CHANNEL COORDINATES (NAD 83)

U.S.A.C.O.E. STATION NAME	NORTHING (Y)	EASTING (X)	U.S.A.C.O.E. STATION NAME	NORTHING (Y)	EASTING (X)
02	204092.85	1256555.29	19S	233988.58	1364144.70
2N	208187.62	1267428.99	20N	234847.49	1365043.15
2S	208087.01	1267445.55	20S	234763.19	1365097.97
3AN	207869.46	1276818.72	21N	236355.39	1368006.01
3AS	207768.48	1276845.70	21S	236251.27	1368021.89
3BN	210154.40	1280495.51	21S1	236115.19	1367754.51
3BS	210070.36	1280549.73	21S2	236201.04	1368317.65
4N	214297.98	1286683.37	22N	236085.13	1369597.40
4S	214181.60	1286689.28	22S	235983.19	1369600.42
5N	212101.19	1290816.88	23N	236132.05	1369799.96
5S	212012.88	1290769.95	23S	236036.61	1369831.07
6N	209353.44	1295987.01	24N	237023.41	1371893.00
6S	209240.53	1295986.38	24S	236926.83	1371921.42
7N	211004.33	1299179.78	25N	237152.92	1372648.85
7S	210911.36	1299217.70	25S	237059.88	1372698.01
8AN	215073.09	1306648.70	26N	237686.42	1373164.24
8AS	214996.54	1306713.04	26S	237612.60	1373231.96
8N	212271.29	1303314.89	27N	237949.13	1373487.86
8S	212181.64	1303363.65	27S	237863.89	1373541.52
9N	215150.02	1306740.24	28N	239094.41	1375909.84
9S	215061.36	1306790.17	28N1	239008.91	1375729.03
10N	217045.15	1312328.60	28N2	239277.84	1375989.54
10S	216959.88	1312388.53	28S	239020.07	1375986.58
11N	223699.98	1317627.94	29N	240656.33	1376588.44
11S	223607.15	1317681.84	29S	240602.99	1376674.30
11S1	223294.23	1317432.67	30N	244175.86	1380070.92
11S2	223667.56	1318077.12	30S	244693.84	1380132.53
12-58	203972.82	1256520.29	31N	250385.92	1392648.94
12N	224702.86	1324093.17	31S	250285.04	1392668.28
12S	224605.15	1324115.61	32N	250151.82	1398379.13
13N	228531.30	1336576.16	32S	250051.16	1398393.15
13S	228435.70	1336605.48	33N	250568.38	1399046.44
14N	233419.79	1352514.67	33N1	250490.31	1399408.94
14S	233317.27	1352520.23	33N2	250804.75	1399727.87
14S1	233199.98	1352139.80	33S	250488.87	1399724.82
14S2	233251.22	1352916.74	34N	260304.93	1403000.28
15N	232399.43	1358609.70	34S	260302.56	1403105.23
15S	232297.52	1358612.79	35N	262475.29	1402360.70
16N	233186.50	1362024.55	35S	262563.39	1402438.99
16S	233091.50	1362057.63	36N	263024.95	1399136.10
17N	233651.00	1363001.74	36S	263117.06	1399190.89
17S	233558.62	1363040.32	37N	263451.56	1398800.61
18N	234020.44	1364021.91	37S	263489.45	1398898.04
18S	233931.68	1364070.49	38N	264780.90	1398720.17
19N	234067.08	1364082.74	38S	264788.43	1398799.89

NOTES:

1. GRID SYSTEM IS IN FEET AND IS THE NEW YORK LONG ISLAND STATE PLANE COORDINATE SYSTEM. NAD83.
2. DEPTHS ARE IN FEET AND ARE REFERENCED TO MEAN LOWER LOW WATER (MLLW).
3. THE PLANE OF MEAN LOWER LOW WATER (MLLW) IS 0.7 FEET TO 1.40 FEET BELOW NAVD 88. THIS VALUE WAS DETERMINED USING NOAA'S VDATUM MODEL (VERSION 3.6.1).
4. SHORELINE AND ONSHORE FEATURES ARE APPROXIMATE AND WERE TAKEN FROM DIGITAL ORTHOPHOTO QUADRANGLES FLOWN IN 2016 AND OBTAINED FROM THE NEW YORK STATE GIS CLEARINGHOUSE.
5. THE PLANIMETRICS AND ORTHOPHOTOS SHOWN ON THIS MAP ARE FOR ORIENTATION PURPOSES ONLY.
6. THE DATA DEPICTED ON THIS MAP ARE REPRESENTATIVE OF A LARGER DATA SET.
7. THE SOUNDINGS ON THIS MAP MEET EM 1110-2-1003 ACCURACY STANDARDS.
8. THIS MAP IS CEPD COMPLIANT IN ACCORDANCE WITH ER 1110-2-8160 AND EM 1110-2-6056.
9. THE SURVEY SHOWN WAS CONDUCTED BY OCEAN SURVEYS, INC. USING THE FOLLOWING:
   SURVEY VESSEL: R/V ECHO
   ECHOSOUNDER: ODOM HYDROTRAC/ECHOTRAC
   NAVIGATION SYSTEM: SBG EKINOX-D IN REAL TIME KINEMATIC (RTK) MODE
   SURVEY ACQUISITION SOFTWARE: HYPACK 2017A
   SURVEY PROCESSING SOFTWARE: HYPACK 2018
10. THE INFORMATION PRESENTED ON THIS DRAWING REPRESENTS THE RESULTS OF A SURVEY PERFORMED BY OCEAN SURVEYS, INC. (OSI) 15 OCTOBER - 23 NOVEMBER 2019 AND CAN ONLY BE CONSIDERED AS INDICATING THE CONDITIONS EXISTING AT THAT TIME. REUSE OF THIS INFORMATION BY CLIENT OR OTHERS BEYOND THE SPECIFIC SCOPE OF WORK FOR WHICH IT WAS ACQUIRED SHALL BE AT THE SOLE RISK OF THE USER AND WITHOUT LIABILITY TO OSI.

NSRS CONTROL DATA

BENCHMARK: MORICHES USCG 1994 (PID: AA9073)
ELEVATION: 4.86' NAVD 88

LOCAL CONTROL DATA

BENCHMARK: Y 373 1956 (PID: KU0194)
ELEVATION: 3.79' NAVD 88

SCALE : 1" = 1000'

0 1000 2000 3000 4000

US ARMY CORPS OF ENGINEERS NEW YORK DISTRICT

OCEAN SURVEYS, INC.
1 JENKINS AVENUE
OLD SAYBROOK, CONNECTICUT
www.oceansurveysinc.com

DATES OF SURVEY: 15 OCT. – 23 NOV. 2019

FILE NO: 4860
REQUEST NO: 4860

SCALE: ONE INCH = 1000 FEET

FIELD BOOKS:

APPROVED: J. BEAN FIELD CARTOGRAPHER
APPROVED: REGINALD SMITH PROJECT MANAGER
APPROVED: D. CLARKE CHIEF, FIELD CARTOGRAPHIC
APPROVED: J. MRAZ SENIOR CHIEF OF SURVEY
DATE: 4 FEBRUARY 2020

DEPARTMENT OF THE ARMY
NEW YORK DISTRICT
CORPS OF ENGINEERS
NEW YORK, NEW YORK 10278

OPERATIONS DIVISION
SURVEY SECTION
CENAN-OP-S

LONG ISLAND INTRACOASTAL WATERWAY, N.Y.

SHEET LAYOUT

CONDITION SURVEY

VH-101

SHEET 1 OF 55

CHANNEL COORDINATES (NAD 83)

U.S.A.C.O.E. STATION NAME	NORTHING (Y)	EASTING (X)	U.S.A.C.O.E. STATION NAME	NORTHING (Y)	EASTING (X)
02	204092.85	1256555.29	19S	233988.58	1364144.70
2N	208187.62	1267428.99	20N	234847.49	1365043.15
2S	208087.01	1267445.55	20S	234763.19	1365097.97
3AN	207869.46	1276818.72	21N	236355.39	1368006.01
3AS	207768.48	1276845.70	21S	236251.27	1368021.89
3BN	210154.40	1280495.51	21S1	236115.19	1367754.51
3BS	210070.36	1280549.73	21S2	236201.04	1368317.65
4N	214297.98	1286683.37	22N	236085.13	1369597.40
4S	214181.60	1286689.28	22S	235983.19	1369600.42
5N	212101.19	1290816.88	23N	236132.05	1369799.96
5S	212012.88	1290769.95	23S	236036.61	1369831.07
6N	209353.44	1295987.01	24N	237023.41	1371893.00
6S	209240.53	1295986.38	24S	236926.83	1371921.42
7N	211004.33	1299179.78	25N	237152.92	1372648.85
7S	210911.36	1299217.70	25S	237059.88	1372698.01
8AN	215073.09	1306648.70	26N	237686.42	1373164.24
8AS	214996.54	1306713.04	26S	237612.60	1373231.96
8N	212271.29	1303314.89	27N	237949.13	1373487.86
8S	212181.64	1303363.65	27S	237863.89	1373541.52
9N	215150.02	1306740.24	28N	239094.41	1375909.84
9S	215061.36	1306790.17	28N1	239008.91	1375729.03
10N	217045.15	1312328.60	28N2	239277.84	1375989.54
10S	216955.88	1312388.53	28S	239020.07	1375986.58
11N	223699.98	1317627.94	29N	240656.33	1376588.44
11S	223607.15	1317681.84	29S	240602.99	1376674.30
11S1	223294.23	1317432.67	30N	244775.86	1380070.92
11S2	223667.56	1318077.12	30S	244693.84	1380132.53
12-58	203972.82	1256520.29	31N	250385.92	1392648.94
12N	224702.86	1324093.17	31S	250285.04	1392668.28
12S	224605.15	1324115.61	32N	250151.82	1398379.13
13N	228531.30	1336576.16	32S	250051.16	1398393.15
13S	228435.70	1336606.48	33N	250568.38	1399646.44
14N	233419.79	1352514.67	33N1	250490.31	1399408.94
14S	233317.27	1352520.23	33N2	250804.75	1399727.87
14S1	233199.98	1352139.80	33S	250488.87	1399724.82
14S2	233251.22	1352916.74	34N	260304.93	1403000.28
15N	232399.43	1358609.70	34S	260302.56	1403105.23
15S	232297.52	1358612.79	35N	262475.29	1402360.70
16N	233186.50	1362024.95	35S	262563.39	1402438.99
16S	233091.50	1362057.63	36N	263024.95	1399136.10
17N	233651.00	1363001.74	36S	263117.06	1399190.89
17S	233558.62	1363040.32	37N	263451.56	1398800.61
18N	234020.44	1364021.91	37S	263489.45	1398898.04
18S	233931.68	1364070.49	38N	264780.90	1398700.17
19N	234067.08	1364082.74	38S	264788.43	1398799.89

NOTES:

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   NAVIGATION SYSTEM: SBG EKINOX-D IN REAL TIME KINEMATIC (RTK) MODE
   SURVEY ACQUISITION SOFTWARE: HYPACK 2017A
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10. THE INFORMATION PRESENTED ON THIS DRAWING REPRESENTS THE RESULTS OF A SURVEY PERFORMED BY OCEAN SURVEYS, INC. (OSI) 15 OCTOBER – 23 NOVEMBER 2019 AND CAN ONLY BE CONSIDERED AS INDICATING THE CONDITIONS EXISTING AT THAT TIME. REUSE OF THIS INFORMATION BY CLIENT OR OTHERS BEYOND THE SPECIFIC SCOPE OF WORK FOR WHICH IT WAS ACQUIRED SHALL BE AT THE SOLE RISK OF THE USER AND WITHOUT LIABILITY TO OSI.

NSRS CONTROL DATA
BENCHMARK: MORICHES USCG 1994 (PID: AA9073)
ELEVATION: 4.86' NAVD 88

LOCAL CONTROL DATA
BENCHMARK: Y 373 1956 (PID: KU0194)
ELEVATION: 3.79' NAVD 88

SCALE : 1" = 1000'

0 1000 2000 3000 4000

US ARMY CORPS OF ENGINEERS NEW YORK DISTRICT

OCEAN SURVEYS, INC.
10 LAWRENCE STREET
OLD SAYBROOK, CONNECTICUT
www.oceansurveysinc.com

DATES OF SURVEY: 15 OCT. – 23 NOV. 2019

FILE NO: 4860
REQUEST NO: 4860

SCALE: ONE INCH = 1000 FEET

FIELD BOOKS:

APPROVED: J. BEAN FIELD CARTOGRAPHER
APPROVED: REGINALD SMITH PROJECT MANAGER
APPROVED: D. CLARKE CHIEF CARTOGRAPHER
APPROVED: J. MIRAZ DEPUTY CHIEF OF SURVEY
DATE: 4 FEBRUARY 2020

DEPARTMENT OF THE ARMY
NEW YORK DISTRICT
CORPS OF ENGINEERS
NEW YORK, NEW YORK 10278

OPERATIONS DIVISION
SURVEY SECTION
CENAN-OP-S

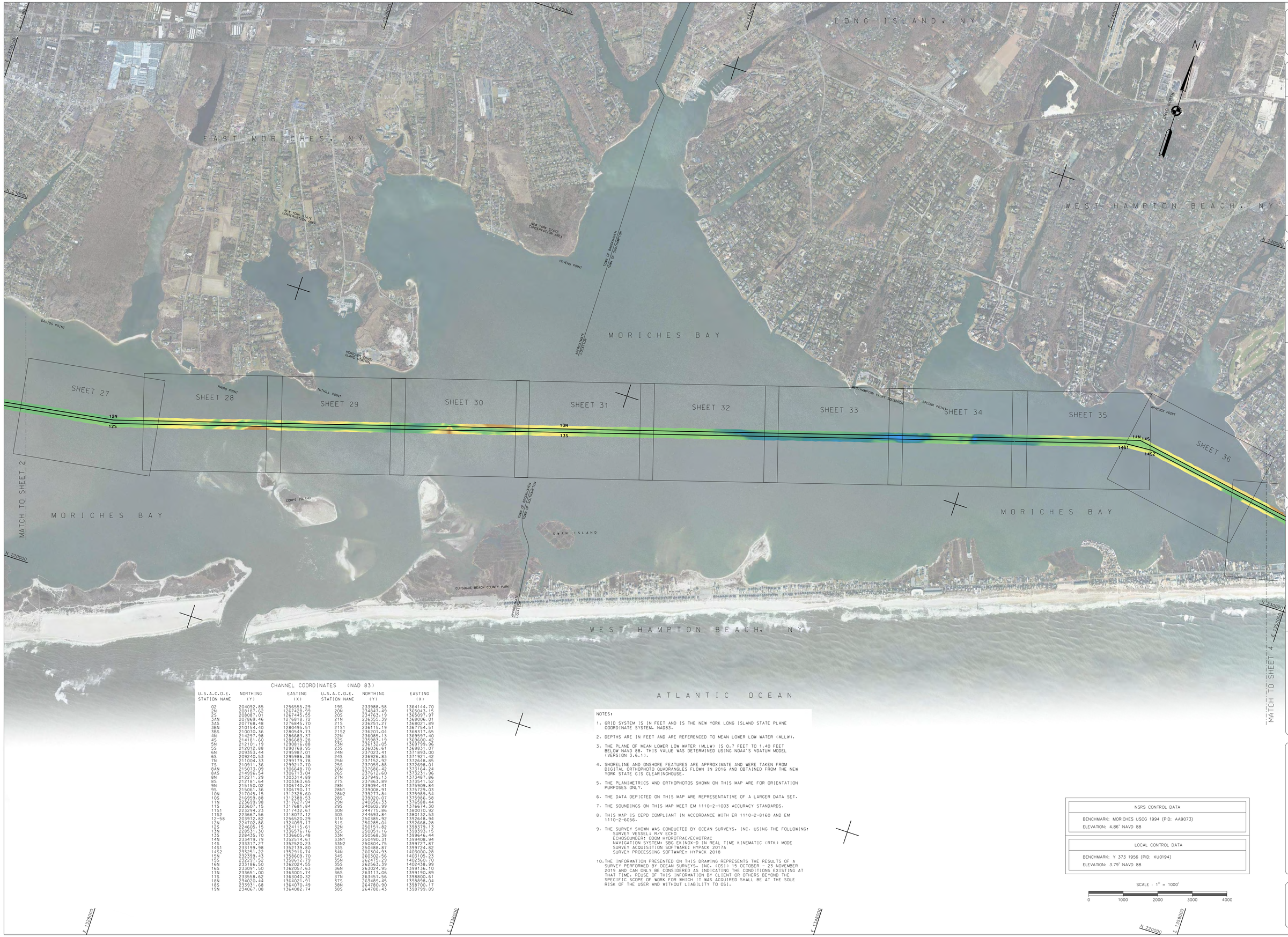
LONG ISLAND INTRACOASTAL WATERWAY, N.Y.

SHEET LAYOUT

CONDITION SURVEY

VH–102

SHEET 2 OF 55



CHANNEL COORDINATES (NAD 83)

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2S	208087.01	1267445.55	20S	234763.19	1365097.87
3AN	207869.46	1276818.72	21N	236355.39	1368006.01
3AS	207768.48	1276845.70	21S	236251.27	1368021.89
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4N	214297.98	1286683.37	22N	236085.13	1369597.40
4S	214181.60	1286689.28	22S	235983.19	1369600.42
5N	212101.19	1290816.88	23N	236132.05	1369799.96
5S	212012.88	1290769.95	23S	236036.61	1369831.07
6N	209353.44	1295987.01	24N	237023.41	1371893.00
6S	209240.53	1295986.38	24S	236926.83	1371921.42
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7S	210911.36	1299217.70	25S	237059.88	1372698.01
8AN	215073.09	1306648.70	26N	237686.42	1373164.24
8AS	214996.54	1306713.04	26S	237612.60	1373231.96
8N	212271.29	1303314.89	27N	237949.13	1373487.86
8S	212181.64	1303361.65	27S	237863.89	1373541.52
9N	215150.02	1306740.24	28N	239094.41	1375909.84
9S	215061.36	1306790.17	28N1	239008.91	1375729.03
10N	217045.15	1312328.60	28N2	239277.84	1375989.54
10S	216959.88	1312388.53	28S	239020.07	1375986.58
11N	223699.98	1317627.94	29N	240656.33	1376888.44
11S	223607.15	1317681.84	29S	240602.99	1376674.30
11S1	223294.23	1317432.67	30N	244775.86	1380070.92
11S2	223667.56	1318077.12	30S	244693.84	1380132.53
12-58	203972.82	1256520.29	31N	250385.92	1392648.94
12N	224702.86	1324093.17	31S	250285.04	1392668.28
12S	224605.15	1324115.61	32N	250151.82	1398319.13
13N	228531.30	1336576.16	32S	250051.16	1398393.15
13S	228435.70	1336605.48	33N	250568.38	1399646.44
14N	233419.79	1352514.67	33N1	250490.31	1399408.94
14S	233317.27	1352520.23	33N2	250804.75	1399727.87
14S1	233199.98	1352139.80	33S	250488.87	1399724.82
14S2	233251.22	1352916.74	34N	260304.93	1403000.28
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16S	233091.50	1362057.63	36N	263024.95	1399136.10
17N	233651.00	1363001.74	36S	263117.06	1399190.89
17S	233558.62	1363040.32	37N	263451.56	1398800.61
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18S	233931.68	1364070.49	38N	264780.90	1398700.17
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   NAVIGATION SYSTEM: SBG EKINOX-D IN REAL TIME KINEMATIC (RTK) MODE
   SURVEY ACQUISITION SOFTWARE: HYPACK 2017A
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NSRS CONTROL DATA
BENCHMARK: MORICHES USCG 1994 (PID: AA9073)
ELEVATION: 4.86' NAVD 88

LOCAL CONTROL DATA
BENCHMARK: Y 373 1956 (PID: KU0194)
ELEVATION: 3.79' NAVD 88

SCALE : 1" = 1000'

0 1000 2000 3000 4000

US ARMY CORPS OF ENGINEERS NEW YORK DISTRICT

OCEAN SURVEYS, INC.
1 LAN DRIVE, UNIT 1
OLD SAYBROOK, CONNECTICUT
06475-1843
www.oceansurveysinc.com

DATES OF SURVEY: 15 OCT. – 23 NOV. 2019

FILE NO: 4860
REQUEST NO: 4860

SCALE: ONE INCH = 1000 FEET

FIELD BOOKS:

APPROVED: J. BEAN FIELD CARTOGRAPHER
APPROVED: REGINALD SMITH PROJECT MANAGER
APPROVED: D. CLARKE FIELD CARTOGRAPHER
APPROVED: J. MIRAZ DEPUTY CHIEF OF SURVEY
DATE: 4 FEBRUARY 2020

DEPARTMENT OF THE ARMY
NEW YORK DISTRICT
CORPS OF ENGINEERS
NEW YORK, NEW YORK 10278

OPERATIONS DIVISION
SURVEY SECTION
CENAN-OP-S

LONG ISLAND INTRACOASTAL WATERWAY, N.Y.

SHEET LAYOUT

CONDITION SURVEY

VH-103

SHEET 3 OF 55

CHANNEL COORDINATES (NAD 83)

U.S.A.C.O.E. STATION NAME	NORTHING (Y)	EASTING (X)	U.S.A.C.O.E. STATION NAME	NORTHING (Y)	EASTING (X)
4S	214181.60	1286689.28	21S1	236115.19	1367754.51
5N	212101.19	1290816.88	21S2	236201.04	1368317.65
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6S	209240.53	1295986.38	23N	236132.05	1369799.96
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11S	223607.15	1317681.84	28N2	239277.84	1375989.54
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12N	224702.86	1324093.17	29S	240602.99	1376674.30
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13N	228531.30	1336576.16	30S	244693.84	1380132.53
13S	228435.70	1336605.48	31N	250385.92	1392648.94
14N	233419.79	1352514.67	31S	250285.04	1392668.28
14S	233317.27	1352520.23	32N	250151.82	1398379.13
14S1	233199.80	1352139.80	32S	250051.16	1398393.15
14S2	233251.22	1352916.74	33N	250568.38	1399646.44
15N	232399.43	1358609.70	33N1	250490.31	1399408.94
15S	232297.52	1358612.79	33N2	250804.75	1399727.87
16N	233186.50	1362024.55	33S	250488.87	1399724.82
16S	233091.50	1362057.63	34N	260304.93	1403000.28
17N	233651.00	1363001.74	34S	260302.56	1403105.23
17S	233558.62	1363040.32	35N	262475.29	1402360.70
18N	234020.44	1364021.91	35S	262563.39	1402438.99
18S	233931.68	1364070.49	36N	263024.95	1399136.10
19N	234067.08	1364082.74	36S	263117.06	1399190.89
19S	233988.58	1364144.70	37N	263451.56	1398800.61
20N	234847.49	1365043.15	37S	263489.45	1398898.04
20S	234763.19	1365097.97	38N	264780.90	1398700.17
21N	236355.39	1368006.01	38S	264788.43	1398799.89
21S	236251.27	1368021.89			

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NSRS CONTROL DATA
BENCHMARK: MORICHES USCG 1994 (PID: AA9073) ELEVATION: 4.86' NAVD 88

LOCAL CONTROL DATA
BENCHMARK: Y 373 1956 (PID: KU0194) ELEVATION: 3.79' NAVD 88

SCALE : 1" = 1000'

0 1000 2000 3000 4000

US ARMY CORPS OF ENGINEERS NEW YORK DISTRICT

OCEAN SURVEYS, INC.
OCEANOGRAPHY
OLD SAYBROOK, CONNECTICUT
www.oceansurveysinc.com

DATES OF SURVEY: 15 OCT. – 23 NOV. 2019

FILE NO.: 4860
REQUEST NO.: 4860

SCALE: ONE INCH = 1000 FEET

FIELD BOOKS:

APPROVED: J. BEAN
FIELD CARTOGRAPHER

APPROVED: REGINALD SMITH
PROJECT MANAGER

APPROVED: D. CLARKE
CHIEF, FIELD OPERATIONS

APPROVED: J. MRAZ
DEPUTY CHIEF OF SURVEY

DATE: 4 FEBRUARY 2020

DEPARTMENT OF THE ARMY
NEW YORK DISTRICT
CORPS OF ENGINEERS
NEW YORK, NEW YORK 10278

OPERATIONS DIVISION
SURVEY SECTION
CENAN-OP-S

LONG ISLAND INTRACOASTAL WATERWAY, N.Y.

SHEET LAYOUT

CONDITION SURVEY

VH-104

SHEET 4 OF 55

CHANNEL COORDINATES (NAD 83)

U.S.A.C.O.E. STATION NAME	NORTHING (Y)	EASTING (X)	U.S.A.C.O.E. STATION NAME	NORTHING (Y)	EASTING (X)
4S	214181.60	1286689.28	21S1	236115.19	1367754.51
5N	212101.19	1290816.88	21S2	236201.04	1368317.65
5S	212012.88	1290769.95	22N	236085.13	1369597.40
6N	209353.44	1295987.01	22S	235983.19	1369600.42
6S	209240.53	1295986.38	23N	236132.05	1369799.06
7N	211004.33	1299179.78	23S	236036.61	1369831.07
7S	210911.36	1299217.70	24N	237023.41	1371893.00
8AN	215073.09	1306648.70	24S	236926.83	1371921.42
8AS	214996.54	1306713.04	25N	237152.92	1372648.85
8N	212271.29	1303314.89	25S	237059.88	1372698.01
8S	212181.64	1303363.65	26N	237686.42	1373164.24
9N	215150.02	1306740.24	26S	237612.60	1373231.96
9S	215061.36	1306790.17	27N	237949.13	1373487.86
10N	217045.15	1312324.60	27S	237863.89	1373541.52
10S	216959.88	1312388.53	28N	239094.41	1375909.84
11N	223699.98	1317627.94	28N1	239008.91	1375729.03
11S	223607.15	1317681.84	28N2	239277.84	1375989.54
11S1	223294.23	1317432.67	28S	239020.07	1375986.58
11S2	223667.56	1318077.12	29N	240656.33	1376588.44
12N	224702.86	1324093.17	29S	240602.99	1376674.30
12S	224605.15	1324115.61	30N	244775.86	1380070.92
13N	228531.30	1336576.16	30S	244693.84	1380132.63
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NSRS CONTROL DATA

BENCHMARK: MORICHES USCG 1994 (PID: AA9073)
ELEVATION: 4.86' NAVD 88

LOCAL CONTROL DATA

BENCHMARK: Y 373 1956 (PID: KU0194)
ELEVATION: 3.79' NAVD 88

SCALE : 1" = 1000'

0 1000 2000 3000 4000

US ARMY CORPS OF ENGINEERS NEW YORK DISTRICT

OCEAN SURVEYS, INC.
1565 BOSTON POST ROAD
OLD SAYBROOK, CONNECTICUT
www.oceansurveysinc.com

DATES OF SURVEY: 15 OCT. – 23 NOV. 2019

FILE NO.: 4860
REQUEST NO.: 4860

SCALE: ONE INCH = 1000 FEET

FIELD BOOKS:

APPROVED: J. BEAN FIELD CARTOGRAPHER
APPROVED: REGINALD SMITH PROJECT MANAGER
APPROVED: D. CLARKE CHIEF, FIELD CARTOGRAPHER
APPROVED: J. MRAZ SENIOR CHIEF OF SURVEY
DATE: 4 FEBRUARY 2020

DEPARTMENT OF THE ARMY
NEW YORK DISTRICT
CORPS OF ENGINEERS
NEW YORK, NEW YORK 10278

OPERATIONS DIVISION
SURVEY SECTION
CENAN-OP-S

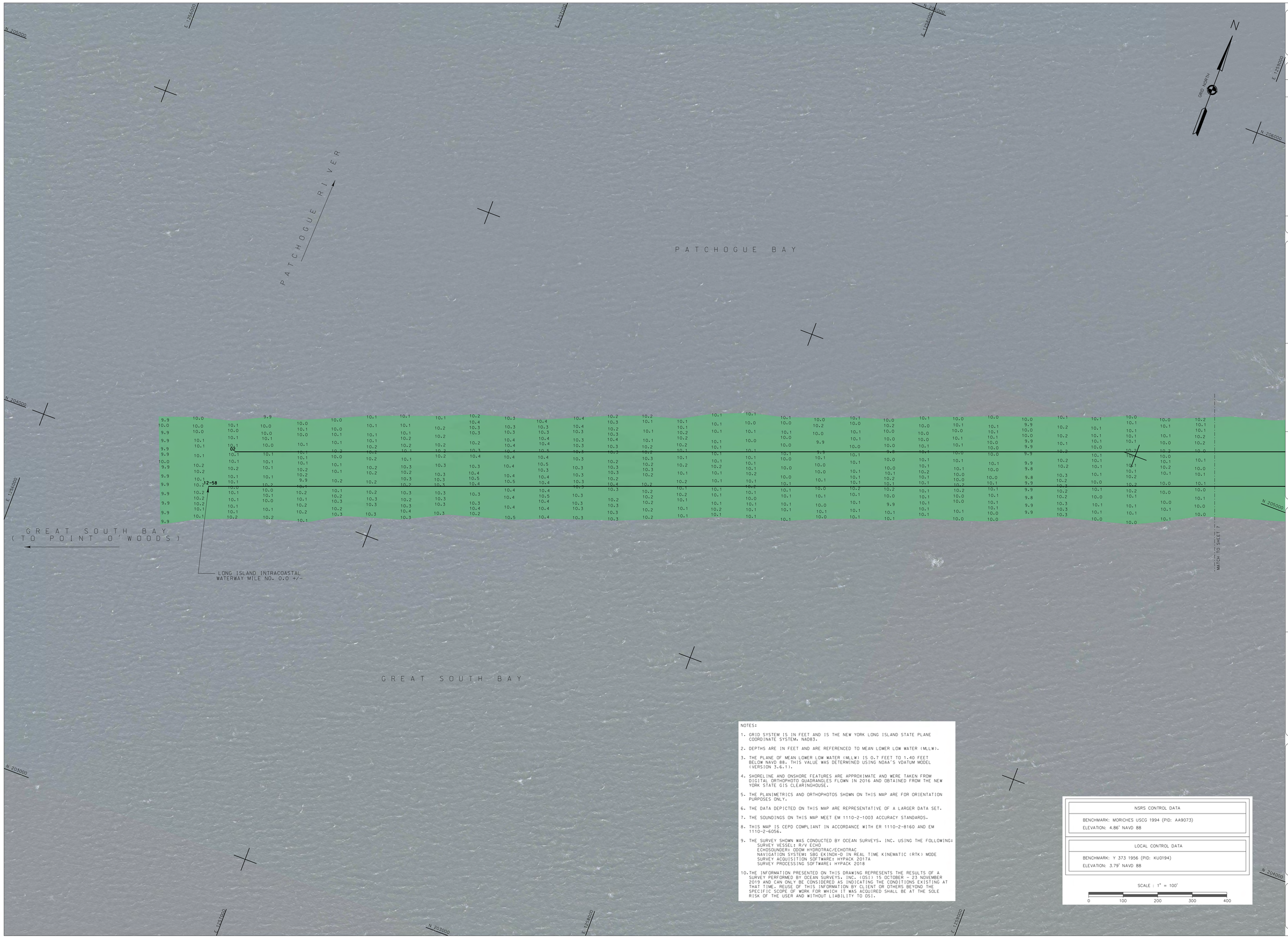
LONG ISLAND INTRACOASTAL WATERWAY, N.Y.

