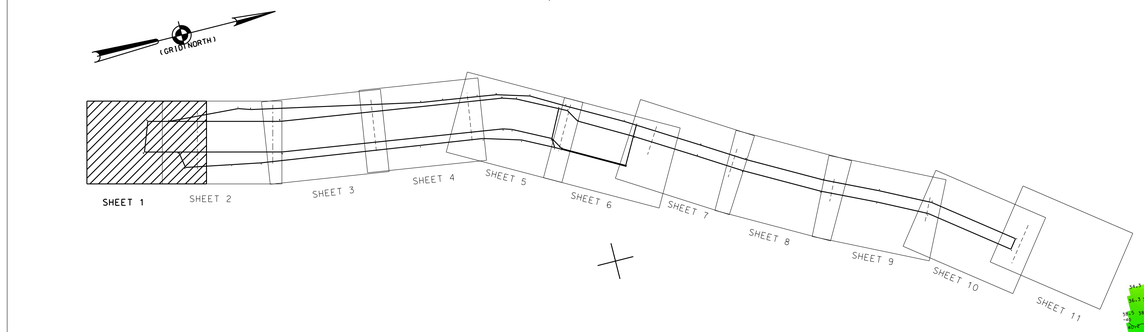
CORPS OF ENGINEERS

U. S. ARMY



N 190,000

N 192,000

E 974,000

N 194,000

E 974,000

N 186,000

E 976,000

GREEN #35 W/LIGHT&GONG
SLACK
25 OCTOBER 2021

MUD1C

MUD1B

MUD1A

ER1

MATCH TO SHEET 2

E 978,000

GREEN #1 W/LIGHT
EBB
27 OCTOBER 2021

E 976,000

N 186,000

E 978,000

N 190,000

N 192,000

N 194,000

PROJECT SPECIFIC NOTES:

-THE INFORMATION DEPICTED ON THIS MAP REPRESENTS THE RESULTS OF SURVEYS MADE ON THE DATES INDICATED AND CAN ONLY BE CONSIDERED AS THE GENERAL CONDITIONS EXISTING AT THAT TIME.
-THE SOUNDINGS ON THIS MAP MEET EM 1110-2-1003 ACCURACY STANDARDS.
-COORDINATES REFER TO US STATE PLANE COORDINATE SYSTEM NAD 1983, LONG ISLAND LAMBERT - ZONE 3104, US SURVEY FEET.
-SOUNDINGS ON THIS MAP REFER TO THE PLANE OF MEAN LOWER LOW WATER (MLLW) [EPOCH 1983-2001].
-MEAN LOWER LOW WATER IS 2.3-2.8 FEET BELOW NAVD88 AS DETERMINED USING VDATUM (VER. 4.0.1).
-SOUNDINGS DEPICTED ON THIS MAP ARE BASED ON A 3' x 3' MEDIAN CELL, SORTED TO A 45' INTERVAL.
-CONTOURS ON THIS MAP WERE GENERATED USING THE MAP DATA SET.
-THE DATA DEPICTED ON THIS MAP SHOULD NOT BE USED FOR VOLUME CALCULATION PURPOSES.
-AERIAL IMAGERY PROVIDED BY NY STATE INTERACTIVE MAPPING GATEWAY AND IS FOR ORIENTATION PURPOSES ONLY.
-THIS SURVEY WAS PERFORMED USING REAL TIME KINEMATIC GPS FROM STATION "CAVEN POINT BASE, NY DOT RTN".
-THIS MAP IS CEPD COMPLIANT IN ACCORDANCE WITH ER 1110-2-8160 AND EM 1110-2-6056.

LOCAL CONTROL DATA
BENCHMARK: 1238 (PID: KU1654)
ELEVATION: 65.36' (NAVD 88)

NSRS BENCHMARK
BENCHMARK: HIGHWOOD 3 1932 (PID: KV4023)
ELEVATION: 167.14' (NAVD 88)

US ARMY CORPS
OF ENGINEERS
NEW YORK DISTRICT

PR	ESG:CM:JS:CB:EE	
MP	JE	

DATES OF SURVEY:
25-30 SEPTEMBER 2021
5-27 OCTOBER 2021
1-2 NOVEMBER 2021

SCALE:
ONE INCH = 200 FEET

FIELD BOOKS:
1502

REG NO./FILE NO.:5106/D/N3

APPROVED: P. KEARNS — FIELD SURVEYANCE
APPROVED: M. FORTE — CIVIL ENGINEERING TECHNICIAN
APPROVED: P. BRABAUER — CHIEF SURVEYANCE
APPROVED: J. MRAZ — CHIEF, SURVEY OF SURVEY
DATE: 13 NOVEMBER 2021

