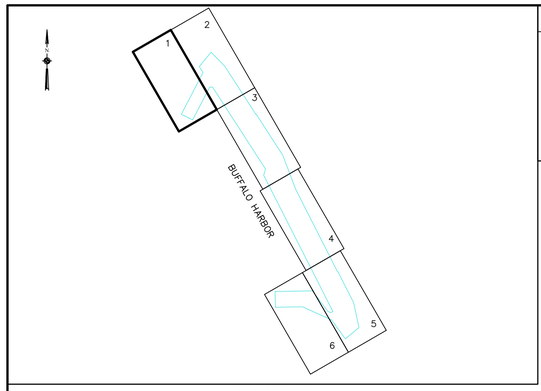

SHEET INDEX
"NOT TO SCALE"

SOUNDING COLOR LEGEND

	DEPTHS 0.1' OR MORE ABOVE PROJECT DEPTH
	DEPTHS AT OR BELOW PROJECT DEPTH
XX.X	PROJECT DEPTH

LEGEND OF SYMBOLS

17+00 (NEW), 17+00 (OLD)	CHANNEL STATIONING
417	CHANNEL CORNER
H.L.F.	HARBOR LINE CORNER
	FEDERAL CHANNEL
	HARBOR LINE
	SUBMARINE CABLE
C	CAN BUOY
N	NUN BUOY
	LIGHTED BUOY
	FIXED LIGHT
	LIGHT HOUSE
W	LIGHT COLOR WHITE
R	LIGHT COLOR RED
G	LIGHT COLOR GREEN
FL	FLASHING LIGHT
F	FIXED LIGHT
Oc	OCCULTING LIGHT
Iso	EQUAL INTERVAL
AL	ALTERNATING
Q	QUICK (FLASHING)
S	LIGHT CYCLE SECONDS

SITE SPECIFIC NOTES:

1. PROJECT DEPTHS AND SOUNDINGS ARE REFERRED TO LOW WATER DATUM OF 569.2 FEET IGLD 1985.
2. HORIZONTAL CONTROL IS REFERRED TO NORTH AMERICAN DATUM 1983 (2011 ADJUSTMENT) NEW YORK STATE PLANE COORDINATE SYSTEM–WEST ZONE.
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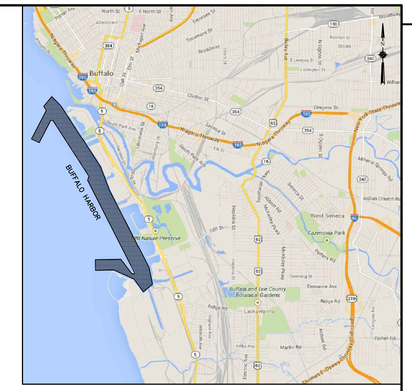
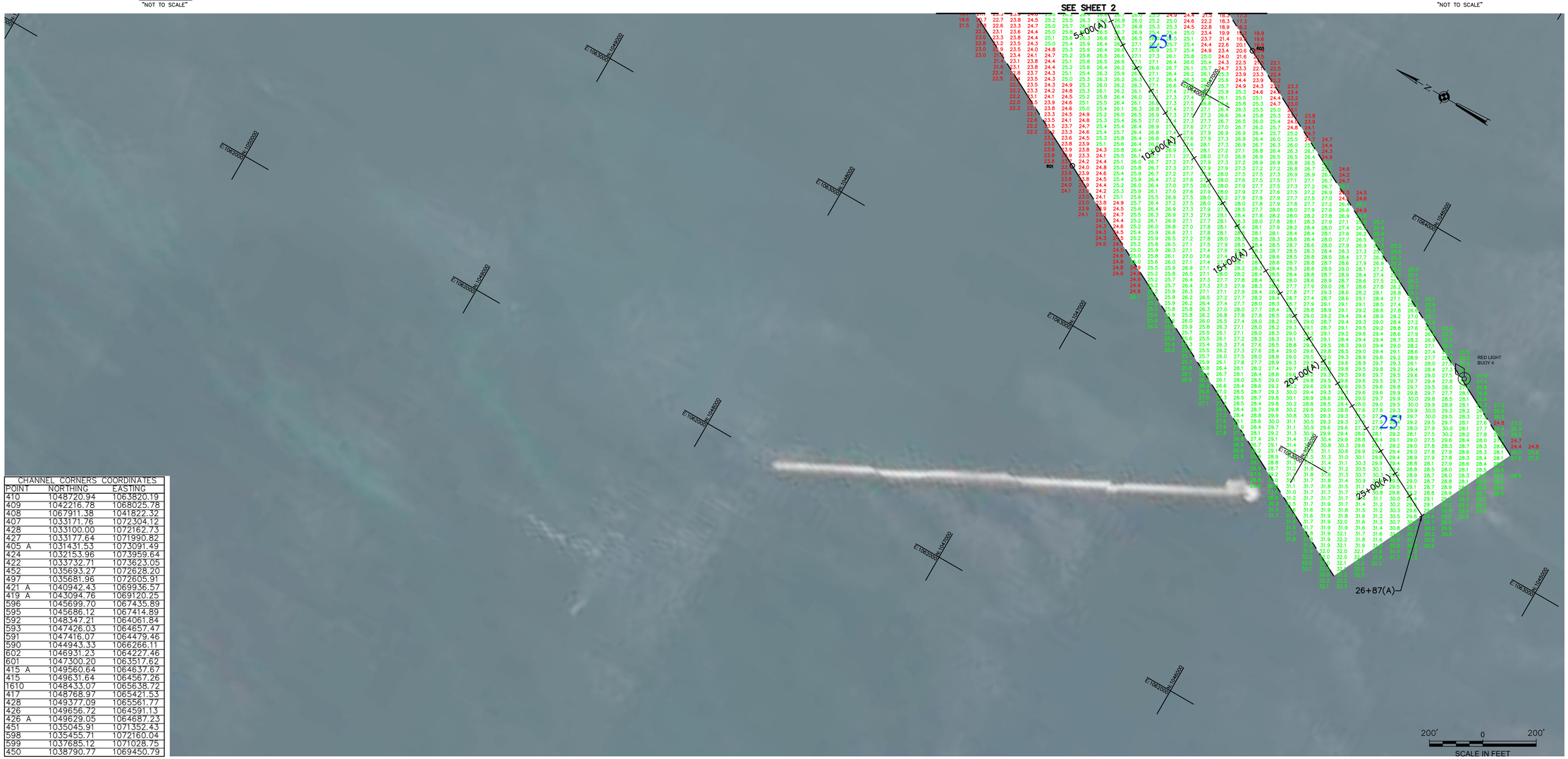
   GPS POSITIONING: GPS BASE STATION W/RTK TIDES
   SONAR HEAD: 200 KHZ, RESON T50 MULTIBEAM
   1.0 DEGREE BEAMS 160 DEGREE ARC
   HEAVE PITCH AND ROLL: APPLANIX POS–MV VER. 5
   VELOCITY PROFILER: SONTEK CASTAWAY
   HYPACK SURVEY SOFTWARE
   SURVEY LAUNCH "BUXBAUM"
6. THE SOUNDING INFORMATION DEPICTED ON THE MAP REPRESENTS THE RESULTS OF SURVEYS MADE ON THE DATE INDICATED AND CAN ONLY BE CONSIDERED AS INDICATING THE GENERAL CONDITION AT THAT TIME.
7. THIS SURVEY WAS PREPARED IN ACCORDANCE WITH THE STANDARDS OUTLINED IN CORPS OF ENGINEERS HYDROGRAPHIC SURVEY MANUAL EM 1110–2–1003.