SHEET LAYOUT

CONDITION SURVEY

VH–105

SHEET 5 OF 55



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0 100 200 300 400

US ARMY CORPS OF ENGINEERS
NEW YORK DISTRICT

OCEAN SURVEYS, INC.
1291 MILL ROCK ROAD EAST
OLD SAYBROOK, CONNECTICUT
(860) 388-4457
www.oceansurveys.com

DATES OF SURVEY:
15 OCT. - 23 NOV. 2019

FILE NO.: 4860
REQUEST NO.: 4860

SCALE:
ONE INCH = 100 FEET

FIELD BOOKS:

APPROVED: J. BEAN
FIELD CARTOGRAPHER

APPROVED: REGINALD SMITH
PROJECT MANAGER

APPROVED: D. CLARKE
LEAD CARTOGRAPHER

APPROVED: J. MRAZ
DEPUTY CHIEF OF SURVEY

DATE: 4 FEBRUARY 2020

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OPERATIONS DIVISION
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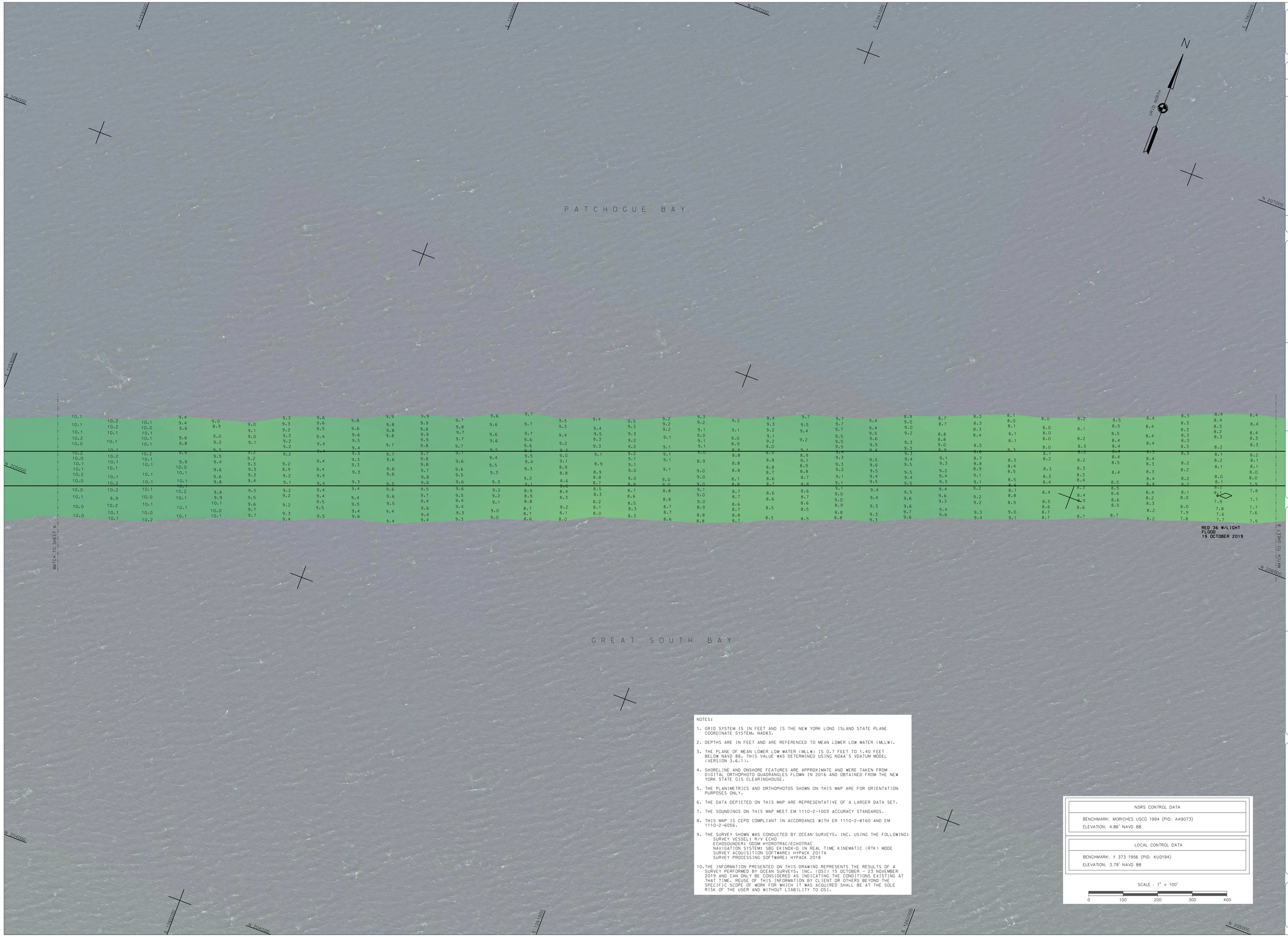
LONG ISLAND INTRACOASTAL WATERWAY, N.Y.

VICINITY OF PATCHOGUE, N.Y.

CONDITION SURVEY

VH-106



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NEW YORK DISTRICT

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OLD SAYBROOK, CONNECTICUT
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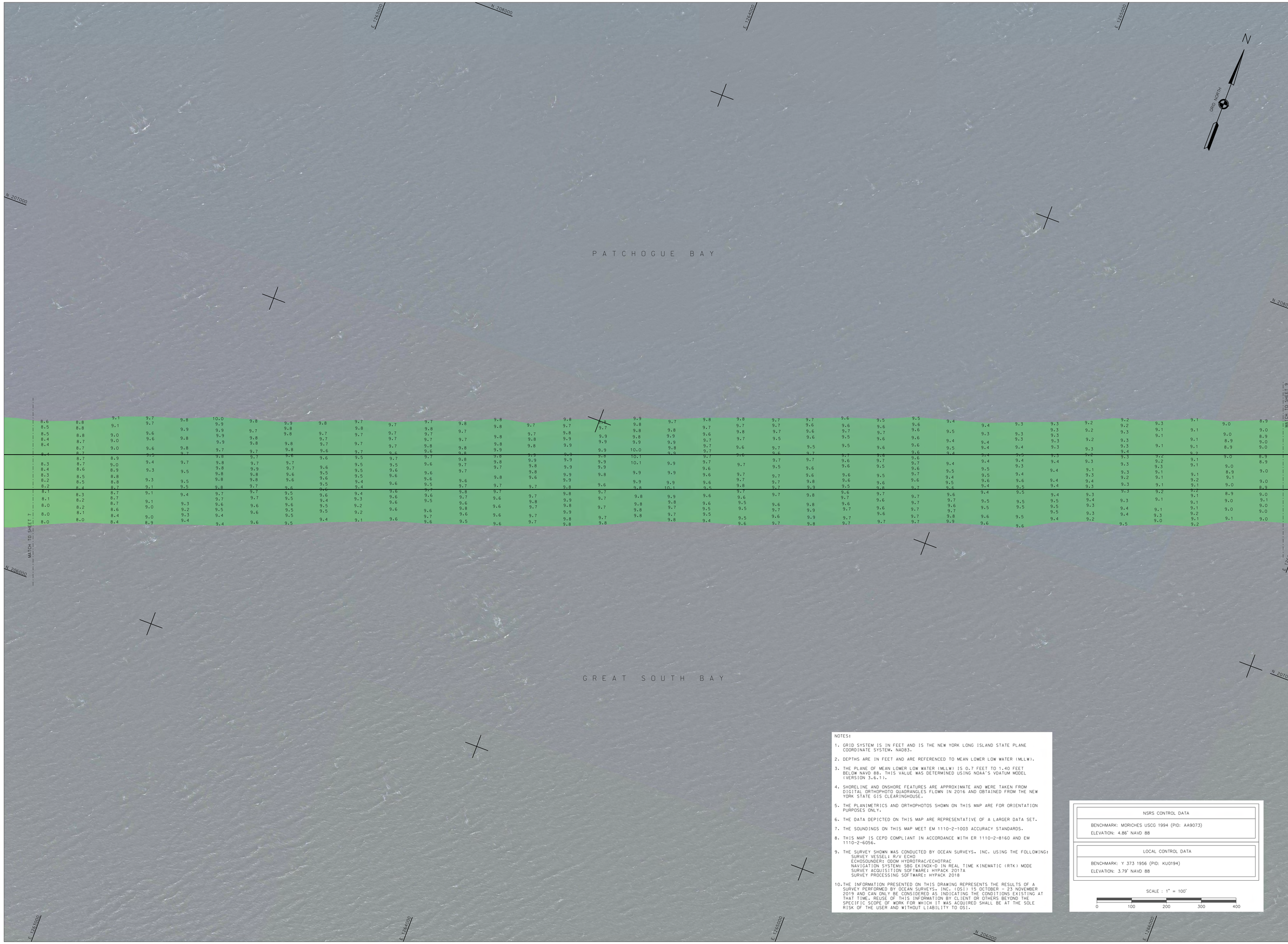
SURVEY SECTION
CENAN-OP-S

LONG ISLAND INTRACOASTAL WATERWAY, N.Y.

VICINITY OF PATCHOGUE, N.Y.

CONDITION SURVEY

VH-107



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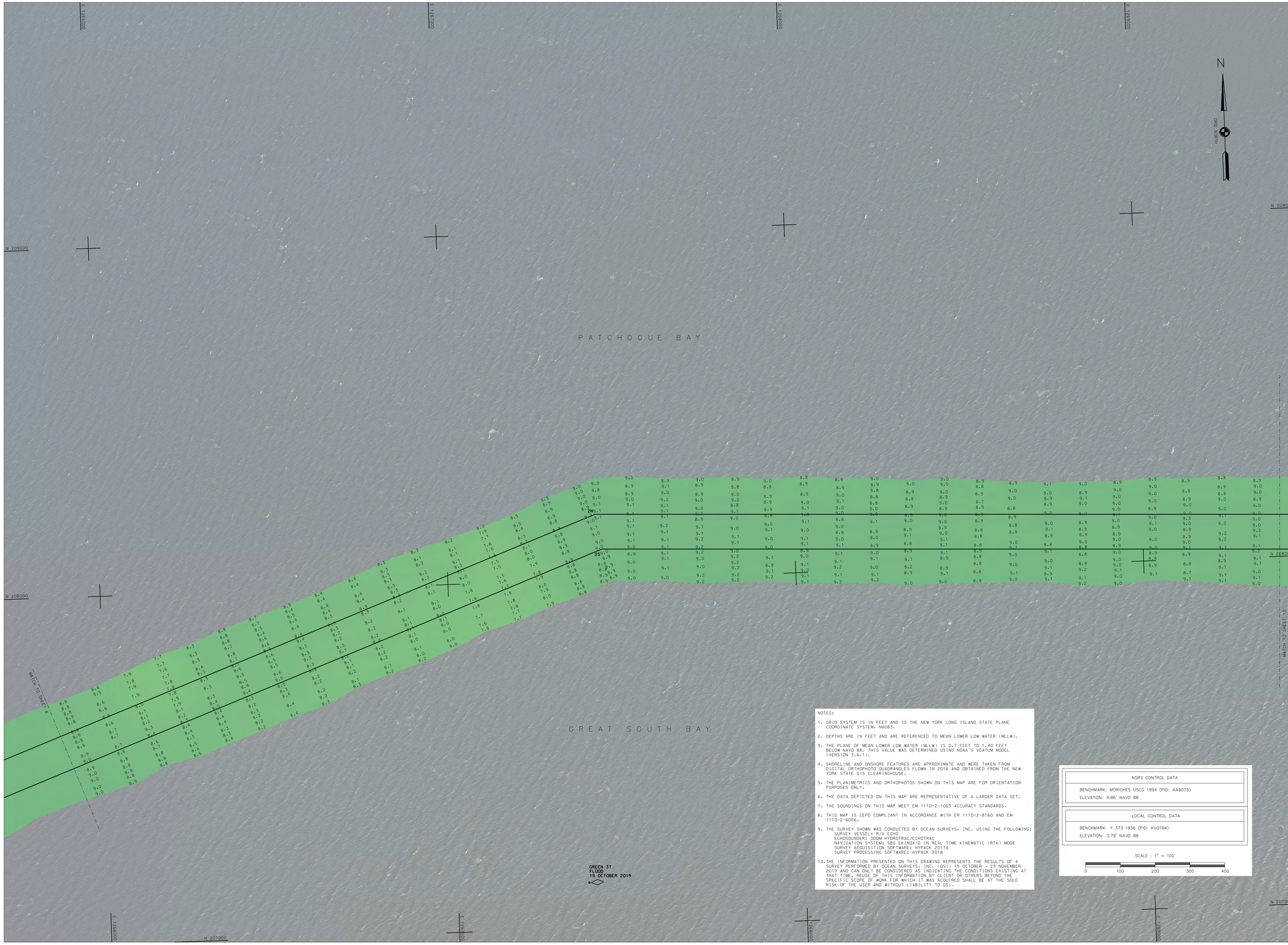
CONDITION SURVEY

VH-108



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OLD SAYBROOK, CONNECTICUT
(860) 388-4457
www.oceansurveys.com

DATES OF SURVEY:
15 OCT. - 23 NOV. 2019

FILE NO.: 4860
REQUEST NO.: 4860

SCALE:
ONE INCH = 100 FEET

FIELD BOOKS:

APPROVED: J. BEAN
FIELD CARTOGRAPHER

APPROVED: REGINALD SMITH
PROJECT MANAGER

APPROVED: D. CLARKE
LEAD CARTOGRAPHER

APPROVED: J. MRAZ
DEPUTY CHIEF OF SURVEY

DATE: 4 FEBRUARY 2020

DEPARTMENT OF THE ARMY
NEW YORK DISTRICT
CORPS OF ENGINEERS
NEW YORK, NEW YORK 10278

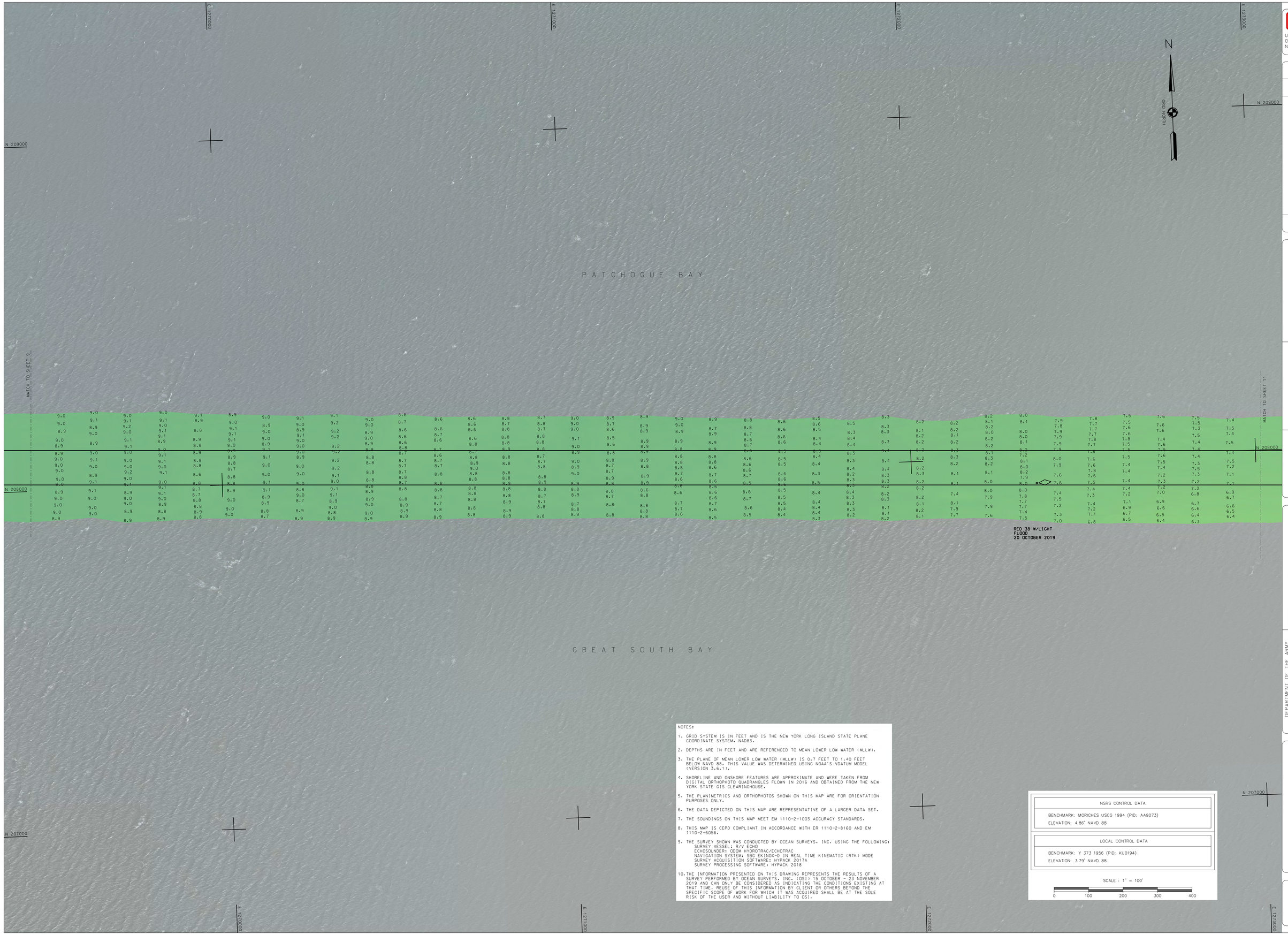
OPERATIONS DIVISION
SURVEY SECTION
CENAN-OP-S

LONG ISLAND INTRACOASTAL WATERWAY, N.Y.

VICINITY OF PATCHOGUE, N.Y.

CONDITION SURVEY

VH-109



NOTES:

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   ECHOSOUNDER: ODOM HYDROTRAC/ECHOTRAC
   NAVIGATION SYSTEM: SBG EKINOX-D IN REAL TIME KINEMATIC (RTK) MODE
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NSRS CONTROL DATA
BENCHMARK: MORICHES USCG 1994 (PID: AA9073)
ELEVATION: 4.86' NAVD 88

LOCAL CONTROL DATA
BENCHMARK: Y 373 1956 (PID: KU0194)
ELEVATION: 3.79' NAVD 88

SCALE : 1" = 100'

0 100 200 300 400

US ARMY CORPS OF ENGINEERS
NEW YORK DISTRICT

OCEAN SURVEYS, INC.
125 MILL ROCK ROAD EAST
OLD SAYBROOK, CONNECTICUT
(860) 388-4457

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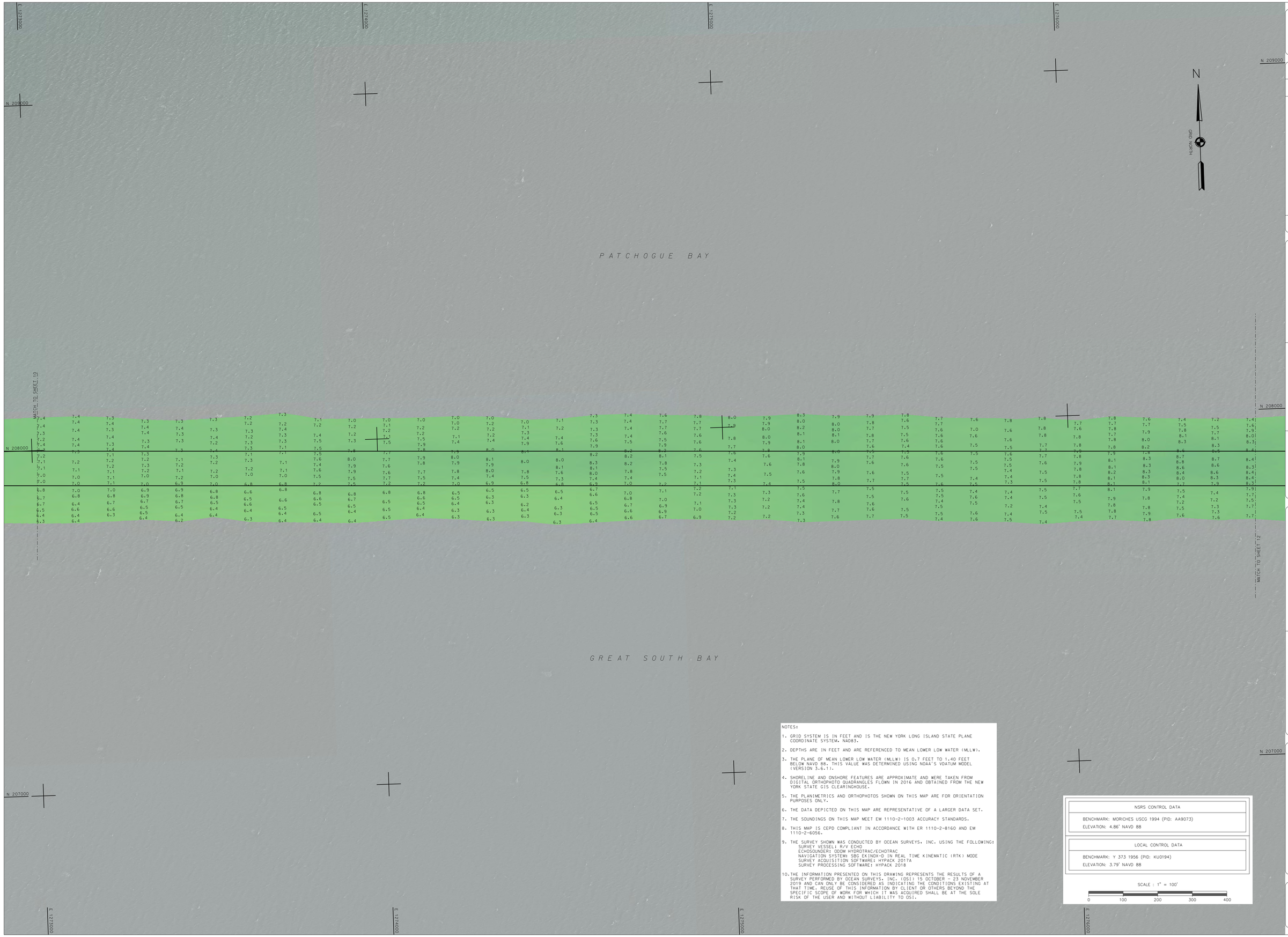
CONDITION SURVEY

VH-110

SHEET 10 OF 55



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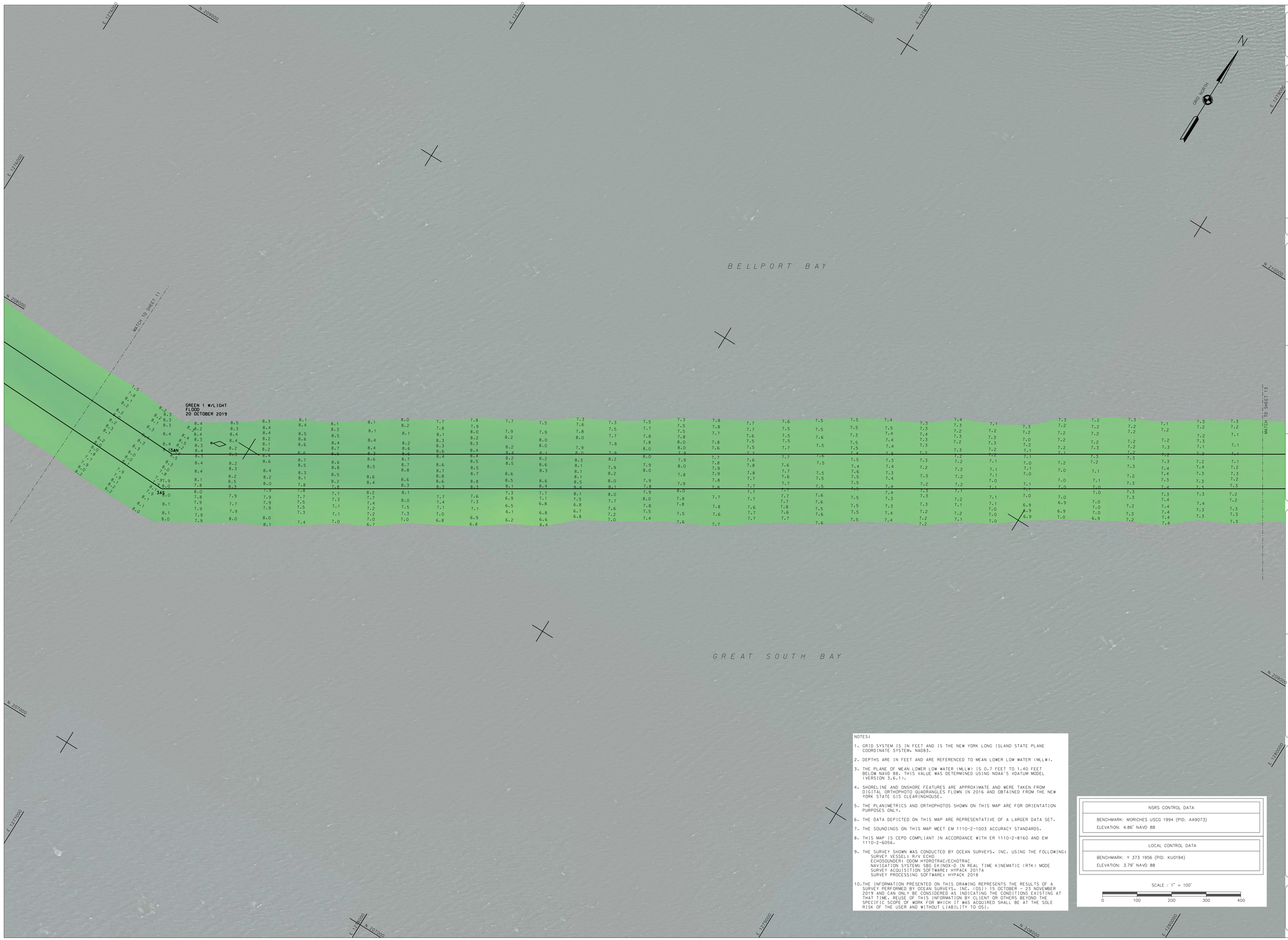
CONDITION SURVEY

VH-111



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125 MILL ROCK ROAD EAST
OLD SAYBROOK, CONNECTICUT
(860) 388-4473
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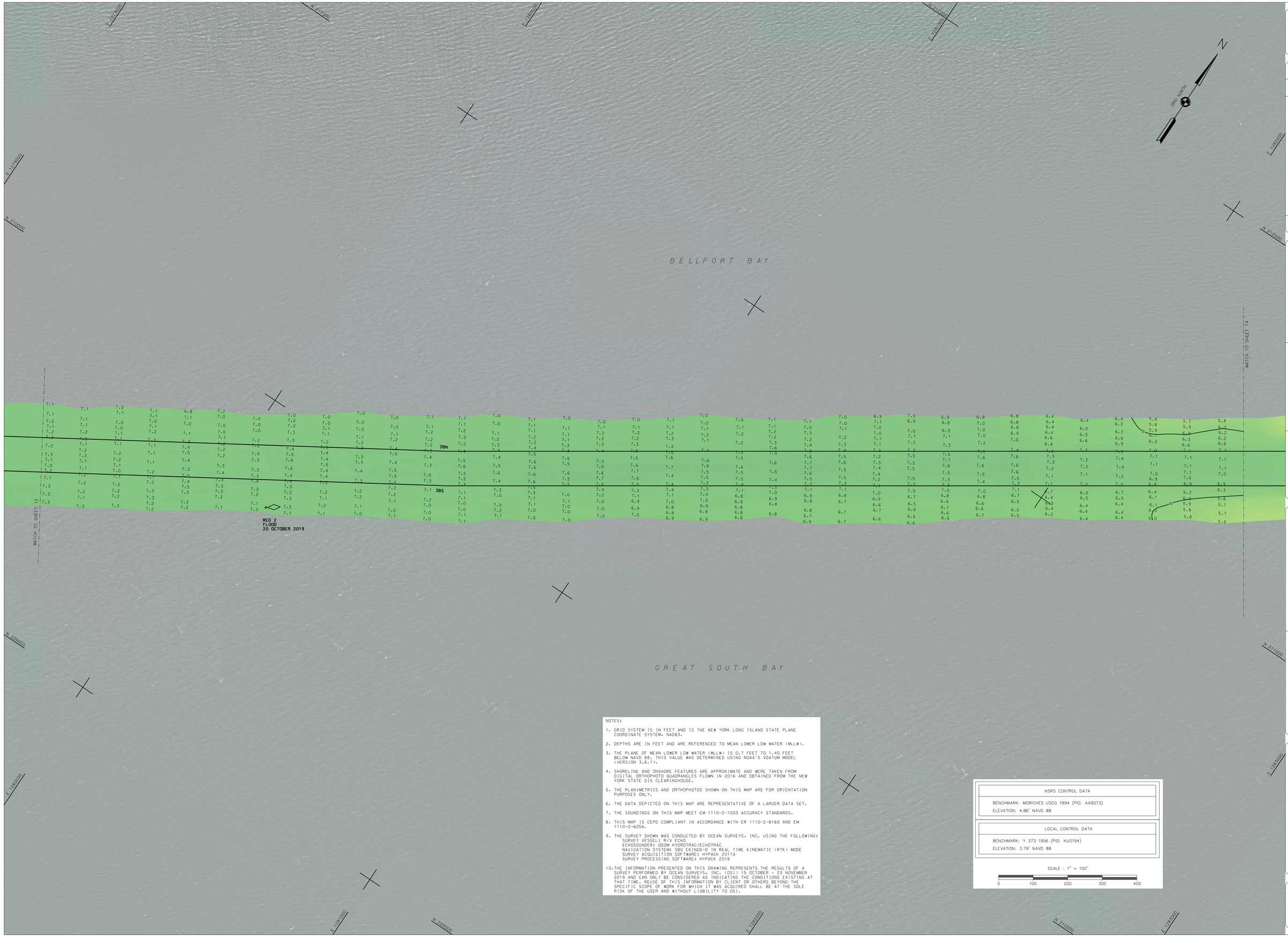
CONDITION SURVEY

VH-112



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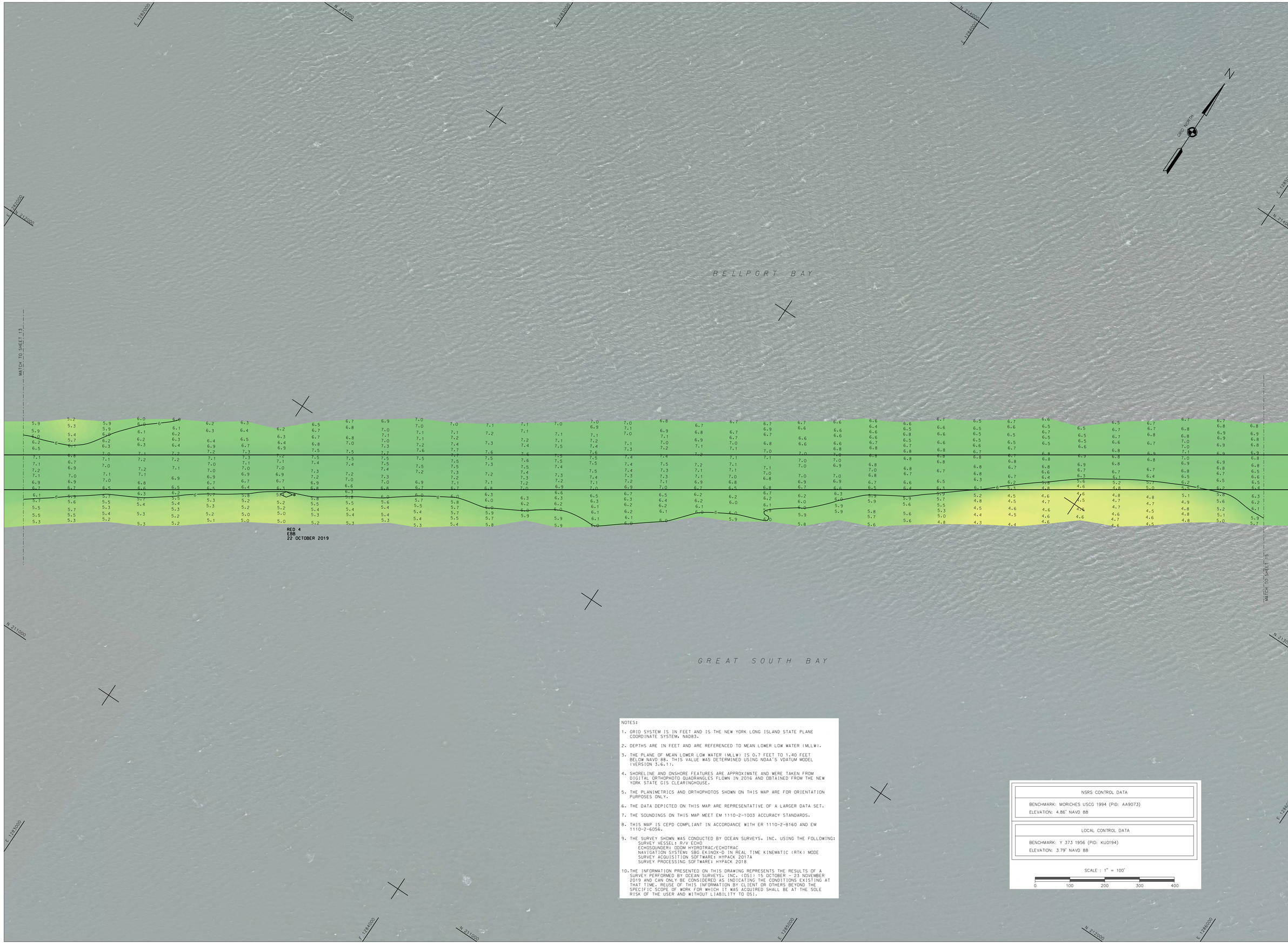
VICINITY OF BELLPORT, N.Y.