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

OPERATIONS DIVISION
SURVEY SECTION
CEL-NAN-OPS

HUDSON RIVER CHANNEL
NEW YORK
CONDITION SURVEY

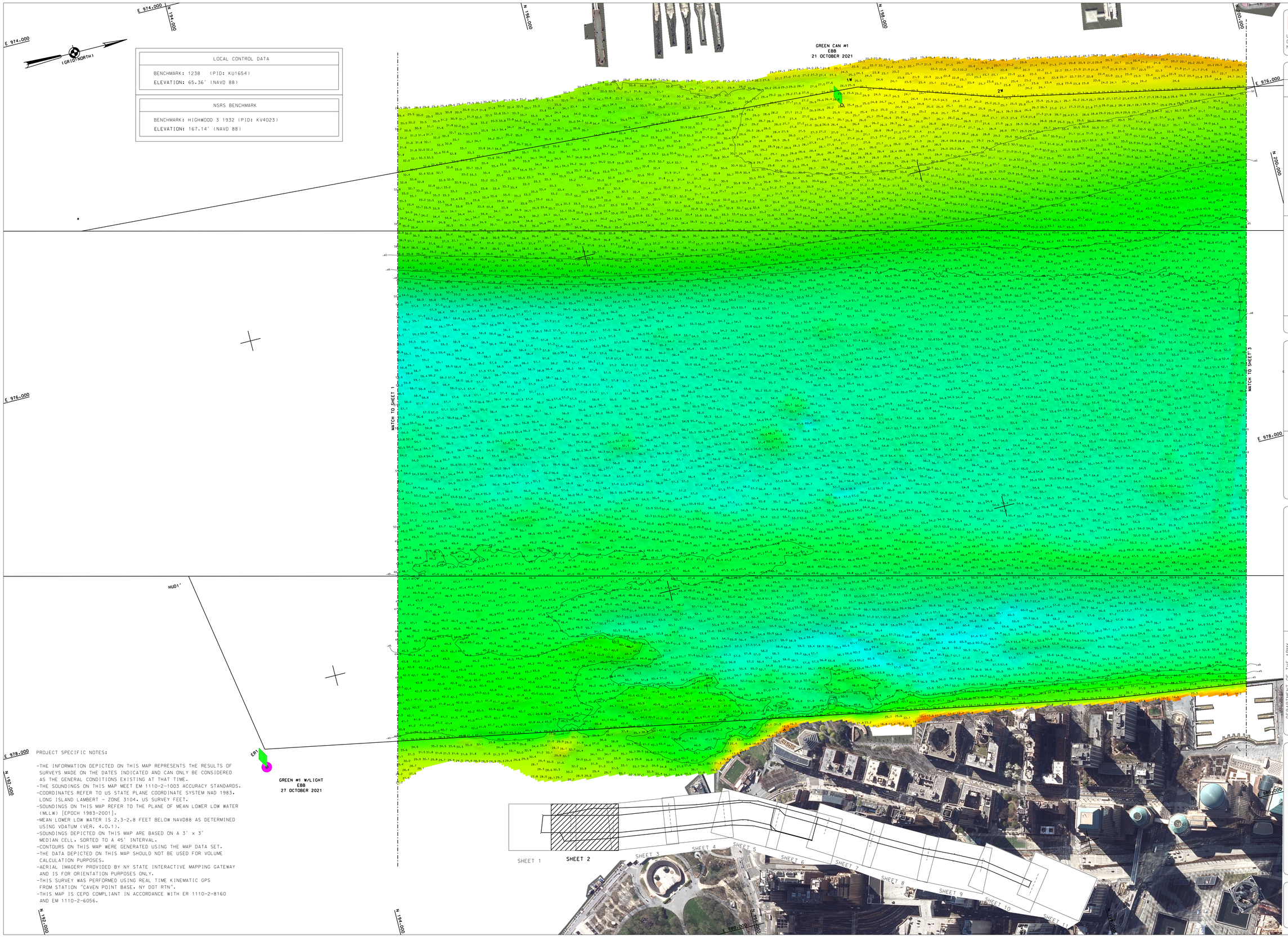
VH-101

SHEET 1 OF 11

REG NO./FILE NO.:5106/D/N3

CORPS OF ENGINEERS

U. S. ARMY



LOCAL CONTROL DATA

BENCHMARK: 1238 (PID: KU1654)
ELEVATION: 65.36' (NAVD 88)

NSRS BENCHMARK

BENCHMARK: HIGHWOOD 3 1932 (PID: KV4023)
ELEVATION: 167.14' (NAVD 88)

PROJECT SPECIFIC NOTES:

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- THIS SURVEY WAS PERFORMED USING REAL TIME KINEMATIC GPS FROM STATION "CAVEN POINT BASE, NY DOT RTN".
- THIS MAP IS CEPD COMPLIANT IN ACCORDANCE WITH ER 1110-2-8160 AND EM 1110-2-6056.

US ARMY CORPS OF ENGINEERS
NEW YORK DISTRICT

PR	ESG,CM,JS,CB,JE
MP	JE

DATES OF SURVEY:
29-30 SEPTEMBER 2021
5-27 OCTOBER 2021
1-2 NOVEMBER 2021

REQ NO./FILE NO.:5106/D/N3

SCALE:
ONE INCH = 200 FEET

FIELD BOOKS:
1050

APPROVED: P. KEARNS — FIELD CARTOGRAPHER
APPROVED: M. FORTE — CIVIL ENGINEERING TECHNICIAN
APPROVED: P. BHADUR — LEAD CARTOGRAPHER
APPROVED: J. MRAZ — BRANCH CHIEF OF SURVEY
DATE: 9 NOVEMBER 2021

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

OPERATIONS DIVISION
SURVEY SECTION
CENAN-OP-S

HUDSON RIVER CHANNEL
NEW YORK
CONDITION SURVEY

VH-102

SHEET 2 OF 11

REQ NO./FILE NO.:5106/D/N3

CORPS OF ENGINEERS

U. S. ARMY

(GRID NORTH)

N 200.000

N 202.000

N 204.000

N 206.000

E 976.000

E 978.000

E 980.000

MATCH TO SHEET 2

MATCH TO SHEET 4

LOCAL CONTROL DATA
BENCHMARK: 1238 (PID: KU1654)
ELEVATION: 65.36' (NAVD 88)

NSRS BENCHMARK
BENCHMARK: HIGHWOOD 3 1932 (PID: KV4023)
ELEVATION: 167.14' (NAVD 88)

SHEET 1 SHEET 2 SHEET 3 SHEET 4 SHEET 5 SHEET 6 SHEET 7 SHEET 8 SHEET 9 SHEET 10 SHEET 11

PROJECT SPECIFIC NOTES:

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US ARMY CORPS OF ENGINEERS
NEW YORK DISTRICT

PR ECG-CM-US-CB-JE
MP JE

DATES OF SURVEY:
SOUNDINGS: 5-27 OCTOBER 2021
1-2 NOVEMBER 2021

REQ NO./FILE NO.:5106/D/N3

SCALE:
ONE INCH = 200 FEET

FIELD BOOKS:
XXX

APPROVED: P. KEARNS — FIELD SUPERVISOR
APPROVED: M. FORTE — CHIEF, ENGINEERING TECHNICIAN
APPROVED: P. BRADUR — CHIEF SURVEYOR
APPROVED: J. MRAZ — CHIEF, SECT OF SURVEY
DATE: 9 NOVEMBER 2021