VICINITY MAP
"NOT TO SCALE"

SEE SHEET 2



CHANNEL CORNERS COORDINATES		
POINT	NORTHING	EASTING
410	1048720.94	1063820.19
409	1042216.78	1068025.78
408	1067911.38	1041822.32
407	1033171.76	1072304.12
428	1033100.00	1072162.73
427	1033177.64	1071990.82
405 A	1031431.53	1073091.49
424	1032153.96	1073959.64
422	1033732.71	1073623.05
452	1035693.27	1072628.20
497	1035681.96	1072605.91
421 A	1040942.43	1069936.57
419 A	1043094.76	1069120.25
596	1045699.70	1067435.89
595	1045686.12	1067414.89
592	1048347.21	1064061.84
593	1047426.03	1064657.47
591	1047416.07	1064479.46
590	1044943.33	1066266.11
602	1046931.23	1064227.46
601	1047300.20	1063517.62
415 A	1049560.64	1064637.67
415	1049631.64	1064567.26
1610	1048433.07	1065638.72
417	1048768.97	1065421.53
428	1049377.09	1065561.77
426	1049656.72	1064591.13
426 A	1049629.05	1064687.23
451	1035045.91	1071352.43
598	1035455.71	1072160.04
599	1037685.12	1071028.75
450	1038790.77	1069450.79

US Army Corps of Engineers
Buffalo District

Original sheet size = ANSI D

** COPY OF SIGNED ORIGINAL **

Drawn by: KPL
Checked by: ACK
Reviewed by:
Roman H. Figler III PLS
Chief, Survey Section
Approved by:
Adam W. Hamm
Chief, NY/PA Navigation and Maintenance Section
Date: September 9, 2021

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U.S. ARMY ENGINEER DISTRICT
CORPS OF ENGINEERS
BUFFALO, NEW YORK 14207–3199

BUFFALO HARBOR
BUFFALO, NY
PROJECT CONDITIONS SOUNDINGS 2021
SCALE: 1"=200'

Sheet reference number
VH–101
Sheet 1 of 6

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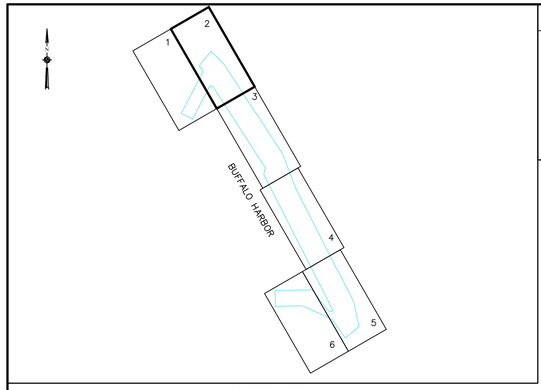

SHEET INDEX
"NOT TO SCALE"

SOUNDING COLOR LEGEND

	DEPTHS 0.1' OR MORE ABOVE PROJECT DEPTH
	DEPTHS AT OR BELOW PROJECT DEPTH
XX.X	PROJECT DEPTH

LEGEND OF SYMBOLS

17+00 (NEW), 17+00 (OLD)	CHANNEL STATIONING
417	CHANNEL CORNER
H.L.F.	HARBOR LINE CORNER
	FEDERAL CHANNEL
	HARBOR LINE
	SUBMARINE CABLE
C	CAN BUOY
N	NUN BUOY
	LIGHTED BUOY
	FIXED LIGHT
	LIGHT HOUSE
W	LIGHT COLOR WHITE
R	LIGHT COLOR RED
G	LIGHT COLOR GREEN
FL	FLASHING LIGHT
F	FIXED LIGHT
Oc	OCCULTING LIGHT
Iso	EQUAL INTERVAL
AL	ALTERNATING
Q	QUICK (FLASHING)
S	LIGHT CYCLE SECONDS

SITE SPECIFIC NOTES:

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   HEAVE PITCH AND ROLL: APPLANIX POS–MV VER. 5
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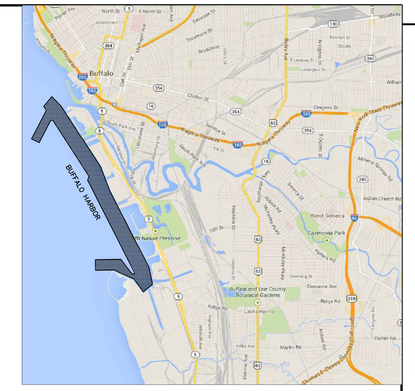
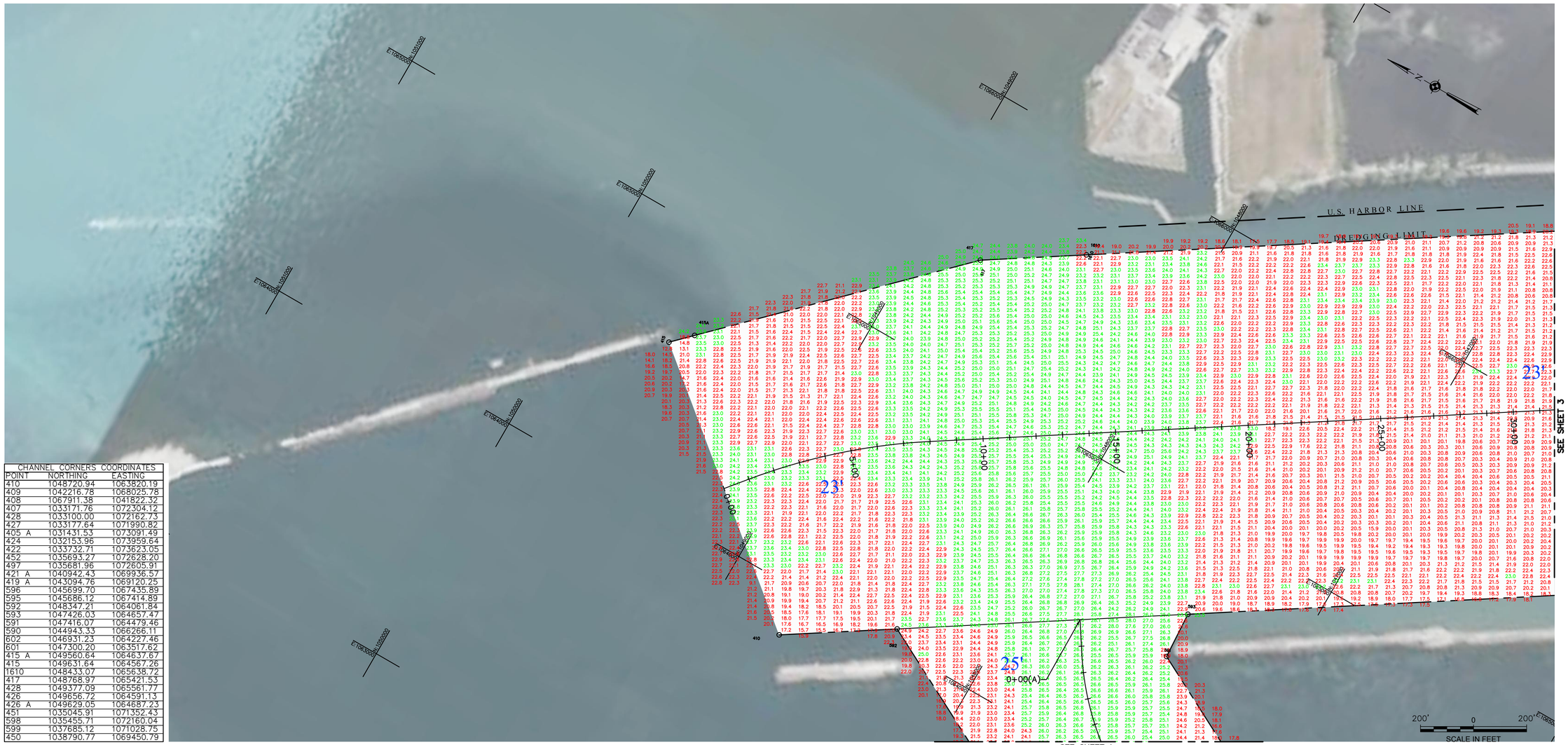


VICINITY MAP
"NOT TO SCALE"



CHANNEL CORNERS COORDINATES		
POINT	NORTHING	EASTING
410	1048720.94	1068320.19
409	1042216.78	1068025.78
408	1067911.38	1041822.32
407	1033171.76	1072304.12
428	1033100.00	1072162.73
427	1033177.64	1071990.82
405 A	1031431.53	1073091.49
424	1032153.96	1073959.64
422	1033732.71	1073623.05
452	1035693.27	1072628.20
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421 A	1040942.43	1069936.57
419 A	1043094.76	1069120.25
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601	1047300.20	1063517.62
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415	1049631.64	1064567.26
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417	1048768.97	1065421.53
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426 A	1049629.05	1064687.23
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598	1035455.71	1072160.04
599	1037685.12	1071028.75
450	1038790.77	1069450.79

US Army Corps of Engineers
Buffalo District

Original sheet size = ANSI D

** COPY OF SIGNED ORIGINAL **

Drawn by: KPL
Checked by: ACK
Reviewed by: Roman H. Figler III PLS
Chief, Survey Section
Approved by: Adam W. Hamm
Chief, NY/PA Navigation and Maintenance Section
Date: September 9, 2021

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U.S. ARMY ENGINEER DISTRICT
CORPS OF ENGINEERS
BUFFALO, NEW YORK 14207–3199

BUFFALO HARBOR
BUFFALO, NY

PROJECT CONDITIONS SOUNDINGS 2021

SCALE: 1"=200'

Sheet reference number
VH–102
Sheet 2 of 6

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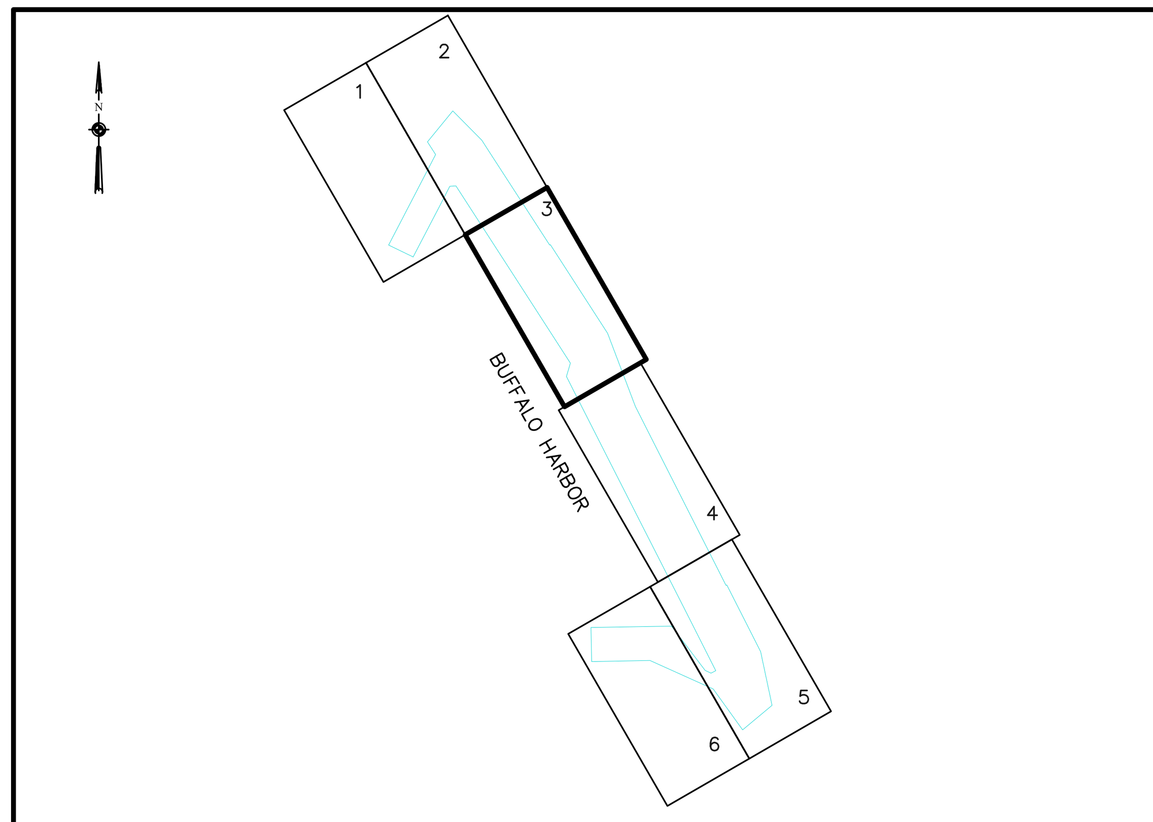
SAFETY PAYS