CONDITION SURVEY

VH-113



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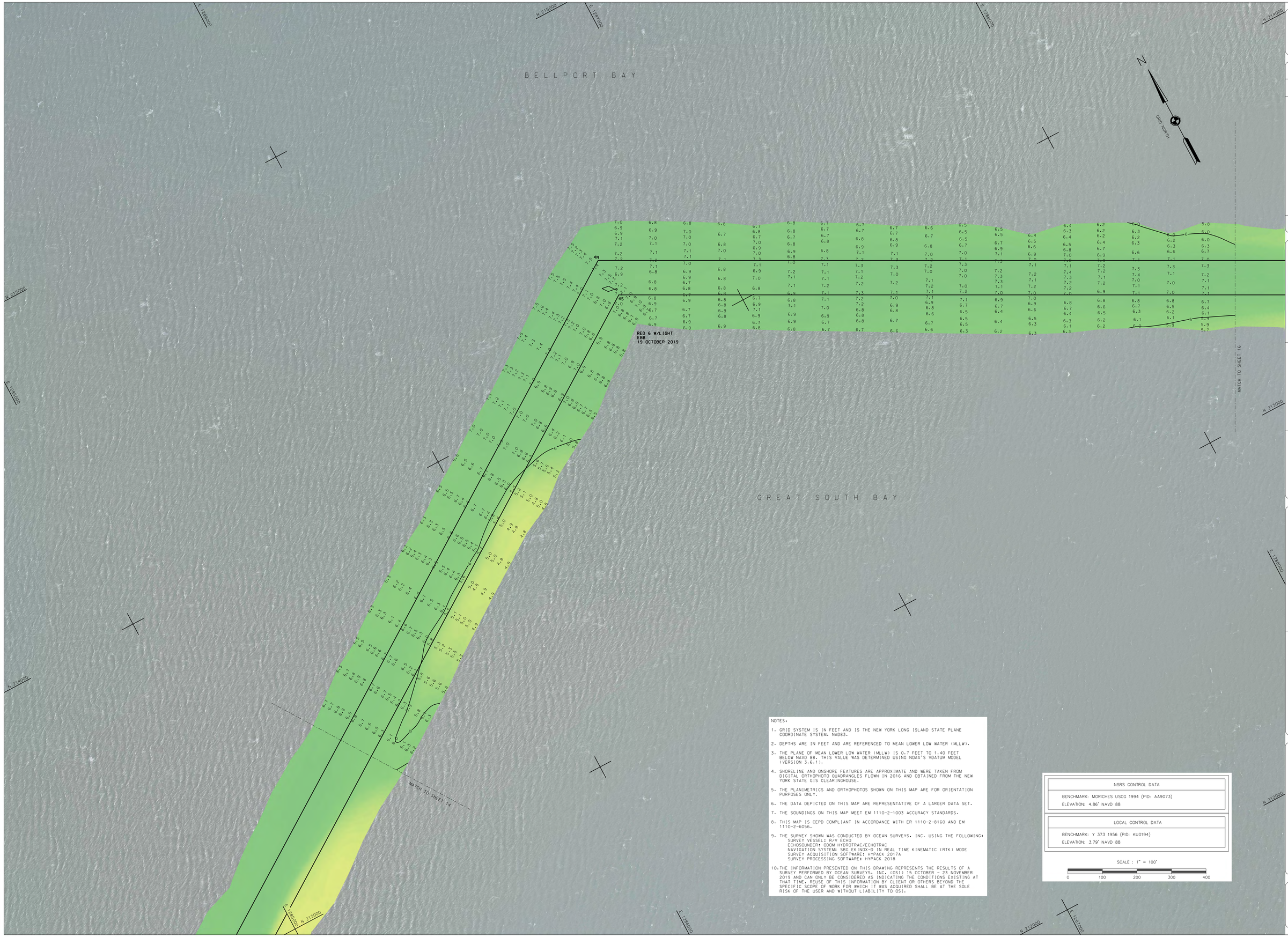
CONDITION SURVEY

VH-114



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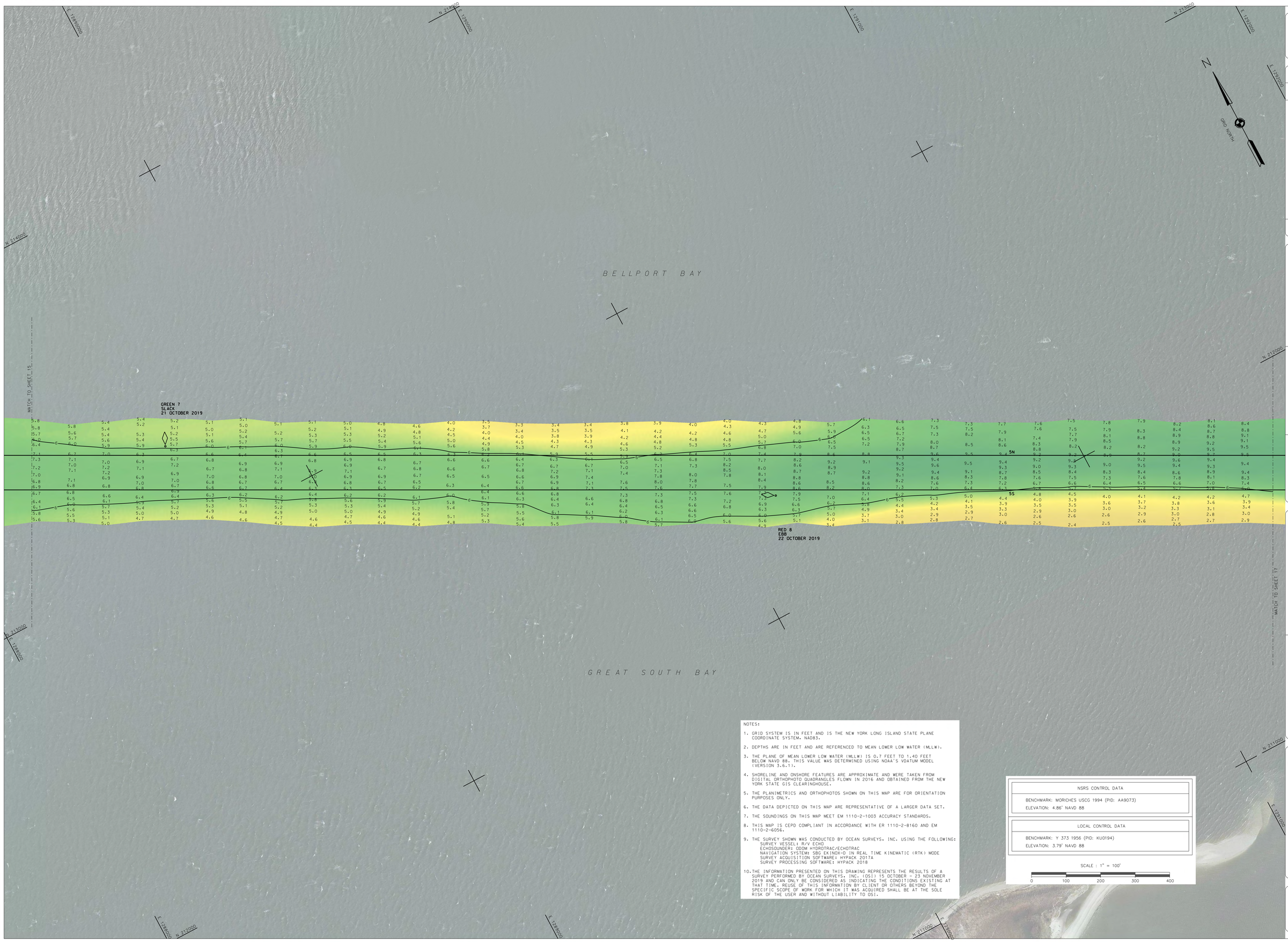
VH-115

SHEET 15 OF 55



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LEAD CARTOGRAPHER

APPROVED: J. MRAZ
DEPUTY CHIEF OF SURVEY

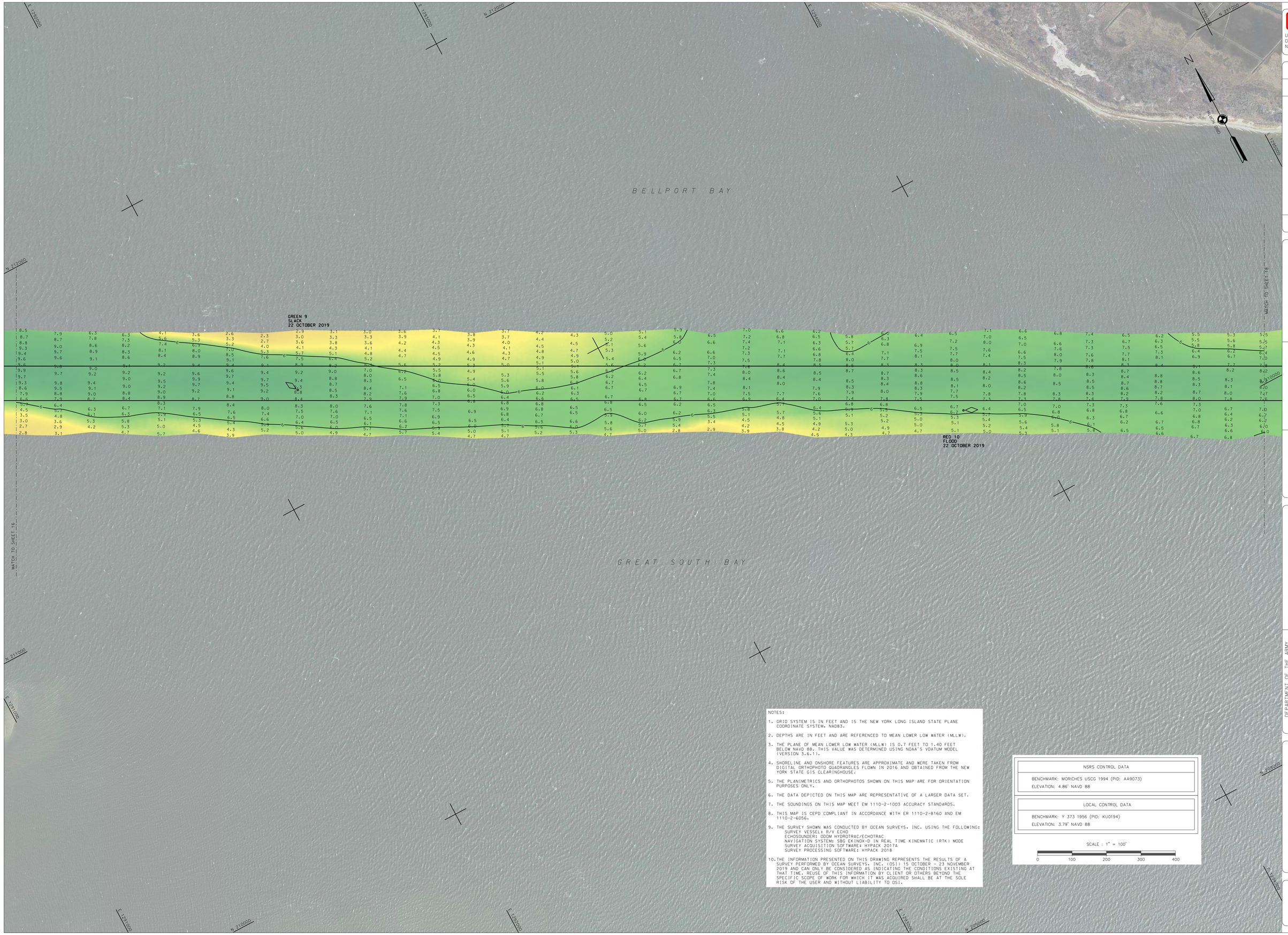
DATE: 4 FEBRUARY 2020

DEPARTMENT OF THE ARMY
NEW YORK DISTRICT
CORPS OF ENGINEERS
NEW YORK, NEW YORK 10278

OPERATIONS DIVISION
SURVEY SECTION
CENAN-OP-S

LONG ISLAND INTRACOASTAL WATERWAY, N.Y.
VICINITY OF BELLPORT BAY, N.Y.
CONDITION SURVEY

VH–116



NOTES:

1. GRID SYSTEM IS IN FEET AND IS THE NEW YORK LONG ISLAND STATE PLANE COORDINATE SYSTEM, NAD83.

2. DEPTHS ARE IN FEET AND ARE REFERENCED TO MEAN LOWER LOW WATER (MLLW).

3. THE PLANE OF MEAN LOWER LOW WATER (MLLW) IS 0.7 FEET TO 1.40 FEET BELOW NAVD 88. THIS VALUE WAS DETERMINED USING NOAA'S VDATUM MODEL (VERSION 3.6.1).

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8. THIS MAP IS CEPD COMPLIANT IN ACCORDANCE WITH ER 1110-2-8160 AND EM 1110-2-6056.

9. THE SURVEY SHOWN WAS CONDUCTED BY OCEAN SURVEYS, INC. USING THE FOLLOWING:
   SURVEY VESSEL: R/V ECHO
   ECHOSOUNDER: ODOM HYDROTRAC/ECHOTRAC
   NAVIGATION SYSTEM: SBG EKINOX-D IN REAL TIME KINEMATIC (RTK) MODE
   SURVEY ACQUISITION SOFTWARE: HYPACK 2017A
   SURVEY PROCESSING SOFTWARE: HYPACK 2018

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NSRS CONTROL DATA
BENCHMARK: MORICHES USCG 1994 (PID: AA9073)
ELEVATION: 4.86' NAVD 88

LOCAL CONTROL DATA
BENCHMARK: Y 373 1956 (PID: KU0194)
ELEVATION: 3.79' NAVD 88

SCALE : 1" = 100'

0 100 200 300 400

US ARMY CORPS
OF ENGINEERS
NEW YORK DISTRICT

OCEAN SURVEYS, INC.
A DIVISION OF OSI
OLD SAYBROOK, CONNECTICUT
www.oceansurveysinc.com

DATES OF SURVEY:
15 OCT. – 23 NOV. 2019

FILE NO.: 4860
REQUEST NO.: 4860

SCALE:
ONE INCH = 100 FEET

FIELD BOOKS:

APPROVED: J. BEAN
FIELD CARTOGRAPHER

APPROVED: REGINALD SMITH
PROJECT MANAGER

APPROVED: D. CLARKE
CHIEF, FIELD CARTOGRAPHER

APPROVED: J. MRUZ
DEPUTY CHIEF OF SURVEY

DATE: 4 FEBRUARY 2020

DEPARTMENT OF THE ARMY
NEW YORK DISTRICT
CORPS OF ENGINEERS
NEW YORK, NEW YORK 10278

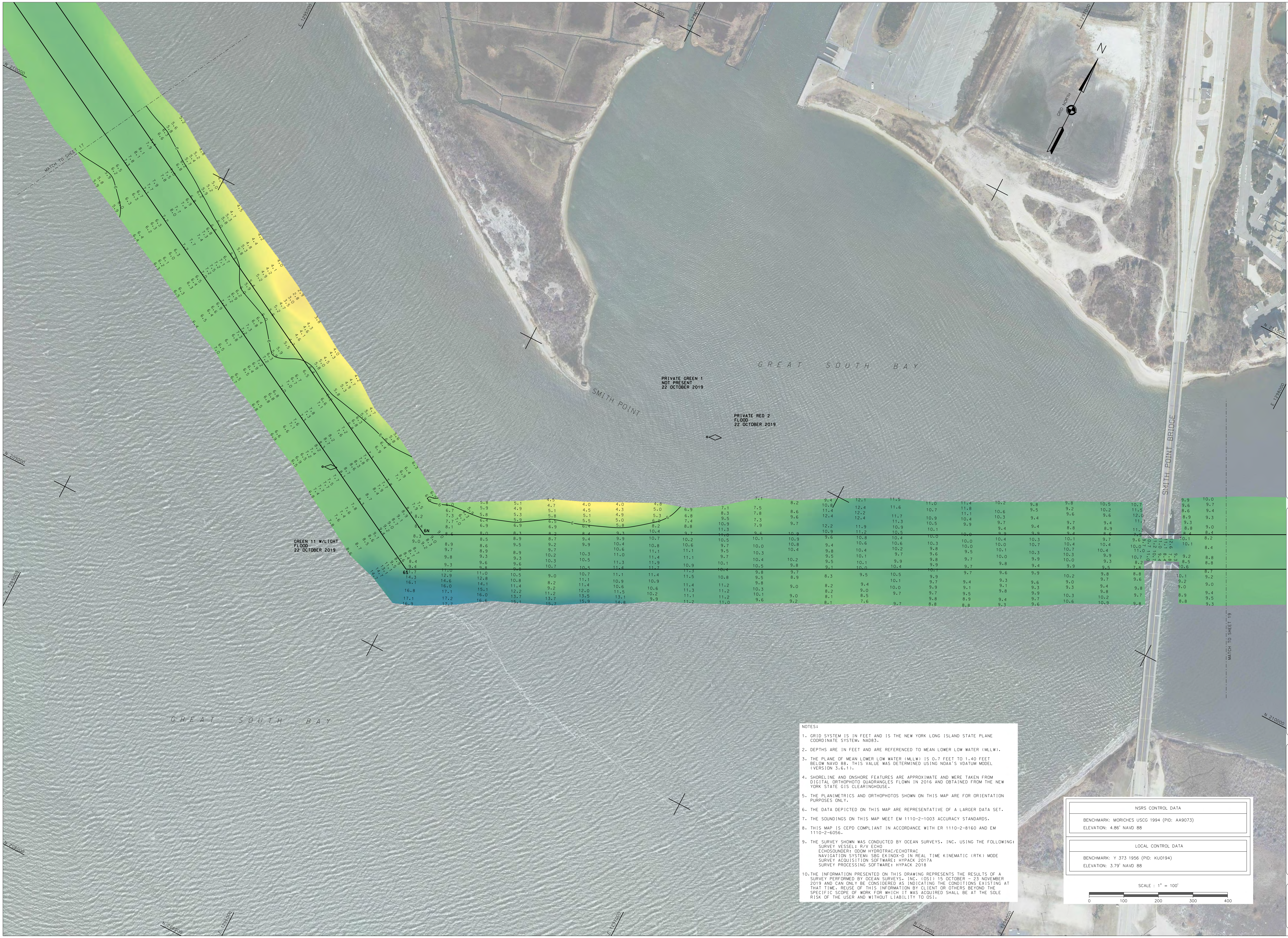
OPERATIONS DIVISION
SURVEY SECTION
CENAN-OP-S

LONG ISLAND INTRACOASTAL WATERWAY, N.Y.

VICINITY OF BELLPORT BAY, N.Y.

CONDITION SURVEY

VH–117



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US ARMY CORPS OF ENGINEERS
NEW YORK DISTRICT

OCEAN SURVEYS, INC.
129 MILL ROCK ROAD EAST
OLD SAYBROOK, CONNECTICUT
(860) 388-4631
OSI
www.oceansurveys.com

DATES OF SURVEY:
15 OCT. - 23 NOV. 2019

FILE NO.: 4860
REQUEST NO.: 4860

SCALE:
ONE INCH = 100 FEET

FIELD BOOKS:

APPROVED: J. BEAN — FIELD CARTOGRAPHER
APPROVED: REGINALD SMITH — PROJECT MANAGER
APPROVED: D. CLARKE — LEAD CARTOGRAPHER
APPROVED: J. MRAZ — DEPUTY CHIEF OF SURVEY
DATE: 4 FEBRUARY 2020

DEPARTMENT OF THE ARMY
NEW YORK DISTRICT
CORPS OF ENGINEERS
NEW YORK, NEW YORK 10278

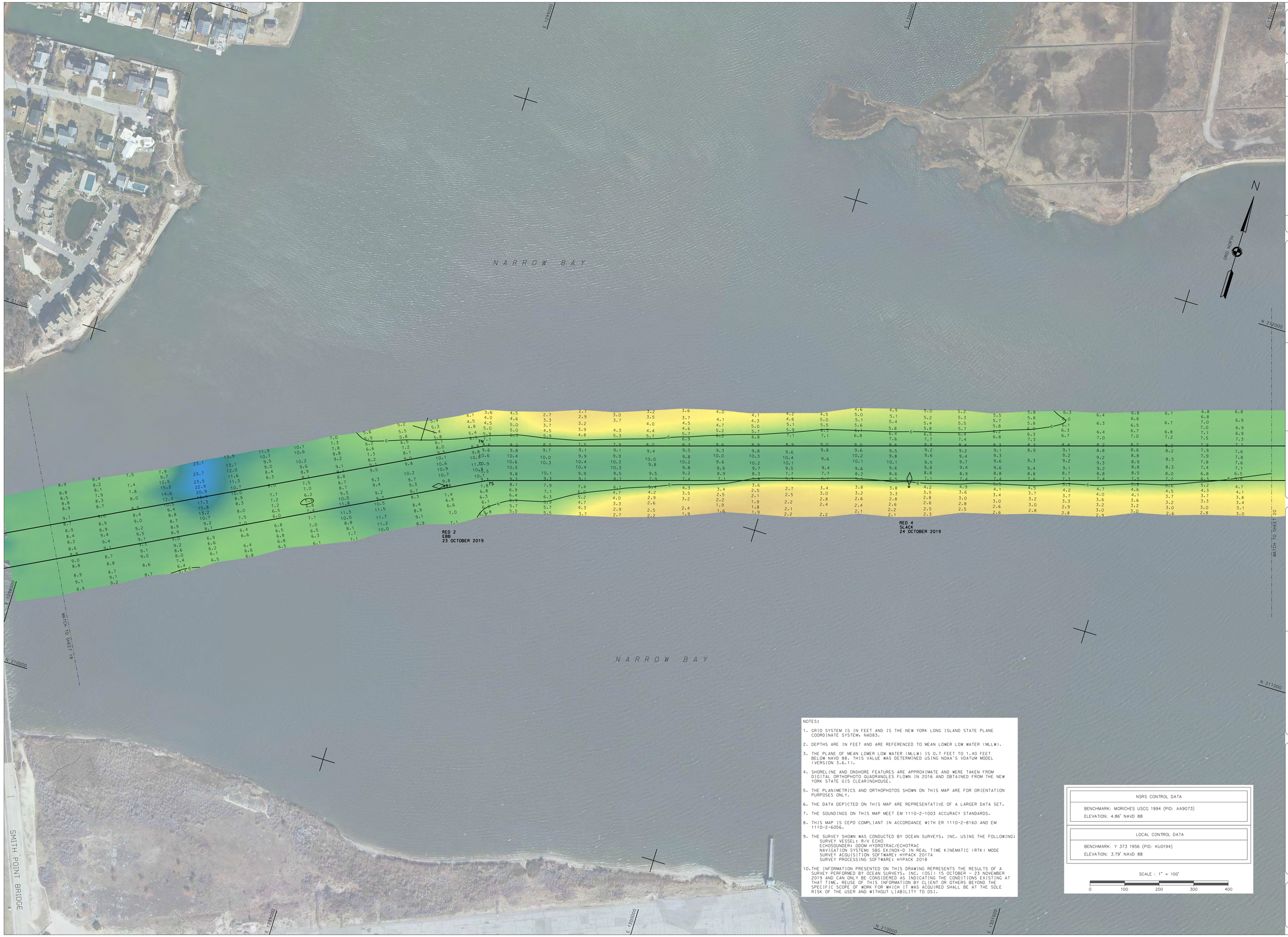
OPERATIONS DIVISION
SURVEY SECTION
CENAN-OP-S

LONG ISLAND INTRACOASTAL WATERWAY, N.Y.

VICINITY OF SMITH POINT, N.Y.

CONDITION SURVEY

VH-118



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US ARMY CORPS OF ENGINEERS
NEW YORK DISTRICT

OCEAN SURVEYS, INC.
1291 MILL ROCK ROAD EAST
OLD SAYBROOK, CONNECTICUT
(860) 388-4457
www.oceansurveys.com

DATES OF SURVEY:
15 OCT. - 23 NOV. 2019

FILE NO.: 4860
REQUEST NO.: 4860

SCALE:
ONE INCH = 100 FEET

FIELD BOOKS:

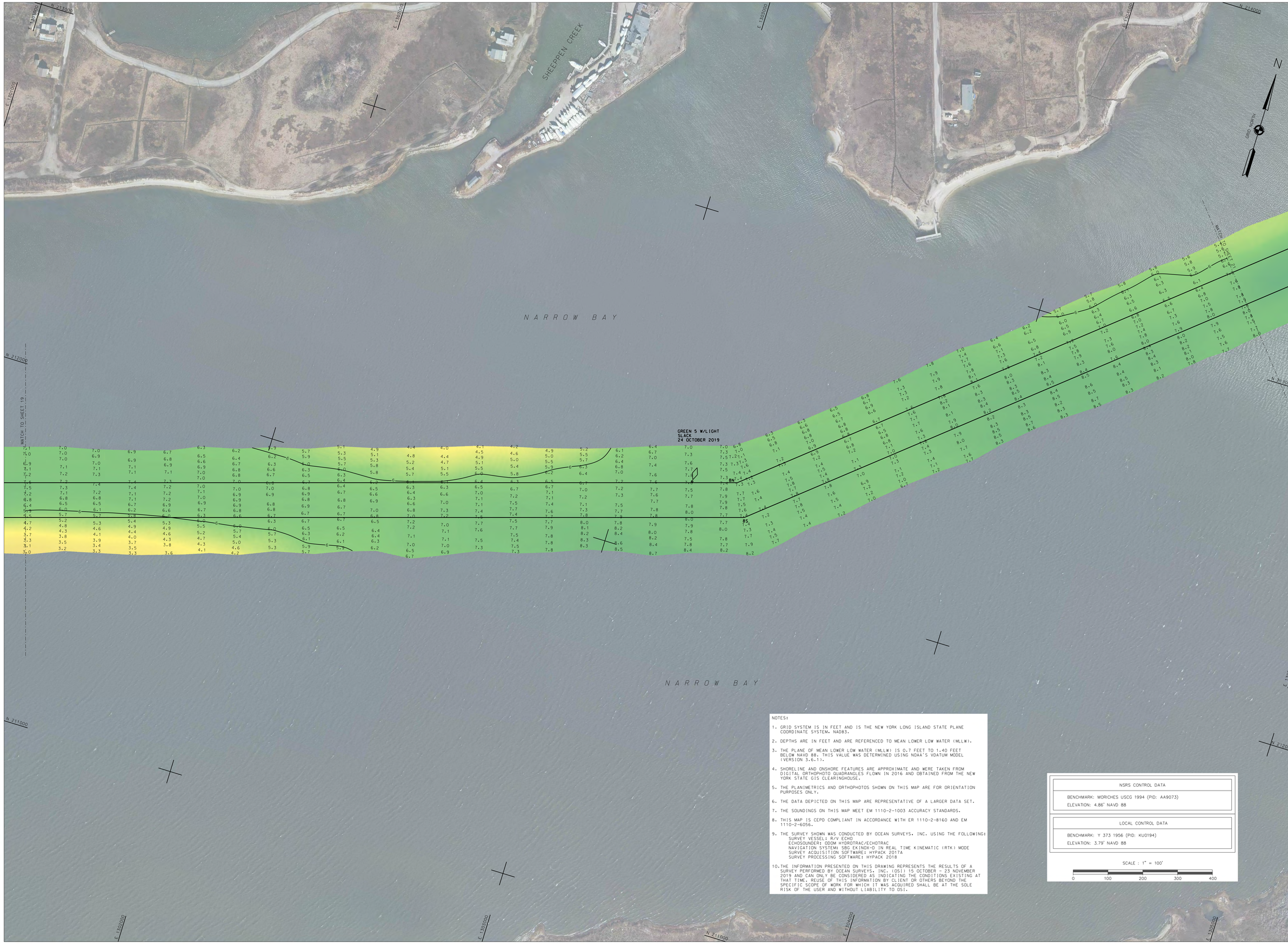
APPROVED: J. BEAN, FIELD CARTOGRAPHER
APPROVED: REGINALD SMITH, PROJECT MANAGER
APPROVED: D. CLARKE, LEAD CARTOGRAPHER
APPROVED: J. MRAZ, DEPUTY CHIEF OF SURVEY
DATE: 4 FEBRUARY 2020

DEPARTMENT OF THE ARMY
NEW YORK DISTRICT
CORPS OF ENGINEERS
NEW YORK, NEW YORK 10278

OPERATIONS DIVISION
SURVEY SECTION
CENAN-OP-S

LONG ISLAND INTRACOASTAL WATERWAY, N.Y.
VICINITY OF NARROW BAY, N.Y.
CONDITION SURVEY

VH-119



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US ARMY CORPS OF ENGINEERS
NEW YORK DISTRICT

OCEAN SURVEYS, INC.
125 MILL ROCK ROAD EAST
OLD SAYBROOK, CONNECTICUT
(860) 388-4131

DATES OF SURVEY:
15 OCT. - 23 NOV. 2019

FILE NO.: 4860
REQUEST NO.: 4860

SCALE:
ONE INCH = 100 FEET

FIELD BOOKS:

APPROVED: J. BEAN
FIELD CARTOGRAPHER

APPROVED: REGINALD SMITH
PROJECT MANAGER

APPROVED: D. CLARKE
LEAD CARTOGRAPHER

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DATE: 4 FEBRUARY 2020

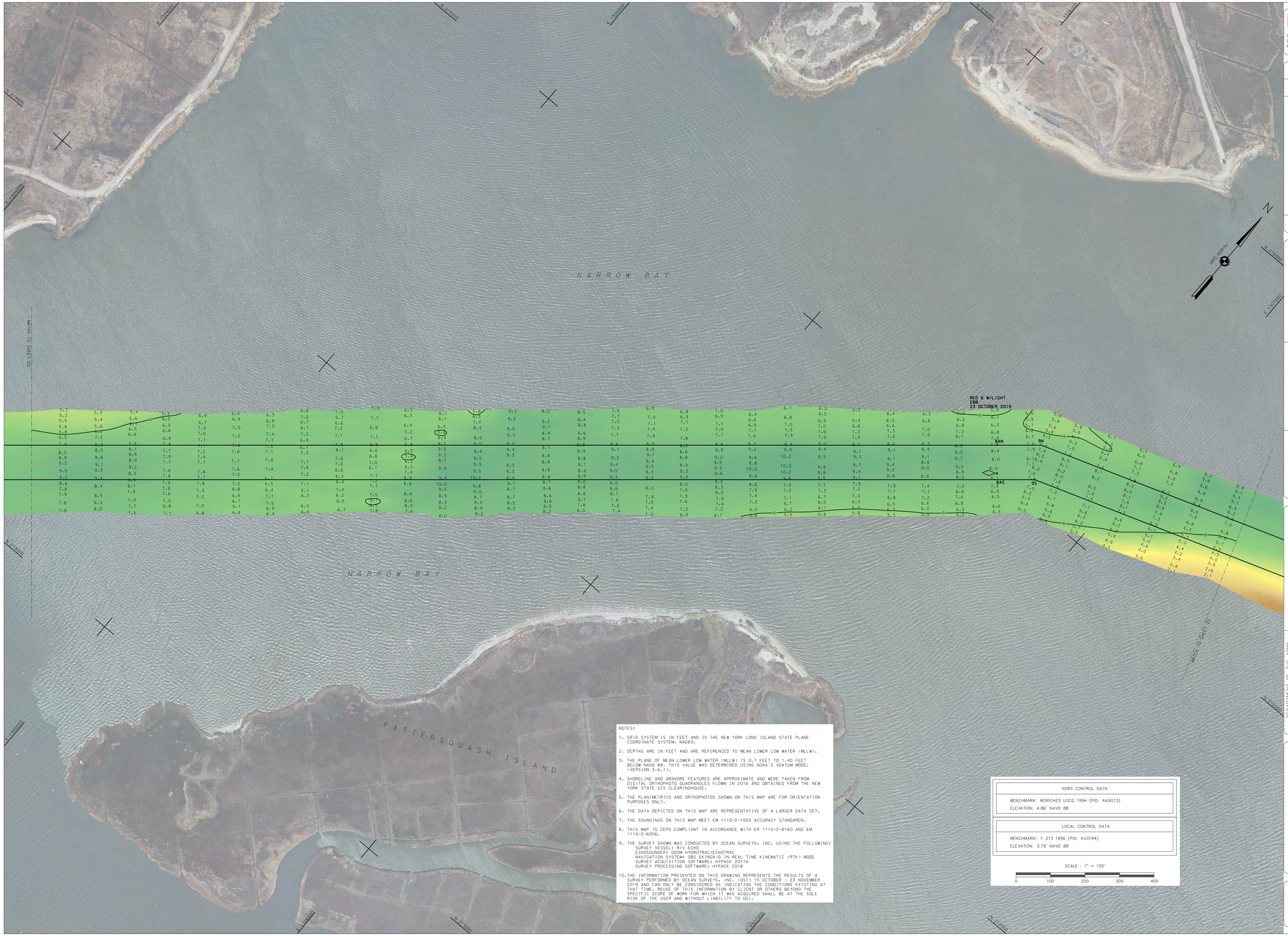
DEPARTMENT OF THE ARMY
NEW YORK DISTRICT
CORPS OF ENGINEERS
NEW YORK, NEW YORK 10278

OPERATIONS DIVISION
SURVEY SECTION
CENAN-OP-S

LONG ISLAND INTRACOASTAL WATERWAY, N.Y.
VICINITY OF MASTIC BEACH, N.Y.
CONDITION SURVEY

VH-120

SHEET 20 OF 55



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US ARMY CORPS OF ENGINEERS
NEW YORK DISTRICT

OCEAN SURVEYS, INC.
125 MILL ROCK ROAD EAST
OLD SAYBROOK, CONNECTICUT
(860) 388-4831

DATES OF SURVEY:
15 OCT. - 23 NOV. 2019

FILE NO.: 4860
REQUEST NO.: 4860

SCALE:
ONE INCH = 100 FEET

FIELD BOOKS:

APPROVED: J. BEAN
FIELD CARTOGRAPHER

APPROVED: REGINALD SMITH
PROJECT MANAGER

APPROVED: D. CLARKE
LEAD CARTOGRAPHER

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DATE: 4 FEBRUARY 2020

DEPARTMENT OF THE ARMY
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NEW YORK, NEW YORK 10278

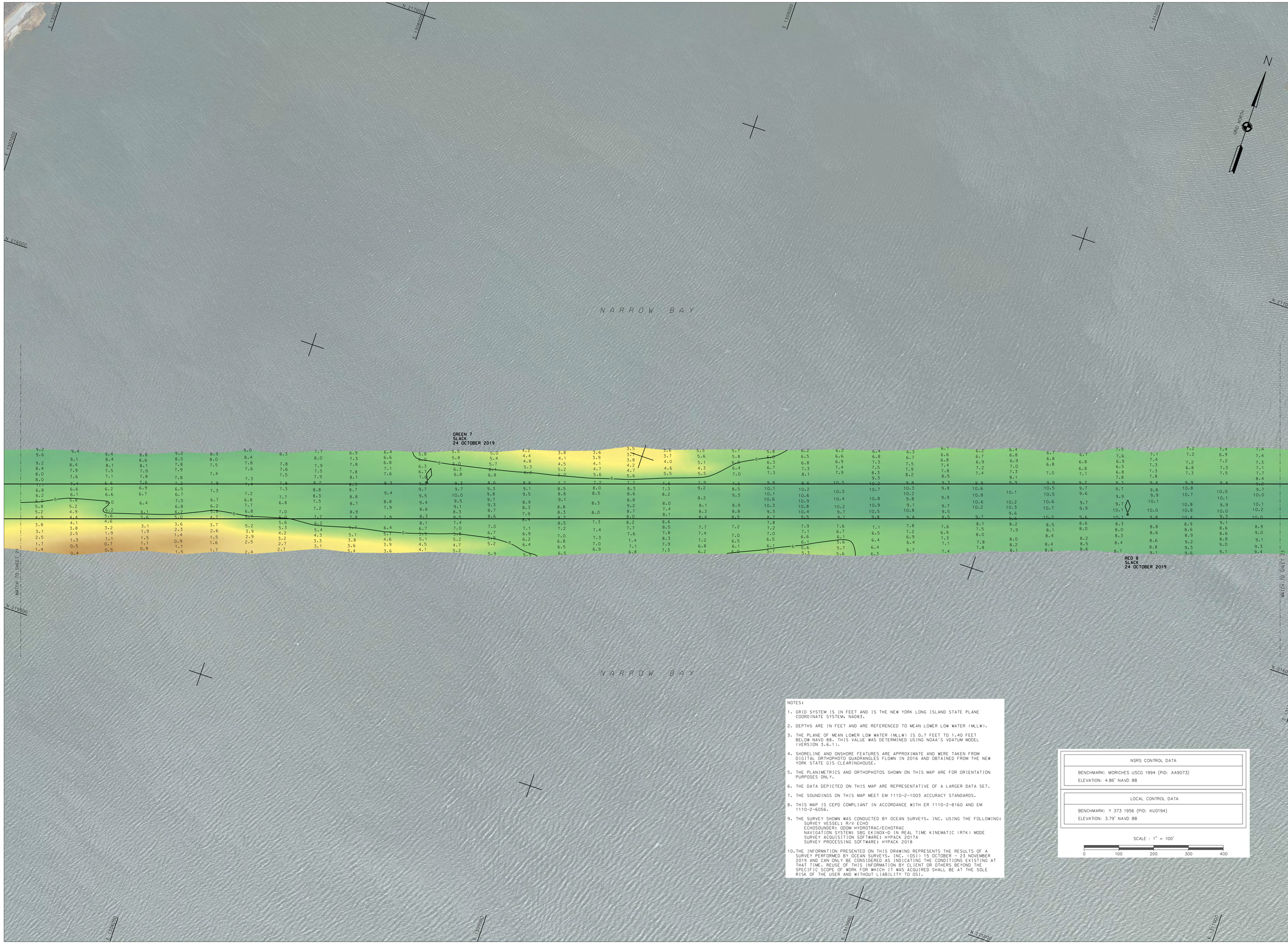
OPERATIONS DIVISION
SURVEY SECTION
CENAN-OP-S

LONG ISLAND INTRACOASTAL WATERWAY, N.Y.

VICINITY OF MASTIC BEACH, N.Y.

CONDITION SURVEY

VH-121



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US ARMY CORPS OF ENGINEERS
NEW YORK DISTRICT

OCEAN SURVEYS, INC.
1291 MILL ROCK ROAD EAST
OLD SAYBROOK, CONNECTICUT
(860) 388-4473
www.oceansurveys.com

DATES OF SURVEY:
15 OCT. - 23 NOV. 2019

FILE NO.: 4860
REQUEST NO.: 4860

SCALE:
ONE INCH = 100 FEET

FIELD BOOKS:

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APPROVED: REGINALD SMITH, PROJECT MANAGER
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DATE: 4 FEBRUARY 2020

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NEW YORK DISTRICT
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NEW YORK, NEW YORK 10278

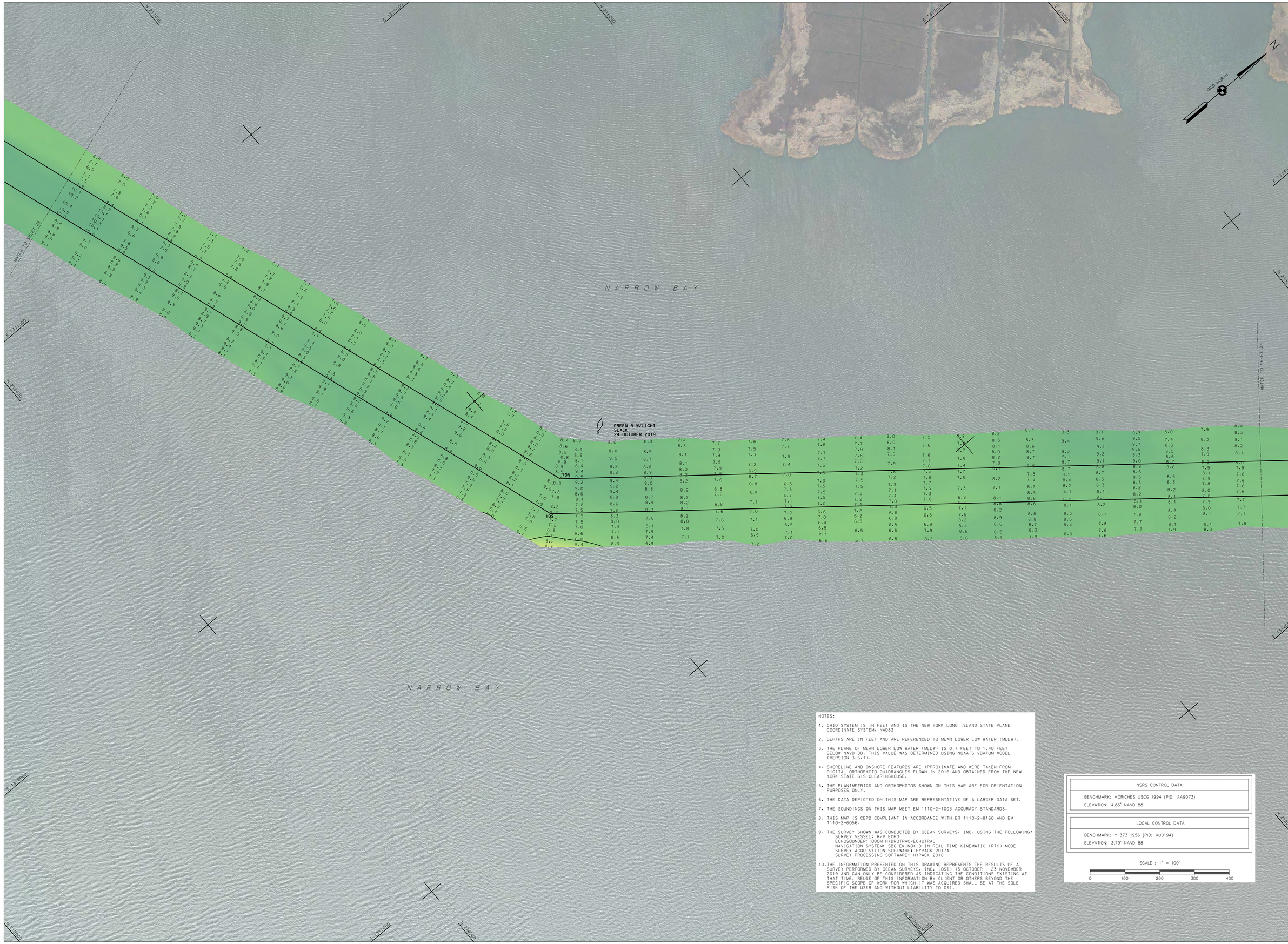
OPERATIONS DIVISION
SURVEY SECTION
CENAN-OP-S

LONG ISLAND INTRACOASTAL WATERWAY, N.Y.

VICINITY OF FORGE POINT, N.Y.

CONDITION SURVEY

VH-122



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US ARMY CORPS OF ENGINEERS NEW YORK DISTRICT

OCEAN SURVEYS, INC.
1291 MILL ROCK ROAD EAST
OLD SAYBROOK, CONNECTICUT
(860) 388-4831

DATES OF SURVEY: 15 OCT. – 23 NOV. 2019

FILE NO.: 4860
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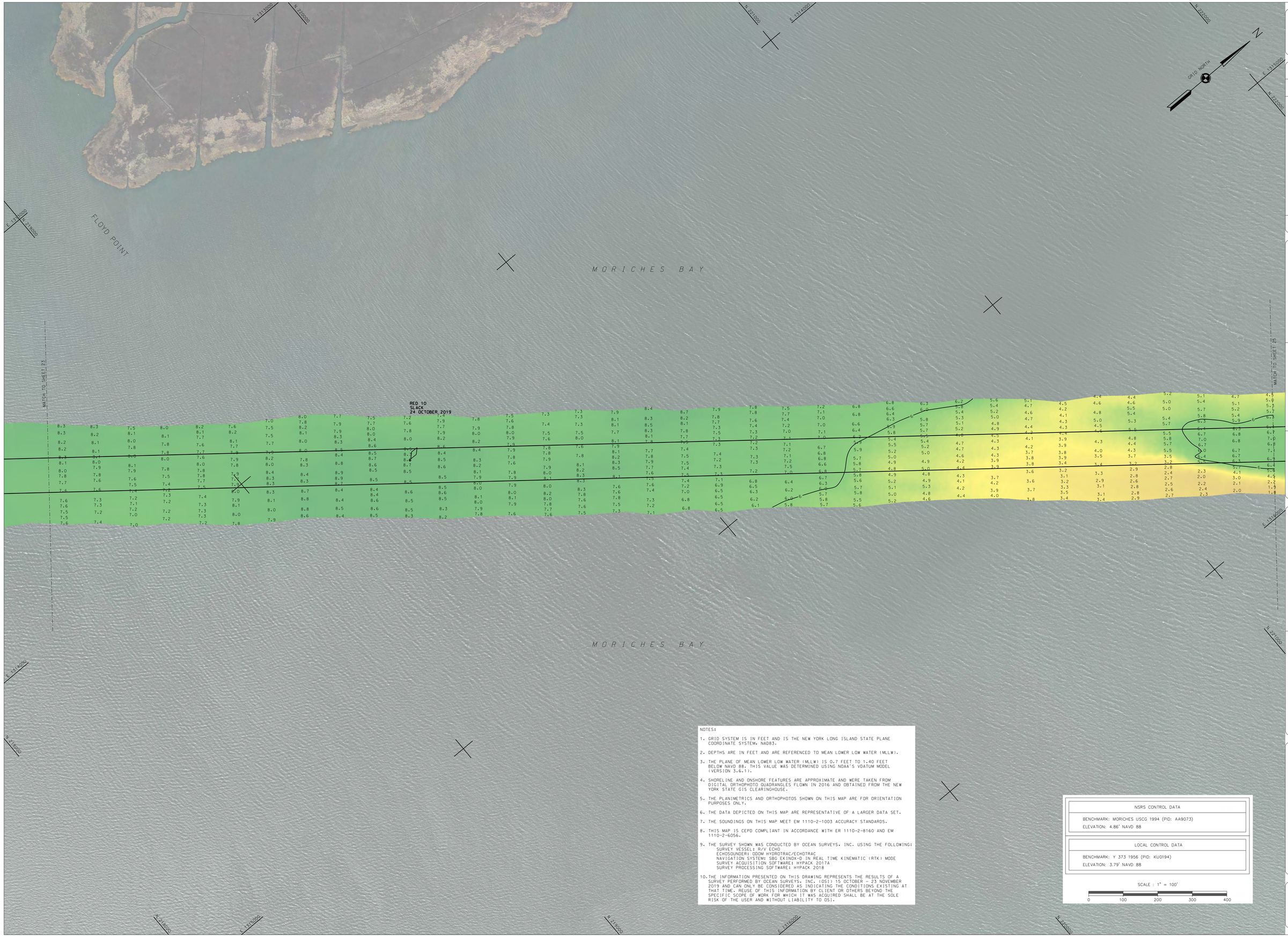
OPERATIONS DIVISION
SURVEY SECTION
CENAN-OP-S

LONG ISLAND INTRACOASTAL WATERWAY, N.Y.

VICINITY OF FORGE POINT, N.Y.

CONDITION SURVEY

VH–123



NOTES:

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   ECHOSOUNDER: ODOM HYDROTRAC/ECHOTRAC
   NAVIGATION SYSTEM: SBG EKINOX-D IN REAL TIME KINEMATIC (RTK) MODE
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   SURVEY PROCESSING SOFTWARE: HYPACK 2018
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NSRS CONTROL DATA
BENCHMARK: MORICHES USCG 1994 (PID: AA9073)
ELEVATION: 4.86' NAVD 88

LOCAL CONTROL DATA
BENCHMARK: Y 373 1956 (PID: KU0194)
ELEVATION: 3.79' NAVD 88

SCALE : 1" = 100'

0 100 200 300 400

US ARMY CORPS OF ENGINEERS
NEW YORK DISTRICT

OCEAN SURVEYS, INC.
1124 MILL ROCK ROAD EAST
OLD SAYBROOK, CONNECTICUT
(860) 388-4457
www.oceansurveys.com

DATES OF SURVEY:
15 OCT. - 23 NOV. 2019

FILE NO.: 4860
REQUEST NO.: 4860

SCALE:
ONE INCH = 100 FEET

FIELD BOOKS:

APPROVED: J. BEAN
FIELD CARTOGRAPHER

APPROVED: REGINALD SMITH
PROJECT MANAGER

APPROVED: D. CLARKE
LEAD CARTOGRAPHER

APPROVED: J. MRAZ
DEPUTY CHIEF OF SURVEY

DATE: 4 FEBRUARY 2020

DEPARTMENT OF THE ARMY
NEW YORK DISTRICT
CORPS OF ENGINEERS
NEW YORK, NEW YORK 10278

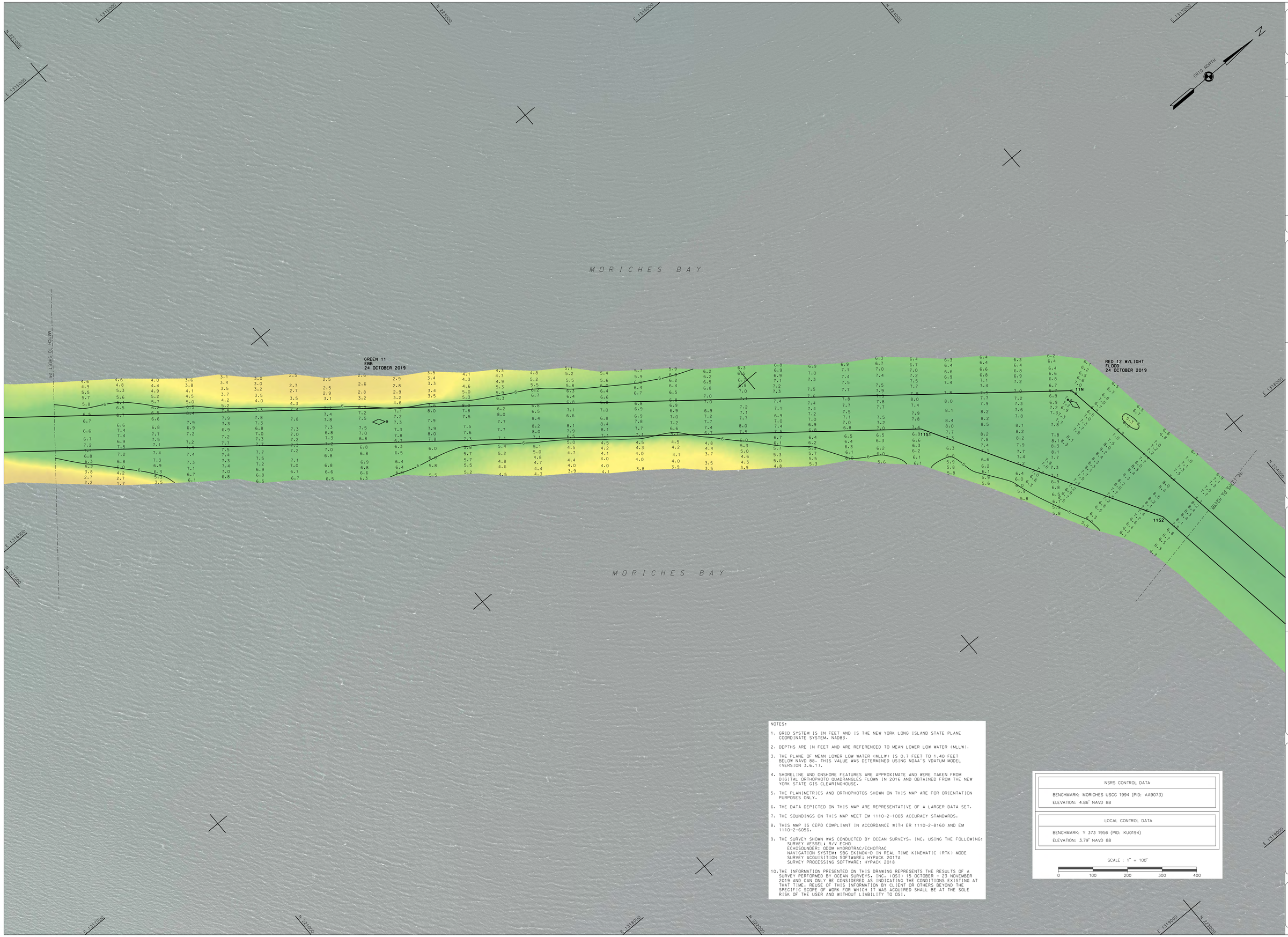
OPERATIONS DIVISION
SURVEY SECTION
CENAN-OP-S

LONG ISLAND INTRACOASTAL WATERWAY, N.Y.

VICINITY OF FORGE POINT, N.Y.

CONDITION SURVEY

VH-124



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US ARMY CORPS OF ENGINEERS
NEW YORK DISTRICT

OCEAN SURVEYS, INC.
1234 MILL ROCK ROAD EAST
OLD SAYBROOK, CONNECTICUT
(860) 388-4457

DATES OF SURVEY:
15 OCT. - 23 NOV. 2019

FILE NO.: 4860
REQUEST NO.: 4860

SCALE:
ONE INCH = 100 FEET

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DATE: 4 FEBRUARY 2020

DEPARTMENT OF THE ARMY
NEW YORK DISTRICT
CORPS OF ENGINEERS
NEW YORK, NEW YORK 10278

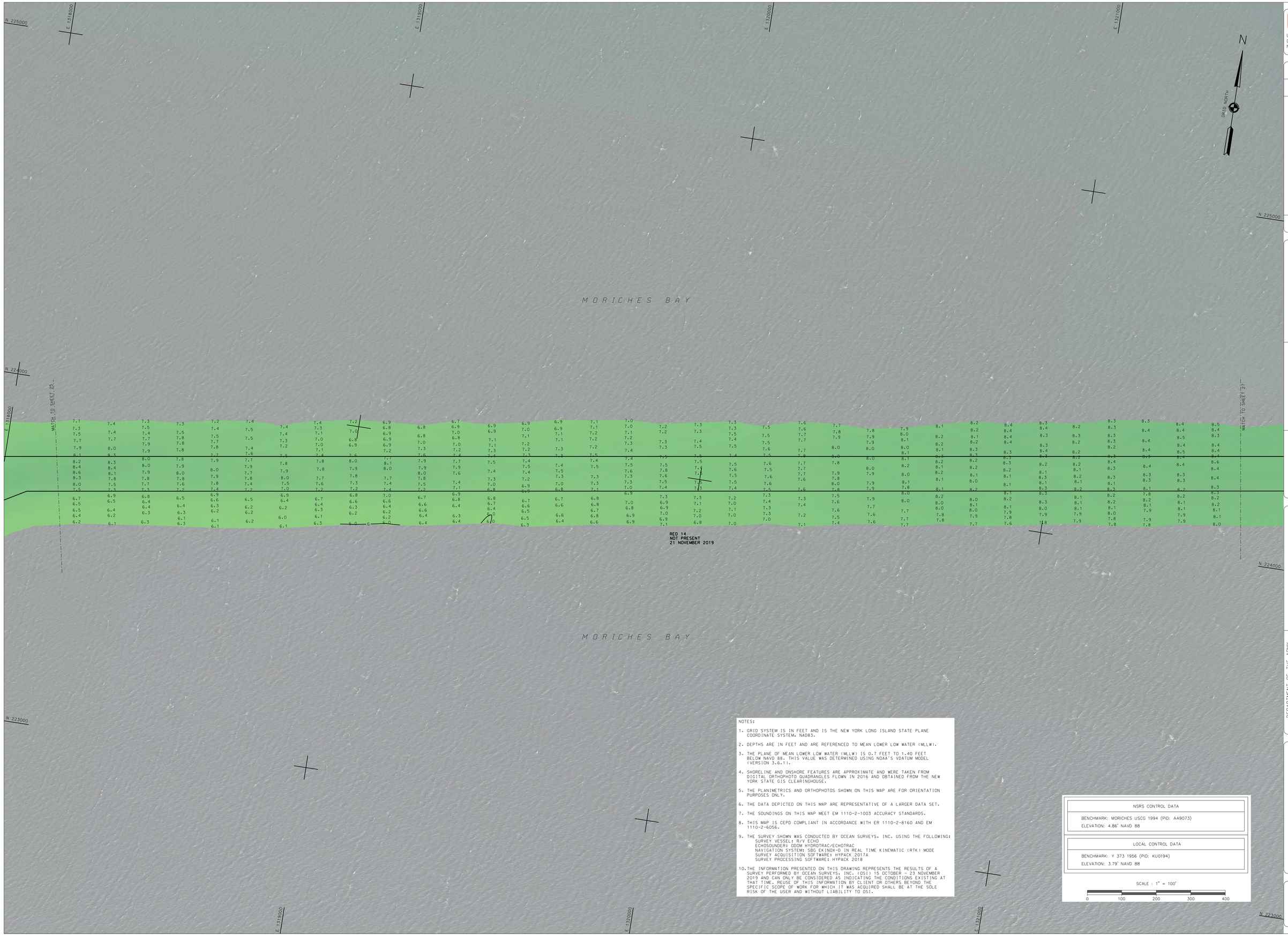
OPERATIONS DIVISION
SURVEY SECTION
CENAN-OP-S

LONG ISLAND INTRACOASTAL WATERWAY, N.Y.

VICINITY OF FORGE POINT, N.Y.

CONDITION SURVEY

VH-125



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DATES OF SURVEY:
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DATE: 4 FEBRUARY 2020

DEPARTMENT OF THE ARMY
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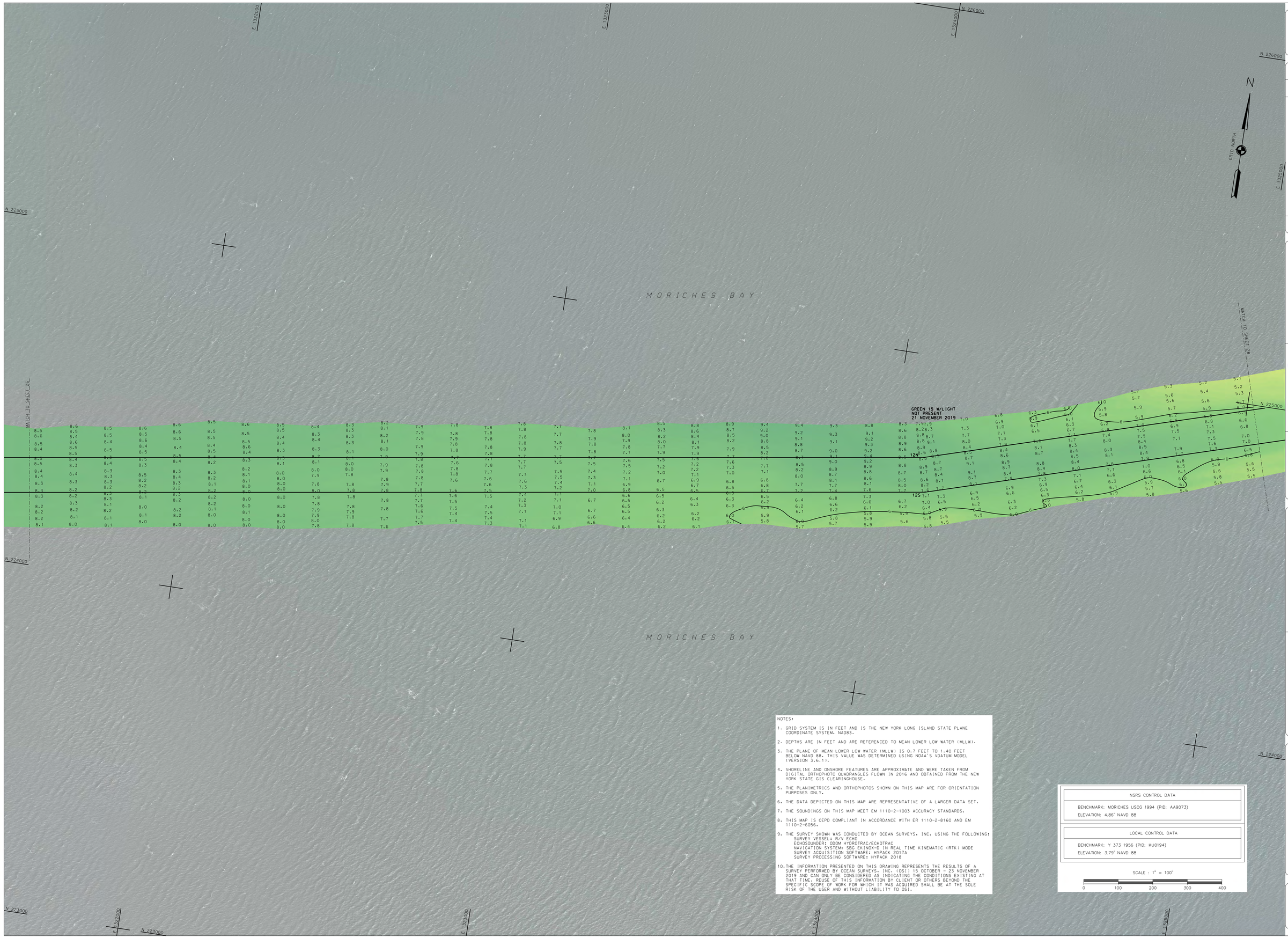
OPERATIONS DIVISION
SURVEY SECTION
CENAN-OP-S

LONG ISLAND INTRACOASTAL WATERWAY, N.Y.

