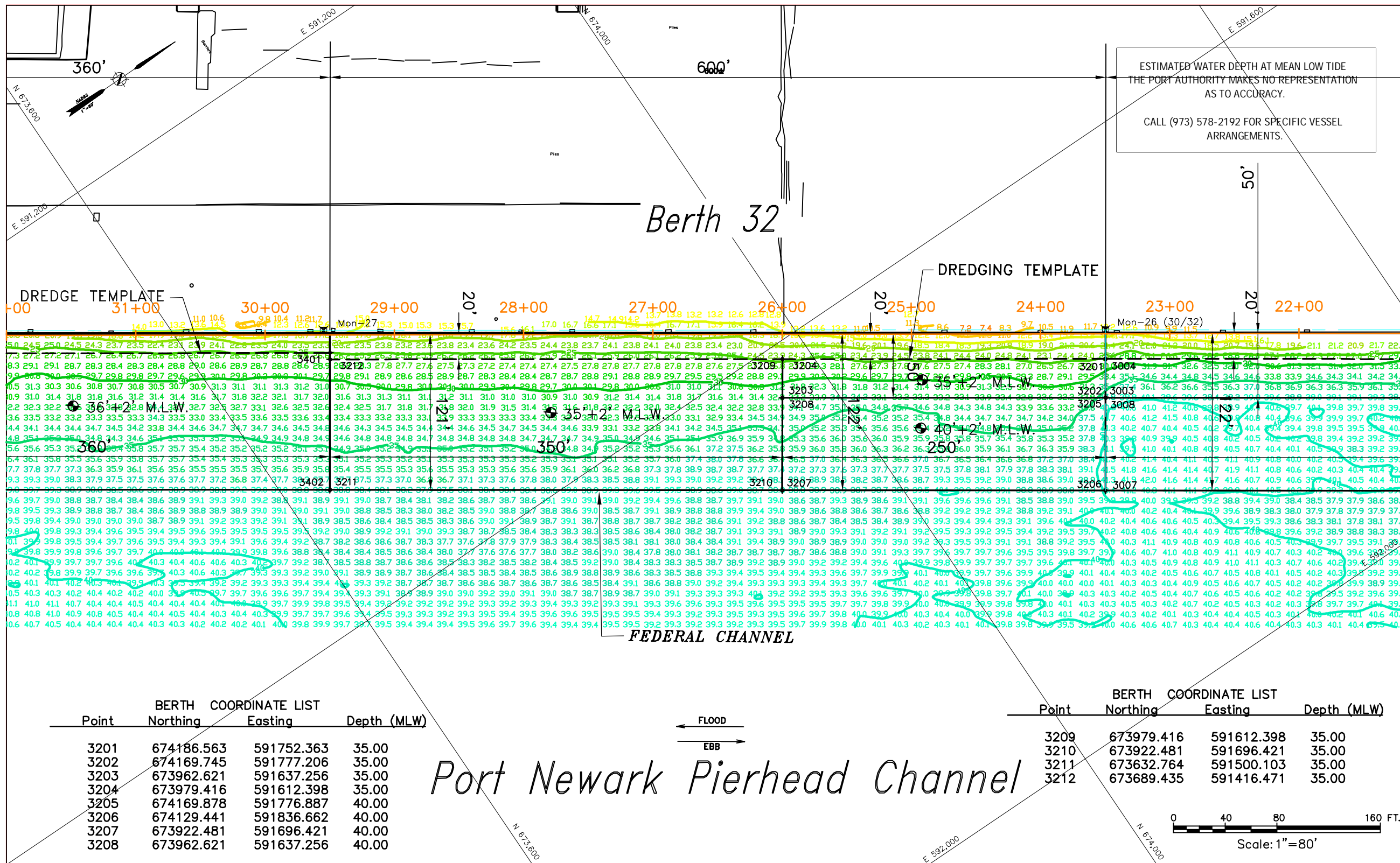
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 William A. Rogers, Jr., P.E., L.S.
New Jersey State # 22254
A.C.S.M. Certified Hydrographer # 151



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ESTIMATED WATER DEPTH AT MEAN LOW TIDE
THE PORT AUTHORITY MAKES NO REPRESENTATION
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Title
**NEW JERSEY
MARINE
TERMINAL
HYDROGRAPHIC
SURVEY**

No.	Date	Revision	Approved

VERTICAL CONTROL
Mean Low Water = 2.3' Below 0.00 NGVD '29

HORIZONTAL CONTROL

ALL COORDINATES, BEARING AND DISTANCES ARE REFERENCED TO THE NEW JERSEY PLANE COORDINATE SYSTEM (N.A.D. 83) AS SET FORTH IN N.J.S.A. 51:3-7

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Rogers Surveying RK DWR
Surveyed by DWR Drawn by DWR Checked by DWR

Date 06/29/11 Scale 1" = 80'
07/13/11
Contract Number 410-10-037 Drawing Number 29 of 60
BERTH 32

Point	BERTH COORDINATE LIST			Depth (MLW)
	Northing	Easting	Depth (MLW)	
3201	674186.563	591752.363	35.00	
3202	674169.745	591777.206	35.00	
3203	673962.621	591637.256	35.00	
3204	673979.416	591612.398	35.00	
3205	674169.878	591776.887	40.00	
3206	674129.441	591836.662	40.00	
3207	673922.481	591696.421	40.00	
3208	673962.621	591637.256	40.00	

Volume Report

THE DATA USED FOR VOLUME CALCULATIONS IS REPRESENTATIVE OF A LARGER DATA SET. SOUNDINGS USED FOR VOLUME CALCULATIONS ARE ON A 3'X3' GRID WITH THE DEPTH NEAREST TO THE CENTER USED.

Design Depth	Volume to Dredge Template	Volume of 2' Over dredge	Total Volume
35'	3,192 yd3	2,104 yd3	5,296 yd3
35' N	1,557 yd3	555 yd3	2,112 yd3
40'	2,487 yd3	1,325 yd3	3,812 yd3
TOTAL	7,237 yd3	3,984 yd3	11,220 yd3

NOTE: BERTH LENGTHS, WIDTHS AND DEEP WATER BERTH DIMENSIONS FROM P.A. PORT DEPARTMENT.

Coordinates are expressed in feet and refer to the NEW JERSEY STATE PLANE (NAD 83) System.

Soundings refer to Mean Low Water as determined by U.S.A.C.E.

The Plane of Mean Low Water is 2.3 feet below Mean Sea Level (NGVD 29).

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NAVD88 1.11
System
NGVD29 0.0
MLW (COE) -2.3

I hereby certify to The Port Authority of New York and New Jersey that this map indicates the conditions existing as of the date indicated hereon to the best of my professional knowledge.

William A. Rogers, Jr., P.E., L.S.
New Jersey State # 22254
A.C.S.M. Certified Hydrographer # 151

NOTE: THE INFORMATION DEPICTED ON THIS MAP REPRESENTS THE RESULTS OF SURVEYS MADE ON THE DATES INDICATED AND CAN ONLY BE CONSIDERED AS INDICATING THE GENERAL CONDITIONS EXISTING AT THAT TIME. THE DATA IS REPRESENTATIVE OF A LARGER DATA SET. SOUNDINGS AND CONTOURS SHOWN ARE FROM 8'X16' GRID NEAREST TO CENTER. COORDINATES REFER TO THE NEW JERSEY MERCATOR SYSTEM (NAD 1983) SOUNDINGS REFER TO THE PLANE OF MEAN LOW WATER THE PLANE OF MEAN LOW WATER IS 2.3 FEET BELOW NGVD (1929) THE SOUNDING DATA DEPICTED ON THIS MAP WAS COLLECTED USING CLASS 2 SURVEY STANDARDS IN ACCORDANCE WITH EM 1110.2-1003.

THIS SURVEY WAS COMPLETED USING THE FOLLOWING EQUIPMENT:

- Survey Vessel "Ted Rogers"
- Reason 7101 Multibeam
- TSS 320 POS/MV
- Coastal Oceanographics "HYPACK" software

PREPARED FOR
THE PORT AUTHORITY
OF NY & NJ



Rogers Surveying, P.L.L.C.
1837 Richmond Terrace, Staten Island, N.Y. 10310
Tel: (718) 443-7291 Fax: (718) 273-5060
www.rogerssurveying.net
www.rdgmapinfo.com

Title
NEW JERSEY MARINE TERMINAL
HYDROGRAPHIC SURVEY

No.	Date	Revision	Approved

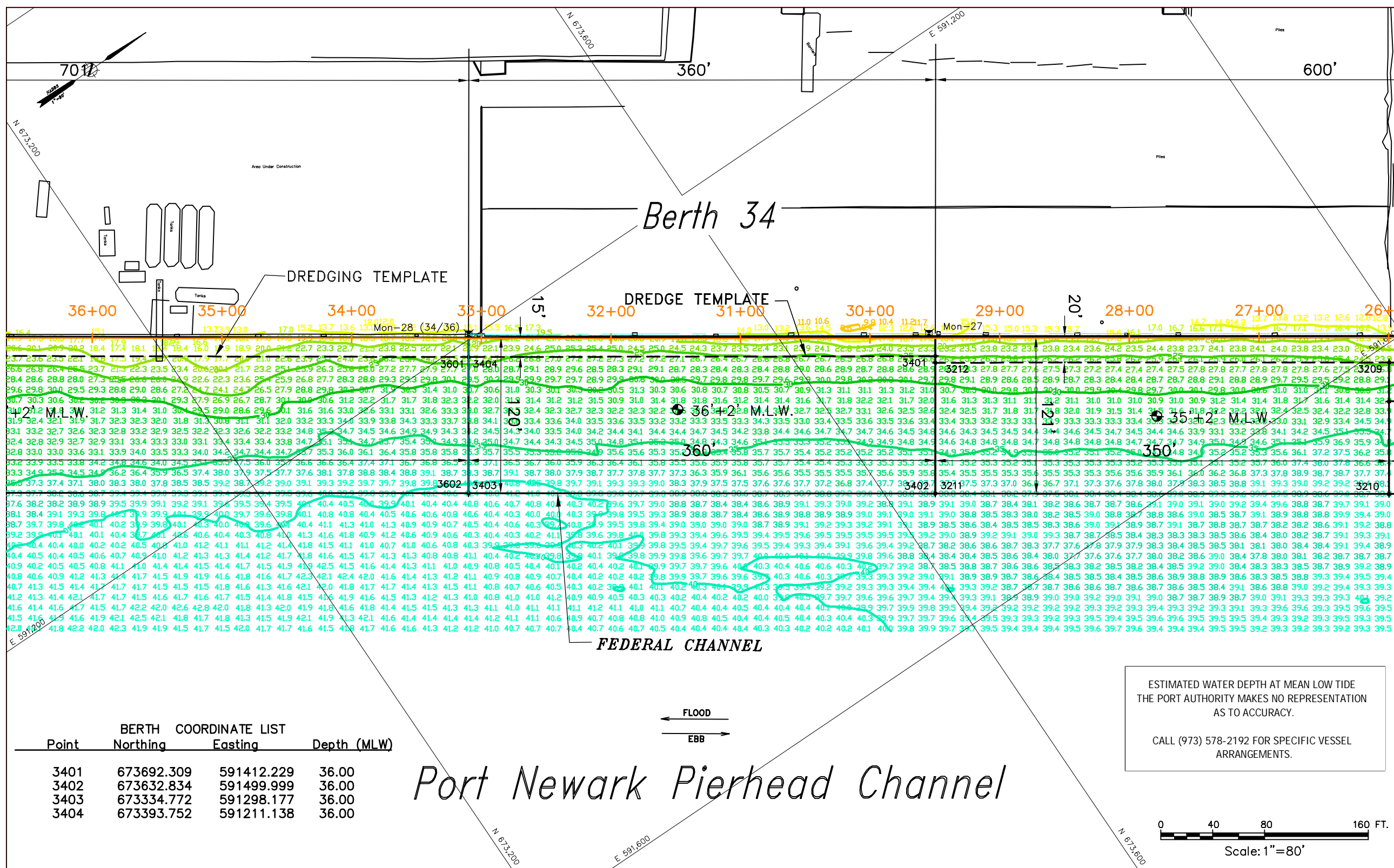
VERTICAL CONTROL
Mean Low Water = 2.3' Below 0.00 NGVD '29

HORIZONTAL CONTROL
ALL COORDINATES, BEARING AND DISTANCES ARE REFERENCED TO THE NEW JERSEY PLANE COORDINATE SYSTEM (N.A.D. 83) AS SET FORTH IN N.J.S.A. 51:3-7

This drawing subject to conditions in contract. All inventions, ideas, designs and methods herein are reserved to Port Authority and may not be used without its written consent.

Rogers Surveying RK DWR
Surveyed by DWR Drawn by DWR Checked by DWR

Date 06/29/11 Scale 1"= 80'
 06/29/11 - 07/13/11
Contract Number 410-10-037 Drawing Number 30 of 60
BERTH 34



Point	BERTH COORDINATE LIST		Depth (MLW)
	Northing	Eastng	
3401	673692.309	591412.229	36.00
3402	673632.834	591499.999	36.00
3403	673334.772	591298.177	36.00
3404	673393.752	591211.138	36.00

Port Newark Pierhead Channel

ESTIMATED WATER DEPTH AT MEAN LOW TIDE
THE PORT AUTHORITY MAKES NO REPRESENTATION AS TO ACCURACY.

CALL (973) 578-2192 FOR SPECIFIC VESSEL ARRANGEMENTS.

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THIS SURVEY WAS COMPLETED USING THE FOLLOWING EQUIPMENT:
 • Survey Vessel "Red Rogers"
 • Reason 7101 Multibeam
 • TSS 320 POS/MV
 • Coastal Oceanographics "HYPACK" software

Volume Report			
Design Depth	Volume to Dredge Template	Volume of 2' Over dredge	Total Volume
36'	4,405 yd3	2,468 yd3	6,873 yd3
TOTAL	4,405 yd3	2,468 yd3	6,873 yd3

NOTE: BERTH LENGTHS, WIDTHS AND DEEP WATER BERTH DIMENSIONS FROM P.A. PORT DEPARTMENT.

Coordinates are expressed in feet and refer to the NEW JERSEY STATE PLANE (NAD 83) System.

Soundings refer to Mean Low Water as determined by U.S.A.C.E.

The Plane of Mean Low Water is 2.3 feet below Mean Sea Level (NGVD 29).

Note:
This survey does not guarantee the absence or presence of any underwater obstructions. Diver verification may be required.

NAVD88 1.11
NGVD29 0.0
MLW (COE) -2.3

I hereby certify to The Port Authority of New York and New Jersey that this map indicates the conditions existing as of the date indicated hereon to the best of my professional knowledge.

William A. Rogers, Jr., P.E., L.S.
New Jersey State # 22254
A.C.S.M. Certified Hydrographer # 151

PREPARED FOR
THE PORT AUTHORITY
OF NY & NJ

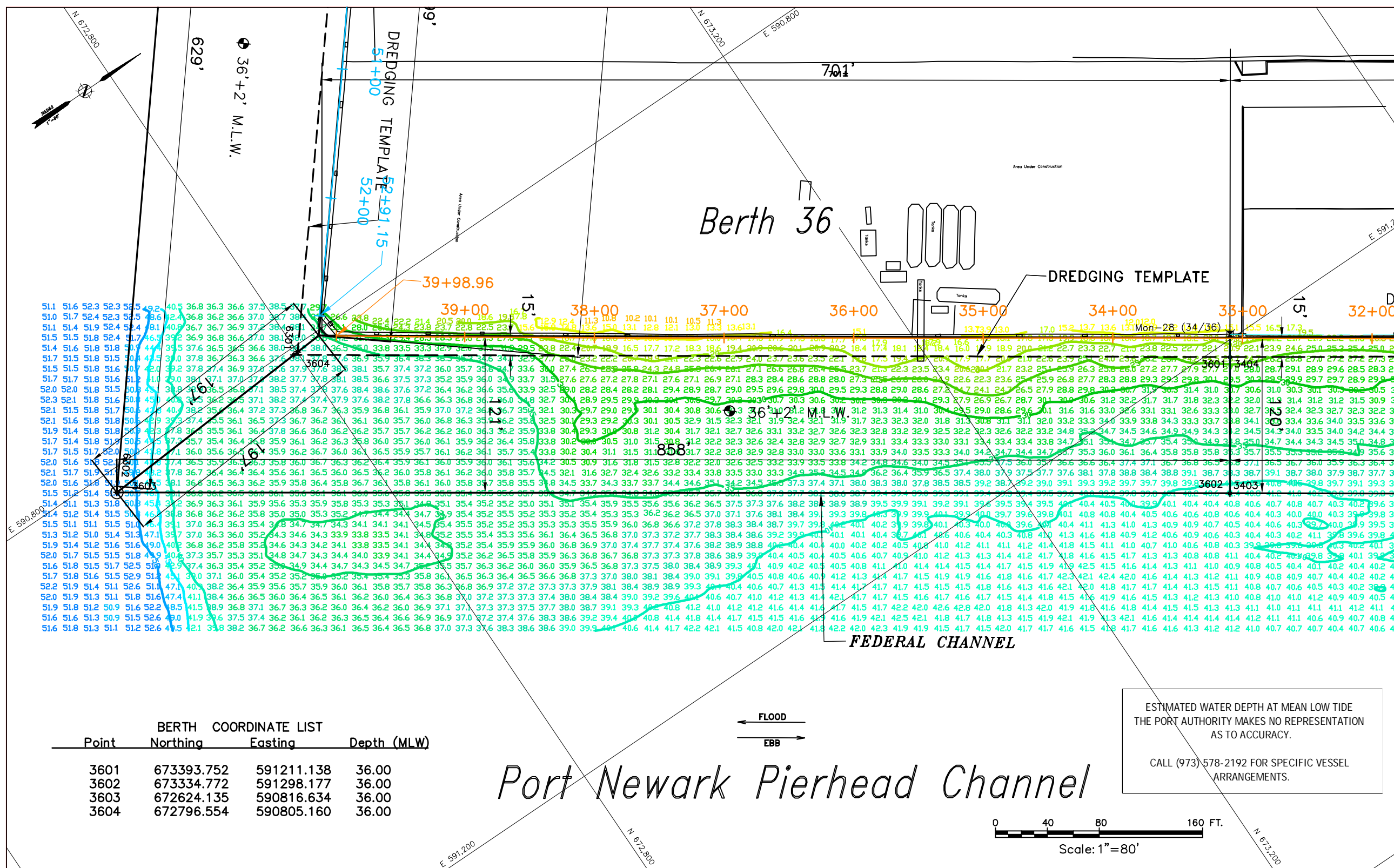


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info@rogerssurveying.com

Title
NEW JERSEY MARINE TERMINAL
HYDROGRAPHIC SURVEY

No. Date Revision Approved
VERTICAL CONTROL
Mean Low Water = 2.3' Below 0.00 NGVD '29
HORIZONTAL CONTROL
ALL COORDINATES, BEARING AND DISTANCES ARE REFERENCED TO THE NEW JERSEY PLANE COORDINATE SYSTEM (N.A.D. 83) AS SET FORTH IN N.J.S.A. 51:3-7

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Rogers Surveying RK DWR
Surveyed by Drawn by Checked by
Date 06/29/11 Scale 1" = 80'
06/29/11 - 07/13/11
Contract Number Drawing Number
410-10-037 31 of 60
BERTH 36



BERTH COORDINATE LIST

Point	Northing	Eastng	Depth (MLW)
3601	673393.752	591211.138	36.00
3602	673334.772	591298.177	36.00
3603	672624.135	590816.634	36.00
3604	672796.554	590805.160	36.00

Port Newark Pierhead Channel

ESTIMATED WATER DEPTH AT MEAN LOW TIDE
THE PORT AUTHORITY MAKES NO REPRESENTATION AS TO ACCURACY.
CALL (973) 578-2192 FOR SPECIFIC VESSEL ARRANGEMENTS.

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• Reson 7101 Multibeam
• TSS 320 POS/MV
• Coastal Oceanographics "HYPACK" software

Volume Report

THE DATA USED FOR VOLUME CALCULATIONS IS REPRESENTATIVE OF A LARGER DATA SET. SOUNDINGS USED FOR VOLUME CALCULATIONS ARE ON A 3'x3' GRID WITH THE DEPTH NEAREST TO THE CENTER USED.

Design Depth	Volume to Dredge Template	Volume of 2' Over dredge	Total Volume
36'	10,593 yd ³	5,234 yd ³	15,826 yd ³
TOTAL	10,593 yd³	5,234 yd³	15,826 yd³

NOTE: BERTH LENGTHS, WIDTHS AND DEEP WATER BERTH DIMENSIONS FROM P.A. PORT DEPARTMENT.
Coordinates are expressed in feet and refer to the NEW JERSEY STATE PLANE (NAD 83) System.
Soundings refer to Mean Low Water as determined by U.S.A.C.E.
The Plane of Mean Low Water is 2.3 feet below Mean Sea Level (NGVD 29).
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NAVD88 1.11
System.
NGVD29 0.0
MLW (COE) -2.3
I hereby certify to The Port Authority of New York and New Jersey that this map indicates the conditions existing as of the date indicated hereon to the best of my professional knowledge.
William A. Rogers, Jr., P.E., L.S.
New Jersey State # 22254
A.C.S.M. Certified Hydrographer # 151

CORBIN STREET

CORBIN STREET

PREPARED FOR
THE PORT AUTHORITY
OF NY & NJ



Rogers Surveying, P.L.L.C.
1637 Richmond Terrace, Staten Island, N.Y. 10310
Tel: (718) 442-7200 Fax: (718) 273-5866
www.rsgs.com
rsgs@rsgs.com

Point	COORDINATE LIST		
	Northing	Easting	Depth (MLW)
5001	676133.446	586680.800	35.00
5002	675925.998	586726.004	35.00
5003	675474.507	586489.362	35.00
5004	675438.779	586316.396	35.00

Berth 50

DREDGING TEMPLATE

FEDERAL CHANNEL

Elizabeth Channel

NEW JERSEY
MARINE
TERMINAL
HYDROGRAPHIC
SURVEY

No. Date Revision Approved

VERTICAL CONTROL
Mean Low Water = 2.3' Below 0.00 NGVD '29

HORIZONTAL CONTROL
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Rogers Surveying RK DWR
Surveyed by Drawn by Checked by

Date 06/29/11 Scale 1"=80'
07/13/11

Contract Number 410-10-037 Drawing Number 32 of 60

BERTH 50

ESTIMATED WATER DEPTHS AT MEAN LOW TIDE
THE PORT AUTHORITY MAKES NO REPRESENTATION
AS TO ACCURACY.
CALL 718-578-7492 FOR SPECIFIC VESSEL
ARRANGEMENTS.

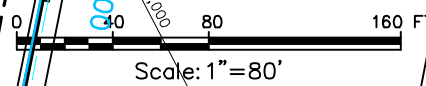
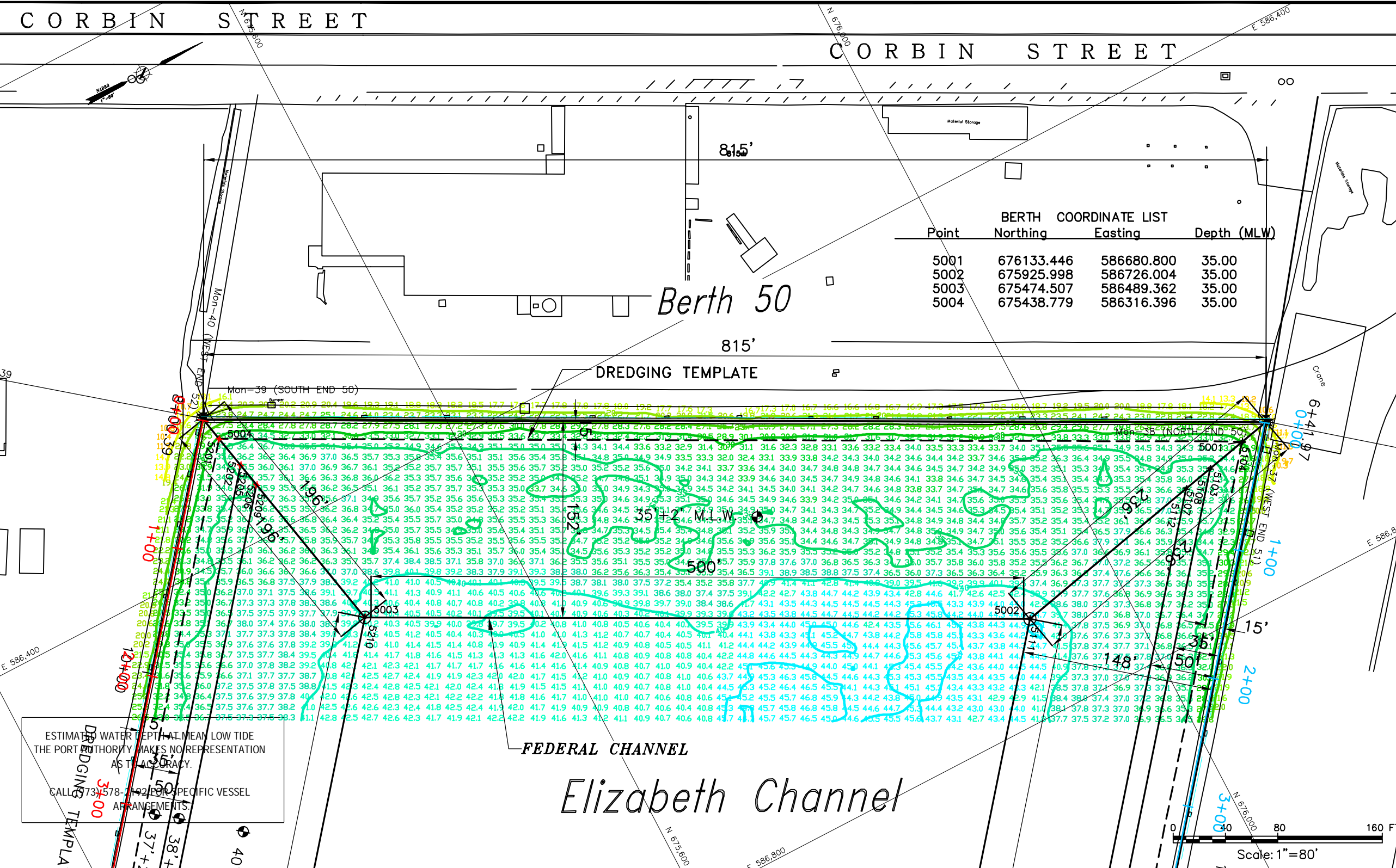
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• Reson 7101 Multibeam
• TSS 320 POS/MV
• Coastal Oceanographics "HYPACK" software

Volume Report THE DATA USED FOR VOLUME CALCULATIONS IS REPRESENTATIVE OF A LARGER DATA SET. SOUNDINGS USED FOR VOLUME CALCULATIONS ARE ON A 3'X3' GRID WITH THE DEPTH NEAREST TO THE CENTER USED.

Design Depth	Volume to Dredge Template	Volume of 2' Over dredge	Total Volume
35'	757 yd ³	4,142 yd ³	4,899 yd ³
TOTAL	757 yd ³	4,142 yd ³	4,899 yd ³

NOTE: BERTH LENGTHS, WIDTHS AND DEEP WATER BERTH DIMENSIONS FROM P.A. PORT DEPARTMENT.
Coordinates are expressed in feet and refer to the NEW JERSEY STATE PLANE (NAD 83) System.
Soundings refer to Mean Low Water as determined by U.S.A.C.E.
The Plane of Mean Low Water is 2.3 feet below Mean Sea Level (NGVD 29).
Note:
This survey does not guarantee the absence or presence of any underwater obstructions. Diver verification may be required.

