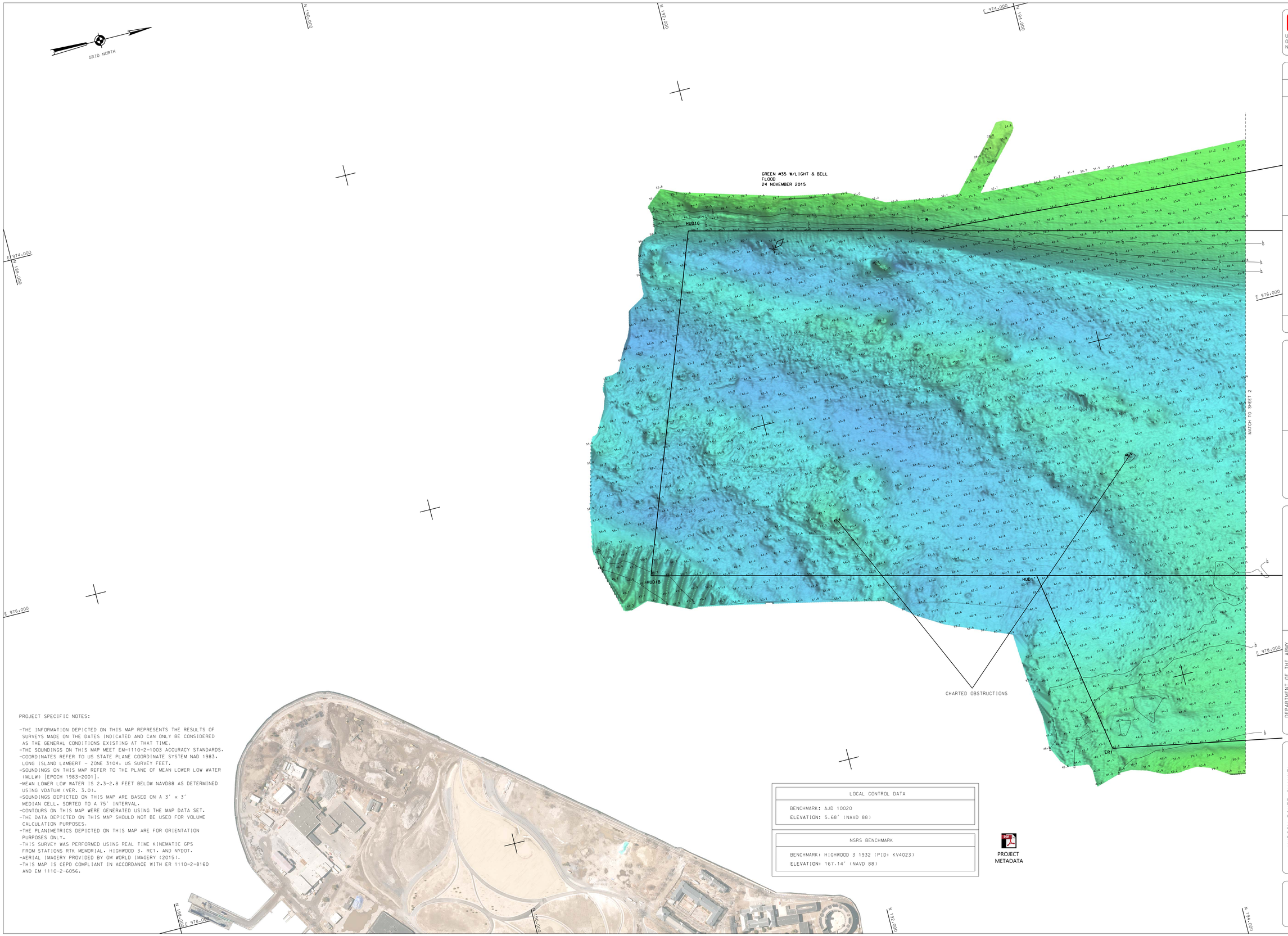
CORPS OF ENGINEERS

U. S. ARMY



PROJECT SPECIFIC NOTES:

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- THE SOUNDINGS ON THIS MAP MEET EM-1110-2-1003 ACCURACY STANDARDS.
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- THIS SURVEY WAS PERFORMED USING REAL TIME KINEMATIC GPS FROM STATIONS RTK MEMORIAL, HIGHWOOD 3, RC1, AND NYDOT.
- AERIAL IMAGERY PROVIDED BY GM WORLD IMAGERY (2015).
- THIS MAP IS CEPD COMPLIANT IN ACCORDANCE WITH ER 1110-2-8160 AND EM 1110-2-6056.

LOCAL CONTROL DATA
BENCHMARK: AJD 10020
ELEVATION: 5.68' (NAVD 88)

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

PROJECT METADATA

US ARMY CORPS OF ENGINEERS
NEW YORK DISTRICT

ESG PR
JE/TD MP

DATES OF SURVEY:
NOVEMBER 17-19 2015
DECEMBER 2,3,7,8,17,30 2015
JANUARY 4-7 2016

FILE NO.: 274
REQUEST NO.: 4407D

SCALE:
ONE INCH = 200 FEET

FIELD BOOKS:

APPROVED: D. SMITH — FIELD CARTOGRAPHER
APPROVED: M. FORTE — CIVIL ENGINEERING TECHNICIAN
APPROVED: D. CLARKE — LEAD CARTOGRAPHER
APPROVED: J. MRAZ — DEPUTY CHIEF OF SURVEY
DATE: 1 FEBRUARY 2016