VICINITY OF CENTER MORICHES, N.Y.

CONDITION SURVEY

VH-126



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US ARMY CORPS OF ENGINEERS NEW YORK DISTRICT

OCEAN SURVEYS, INC.
1 SCHOOLHOUSE ROAD
OLD SAYBROOK, CONNECTICUT
www.oceansurveysinc.com

DATES OF SURVEY: 15 OCT. – 23 NOV. 2019

FILE NO: 4860
REQUEST NO: 4860

SCALE: ONE INCH = 100 FEET

FIELD BOOKS:

APPROVED: J. BEAN FIELD CARTOGRAPHER
APPROVED: REGINALD SMITH PROJECT MANAGER
APPROVED: D. CLARKE CHIEF CARTOGRAPHER
APPROVED: J. MIRAZ SENIOR CHIEF OF SURVEY
DATE: 4 FEBRUARY 2020

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OPERATIONS DIVISION
SURVEY SECTION
CENAN-OP-S

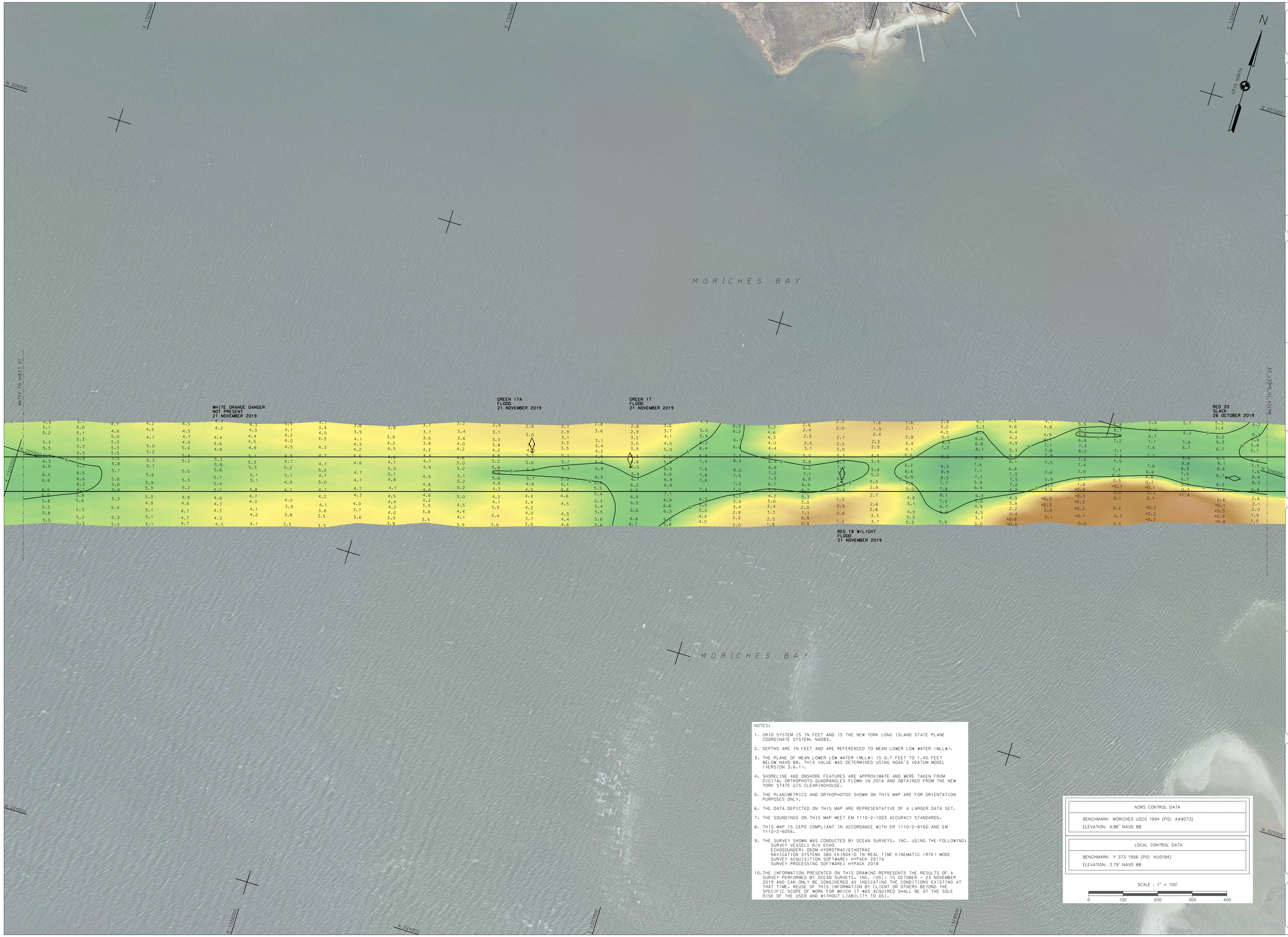
LONG ISLAND INTRACOASTAL WATERWAY, N.Y.

VICINITY OF PATCHOGUE, N.Y.

CONDITION SURVEY

VH–127

SHEET 27 OF 55



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DATES OF SURVEY:
15 OCT. - 23 NOV. 2019

FILE NO.: 4860
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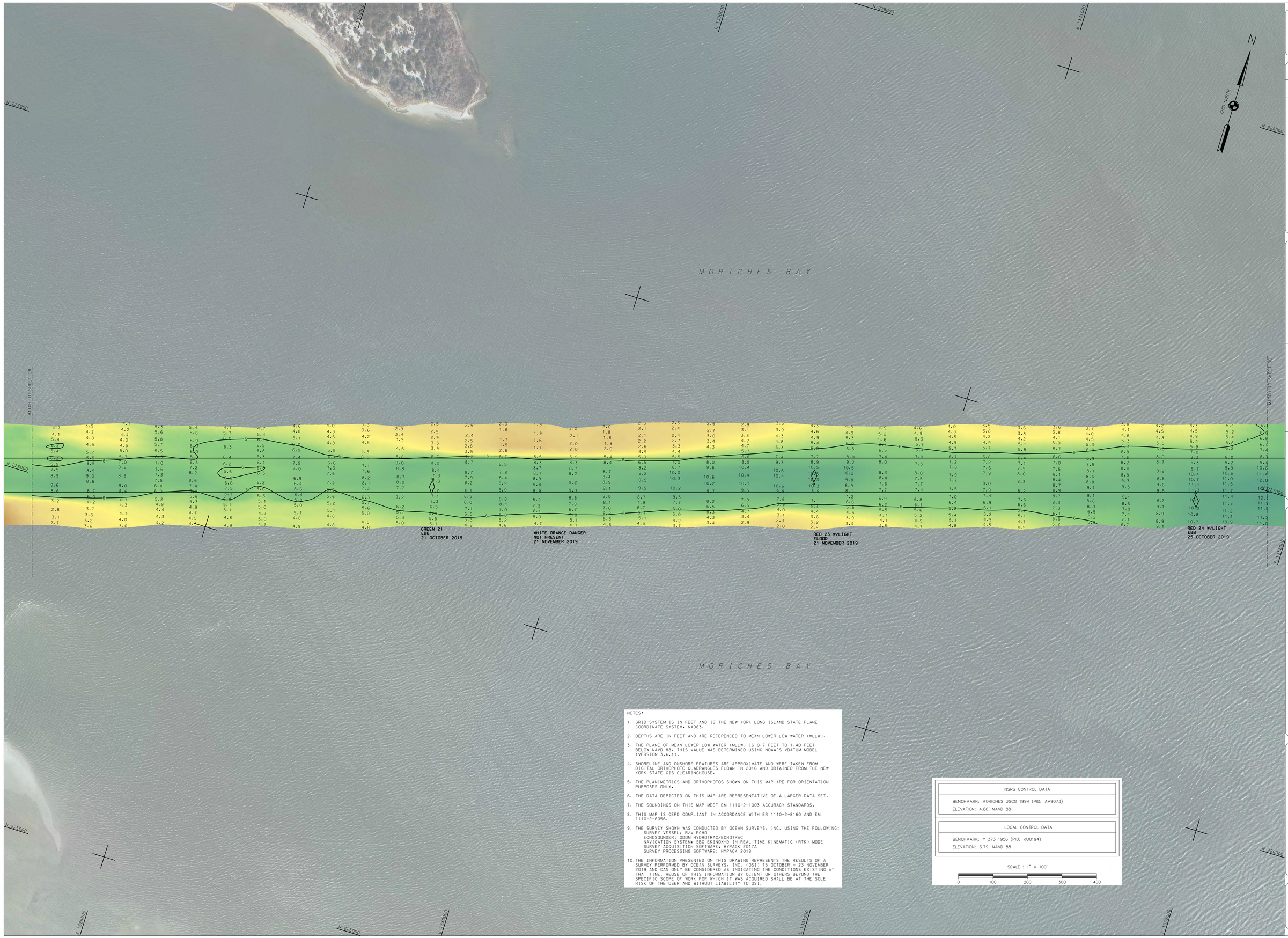
APPROVED: D. CLARKE, LEAD CARTOGRAPHER
APPROVED: J. MRAZ, DEPUTY CHIEF OF SURVEY
DATE: 4 FEBRUARY 2020

DEPARTMENT OF THE ARMY
NEW YORK DISTRICT
CORPS OF ENGINEERS
NEW YORK, NEW YORK 10278

OPERATIONS DIVISION
SURVEY SECTION
CENAN-OP-S

LONG ISLAND INTRACOASTAL WATERWAY, N.Y.
VICINITY OF PATCHOGUE, N.Y.
CONDITION SURVEY

VH-128



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US ARMY CORPS OF ENGINEERS NEW YORK DISTRICT

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A DIVISION OF OSI
OLD SAYBROOK, CONNECTICUT
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DATE: 4 FEBRUARY 2020

DEPARTMENT OF THE ARMY
NEW YORK DISTRICT
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NEW YORK, NEW YORK 10278

OPERATIONS DIVISION
SURVEY SECTION
CENAN-OP-S

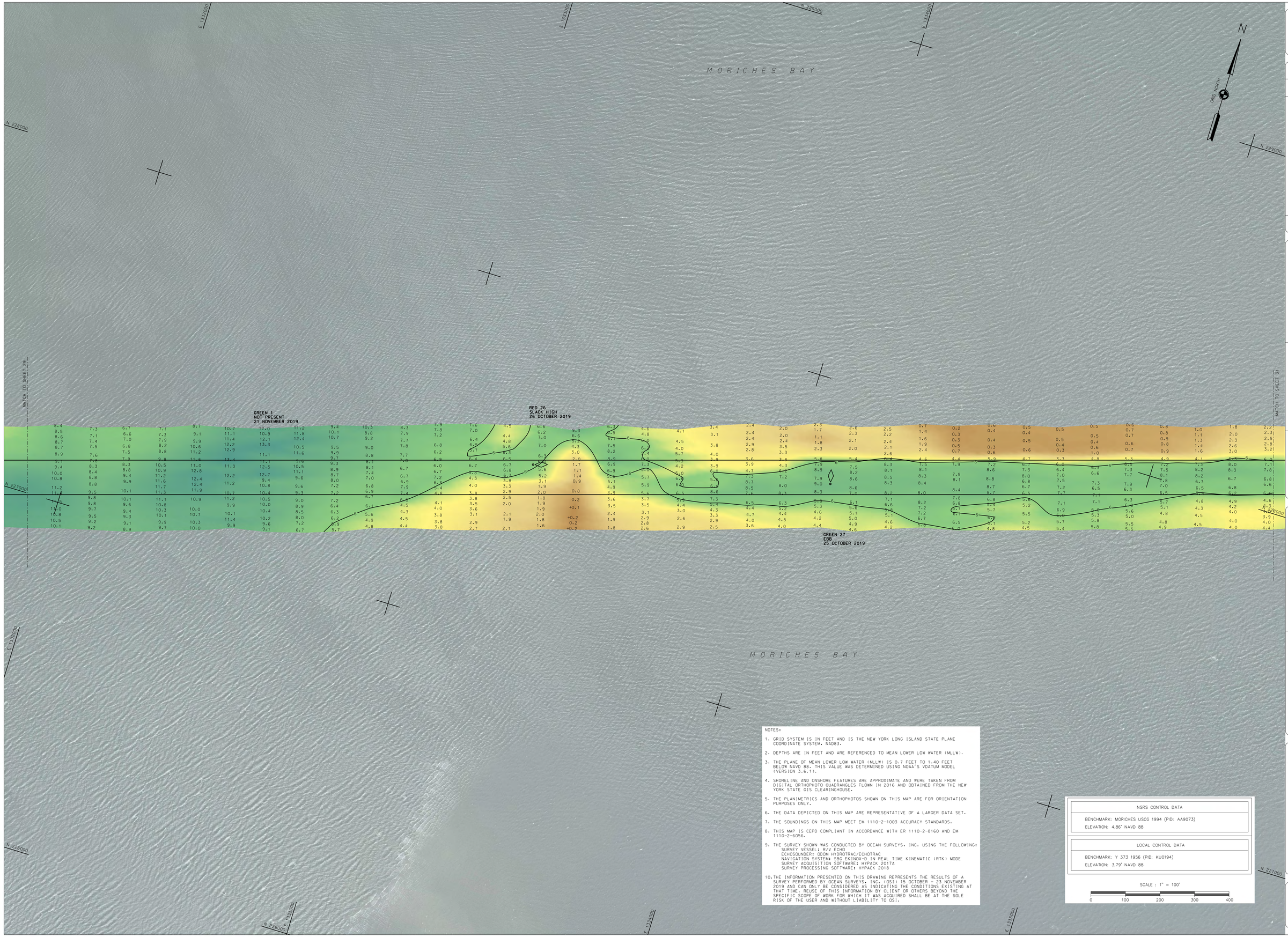
LONG ISLAND INTRACOASTAL WATERWAY, N.Y.

VICINITY OF PATCHOGUE, N.Y.

CONDITION SURVEY

VH-129

SHEET 29 OF 55



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US ARMY CORPS OF ENGINEERS NEW YORK DISTRICT

OCEAN SURVEYS, INC.
10 MARSHALL STREET
OLD SAYBROOK, CONNECTICUT
www.oceansurveysinc.com

DATES OF SURVEY: 15 OCT. – 23 NOV. 2019

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APPROVED: J. BEAN FIELD CHIEF/MANAGER
APPROVED: REGINALD SMITH PROJECT MANAGER
APPROVED: D. CLARKE OCEANOGRAPHIC CHIEF/MANAGER
APPROVED: J. MRAZ DEPUTY CHIEF OF SURVEY
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OPERATIONS DIVISION
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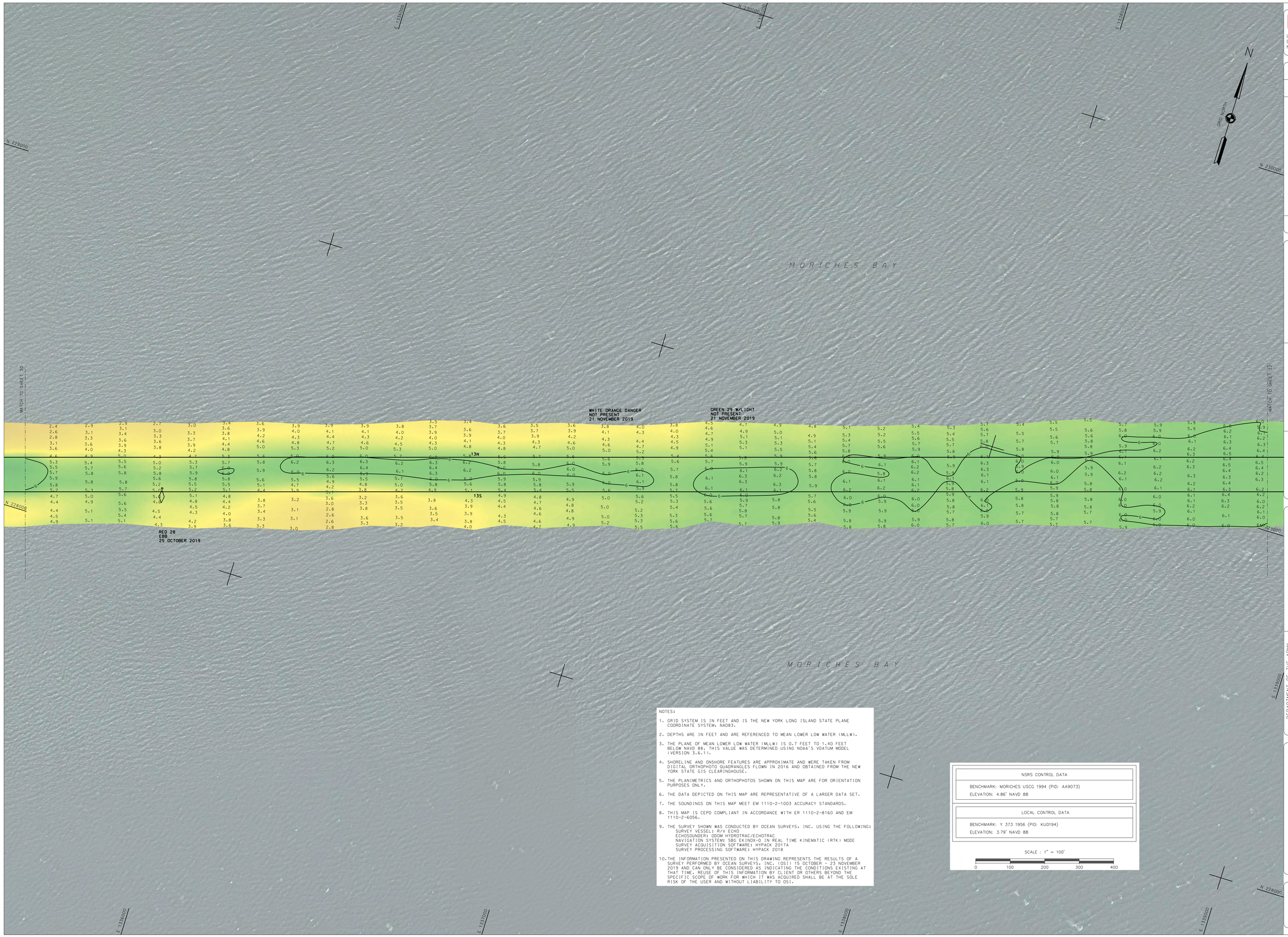
CENAN-OP-S

LONG ISLAND INTRACOASTAL WATERWAY, N.Y.

VICINITY OF PATCHOGUE, N.Y.

CONDITION SURVEY

VH-130



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NSRS CONTROL DATA
BENCHMARK: MORICHES USCG 1994 (PID: AA9073)
ELEVATION: 4.86' NAVD 88

LOCAL CONTROL DATA
BENCHMARK: Y 373 1956 (PID: KU0194)
ELEVATION: 3.79' NAVD 88

SCALE : 1" = 100'

0 100 200 300 400

US ARMY CORPS OF ENGINEERS
NEW YORK DISTRICT

OCEAN SURVEYS, INC.
125 MILL ROCK ROAD EAST
OLD SAYBROOK, CONNECTICUT
(860) 388-4457
www.oceansurveys.com

DATES OF SURVEY:
15 OCT. – 23 NOV. 2019

FILE NO.: 4860
REQUEST NO.: 4860

SCALE:
ONE INCH = 100 FEET

FIELD BOOKS:

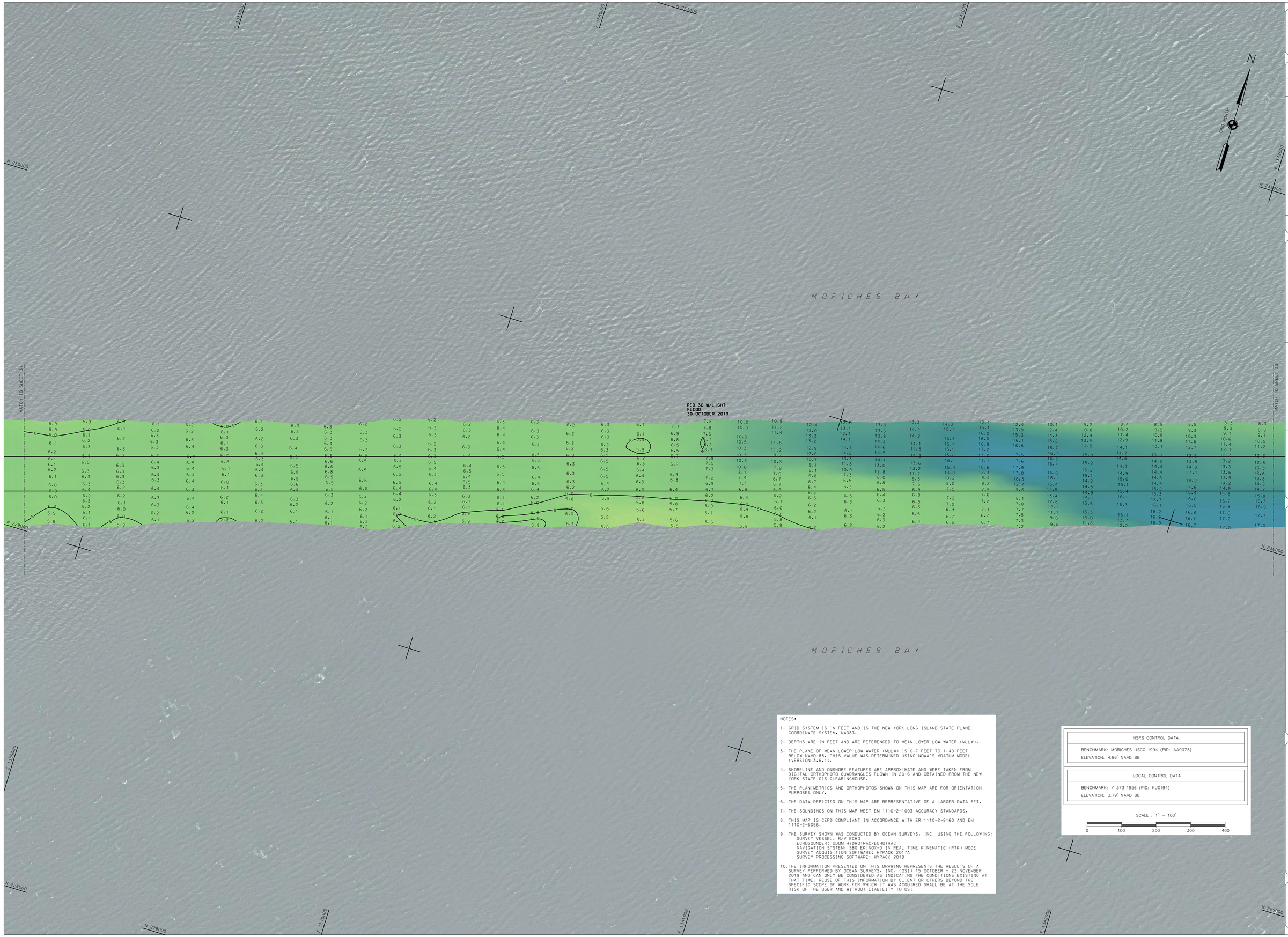
APPROVED: J. BEAN, FIELD CARTOGRAPHER
APPROVED: REGINALD SMITH, PROJECT MANAGER
APPROVED: D. CLARKE, LEAD CARTOGRAPHER
APPROVED: J. MRAZ, DEPUTY CHIEF OF SURVEY
DATE: 4 FEBRUARY 2020

DEPARTMENT OF THE ARMY
NEW YORK DISTRICT
CORPS OF ENGINEERS
NEW YORK, NEW YORK 10278

OPERATIONS DIVISION
SURVEY SECTION
CENAN-OP-S

LONG ISLAND INTRACOASTAL WATERWAY, N.Y.
VICINITY OF PATCHOGUE, N.Y.
CONDITION SURVEY

VH-131



US ARMY CORPS OF ENGINEERS
NEW YORK DISTRICT

OCEAN SURVEYS, INC.
1 SCHOOL STREET
OLD SAYBROOK, CONNECTICUT
www.oceansurveys.com

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PROJECT MANAGER

APPROVED: D. CLARKE
CHIEF, SURVEY & MAPPING BRANCH

APPROVED: J. MIRAZ
CHIEF, SURVEY DIVISION

DATE: 4 FEBRUARY 2020

DEPARTMENT OF THE ARMY
NEW YORK DISTRICT
CORPS OF ENGINEERS
NEW YORK, NEW YORK 10278

OPERATIONS DIVISION
SURVEY SECTION
CENAN-OP-S

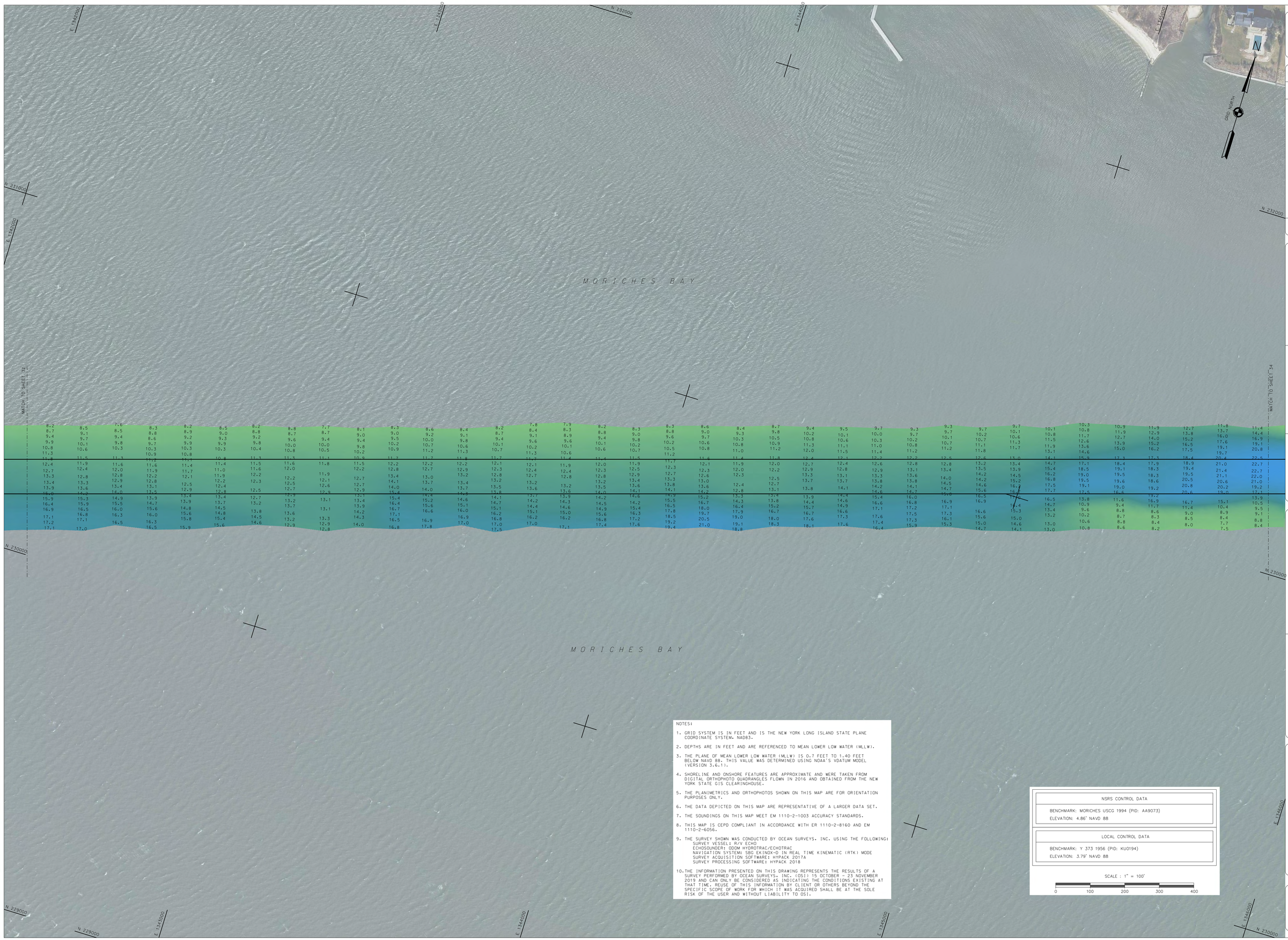
LONG ISLAND INTRACOASTAL WATERWAY, N.Y.

VICINITY OF PATCHOGUE, N.Y.

CONDITION SURVEY

VH–132

SHEET 32 OF 55



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US ARMY CORPS OF ENGINEERS
NEW YORK DISTRICT

OCEAN SURVEYS, INC.
1254 MILL ROCK ROAD EAST
OLD SAYBROOK, CONNECTICUT
(860) 388-4537
www.oceansurveys.com

DATES OF SURVEY:
15 OCT. - 23 NOV. 2019

FILE NO.: 4860
REQUEST NO.: 4860

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DATE: 4 FEBRUARY 2020

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OPERATIONS DIVISION
SURVEY SECTION
CENAN-OP-S

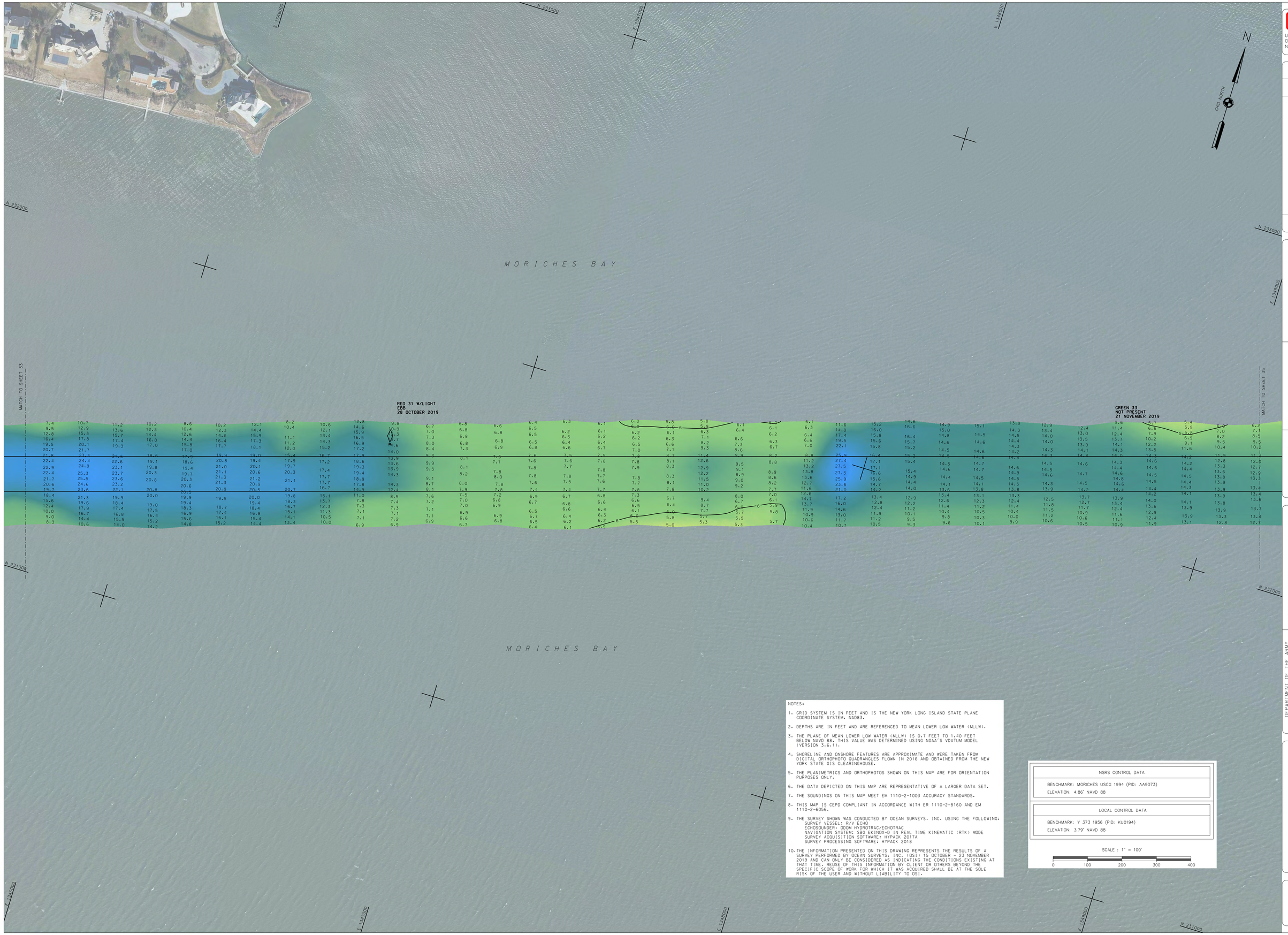
LONG ISLAND INTRACOASTAL WATERWAY, N.Y.