NAV88 1.11
NGVD29 0.0
MLW (COE) -2.3
I hereby certify to The Port Authority of New York and New Jersey that this map indicates the conditions existing as of the date indicated hereon to the best of my professional knowledge.
William A. Rogers, Jr., P.E., L.S.
New Jersey State # 22254
A.C.S.M. Certified Hydrographer # 151



PREPARED FOR
THE PORT AUTHORITY
 OF NY & NJ



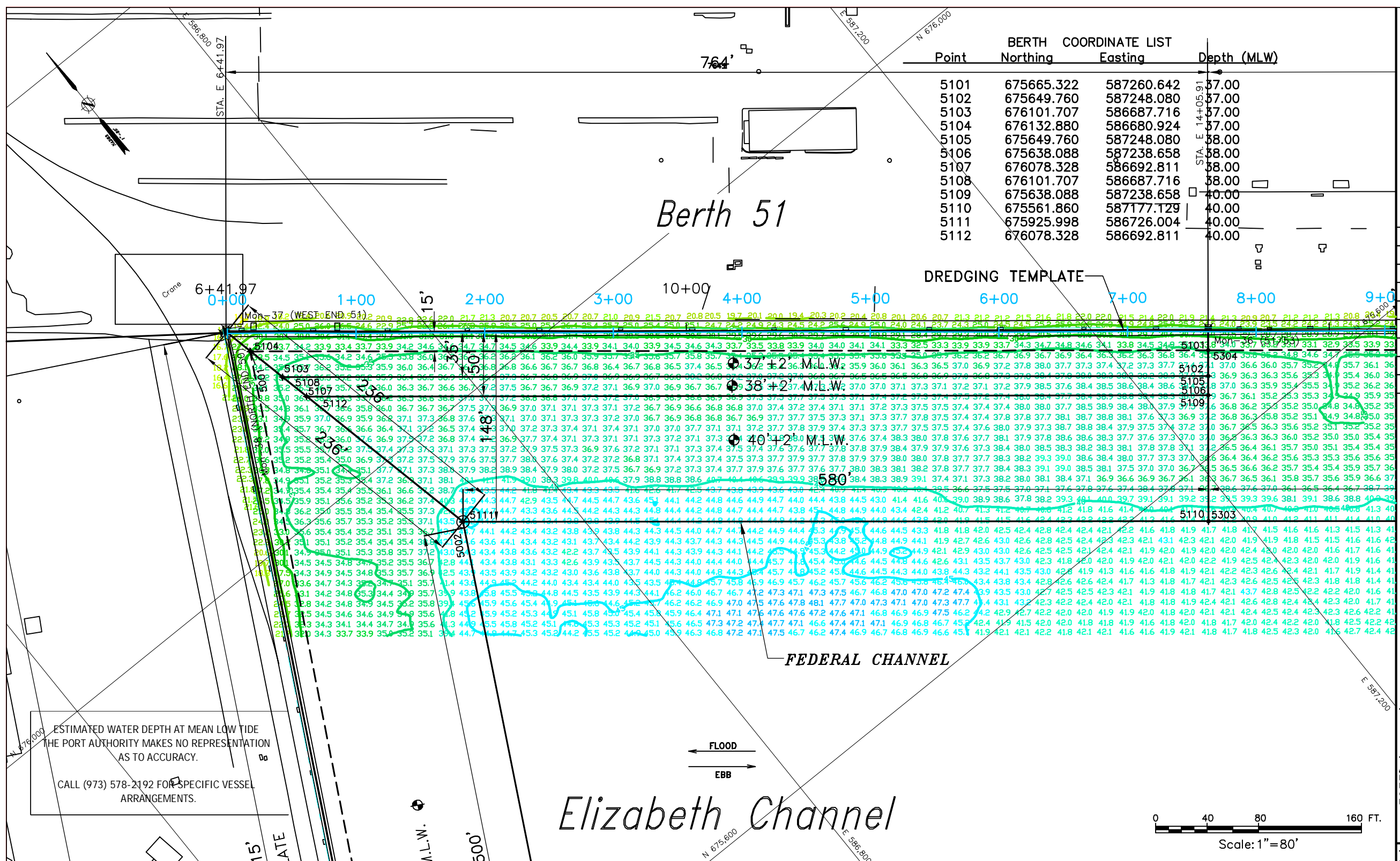
Rogers Surveying, P.L.L.C.
 1837 Richmond Terrace, Staten Island, N.Y. 10310
 Tel: (718) 442-7261 Fax: (718) 273-3868
 www.rogerssurveying.com
 www.rsknyc.com

Point	BERTH Northing	COORDINATE Easting	Depth (MLW)
5101	675665.322	587260.642	37.00
5102	675649.760	587248.080	37.00
5103	676101.707	586687.716	37.00
5104	676132.880	586680.924	37.00
5105	675649.760	587248.080	38.00
5106	675638.088	587238.658	38.00
5107	676078.328	586692.811	38.00
5108	676101.707	586687.716	38.00
5109	675638.088	587238.658	40.00
5110	675561.860	587177.129	40.00
5111	675925.998	586726.004	40.00
5112	676078.328	586692.811	40.00

Berth 51

DREDGING TEMPLATE

0+00 1+00 2+00 3+00 4+00 5+00 6+00 7+00 8+00 9+00

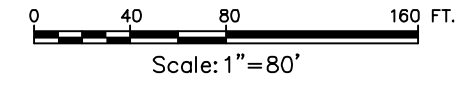


Title
NEW JERSEY MARINE TERMINAL
HYDROGRAPHIC SURVEY

No.	Date	Revision	Approved

VERTICAL CONTROL
 Mean Low Water = 2.3' Below 0.00 NGVD '29

HORIZONTAL CONTROL
 ALL COORDINATES, BEARING AND DISTANCES ARE REFERENCED TO THE NEW JERSEY PLANE COORDINATE SYSTEM (N.A.D. 83) AS SET FORTH IN N.J.S.A. 51:3-7



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Rogers Surveying RK DWR
 Surveyed by DWR Drawn by DWR Checked by DWR
 Date 06/29/11 Scale 1"=80'
 Contract Number 410-10-037 Drawing Number 33 of 60
 BERTH 51

NOTE: THE INFORMATION DEPICTED ON THIS MAP REPRESENTS THE RESULTS OF SURVEYS MADE ON THE DATES INDICATED AND CAN ONLY BE CONSIDERED AS INDICATING THE GENERAL CONDITIONS EXISTING AT THAT TIME. THE DATA IS REPRESENTATIVE OF A LARGER DATA SET. SOUNDINGS AND CONTOURS SHOWN ARE FROM 8'X16" GRID NEAREST TO CENTER. COORDINATES REFER TO THE NEW JERSEY MERCATOR SYSTEM (NAD 1983) SOUNDINGS REFER TO THE PLANE OF MEAN LOW WATER THE PLANE OF MEAN LOW WATER IS 2.3 FEET BELOW NGVD (1929) THE SOUNDING DATA DEPICTED ON THIS MAP WAS COLLECTED USING CLASS 2 SURVEY STANDARDS IN ACCORDANCE WITH EM 1110.2 1003.
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Volume Report

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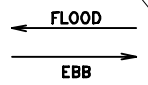
Design Depth	Volume to Dredge Template	Volume of 2' Over dredge	Total Volume
37'	515 yd3	1,040 yd3	1,555 yd3
38'	360 yd3	764 yd3	1,123 yd3
40'	4,291 yd3	3,799 yd3	8,090 yd3
TOTAL	5,165 yd3	5,602 yd3	10,768 yd3

NOTE: BERTH LENGTHS, WIDTHS AND DEEP WATER BERTH DIMENSIONS FROM P.A. PORT DEPARTMENT.

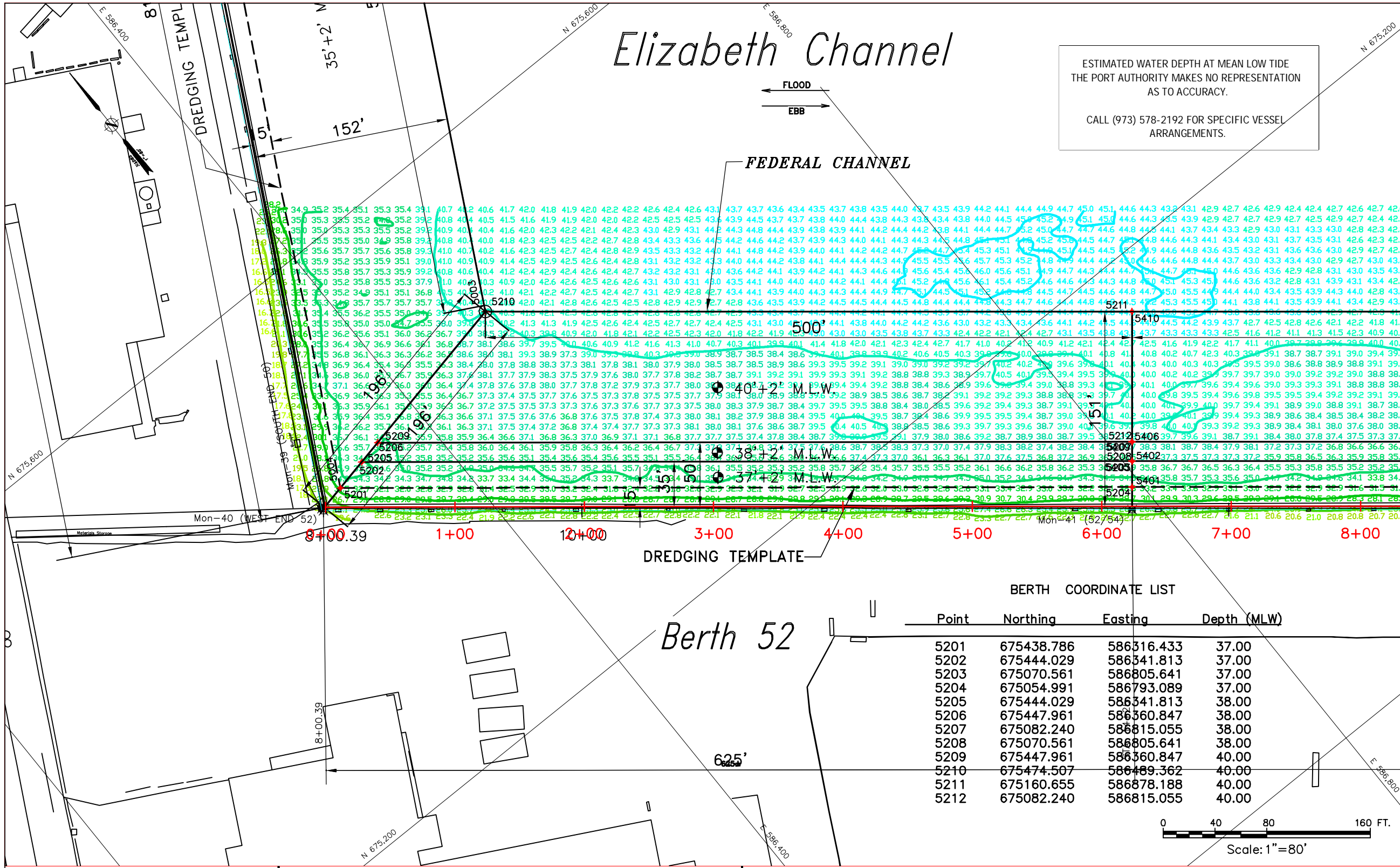
Coordinates are expressed in feet and refer to the NEW JERSEY STATE PLANE (NAD 83) System.
 NAVD88 1.11
 NGVD29 0.0
 Soundings refer to Mean Low Water as determined by U.S.A.C.E.
 The Plane of Mean Low Water is 2.3 feet below Mean Sea Level (NGVD 29).
 MLW (COE) -2.3
 Note: This survey does not guarantee the absence or presence of any underwater obstructions. Diver verification may be required.

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 William A. Rogers, Jr., P.E., L.S.
 New Jersey State # 22254
 A.C.S.M. Certified Hydrographer # 151

ESTIMATED WATER DEPTH AT MEAN LOW TIDE
 THE PORT AUTHORITY MAKES NO REPRESENTATION AS TO ACCURACY.
 CALL (973) 578-2192 FOR SPECIFIC VESSEL ARRANGEMENTS.



Elizabeth Channel



ESTIMATED WATER DEPTH AT MEAN LOW TIDE
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 www.rogerssurveying.com
 www.rdg.com

**NEW JERSEY
 MARINE
 TERMINAL**

**HYDROGRAPHIC
 SURVEY**

BERTH COORDINATE LIST

Point	Northing	Easting	Depth (MLW)
5201	675438.786	586316.433	37.00
5202	675444.029	586341.813	37.00
5203	675070.561	586805.641	37.00
5204	675054.991	586793.089	37.00
5205	675444.029	586341.813	38.00
5206	675447.961	586360.847	38.00
5207	675082.240	586815.055	38.00
5208	675070.561	586805.641	38.00
5209	675447.961	586360.847	40.00
5210	675474.507	586489.362	40.00
5211	675160.655	586878.188	40.00
5212	675082.240	586815.055	40.00

No.	Date	Revision	Approved

VERTICAL CONTROL
 Mean Low Water = 2.3' Below 0.00 NGVD '29

HORIZONTAL CONTROL
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 • Survey Vessel "Ted Rogers".
 • Reson 7101 Multibeam.
 • TSS 320 POS/MV.
 • Coastal Oceanographics "HYPACK" software

Volume Report

Design Depth	Volume to Dredge Template	Volume of 2' Over dredge	Total Volume
37'	875 yd3	894 yd3	1,769 yd3
38'	406 yd3	626 yd3	1,031 yd3
40'	2,230 yd3	3,076 yd3	5,306 yd3
TOTAL	3,510 yd3	4,595 yd3	8,106 yd3

THE DATA USED FOR VOLUME CALCULATIONS IS REPRESENTATIVE OF A LARGER DATA SET. SOUNDINGS USED FOR VOLUME CALCULATIONS ARE ON A 3'X3' GRID WITH THE DEPTH NEAREST TO THE CENTER USED.

NOTE: BERTH LENGTHS, WIDTHS AND DEEP WATER BERTH DIMENSIONS FROM P.A. PORT DEPARTMENT.

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 Soundings refer to Mean Low Water as determined by U.S.A.C.E.
 The Plane of Mean Low Water is 2.3 feet below Mean Sea Level (NGVD 29).

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NAVDB 1.11
 NGVD29 0.0
 MLW (COE) -2.3

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 New Jersey State # 22254
 A.C.S.M. Certified Hydrographer # 151

Rogers Surveying RK DWR
 Surveyed by Drawn by Checked by

Date 06/29/11 - 07/13/11 Scale 1" = 80'
 Contract Number Drawing Number
 410-10-037 34 of 60

BERTH 52

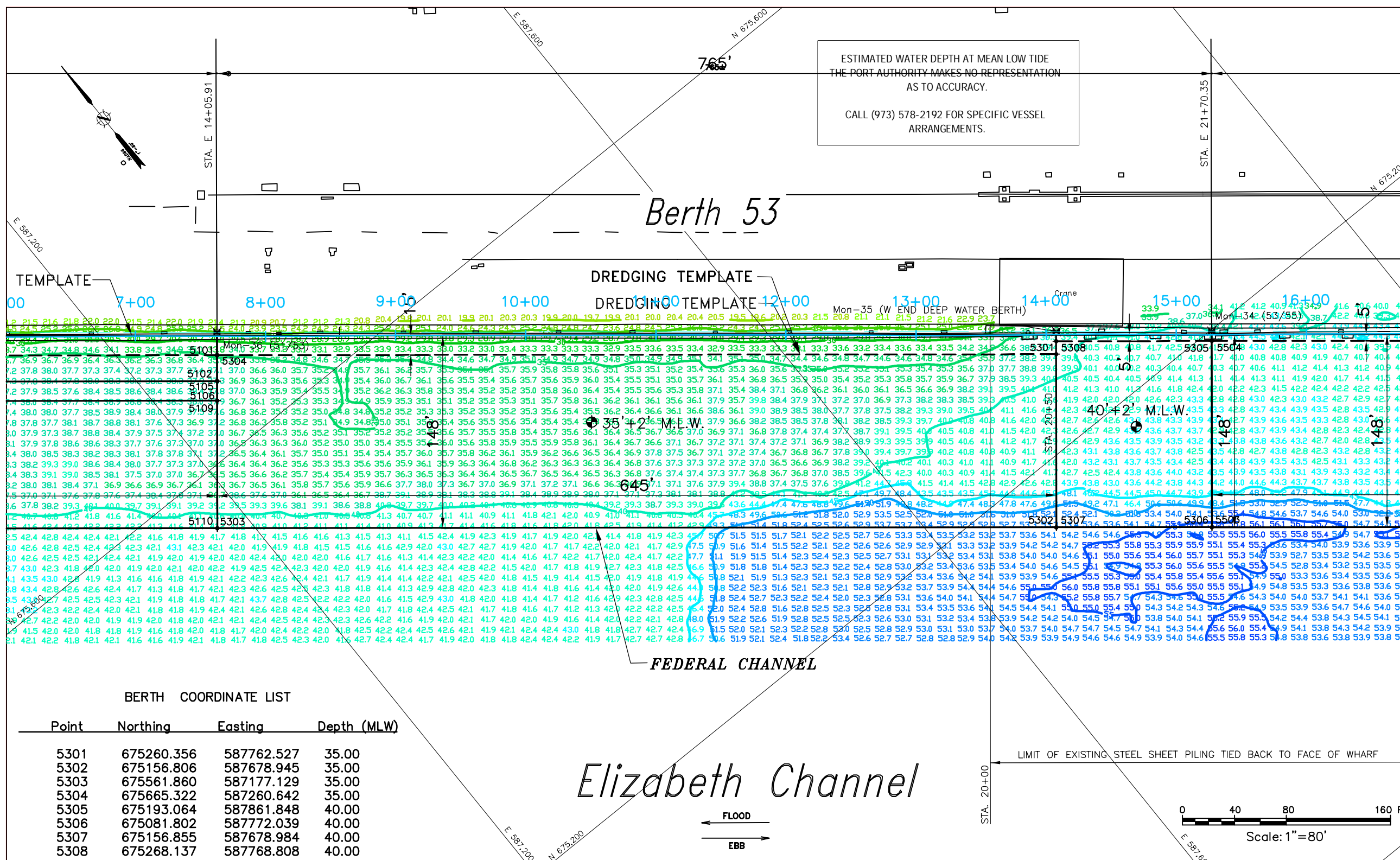
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1837 Richmond Terrace, Staten Island, N.Y. 10310
Tel: (718) 447-7241 Fax: (718) 473-3869
www.rogerssurveying.com
www.marineterminals.com

ESTIMATED WATER DEPTH AT MEAN LOW TIDE
THE PORT AUTHORITY MAKES NO REPRESENTATION
AS TO ACCURACY.

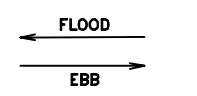
CALL (973) 578-2192 FOR SPECIFIC VESSEL
ARRANGEMENTS.



BERTH COORDINATE LIST

Point	Northing	Eastng	Depth (MLW)
5301	675260.356	587762.527	35.00
5302	675156.806	587678.945	35.00
5303	675561.860	587177.129	35.00
5304	675665.322	587260.642	35.00
5305	675193.064	587861.848	40.00
5306	675081.802	587772.039	40.00
5307	675156.855	587678.984	40.00
5308	675268.137	587768.808	40.00

Elizabeth Channel



**NEW JERSEY
MARINE
TERMINAL**

**HYDROGRAPHIC
SURVEY**

No. Date Revision Approved

VERTICAL CONTROL
Mean Low Water = 2.3' Below 0.00 NGVD '29

HORIZONTAL CONTROL
ALL COORDINATES, BEARING AND DISTANCES ARE REFERENCED TO THE NEW JERSEY PLANE COORDINATE SYSTEM (N.A.D. 83) AS SET FORTH IN N.J.S.A. 51:3-7

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Rogers Surveying RK DWR
Surveyed by Drawn by Checked by

Date 06/29/11 Scale 1"= 80'
07/13/11

Contract Number Drawing Number
410-10-037 35 of 60

BERTH 53

NOTE: THE INFORMATION DEPICTED ON THIS MAP REPRESENTS THE RESULTS OF SURVEYS MADE ON THE DATES INDICATED AND CAN ONLY BE CONSIDERED AS INDICATING THE GENERAL CONDITIONS EXISTING AT THAT TIME. THE DATA IS REPRESENTATIVE OF A LARGER DATA SET. SOUNDINGS AND CONTOURS SHOWN ARE FROM 8'X16" GRID NEAREST TO CENTER. COORDINATES REFER TO THE NEW JERSEY MERCATOR SYSTEM (NAD 1983) SOUNDINGS REFER TO THE PLANE OF MEAN LOW WATER THE PLANE OF MEAN LOW WATER IS 2.3 FEET BELOW NGVD (1929) THE SOUNDING DATA DEPICTED ON THIS MAP WAS COLLECTED USING CLASS 2 SURVEY STANDARDS IN ACCORDANCE WITH EM 1110.2 1003.

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 * Survey Vessel "Ted Rogers".
 * Reson 7101 Multibeam.
 * TSS 320 POS/MV.
 * Coastal Oceanographics "HYPACK" software

Volume Report

THE DATA USED FOR VOLUME CALCULATIONS IS REPRESENTATIVE OF A LARGER DATA SET. SOUNDINGS USED FOR VOLUME CALCULATIONS ARE ON A 3'X3' GRID WITH THE DEPTH NEAREST TO THE CENTER USED.

Design Depth	Volume to Dredge Template	Volume of 2' Over dredge	Total Volume
35'	60 yd3	1,975 yd3	2,035 yd3
40'	2 yd3	214 yd3	216 yd3
TOTAL	63 yd3	2,189 yd3	2,252 yd3

NOTE: BERTH LENGTHS, WIDTHS AND DEEP WATER BERTH DIMENSIONS FROM P.A. PORT DEPARTMENT.

Coordinates are expressed in feet and refer to the NEW JERSEY STATE PLANE (NAD 83) System.

Soundings refer to Mean Low Water as determined by U.S.A.C.E.

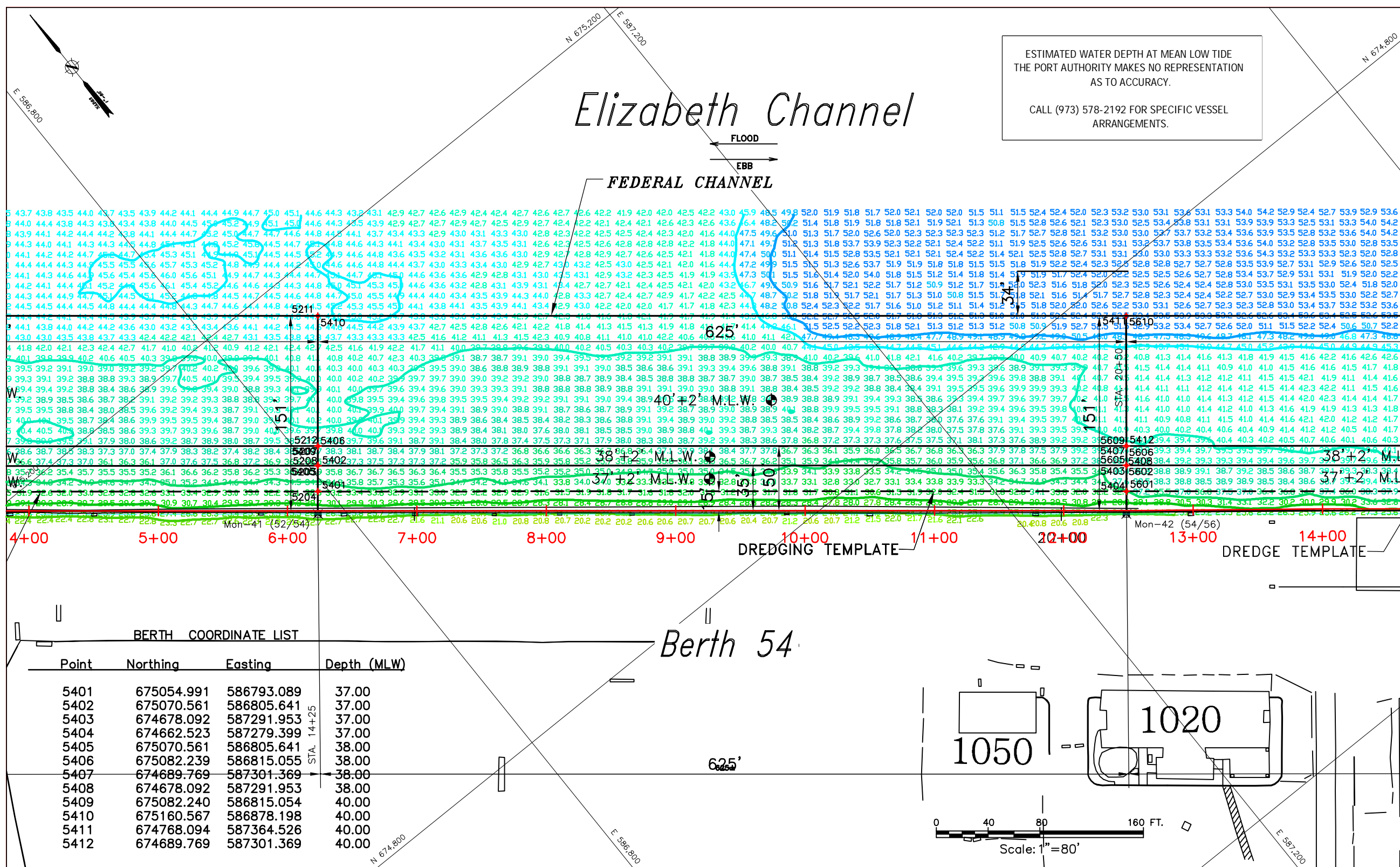
The Plane of Mean Low Water is 2.3 feet below Mean Sea Level (NGVD 29).

Note: This survey does not guarantee the absence or presence of any underwater obstructions. Diver verification may be required.

NAVDB8 1.11
NGVD29 0.0
MLW (COE) -2.3

I hereby certify to The Port Authority of New York and New Jersey that this map indicates the conditions existing as of the date indicated hereon to the best of my professional knowledge.

William A. Rogers, Jr., P.E., L.S.
New Jersey State # 22254
A.C.S.M. Certified Hydrographer # 151



ESTIMATED WATER DEPTH AT MEAN LOW TIDE
 THE PORT AUTHORITY MAKES NO REPRESENTATION
 AS TO ACCURACY.
 CALL (973) 578-2192 FOR SPECIFIC VESSEL
 ARRANGEMENTS.