SHEET INDEX
"NOT TO SCALE"

SOUNDING COLOR LEGEND

(red)	DEPTHS 0.1' OR MORE ABOVE PROJECT DEPTH
(green)	DEPTHS AT OR BELOW PROJECT DEPTH
XX.X	PROJECT DEPTH

LEGEND OF SYMBOLS

17+00 (NEW), 17+00 (OLD)	CHANNEL STATIONING
⊙ 417	CHANNEL CORNER
◎ H.L.F.	HARBOR LINE CORNER
——— — — ———	FEDERAL CHANNEL
———— ————	HARBOR LINE
—— —— —— ——	SUBMARINE CABLE
C	CAN BUOY
N	NUN BUOY
	LIGHTED BUOY
	FIXED LIGHT
	LIGHT HOUSE
W	LIGHT COLOR WHITE
R	LIGHT COLOR RED
G	LIGHT COLOR GREEN
FL	FLASHING LIGHT
F	FIXED LIGHT
Oc	OCCULTING LIGHT
Iso	EQUAL INTERVAL
AL	ALTERNATING
Q	QUICK (FLASHING)
S	LIGHT CYCLE SECONDS

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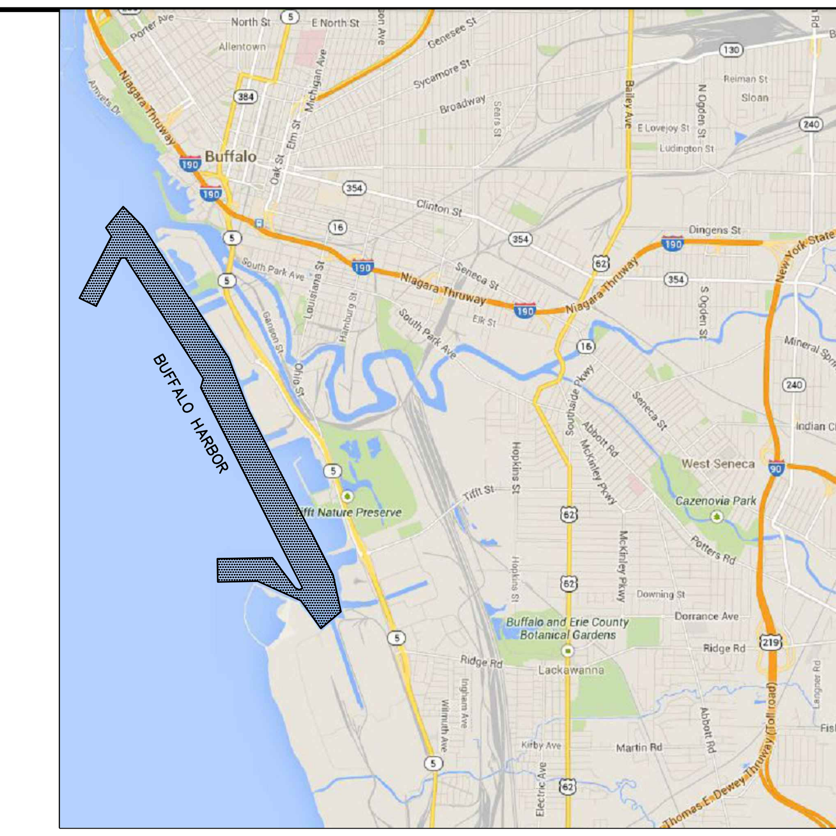

VICINITY MAP
"NOT TO SCALE"

CHANNEL CORNERS COORDINATES		
POINT	NORTHING	EASTING
410	1048720.94	1063820.19
409	1042216.78	1068025.78
408	1067911.38	1041822.32
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595	1045686.12	1067414.89
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CHANNEL CORNERS COORDINATES		
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426 A	1049629.05	1064687.23
451	1035045.91	1071352.43
598	1035455.71	1072160.04
599	1037685.12	1071028.75
450	1038790.77	1069450.79

US Army Corps of Engineers Buffalo District

Original sheet size = ANSI D

** COPY OF SIGNED ORIGINAL **

Drawn by: KPL
Checked by: ACK
Reviewed by: Roman H. Figler III PLS, Chief, Survey Section
Approved by: Adam W. Hamm, Chief, NY/PA Navigation and Maintenance Section
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U.S. ARMY ENGINEER DISTRICT
CORPS OF ENGINEERS
BUFFALO, NEW YORK 14207—3199

BUFFALO HARBOR
BUFFALO, NY

PROJECT CONDITIONS SOUNDINGS 2021

SCALE: 1"=200'

Sheet reference number
VH—103
Sheet 3 of 6

SUPPORT VALUE ENGINEERING — IT PAYS

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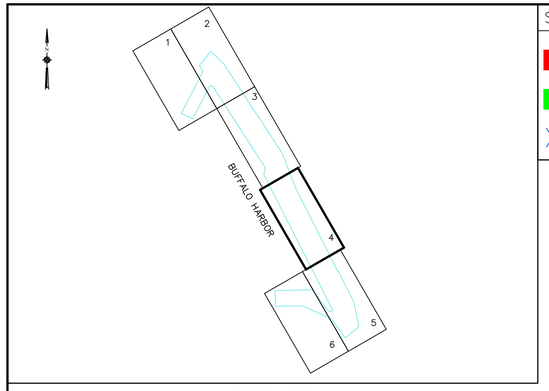