VICINITY OF PATCHOGUE, N.Y.

CONDITION SURVEY

VH-133

SHEET 33 OF 55



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US ARMY CORPS OF ENGINEERS
NEW YORK DISTRICT

OCEAN SURVEYS, INC.
1251 MILL ROCK ROAD EAST
OLD SAYBROOK, CONNECTICUT
(860) 388-4631

DATES OF SURVEY:
15 OCT. - 23 NOV. 2019

FILE NO.: 4860
REQUEST NO.: 4860

SCALE:
ONE INCH = 100 FEET

FIELD BOOKS:

APPROVED: J. BEAN FIELD CARTOGRAPHER
APPROVED: REGINALD SMITH PROJECT MANAGER
APPROVED: D. CLARKE LEAD CARTOGRAPHER
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DATE: 4 FEBRUARY 2020

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OPERATIONS DIVISION
SURVEY SECTION
CENAN-OP-S

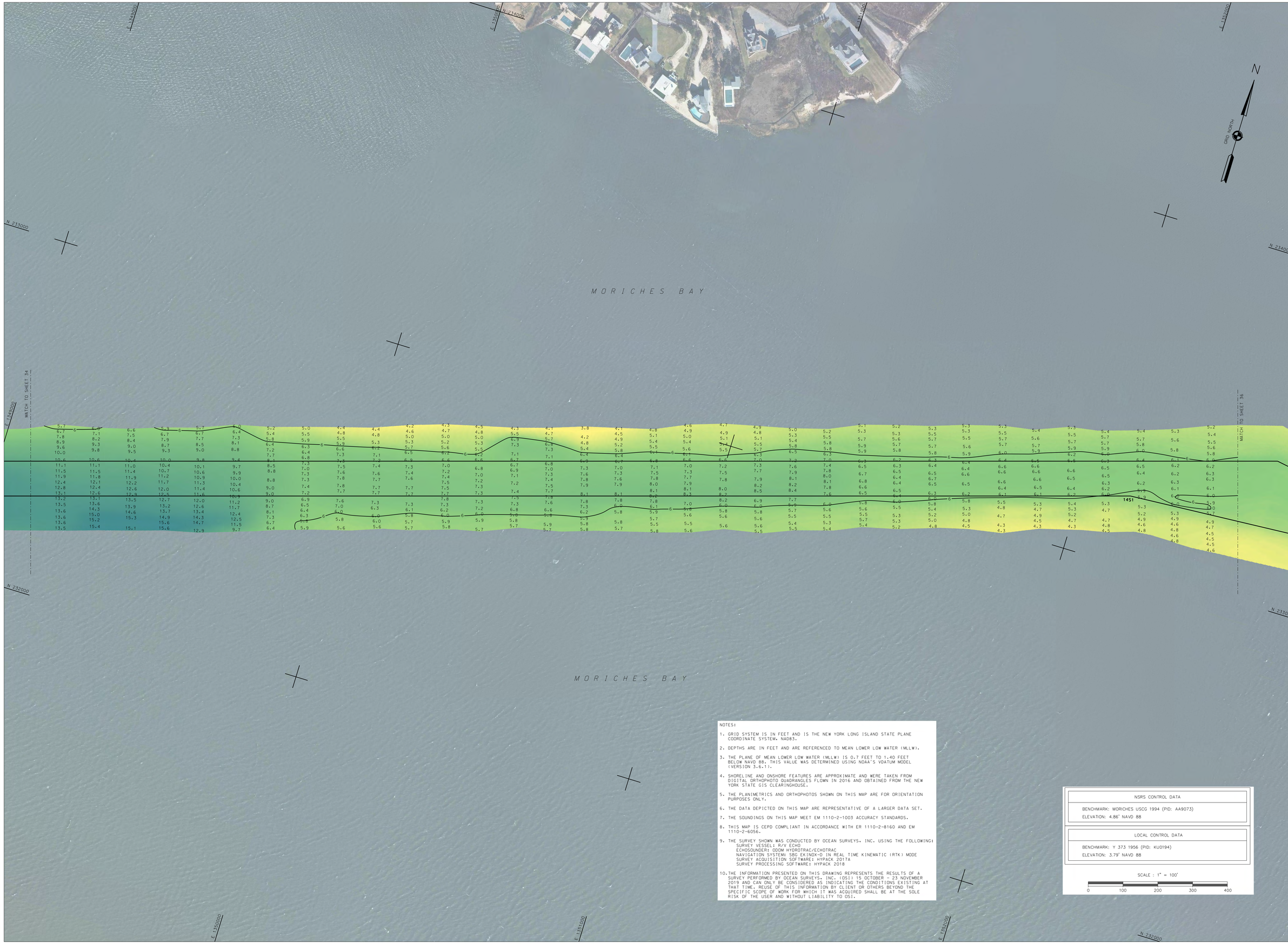
LONG ISLAND INTRACOASTAL WATERWAY, N.Y.

VICINITY OF PATCHOGUE, N.Y.

CONDITION SURVEY

VH-134

SHEET 34 OF 55



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1241 MILL ROCK ROAD EAST
OLD SAYBROOK, CONNECTICUT
(860) 388-4631

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DATE: 4 FEBRUARY 2020

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OPERATIONS DIVISION
SURVEY SECTION
CENAN-OP-S

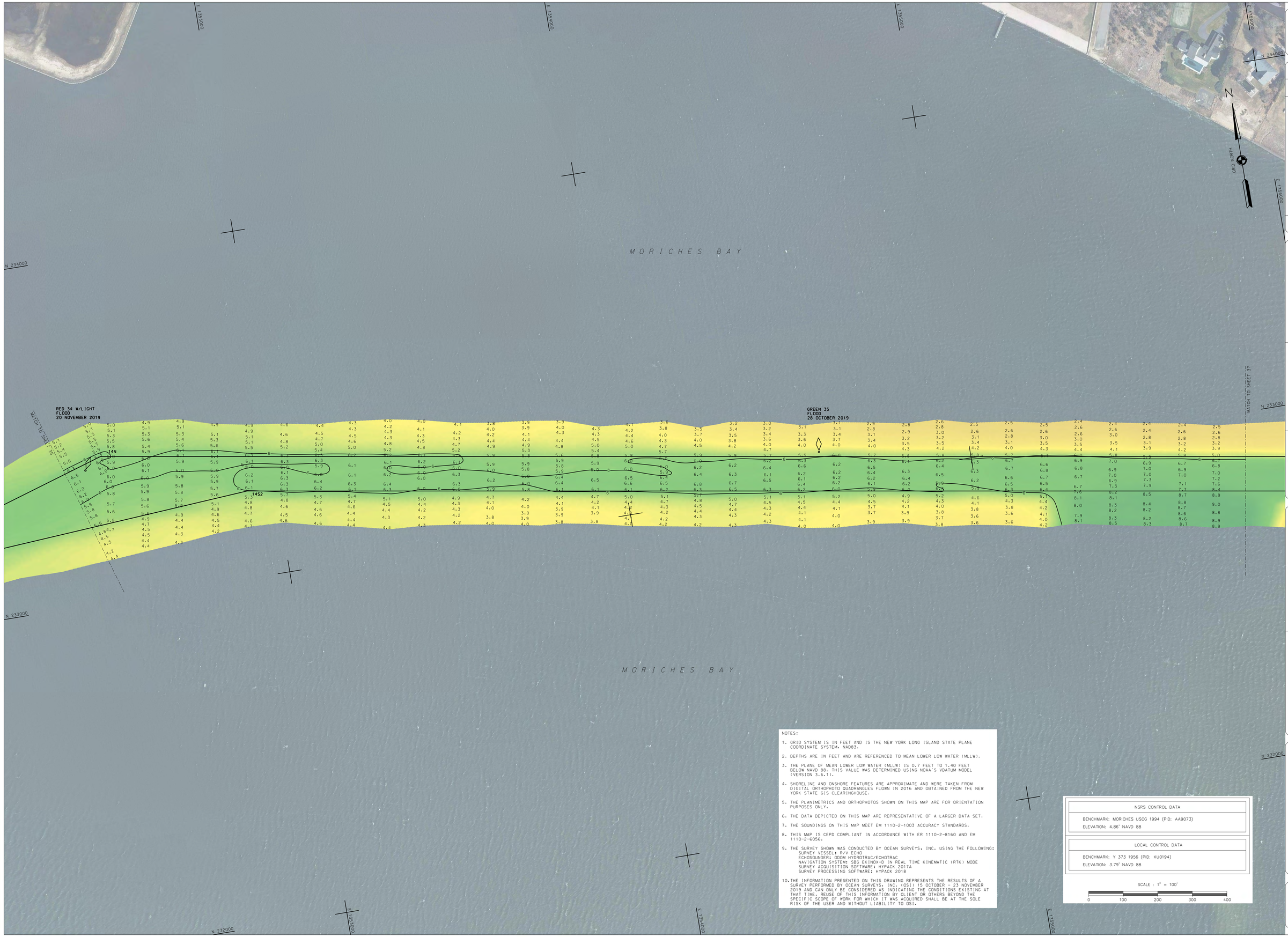
LONG ISLAND INTRACOASTAL WATERWAY, N.Y.

VICINITY OF PATCHOGUE, N.Y.

CONDITION SURVEY

VH-135

SHEET 35 OF 55



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(860) 388-4631

DATES OF SURVEY:
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FILE NO.: 4860
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LONG ISLAND INTRACOASTAL WATERWAY, N.Y.

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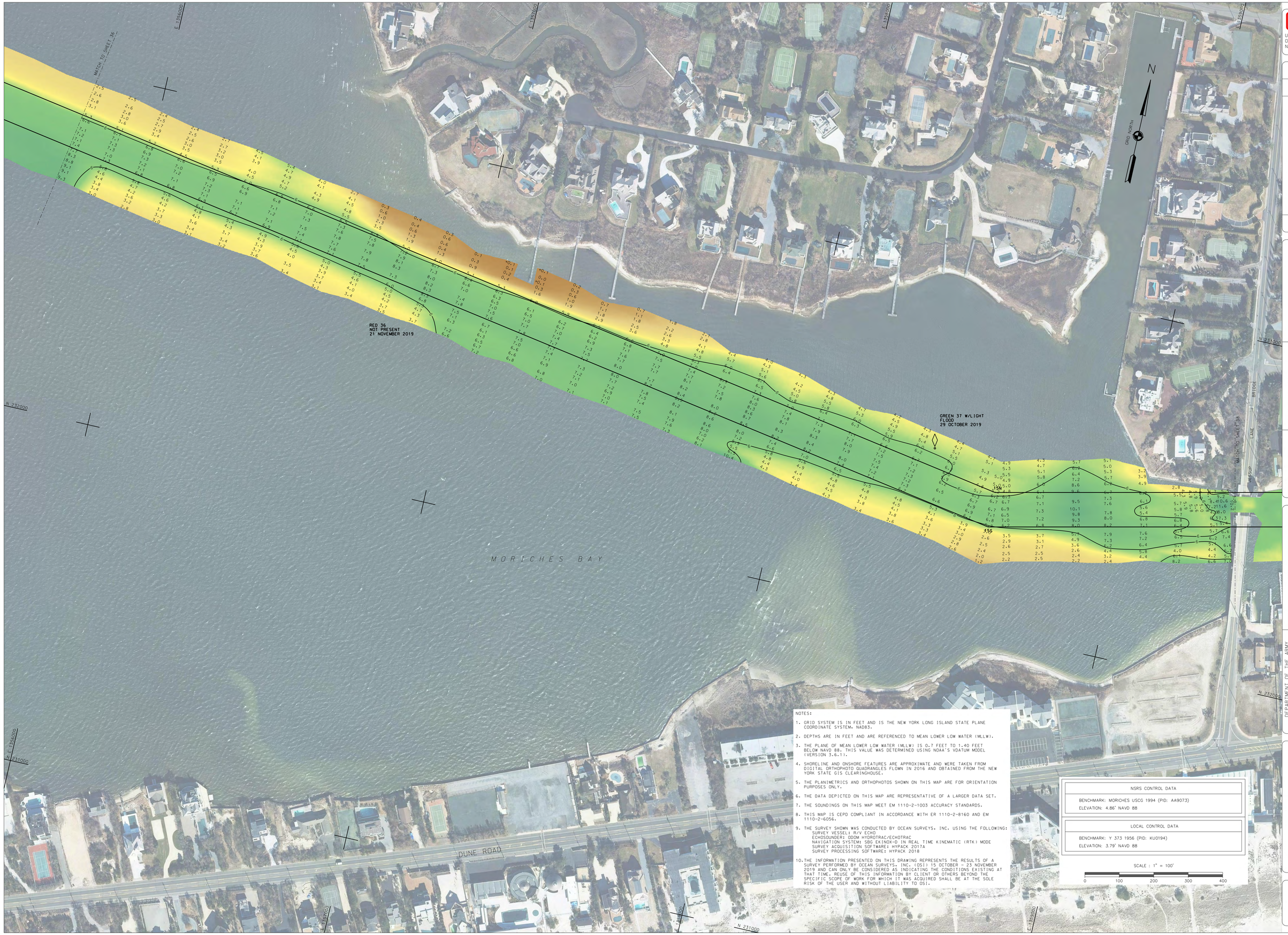
CONDITION SURVEY

VH-136



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www.oceansurveysinc.com

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APPROVED: D. CLARKE CHIEF, SURVEY & CARTOGRAPHY

APPROVED: J. MRAZ DEPUTY CHIEF OF SURVEY

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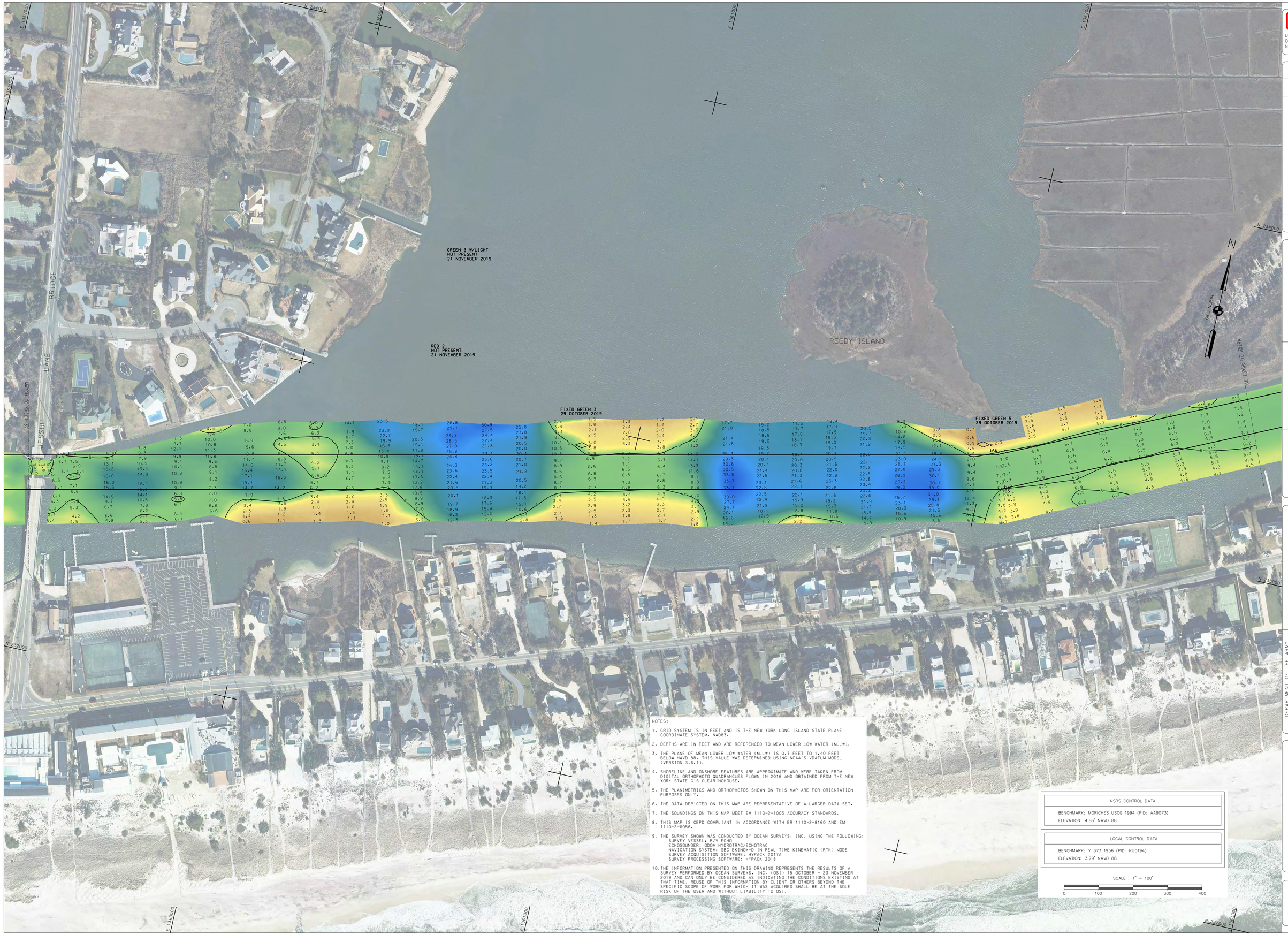
LONG ISLAND INTRACOASTAL WATERWAY, N.Y.

VICINITY OF PATCHOGUE, N.Y.

CONDITION SURVEY

VH-137

SHEET 37 OF 55



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(860) 388-4154
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CHIEF, SURVEY SECTION

APPROVED: J. MRAZ
DEPUTY CHIEF OF SURVEY

DATE: 4 FEBRUARY 2020

DEPARTMENT OF THE ARMY
NEW YORK DISTRICT
CORPS OF ENGINEERS
NEW YORK, NEW YORK 10278

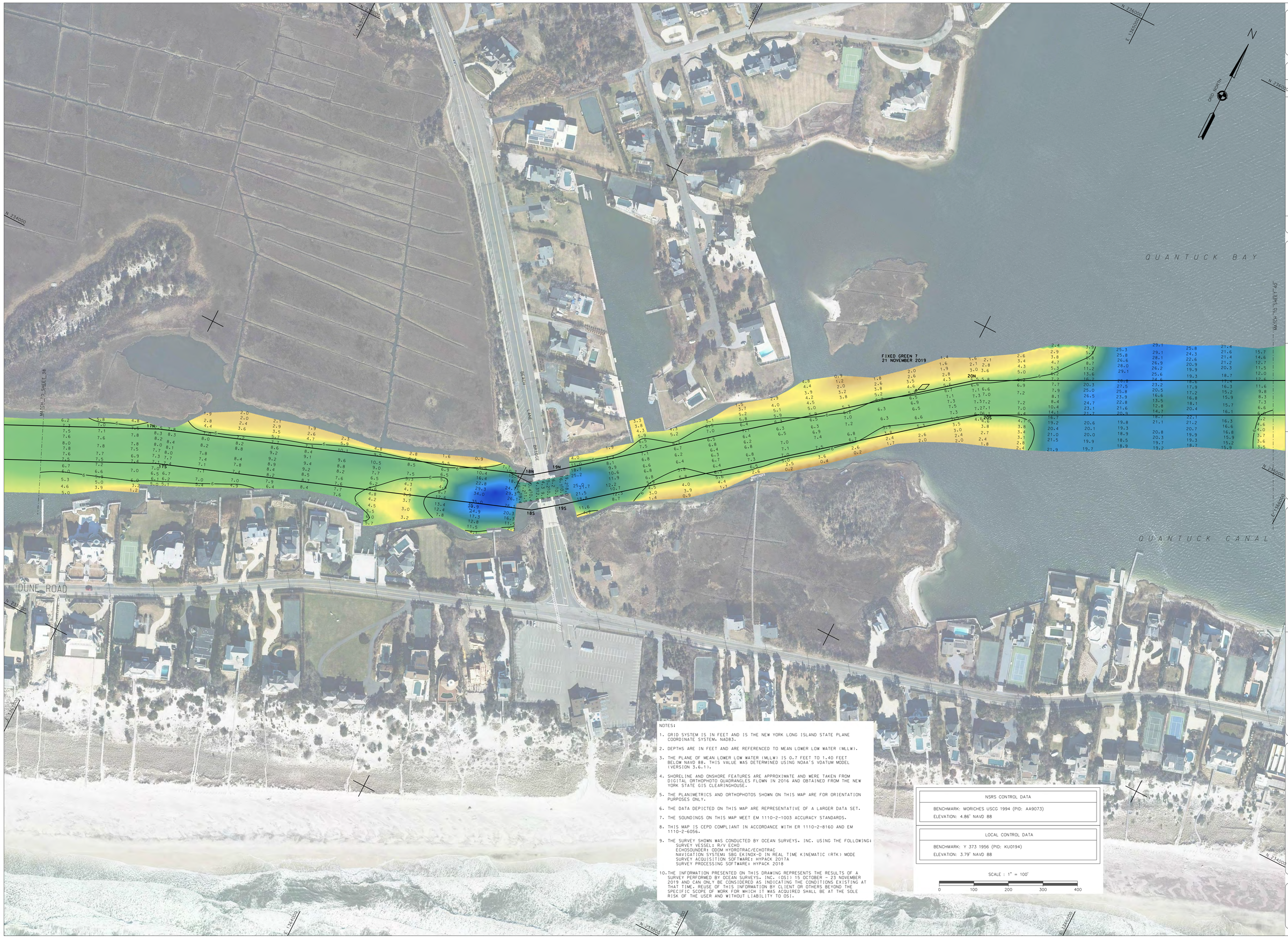
OPERATIONS DIVISION
SURVEY SECTION
CENAN-OP-S

LONG ISLAND INTRACOASTAL WATERWAY, N.Y.

VICINITY OF PATCHOGUE, N.Y.

CONDITION SURVEY

VH-138



NOTES:

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   ECHOSOUNDER: ODOM HYDROTRAC/ECHOTRAC
   NAVIGATION SYSTEM: SBG EKINOX-D IN REAL TIME KINEMATIC (RTK) MODE
   SURVEY ACQUISITION SOFTWARE: HYPACK 2017A
   SURVEY PROCESSING SOFTWARE: HYPACK 2018
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NSRS CONTROL DATA
BENCHMARK: MORICHES USCG 1994 (PID: AA9073)
ELEVATION: 4.86' NAVD 88

LOCAL CONTROL DATA
BENCHMARK: Y 373 1956 (PID: KU0194)
ELEVATION: 3.79' NAVD 88

SCALE : 1" = 100'

0 100 200 300 400

US ARMY CORPS OF ENGINEERS
NEW YORK DISTRICT

OCEAN SURVEYS, INC.
1351 MILL ROCK ROAD EAST
OLD SAYBROOK, CONNECTICUT
(860) 388-4631

DATES OF SURVEY:
15 OCT. - 23 NOV. 2019

FILE NO.: 4860
REQUEST NO.: 4860

SCALE:
ONE INCH = 100 FEET

FIELD BOOKS:

APPROVED: J. BEAN
FIELD CARTOGRAPHER

APPROVED: REGINALD SMITH
PROJECT MANAGER

APPROVED: D. CLARKE
LEAD CARTOGRAPHER

APPROVED: J. MRAZ
DEPUTY CHIEF OF SURVEY

DATE: 4 FEBRUARY 2020

DEPARTMENT OF THE ARMY
NEW YORK DISTRICT
CORPS OF ENGINEERS
NEW YORK, NEW YORK 10278

OPERATIONS DIVISION
SURVEY SECTION
CENAN-OP-S

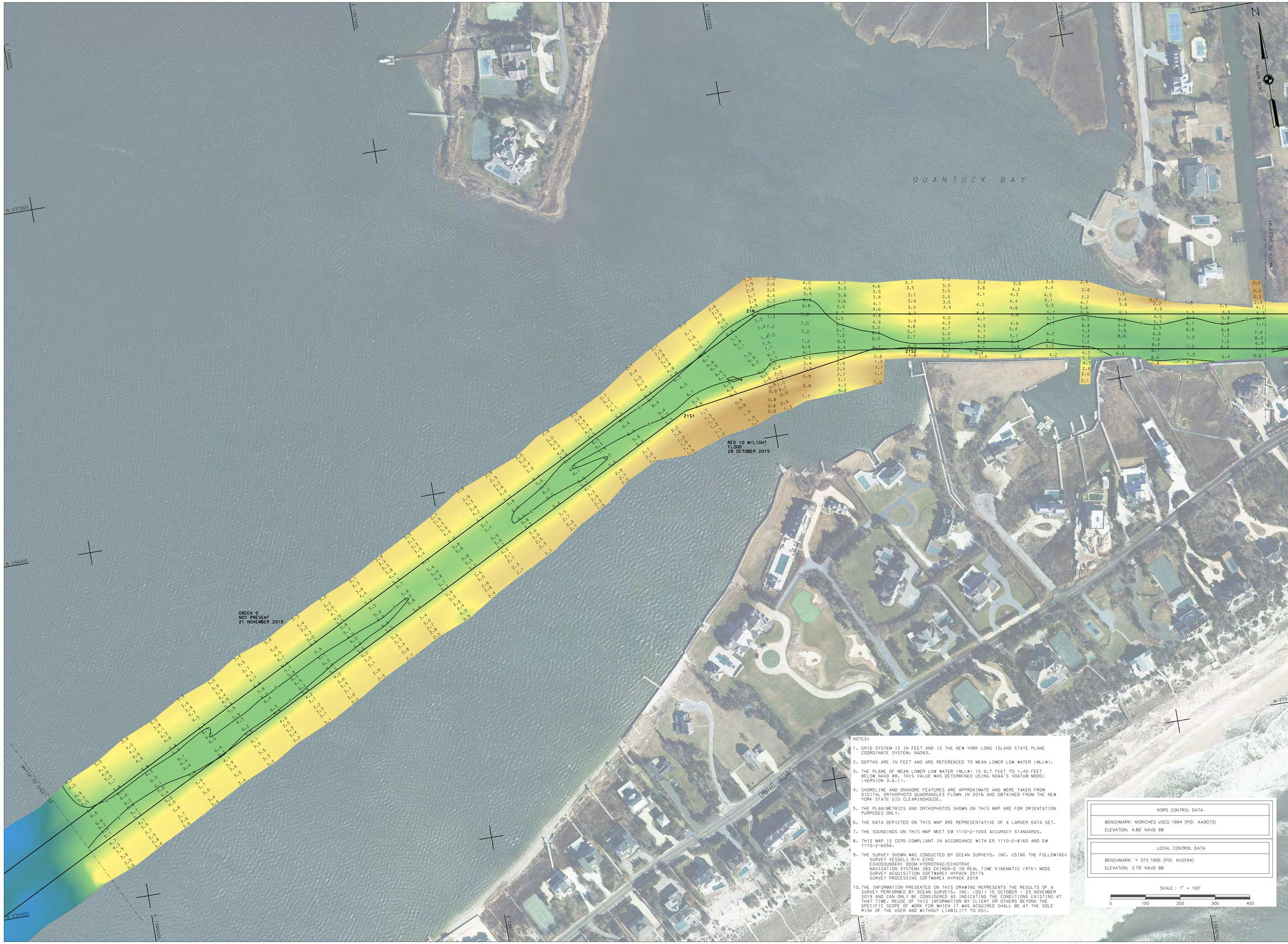
LONG ISLAND INTRACOASTAL WATERWAY, N.Y.

VICINITY OF PATCHOGUE, N.Y.

CONDITION SURVEY

VH-139

SHEET 39 OF 55



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US ARMY CORPS OF ENGINEERS
NEW YORK DISTRICT

OCEAN SURVEYS, INC.
1 BOSTON POST ROAD
OLD SAYBROOK, CONNECTICUT
www.oceansurveys.com

DATES OF SURVEY:
15 OCT. — 23 NOV. 2019

FILE NO.: 4860
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APPROVED: D. CLARKE
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APPROVED: J. MRAZ
SENIOR CHIEF OF SURVEY

DATE: 4 FEBRUARY 2020

DEPARTMENT OF THE ARMY
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NEW YORK, NEW YORK 10278

OPERATIONS DIVISION
SURVEY SECTION
CENAN-OP-S

LONG ISLAND INTRACOASTAL WATERWAY, N.Y.

VICINITY OF PATCHOGUE, N.Y.