PREPARED FOR
THE PORT AUTHORITY
 OF NY & NJ



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 1037 Richmond Terrace, Staten Island, N.Y. 10310
 Tel: (718) 443-7261 Fax: (718) 273-5060
 www.rogerssurveying.com

Point	Northing	Easting	Depth (MLW)
5401	675054.991	586793.089	37.00
5402	675070.561	586805.641	37.00
5403	674678.092	587291.953	37.00
5404	674662.523	587279.399	37.00
5405	675070.561	586805.641	38.00
5406	675082.239	586815.055	38.00
5407	674689.769	587301.369	38.00
5408	674678.092	587291.953	38.00
5409	675082.240	586815.054	40.00
5410	675160.567	586878.198	40.00
5411	674768.094	587364.526	40.00
5412	674689.769	587301.369	40.00

**NEW JERSEY
 MARINE
 TERMINAL**
 HYDROGRAPHIC
 SURVEY

NOTE: THE INFORMATION DEPICTED ON THIS MAP REPRESENTS THE RESULTS OF SURVEYS MADE ON THE DATES INDICATED AND CAN ONLY BE CONSIDERED AS INDICATING THE GENERAL CONDITIONS EXISTING AT THAT TIME. THE DATA IS REPRESENTATIVE OF A LARGER DATA SET. SOUNDINGS AND CONTOURS SHOWN ARE FROM 8'X16' GRID NEAREST TO CENTER. COORDINATES REFER TO THE NEW JERSEY MERCATOR SYSTEM (NAD 1983) SOUNDINGS REFER TO THE PLANE OF MEAN LOW WATER THE PLANE OF MEAN LOW WATER IS 2.3 FEET BELOW NGVD (1929) THE SOUNDING DATA DEPICTED ON THIS MAP WAS COLLECTED USING CLASS 2 SURVEY STANDARDS IN ACCORDANCE WITH EM 1110 2 1003. THIS SURVEY WAS COMPLETED USING THE FOLLOWING EQUIPMENT:
 • Survey Vessel "Ted Rogers"
 • Reason 7101 Multibeam
 • TSS 320 POS/MV
 • Coastal Oceanographics "HYPACK" software

Volume Report

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Design Depth	Volume to Dredge Template	Volume of 2' Over dredge	Total Volume
37'	1,028 yd3	917 yd3	1,944 yd3
38'	353 yd3	650 yd3	1,003 yd3
40'	1,422 yd3	3,357 yd3	4,779 yd3
TOTAL	2,803 yd3	4,923 yd3	7,726 yd3

NOTE: BERTH LENGTHS, WIDTHS AND DEEP WATER BERTH DIMENSIONS FROM P.A. PORT DEPARTMENT.

Coordinates are expressed in feet and refer to the NEW JERSEY STATE PLANE (NAD 83) System.
 Soundings refer to Mean Low Water as determined by U.S.A.C.E.
 The Plane of Mean Low Water is 2.3 feet below Mean Sea Level (NGVD 29).

Note: This survey does not guarantee the absence or presence of any underwater obstructions. Diver verification may be required.

NAVDB8 1.11
 System.
 NGVD29 0.0
 MLW (COE) -2.3

I hereby certify to The Port Authority of New York and New Jersey that this map indicates the conditions existing as of the date indicated hereon to the best of my professional knowledge.

William A. Rogers, Jr., P.E., L.S.
 New Jersey State # 22254
 A.C.S.M. Certified Hydrographer # 151

No. Date Revision Approved

VERTICAL CONTROL
 Mean Low Water = 2.3' Below 0.00 NGVD '29

HORIZONTAL CONTROL
 ALL COORDINATES, BEARING AND DISTANCES ARE REFERENCED TO THE NEW JERSEY PLANE COORDINATE SYSTEM (N.A.D. 83) AS SET FORTH IN N.J.S.A. 51:3-7

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Rogers Surveying RK DWR
 Surveyed by Drawn by Checked by

Date 06/29/11 Scale 1" = 80'
07/13/11

Contract Number 410-10-037 Drawing Number 36 of 60
BERTH 54

PREPARED FOR
THE PORT AUTHORITY
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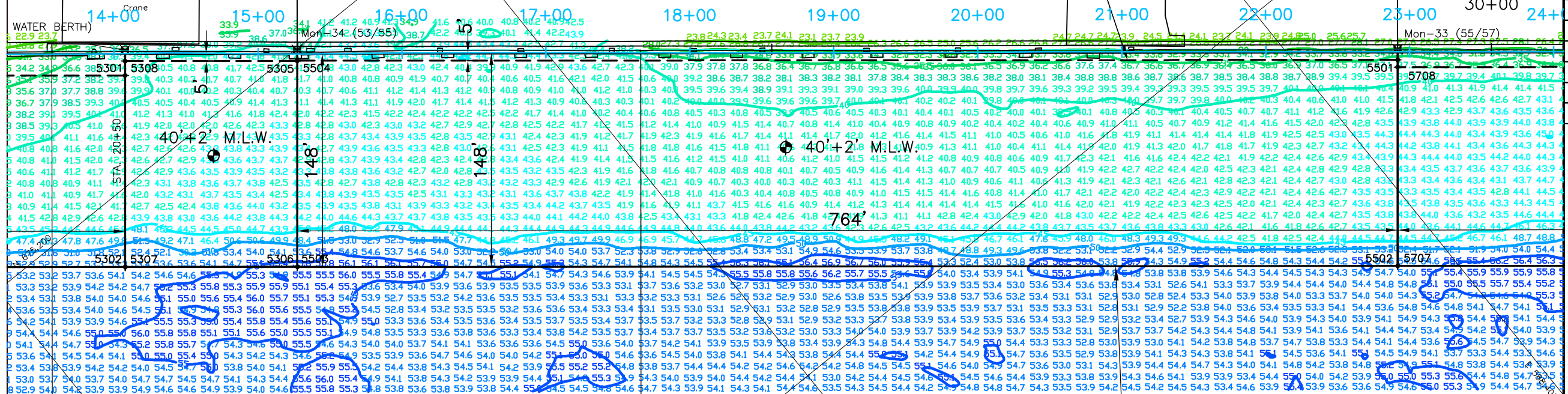
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1837 Richmond Terrace, Staten Island, N.Y. 10310
Tel: (718) 443-7261 Fax: (718) 473-5060
www.rogerssurveying.com
rsurvey@rogerssurveying.com

ESTIMATED WATER DEPTH AT MEAN LOW TIDE
THE PORT AUTHORITY MAKES NO REPRESENTATION
AS TO ACCURACY.
CALL (973) 578-2192 FOR SPECIFIC VESSEL
ARRANGEMENTS.

Point	Northing	Easting	Depth (MLW)
5501	674712.870	588456.643	40.00
5502	674601.577	588366.810	40.00
5503	675081.718	587771.970	40.00
5504	675193.117	587861.896	40.00

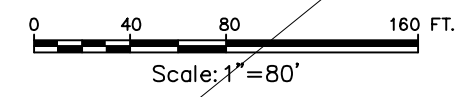
Berth 55

DREDGING TEMPLATE

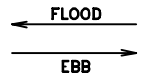


Title
**NEW JERSEY
MARINE
TERMINAL**
**HYDROGRAPHIC
SURVEY**

No. Date Revision Approved
VERTICAL CONTROL
Mean Low Water = 2.3' Below 0.00 NGVD '29
HORIZONTAL CONTROL
ALL COORDINATES, BEARING AND DISTANCES ARE REFERENCED TO THE NEW JERSEY PLANE COORDINATE SYSTEM (N.A.D. 83) AS SET FORTH IN N.J.S.A. 51:3-7



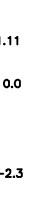
Elizabeth Channel



NOTE:
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THIS SURVEY WAS COMPLETED USING THE FOLLOWING EQUIPMENT:
• Survey Vessel "Ted Rogers"
• Reason 7101 Multibeam
• TSS 320 POS/MV
• Coastal Oceanographics "HYPACK" software

Design Depth	Volume to Dredge Template	Volume of 2' Over dredge	Total Volume
40'	949 yd ³	2,429 yd ³	3,378 yd ³
TOTAL	949 yd ³	2,429 yd ³	3,378 yd ³

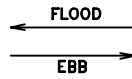
NOTE: BERTH LENGTHS, WIDTHS AND DEEP WATER BERTH DIMENSIONS FROM P.A. PORT DEPARTMENT.
Coordinates are expressed in feet and refer to the NEW JERSEY STATE PLANE (NAD 83) System.
Soundings refer to Mean Low Water as determined by U.S.A.C.E.
The Plane of Mean Low Water is 2.3 feet below Mean Sea Level (NGVD 29).
Note:
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I hereby certify to The Port Authority of New York and New Jersey that this map indicates the conditions existing as of the date indicated hereon to the best of my professional knowledge.
William A. Rogers, Jr., P.E., L.S.
New Jersey State # 22254
A.C.S.M. Certified Hydrographer # 151

Rogers Surveying RK DWR
Surveyed by Drawn by Checked by
Date 06/29/11 Scale 1"=80'
06/29/11 - 07/13/11
Contract Number 410-10-037 Drawing Number 37 of 60
BERTH 55

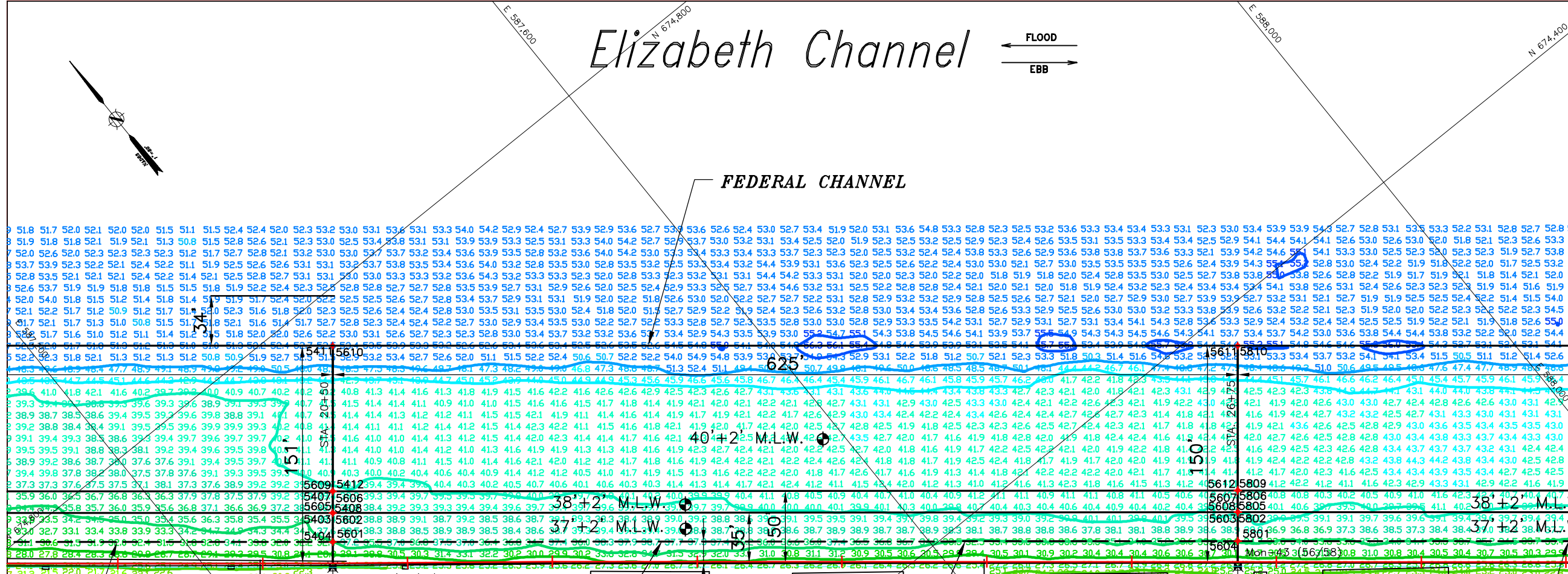
Elizabeth Channel



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**THE PORT AUTHORITY
OF NY & NJ**



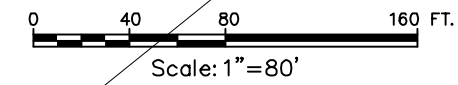
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www.rogerssurveying.com
www.rsknyc.com



Title
**NEW JERSEY
MARINE
TERMINAL**
**HYDROGRAPHIC
SURVEY**

Point	Berth	Northing	Easting	Depth (MLW)
5601	674662.523	587279.399	37.00	
5602	674678.092	587291.953	37.00	
5603	674286.026	587778.603	37.00	
5604	674270.452	587766.056	37.00	
5605	674678.092	587291.953	38.00	
5606	674689.769	587301.369	38.00	
5607	674297.707	587788.014	38.00	
5608	674286.026	587778.603	38.00	
5609	674689.769	587301.369	40.00	
5610	674768.094	587364.526	40.00	
5611	674375.612	587850.767	40.00	
5612	674297.707	587788.014	40.00	

ESTIMATED WATER DEPTH AT MEAN LOW TIDE
THE PORT AUTHORITY MAKES NO REPRESENTATION
AS TO ACCURACY.
CALL (973) 578-2192 FOR SPECIFIC VESSEL
ARRANGEMENTS.



No. Date Revision Approved
VERTICAL CONTROL
Mean Low Water = 2.3' Below 0.00 NGVD '29
HORIZONTAL CONTROL
ALL COORDINATES, BEARING AND DISTANCES ARE REFERENCED TO THE NEW JERSEY PLANE COORDINATE SYSTEM (N.A.D. 83) AS SET FORTH IN N.J.S.A. 51:3-7

This drawing subject to conditions in contract. All inventions, ideas, designs and methods herein are reserved to Port Authority and may not be used without its written consent.
Rogers Surveying RK DWR
Surveyed by Drawn by Checked by
Date 06/29/11 Scale 1"= 80'
07/13/11
Contract Number 410-10-037 Drawing Number 38 of 60
BERTH 56

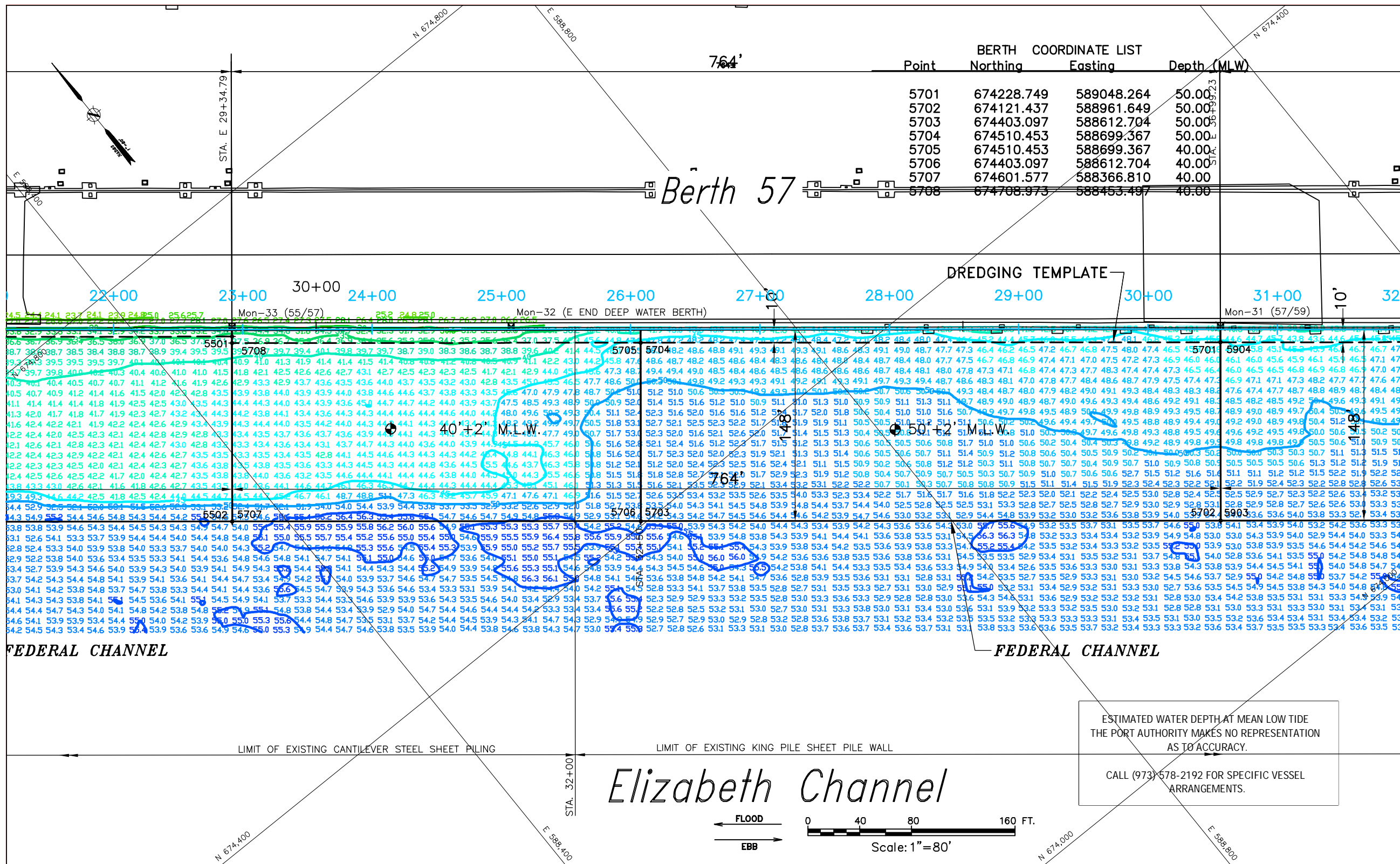
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THIS SURVEY WAS COMPLETED USING THE FOLLOWING EQUIPMENT:
• Survey Vessel "Ted Rogers"
• Reson 7101 Multibeam
• TSS 320 POS/MV
• Coastal Oceanographics "HYPACK" software

Volume Report			
Design Depth	Volume to Dredge Template	Volume of 2' Over dredge	Total Volume
37'	21 yd3	150 yd3	172 yd3
38'	0 yd3	58 yd3	58 yd3
40'	6 yd3	505 yd3	511 yd3
TOTAL	27 yd3	713 yd3	740 yd3

NOTE: THE DATA USED FOR VOLUME CALCULATIONS IS REPRESENTATIVE OF A LARGER DATA SET. SOUNDINGS USED FOR VOLUME CALCULATIONS ARE ON A 3'X3' GRID WITH THE DEPTH NEAREST TO THE CENTER USED.

NOTE: BERTH LENGTHS, WIDTHS AND DEEP WATER BERTH DIMENSIONS FROM P.A. PORT DEPARTMENT.
Coordinates are expressed in feet and refer to the NEW JERSEY STATE PLANE (NAD 83) System.
SOUNDINGS refer to Mean Low Water as determined by U.S.A.C.E.
The Plane of Mean Low Water is 2.3 feet below Mean Sea Level (NGVD 29).
Note: This survey does not guarantee the absence or presence of any underwater obstructions. Diver verification may be required.

I hereby certify to The Port Authority of New York and New Jersey that this map indicates the conditions existing as of the date indicated hereon to the best of my professional knowledge.
William A. Rogers, Jr., P.E., L.S.
New Jersey State # 22254
A.C.S.M. Certified Hydrographer # 151



Point	BERTH COORDINATE LIST		Depth (MLW)
	Northing	Easting	
5701	674228.749	589048.264	50.00
5702	674121.437	588961.649	50.00
5703	674403.097	588612.704	50.00
5704	674510.453	588699.367	50.00
5705	674510.453	588699.367	40.00
5706	674403.097	588612.704	40.00
5707	674601.577	588366.810	40.00
5708	674708.973	588453.497	40.00

PREPARED FOR
THE PORT AUTHORITY
OF NY & NJ

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www.rogerssurveying.com

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• Reason 7101 Multibeam
• TSS 320 POS/MV
• Coastal Oceanographics "HYPACK" software

Volume Report			
Design Depth	Volume to Dredge Template	Volume of 2' Over dredge	Total Volume
40'	177 yd ³	300 yd ³	477 yd ³
50'	1,370 yd ³	2,563 yd ³	3,933 yd ³
TOTAL	1,547 yd³	2,864 yd³	4,410 yd³

NOTE: BERTH LENGTHS, WIDTHS AND DEEP WATER BERTH DIMENSIONS FROM P.A. PORT DEPARTMENT.

Coordinates are expressed in feet and refer to the NEW JERSEY STATE PLANE (NAD 83) System.
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NAVD88 1.11
System.
NGVD29 0.0
MLW (COE) -2.3

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William A. Rogers, Jr.
William A. Rogers, Jr., P.E., L.S.
New Jersey State # 22254
A.C.S.M. Certified Hydrographer # 151

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Rogers Surveying RK DWR
Surveyed by Drawn by Checked by

Date 06/29/11 - 07/13/11 Scale 1" = 80'
Contract Number Drawing Number
410-10-037 39 of 60
BERTH 57

Title
NEW JERSEY MARINE TERMINAL
HYDROGRAPHIC SURVEY

ESTIMATED WATER DEPTH AT MEAN LOW TIDE
THE PORT AUTHORITY MAKES NO REPRESENTATION
AS TO ACCURACY.

CALL (973) 578-2192 FOR SPECIFIC VESSEL
ARRANGEMENTS.

No.	Date	Revision	Approved

VERTICAL CONTROL
Mean Low Water = 2.3' Below 0.00 NGVD '29

HORIZONTAL CONTROL
ALL COORDINATES, BEARING AND DISTANCES ARE REFERENCED TO THE NEW JERSEY PLANE COORDINATE SYSTEM (N.A.D. 83) AS SET FORTH IN N.J.S.A. 51:3-7

PREPARED FOR
**THE PORT AUTHORITY
OF NY & NJ**

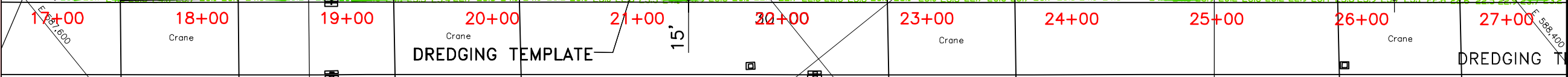
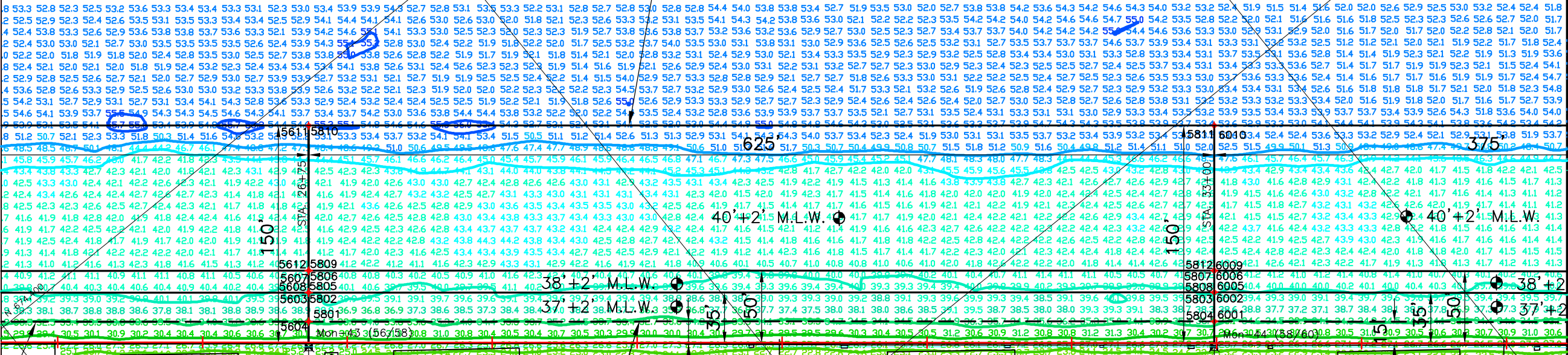


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www.rogerssurveying.com
info@rogerssurveying.com

Elizabeth Channel

FLOOD
EBB

FEDERAL CHANNEL



Title

**NEW JERSEY
MARINE
TERMINAL**

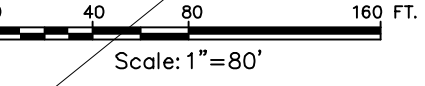
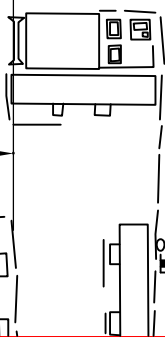
**HYDROGRAPHIC
SURVEY**

BERTH COORDINATE LIST			
Point	Northing	Easting	Depth (MLW)
5801	674270.452	587766.056	37.00
5802	674286.026	587778.603	37.00
5803	673893.550	588265.012	37.00
5804	673877.995	588252.440	37.00
5805	674286.026	587778.603	38.00
5806	674297.695	587788.029	38.00
5807	673905.204	588274.455	38.00
5808	673893.550	588265.012	38.00
5809	674297.695	587788.029	40.00
5810	674375.524	587850.776	40.00
5811	673983.052	588337.103	40.00
5812	673905.204	588274.455	40.00

Berth 58

ESTIMATED WATER DEPTH AT MEAN LOW TIDE
THE PORT AUTHORITY MAKES NO REPRESENTATION
TO THE CENTER SURVEY
6'23" ACCURACY.

CALL (973) 578-2192 FOR SPECIFIC VESSEL
ARRANGEMENTS.



No.	Date	Revision	Approved

VERTICAL CONTROL
Mean Low Water = 2.3' Below 0.00 NGVD '29

HORIZONTAL CONTROL
ALL COORDINATES, BEARING AND DISTANCES ARE REFERENCED TO THE NEW JERSEY PLANE COORDINATE SYSTEM (N.A.D. 83) AS SET FORTH IN N.J.S.A. 51:3-7

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* Reason 7101 Multibeam.
* TSS 320 POS/MV.
* Coastal Oceanographics "HYPACK" software

Volume Report			
Design Depth	Volume to Dredge Template	Volume of 2' Over dredge	Total Volume
37'	73 yd3	264 yd3	338 yd3
38'	0 yd3	32 yd3	32 yd3
40'	0 yd3	190 yd3	190 yd3
TOTAL	74 yd3	486 yd3	560 yd3

NOTE: BERTH LENGTHS, WIDTHS AND DEEP WATER BERTH DIMENSIONS FROM P.A. PORT DEPARTMENT.

Coordinates are expressed in feet and refer to the **NEW JERSEY STATE PLANE (NAD 83)** System.
Soundings refer to Mean Low Water as determined by U.S.A.C.E.
The Plane of Mean Low Water is 2.3 feet below Mean Sea Level (NGVD 29).