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

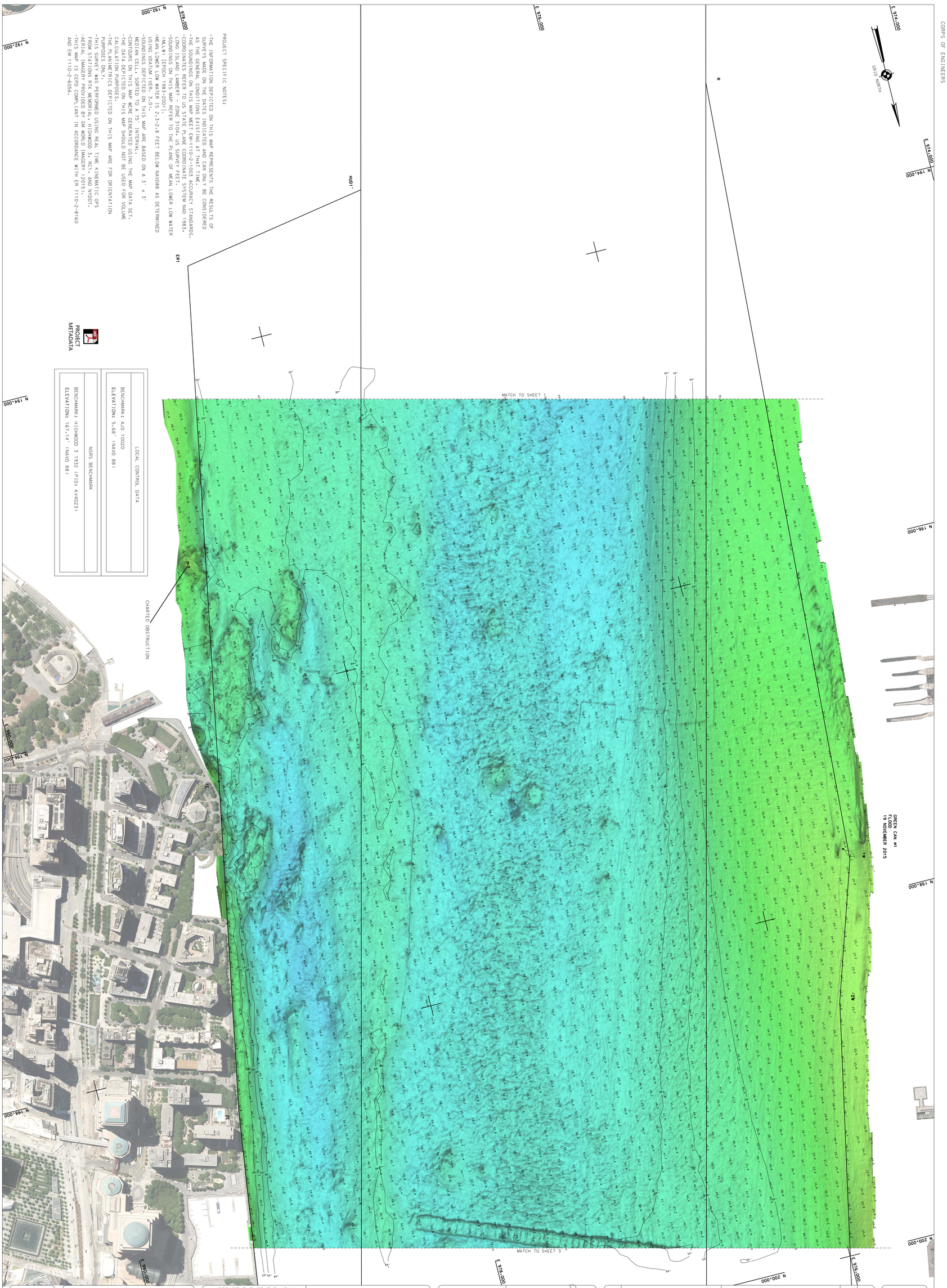
OPERATIONS DIVISION
SURVEY SECTION
CENAN-OP-S

HUDSON RIVER CHANNEL
NEW YORK
CONDITION SURVEY

VH-101

SHEET 1 OF 11

FILE NO. 274
REQ. NO. 4407D



PROJECT SPECIFIC NOTES:

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-AERIAL IMAGERY PROVIDED BY GM WORLD IMAGERY (2015).
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PROJECT METADATA

LOCAL CONTROL DATA
BENCHMARK: AJD 10020
ELEVATION: 5.68' (NAVD 88)

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

U. S. ARMY

US ARMY CORPS OF ENGINEERS NEW YORK DISTRICT

ESQ PR
JE/TD MP

DATES OF SURVEY:
NOVEMBER 17-19 2015
DECEMBER 2,3,7,8,17,30 2015
JANUARY 4-7 2016

FILE NO.: 274
REQUEST NO.: 4407D

SCALE:
ONE INCH = 200 FEET

FIELD BOOKS:

APPROVED: D. SMITH
FIELD CARTOGRAPHER
APPROVED: M. FORTE
CIVIL ENGINEERING TECHNICIAN
APPROVED: D. CLARKE
LEAD CARTOGRAPHER
APPROVED: J. MRAZ
DEPUTY CHIEF OF SURVEY
DATE: 1 FEBRUARY 2016

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

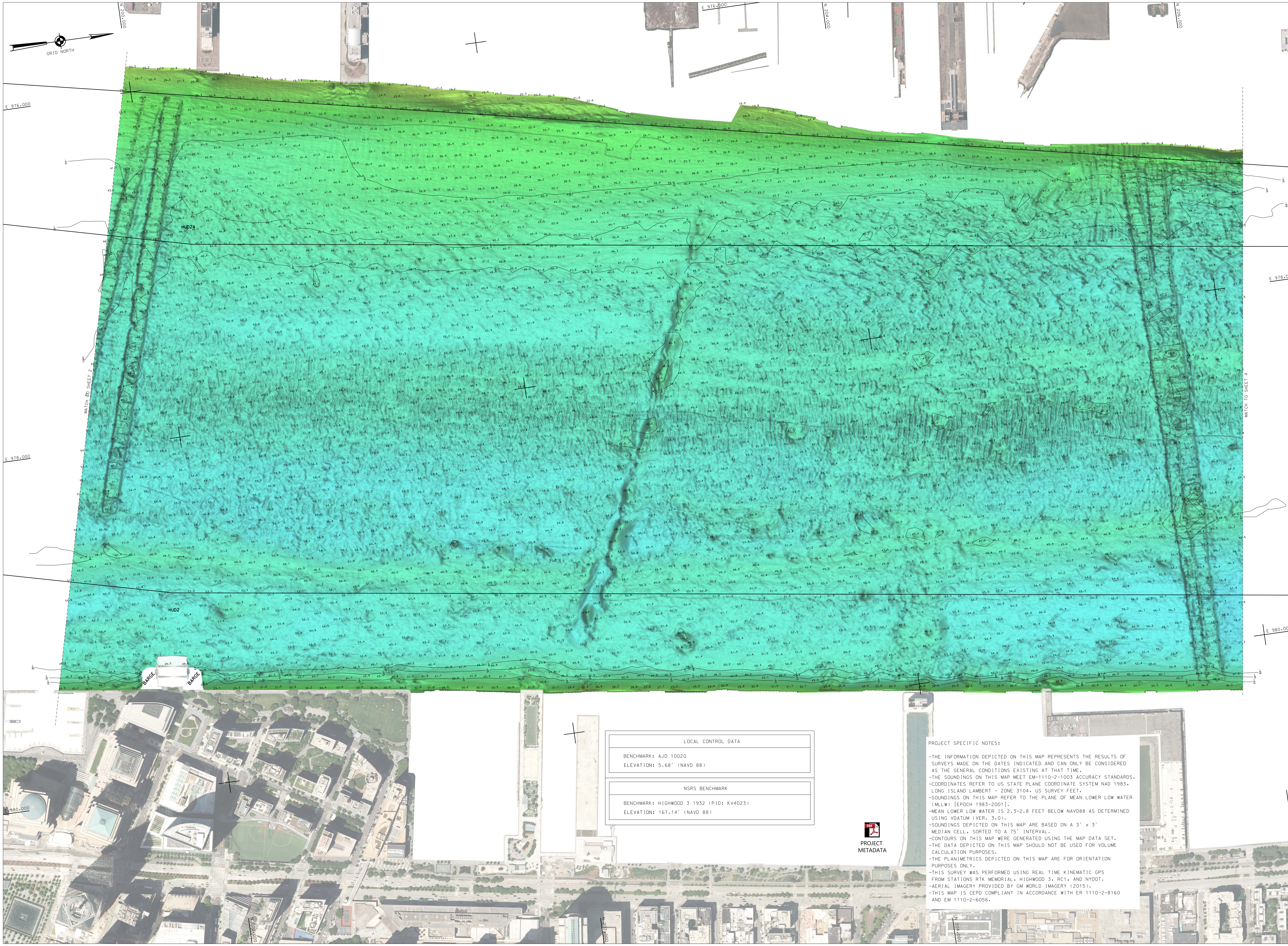
OPERATIONS DIVISION
SURVEY SECTION
CENAN-OP-S