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

OPERATIONS DIVISION
SURVEY SECTION
CENAN-OP-S

HUDSON RIVER CHANNEL
NEW YORK
CONDITION SURVEY

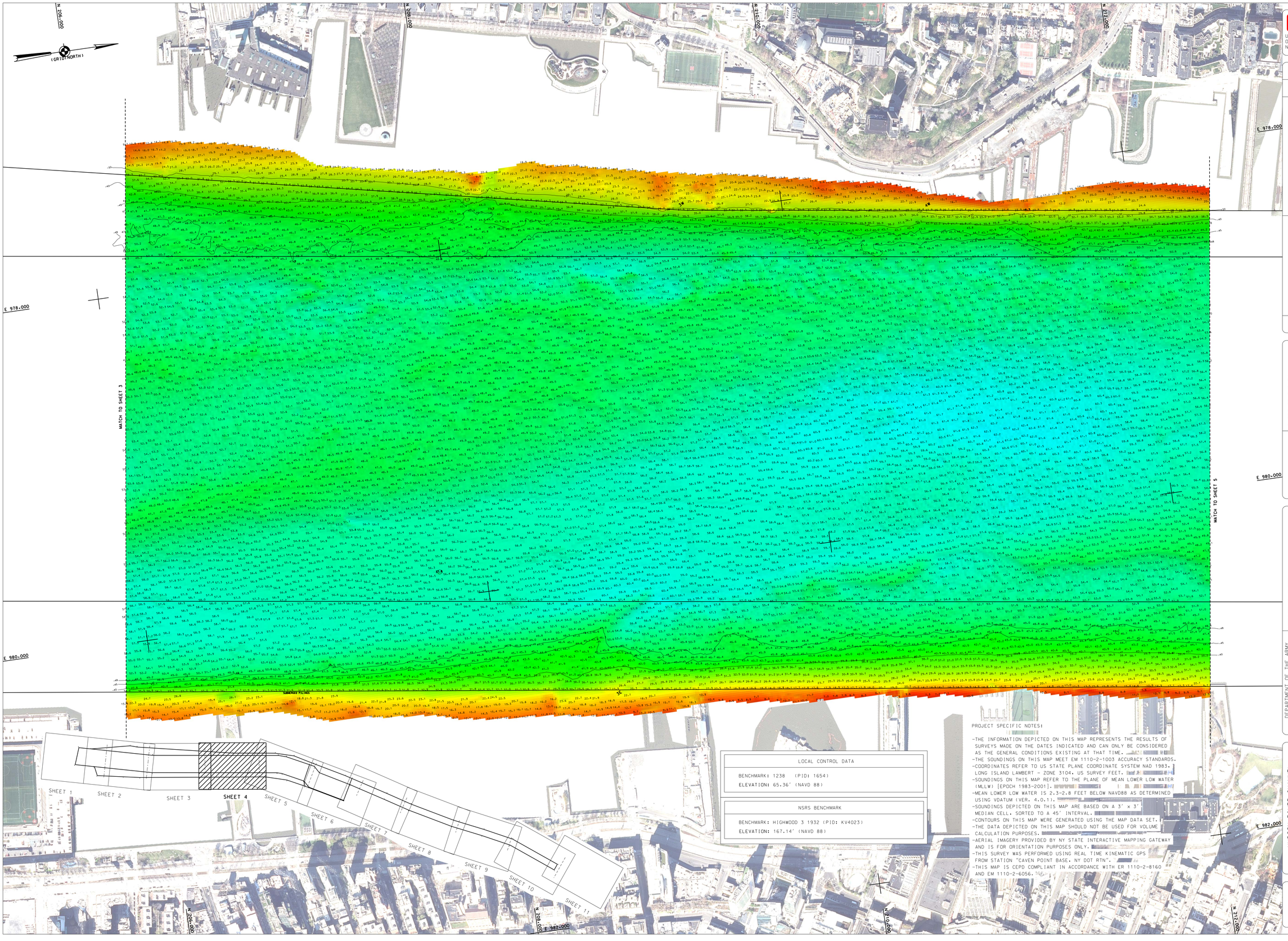
VH-103

SHEET 3 OF 11

REQ NO./FILE NO.:5106/D/N3

CORPS OF ENGINEERS

U. S. ARMY



US ARMY CORPS OF ENGINEERS NEW YORK DISTRICT

PR	ESG:CM,JS,CB,JE
MP	JE

DATES OF SURVEY:
29-30 SEPTEMBER 2021
5-27 OCTOBER 2021
1-2 NOVEMBER 2021

REQ NO./FILE NO.:15106/D/N3

SCALE: ONE INCH = 200 FEET

FIELD BOOKS: 1050

APPROVED: P. KEARNS — FIELD CARTOGRAPHER
APPROVED: M. FORTE — CIVIL ENGINEERING TECHNICIAN
APPROVED: P. BHADUR — LEAD CARTOGRAPHER
APPROVED: J. MRAZ — BRANCH CHIEF OF MARKET
DATE: 9 NOVEMBER 2021

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

OPERATIONS DIVISION
SURVEY SECTION
CENAN-OP-S

LOCAL CONTROL DATA

BENCHMARK: 1238 (PID: 1654)
ELEVATION: 65.36' (NAVD 88)

NSRS BENCHMARK

BENCHMARK: HIGHWOOD 3 1932 (PID: KV4023)
ELEVATION: 167.14' (NAVD 88)

PROJECT SPECIFIC NOTES:

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HUDSON RIVER CHANNEL
NEW YORK
CONDITION SURVEY

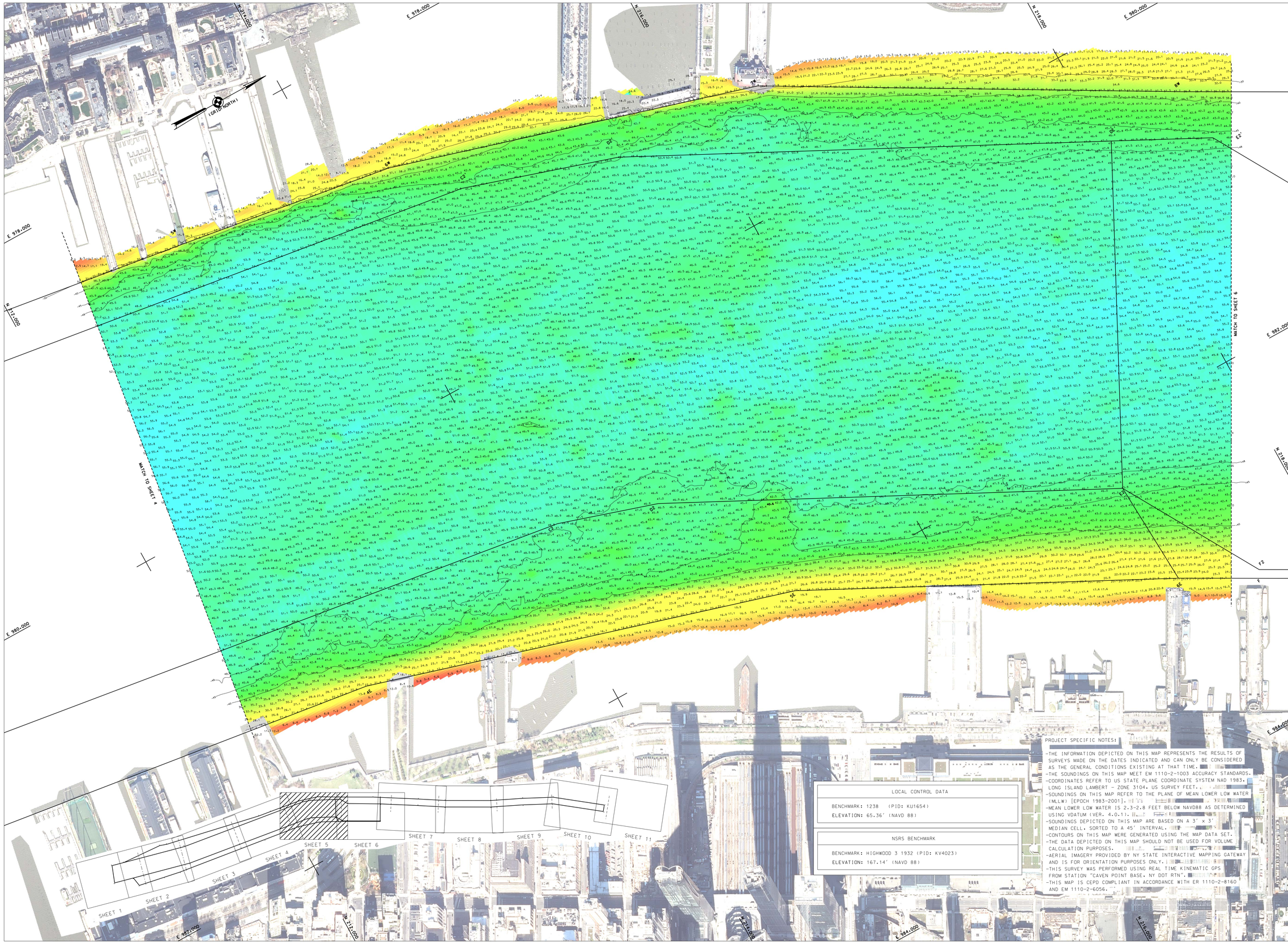
VH-104

SHEET 4 OF 11

REQ NO./FILE NO.:15106/D/N3

CORPS OF ENGINEERS

U. S. ARMY



US ARMY CORPS OF ENGINEERS
NEW YORK DISTRICT

PR	ESG.CM.JS.CB.JE
MP	JE

DATES OF SURVEY:
2-27 OCTOBER 2021
1-2 NOVEMBER 2021

REQ NO./FILE NO.:5106/D/N3

SCALE:
ONE INCH = 200 FEET

FIELD BOOKS:
1550

APPROVED: P. KEARNS
CHIEF, CARTOGRAPHY

APPROVED: M. FORTE
CHIEF, ENGINEERING TECHNICIAN

APPROVED: P. BRADUR
CHIEF, CARTOGRAPHY

APPROVED: J. MRAZ
CHIEF, SURVEY SECTION

DATE: 9 NOVEMBER 2021

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

OPERATIONS DIVISION
SURVEY SECTION
CENAN-OP-S

HUDSON RIVER CHANNEL
NEW YORK
CONDITION SURVEY

VH-105

SHEET 5 OF 11

LOCAL CONTROL DATA

BENCHMARK: 1238 (PID: KU1654)
ELEVATION: 65.36' (NAVD 88)

NSRS BENCHMARK

BENCHMARK: HIGHWOOD 3 1932 (PID: KV4023)
ELEVATION: 167.14' (NAVD 88)

PROJECT SPECIFIC NOTES:

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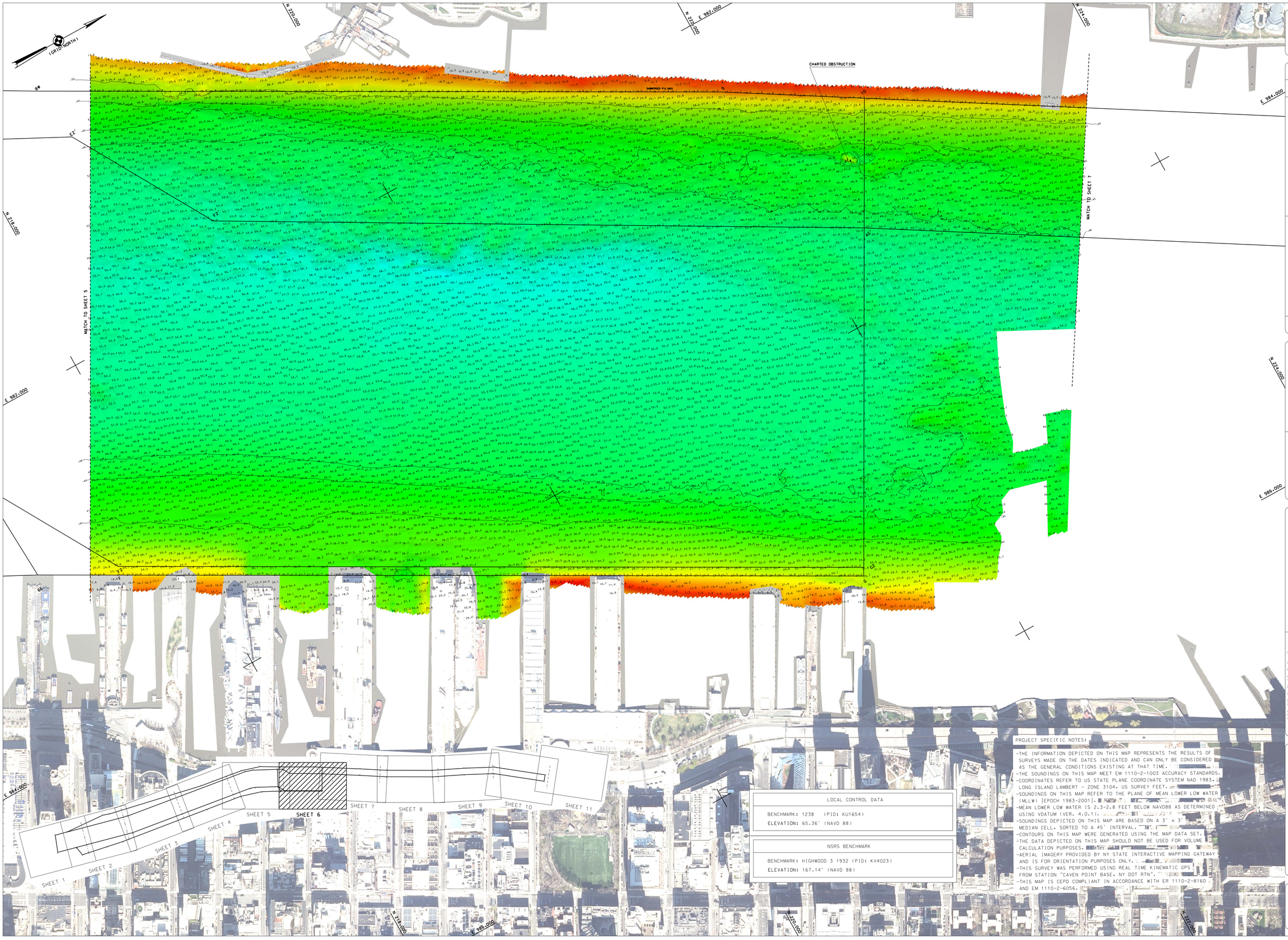
-THIS MAP IS CEPD COMPLIANT IN ACCORDANCE WITH ER 1110-2-8160 AND EM 1110-2-6056.