CONDITION SURVEY

VH-140

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US ARMY CORPS OF ENGINEERS
NEW YORK DISTRICT

OCEAN SURVEYS, INC.
1151 MILL ROCK ROAD EAST
OLD SAYBROOK, CONNECTICUT
(860) 388-4631

DATES OF SURVEY:
15 OCT. - 23 NOV. 2019

FILE NO.: 4860
REQUEST NO.: 4860

SCALE:
ONE INCH = 100 FEET

FIELD BOOKS:

APPROVED: J. BEAN, FIELD CARTOGRAPHER
APPROVED: REGINALD SMITH, PROJECT MANAGER
APPROVED: D. CLARKE, LEAD CARTOGRAPHER
APPROVED: J. MRAZ, DEPUTY CHIEF OF SURVEY
DATE: 4 FEBRUARY 2020

DEPARTMENT OF THE ARMY
NEW YORK DISTRICT
CORPS OF ENGINEERS
NEW YORK, NEW YORK 10278

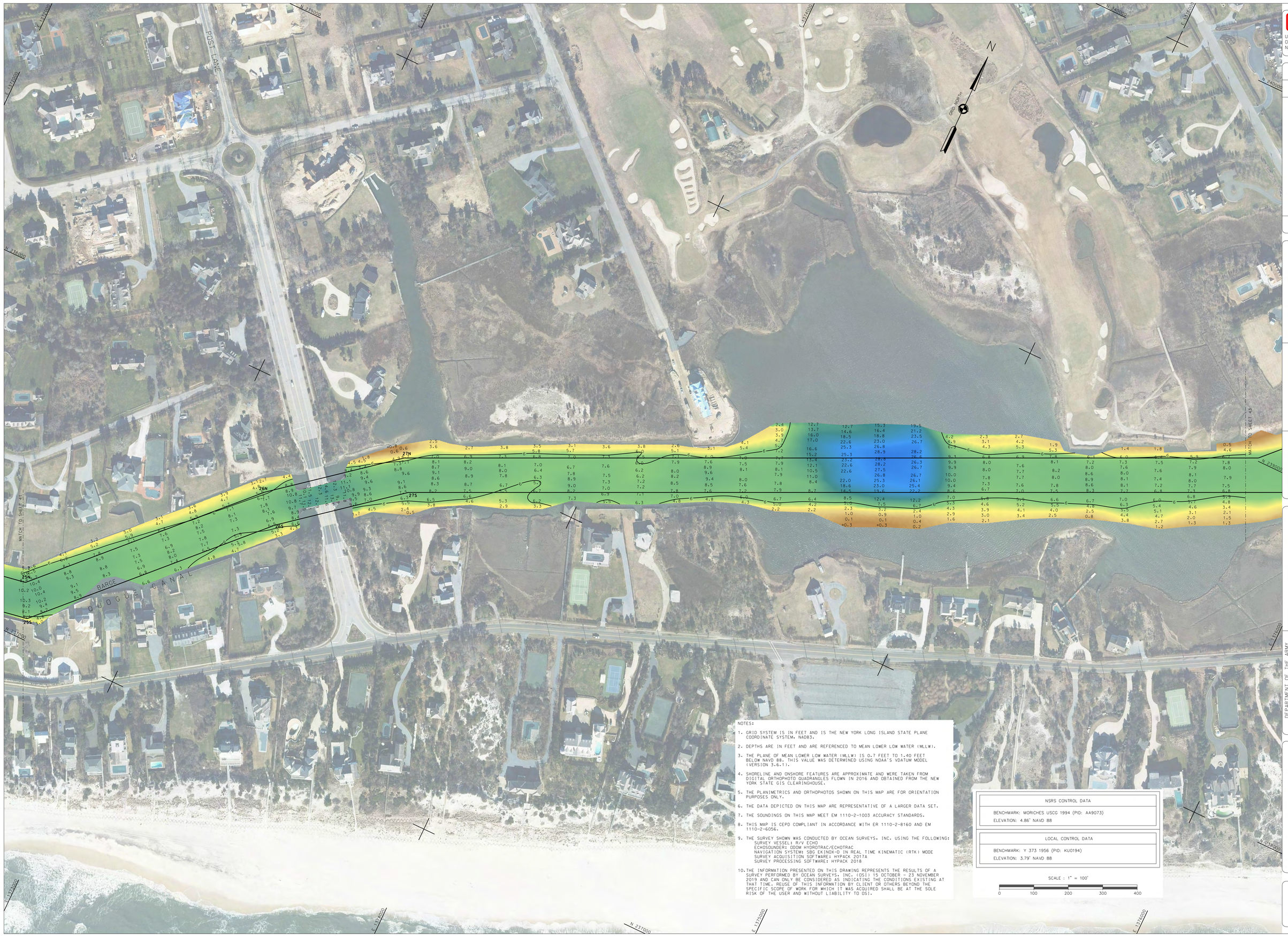
OPERATIONS DIVISION
SURVEY SECTION
CENAN-OP-S

LONG ISLAND INTRACOASTAL WATERWAY, N.Y.

VICINITY OF PATCHOGUE, N.Y.

CONDITION SURVEY

VH-141



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US ARMY CORPS OF ENGINEERS
NEW YORK DISTRICT

OCEAN SURVEYS, INC.
1291 MILL ROCK ROAD EAST
OLD SAYBROOK, CONNECTICUT
(860) 388-4163

DATES OF SURVEY:
15 OCT. - 23 NOV. 2019

FILE NO.: 4860
REQUEST NO.: 4860

SCALE:
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FIELD BOOKS:

APPROVED: J. BEAN
FIELD CARTOGRAPHER

APPROVED: REGINALD SMITH
PROJECT MANAGER

APPROVED: D. CLARKE
LEAD CARTOGRAPHER

APPROVED: J. MRAZ
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DATE: 4 FEBRUARY 2020

DEPARTMENT OF THE ARMY
NEW YORK DISTRICT
CORPS OF ENGINEERS
NEW YORK, NEW YORK 10278

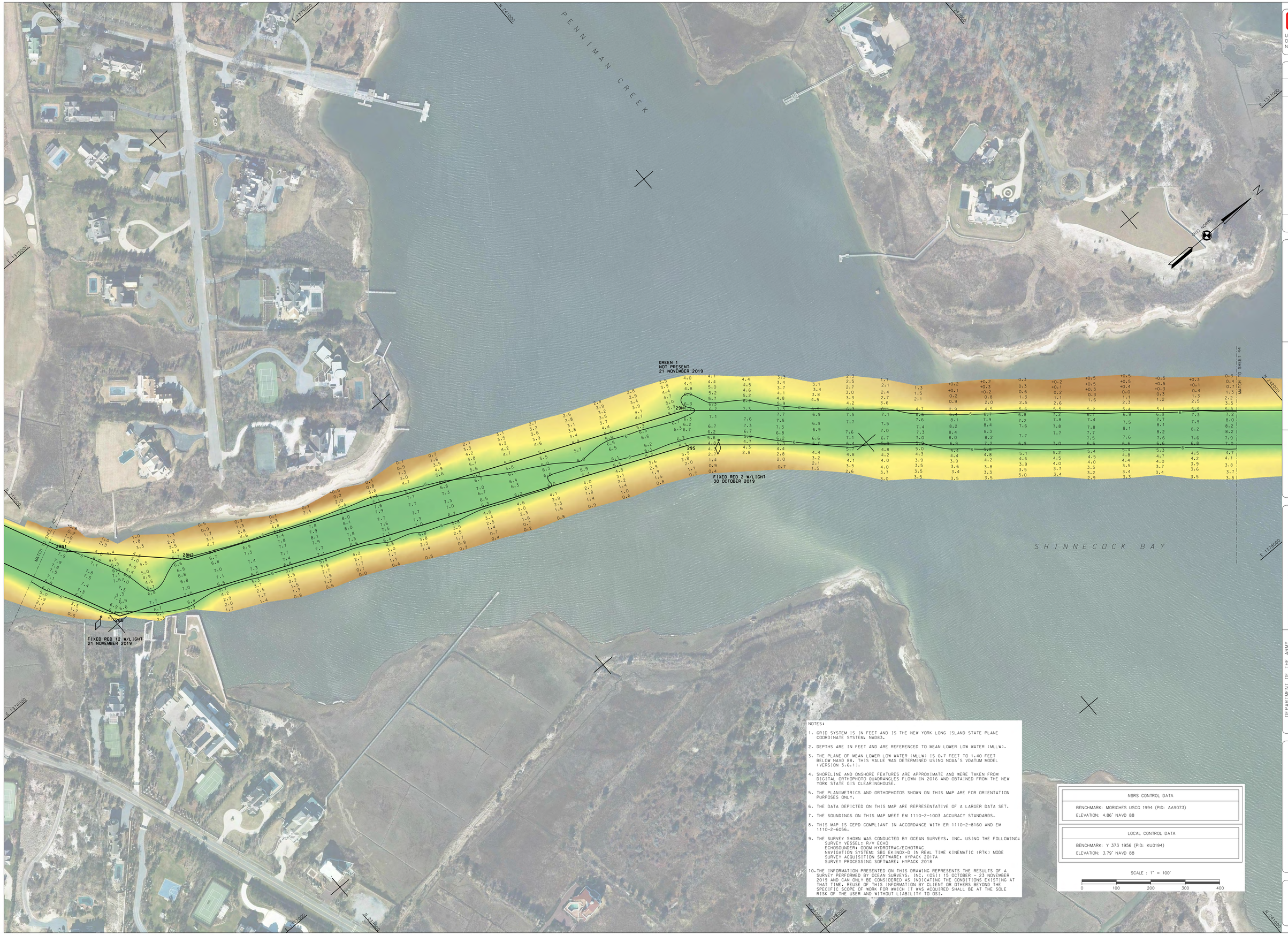
OPERATIONS DIVISION
SURVEY SECTION
CENAN-OP-S

LONG ISLAND INTRACOASTAL WATERWAY, N.Y.

VICINITY OF PATCHOGUE, N.Y.

CONDITION SURVEY

VH-142



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1291 MILL ROCK ROAD EAST
OLD SAYBROOK, CONNECTICUT
(860) 388-4457
www.oceansurveys.com

DATES OF SURVEY:
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FILE NO.: 4860
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FIELD BOOKS:

APPROVED: J. BEAN FIELD CARTOGRAPHER
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APPROVED: J. MRAZ DEPUTY CHIEF OF SURVEY
DATE: 4 FEBRUARY 2020

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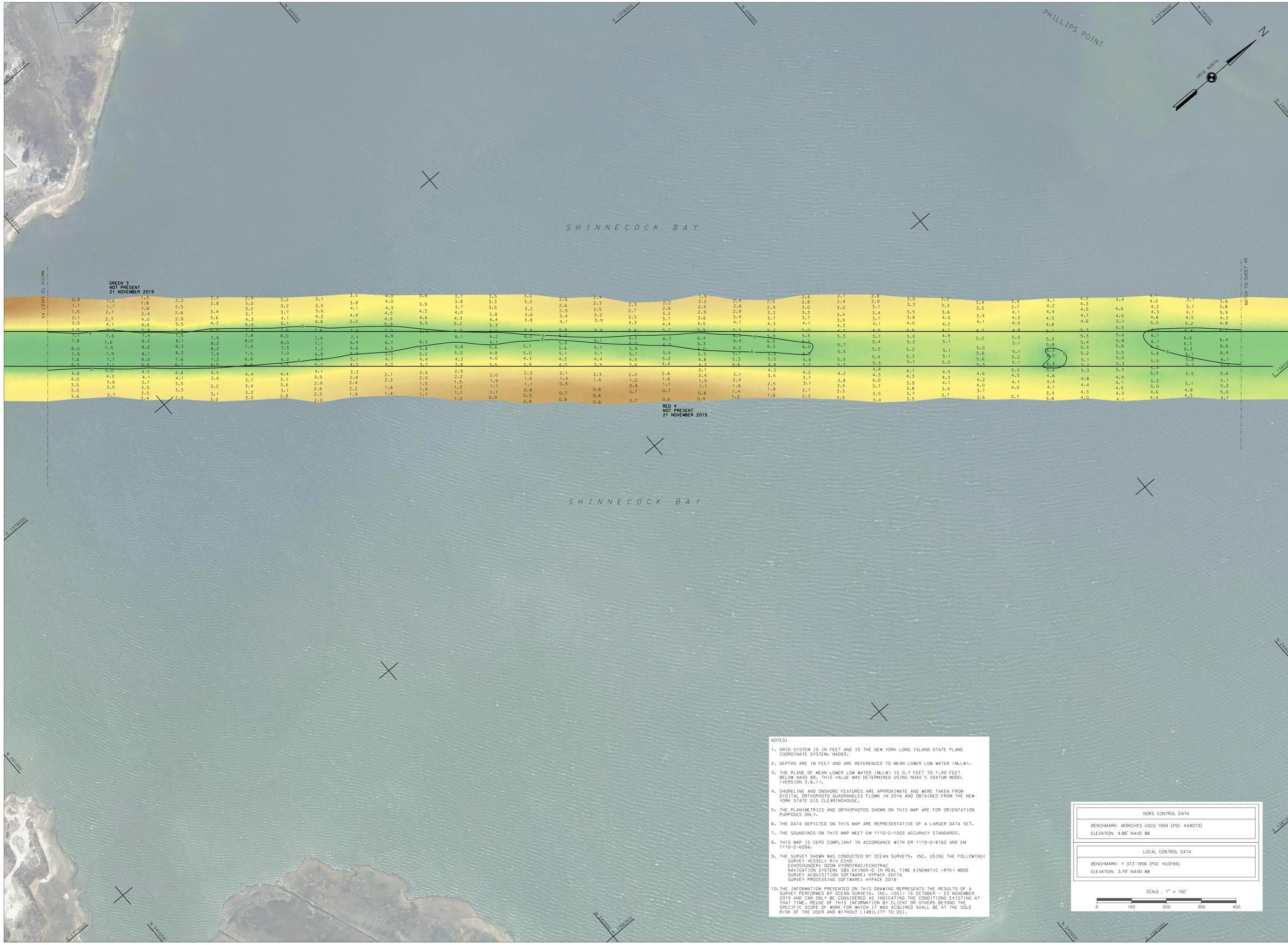
NEW YORK, NEW YORK 10278

OPERATIONS DIVISION
SURVEY SECTION
CENAN-OP-S

LONG ISLAND INTRACOASTAL WATERWAY, N.Y.
VICINITY OF PATCHOGUE, N.Y.
CONDITION SURVEY

VH-143



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125 MILL ROCK ROAD EAST
OLD SAYBROOK, CONNECTICUT
(860) 388-4831

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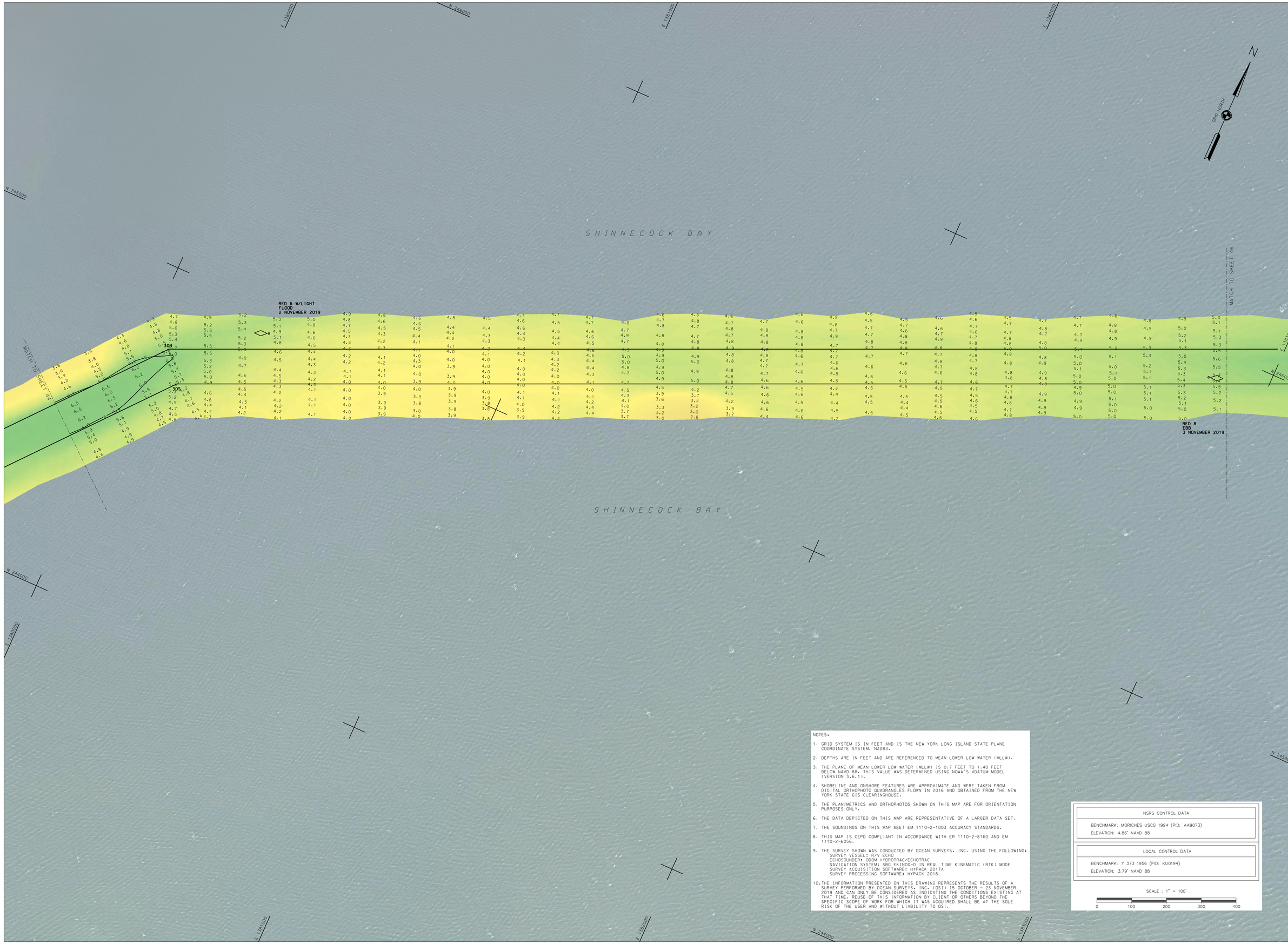
LONG ISLAND INTRACOASTAL WATERWAY, N.Y.

VICINITY OF PATCHOGUE, N.Y.

CONDITION SURVEY

VH-144



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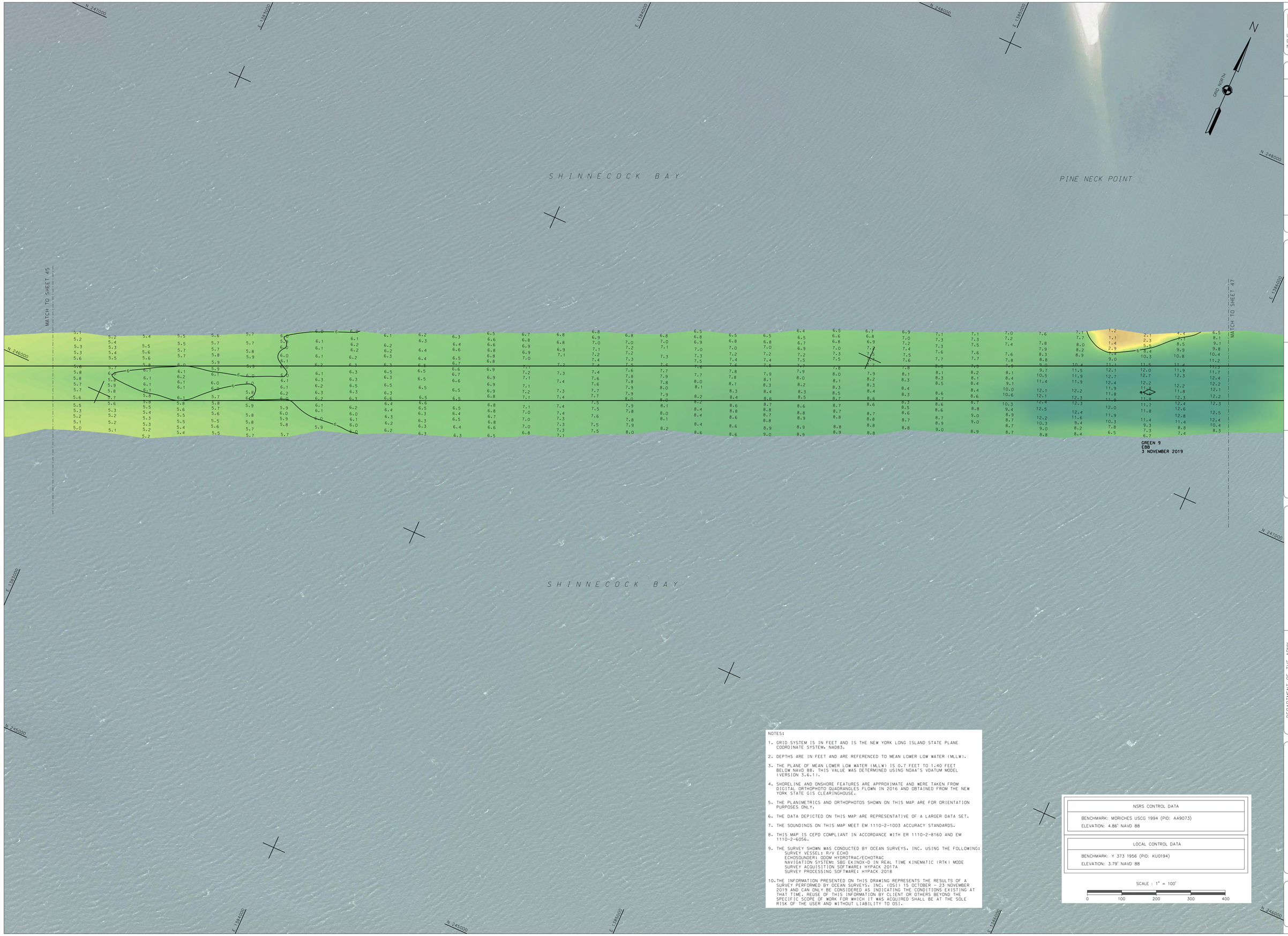
LONG ISLAND INTRACOASTAL WATERWAY, N.Y.

VICINITY OF PATCHOGUE, N.Y.

CONDITION SURVEY

VH-145



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   ECHOSOUNDER: ODOM HYDROTRAC/ECHOTRAC
   NAVIGATION SYSTEM: SBG EKINOX-D IN REAL TIME KINEMATIC (RTK) MODE
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NSRS CONTROL DATA
BENCHMARK: MORICHES USCG 1994 (PID: AA9073) ELEVATION: 4.86' NAVD 88

LOCAL CONTROL DATA
BENCHMARK: Y 373 1956 (PID: KU0194) ELEVATION: 3.79' NAVD 88

SCALE : 1" = 100'

0 100 200 300 400

US ARMY CORPS OF ENGINEERS
NEW YORK DISTRICT

OCEAN SURVEYS, INC.
1234 MILL ROCK ROAD EAST
OLD SAYBROOK, CONNECTICUT
(860) 388-4537
www.oceansurveys.com

DATES OF SURVEY:
15 OCT. - 23 NOV. 2019

FILE NO.: 4860
REQUEST NO.: 4860

SCALE:
ONE INCH = 100 FEET

FIELD BOOKS:

APPROVED: J. BEAN
FIELD CARTOGRAPHER

APPROVED: REGINALD SMITH
PROJECT MANAGER

APPROVED: D. CLARKE
LEAD CARTOGRAPHER

APPROVED: J. MRAZ
DEPUTY CHIEF OF SURVEY

DATE: 4 FEBRUARY 2020

DEPARTMENT OF THE ARMY
NEW YORK DISTRICT
CORPS OF ENGINEERS
NEW YORK, NEW YORK 10278

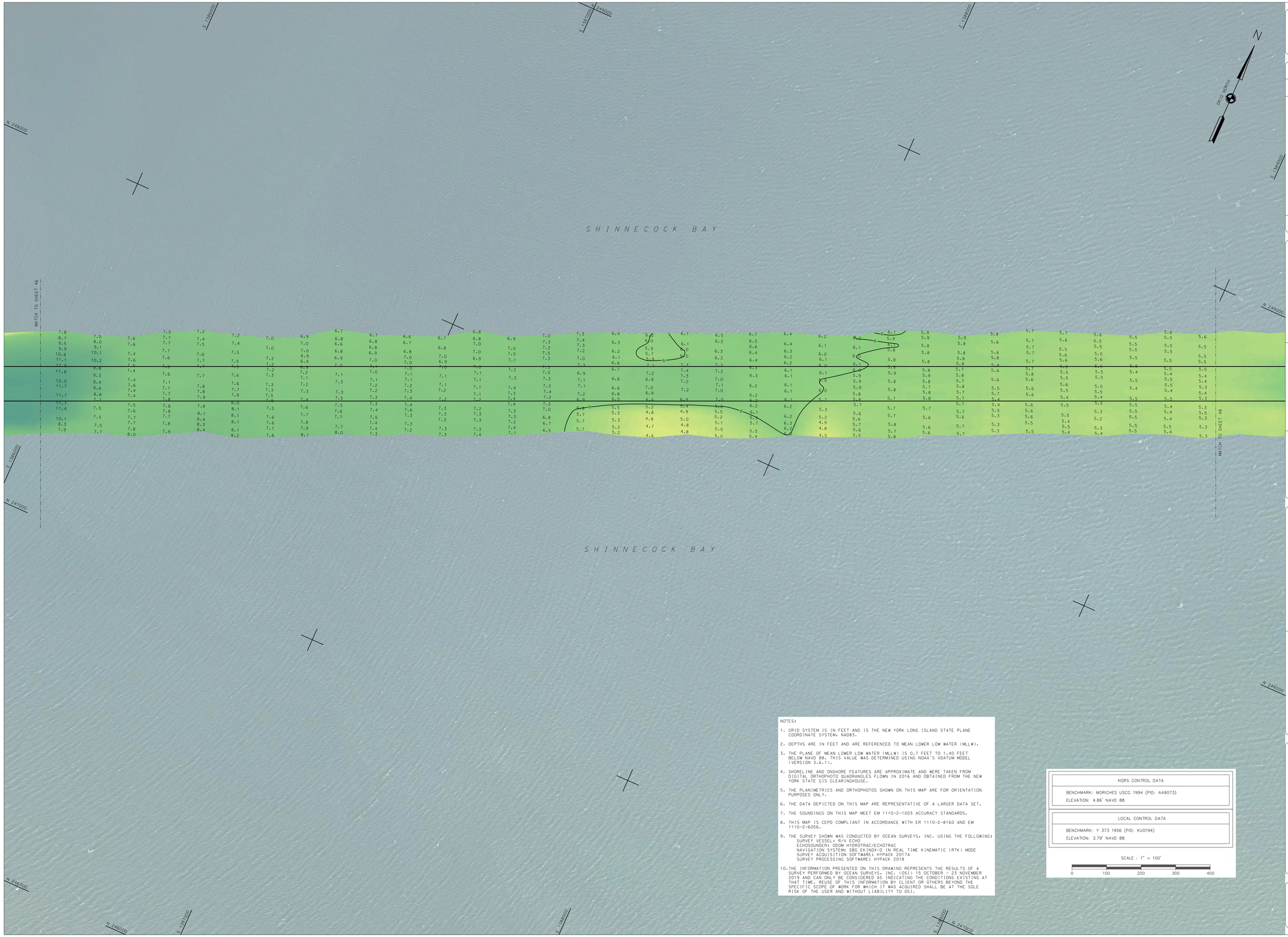
OPERATIONS DIVISION
SURVEY SECTION
CENAN-OP-S

LONG ISLAND INTRACOASTAL WATERWAY, N.Y.

VICINITY OF PATCHOGUE, N.Y.

CONDITION SURVEY

VH-146



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DATES OF SURVEY:
15 OCT. - 23 NOV. 2019

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REQUEST NO.: 4860

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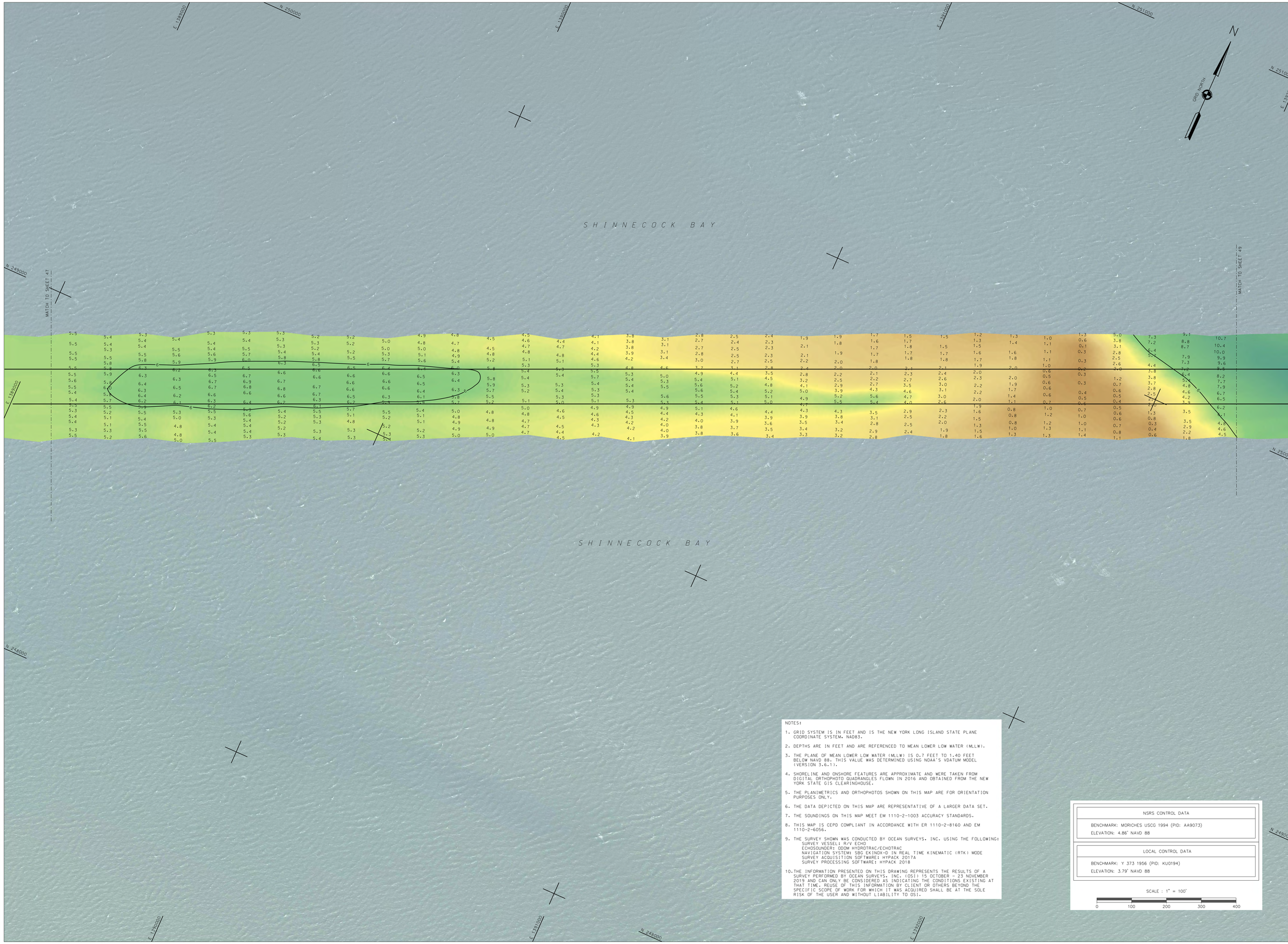
OPERATIONS DIVISION
SURVEY SECTION
CENAN-OP-S

LONG ISLAND INTRACOASTAL WATERWAY, N.Y.

VICINITY OF PATCHOGUE, N.Y.