HUDSON RIVER CHANNEL
NEW YORK
CONDITION SURVEY

VH-102

SHEET 2 OF 11

FILE NO. 274
REQ. NO. 4407D



US ARMY CORPS
OF ENGINEERS
NEW YORK DISTRICT

LOCAL CONTROL DATA
BENCHMARK: AJD 10020 ELEVATION: 5.68' (NAVD 88)

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

PROJECT METADATA

PROJECT SPECIFIC NOTES:

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- AERIAL IMAGERY PROVIDED BY GM WORLD IMAGERY (2015).
- THIS MAP IS CEPD COMPLIANT IN ACCORDANCE WITH ER 1110-2-8160 AND EM 1110-2-6056.

ESO PR | JE/TD MP

DATES OF SURVEY:
NOVEMBER 17-19 2015
DECEMBER 2,3,7,8,17,30 2015
JANUARY 4-7 2016

FILE NO.: 274
REQUEST NO.: 4407D

SCALE:
ONE INCH = 200 FEET

FIELD BOOKS:

APPROVED: D. SMITH — FIELD CARTOGRAPHER
APPROVED: M. FORTE — CIVIL ENGINEERING TECHNICIAN
APPROVED: D. CLARKE — LEAD CARTOGRAPHER
APPROVED: J. MRAZ — DEPUTY CHIEF OF SURVEY
DATE: 1 FEBRUARY 2016

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

OPERATIONS DIVISION
SURVEY SECTION
CENAN-OP-S

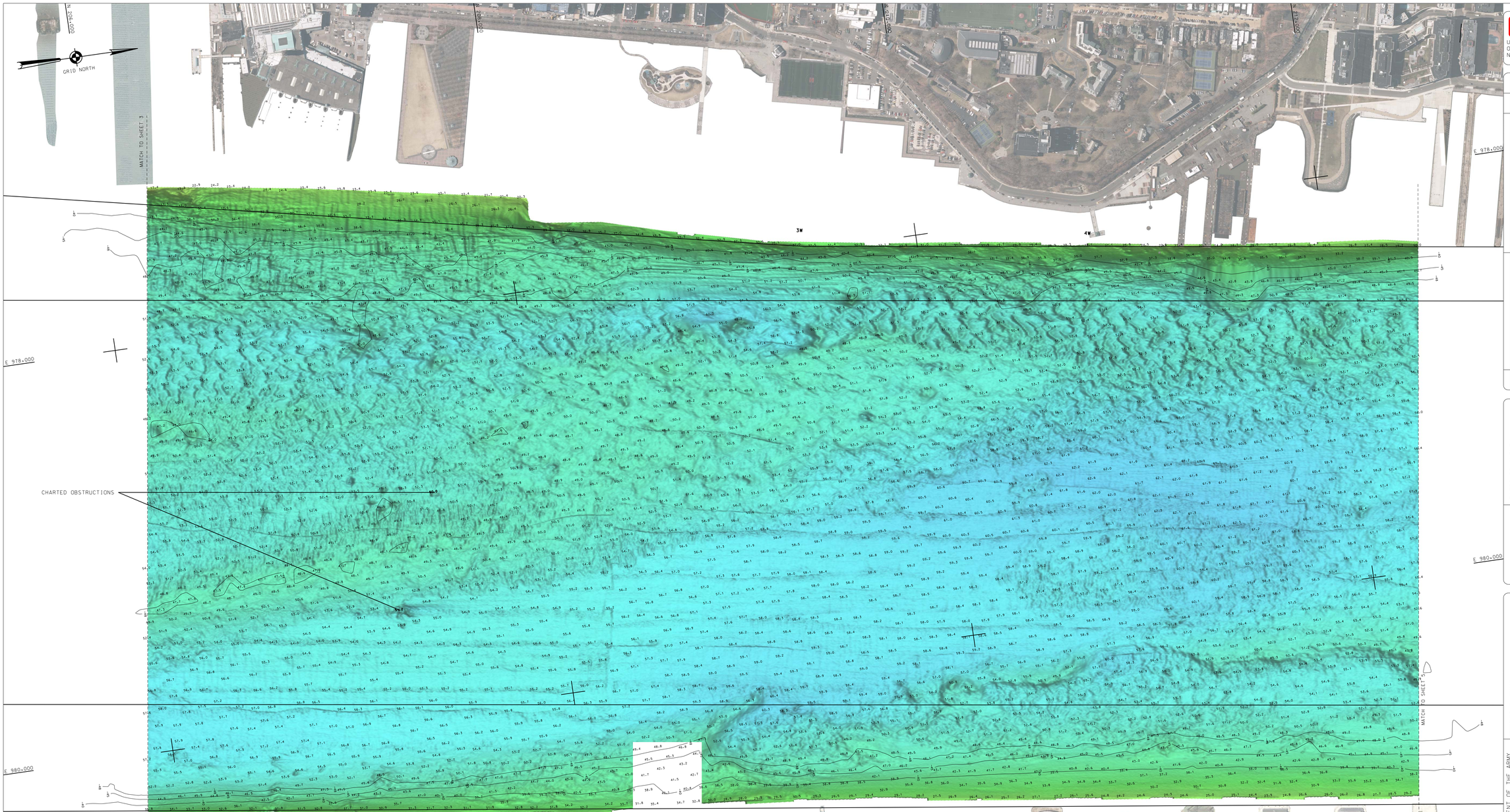
HUDSON RIVER CHANNEL
NEW YORK
CONDITION SURVEY

VH-103

FILE NO. 274
REQ. NO. 4407D

CORPS OF ENGINEERS

U. S. ARMY



LOCAL CONTROL DATA
BENCHMARK: AJD 10020
ELEVATION: 5.68' (NAVD 88)