REQ NO./FILE NO.:5106/D/N3

CORPS OF ENGINEERS

U. S. ARMY



US ARMY CORPS OF ENGINEERS
NEW YORK DISTRICT

PR	ESQ.CM.JS.CB.JE	
MP	JE	

DATES OF SURVEY:
5-27 OCTOBER 2021
1-2 NOVEMBER 2021

REQ NO./FILE NO.:15106/D/N3

SCALE:
ONE INCH = 200 FEET

FIELD BOOKS:
1050

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

OPERATIONS DIVISION
SURVEY SECTION
CHART OPS

APPROVED: P. KEARNS, FIELD SUPERVISOR
APPROVED: M. FORTE, CIVIL ENGINEERING TECHNICIAN
APPROVED: P. BHAGUR, CHIEF CARTOGRAPHER
APPROVED: J. MRAZ, CHIEF, CHIEF OF SURVEY
DATE: 9 NOVEMBER 2021

LOCAL CONTROL DATA

BENCHMARK: 1238 (PID: KU1654)
ELEVATION: 65.36' (NAVD 88)

NSRS BENCHMARK

BENCHMARK: HIGHWOOD 3 1932 (PID: KV4023)
ELEVATION: 167.14' (NAVD 88)

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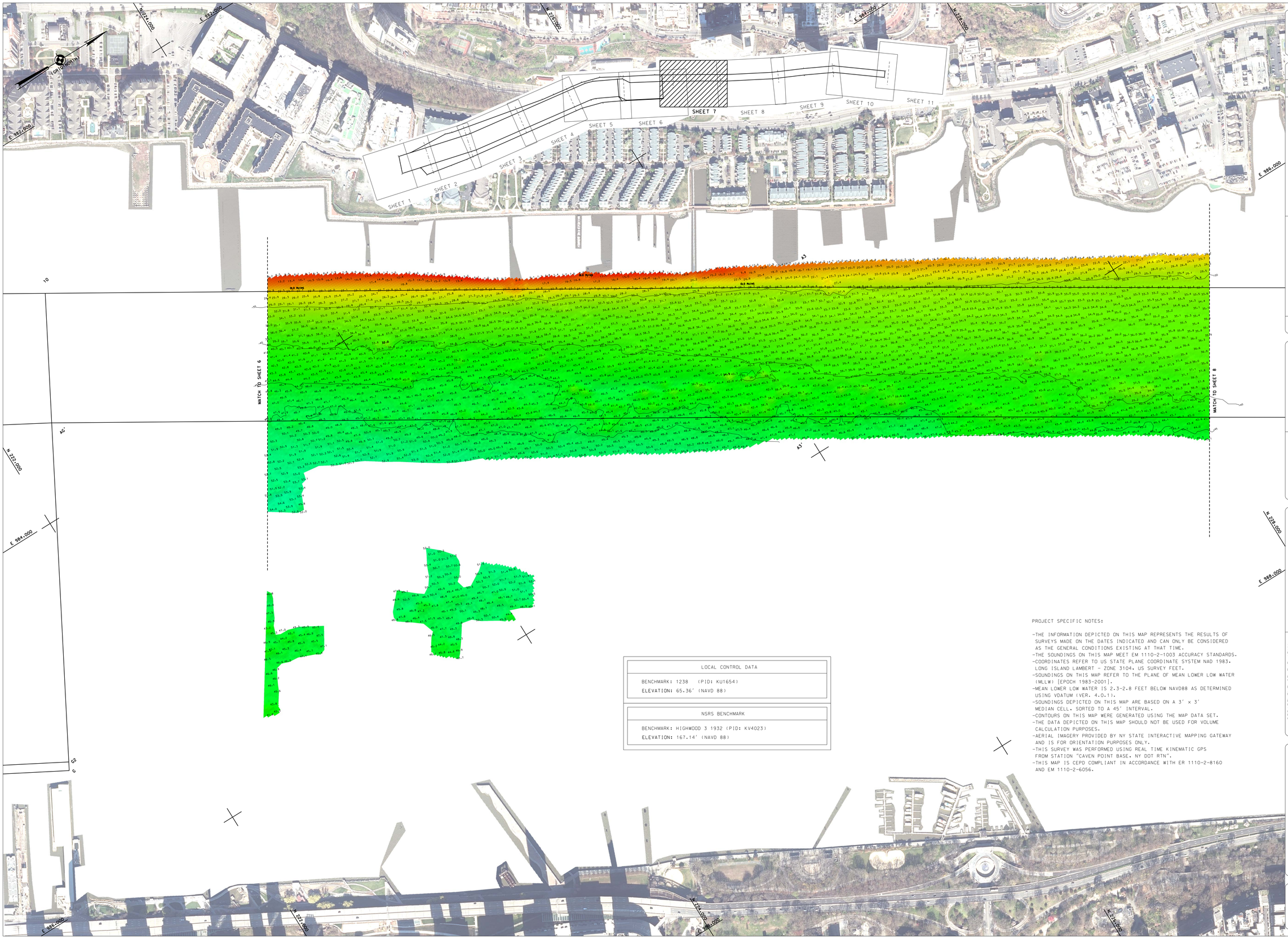
HUDSON RIVER CHANNEL
NEW YORK
CONDITION SURVEY

VH-106

SHEET 6 OF 11

CORPS OF ENGINEERS

U. S. ARMY



LOCAL CONTROL DATA
BENCHMARK: 1238 (PID: KU1654) ELEVATION: 65.36′ (NAVD 88)

NSRS BENCHMARK
BENCHMARK: HIGHWOOD 3 1932 (PID: KV4023) ELEVATION: 167.14′ (NAVD 88)

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US ARMY CORPS OF ENGINEERS
NEW YORK DISTRICT

PR ESG-CM-US-CB-JE
WP JE

DATES OF SURVEY:
23-30 SEPTEMBER 2021
5-27 OCTOBER 2021
1-2 NOVEMBER 2021

REQ NO./FILE NO.:5106/D/N3

SCALE:
ONE INCH = 200 FEET

FIELD BOOKS:
1050

APPROVED: P. KEARNS — FIELD CARTOGRAPHER
APPROVED: M. FORTE — CIVIL ENGINEERING TECHNICIAN
APPROVED: P. BHAGUR — LEAD CARTOGRAPHER
APPROVED: J. MRAZ — CHIEF, SCOP OF SURVEY
DATE: 19 NOVEMBER 2021