SHEET INDEX
"NOT TO SCALE"

SOUNDING COLOR LEGEND

- DEPTHS 0.1' OR MORE ABOVE PROJECT DEPTH
- DEPTHS AT OR BELOW PROJECT DEPTH
- XX.X PROJECT DEPTH

LEGEND OF SYMBOLS

17+00 (NEW), 17+00 (OLD)	CHANNEL STATIONING
o 417	CHANNEL CORNER
H.L.F.	HARBOR LINE CORNER
	FEDERAL CHANNEL
	HARBOR LINE
	SUBMARINE CABLE
C	CAN BUOY
N	NUN BUOY
	LIGHTED BUOY
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R	LIGHT COLOR RED
G	LIGHT COLOR GREEN
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   HEAVE PITCH AND ROLL: APPLANIX POS–MV VER. 5
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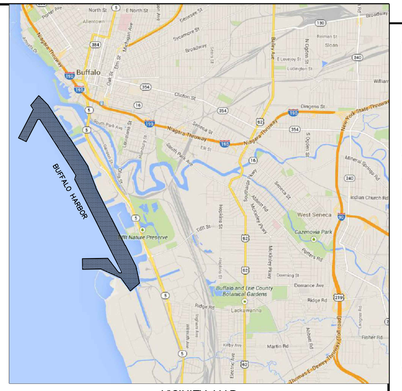

VICINITY MAP
"NOT TO SCALE"

CHANNEL CORNERS COORDINATES		
POINT	NORTHING	EASTING
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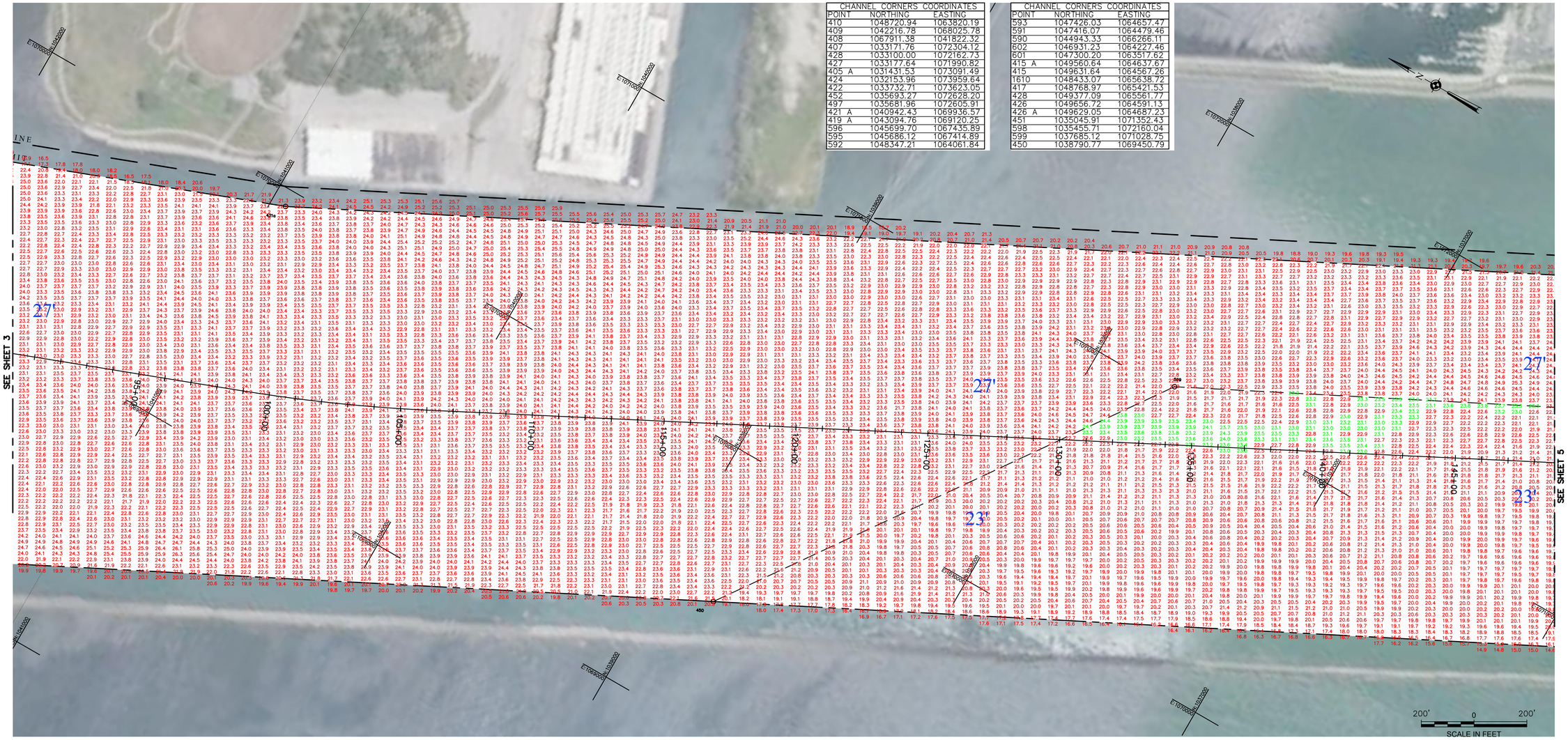

US Army Corps of Engineers
Buffalo District

Original sheet size = ANSI D

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Drawn by: KPL
Checked by: ACK
Reviewed by:
Roman H. Figler III PLS
Chief, Survey Section
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U.S. ARMY ENGINEER DISTRICT
CORPS OF ENGINEERS
BUFFALO, NEW YORK 14207–3199

BUFFALO HARBOR
BUFFALO, NY

PROJECT CONDITIONS SOUNDINGS 2021

SCALE: 1"=200'