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

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PROJECT METADATA

US ARMY CORPS OF ENGINEERS
NEW YORK DISTRICT

ESG PR
JE/TD MP

DATES OF SURVEY:
NOVEMBER 17-19 2015
DECEMBER 2,3,7,8,17,30 2015
JANUARY 4-7 2016

FILE NO.: 274
REQUEST NO.: 4407D

SCALE:
ONE INCH = 200 FEET

FIELD BOOKS:

APPROVED: D. SMITH
FIELD CARTOGRAPHER

APPROVED: M. FORTE
CIVIL ENGINEERING TECHNICIAN

APPROVED: D. CLARKE
LEAD CARTOGRAPHER

APPROVED: J. MRAZ
DEPUTY CHIEF OF SURVEY

DATE: 1 FEBRUARY 2016

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

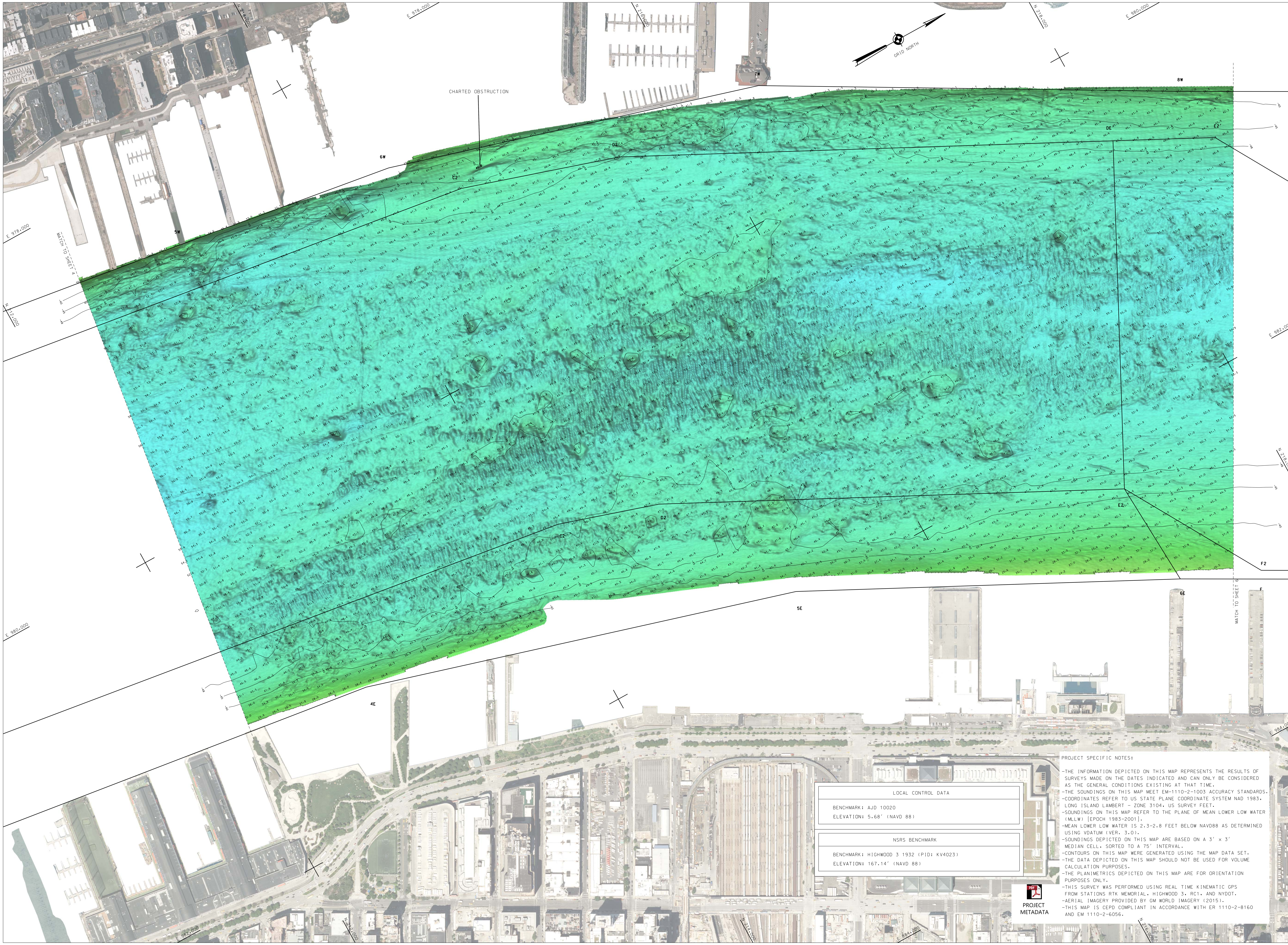
VH-104

SHEET 4 OF 11

FILE NO. 274
REQ. NO. 4407D

CORPS OF ENGINEERS

U. S. ARMY



US ARMY CORPS OF ENGINEERS NEW YORK DISTRICT

LOCAL CONTROL DATA

BENCHMARK: AJD 10020
ELEVATION: 5.68' (NAVD 88)

NSRS BENCHMARK

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

PROJECT METADATA

PROJECT SPECIFIC NOTES:

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ESO PR | JE/TD MP

DATES OF SURVEY:
NOVEMBER 17-19 2015
DECEMBER 2,3,7,8,17,30 2015
JANUARY 4-7 2016

FILE NO.: 274
REQUEST NO.: 4407D

SCALE:
ONE INCH = 200 FEET

FIELD BOOKS:

APPROVED: D. SMITH (FIELD CARTOGRAPHER)
APPROVED: M. FORTE (CIVIL ENGINEERING TECHNICIAN)
APPROVED: D. CLARKE (LEAD CARTOGRAPHER)
APPROVED: J. MRAZ (DEPUTY CHIEF OF SURVEY)
DATE: 1 FEBRUARY 2016