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

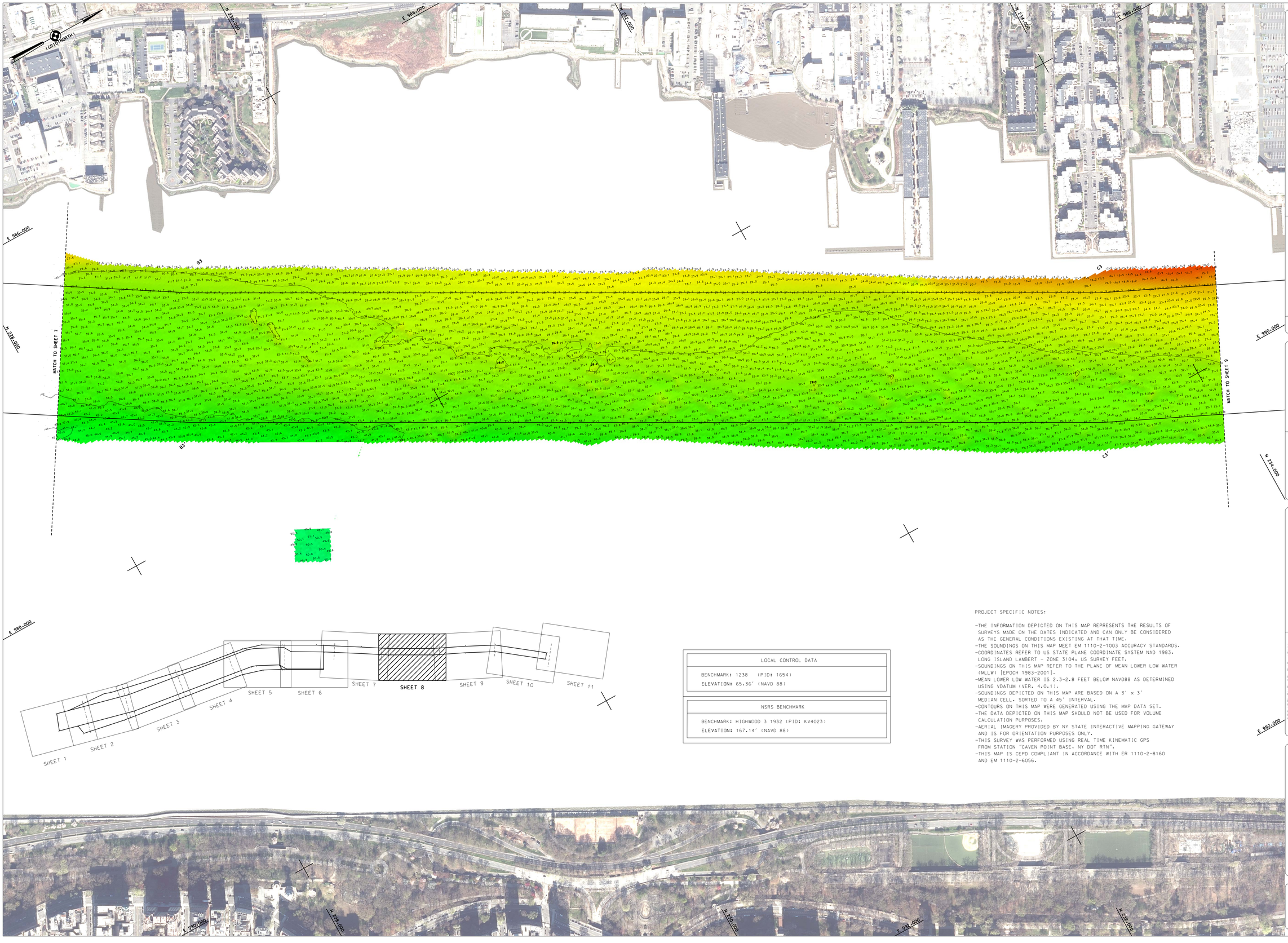
OPERATIONS DIVISION
SURVEY SECTION
CENAN-OP-S

HUDSON RIVER CHANNEL
NEW YORK
CONDITION SURVEY

VH-107

SHEET 7 OF 11

REQ NO./FILE NO.:5106/D/N3



LOCAL CONTROL DATA
BENCHMARK: 1238 (PID: 1654)
ELEVATION: 65.36' (NAVD 88)

NSRS BENCHMARK
BENCHMARK: HIGHWOOD 3 1932 (PID: KV4023)
ELEVATION: 167.14' (NAVD 88)

PROJECT SPECIFIC NOTES:

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US ARMY CORPS OF ENGINEERS
NEW YORK DISTRICT

PR	ESG,CM,JS,CB,JE
MP	JE

DATES OF SURVEY:
29-30 SEPTEMBER 2021
5-27 OCTOBER 2021
1-2 NOVEMBER 2021

REQ NO./FILE NO.:5106/D/N3

SCALE:
ONE INCH = 200 FEET

FIELD BOOKS:
1050

APPROVED: P. KEARNS — FIELD CARTOGRAPHER
APPROVED: M. FORTE — CIVIL ENGINEERING TECHNICIAN
APPROVED: P. BHADUR — LEAD CARTOGRAPHER
APPROVED: J. MRAZ — DEPUTY CHIEF OF SURVEYS
DATE: 9 NOVEMBER 2021