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NAVD88 1.11
System.
NGVD29 0.0
MLW (COE) -2.3

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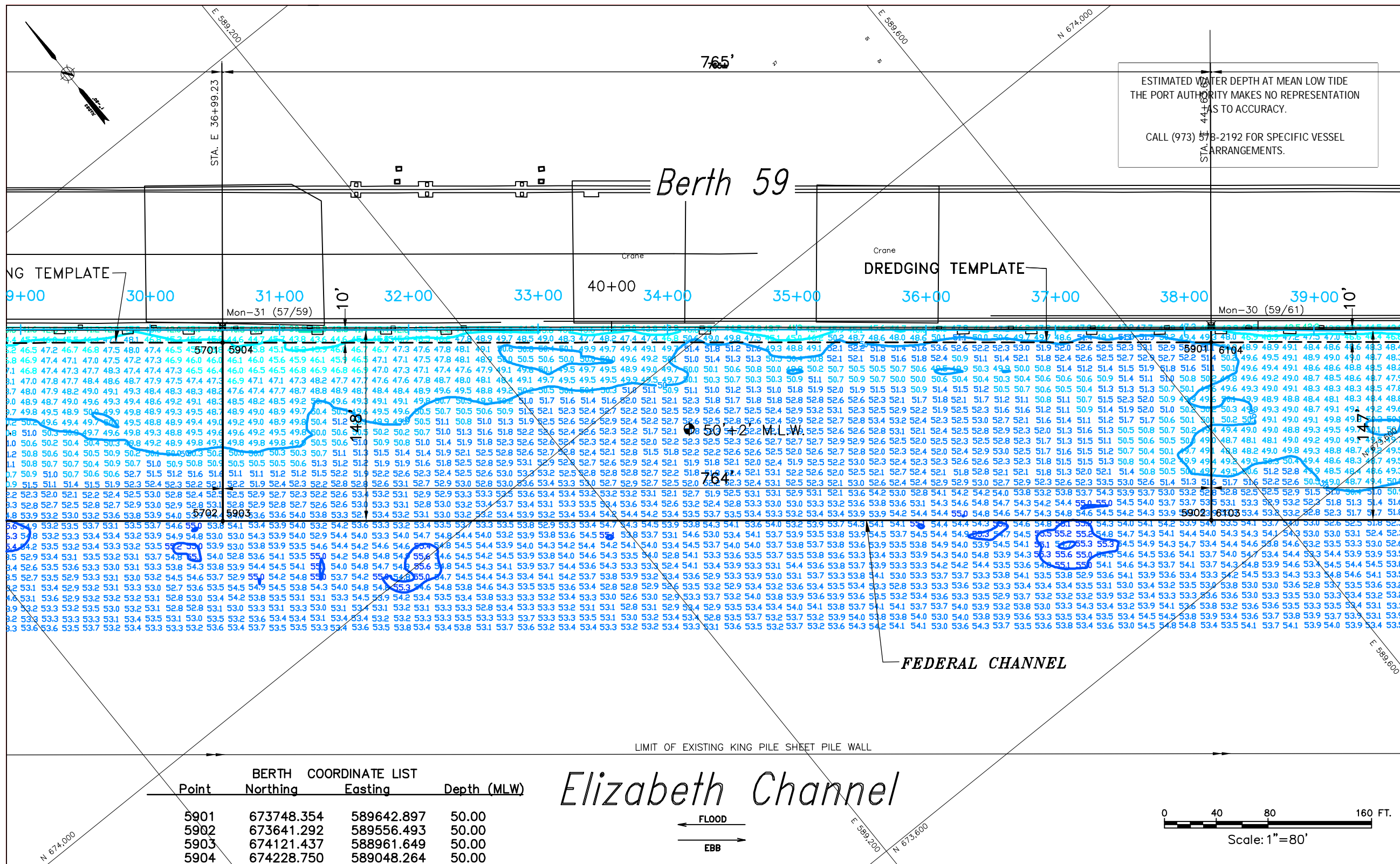
William A. Rogers, Jr., P.E., L.S.
William A. Rogers, Jr., P.E., L.S.
New Jersey State # 22254
A.C.S.M. Certified Hydrographer # 151

Rogers Surveying RK DWR
Surveyed by Drawn by Checked by

Date 06/29/11 Scale 1" = 80'
07/13/11

Contract Number 410-10-037 Drawing Number 40 of 60

BERTH 58



PREPARED FOR
THE PORT AUTHORITY
 OF NY & NJ

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 info@rogerssurveying.com

Title

NEW JERSEY MARINE TERMINAL

HYDROGRAPHIC SURVEY

No.	Date	Revision	Approved

VERTICAL CONTROL
 Mean Low Water = 2.3' Below 0.00 NGVD '29

HORIZONTAL CONTROL

ALL COORDINATES, BEARING AND DISTANCES ARE REFERENCED TO THE NEW JERSEY PLANE COORDINATE SYSTEM (N.A.D. 83) AS SET FORTH IN N.J.S.A. 51:3-7

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Rogers Surveying RK DWR
 Surveyed by DWR Drawn by DWR Checked by DWR

Date 06/29/11 Scale 1" = 80'
 06/29/11 - 07/13/11
 Contract Number 410-10-037 Drawing Number 41 of 60
BERTH 59

BERTH COORDINATE LIST

Point	Northing	Easting	Depth (MLW)
5901	673748.354	589642.897	50.00
5902	673641.292	589556.493	50.00
5903	674121.437	588961.649	50.00
5904	674228.750	589048.264	50.00

Elizabeth Channel

FLOOD →
 ← EBB

Volume Report

Design Depth	Volume to Dredge Template	Volume of 2' Over dredge	Total Volume
50'	1,127 yd ³	2,652 yd ³	3,778 yd ³
TOTAL	1,127 yd ³	2,652 yd ³	3,778 yd ³

NOTE: BERTH LENGTHS, WIDTHS AND DEEP WATER BERTH DIMENSIONS FROM P.A. PORT DEPARTMENT.

Coordinates are expressed in feet and refer to the NEW JERSEY STATE PLANE (NAD 83) System.

Soundings refer to Mean Low Water as determined by U.S.A.C.E.

The Plane of Mean Low Water is 2.3 feet below Mean Sea Level (NGVD 29).

Note:
 This survey does not guarantee the absence or presence of any underwater obstructions. Diver verification may be required.

NAVD88 1.11
 NGVD29 0.0
 MLW (COE) -2.3

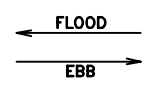
I hereby certify to The Port Authority of New York and New Jersey that this map indicates the conditions existing as of the date indicated hereon to the best of my professional knowledge.

William A. Rogers, Jr.
 William A. Rogers, Jr., P.E., L.S.
 New Jersey State # 22254
 A.C.S.M. Certified Hydrographer # 151

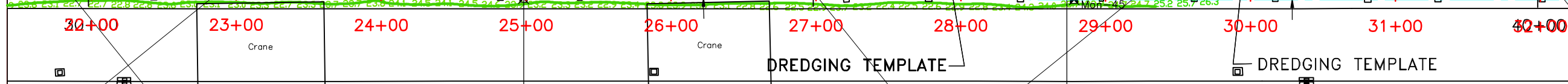
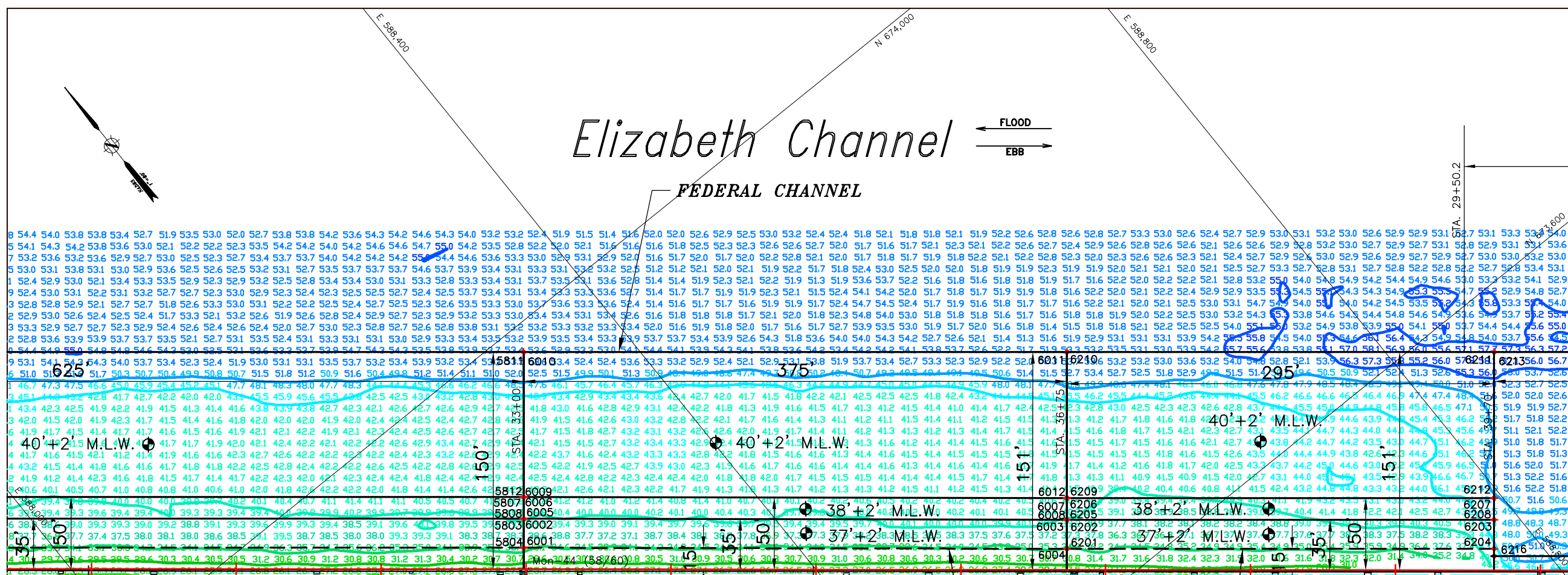
NOTE:
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 THIS SURVEY WAS COMPLETED USING THE FOLLOWING EQUIPMENT:
 • Survey Vessel "Red Rogers"
 • Reason 7101 Multibeam
 • TSS 320 POS/MV
 • Coastal Oceanographics "HYPACK" software



Elizabeth Channel



FEDERAL CHANNEL



Point	Northing	Easting	Depth (MLW)
6001	673877.995	588252.440	37.00
6002	673893.553	588265.007	37.00
6003	673657.446	588556.287	37.00
6004	673641.883	588543.725	37.00
6005	673893.550	588265.012	38.00
6006	673905.204	588274.455	38.00
6007	673669.118	588565.709	38.00
6008	673657.446	588556.287	38.00
6009	673905.204	588274.455	40.00
6010	673982.956	588337.223	40.00
6011	673747.475	588628.957	40.00
6012	673669.118	588565.709	40.00

Berth 60

ESTIMATED WATER DEPTH AT MEAN LOW TIDE
THE PORT AUTHORITY MAKES NO REPRESENTATION
AS TO ACCURACY.

CALL (973) 578-2192 FOR SPECIFIC VESSEL
ARRANGEMENTS.

Scale: 1"=80'

**NEW JERSEY
MARINE
TERMINAL**

**HYDROGRAPHIC
SURVEY**

No. Date Revision Approved

VERTICAL CONTROL
Mean Low Water = 2.3' Below 0.00 NGVD '29

HORIZONTAL CONTROL
ALL COORDINATES, BEARING AND
DISTANCES ARE REFERENCED TO THE
NEW JERSEY PLANE COORDINATE SYSTEM
(N.A.D. 83) AS SET FORTH IN
N.J.S.A. 51:3-7

NOTE: THE INFORMATION DEPICTED ON THIS MAP REPRESENTS THE RESULTS OF SURVEYS MADE ON THE DATES INDICATED AND CAN ONLY BE CONSIDERED AS INDICATING THE GENERAL CONDITIONS EXISTING AT THAT TIME. THE DATA IS REPRESENTATIVE OF A LARGER DATA SET. SOUNDINGS AND CONTOURS SHOWN ARE FROM 8'X16" GRID NEAREST TO CENTER. COORDINATES REFER TO THE NEW JERSEY MERCATOR SYSTEM (NAD 1983) SOUNDINGS REFER TO THE PLANE OF MEAN LOW WATER THE PLANE OF MEAN LOW WATER IS 2.3 FEET BELOW NGVD (1929) THE SOUNDING DATA DEPICTED ON THIS MAP WAS COLLECTED USING CLASS 2 SURVEY STANDARDS IN ACCORDANCE WITH EM 1110.2-1003.
THIS SURVEY WAS COMPLETED USING THE FOLLOWING EQUIPMENT:
* Survey Vessel "Ted Rogers"
* Reason 7101 Multibeam
* TSS 320 POS/MV
* Coastal Oceanographics "HYPACK" software

Design Depth	Volume to Dredge Template	Volume of 2' Over dredge	Total Volume
37'	62 yd3	197 yd3	259 yd3
38'	0 yd3	2 yd3	2 yd3
40'	0 yd3	278 yd3	278 yd3
TOTAL	62 yd3	477 yd3	539 yd3

NOTE: BERTH LENGTHS, WIDTHS AND DEEP WATER BERTH DIMENSIONS FROM P.A. PORT DEPARTMENT.

Coordinates are expressed in feet and refer to the **NEW JERSEY STATE PLANE (NAD 83)** System.

Soundings refer to Mean Low Water as determined by U.S.A.C.E.

The Plane of Mean Low Water is 2.3 feet below Mean Sea Level (NGVD 29).

Note: This survey does not guarantee the absence or presence of any underwater obstructions. Diver verification may be required.

NAVDB 1.11
NGVD29 0.0
MLW (COE) -2.3

I hereby certify to The Port Authority of New York and New Jersey that this map indicates the conditions existing as of the date indicated hereon to the best of my professional knowledge.

William A. Rogers, Jr., P.E., L.S.
New Jersey State # 22254
A.C.S.M. Certified Hydrographer # 151

Rogers Surveying RK DWR
Surveyed by DWR Drawn by RK Checked by

Date 06/29/11 Scale 1"= 80'
07/13/11

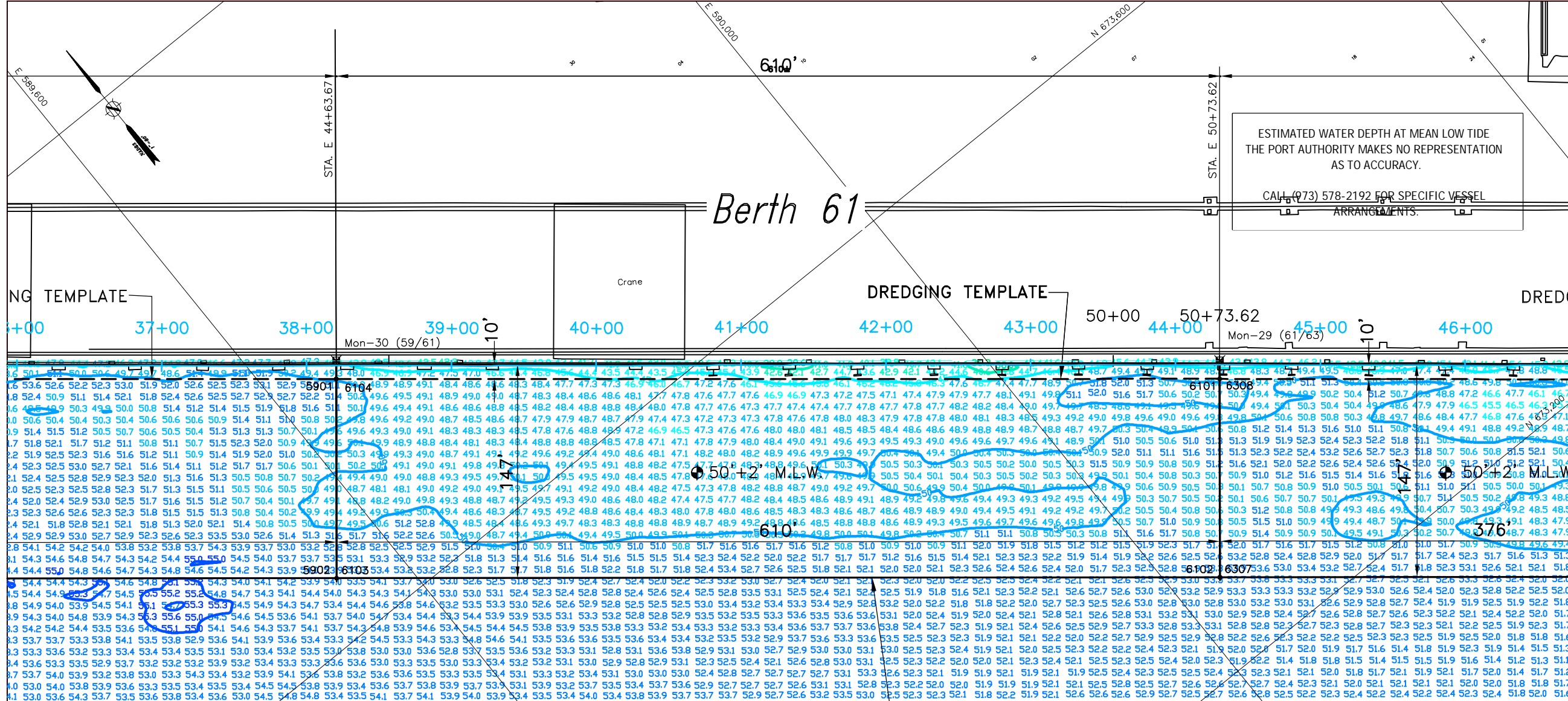
Contract Number 410-10-037 Drawing Number 42 of 60
BERTH 60

PREPARED FOR
THE PORT AUTHORITY
OF NY & NJ



Rogers Surveying, P.L.L.C.
1837 Richmond Terrace, Staten Island, N.Y. 10310
Tel: (718) 443-7201 Fax: (718) 273-5060
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www.nysp.com

ESTIMATED WATER DEPTH AT MEAN LOW TIDE
THE PORT AUTHORITY MAKES NO REPRESENTATION
AS TO ACCURACY.
CALL (718) 578-2192 FOR SPECIFIC VESSEL
ARRANGMENTS.



Title
**NEW JERSEY
MARINE
TERMINAL**
**HYDROGRAPHIC
SURVEY**

No.	Date	Revision	Approved

VERTICAL CONTROL
Mean Low Water = 2.3' Below 0.00 NGVD '29

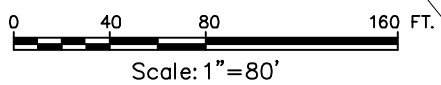
HORIZONTAL CONTROL
ALL COORDINATES, BEARING AND DISTANCES ARE REFERENCED TO THE NEW JERSEY PLANE COORDINATE SYSTEM (N.A.D. 83) AS SET FORTH IN N.J.S.A. 51:3-7

This drawing subject to conditions in contract. All inventions, ideas, designs and methods herein are reserved to Port Authority and may not be used without its written consent.

Rogers Surveying RK DWR
Surveyed by DWR Drawn by DWR Checked by DWR
Date 06/29/11 Scale 1" = 80'
Contract Number 410-10-037 Drawing Number 43 of 60
BERTH 61

BERTH COORDINATE LIST			
Point	Northing	Easting	Depth (MLW)
6101	673364.823	590117.174	50.00
6102	673258.187	590031.116	50.00
6103	673641.292	589556.493	50.00
6104	673748.354	589642.896	50.00

Elizabeth Channel



NOTE:
THE INFORMATION DEPICTED ON THIS MAP REPRESENTS THE RESULTS OF SURVEYS MADE ON THE DATES INDICATED AND CAN ONLY BE CONSIDERED AS INDICATING THE GENERAL CONDITIONS EXISTING AT THAT TIME. THE DATA IS REPRESENTATIVE OF A LARGER DATA SET. SOUNDINGS AND CONTOURS SHOWN ARE FROM 8'X16" GRID NEAREST TO CENTER. COORDINATES REFER TO THE NEW JERSEY MERCATOR SYSTEM (NAD 1983) SOUNDINGS REFER TO THE PLANE OF MEAN LOW WATER THE PLANE OF MEAN LOW WATER IS 2.3 FEET BELOW NGVD (1929) THE SOUNDING DATA DEPICTED ON THIS MAP WAS COLLECTED USING CLASS 2 SURVEY STANDARDS IN ACCORDANCE WITH EM 1110 2 1003.
THIS SURVEY WAS COMPLETED USING THE FOLLOWING EQUIPMENT:
• Survey Vessel "Ted Rogers"
• Reason 7101 Multibeam
• TSS 320 POS/MV
• Coastal Oceanographics "HYPACK" software

Volume Report			
Design Depth	Volume to Dredge Template	Volume of 2' Over dredge	Total Volume
50'	2,648 yd3	4,860 yd3	7,508 yd3
TOTAL	2,648 yd3	4,860 yd3	7,508 yd3

NOTE: BERTH LENGTHS, WIDTHS AND DEEP WATER BERTH DIMENSIONS FROM P.A. PORT DEPARTMENT.
Coordinates are expressed in feet and refer to the NEW JERSEY STATE PLANE (NAD 83) System.
Soundings refer to Mean Low Water as determined by U.S.A.C.E.
The Plane of Mean Low Water is 2.3 feet below Mean Sea Level (NGVD 29).
Note:
This survey does not guarantee the absence or presence of any underwater obstructions. Diver verification may be required.

NAVD88 1.11
System.
NGVD29 0.0
MLW (COE) -2.3
I hereby certify to The Port Authority of New York and New Jersey that this map indicates the conditions existing as of the date indicated hereon to the best of my professional knowledge.
William A. Rogers, Jr., P.E., L.S.
New Jersey State # 22254
A.C.S.M. Certified Hydrographer # 151

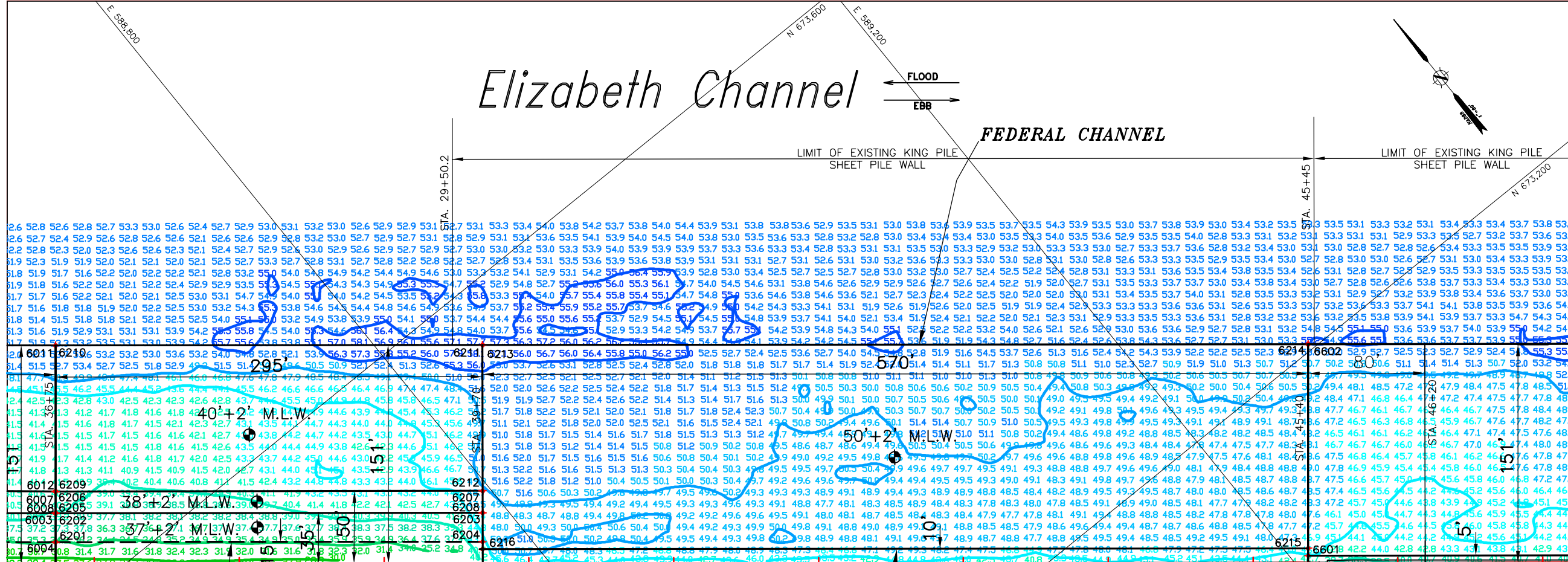
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www.rogerssurveying.com

Elizabeth Channel

FEDERAL CHANNEL



29+00 30+00 31+00 32+00 33+00 34+00 35+00 36+00 (W END DEEP WATER BERTH) 37+00 38+00 39+00

DREDGING TEMPLATE

DREDGING TEMPLATE

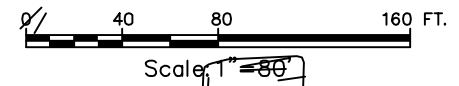
Point	Berth	Northing	Easting	Depth (MLW)
6201	6201	673641.875	588543.719	37.00
6202	6202	673657.437	588556.281	37.00
6203	6203	673472.263	588785.723	37.00
6204	6204	673456.700	588773.161	37.00
6205	6205	673657.437	588556.281	38.00
6206	6206	673669.109	588565.702	38.00
6207	6207	673483.935	588795.145	38.00
6208	6208	673472.263	588785.723	38.00
6209	6209	673669.109	588565.702	40.00
6210	6210	673747.475	588628.957	40.00
6211	6211	673562.284	588858.386	40.00
6212	6212	673483.935	588795.145	40.00
6213	6213	673562.284	588858.386	50.00
6214	6214	673204.271	589301.925	50.00
6215	6215	673094.725	589213.502	50.00
6216	6216	673452.742	588769.966	50.00

Berth 62

ESTIMATED WATER DEPTH AT MEAN LOW TIDE
THE PORT AUTHORITY MAKES NO REPRESENTATION
AS TO ACCURACY.
CALL (973) 578-2192 FOR SPECIFIC VESSEL
ARRANGEMENTS.

945'

Berth 64



NEW JERSEY MARINE TERMINAL

HYDROGRAPHIC SURVEY

No. Date Revision Approved
VERTICAL CONTROL
Mean Low Water = 2.3' Below 0.00 NGVD '29
HORIZONTAL CONTROL
ALL COORDINATES, BEARING AND DISTANCES ARE REFERENCED TO THE NEW JERSEY PLANE COORDINATE SYSTEM (N.A.D. 83) AS SET FORTH IN N.J.S.A. 51:3-7

This drawing subject to conditions in contract. All inventions, ideas, designs and methods herein are reserved to Port Authority and may not be used without its written consent.

NOTE:
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THIS SURVEY WAS COMPLETED USING THE FOLLOWING EQUIPMENT:
• Survey Vessel "Red Rogers"
• Reson 7101 Multibeam
• TSS 320 POS/MV
• Coastal Oceanographics "HYPACK" software

Design Depth	Volume to Dredge Template	Volume of 2' Over dredge	Total Volume
38'	48 yd3	217 yd3	266 yd3
40'	0 yd3	51 yd3	51 yd3
50'	1,467 yd3	4,030 yd3	5,497 yd3

NOTE: BERTH LENGTHS, WIDTHS AND DEEP WATER BERTH DIMENSIONS FROM P.A. PORT DEPARTMENT.
Coordinates are expressed in feet and refer to the NEW JERSEY STATE PLANE (NAD 83) System.
Soundings refer to Mean Low Water as determined by U.S.A.C.E.
The Plane of Mean Low Water is 2.3 feet below Mean Sea Level (NGVD 29).
Note: This survey does not guarantee the absence or presence of any underwater obstructions. Diver verification may be required.