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

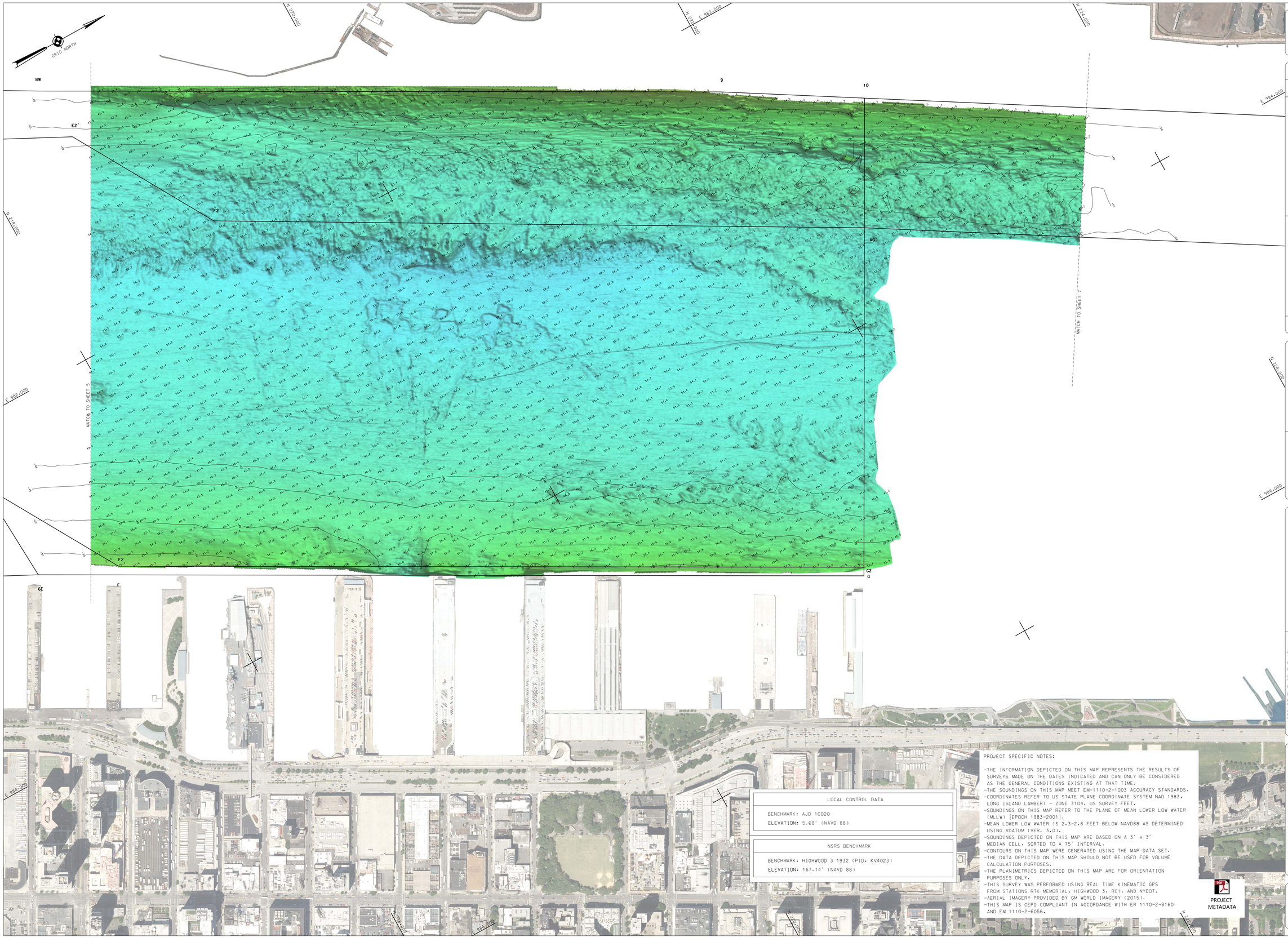
VH-105

SHEET 5 OF 11

FILE NO. 274
REQ. NO. 4407D

CORPS OF ENGINEERS

U. S. ARMY



US ARMY CORPS OF ENGINEERS
NEW YORK DISTRICT

ESG	PR
JE/TD	MP

DATES OF SURVEY:
NOVEMBER 17-19 2015
DECEMBER 2,3,7,8,17,30 2015
JANUARY 4-7 2016

FILE NO.: 274
REQUEST NO.: 44070

SCALE:
ONE INCH = 200 FEET

FIELD BOOKS:

APPROVED: D. SMITH — FIELD CARTOGRAPHER
APPROVED: M. FORTE — CIVIL ENGINEERING TECHNICIAN
APPROVED: D. CLARKE — LEAD CARTOGRAPHER
APPROVED: J. MRAZ — DEPUTY CHIEF OF SURVEY
DATE: 1 FEBRUARY 2016

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-106

SHEET 6 OF 11

LOCAL CONTROL DATA

BENCHMARK: AJD 10020
ELEVATION: 5.68' (NAVD 88)

NSRS BENCHMARK

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

PROJECT SPECIFIC NOTES:

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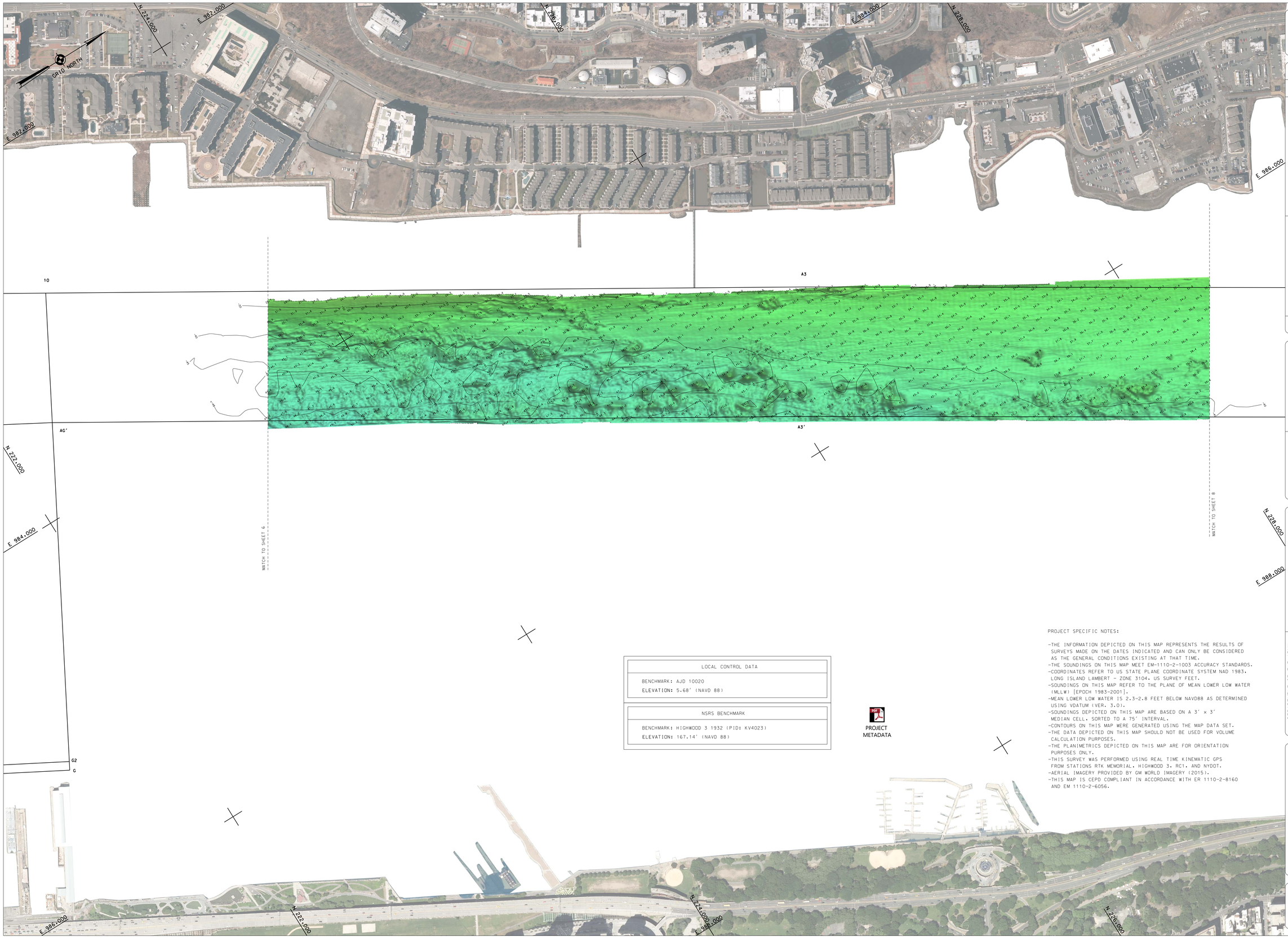
PROJECT METADATA

FILE NO. 274
REQ. NO. 44070



LOCAL CONTROL DATA
BENCHMARK: AJD 10020
ELEVATION: 5.68' (NAVD 88)

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

PROJECT METADATA

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US ARMY CORPS OF ENGINEERS
NEW YORK DISTRICT

ESQ PR
JE/TD MP

DATES OF SURVEY:
NOVEMBER 17-19 2015
DECEMBER 2,3,7,8,17,30 2015
JANUARY 4-7 2016

FILE NO.: 274
REQUEST NO.: 4407D

SCALE:
ONE INCH = 200 FEET

FIELD BOOKS:

APPROVED: D. SMITH — FIELD CARTOGRAPHER
APPROVED: M. FORTE — CIVIL ENGINEERING TECHNICIAN
APPROVED: D. CLARKE — LEAD CARTOGRAPHER
APPROVED: J. MRAZ — SURVEY CHIEF OF SURVEY
DATE: 1 FEBRUARY 2016

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

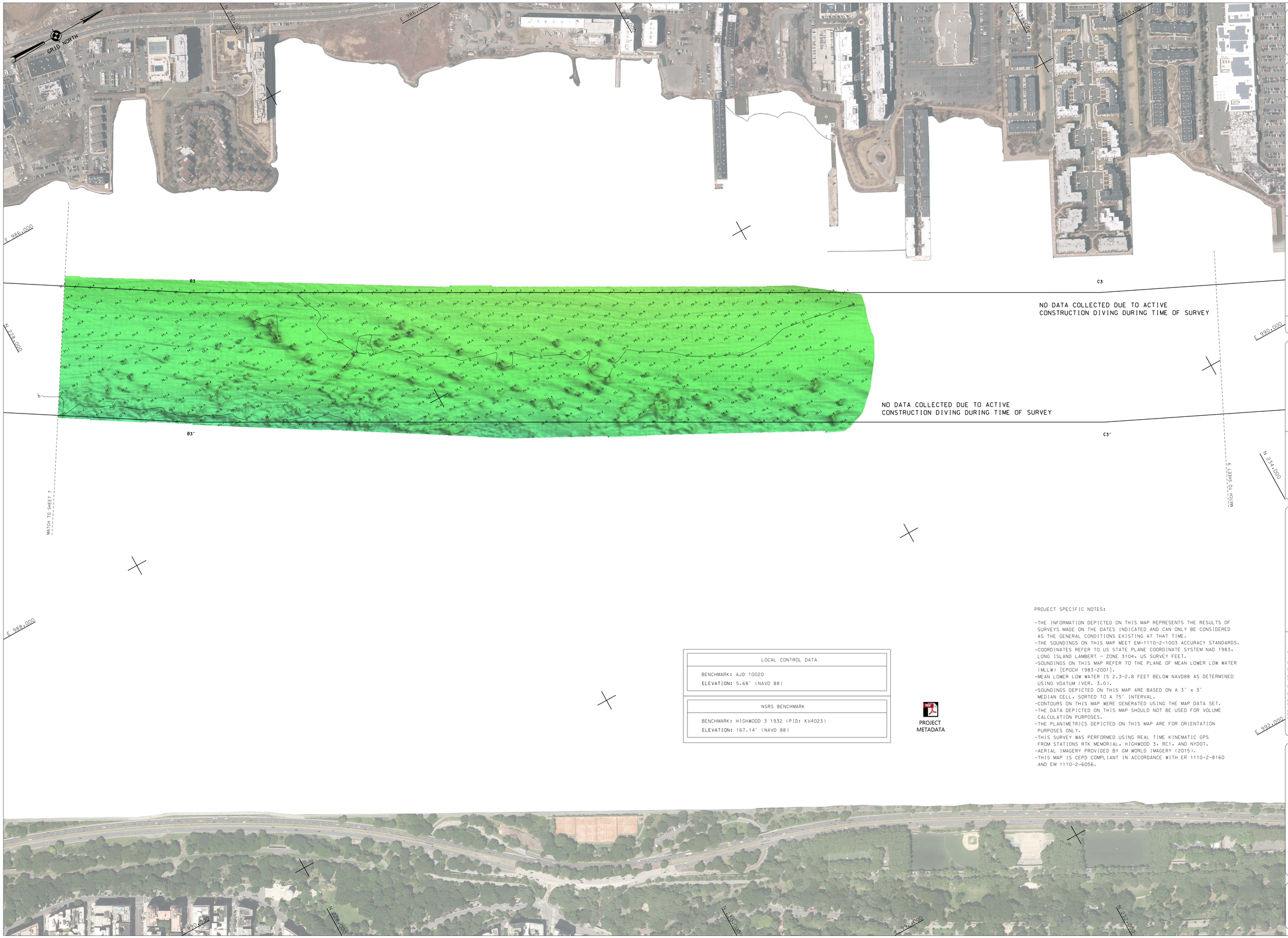
VH-107

SHEET 7 OF 11

FILE NO. 274
REQ. NO. 4407D

CORPS OF ENGINEERS

U. S. ARMY



LOCAL CONTROL DATA
BENCHMARK: AJD 10020
ELEVATION: 5.68' (NAVD 88)