CONDITION SURVEY

VH-147



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DATES OF SURVEY:
15 OCT. - 23 NOV. 2019

FILE NO.: 4860
REQUEST NO.: 4860

SCALE:
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APPROVED: D. CLARKE
LEAD CARTOGRAPHER

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DATE: 4 FEBRUARY 2020

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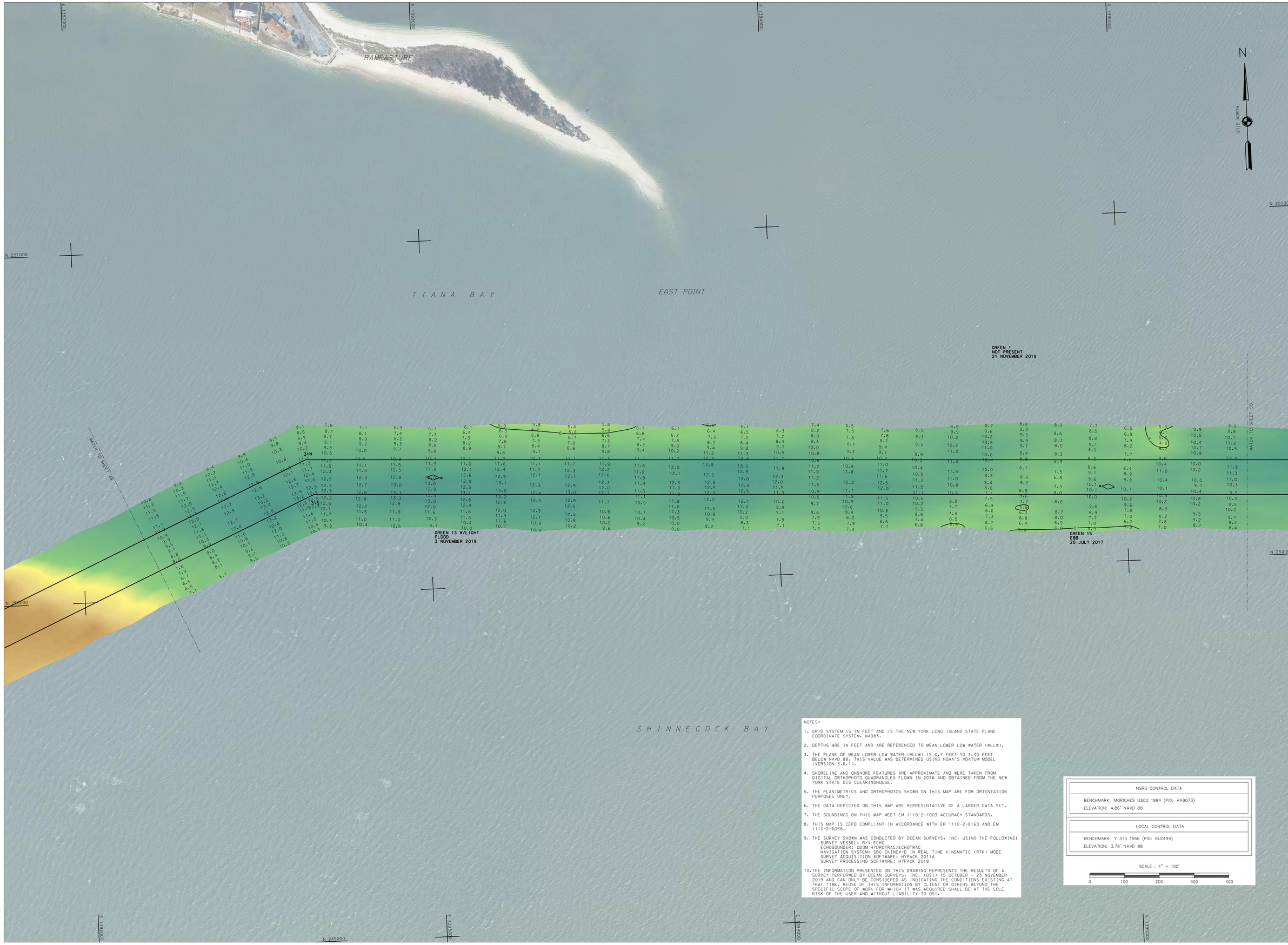
OPERATIONS DIVISION
SURVEY SECTION
CENAN-OP-S

LONG ISLAND INTRACOASTAL WATERWAY, N.Y.

VICINITY OF PINE NECK

CONDITION SURVEY

VH-148



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DATES OF SURVEY:
15 OCT. - 23 NOV. 2019

FILE NO.: 4860
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LEAD CARTOGRAPHER

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DATE: 4 FEBRUARY 2020

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OPERATIONS DIVISION
SURVEY SECTION
CENAN-OP-S

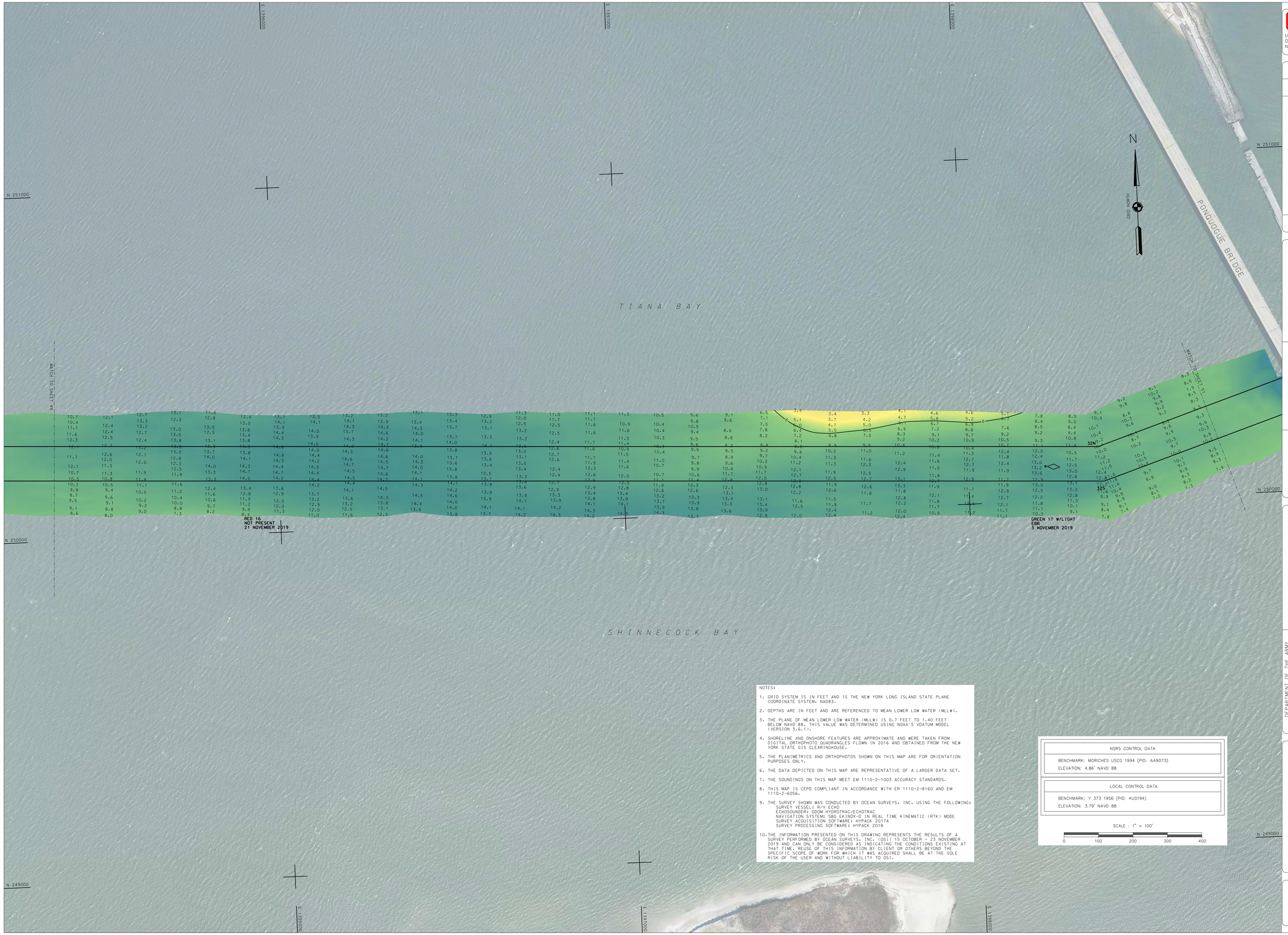
LONG ISLAND INTRACOASTAL WATERWAY, N.Y.

VICINITY OF PATCHOGUE, N.Y.

CONDITION SURVEY

VH-149

SHEET 49 OF 55



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US ARMY CORPS OF ENGINEERS
NEW YORK DISTRICT

OCEAN SURVEYS, INC.
125 MILL ROCK ROAD EAST
OLD SAYBROOK, CONNECTICUT
(860) 388-4163
www.oceansurveys.com

DATES OF SURVEY:
15 OCT. - 23 NOV. 2019

FILE NO.: 4860
REQUEST NO.: 4860

SCALE:
ONE INCH = 100 FEET

FIELD BOOKS:

APPROVED: J. BEAN
FIELD CARTOGRAPHER

APPROVED: REGINALD SMITH
PROJECT MANAGER

APPROVED: D. CLARKE
LEAD CARTOGRAPHER

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DATE: 4 FEBRUARY 2020

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NEW YORK DISTRICT
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NEW YORK, NEW YORK 10278

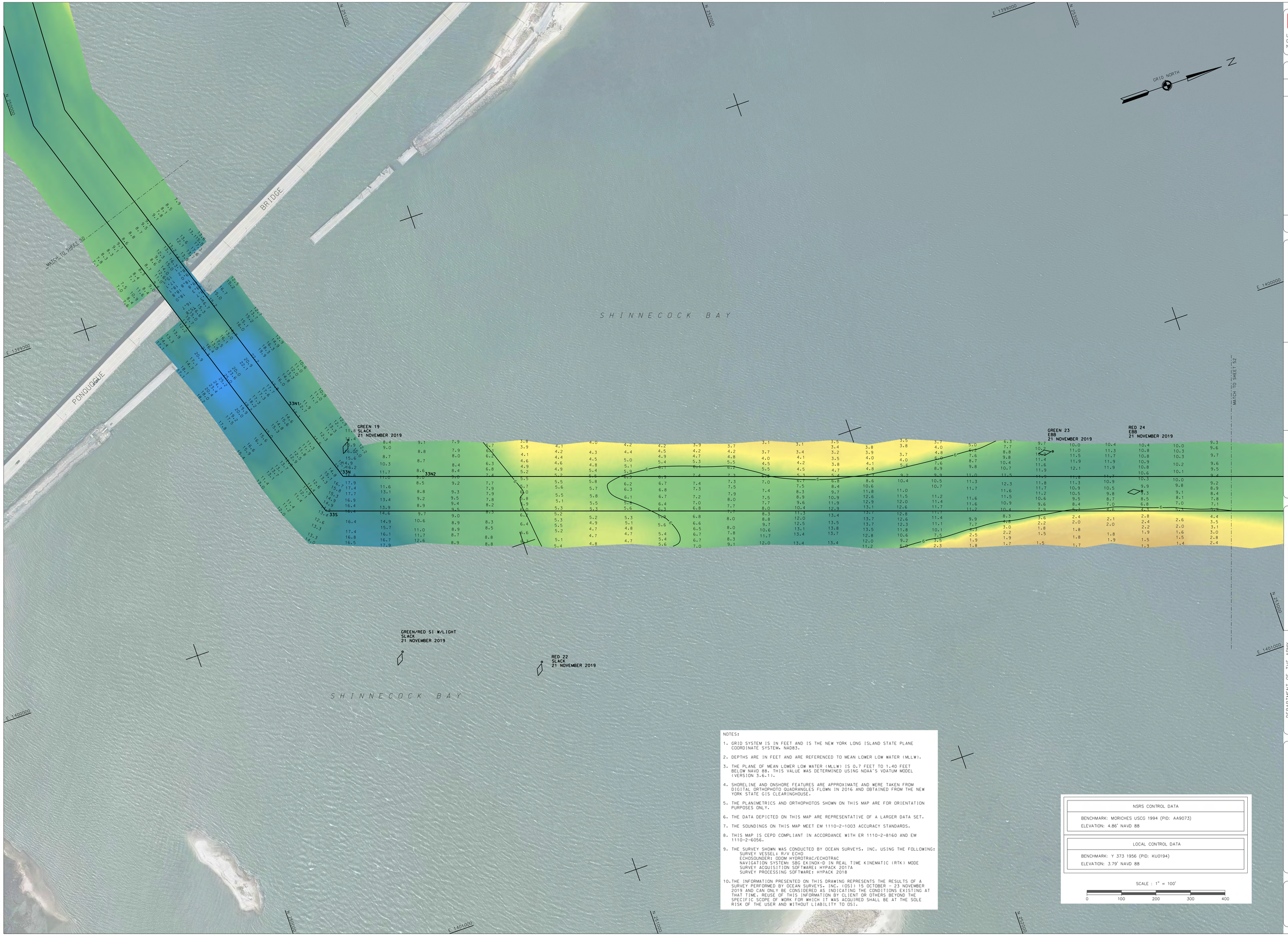
OPERATIONS DIVISION
SURVEY SECTION
CENAN-OP-S

LONG ISLAND INTRACOASTAL WATERWAY, N.Y.

VICINITY OF PATCHOGUE, N.Y.

CONDITION SURVEY

VH-150



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US ARMY CORPS OF ENGINEERS NEW YORK DISTRICT

OCEAN SURVEYS, INC. 1 BEACH STREET OLD SAYBROOK, CONNECTICUT www.oceansurveysinc.com

DATES OF SURVEY: 15 OCT. – 23 NOV. 2019

FILE NO: 4860
REQUEST NO: 4860

SCALE: ONE INCH = 100 FEET

FIELD BOOKS:

APPROVED: J. BEAN FIELD CARTOGRAPHER
APPROVED: REGINALD SMITH PROJECT MANAGER
APPROVED: D. CLARKE CHIEF, CARTOGRAPHY
APPROVED: J. MRAZ CHIEF, FIELD OF SURVEY
DATE: 4 FEBRUARY 2020

DEPARTMENT OF THE ARMY
NEW YORK DISTRICT
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NEW YORK, NEW YORK 10278

OPERATIONS DIVISION
SURVEY SECTION
CENAN-OP-S

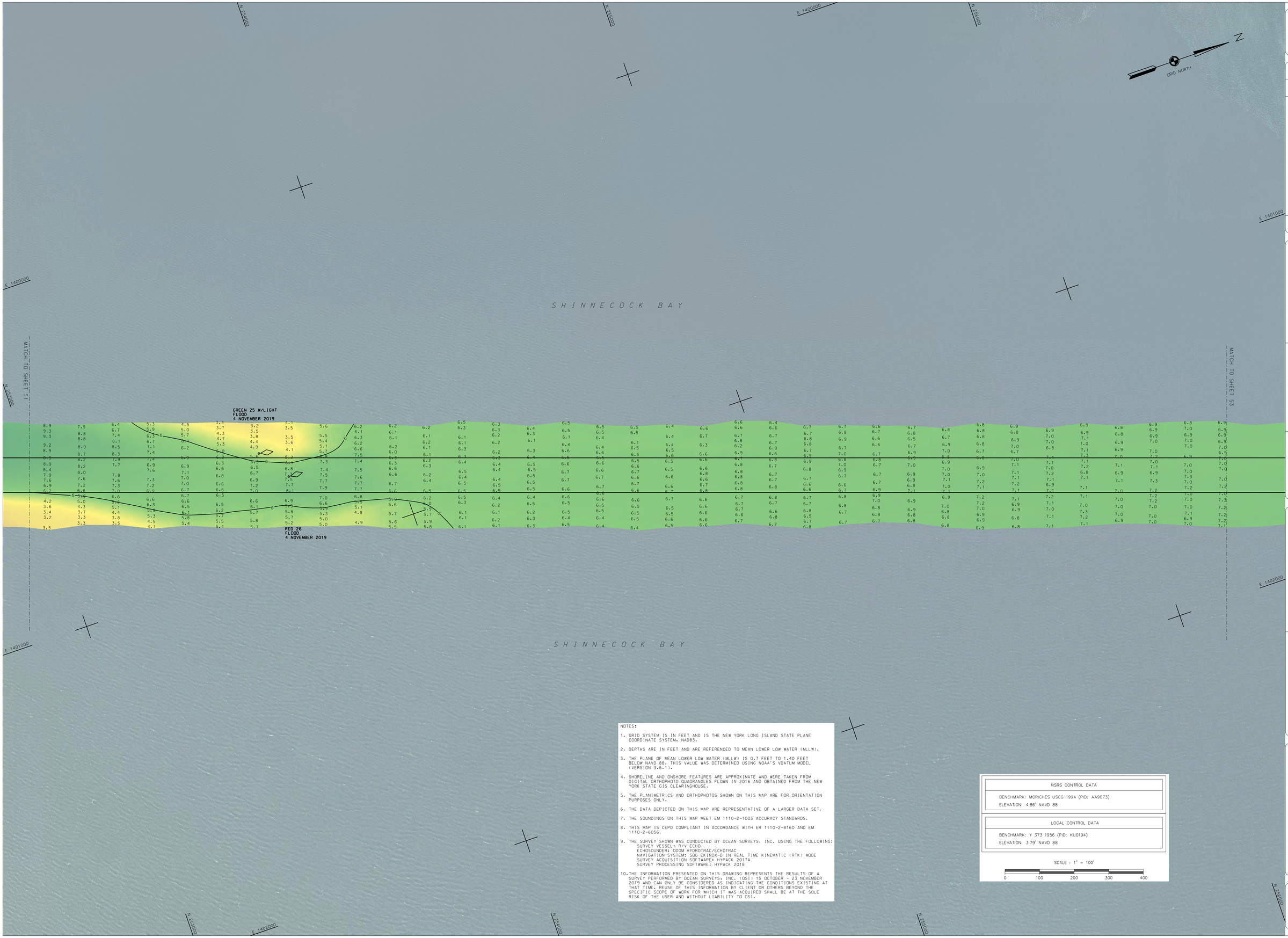
LONG ISLAND INTRACOASTAL WATERWAY, N.Y.

VICINITY OF PATCHOGUE, N.Y.

CONDITION SURVEY

VH-151

SHEET 51 OF 55



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NEW YORK DISTRICT

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DATE: 4 FEBRUARY 2020

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OPERATIONS DIVISION
SURVEY SECTION
CENAN-OP-S

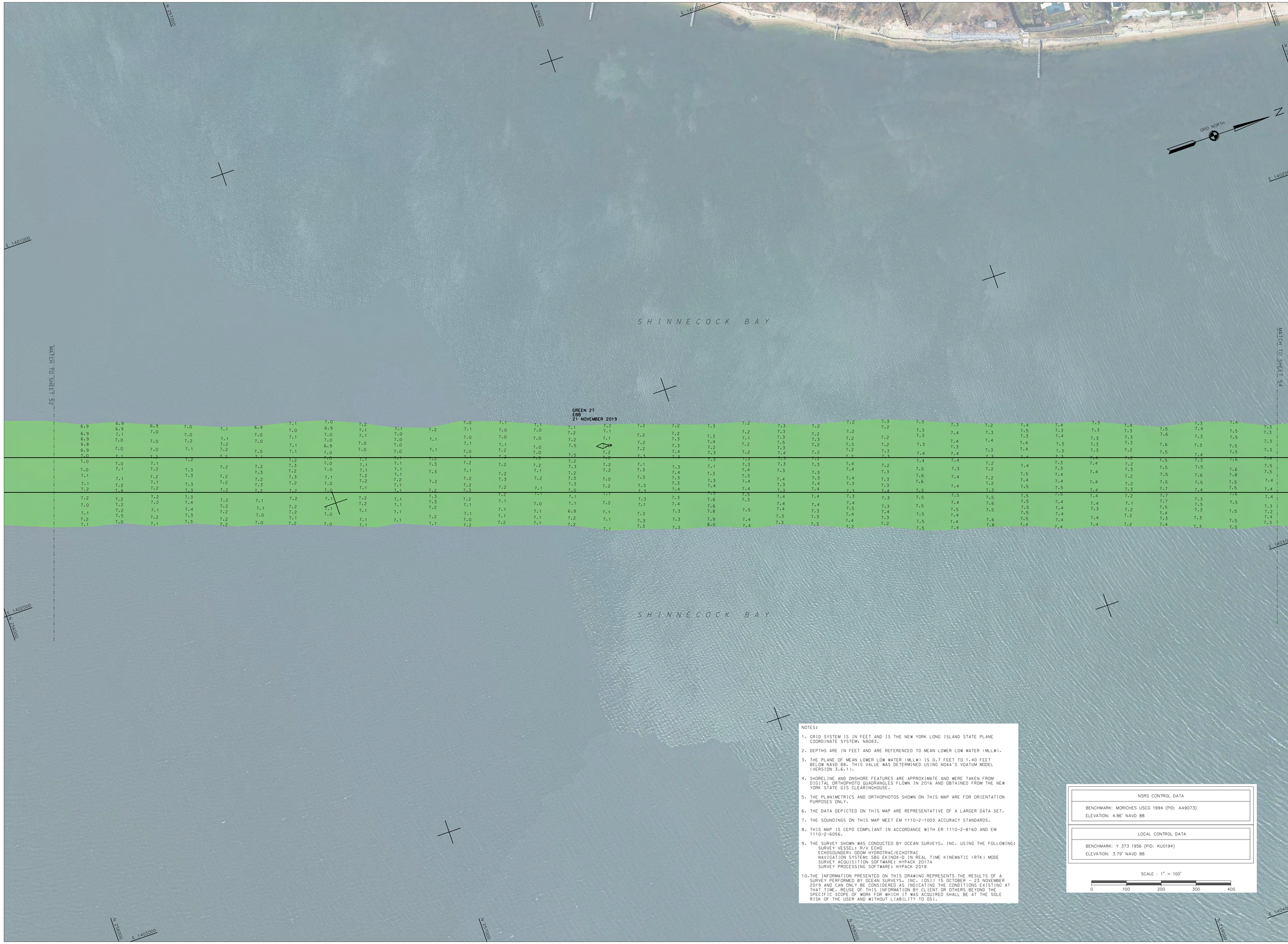
LONG ISLAND INTRACOASTAL WATERWAY, N.Y.

VICINITY OF PATCHOGUE, N.Y.

CONDITION SURVEY

VH-152

SHEET 52 OF 55



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4. SHORELINE AND ONSHORE FEATURES ARE APPROXIMATE AND WERE TAKEN FROM DIGITAL ORTHOPHOTO QUADRANGLES FLOWN IN 2016 AND OBTAINED FROM THE NEW YORK STATE GIS CLEARINGHOUSE.
5. THE PLANIMETRICS AND ORTHOPHOTOS SHOWN ON THIS MAP ARE FOR ORIENTATION PURPOSES ONLY.
6. THE DATA DEPICTED ON THIS MAP ARE REPRESENTATIVE OF A LARGER DATA SET.
7. THE SOUNDINGS ON THIS MAP MEET EM 1110-2-1003 ACCURACY STANDARDS.
8. THIS MAP IS CEPD COMPLIANT IN ACCORDANCE WITH ER 1110-2-8160 AND EM 1110-2-6056.
9. THE SURVEY SHOWN WAS CONDUCTED BY OCEAN SURVEYS, INC. USING THE FOLLOWING:
   SURVEY VESSEL: R/V ECHO
   ECHOSOUNDER: ODOM HYDROTRAC/ECHOTRAC
   NAVIGATION SYSTEM: SBG EKINOX-D IN REAL TIME KINEMATIC (RTK) MODE
   SURVEY ACQUISITION SOFTWARE: HYPACK 2017A
   SURVEY PROCESSING SOFTWARE: HYPACK 2018
10. THE INFORMATION PRESENTED ON THIS DRAWING REPRESENTS THE RESULTS OF A SURVEY PERFORMED BY OCEAN SURVEYS, INC. (OSI) 15 OCTOBER – 23 NOVEMBER 2019 AND CAN ONLY BE CONSIDERED AS INDICATING THE CONDITIONS EXISTING AT THAT TIME. REUSE OF THIS INFORMATION BY CLIENT OR OTHERS BEYOND THE SPECIFIC SCOPE OF WORK FOR WHICH IT WAS ACQUIRED SHALL BE AT THE SOLE RISK OF THE USER AND WITHOUT LIABILITY TO OSI.

NSRS CONTROL DATA
BENCHMARK: MORICHES USCG 1994 (PID: AA9073)
ELEVATION: 4.86' NAVD 88

LOCAL CONTROL DATA
BENCHMARK: Y 373 1956 (PID: KU0194)
ELEVATION: 3.79' NAVD 88

SCALE : 1" = 100'

0 100 200 300 400

US ARMY CORPS OF ENGINEERS NEW YORK DISTRICT

OCEAN SURVEYS, INC.
1565 HOOKER AVENUE
OLD SAYBROOK, CONNECTICUT
www.oceansurveys.com

DATES OF SURVEY: 15 OCT. – 23 NOV. 2019

FILE NO.: 4860
REQUEST NO.: 4860

SCALE: ONE INCH = 100 FEET

FIELD BOOKS:

APPROVED: J. BEAN FIELD CARTOGRAPHER
APPROVED: REGINALD SMITH PROJECT MANAGER
APPROVED: D. CLARKE CHIEF, SURVEY CARTOGRAPHER
APPROVED: J. MRAZ DEPUTY CHIEF OF SURVEY
DATE: 4 FEBRUARY 2020

DEPARTMENT OF THE ARMY
NEW YORK DISTRICT
CORPS OF ENGINEERS
NEW YORK, NEW YORK 10278

OPERATIONS DIVISION
SURVEY SECTION
CENAN-OP-S

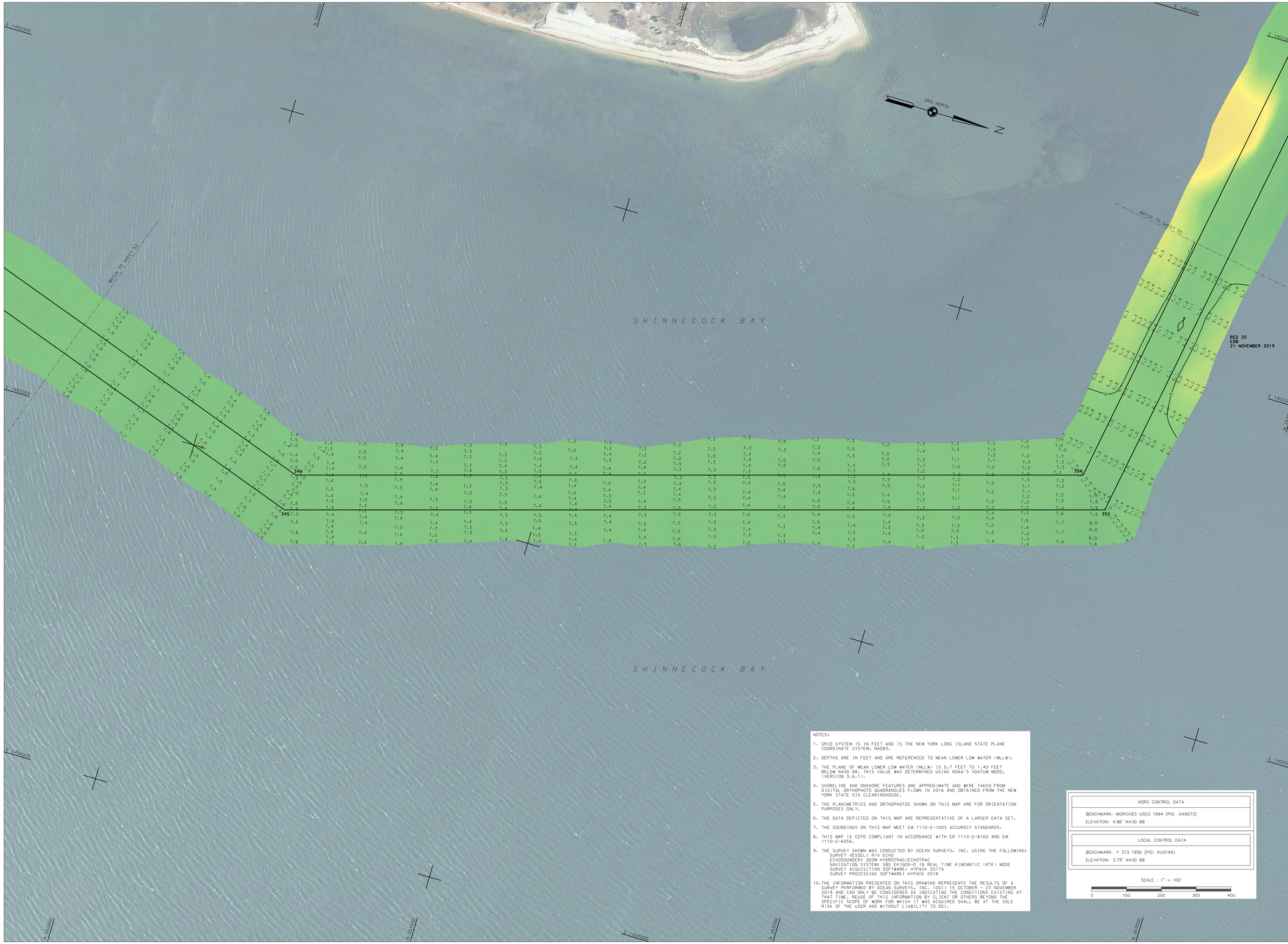
LONG ISLAND INTRACOASTAL WATERWAY, N.Y.

VICINITY OF PATCHOGUE, N.Y.

CONDITION SURVEY

VH–153

SHEET 53 OF 55



NOTES:

1. GRID SYSTEM IS IN FEET AND IS THE NEW YORK LONG ISLAND STATE PLANE COORDINATE SYSTEM. NAD83.
2. DEPTHS ARE IN FEET AND ARE REFERENCED TO MEAN LOWER LOW WATER (MLLW).
3. THE PLANE OF MEAN LOWER LOW WATER (MLLW) IS 0.7 FEET TO 1.40 FEET BELOW NAVD 88. THIS VALUE WAS DETERMINED USING NOAA'S VDATUM MODEL (VERSION 3.6.1).
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NSRS CONTROL DATA

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ELEVATION: 4.86' NAVD 88

LOCAL CONTROL DATA

BENCHMARK: Y 373 1956 (PID: KU0194)
ELEVATION: 3.79' NAVD 88

SCALE : 1" = 100'

0 100 200 300 400

US ARMY CORPS OF ENGINEERS
NEW YORK DISTRICT

OCEAN SURVEYS, INC.
125 MILL ROCK ROAD EAST
OLD SAYBROOK, CONNECTICUT
(860) 388-4457
www.oceansurveys.com

DATES OF SURVEY:
15 OCT. - 23 NOV. 2019

FILE NO.: 4860
REQUEST NO.: 4860

SCALE:
ONE INCH = 100 FEET

FIELD BOOKS:

APPROVED: J. BEAN
FIELD CARTOGRAPHER

APPROVED: REGINALD SMITH
PROJECT MANAGER

APPROVED: D. CLARKE
LEAD CARTOGRAPHER

APPROVED: J. MRAZ
DEPUTY CHIEF OF SURVEY

DATE: 4 FEBRUARY 2020

DEPARTMENT OF THE ARMY
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OPERATIONS DIVISION
SURVEY SECTION
CENAN-OP-S

LONG ISLAND INTRACOASTAL WATERWAY, N.Y.

VICINITY OF PATCHOGUE, N.Y.

CONDITION SURVEY

VH-154

SHEET 54 OF 55

NOTES:

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   ECHOSOUNDER: ODOM HYDROTRAC/ECHOTRAC
   NAVIGATION SYSTEM: SBG EKINOX-D IN REAL TIME KINEMATIC (RTK) MODE
   SURVEY ACQUISITION SOFTWARE: HYPACK 2017A
   SURVEY PROCESSING SOFTWARE: HYPACK 2018
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NSRS CONTROL DATA
BENCHMARK: MORICHES USCG 1994 (PID: AA9073)
ELEVATION: 4.86' NAVD 88

LOCAL CONTROL DATA
BENCHMARK: Y 373 1956 (PID: KU0194)
ELEVATION: 3.79' NAVD 88

SCALE : 1" = 100'

0 100 200 300 400

US ARMY CORPS OF ENGINEERS
NEW YORK DISTRICT

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DATES OF SURVEY:
15 OCT. – 23 NOV. 2019

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SCALE:
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FIELD BOOKS:

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PROJECT MANAGER

APPROVED: D. CLARKE
CHIEF, SURVEY CARTOGRAPHER

APPROVED: J. MRAZ
DEPUTY CHIEF OF SURVEY

DATE: 4 FEBRUARY 2020

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LONG ISLAND INTRACOASTAL WATERWAY, N.Y.

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CONDITION SURVEY

VH-155

SHEET 55 OF 55