NAVD88 1.11
NGVD29 0.0
MLW (COE) -2.3
I hereby certify to The Port Authority of New York and New Jersey that this map indicates the conditions existing as of the date indicated hereon to the best of my professional knowledge.
William A. Rogers, Jr.
William A. Rogers, Jr., P.E., L.S.
New Jersey State # 22254
A.C.S.M. Certified Hydrographer # 151

Rogers Surveying RK DWR
Surveyed by Drawn by Checked by
Date 06/29/11 Scale 1" = 80'
07/13/11
Contract Number Drawing Number
410-10-037 44 of 60
BERTH 62 & 64



Rogers Surveying, P.L.L.C.
1837 Richmond Terrace, Staten Island, N.Y. 10310
Tel: (718) 443-7291 Fax: (718) 273-5069
www.rogerssurveying.com

**NEW JERSEY
MARINE
TERMINAL**

**HYDROGRAPHIC
SURVEY**

No. Date Revision Approved

VERTICAL CONTROL
Mean Low Water = 2.3' Below 0.00 NGVD '29

HORIZONTAL CONTROL
ALL COORDINATES, BEARING AND DISTANCES ARE REFERENCED TO THE NEW JERSEY PLANE COORDINATE SYSTEM (N.A.D. 83) AS SET FORTH IN N.J.S.A. 51:3-7

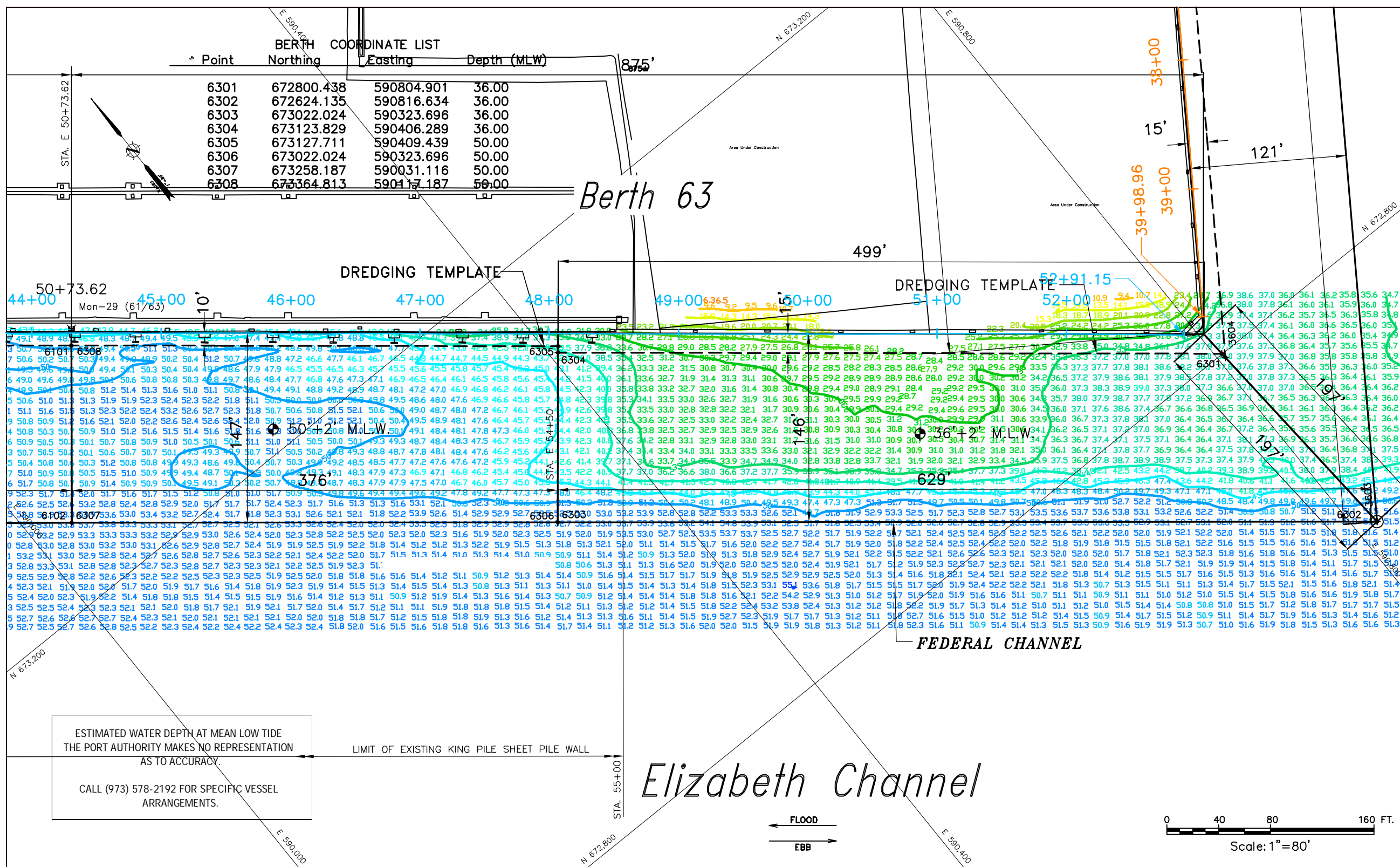
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Rogers Surveying RK DWR
Surveyed by Drawn by Checked by

Date 06/29/11 Scale 1" = 80'
07/13/11

Contract Number 410-10-037 Drawing Number 45 of 60

BERTH 63



BERTH COORDINATE LIST

* Point	Northing	Easting	Depth (MLW)
6301	672800.438	590804.901	36.00
6302	672624.135	590816.634	36.00
6303	673022.024	590323.696	36.00
6304	673123.829	590406.289	36.00
6305	673127.711	590409.439	50.00
6306	673022.024	590323.696	50.00
6307	673258.187	590031.116	50.00
6308	673364.813	590117.187	50.00

Volume Report

THE DATA USED FOR VOLUME CALCULATIONS IS REPRESENTATIVE OF A LARGER DATA SET. SOUNDINGS USED FOR VOLUME CALCULATIONS ARE ON A 3'X3' GRID WITH THE DEPTH NEAREST TO THE CENTER USED.

Design Depth	Volume to Dredge Template	Volume of 2' Over dredge	Total Volume
36'	4,813 yd3	2,657 yd3	7,471 yd3
50'	2,394 yd3	2,646 yd3	5,041 yd3
TOTAL	7,208 yd3	5,304 yd3	12,511 yd3

NOTE: BERTH LENGTHS, WIDTHS AND DEEP WATER BERTH DIMENSIONS FROM P.A. PORT DEPARTMENT.

Coordinates are expressed in feet and refer to the NEW JERSEY STATE PLANE (NAD 83) System.

Soundings refer to Mean Low Water as determined by U.S.A.C.E.

The Plane of Mean Low Water is 2.3 feet below Mean Sea Level (NGVD 29).

Note: This survey does not guarantee the absence or presence of any underwater obstructions. Diver verification may be required.

NAVDB8 1.11
System.

NGVD29 0.0

MLW (COE) -2.3

I hereby certify to The Port Authority of New York and New Jersey that this map indicates the conditions existing as of the date indicated hereon to the best of my professional knowledge.

William A. Rogers, Jr.
William A. Rogers, Jr., P.E., L.S.
New Jersey State # 22254
A.C.S.M. Certified Hydrographer # 151

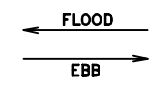
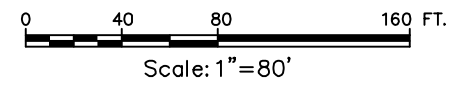
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THIS SURVEY WAS COMPLETED USING THE FOLLOWING EQUIPMENT:
 * Survey Vessel "Red Rogers"
 * Reason 7101 Multibeam
 * TSS 320 POS/MV
 * Coastal Oceanographics "HYPACK" software

ESTIMATED WATER DEPTH AT MEAN LOW TIDE THE PORT AUTHORITY MAKES NO REPRESENTATION AS TO ACCURACY.

LIMIT OF EXISTING KING PILE SHEET PILE WALL

CALL (973) 578-2192 FOR SPECIFIC VESSEL ARRANGEMENTS.



Elizabeth Channel

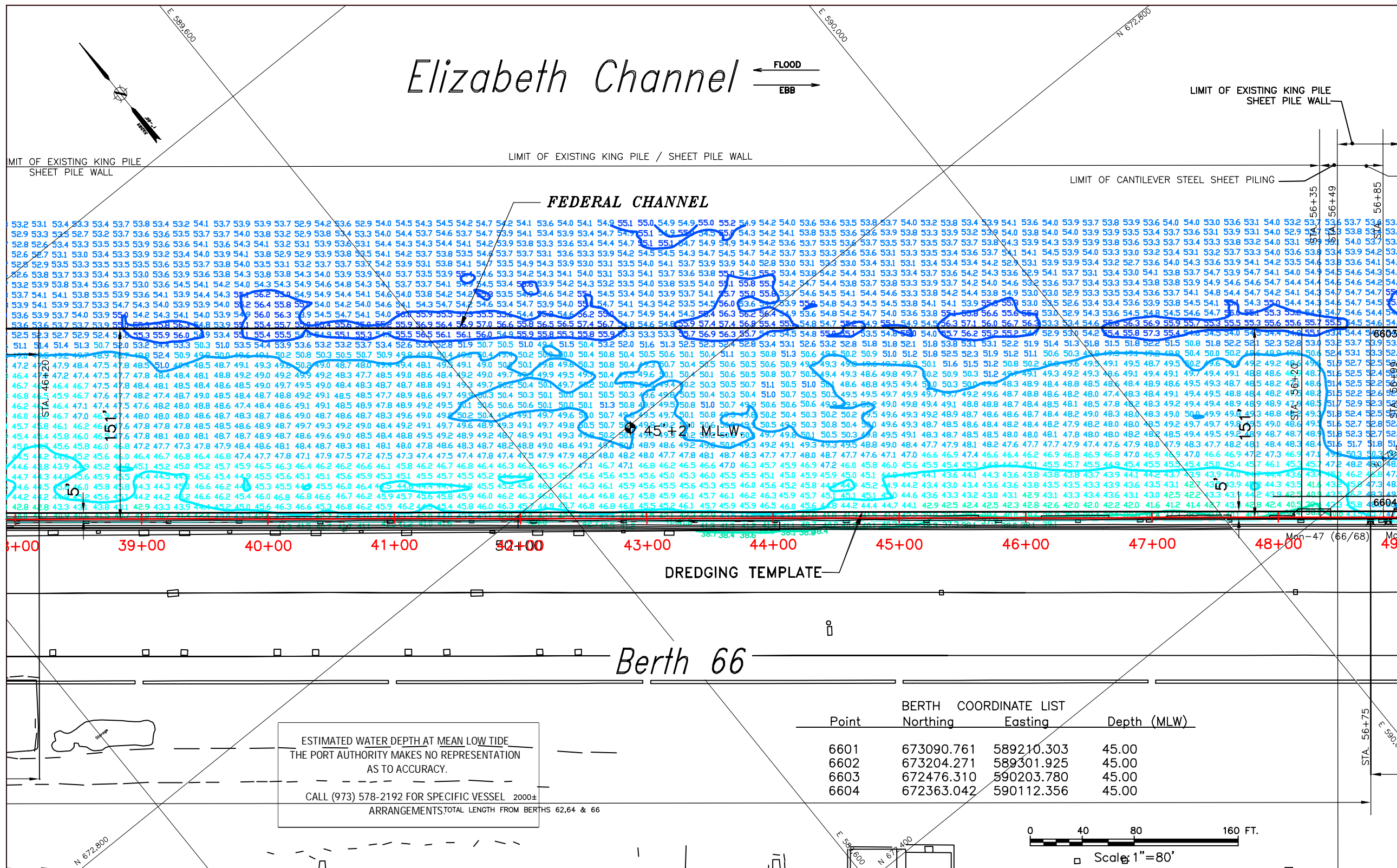
Elizabeth Channel

FLOOD
EBB

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THE PORT AUTHORITY
OF NY & NJ



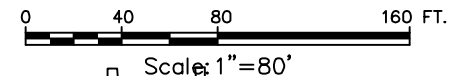
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1837 Richmond Terrace, Staten Island, N.Y. 10310
Tel: (718) 443-7701 Fax: (718) 273-3060
www.rogerssurveying.com



Title
NEW JERSEY MARINE TERMINAL
HYDROGRAPHIC SURVEY

BERTH COORDINATE LIST			
Point	Northing	Easting	Depth (MLW)
6601	673090.761	589210.303	45.00
6602	673204.271	589301.925	45.00
6603	672476.310	590203.780	45.00
6604	672363.042	590112.356	45.00

ESTIMATED WATER DEPTH AT MEAN LOW TIDE
THE PORT AUTHORITY MAKES NO REPRESENTATION
AS TO ACCURACY.
CALL (973) 578-2192 FOR SPECIFIC VESSEL
ARRANGEMENTS, TOTAL LENGTH FROM BERTHS 62,64 & 66



NOTE:
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THIS SURVEY WAS COMPLETED USING THE FOLLOWING EQUIPMENT:
• Survey Vessel "Ted Rogers"
• Reason 7101 Multibeam
• TSS 320 POS/MV
• Coastal Oceanographics "HYPACK" software

Volume Report			
Design Depth	Volume to Dredge Template	Volume of 2' Over dredge	Total Volume
45'	853 yd3	2,643 yd3	3,497 yd3
TOTAL	853 yd3	2,643 yd3	3,497 yd3

NOTE: BERTH LENGTHS, WIDTHS AND DEEP WATER BERTH DIMENSIONS FROM P.A. PORT DEPARTMENT.
Coordinates are expressed in feet and refer to the **NEW JERSEY STATE PLANE (NAD 83)** System.
Soundings refer to Mean Low Water as determined by U.S.A.C.E.
The Plane of Mean Low Water is 2.3 feet below Mean Sea Level (NGVD 29).
Note:
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NAVDB8 1.11
NGVD29 0.0
MLW (COE) -2.3
I hereby certify to The Port Authority of New York and New Jersey that this map indicates the conditions existing as of the date indicated hereon to the best of my professional knowledge.
William A. Rogers, Jr., P.E., L.S.
William A. Rogers, Jr., P.E., L.S.
New Jersey State # 22254
A.C.S.M. Certified Hydrographer # 151

No.	Date	Revision	Approved

Rogers Surveying RK DWR
Surveyed by Drawn by Checked by
Date 06/29/11 Scale 1"= 80'
07/13/11
Contract Number Drawing Number
410-10-037 46 of 60
BERTH 66

Elizabeth Channel

LIMIT OF EXISTING KING PILE / SHEET PILE WALL

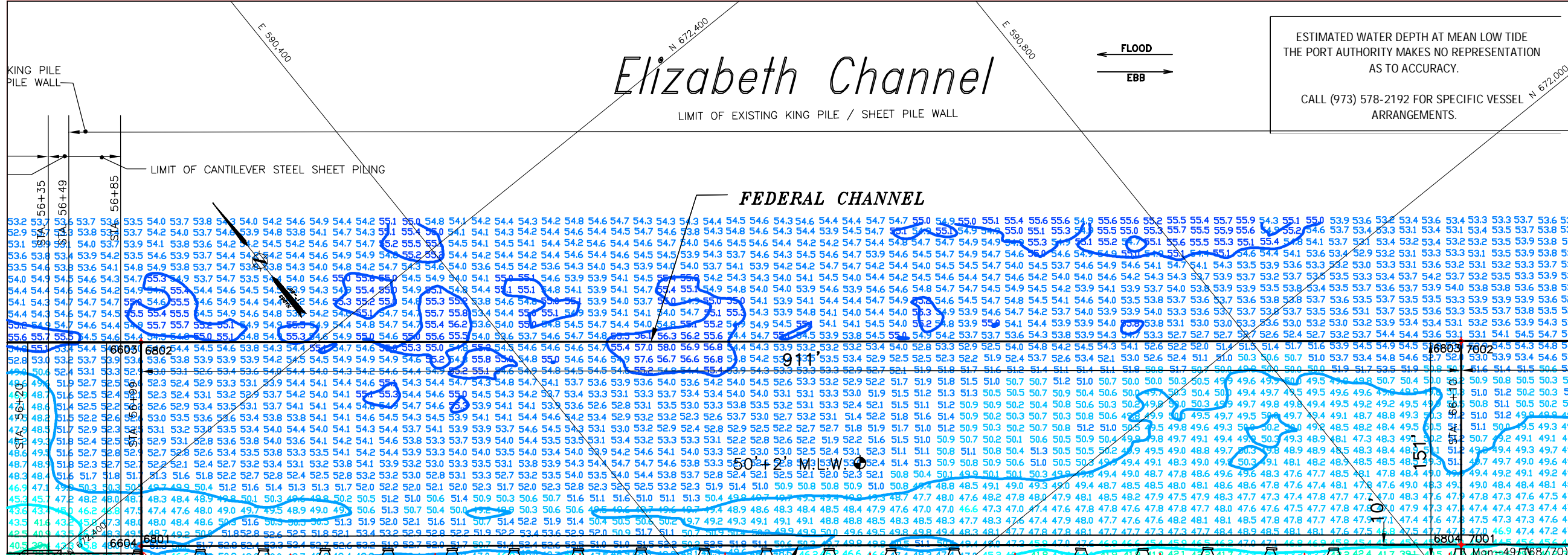
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FEDERAL CHANNEL

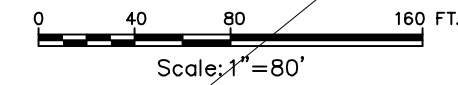


NEW JERSEY
MARINE
TERMINAL

HYDROGRAPHIC
SURVEY

BERTH COORDINATE LIST			
Point	Northing	Easting	Depth (MLW)
6801	672366.924	590115.490	50.00
6802	672476.310	590203.784	50.00
6803	671904.204	590912.558	50.00
6804	671794.829	590824.268	50.00

Berth 68
935'

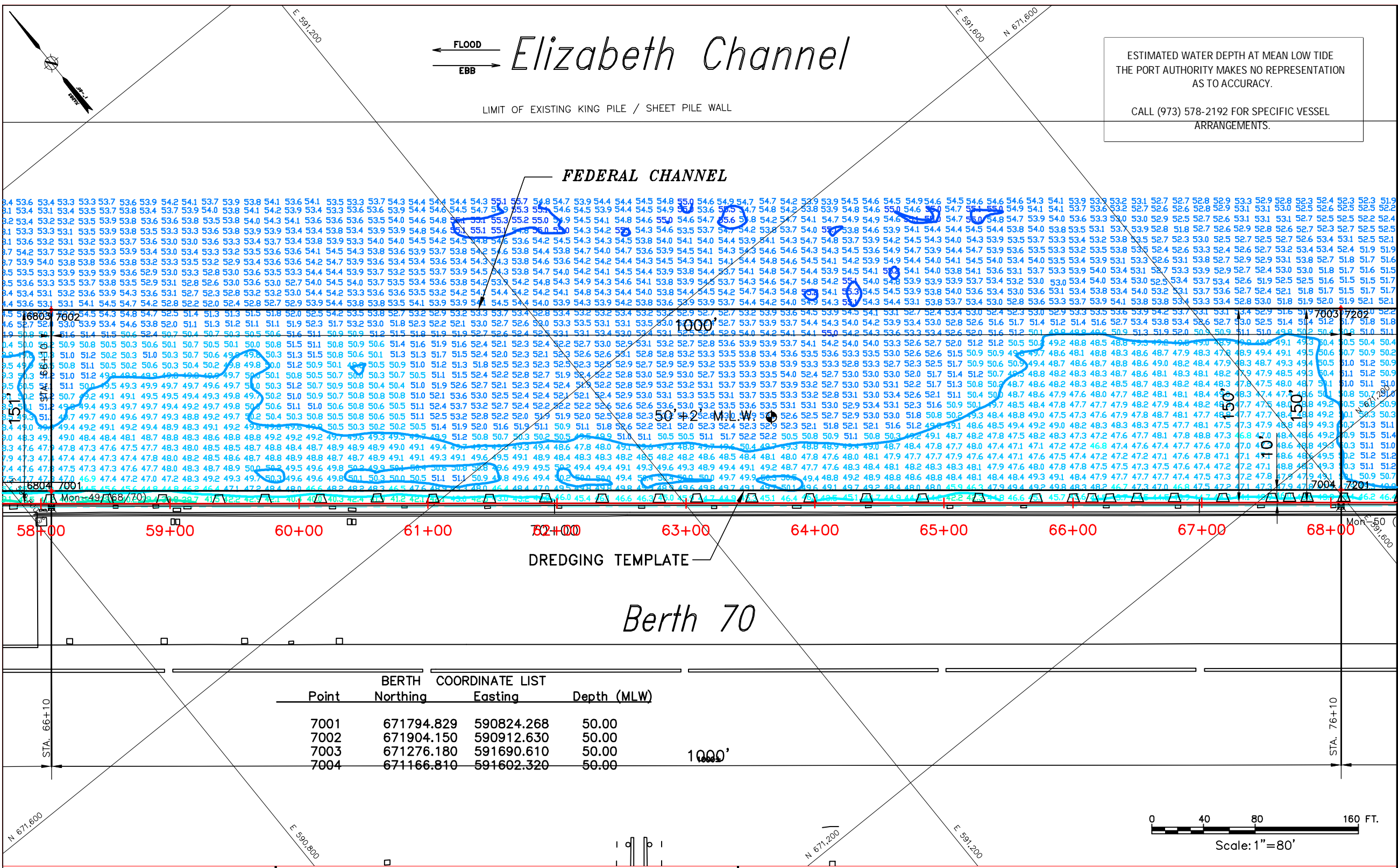


NOTE: THE INFORMATION DEPICTED ON THIS MAP REPRESENTS THE RESULTS OF SURVEYS MADE ON THE DATES INDICATED AND CAN ONLY BE CONSIDERED AS INDICATING THE GENERAL CONDITIONS EXISTING AT THAT TIME. THE DATA IS REPRESENTATIVE OF A LARGER DATA SET. SOUNDINGS AND CONTOURS SHOWN ARE FROM 8'X16" GRID NEAREST TO CENTER. COORDINATES REFER TO THE NEW JERSEY MERCATOR SYSTEM (NAD 1983). SOUNDINGS REFER TO THE PLANE OF MEAN LOW WATER. THE PLANE OF MEAN LOW WATER IS 2.3 FEET BELOW NGVD (1929) THE SOUNDING DATA DEPICTED ON THIS MAP WAS COLLECTED USING CLASS 2 SURVEY STANDARDS IN ACCORDANCE WITH EM 1110 2 1003. THIS SURVEY WAS COMPLETED USING THE FOLLOWING EQUIPMENT:
• Survey Vessel "Red Rogers"
• Reason 7101 Multibeam
• TSS 320 POS/MV
• Coastal Oceanographics "HYPACK" software

Volume Report			
Design Depth	Volume to Dredge Template	Volume of 2' Over dredge	Total Volume
50'	1,869 yd3	4,011 yd3	5,880 yd3
TOTAL	1,869 yd3	4,011 yd3	5,880 yd3

NOTE: BERTH LENGTHS, WIDTHS AND DEEP WATER BERTH DIMENSIONS FROM P.A. PORT DEPARTMENT.
Coordinates are expressed in feet and refer to the NEW JERSEY STATE PLANE (NAD 83) System.
Soundings refer to Mean Low Water as determined by U.S.A.C.E.
The Plane of Mean Low Water is 2.3 feet below Mean Sea Level (NGVD 29).
Note: This survey does not guarantee the absence or presence of any underwater obstructions. Diver verification may be required.

NAVDB8 1.11
NGVD29 0.0
MLW (COE) -2.3
I hereby certify to The Port Authority of New York and New Jersey that this map indicates the conditions existing as of the date indicated hereon to the best of my professional knowledge.
William A. Rogers, Jr., P.E., L.S.
New Jersey State # 22254
A.C.S.M. Certified Hydrographer # 151
Rogers Surveying RK DWR
Surveyed by Drawn by Checked by
Date 06/29/11 Scale 1"=80'
07/13/11
Contract Number 410-10-037 Drawing Number 47 of 60
BERTH 68



PREPARED FOR
THE PORT AUTHORITY
OF NY & NJ



ESTIMATED WATER DEPTH AT MEAN LOW TIDE
THE PORT AUTHORITY MAKES NO REPRESENTATION
AS TO ACCURACY.

CALL (973) 578-2192 FOR SPECIFIC VESSEL
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Tel: (718) 443-7201 Fax: (718) 273-5060
www.rogerssurveying.com
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NEW JERSEY MARINE TERMINAL

HYDROGRAPHIC SURVEY

BERTH COORDINATE LIST

Point	Northing	Easting	Depth (MLW)
7001	671794.829	590824.268	50.00
7002	671904.150	590912.630	50.00
7003	671276.180	591690.610	50.00
7004	671166.810	591602.320	50.00

Volume Report

Design Depth	Volume to Dredge Template	Volume of 2' Over dredge	Total Volume
50'	3,349 yd ³	6,136 yd ³	9,485 yd ³
TOTAL	3,349 yd³	6,136 yd³	9,485 yd³

NOTE: BERTH LENGTHS, WIDTHS AND DEEP WATER BERTH DIMENSIONS FROM P.A. PORT DEPARTMENT.

Coordinates are expressed in feet and refer to the NEW JERSEY STATE PLANE (NAD 83) System.

Soundings refer to Mean Low Water as determined by U.S.A.C.E.

The Plane of Mean Low Water is 2.3 feet below Mean Sea Level (NGVD 29).

Note:
This survey does not guarantee the absence or presence of any underwater obstructions. Diver verification may be required.

NAVDB 1.11

NGVD29 0.0

MLW (COE) -2.3

I hereby certify to The Port Authority of New York and New Jersey that this map indicates the conditions existing as of the date indicated hereon to the best of my professional knowledge.

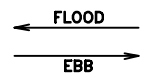
William A. Rogers, Jr., P.E., L.S.
New Jersey State # 22254
A.C.S.M. Certified Hydrographer # 151

Rogers Surveying RK DWR
Surveyed by Drawn by Checked by

Date 06/29/11 - 07/13/11 Scale 1"=80'
Contract Number 410-10-037 Drawing Number 48 of 60
BERTH 70

NOTE:
THE INFORMATION DEPICTED ON THIS MAP REPRESENTS THE RESULTS OF SURVEYS MADE ON THE DATES INDICATED AND CAN ONLY BE CONSIDERED AS INDICATING THE GENERAL CONDITIONS EXISTING AT THAT TIME. THE DATA IS REPRESENTATIVE OF A LARGER DATA SET. SOUNDINGS AND CONTOURS SHOWN ARE FROM 8'X16' GRID NEAREST TO CENTER. COORDINATES REFER TO THE NEW JERSEY MERCATOR SYSTEM (NAD 1983). SOUNDINGS REFER TO THE PLANE OF MEAN LOW WATER. THE PLANE OF MEAN LOW WATER IS 2.3 FEET BELOW NGVD (1929) THE SOUNDING DATA DEPICTED ON THIS MAP WAS COLLECTED USING CLASS 2 SURVEY STANDARDS IN ACCORDANCE WITH EM 1110 2 1003.
THIS SURVEY WAS COMPLETED USING THE FOLLOWING EQUIPMENT:
• Survey Vessel "Ted Rogers".
• Reason 7101 Multibeam.
• TSS 320 POS/MV.
• Coastal Oceanographics "HYPACK" software

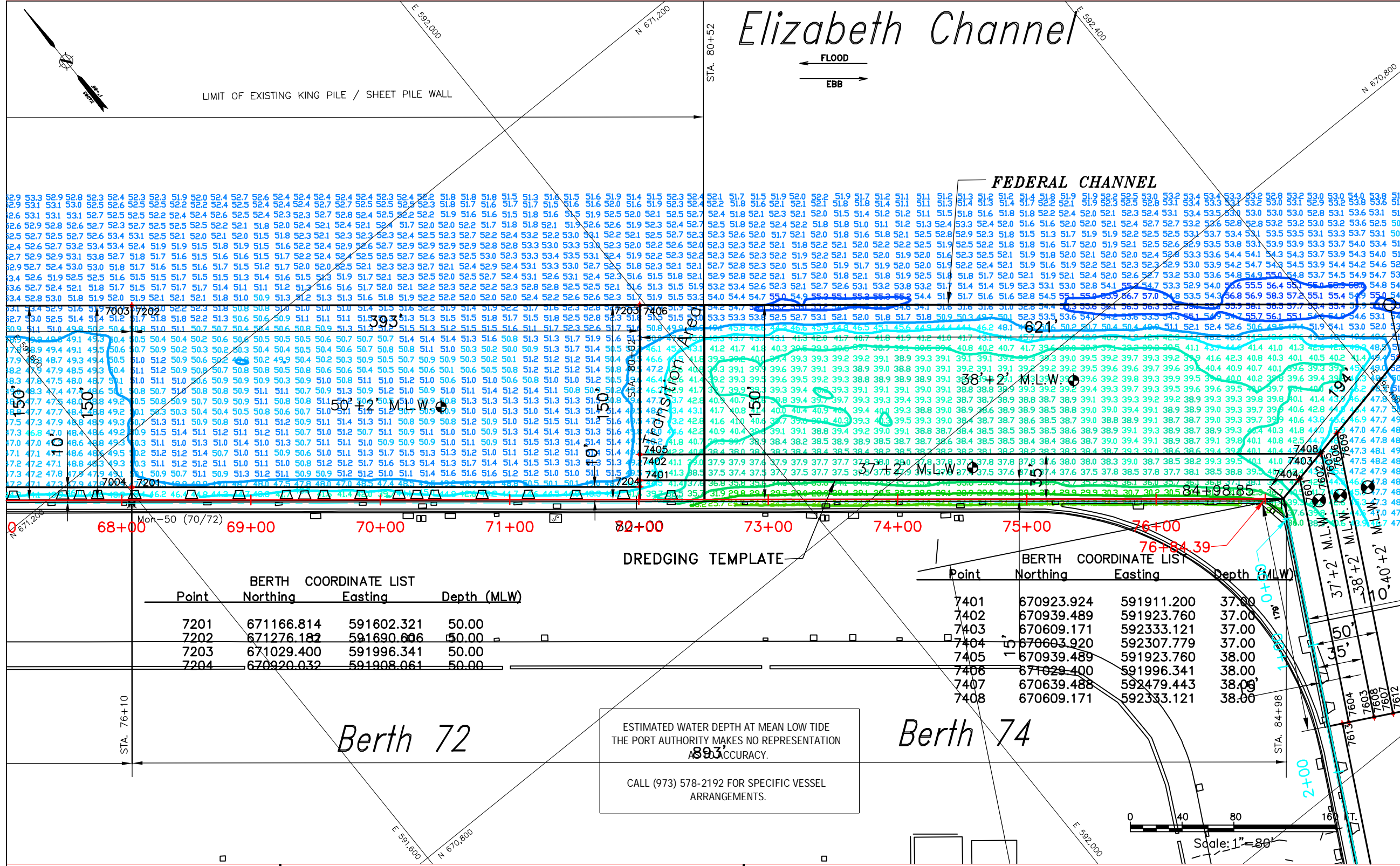
Elizabeth Channel



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info@rogerssurveying.com



Point	Northing	Easting	Depth (MLW)
7201	671166.814	591602.321	50.00
7202	671276.187	591690.606	50.00
7203	671029.400	591996.341	50.00
7204	670920.032	591908.061	50.00

Point	Northing	Easting	Depth (MLW)
7401	670923.924	591911.200	37.00
7402	670939.489	591923.760	37.00
7403	670609.171	592333.121	37.00
7404	670603.920	592307.779	37.00
7405	670939.489	591923.760	38.00
7406	671029.400	591996.341	38.00
7407	670639.488	592479.443	38.00
7408	670609.171	592333.121	38.00

ESTIMATED WATER DEPTH AT MEAN LOW TIDE
THE PORT AUTHORITY MAKES NO REPRESENTATION
AS TO ACCURACY.