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

PROJECT METADATA

PROJECT SPECIFIC NOTES:

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US ARMY CORPS OF ENGINEERS NEW YORK DISTRICT

ESG PR
JE/TD MP

DATES OF SURVEY:
NOVEMBER 17-19 2015
DECEMBER 2,3,7,8,17,30 2015
JANUARY 4-7 2016

FILE NO.: 274
REQUEST NO.: 44070

SCALE:
ONE INCH = 200 FEET

FIELD BOOKS:
858

APPROVED: D. SMITH — FIELD CARTOGRAPHER
APPROVED: M. FORTE — CIVIL ENGINEERING TECHNICIAN
APPROVED: D. CLARKE — LEAD CARTOGRAPHER
APPROVED: J. MRAZ — BRANCH CHIEF OF SURVEY
DATE: 1 FEBRUARY 2016

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

FILE NO. 274
REQ. NO. 44070

LOCAL CONTROL DATA
BENCHMARK: AJD 10020
ELEVATION: 5.68' (NAVD 88)

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

PROJECT METADATA

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US ARMY CORPS OF ENGINEERS
NEW YORK DISTRICT

ESG PR
JE/TD MP

DATES OF SURVEY:
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DECEMBER 2,3,7,8,17,30 2015
JANUARY 4-7 2016

FILE NO.: 274
REQUEST NO.: 44070

SCALE:
ONE INCH = 200 FEET

FIELD BOOKS:

APPROVED: D. SMITH — FIELD CARTOGRAPHER
APPROVED: M. FORTE — CIVIL ENGINEERING TECHNICIAN
APPROVED: D. CLARKE — LEAD CARTOGRAPHER
APPROVED: J. MRAZ — SURVEY CHIEF OF SURVEY
DATE: 1 FEBRUARY 2016

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

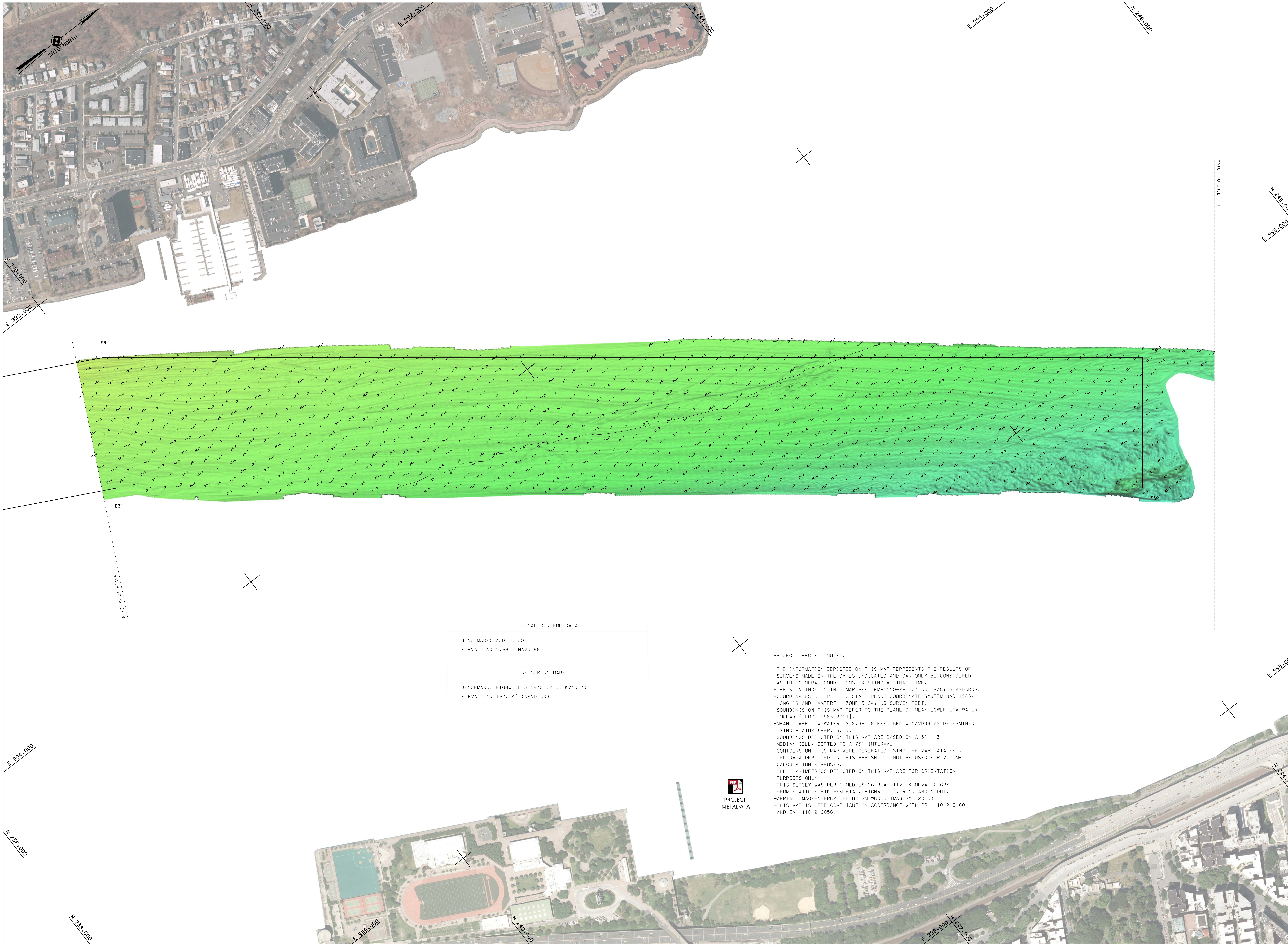
OPERATIONS DIVISION
SURVEY SECTION
CENAN-OP-S

HUDSON RIVER CHANNEL
NEW YORK
CONDITION SURVEY

VH-109

SHEET 9 OF 11

FILE NO. 274
REQ. NO. 44070



LOCAL CONTROL DATA
BENCHMARK: AJD 10020 ELEVATION: 5.68' (NAVD 88)

