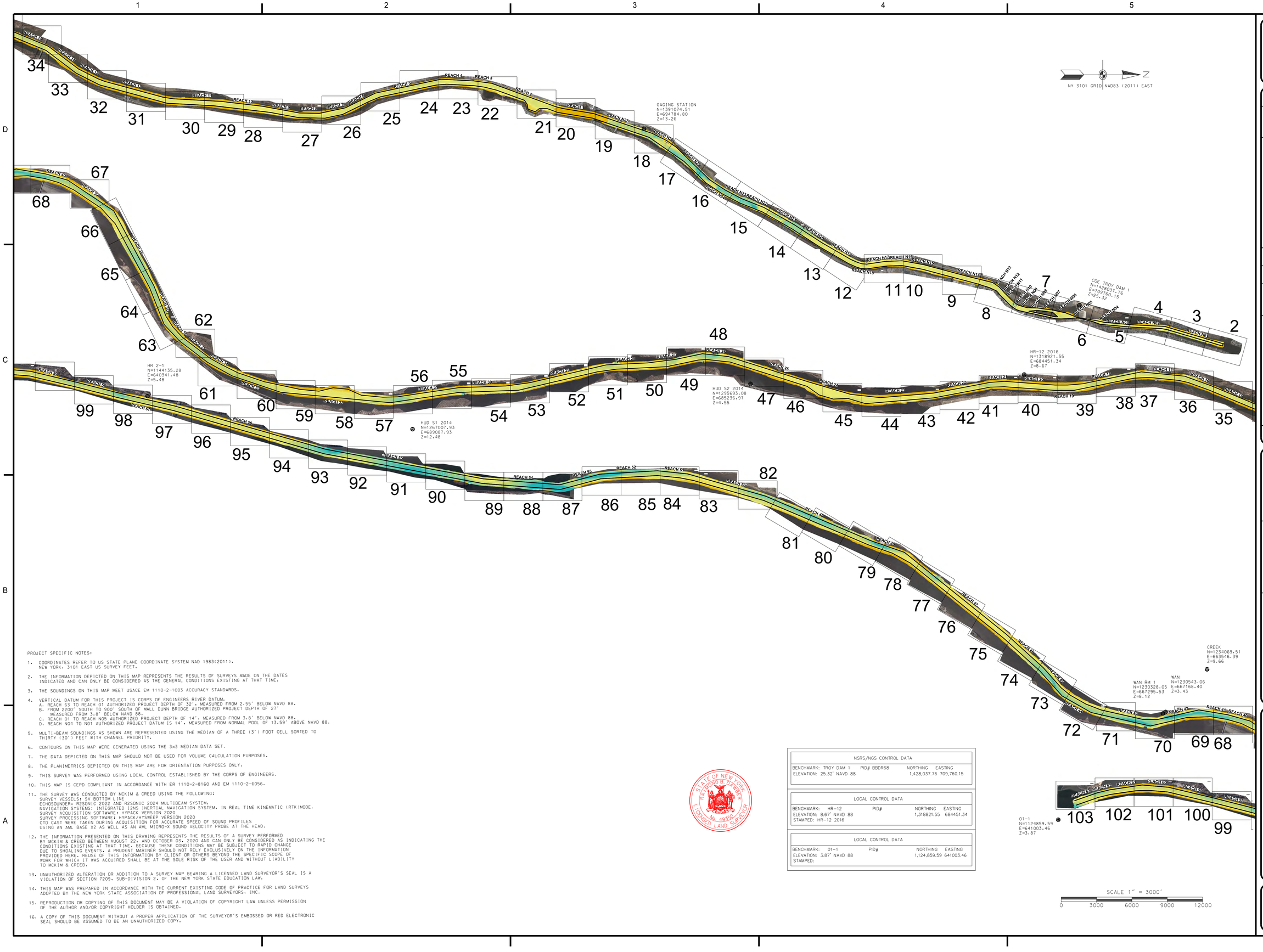


PROJECT SPECIFIC NOTES:

1. COORDINATES REFER TO US STATE PLANE COORDINATE SYSTEM NAD 1983(2011). NEW YORK. 3101 EAST US SURVEY FEET.
2. 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.
3. THE SOUNDINGS ON THIS MAP MEET USACE EM 1110-2-1003 ACCURACY STANDARDS.
4. VERTICAL DATUM FOR THIS PROJECT IS CORPS OF ENGINEERS RIVER DATUM.
   A. REACH 63 TO REACH 01 AUTHORIZED PROJECT DEPTH OF 32', MEASURED FROM 2.55' BELOW NAVD 88.
   B. FROM 2200' SOUTH TO 900' SOUTH OF MALL DUNN BRIDGE AUTHORIZED PROJECT DEPTH OF 27' MEASURED FROM 3.8' BELOW NAVD 88.
   C. REACH 01 TO REACH N05 AUTHORIZED PROJECT DEPTH OF 14', MEASURED FROM 3.8' BELOW NAVD 88.
   D. REACH N04 TO N01 AUTHORIZED PROJECT DATUM IS 14', MEASURED FROM NORMAL POOL OF 13.59' ABOVE NAVD 88.
5. MULTI-BEAM SOUNDINGS AS SHOWN ARE REPRESENTED USING THE MEDIAN OF A THREE (3') FOOT CELL SORTED TO THIRTY (30') FEET WITH CHANNEL PRIORITY.
6. CONTOURS ON THIS MAP WERE GENERATED USING THE 3x3 MEDIAN DATA SET.
7. THE DATA DEPICTED ON THIS MAP SHOULD NOT BE USED FOR VOLUME CALCULATION PURPOSES.
8. THE PLANIMETRICS DEPICTED ON THIS MAP ARE FOR ORIENTATION PURPOSES ONLY.
9. THIS SURVEY WAS PERFORMED USING LOCAL CONTROL ESTABLISHED BY THE CORPS OF ENGINEERS.
10. THIS MAP IS CEPD COMPLIANT IN ACCORDANCE WITH ER 1110-2-8160 AND EM 1110-2-6056.
11. THE SURVEY WAS CONDUCTED BY MCKIM & CREED USING THE FOLLOWING:
    SURVEY VESSELS: SV BOTTOM LINE
    ECHOSOUNDER: R2SONIC 2022 AND R2SONIC 2024 MULTIBEAM SYSTEM.
    NAVIGATION SYSTEMS: INTEGRATED I2NS INERTIAL NAVIGATION SYSTEM. IN REAL TIME KINEMATIC (RTK)MODE.
    SURVEY ACQUISITION SOFTWARE: HYPACK VERSION 2020
    SURVEY PROCESSING SOFTWARE: HYPACK/HYSWEEP VERSION 2020
    CTD CAST WERE TAKEN DURING ACQUISITION FOR ACCURATE SPEED OF SOUND PROFILES
    USING AN AML BASE X2 AS WELL AS AN AML MICRO-X SOUND VELOCITY PROBE AT THE HEAD.
12. THE INFORMATION PRESENTED ON THIS DRAWING REPRESENTS THE RESULTS OF A SURVEY PERFORMED BY MCKIM & CREED BETWEEN AUGUST 22. AND OCTOBER 03. 2020 AND CAN ONLY BE CONSIDERED AS INDICATING THE CONDITIONS EXISTING AT THAT TIME. BECAUSE THESE CONDITIONS MAY BE SUBJECT TO RAPID CHANGE DUE TO SHOALING EVENTS, A PRUDENT MARINER SHOULD NOT RELY EXCLUSIVELY ON THE INFORMATION PROVIDED HERE. 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 MCKIM & CREED.
13. UNAUTHORIZED ALTERATION OR ADDITION TO A SURVEY MAP BEARING A LICENSED LAND SURVEYOR'S SEAL IS A VIOLATION OF SECTION 7209, SUB-DIVISION 2, OF THE NEW YORK STATE EDUCATION LAW.
14. THIS MAP WAS PREPARED IN ACCORDANCE WITH THE CURRENT EXISTING CODE OF PRACTICE FOR LAND SURVEYS ADOPTED BY THE NEW YORK STATE ASSOCIATION OF PROFESSIONAL LAND SURVEYORS, INC.
15. REPRODUCTION OR COPYING OF THIS DOCUMENT MAY BE A VIOLATION OF COPYRIGHT LAW UNLESS PERMISSION OF THE AUTHOR AND/OR COPYRIGHT HOLDER IS OBTAINED.
16. A COPY OF THIS DOCUMENT WITHOUT A PROPER APPLICATION OF THE SURVEYOR'S EMBOSSED OR RED ELECTRONIC SEAL SHOULD BE ASSUMED TO BE AN UNAUTHORIZED COPY.

STATE OF NEW YORK
RICHARD B. BARBER
No. 49391
LICENSED LAND SURVEYOR

NSRS/NGS CONTROL DATA			
BENCHMARK: TROY DAM 1	PID# BBDR68	NORTHING	EASTING
ELEVATION: 25.32' NAVD 88		1,428,037.76	709,760.15

LOCAL CONTROL DATA			
BENCHMARK: HR-12	PID#	NORTHING	EASTING
ELEVATION: 8.67' NAVD 88		1,318821.55	684451.34
STAMPED: HR-12 2016			

LOCAL CONTROL DATA			
BENCHMARK: 01-1	PID#	NORTHING	EASTING
ELEVATION: 3.87' NAVD 88		1,124,859.59	641003.46
STAMPED:			

US Army Corps of Engineers®
New York District

MARK	DESCRIPTION	DATE	APPR.