CALL (973) 578-2192 FOR SPECIFIC VESSEL
ARRANGEMENTS.

**NEW JERSEY
MARINE
TERMINAL**

**HYDROGRAPHIC
SURVEY**

No. Date Revision Approved

VERTICAL CONTROL
Mean Low Water = 2.3' Below 0.00 NGVD '29

HORIZONTAL CONTROL
ALL COORDINATES, BEARING AND DISTANCES ARE REFERENCED TO THE NEW JERSEY PLANE COORDINATE SYSTEM (N.A.D. 83) AS SET FORTH IN N.J.S.A. 51:3-7

NOTE:
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THIS SURVEY WAS COMPLETED USING THE FOLLOWING EQUIPMENT:
• Survey Vessel "Ted Rogers".
• Reason 7101 Multibeam.
• TSS 320 POS/MV.
• Coastal Oceanographics "HYPACK" software

Design Depth	Volume to Dredge Template	Volume of 2' Over dredge	Total Volume
37'	0 yd3	316 yd3	316 yd3
38'	0 yd3	948 yd3	948 yd3
50'	49 yd3	1,981 yd3	2,030 yd3
TOTAL	49 yd3	3,245 yd3	3,294 yd3

NOTE: BERTH LENGTHS, WIDTHS AND DEEP WATER BERTH DIMENSIONS FROM P.A. PORT DEPARTMENT.

Coordinates are expressed in feet and refer to the NEW JERSEY STATE PLANE (NAD 83) System.

Soundings refer to Mean Low Water as determined by U.S.A.C.E.

The Plane of Mean Low Water is 2.3 feet below Mean Sea Level (NGVD 29).

Note:
This survey does not guarantee the absence or presence of any underwater obstructions. Diver verification may be required.

NAVD88 1.11
System.
NGVD29 0.0
MLW (COE) -2.3

I hereby certify to The Port Authority of New York and New Jersey that this map indicates the conditions existing as of the date indicated hereon to the best of my professional knowledge.

William A. Rogers, Jr., P.E., L.S.
William A. Rogers, Jr., P.E., L.S.
New Jersey State # 22254
A.C.S.M. Certified Hydrographer # 151

This drawing subject to conditions in contract. All inventions, ideas, designs and methods herein are reserved to Port Authority and may not be used without its written consent.

Rogers Surveying RK DWR
Surveyed by Drawn by Checked by

Date 06/29/11 Scale 1" = 80'
06/29/11 - 07/13/11
Contract Number Drawing Number
410-10-037 49 of 60
BERTH 72 & 74

PREPARED FOR
**THE PORT AUTHORITY
OF NY & NJ**

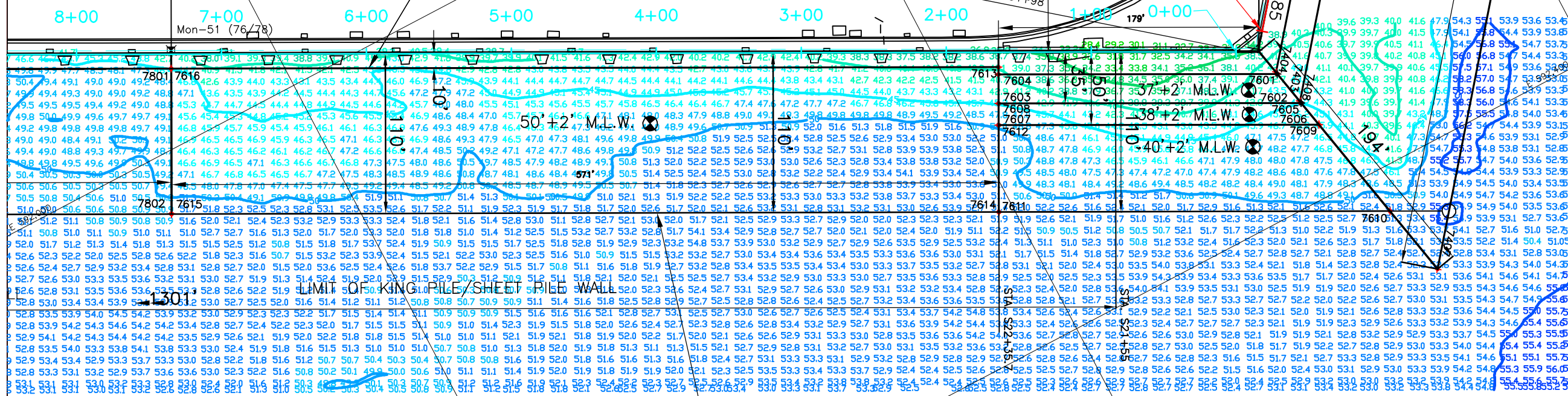


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Tel: (718) 443-7261 Fax: (718) 473-5060
www.rogerssurveying.com

BERTH COORDINATE LIST

Point	Northing	Easting	Depth (MLW)
7601	670604.170	592308.987	37.00
7602	670609.417	592334.310	37.00
7603	670424.517	592237.496	37.00
7604	670433.778	592219.770	37.00
7605	670609.417	592334.310	38.00
7606	670613.352	592353.303	38.00
7607	670417.570	592250.791	38.00
7608	670424.517	592237.496	38.00
7609	670613.352	592353.303	40.00
7610	670639.488	592479.443	40.00
7611	670371.358	592339.241	40.00
7612	670417.570	592250.791	40.00
7613	670436.093	592215.338	50.00
7614	670389.881	592303.788	50.00
7615	669884.016	592039.277	50.00
7616	669930.416	591950.565	50.00

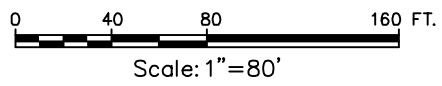
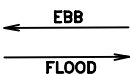
DREDGING TEMPLATE



ESTIMATED WATER DEPTH AT MEAN LOW TIDE
THE PORT AUTHORITY MAKES NO REPRESENTATION
AS TO ACCURACY.

CALL (973) 578-2192 FOR SPECIFIC VESSEL
ARRANGEMENTS.

Newark Bay Channel



**NEW JERSEY
MARINE
TERMINAL

HYDROGRAPHIC
SURVEY**

No.	Date	Revision	Approved

VERTICAL CONTROL
Mean Low Water = 2.3' Below 0.00 NGVD '29

HORIZONTAL CONTROL
ALL COORDINATES, BEARING AND DISTANCES ARE REFERENCED TO THE NEW JERSEY PLANE COORDINATE SYSTEM (N.A.D. 83) AS SET FORTH IN N.J.S.A. 51:3-7

This drawing subject to conditions in contract. All inventions, ideas, designs and methods herein are reserved to Port Authority and may not be used without its written consent.

Rogers Surveying RK DWR
Surveyed by DWR Drawn by DWR Checked by DWR

Date 06/29/11 Scale 1"=80'
06/29/11 - 07/13/11

Contract Number 410-10-037 Drawing Number 50 of 60

BERTH 76

NOTE:
THE INFORMATION DEPICTED ON THIS MAP REPRESENTS THE RESULTS OF SURVEYS MADE ON THE DATES INDICATED AND CAN ONLY BE CONSIDERED AS INDICATING THE GENERAL CONDITIONS EXISTING AT THAT TIME. THE DATA IS REPRESENTATIVE OF A LARGER DATA SET. SOUNDINGS AND CONTOURS SHOWN ARE FROM 8'X16" GRID NEAREST TO CENTER. COORDINATES REFER TO THE NEW JERSEY MERCATOR SYSTEM (NAD 1983). SOUNDINGS REFER TO THE PLANE OF MEAN LOW WATER. THE PLANE OF MEAN LOW WATER IS 2.3 FEET BELOW NGVD (1929). THE SOUNDING DATA DEPICTED ON THIS MAP WAS COLLECTED USING CLASS 2 SURVEY STANDARDS IN ACCORDANCE WITH EM 1110.2-1003.
THIS SURVEY WAS COMPLETED USING THE FOLLOWING EQUIPMENT:
• Survey Vessel "Red Rogers"
• Reason 7101 Multibeam
• TSS 320 POS/MV
• Coastal Oceanographics "HYPACK" software

Volume Report

THE DATA USED FOR VOLUME CALCULATIONS IS REPRESENTATIVE OF A LARGER DATA SET. SOUNDINGS USED FOR VOLUME CALCULATIONS ARE ON A 3'X3' GRID WITH THE DEPTH NEAREST TO THE CENTER USED.

Design Depth	Volume to Dredge Template	Volume of 2' Over dredge	Total Volume
37'	67 yd3	0 yd3	67 yd3
38'	0 yd3	11 yd3	11 yd3
40'	0 yd3	0 yd3	0 yd3
50'	5,281 yd3	0 yd3	5,281 yd3

NOTE: BERTH LENGTHS, WIDTHS AND DEEP WATER BERTH DIMENSIONS FROM P.A. PORT DEPARTMENT.

Coordinates are expressed in feet and refer to the NEW JERSEY STATE PLANE (NAD 83) System.

SOUNDINGS refer to Mean Low Water as determined by U.S.A.C.E.

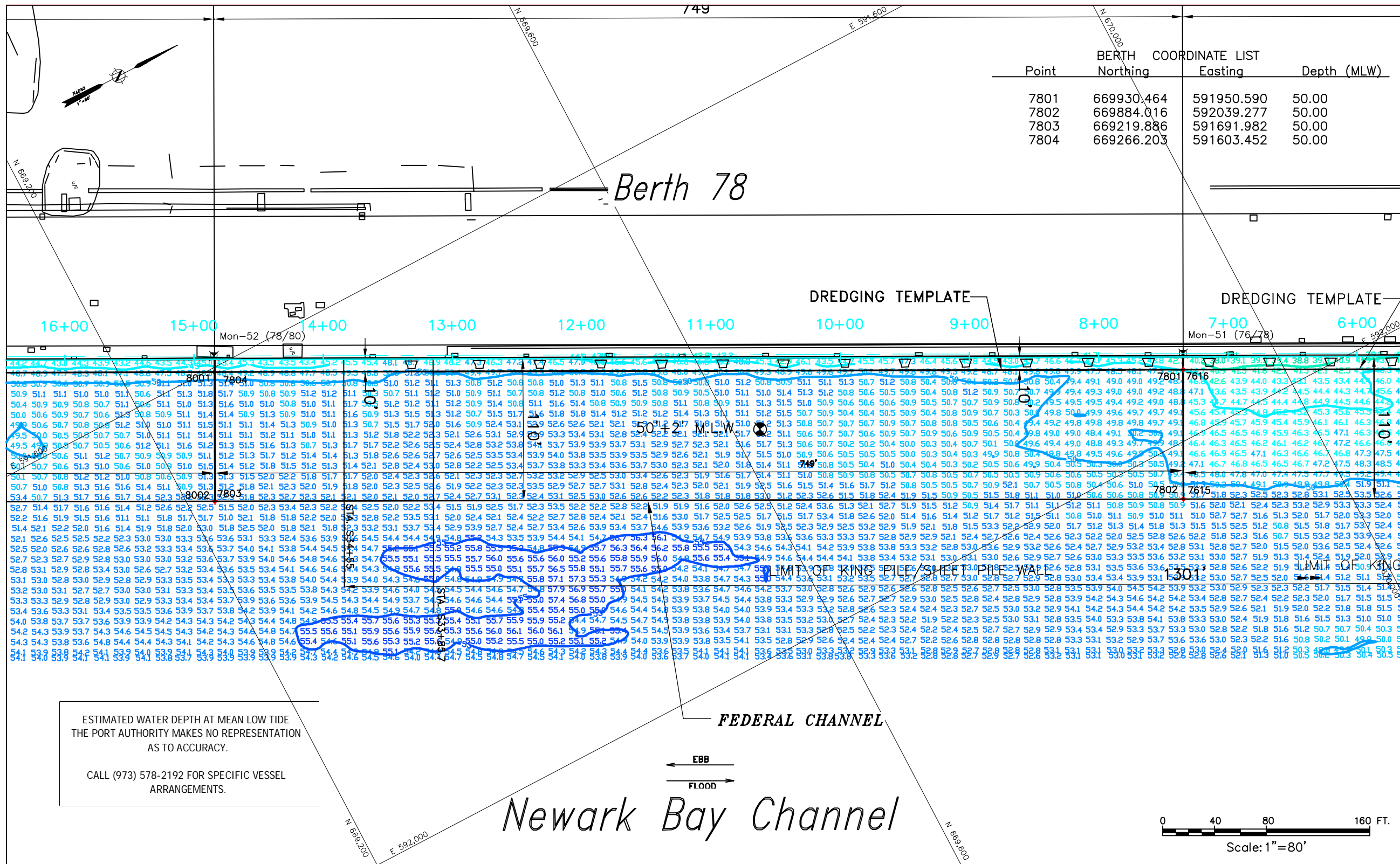
The Plane of Mean Low Water is 2.3 feet below Mean Sea Level (NGVD 29).

Note:
This survey does not guarantee the absence or presence of any underwater obstructions. Diver verification may be required.

NAVDB8 1.11
System.
NGVD29 0.0
MLW (COE) -2.3

I hereby certify to The Port Authority of New York and New Jersey that this map indicates the conditions existing as of the date indicated hereon to the best of my professional knowledge.

William A. Rogers, Jr., P.E., L.S.
New Jersey State # 22254
A.C.S.M. Certified Hydrographer # 151



Point	BERTH Northing	COORDINATE LIST Easting	Depth (MLW)
7801	669930.464	591950.590	50.00
7802	669884.016	592039.277	50.00
7803	669219.886	591691.982	50.00
7804	669266.203	591603.452	50.00

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 OF NY & NJ



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 1837 Richmond Terrace, Staten Island, N.Y. 10310
 Tel: (718) 443-7201 Fax: (718) 473-5060
 www.rogerssurveying.com

Title

NEW JERSEY MARINE TERMINAL
HYDROGRAPHIC SURVEY

No.	Date	Revision	Approved

VERTICAL CONTROL
 Mean Low Water = 2.3' Below 0.00 NGVD '29

HORIZONTAL CONTROL
 ALL COORDINATES, BEARING AND DISTANCES ARE REFERENCED TO THE NEW JERSEY PLANE COORDINATE SYSTEM (N.A.D. 83) AS SET FORTH IN N.J.S.A. 51:3-7

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Rogers Surveying RK DWR
 Surveyed by DWR Drawn by DWR Checked by DWR
 Date 06/29/11 Scale 1"=80'
 07/13/11
 Contract Number 410-10-037 Drawing Number 51 of 60
BERTH 78

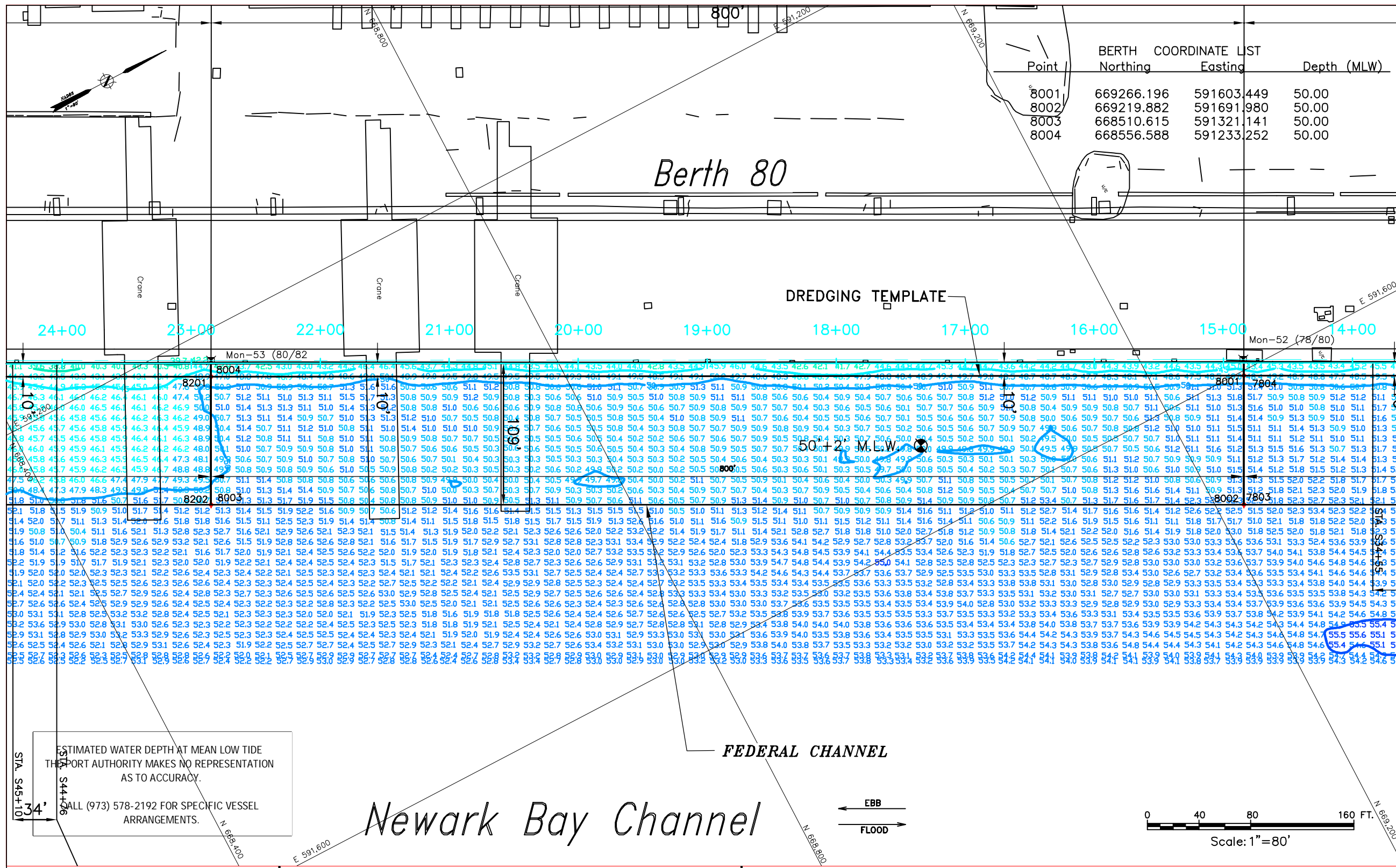
ESTIMATED WATER DEPTH AT MEAN LOW TIDE
 THE PORT AUTHORITY MAKES NO REPRESENTATION
 AS TO ACCURACY.
 CALL (973) 578-2192 FOR SPECIFIC VESSEL
 ARRANGEMENTS.

Volume Report			
Design Depth	Volume to Dredge Template	Volume of 2' Over dredge	Total Volume
50'	270 yd3	2,529 yd3	2,799 yd3
Total	270 yd3	2,529 yd3	5,799 yd3

NOTE: BERTH LENGTHS, WIDTHS AND DEEP WATER BERTH DIMENSIONS FROM P.A. PORT DEPARTMENT.
 Coordinates are expressed in feet and refer to the NEW JERSEY STATE PLANE (NAD 83) System.
 Soundings refer to Mean Low Water as determined by U.S.A.C.E.
 The Plane of Mean Low Water is 2.3 feet below Mean Sea Level (NGVD 29).
 Note:
 This survey does not guarantee the absence or presence of any underwater obstructions. Diver verification may be required.

NAVDB8 1.11
 NGVD29 0.0
 MLW (COE) -2.3
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 THIS SURVEY WAS COMPLETED USING THE FOLLOWING EQUIPMENT:
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 • Reason 7101 Multibeam.
 • TSS 320 POS/MV.
 • Coastal Oceanographics "HYPACK" software



PREPARED FOR
THE PORT AUTHORITY
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Point	COORDINATE LIST		Depth (MLW)
	Berth Northing	Berth Easting	
8001	669266.196	591603.449	50.00
8002	669219.882	591691.980	50.00
8003	668510.615	591321.141	50.00
8004	668556.588	591233.252	50.00

Title

NEW JERSEY
MARINE
TERMINAL

HYDROGRAPHIC
SURVEY

No.	Date	Revision	Approved

VERTICAL CONTROL
 Mean Low Water = 2.3' Below 0.00 NGVD '29

HORIZONTAL CONTROL
 ALL COORDINATES, BEARING AND DISTANCES ARE REFERENCED TO THE NEW JERSEY PLANE COORDINATE SYSTEM (N.A.D. 83) AS SET FORTH IN N.J.S.A. 51:3-7

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Rogers Surveying RK DWR
 Surveyed by DWR Drawn by DWR Checked by DWR
 Date 06/29/11 Scale 1"=80'
 06/29/11
 Contract Number 410-10-037 Drawing Number 52 of 60
 BERTH 80

Design Depth	Volume to Dredge Template	Volume of 2' Over dredge	Total Volume
50'	215 yd ³	3,854 yd ³	4,069 yd ³
TOTAL	215 yd³	3,854 yd³	4,069 yd³

Volume Report
 THE DATA USED FOR VOLUME CALCULATIONS IS REPRESENTATIVE OF A LARGER DATA SET. SOUNDINGS USED FOR VOLUME CALCULATIONS ARE ON A 3'X3' GRID WITH THE DEPTH NEAREST TO THE CENTER USED.

NOTE: BERTH LENGTHS, WIDTHS AND DEEP WATER BERTH DIMENSIONS FROM P.A. PORT DEPARTMENT.

Coordinates are expressed in feet and refer to the NEW JERSEY STATE PLANE (NAD 83) System.
 NAVD88 1.11
 NGVD29 0.0
 Soundings refer to Mean Low Water as determined by U.S.A.C.E.
 The Plane of Mean Low Water is 2.3 feet below Mean Sea Level (NGVD 29).
 MLW (COE) -2.3

I hereby certify to The Port Authority of New York and New Jersey that this map indicates the conditions existing as of the date indicated hereon to the best of my professional knowledge.
 William A. Rogers, Jr., P.E., L.S.
 New Jersey State # 22254
 A.C.S.M. Certified Hydrographer # 151

Note:
 This survey does not guarantee the absence or presence of any underwater obstructions. Diver verification may be required.

NOTE:
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 THIS SURVEY WAS COMPLETED USING THE FOLLOWING EQUIPMENT:
 • Survey Vessel "Red Rogers"
 • Reason 7101 Multibeam
 • TSS 320 POS/MV
 • Coastal Oceanographics "HYPACK" software

ESTIMATED WATER DEPTH AT MEAN LOW TIDE
 THE PORT AUTHORITY MAKES NO REPRESENTATION AS TO ACCURACY.
 CALL (973) 578-2192 FOR SPECIFIC VESSEL ARRANGEMENTS.

PREPARED FOR
THE PORT AUTHORITY
OF NY & NJ

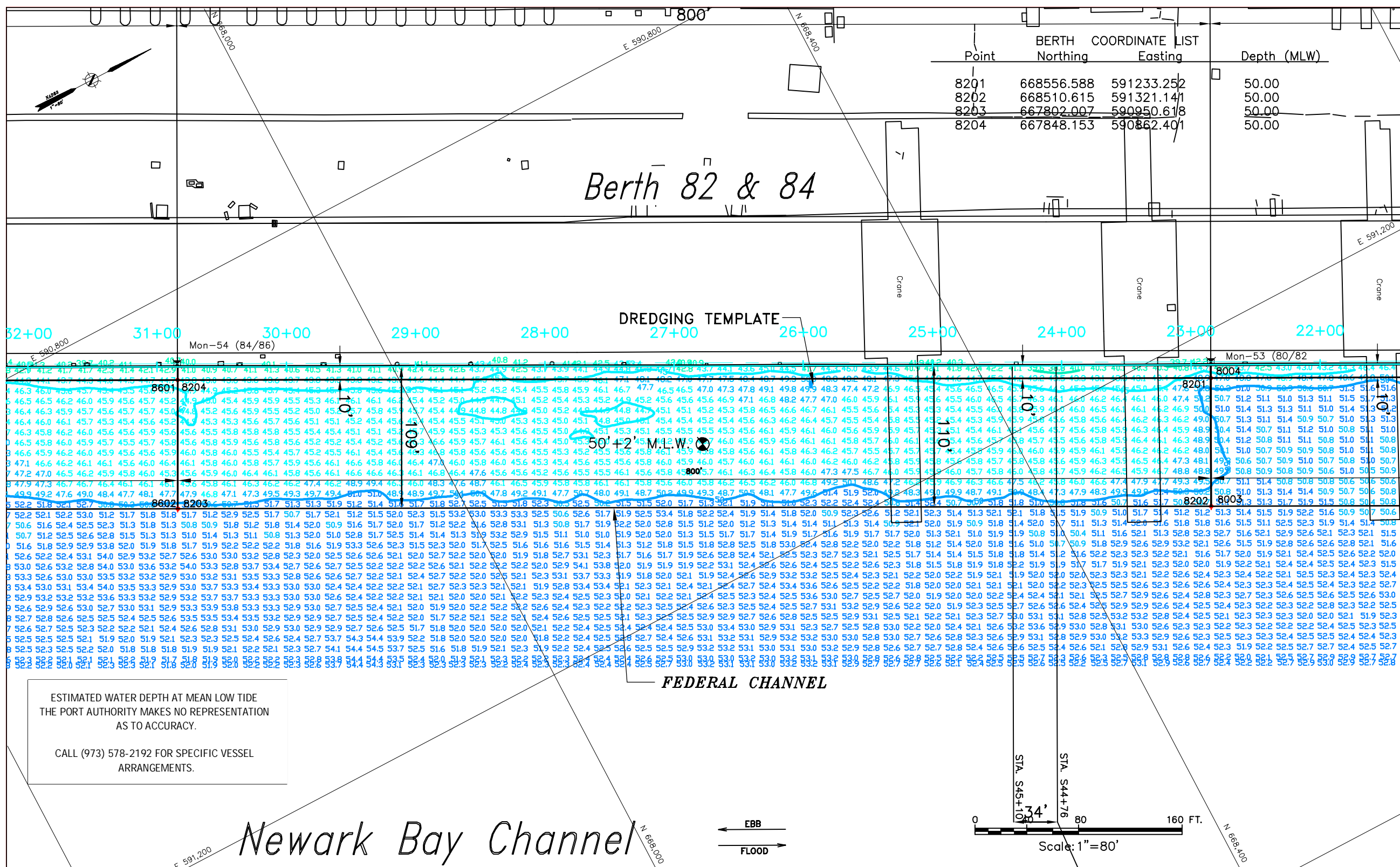


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1837 Richmond Terrace, Staten Island, N.Y. 10310
Tel: (718) 443-7261 Fax: (718) 473-5869
www.rogerssurveying.com
www.nysurveyors.com

Point	Berth Northing	Coordinate Easting	Depth (MLW)
8201	668556.588	591233.252	50.00
8202	668510.615	591321.141	50.00
8203	667802.007	590950.618	50.00
8204	667848.153	590862.401	50.00

Berth 82 & 84

DREDGING TEMPLATE



Title

NEW JERSEY MARINE TERMINAL

HYDROGRAPHIC SURVEY

ESTIMATED WATER DEPTH AT MEAN LOW TIDE
THE PORT AUTHORITY MAKES NO REPRESENTATION
AS TO ACCURACY.