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

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. 3.0).
- SOUNDINGS DEPICTED ON THIS MAP ARE BASED ON A 3' x 3' MEDIAN CELL, SORTED TO A 75' 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.
- THE PLANIMETRICS DEPICTED ON THIS MAP ARE FOR ORIENTATION PURPOSES ONLY.
- THIS SURVEY WAS PERFORMED USING REAL TIME KINEMATIC GPS FROM STATIONS RTK MEMORIAL, HIGHWOOD 3, RC1, AND NYDOT.
- AERIAL IMAGERY PROVIDED BY GM WORLD IMAGERY (2015).
- 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

ESO PR
JE/TD MP

DATES OF SURVEY:
NOVEMBER 17-19 2015
DECEMBER 2,3,7,8,17,30 2015
JANUARY 4-7 2016

FILE NO.: 274
REQUEST NO.: 4407D

SCALE:
ONE INCH = 200 FEET

FIELD BOOKS:

APPROVED: D. SMITH — FIELD CARTOGRAPHER
APPROVED: M. FORTE — CIVIL ENGINEERING TECHNICIAN
APPROVED: D. CLARKE — LEAD CARTOGRAPHER
APPROVED: J. MRAZ — DEPUTY CHIEF OF SURVEY
DATE: 1 FEBRUARY 2016

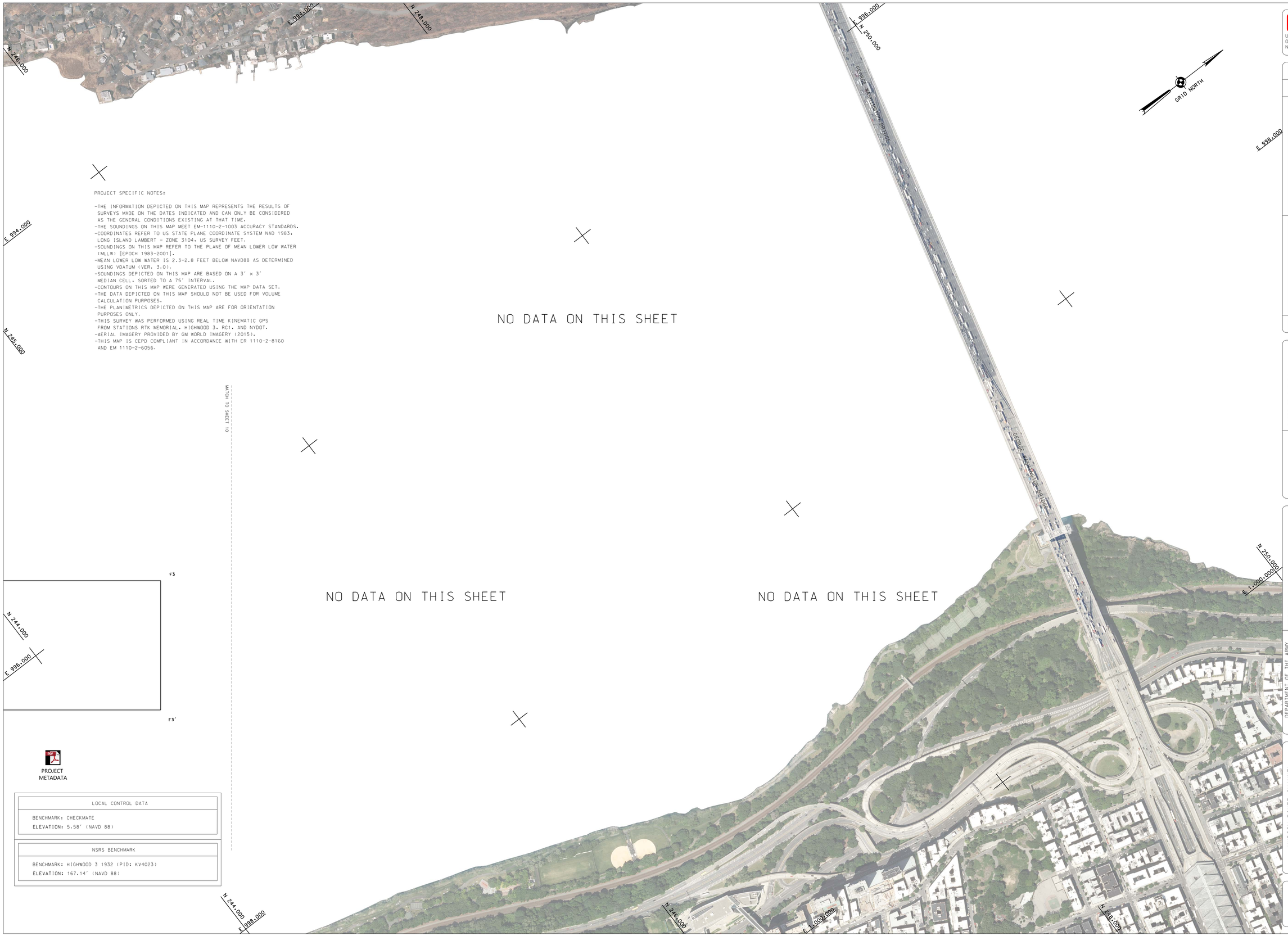
DEPARTMENT OF THE ARMY
NEW YORK DISTRICT
CORPS OF ENGINEERS
NEW YORK, NEW YORK 10278

OPERATIONS DIVISION
SURVEY SECTION
CENAN-OP-S

HUDSON RIVER CHANNEL
NEW YORK
CONDITION SURVEY

VH-110

FILE NO. 274
REQ. NO. 4407D



PROJECT SPECIFIC NOTES:

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

PROJECT METADATA

LOCAL CONTROL DATA
BENCHMARK: CHECKMATE
ELEVATION: 5.58' (NAVD 88)

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

US ARMY CORPS OF ENGINEERS
NEW YORK DISTRICT

ESQ PR
JE/TD MP

DATES OF SURVEY:
NOVEMBER 17-19 2015
DECEMBER 2,3,7,8,17,30 2015
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FILE NO.: 274
REQUEST NO.: 4407D

SCALE:
ONE INCH = 200 FEET

FIELD BOOKS:

APPROVED: D. SMITH — FIELD CARTOGRAPHER
APPROVED: M. FORTE — CIVIL ENGINEERING TECHNICIAN
APPROVED: D. CLARKE — LEAD CARTOGRAPHER
APPROVED: J. MRAZ — SURVEY CHIEF OF SURVEY
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VH-111

SHEET 11 OF 11

FILE NO. 274
REQ. NO. 4407D