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

OPERATIONS DIVISION
SURVEY SECTION
CENAN-OP-S

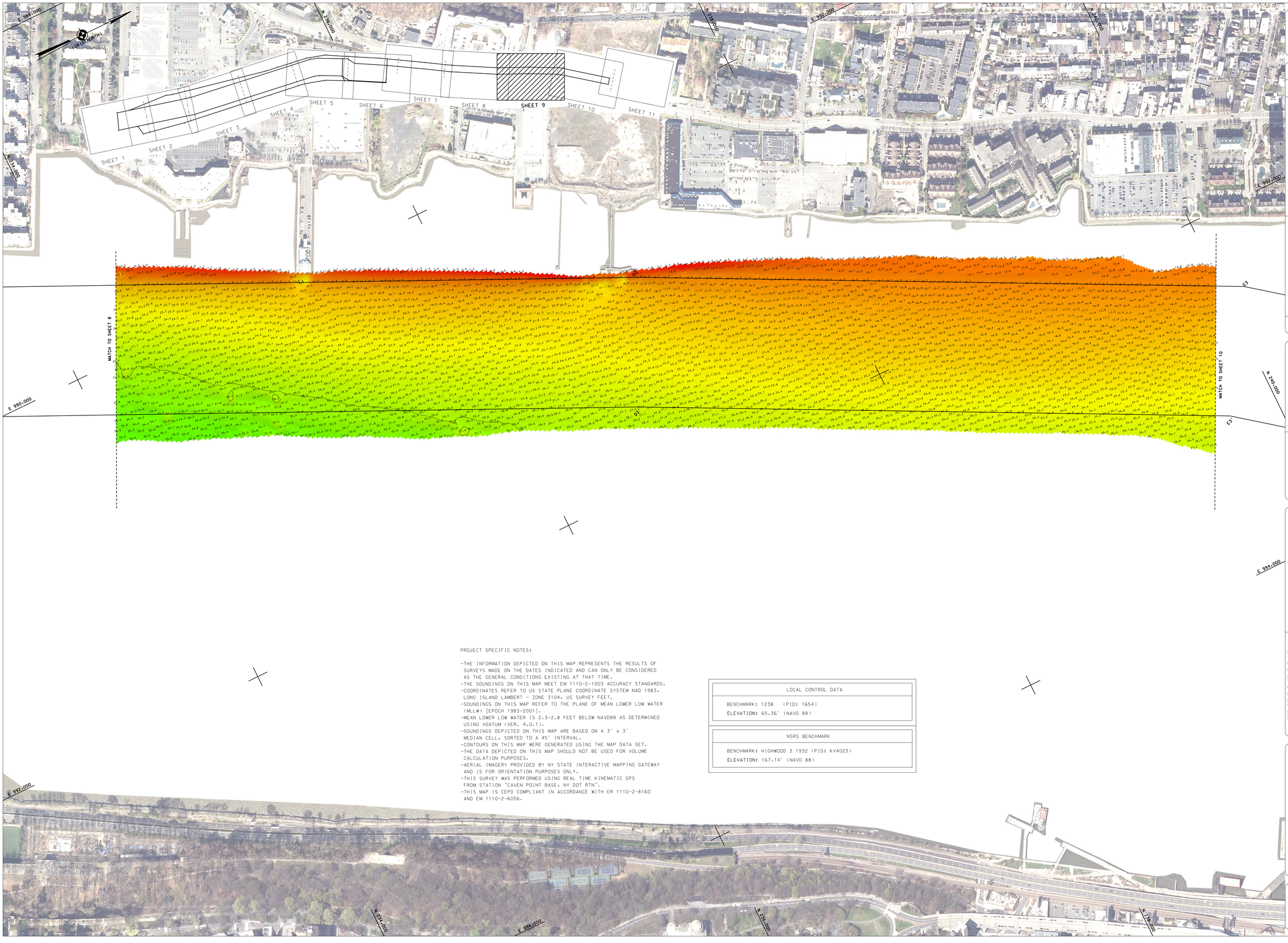
HUDSON RIVER CHANNEL
NEW YORK
CONDITION SURVEY

VH-108

SHEET 8 OF 11

CORPS OF ENGINEERS

U. S. ARMY



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

LOCAL CONTROL DATA
BENCHMARK: 1238 (PID: 1654)
ELEVATION: 65.36' (NAVD 88)

NSRS BENCHMARK
BENCHMARK: HIGHWOOD 3 1932 (PID: KV4023)
ELEVATION: 167.14' (NAVD 88)

US ARMY CORPS OF ENGINEERS
NEW YORK DISTRICT

PR	ESG;CM;JS;CB;JE
WP	JE

DATES OF SURVEY:
5-9 NOVEMBER 2021
5-27 OCTOBER 2021
1-2 NOVEMBER 2021

REQ NO./FILE NO.:5106/D/N3

SCALE:
ONE INCH = 200 FEET

FIELD BOOKS:
1050

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

OPERATIONS DIVISION
SURVEY SECTION
CEMVN-OP-S

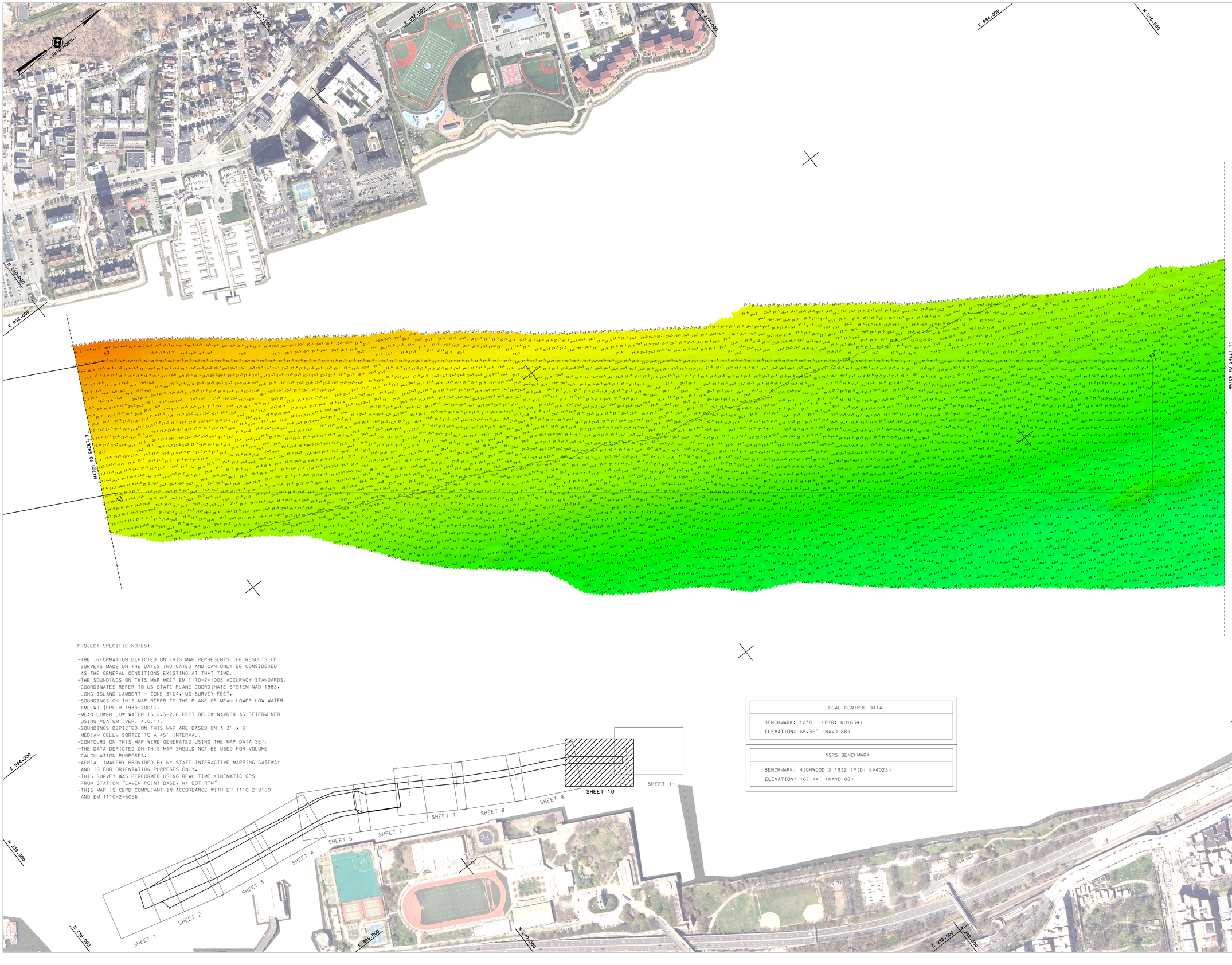
APPROVED: P. KEARNS	FIELD SUPERVISOR
APPROVED: M. FORTE	CIVIL ENGINEERING TECHNICIAN
APPROVED: F. IBRAHIM	CHIEF CARTOGRAPHER
APPROVED: J. MRAZ	BRANCH CHIEF OF SURVEY
DATE: 9 NOVEMBER 2021	

HUDSON RIVER CHANNEL
NEW YORK
CONDITION SURVEY

VH-109

SHEET 9 OF 11

REQ NO./FILE NO.:5106/D/N3



PROJECT SPECIFIC NOTES:

- THE INFORMATION DEPICTED ON THIS MAP REPRESENTS THE RESULTS OF SURVEYS MADE ON THE DATES INDICATED AND CAN ONLY BE CONSIDERED AS THE GENERAL CONDITIONS EXISTING AT THAT TIME.
- THE SOUNDINGS ON THIS MAP MEET EM 1110-2-1003 ACCURACY STANDARDS.
- COORDINATES REFER TO US STATE PLANE COORDINATE SYSTEM NAD 1983, LONG ISLAND LAMBERT - ZONE 3104, US SURVEY FEET.
- SOUNDINGS ON THIS MAP REFER TO THE PLANE OF MEAN LOWER LOW WATER (MLLW) [EPOCH 1983-2001].
- MEAN LOWER LOW WATER IS 2.3-2.8 FEET BELOW NAVD88 AS DETERMINED USING VDATUM (VER. 4.0.1).
- SOUNDINGS DEPICTED ON THIS MAP ARE BASED ON A 3' x 3' MEDIAN CELL, SORTED TO A 45' INTERVAL.
- CONTOURS ON THIS MAP WERE GENERATED USING THE MAP DATA SET.
- THE DATA DEPICTED ON THIS MAP SHOULD NOT BE USED FOR VOLUME CALCULATION PURPOSES.
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ELEVATION: 65.36' (NAVD 88)

NSRS BENCHMARK
BENCHMARK: HIGHWOOD 3 1932 (PID: KV4023)
ELEVATION: 167.14' (NAVD 88)

US ARMY CORPS OF ENGINEERS
NEW YORK DISTRICT

PR	ESO,CM,JS,CB,JE
MP	JE

DATES OF SURVEY:
29-30 SEPTEMBER 2021
5-27 OCTOBER 2021
1-2 NOVEMBER 2021

REQ NO./FILE NO.:5106/D/N3

SCALE:
ONE INCH = 200 FEET

FIELD BOOKS:
1050

APPROVED: P. KEARNS
FIELD CARTOGRAPHER

APPROVED: M. FORTE
CIVIL ENGINEERING TECHNICIAN

APPROVED: P. BHADUR
LEAD CARTOGRAPHER

APPROVED: J. MRAZ
DEPUTY CHIEF OF SURVEY

DATE: 9 NOVEMBER 2021

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

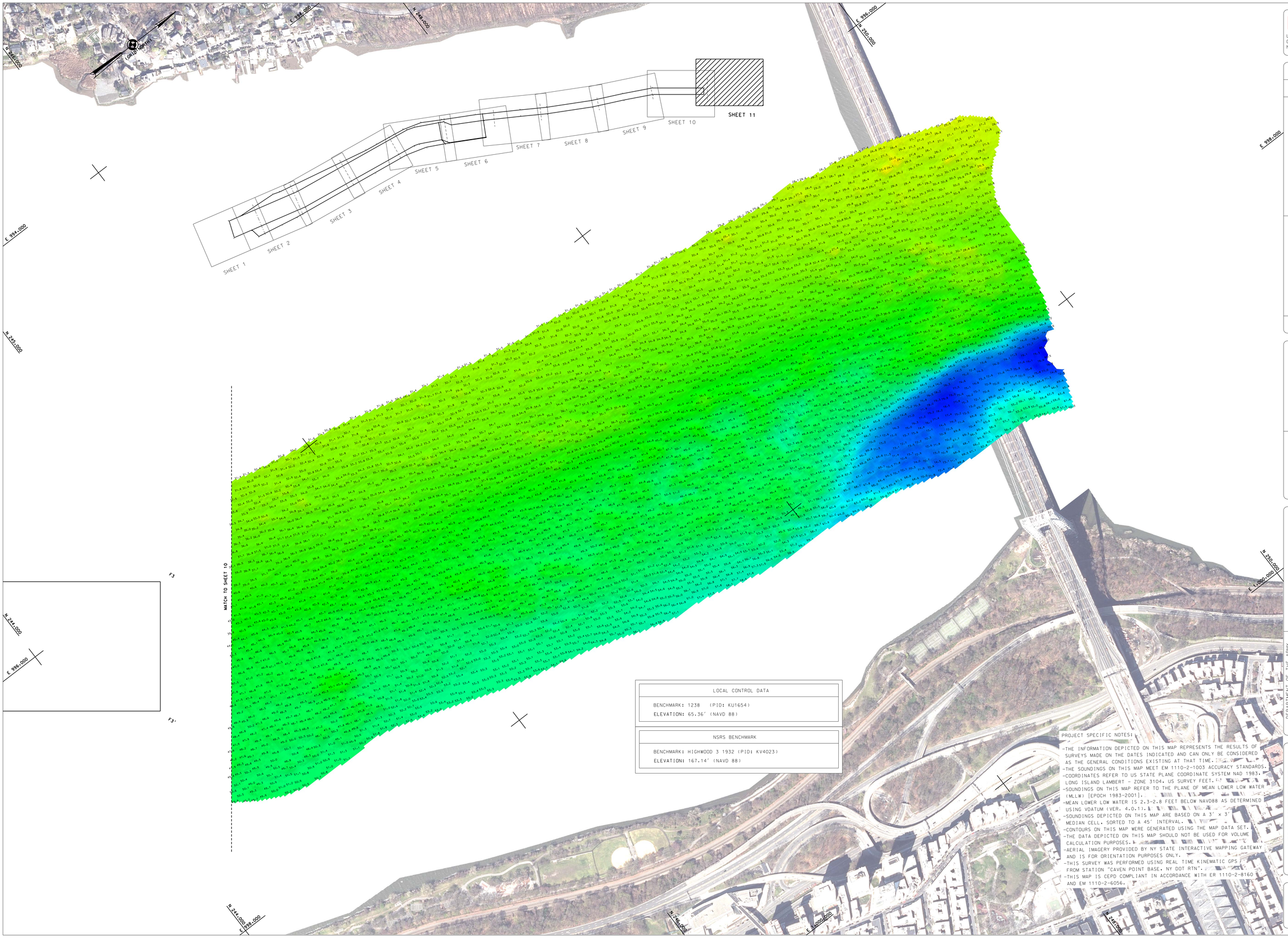
OPERATIONS DIVISION
SURVEY SECTION
CENAN-OP-S

HUDSON RIVER CHANNEL
NEW YORK
CONDITION SURVEY

VH-110

SHEET 10 OF 11

REQ NO./FILE NO.:5106/D/N3



LOCAL CONTROL DATA

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NSRS BENCHMARK

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US ARMY CORPS OF ENGINEERS
NEW YORK DISTRICT

PR	ESQ,CM,JS,CB,JE
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DATES OF SURVEY:
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5-27 OCTOBER 2021
1-2 NOVEMBER 2021

REQ NO./FILE NO.:5106/D/N3

SCALE:
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APPROVED: P. KEARNS — FIELD CARTOGRAPHER
APPROVED: M. FORTE — CIVIL ENGINEERING TECHNICIAN
APPROVED: P. BHADUR — LEAD CARTOGRAPHER
APPROVED: J. MRAZ — SURVEY CHIEF OF SURVEY
DATE: 9 NOVEMBER 2021

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NEW YORK, NEW YORK 10278

OPERATIONS DIVISION
SURVEY SECTION
CENAN-OP-S

HUDSON RIVER CHANNEL
NEW YORK
CONDITION SURVEY

VH-111

SHEET 11 OF 11