CALL (973) 578-2192 FOR SPECIFIC VESSEL
ARRANGEMENTS.

FEDERAL CHANNEL

Newark Bay Channel

No.	Date	Revision	Approved

VERTICAL CONTROL
Mean Low Water = 2.3' Below 0.00 NGVD '29

HORIZONTAL CONTROL
ALL COORDINATES, BEARING AND DISTANCES ARE REFERENCED TO THE NEW JERSEY PLANE COORDINATE SYSTEM (N.A.D. 83) AS SET FORTH IN N.J.S.A. 51:3-7

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Rogers Surveying RK DWR
Surveyed by DWR Drawn by DWR Checked by DWR
Date 06/29/11 Scale 1" = 80'
07/13/11
Contract Number 410-10-037 Drawing Number 53 of 60
BERTH 82 & 84

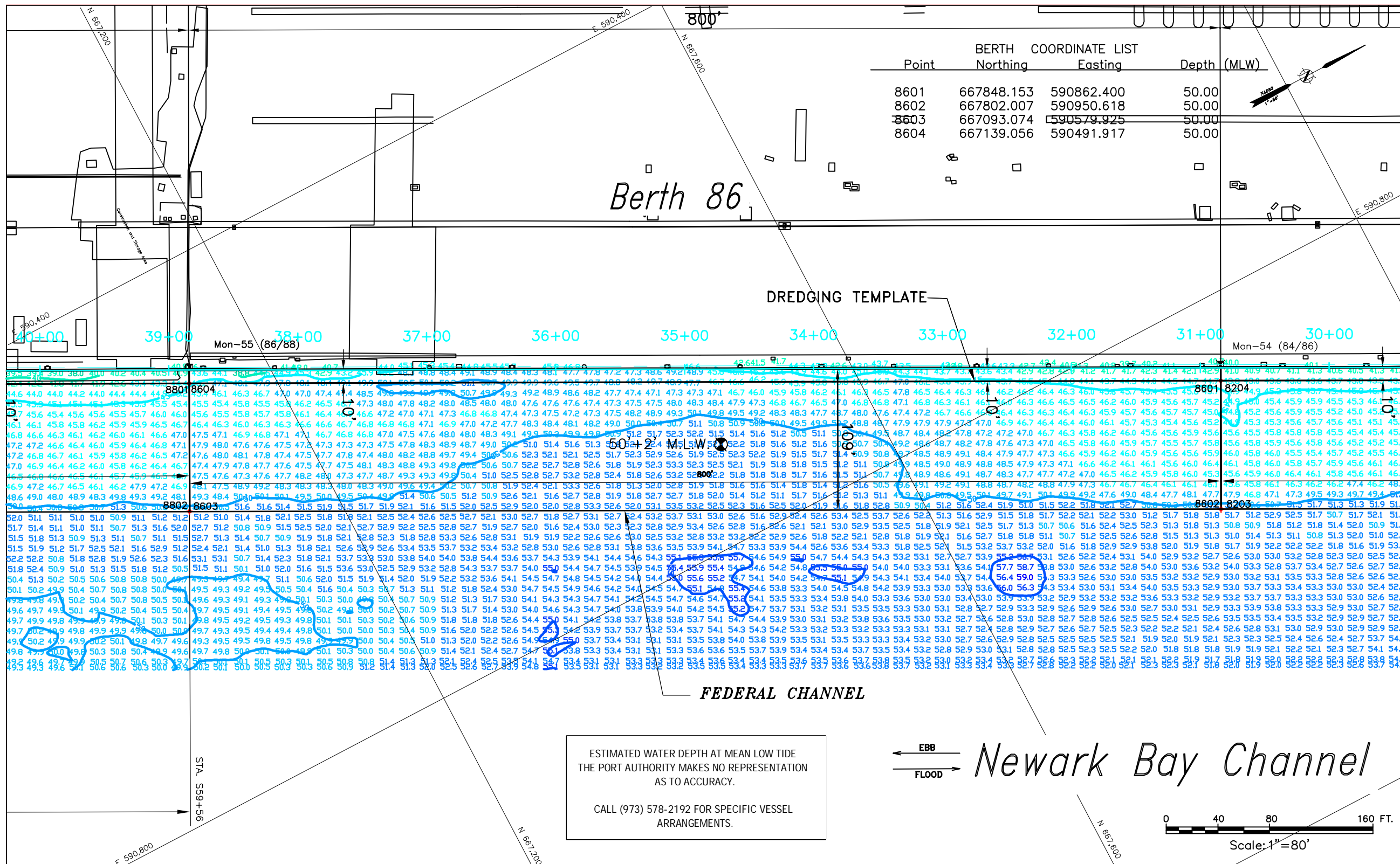
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THIS SURVEY WAS COMPLETED USING THE FOLLOWING EQUIPMENT:
• Survey Vessel "Red Rogers"
• Reason 7101 Multibeam
• TSS 320 POS/MV
• Coastal Oceanographics "HYPACK" software

Volume Report			
Design Depth	Volume to Dredge Template	Volume of 2' Over dredge	Total Volume
50'	10,487 yd3	5,599 yd3	16,086 yd3
TOTAL	10,487 yd3	5,599 yd3	16,086 yd3

NOTE: BERTH LENGTHS, WIDTHS AND DEEP WATER BERTH DIMENSIONS FROM P.A. PORT DEPARTMENT.
Coordinates are expressed in feet and refer to the NEW JERSEY STATE PLANE (NAD 83) System.
Soundings refer to Mean Low Water as determined by U.S.A.C.E.
The Plane of Mean Low Water is 2.3 feet below Mean Sea Level (NGVD 29).
Note:
This survey does not guarantee the absence or presence of any underwater obstructions. Diver verification may be required.

NAVD88 1.11
NGVD29 0.0
MLW (COE) -2.3

I hereby certify to The Port Authority of New York and New Jersey that this map indicates the conditions existing as of the date indicated hereon to the best of my professional knowledge.
William A. Rogers, Jr., P.E., L.S.
New Jersey State # 22254
A.C.S.M. Certified Hydrographer # 151



Point	BERTH COORDINATE LIST		Depth (MLW)
	Northing	Easting	
8601	667848.153	590862.400	50.00
8602	667802.007	590950.618	50.00
8603	667093.074	590579.925	50.00
8604	667139.056	590491.917	50.00

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1837 Richmond Terrace, Staten Island, N.Y. 10310
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www.rogerssurveying.com

Title
NEW JERSEY MARINE TERMINAL
HYDROGRAPHIC SURVEY

No. Date Revision Approved
VERTICAL CONTROL
Mean Low Water = 2.3' Below 0.00 NGVD '29
HORIZONTAL CONTROL
ALL COORDINATES, BEARING AND DISTANCES ARE REFERENCED TO THE NEW JERSEY PLANE COORDINATE SYSTEM (N.A.D. 83) AS SET FORTH IN N.J.S.A. 51:3-7

NOTE:
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THIS SURVEY WAS COMPLETED USING THE FOLLOWING EQUIPMENT:
• Survey Vessel "Ted Rogers".
• Reason 7101 Multibeam.
• TSS 320 POS/MV.
• Coastal Oceanographics "HYPACK" software

Volume Report			
Design Depth	Volume to Dredge Template	Volume of 2' Over dredge	Total Volume
50'	5,210 yd3	4,537 yd3	9,747 yd3
TOTAL	5,210 yd3	4,537 yd3	9,747 yd3

NOTE: BERTH LENGTHS, WIDTHS AND DEEP WATER BERTH DIMENSIONS FROM P.A. PORT DEPARTMENT.
Coordinates are expressed in feet and refer to the NEW JERSEY STATE PLANE (NAD 83) System.
Soundings refer to Mean Low Water as determined by U.S.A.C.E.
The Plane of Mean Low Water is 2.3 feet below Mean Sea Level (NGVD 29).
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William A. Rogers, Jr., P.E., L.S.
New Jersey State # 22254
A.C.S.M. Certified Hydrographer # 151

Rogers Surveying RK DWR
Surveyed by Drawn by Checked by
Date 06/29/11 - 07/13/11 Scale 1" = 80'
Contract Number Drawing Number
410-10-037 54 of 60
BERTH 86

PREPARED FOR
**THE PORT AUTHORITY
OF NY & NJ**

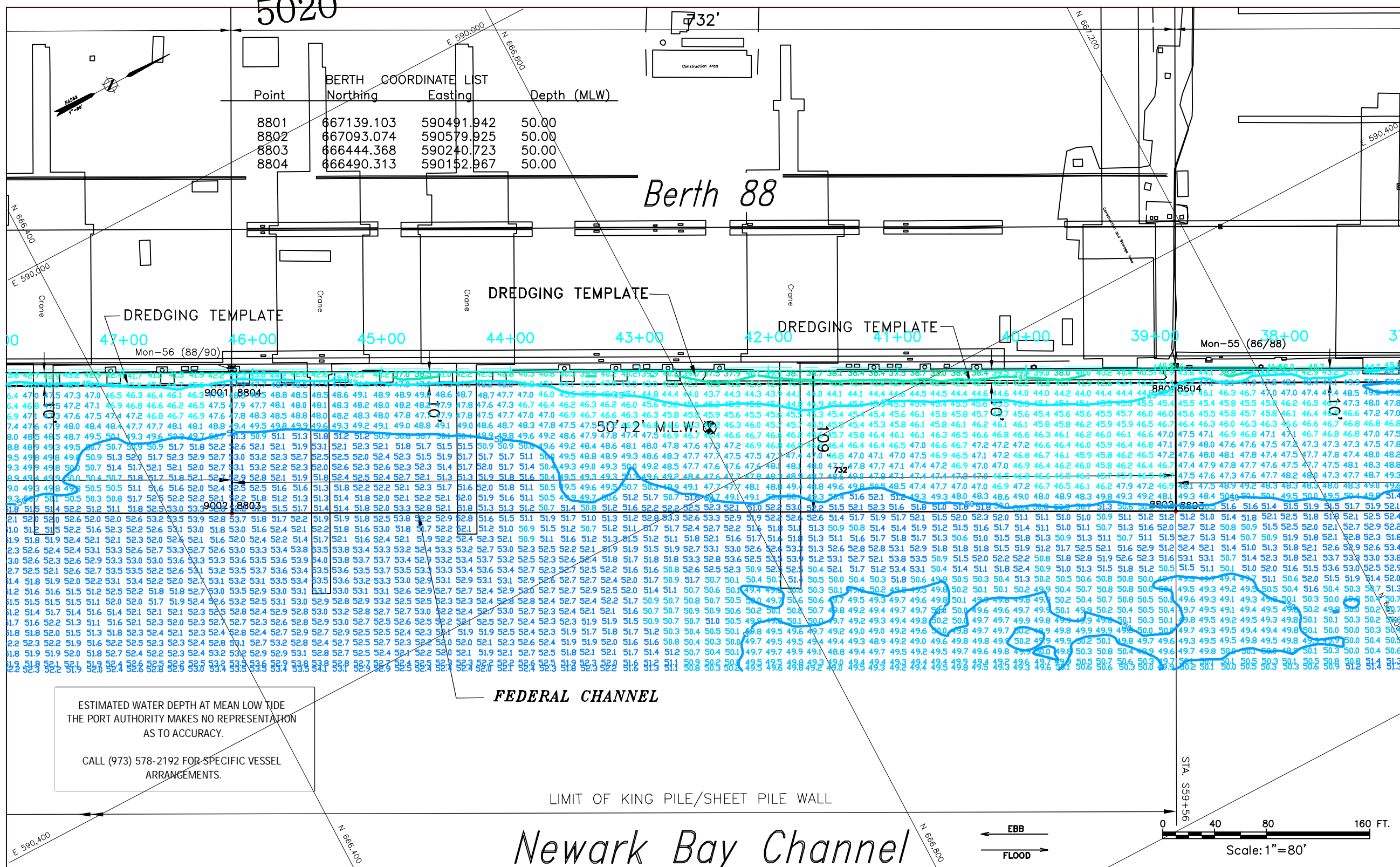


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info@rogerssurveying.com

5020

Berth 88

Point	BERTH COORDINATE LIST		Depth (MLW)
	Northing	Easting	
8801	667139.103	590491.942	50.00
8802	667093.074	590579.925	50.00
8803	666444.368	590240.723	50.00
8804	666490.313	590152.967	50.00



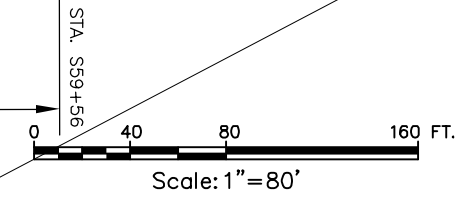
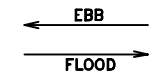
ESTIMATED WATER DEPTH AT MEAN LOW TIDE
THE PORT AUTHORITY MAKES NO REPRESENTATION
AS TO ACCURACY.

CALL (973) 578-2192 FOR SPECIFIC VESSEL
ARRANGEMENTS.

FEDERAL CHANNEL

LIMIT OF KING PILE/SHEET PILE WALL

Newark Bay Channel



Title
**NEW JERSEY
MARINE
TERMINAL**

**HYDROGRAPHIC
SURVEY**

No. Date Revision Approved

VERTICAL CONTROL
Mean Low Water = 2.3' Below 0.00 NGVD '29

HORIZONTAL CONTROL
ALL COORDINATES, BEARING AND
DISTANCES ARE REFERENCED TO THE
NEW JERSEY PLANE COORDINATE SYSTEM
(N.A.D. 83) AS SET FORTH IN
N.J.S.A. 51:3-7

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Rogers Surveying RK DWR
Surveyed by Drawn by Checked by

Date 06/29/11 Scale 1"=80'
07/13/11
Contract Number 410-10-037 Drawing Number 55 of 60
BERTH 88

NOTE:
THE INFORMATION DEPICTED ON THIS MAP REPRESENTS THE RESULTS OF
SURVEYS MADE ON THE DATES INDICATED AND CAN ONLY BE CONSIDERED
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TO THE NEW JERSEY MERCATOR SYSTEM (NAD 1983) SOUNDINGS REFER TO
THE PLANE OF MEAN LOW WATER THE PLANE OF MEAN LOW WATER IS 2.3
FEET BELOW NGVD (1929) THE SOUNDING DATA DEPICTED ON THIS MAP
WAS COLLECTED USING CLASS 2 SURVEY STANDARDS IN ACCORDANCE WITH
EM 1110 2 1003.
THIS SURVEY WAS COMPLETED USING THE FOLLOWING EQUIPMENT:
• Survey Vessel "Red Rogers"
• Reason 7101 Multibeam
• TSS 320 POS/MV
• Coastal Oceanographics "HYPACK" software

Design Depth	Volume to Dredge Template	Volume of 2' Over dredge	Total Volume
50'	6,159 yd3	4,277 yd3	10,436 yd3
TOTAL	6,159 yd3	4,277 yd3	10,436 yd3

NOTE: BERTH LENGTHS, WIDTHS AND DEEP WATER BERTH DIMENSIONS FROM P.A. PORT DEPARTMENT.

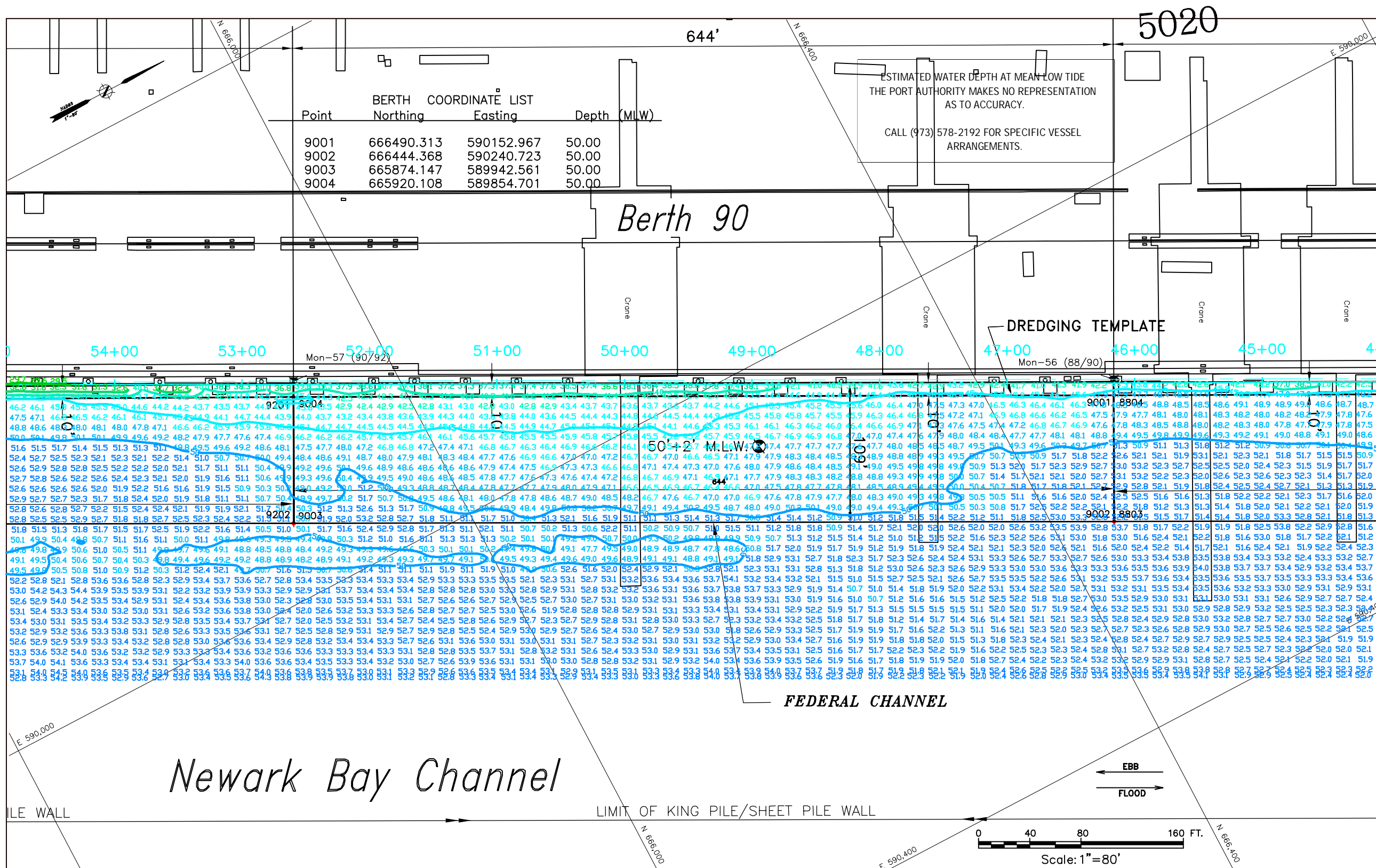
Coordinates are expressed in feet and refer to the NEW JERSEY STATE PLANE (NAD 83) System.
Soundings refer to Mean Low Water as determined by U.S.A.C.E.
The Plane of Mean Low Water is 2.3 feet below Mean Sea Level (NGVD 29).

Note:
This survey does not guarantee the absence or presence of any underwater
obstructions. Diver verification may be required.

NAVD88 1.11
System.
NGVD29 0.0

I hereby certify to The Port Authority
of New York and New Jersey that this
map indicates the conditions existing
as of the date indicated hereon to the
best of my professional knowledge.

William A. Rogers, Jr., P.E., L.S.
New Jersey State # 22254
A.C.S.M. Certified Hydrographer # 151



BERTH COORDINATE LIST

Point	Northing	Easting	Depth (MLW)
9001	666490.313	590152.967	50.00
9002	666444.368	590240.723	50.00
9003	665874.147	589942.561	50.00
9004	665920.108	589854.701	50.00

ESTIMATED WATER DEPTH AT MEAN LOW TIDE
THE PORT AUTHORITY MAKES NO REPRESENTATION
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PREPARED FOR
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Title
**NEW JERSEY
MARINE
TERMINAL
HYDROGRAPHIC
SURVEY**

No. Date Revision Approved
VERTICAL CONTROL
Mean Low Water = 2.3' Below 0.00 NGVD '29
HORIZONTAL CONTROL
ALL COORDINATES, BEARING AND
DISTANCES ARE REFERENCED TO THE
NEW JERSEY PLANE COORDINATE SYSTEM
(N.A.D. 83) AS SET FORTH IN
N.J.S.A. 51:3-7

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Rogers Surveying RK DWR
Surveyed by Drawn by Checked by
Date 06/29/11 Scale 1"=80'
Contract Number 410-10-037 Drawing Number 56 of 60
BERTH 90

Volume Report

THE DATA USED FOR VOLUME CALCULATIONS IS REPRESENTATIVE OF A LARGER DATA SET.
SOUNDINGS USED FOR VOLUME CALCULATIONS ARE ON A 3'X3' GRID WITH THE DEPTH NEAREST
TO THE CENTER USED.

Design Depth	Volume to Dredge Template	Volume of 2' Over dredge	Total Volume
50'	6,065 yd ³	4,133 yd ³	10,199 yd ³
TOTAL	6,065 yd³	4,133 yd³	10,199 yd³

NOTE: BERTH LENGTHS, WIDTHS AND DEEP WATER BERTH DIMENSIONS FROM P.A. PORT DEPARTMENT.

Coordinates are expressed in feet and refer to the NEW JERSEY STATE PLANE (NAD 83) System.
Soundings refer to Mean Low Water as determined by U.S.A.C.E.
The Plane of Mean Low Water is 2.3 feet below Mean Sea Level (NGVD 29).

Note:
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obstructions. Diver verification may be required.

NAVD88 1.11
NGVD29 0.0
MLW (COE) -2.3

I hereby certify to The Port Authority
of New York and New Jersey that this
map indicates the conditions existing
as of the date indicated hereon to the
best of my professional knowledge.

William A. Rogers, Jr.
William A. Rogers, Jr., P.E., L.S.
New Jersey State # 22254
A.C.S.M. Certified Hydrographer # 151

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THE PLANE OF MEAN LOW WATER THE PLANE OF MEAN LOW WATER IS 2.3
FEET BELOW NGVD (1929) THE SOUNDING DATA DEPICTED ON THIS MAP
WAS COLLECTED USING CLASS 2 SURVEY STANDARDS IN ACCORDANCE WITH
EM 1110 2 1003.
THIS SURVEY WAS COMPLETED USING THE FOLLOWING EQUIPMENT:
• Survey Vessel "Red Rogers".
• Reason 7101 Multibeam.
• TSS 320 POS/MV.
• Coastal Oceanographics "HYPACK" software

PREPARED FOR
**THE PORT AUTHORITY
OF NY & NJ**

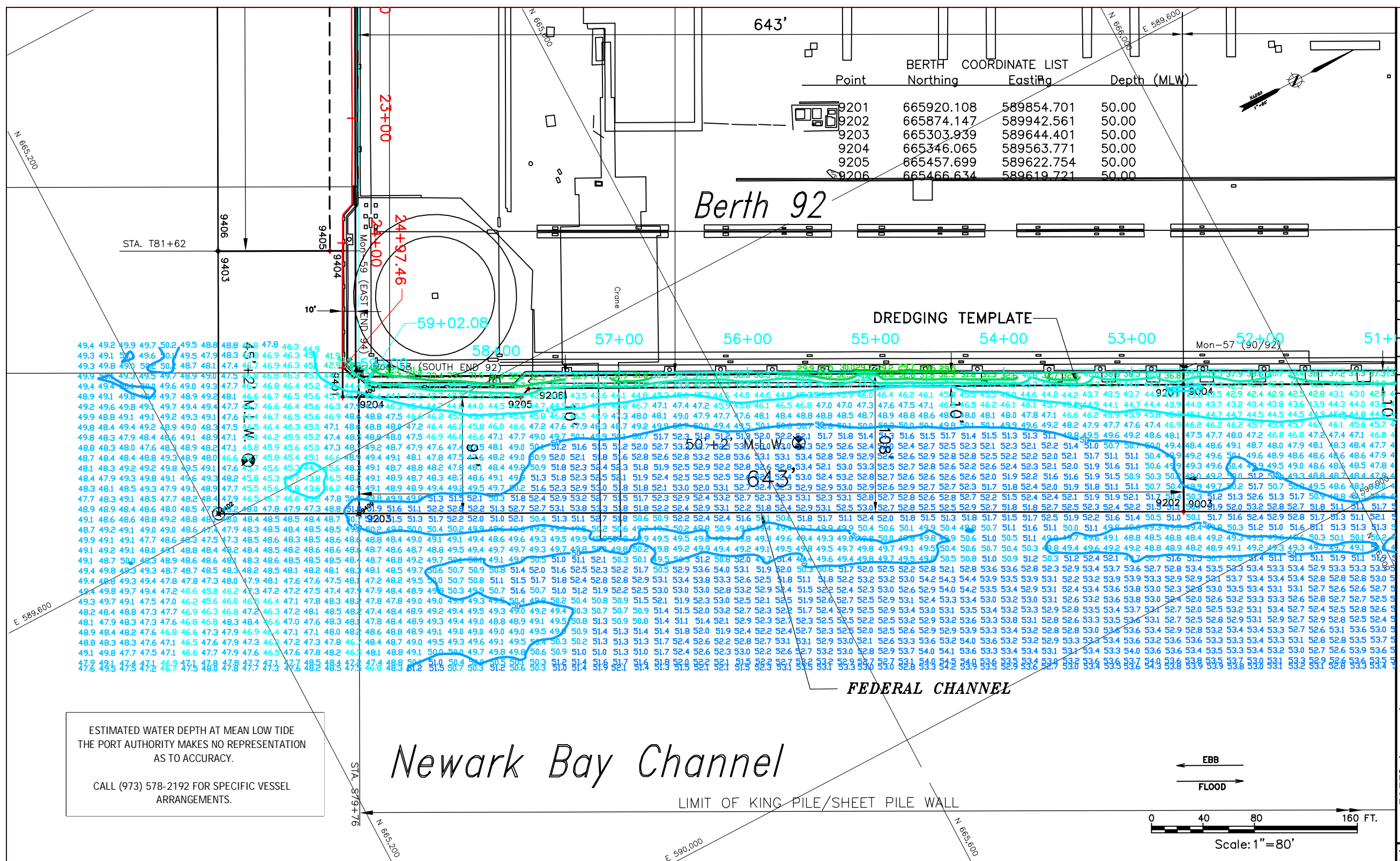


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info@rogerssurveying.com

Point	BERTH Northing	COORDINATE LIST Easting	Depth (MLW)
9201	665920.108	589854.701	50.00
9202	665874.147	589942.561	50.00
9203	665303.939	589644.401	50.00
9204	665346.065	589563.771	50.00
9205	665457.699	589622.754	50.00
9206	665466.634	589619.721	50.00

Berth 92

DREDGING TEMPLATE



Title
**NEW JERSEY
MARINE
TERMINAL
HYDROGRAPHIC
SURVEY**

No.	Date	Revision	Approved
VERTICAL CONTROL Mean Low Water = 2.3' Below 0.00 NGVD '29			
HORIZONTAL CONTROL ALL COORDINATES, BEARING AND DISTANCES ARE REFERENCED TO THE NEW JERSEY PLANE COORDINATE SYSTEM (N.A.D. 83) AS SET FORTH IN N.J.S.A. 51:3-7			

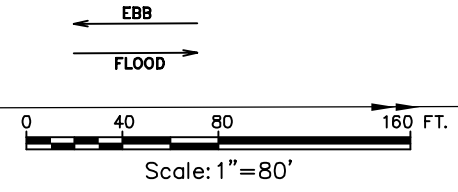
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Rogers Surveying RK DWR
Surveyed by Drawn by Checked by

Date 06/29/11 Scale 1"=80'
06/29/11 - 07/13/11
Contract Number Drawing Number
410-10-037 57 of 60
BERTH 92

ESTIMATED WATER DEPTH AT MEAN LOW TIDE
THE PORT AUTHORITY MAKES NO REPRESENTATION
AS TO ACCURACY.
CALL (973) 578-2192 FOR SPECIFIC VESSEL
ARRANGEMENTS.