Sheet reference number
VH–104

Sheet 4 of 6

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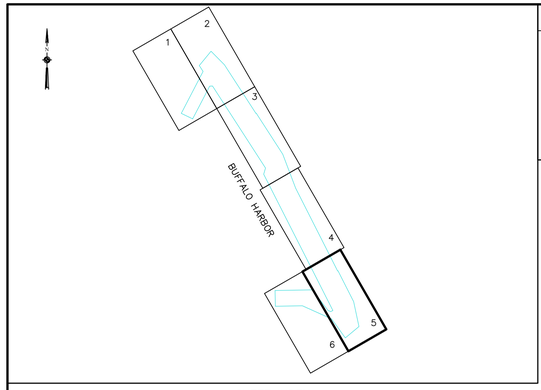

SHEET INDEX
"NOT TO SCALE"

SOUNDING COLOR LEGEND

	DEPTHS 0.1' OR MORE ABOVE PROJECT DEPTH
	DEPTHS AT OR BELOW PROJECT DEPTH
XX.X	PROJECT DEPTH

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   HEAVE PITCH AND ROLL: APPLANIX POS–MV VER. 5
   VELOCITY PROFILER: SONTEK CASTAWAY
   HYPACK SURVEY SOFTWARE
   SURVEY LAUNCH "BUXBAUM"
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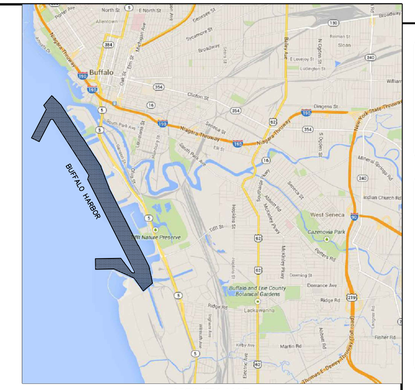
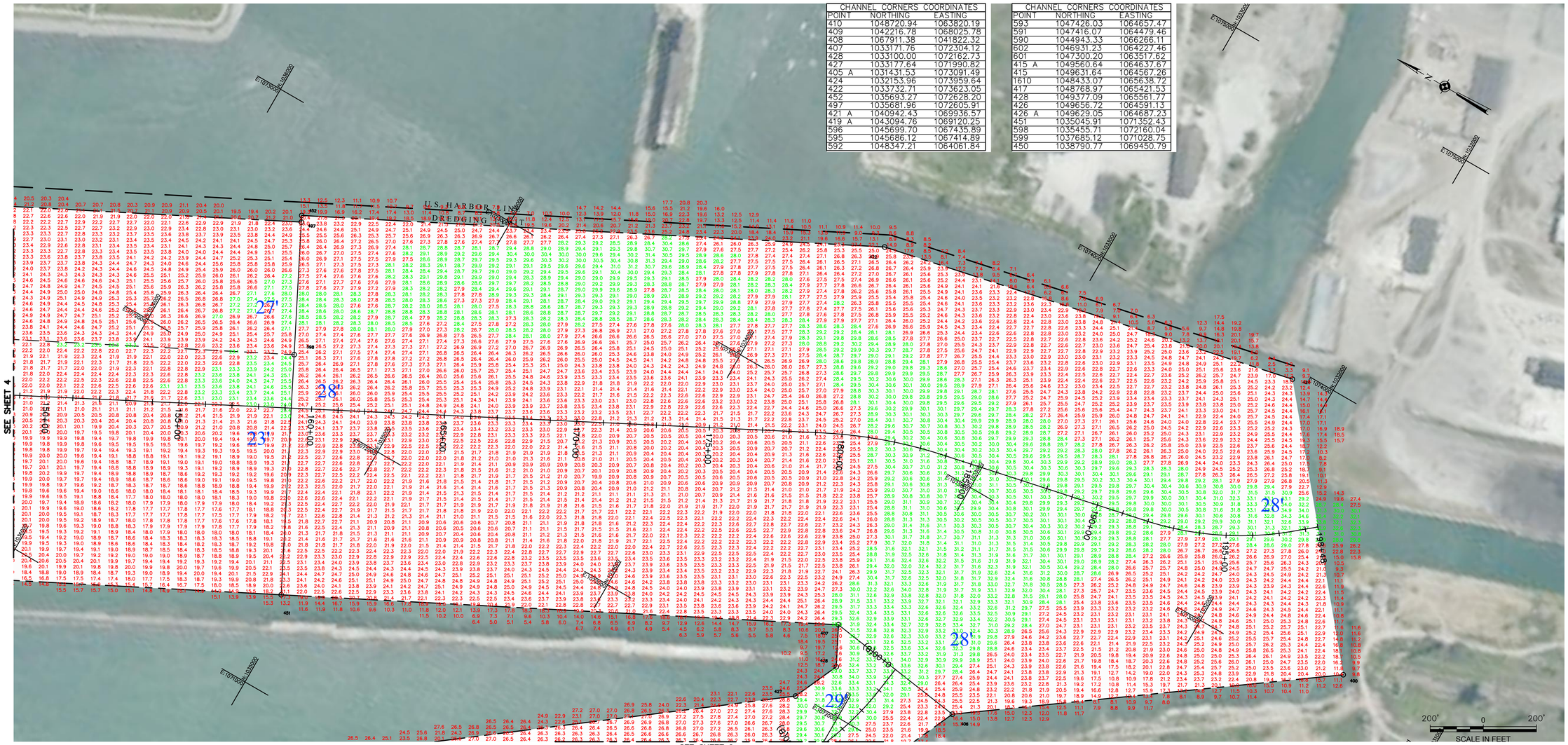


VICINITY MAP
"NOT TO SCALE"

CHANNEL CORNERS COORDINATES		
POINT	NORTHING	EASTING
410	1048720.94	1063820.19
409	1042216.78	1068025.78
408	1067911.38	1041822.32
407	1033171.76	1072304.12
428	1033100.00	1072162.73
427	1033177.64	1071990.82
405 A	1031431.53	1073091.49
424	1032153.96	1073959.64
422	1033732.71	1073623.05
452	1035693.27	1072628.20
497	1035681.96	1072605.91
421 A	1040942.43	1069936.57
419 A	1043094.76	1069120.25
596	1045699.70	1067435.89
595	1045686.12	1067414.89
592	1048347.21	1064061.84

CHANNEL CORNERS COORDINATES		
POINT	NORTHING	EASTING
593	1047426.03	1064657.47
591	1047416.07	1064479.46
590	1044943.33	1066266.11
602	1046931.23	1064227.46
601	1047300.20	1063517.62
415 A	1049560.64	1064637.67
415	1049631.64	1064567.26
1610	1048433.07	1065638.72
417	1048768.97	1065421.53
428	1049377.09	1065561.77
426	1049656.72	1064591.13
426 A	1049629.05	1064687.23
451	1035045.91	1071352.43
598	1035455.71	1072160.04
599	1037685.12	1071028.75
450	1038790.77	1069450.79