Newark Bay Channel



NOTE:
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THIS SURVEY WAS COMPLETED USING THE FOLLOWING EQUIPMENT:
• Survey Vessel "Red Rogers"
• Reason 7101 Multibeam
• TSS 320 POS/MV
• Coastal Oceanographics "HYPACK" software

Design Depth	Volume to Dredge Template	Volume of 2' Over dredge	Total Volume
50'	2,252 yd3	1,437 yd3	3,689 yd3
TOTAL	2,252 yd3	1,437 yd3	3,689 yd3

NOTE: BERTH LENGTHS, WIDTHS AND DEEP WATER BERTH DIMENSIONS FROM P.A. PORT DEPARTMENT.

Coordinates are expressed in feet and refer to the NEW JERSEY STATE PLANE (NAD 83) System.
SOUNDINGS REFER TO MEAN LOW WATER AS DETERMINED BY U.S.A.C.E.
The Plane of Mean Low Water is 2.3 feet below Mean Sea Level (NGVD 29).

Note:
This survey does not guarantee the absence or presence of any underwater obstructions. Diver verification may be required.

NAVDB 1.11
NGVD29 0.0
MLW (COE) -2.3

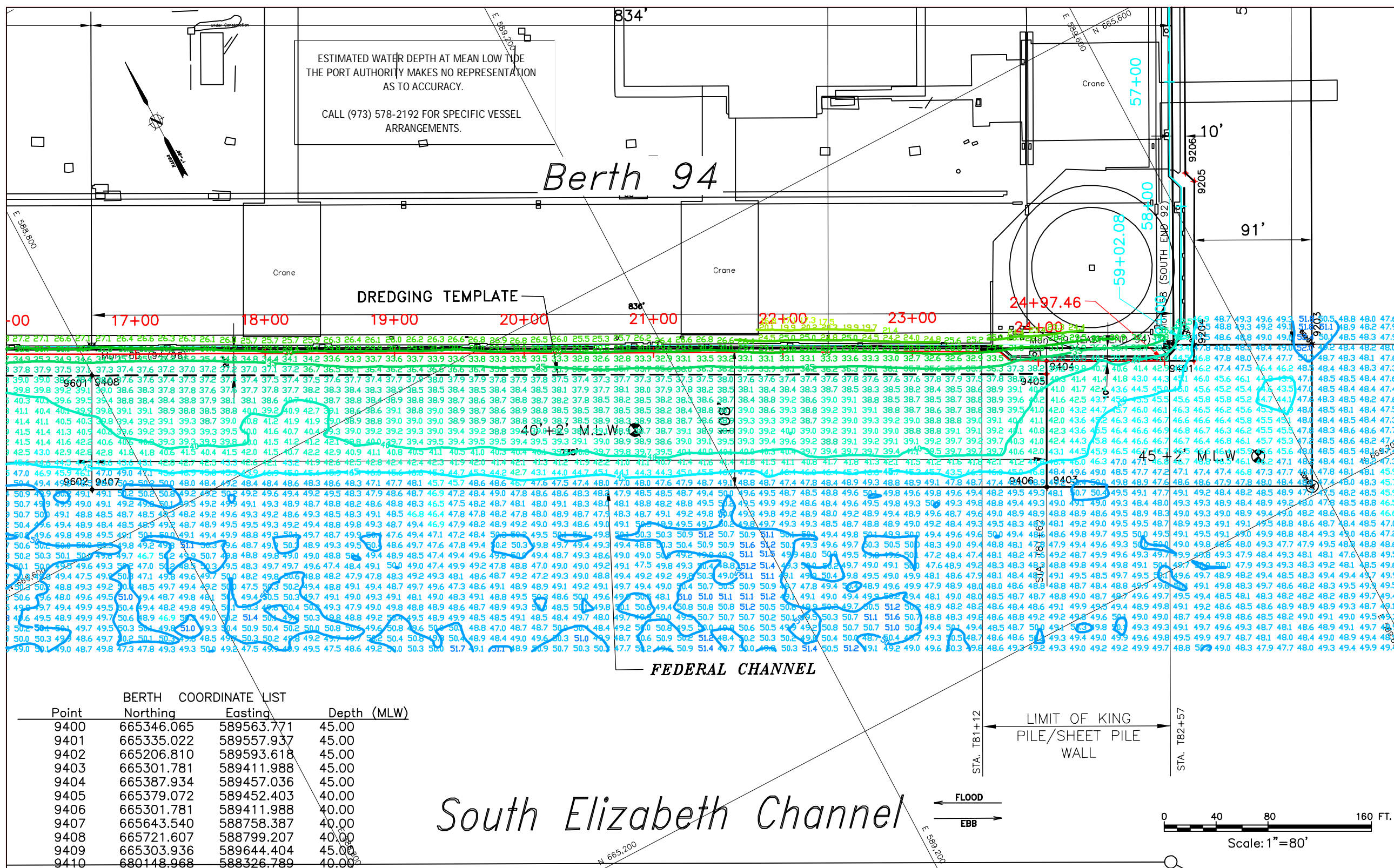
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William A. Rogers, Jr., P.E., L.S.
New Jersey State # 22254
A.C.S.M. Certified Hydrographer # 151

PREPARED FOR
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www.rdgmap.com



ESTIMATED WATER DEPTH AT MEAN LOW TIDE
THE PORT AUTHORITY MAKES NO REPRESENTATION
AS TO ACCURACY.
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ARRANGEMENTS.

DREDGING TEMPLATE

Berth 94

FEDERAL CHANNEL

South Elizabeth Channel

Point	BERTH COORDINATE LIST		Depth (MLW)
	Northing	Easting	
9400	665346.065	589563.771	45.00
9401	665335.022	589557.937	45.00
9402	665206.810	589593.618	45.00
9403	665301.781	589411.988	45.00
9404	665387.934	589457.036	45.00
9405	665379.072	589452.403	40.00
9406	665301.781	589411.988	40.00
9407	665643.540	588758.387	40.00
9408	665721.607	588799.207	40.00
9409	665303.936	589644.404	45.00
9410	680148.968	588326.789	40.00

Volume Report			
Design Depth	Volume to Dredge Template	Volume of 2' Over dredge	Total Volume
40'	1,979 yd3	3,382 yd3	5,361 yd3
45'	490 yd3	260 yd3	750 yd3
TOTAL	2,469 yd3	3,642 yd3	6,111 yd3

NOTE: BERTH LENGTHS, WIDTHS AND DEEP WATER BERTH DIMENSIONS FROM P.A. PORT DEPARTMENT.

Coordinates are expressed in feet and refer to the NEW JERSEY STATE PLANE (NAD 83) System.

Soundings refer to Mean Low Water as determined by U.S.A.C.E.

The Plane of Mean Low Water is 2.3 feet below Mean Sea Level (NGVD 29).

Note:
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NAVDB8 1.11
NGVD29 0.0
MLW (COE) -2.3

I hereby certify to The Port Authority of New York and New Jersey that this map indicates the conditions existing as of the date indicated hereon to the best of my professional knowledge.

William A. Rogers, Jr., P.E., L.S.
New Jersey State # 22254
A.C.S.M. Certified Hydrographer # 151

Rogers Surveying RK DWR
Surveyed by DWR Drawn by DWR Checked by DWR

Date 06/29/11 Scale 1"=80'
Contract Number 410-10-037 Drawing Number 58 of 60

BERTH 94

**NEW JERSEY
MARINE
TERMINAL**

**HYDROGRAPHIC
SURVEY**

No. Date Revision Approved

VERTICAL CONTROL
Mean Low Water = 2.3' Below 0.00 NGVD '29

HORIZONTAL CONTROL

ALL COORDINATES, BEARING AND DISTANCES ARE REFERENCED TO THE NEW JERSEY STATE COORDINATE SYSTEM (N.A.D. 83) AS SET FORTH IN N.J.S.A. 51:3-7

This drawing subject to conditions in contract. All inventions, ideas, designs and methods herein are reserved to Port Authority and may not be used without its written consent.

NOTE:
THE INFORMATION DEPICTED ON THIS MAP REPRESENTS THE RESULTS OF SURVEYS MADE ON THE DATES INDICATED AND CAN ONLY BE CONSIDERED AS INDICATING THE GENERAL CONDITIONS EXISTING AT THAT TIME. THE DATA IS REPRESENTATIVE OF A LARGER DATA SET. SOUNDINGS AND CONTOURS SHOWN ARE FROM 8'X16" GRID NEAREST TO CENTER. COORDINATES REFER TO THE NEW JERSEY MERCATOR SYSTEM (NAD 1983) SOUNDINGS REFER TO THE PLANE OF MEAN LOW WATER THE PLANE OF MEAN LOW WATER IS 2.3 FEET BELOW NGVD (1929) THE SOUNDING DATA DEPICTED ON THIS MAP WAS COLLECTED USING CLASS 2 SURVEY STANDARDS IN ACCORDANCE WITH EM 1110 2 1003.
THIS SURVEY WAS COMPLETED USING THE FOLLOWING EQUIPMENT:
• Survey Vessel "Ted Rogers"
• Reason 7101 Multibeam
• TSS 320 POS/MV
• Coastal Oceanographics "HYPACK" software

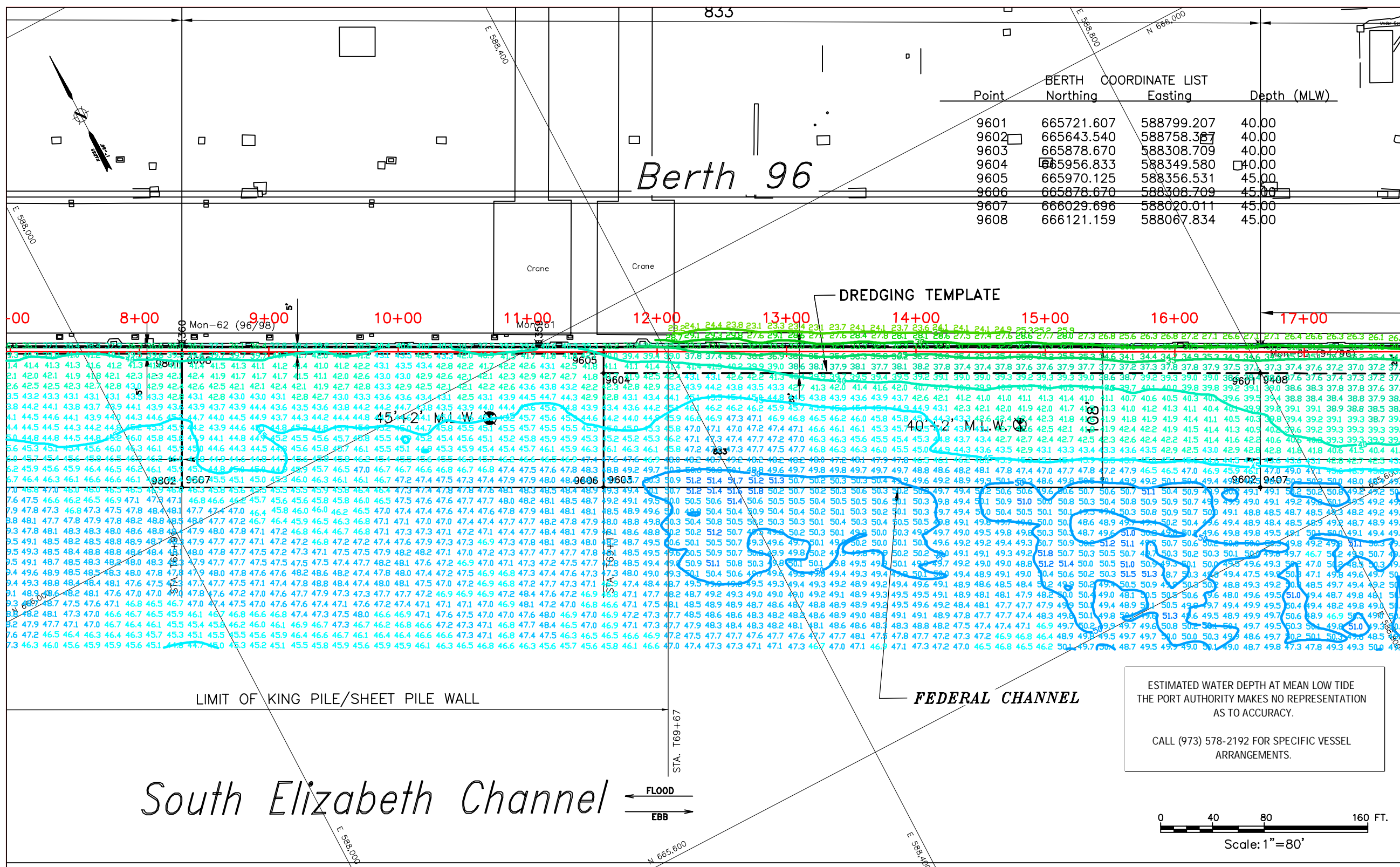
PREPARED FOR
THE PORT AUTHORITY
OF NY & NJ



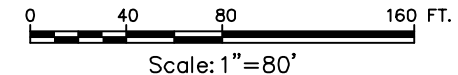
Rogers Surveying, P.L.L.C.
 1837 Richmond Terrace, Staten Island, N.Y. 10310
 Tel: (718) 442-7701 Fax: (718) 273-5060
 www.rogerssurveying.com
 www.ny-njportauthority.com

Point	BERTH COORDINATE LIST		Depth (MLW)
	Northing	Easting	
9601	665721.607	588799.207	40.00
9602	665643.540	588758.387	40.00
9603	665878.670	588308.709	40.00
9604	665956.833	588349.580	40.00
9605	665970.125	588356.531	45.00
9606	665878.670	588308.709	45.00
9607	666029.696	588020.011	45.00
9608	666121.159	588067.834	45.00

Berth 96



South Elizabeth Channel



NEW JERSEY
MARINE
TERMINAL

HYDROGRAPHIC
SURVEY

No. Date Revision Approved

VERTICAL CONTROL
 Mean Low Water = 2.3' Below 0.00 NGVD '29

HORIZONTAL CONTROL
 ALL COORDINATES, BEARING AND DISTANCES ARE REFERENCED TO THE NEW JERSEY PLANE COORDINATE SYSTEM (N.A.D. 83) AS SET FORTH IN N.J.S.A. 51:3-7

NOTE: THE INFORMATION DEPICTED ON THIS MAP REPRESENTS THE RESULTS OF SURVEYS MADE ON THE DATES INDICATED AND CAN ONLY BE CONSIDERED AS INDICATING THE GENERAL CONDITIONS EXISTING AT THAT TIME. THE DATA IS REPRESENTATIVE OF A LARGER DATA SET. SOUNDINGS AND CONTOURS SHOWN ARE FROM 8'X16" GRID NEAREST TO CENTER. COORDINATES REFER TO THE NEW JERSEY MERCATOR SYSTEM (NAD 1983). SOUNDINGS REFER TO THE PLANE OF MEAN LOW WATER. THE PLANE OF MEAN LOW WATER IS 2.3 FEET BELOW NGVD (1929). THE SOUNDING DATA DEPICTED ON THIS MAP WAS COLLECTED USING CLASS 2 SURVEY STANDARDS IN ACCORDANCE WITH EM 1110.2 1003.

THIS SURVEY WAS COMPLETED USING THE FOLLOWING EQUIPMENT:
 • Survey Vessel "Red Rogers"
 • Reason 7101 Multibeam
 • TSS 320 POS/MV
 • Coastal Oceanographics "HYPACK" software

Volume Report			
THE DATA USED FOR VOLUME CALCULATIONS IS REPRESENTATIVE OF A LARGER DATA SET. SOUNDINGS USED FOR VOLUME CALCULATIONS ARE ON A 3'X3' GRID WITH THE DEPTH NEAREST TO THE CENTER USED.			
Design Depth	Volume to Dredge Template	Volume of 2' Over dredge	Total Volume
40'	127 yd ³	560 yd ³	687 yd ³
45'	1,407 yd ³	2,022 yd ³	3,429 yd ³
TOTALS	1,534 yd³	2,582 yd³	4,116 yd³

NOTE: BERTH LENGTHS, WIDTHS AND DEEP WATER BERTH DIMENSIONS FROM P.A. PORT DEPARTMENT.

Coordinates are expressed in feet and refer to the NEW JERSEY STATE PLANE (NAD 83) System.
 NAVD88 1.11
 NGVD29 0.0
 Soundings refer to Mean Low Water as determined by U.S.A.C.E.
 The Plane of Mean Low Water is 2.3 feet below Mean Sea Level (NGVD 29).
 MLW (COE) -2.3

Note:
 This survey does not guarantee the absence or presence of any underwater obstructions. Diver verification may be required.

I hereby certify to The Port Authority of New York and New Jersey that this map indicates the conditions existing as of the date indicated hereon to the best of my professional knowledge.

William A. Rogers, Jr., P.E., L.S.
 New Jersey State # 22254
 A.C.S.M. Certified Hydrographer # 151

Rogers Surveying RK DWR
 Surveyed by Drawn by Checked by

Date 06/29/11 Scale 1"= 80'
 of/13/11
 Contract Number Drawing Number
 410-10-037 59 of 60
 BERTH 96

PREPARED FOR
THE PORT AUTHORITY
OF NY & NJ



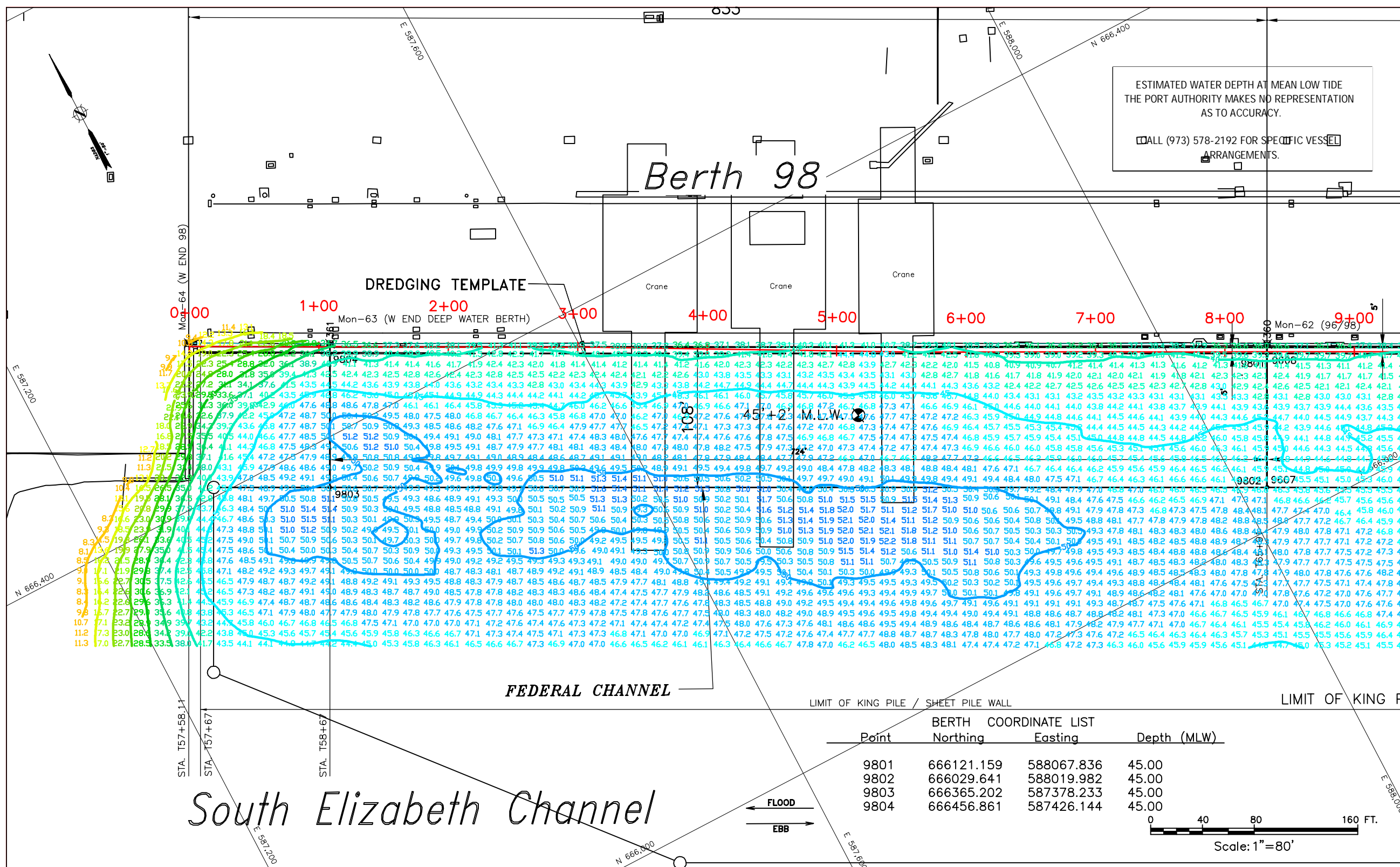
Rogers Surveying, P.L.L.C.
1837 Richmond Terrace, Staten Island, N.Y. 10310
Tel: (718) 442-7201 Fax: (718) 273-5060
www.rogerssurveying.com

ESTIMATED WATER DEPTH AT MEAN LOW TIDE
THE PORT AUTHORITY MAKES NO REPRESENTATION
AS TO ACCURACY.
CALL (973) 578-2192 FOR SPECIFIC VESSEL
ARRANGEMENTS.

Berth 98

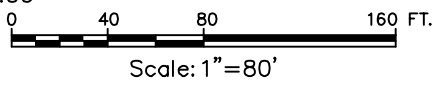
DREDGING TEMPLATE

0+00 1+00 2+00 3+00 4+00 5+00 6+00 7+00 8+00 9+00



Title
**NEW JERSEY
MARINE
TERMINAL**
**HYDROGRAPHIC
SURVEY**

BERTH COORDINATE LIST			
Point	Northing	Easting	Depth (MLW)
9801	666121.159	588067.836	45.00
9802	666029.641	588019.982	45.00
9803	666365.202	587378.233	45.00
9804	666456.861	587426.144	45.00



No.	Date	Revision	Approved

VERTICAL CONTROL
Mean Low Water = 2.3' Below 0.00 NGVD '29

HORIZONTAL CONTROL
ALL COORDINATES, BEARING AND DISTANCES ARE REFERENCED TO THE NEW JERSEY PLANE COORDINATE SYSTEM (N.A.D. 83) AS SET FORTH IN N.J.S.A. 51:3-7

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Rogers Surveying RK DWR
Surveyed by DWR Drawn by DWR Checked by DWR
Date 06/29/11 Scale 1"=80'
 06/29/11 - 07/13/11
Contract Number 410-10-037 Drawing Number 60 of 60
BERTH 98

NOTE: THE INFORMATION DEPICTED ON THIS MAP REPRESENTS THE RESULTS OF SURVEYS MADE ON THE DATES INDICATED AND CAN ONLY BE CONSIDERED AS INDICATING THE GENERAL CONDITIONS EXISTING AT THAT TIME. THE DATA IS REPRESENTATIVE OF A LARGER DATA SET. SOUNDINGS AND CONTOURS SHOWN ARE FROM 8'X16" GRID NEAREST TO CENTER. COORDINATES REFER TO THE NEW JERSEY MERCATOR SYSTEM (NAD 1983) SOUNDINGS REFER TO THE PLANE OF MEAN LOW WATER THE PLANE OF MEAN LOW WATER IS 2.3 FEET BELOW NGVD (1929) THE SOUNDING DATA DEPICTED ON THIS MAP WAS COLLECTED USING CLASS 2 SURVEY STANDARDS IN ACCORDANCE WITH EM 1110.2-1003.
THIS SURVEY WAS COMPLETED USING THE FOLLOWING EQUIPMENT:
• Survey Vessel "Red Rogers"
• Reason 7101 Multibeam
• TSS 320 POS/MV
• Coastal Oceanographics "HYPACK" software

Volume Report			
Design Depth	Volume to Dredge Template	Volume of 2' Over dredge	Total Volume
45'	2,506 yd3	2,775 yd3	5,281 yd3
TOTAL	2,506 yd3	2,775 yd3	5,281 yd3

NOTE: BERTH LENGTHS, WIDTHS AND DEEP WATER BERTH DIMENSIONS FROM P.A. PORT DEPARTMENT.
Coordinates are expressed in feet and refer to the NEW JERSEY STATE PLANE (NAD 83) System.
Soundings refer to Mean Low Water as determined by U.S.A.C.E.
The Plane of Mean Low Water is 2.3 feet below Mean Sea Level (NGVD 29).
Note:
This survey does not guarantee the absence or presence of any underwater obstructions. Diver verification may be required.

NAVDB8 1.11
NGVD29 0.0
MLW (COE) -2.3
I hereby certify to The Port Authority of New York and New Jersey that this map indicates the conditions existing as of the date indicated hereon to the best of my professional knowledge.
 William A. Rogers, Jr., P.E., L.S.
New Jersey State # 22254
A.C.S.M. Certified Hydrographer # 151