US Army Corps of Engineers
Buffalo District

Original sheet size = ANSI D

** COPY OF SIGNED ORIGINAL **

Drawn by: KPL
Checked by: ACK
Reviewed by:
Roman H. Figler III PLS
Chief, Survey Section
Approved by:
Adam W. Hamm
Chief, NY/PA Navigation and Maintenance Section

Date: September 9, 2021

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U.S. ARMY ENGINEER DISTRICT
CORPS OF ENGINEERS
BUFFALO, NEW YORK 14207–3199

BUFFALO HARBOR
BUFFALO, NY

PROJECT CONDITIONS SOUNDINGS 2021

SCALE: 1" =200'

Sheet reference number
VH–105

Sheet 5 of 6

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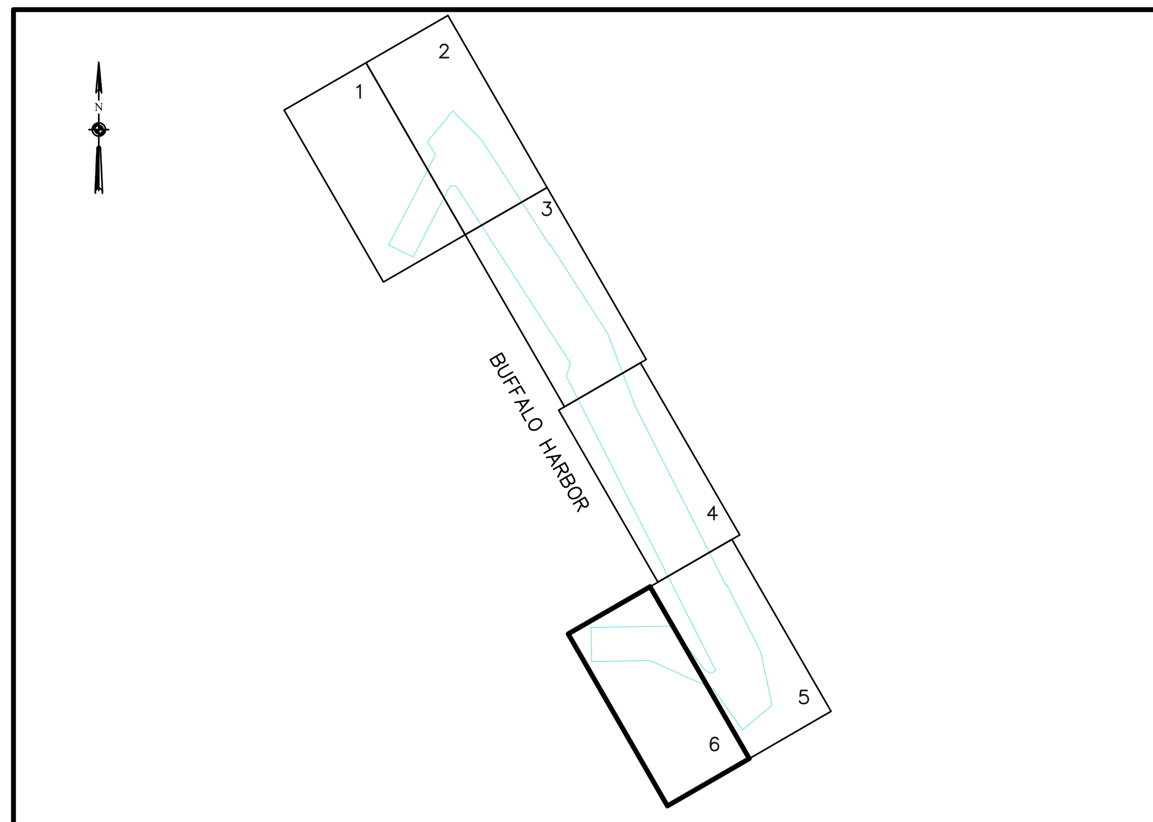

SHEET INDEX
"NOT TO SCALE"

SOUNDING COLOR LEGEND

(red)	DEPTHS 0.1' OR MORE ABOVE PROJECT DEPTH
(green)	DEPTHS AT OR BELOW PROJECT DEPTH
XX.X	PROJECT DEPTH

LEGEND OF SYMBOLS

17+00 (NEW), 17+00 (OLD)	CHANNEL STATIONING
⊙ 417	CHANNEL CORNER
◎ H.L.F.	HARBOR LINE CORNER
——— — — ———	FEDERAL CHANNEL
———— ————	HARBOR LINE
—— —— —— ——	SUBMARINE CABLE
C	CAN BUOY
N	NUN BUOY
	LIGHTED BUOY
	FIXED LIGHT
	LIGHT HOUSE
W	LIGHT COLOR WHITE
R	LIGHT COLOR RED
G	LIGHT COLOR GREEN
FL	FLASHING LIGHT
F	FIXED LIGHT
Oc	OCCULTING LIGHT
Iso	EQUAL INTERVAL
AL	ALTERNATING
Q	QUICK (FLASHING)
S	LIGHT CYCLE SECONDS

SITE SPECIFIC NOTES:

1. PROJECT DEPTHS AND SOUNDINGS ARE REFERRED TO LOW WATER DATUM OF 569.2 FEET IGLD 1985.
2. HORIZONTAL CONTROL IS REFERRED TO NORTH AMERICAN DATUM 1983 (2011 ADJUSTMENT) NEW YORK STATE PLANE COORDINATE SYSTEM–WEST ZONE.
3. SOUNDINGS SHOWN REPRESENT THE SHOALEST SOUNDING SORTED FROM FULL MULTIBEAM COVERAGE USING A 64'X22' HYPACK MATRIX.
4. PROJECT DEPTH IS AS NOTED BELOW LOW WATER DATUM.
5. SOUNDINGS WERE TAKEN BY THE BUFFALO DISTRICT ARMY CORPS OF ENGINEERS BY D. DELL AND PARTY ON AUGUST 4, 2021 THROUGH SEPTEMBER 9, 2021 USING:
   GPS POSITIONING: GPS BASE STATION W/RTK TIDES
   SONAR HEAD: 200 KHZ, RESON T50 MULTIBEAM
   1.0 DEGREE BEAMS 160 DEGREE ARC
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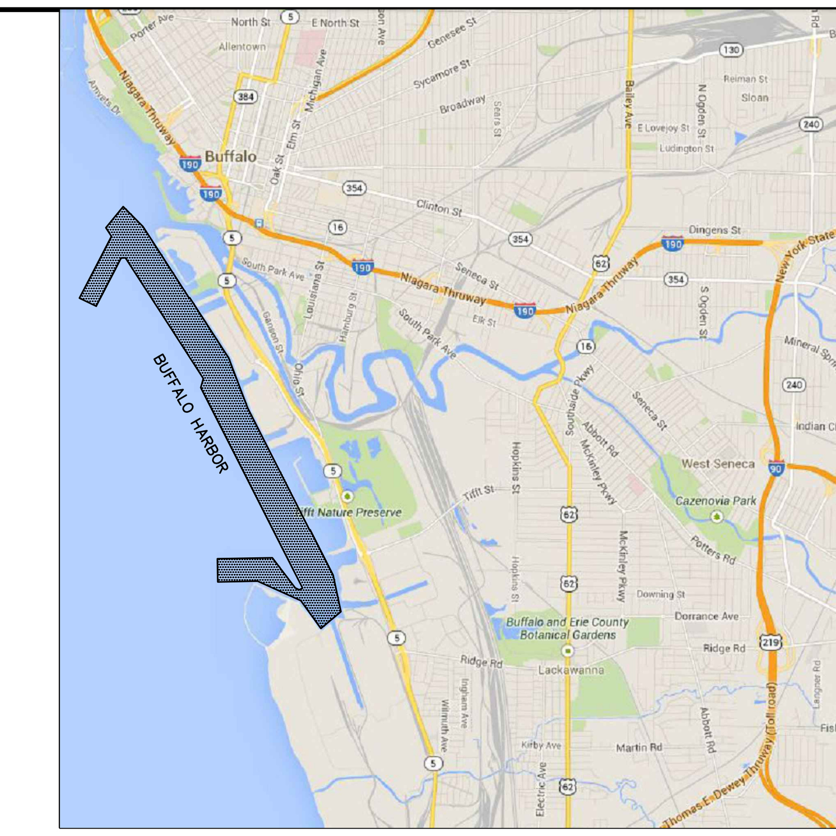
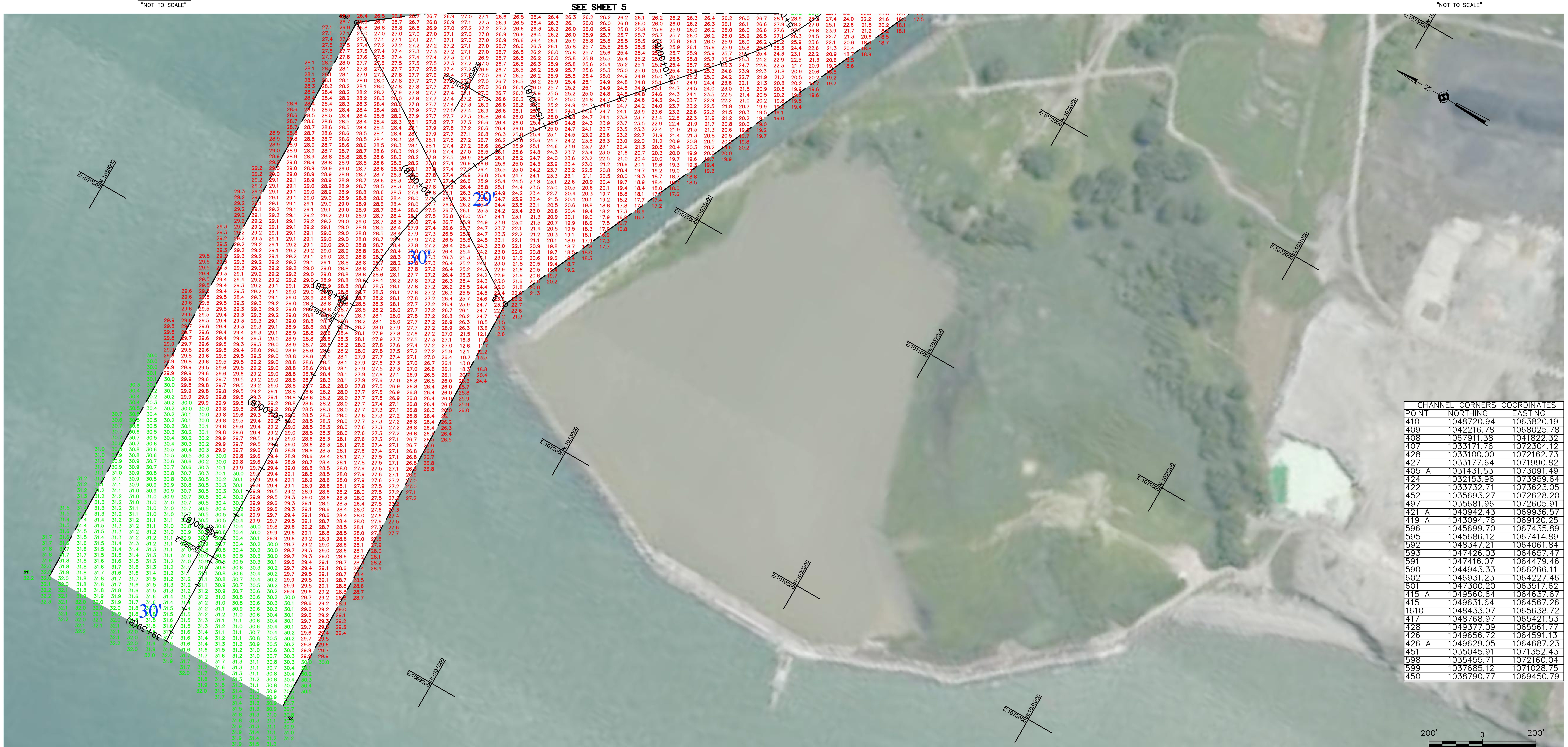


VICINITY MAP
"NOT TO SCALE"

SEE SHEET 5



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BUFFALO, NEW YORK 14207–3199

BUFFALO HARBOR
BUFFALO, NY

PROJECT CONDITIONS SOUNDINGS 2021

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Sheet reference number
VH–106

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