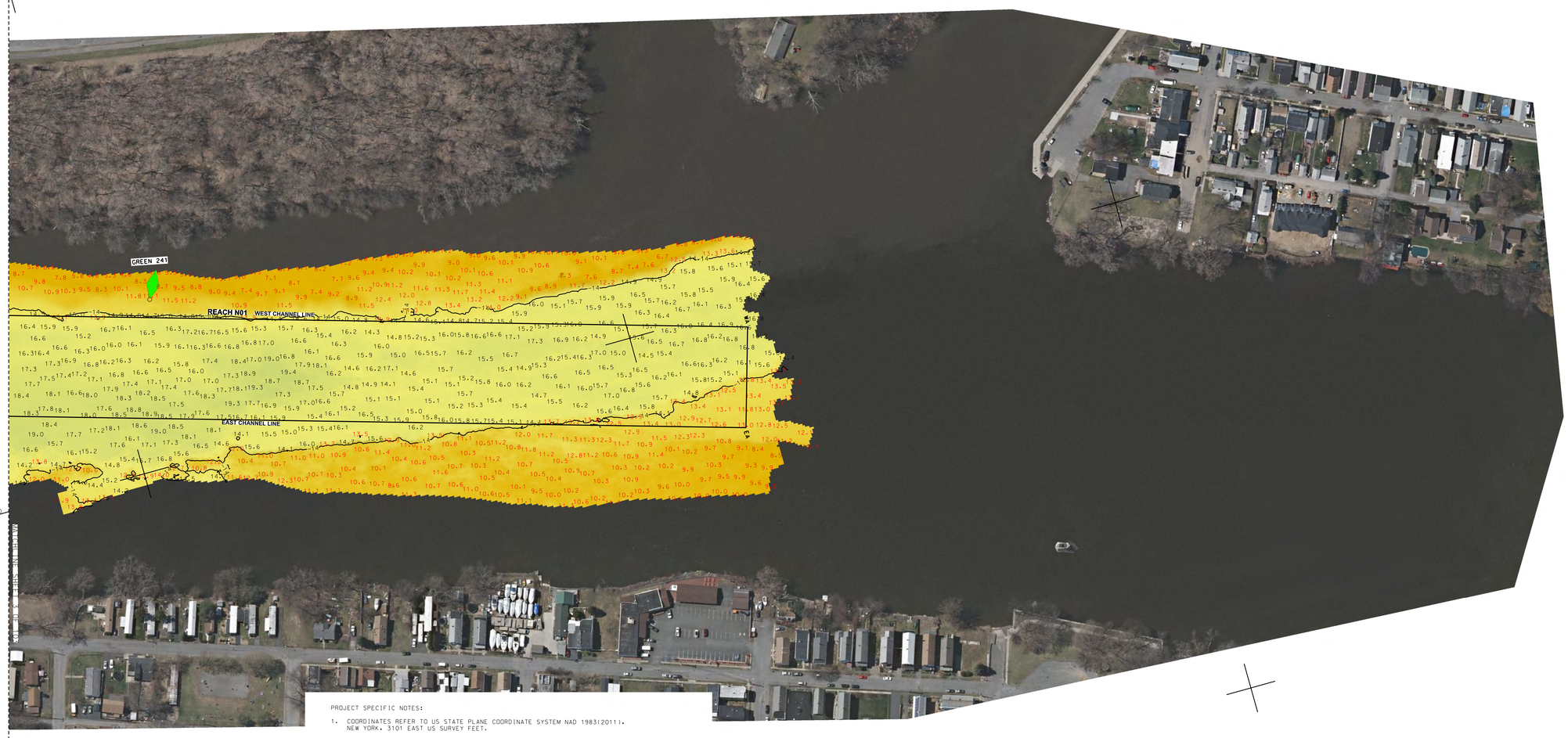
DESIGNED BY: 000
DWN BY: MBH
CKD BY: RBD
SUBMITTED BY: DLJ
DATE: AUGUST 22-OCTOBER 03, 2020
SOLICITATION NO.:
CONTRACT NO.: W912DS-20-D-0003
PLOT SCALE: 1" = 2000'
ISSUE DATE: 12/04/2020
FILE NUMBER:
SIZE: ANSI F
FILE NAME: VH-058890060_HUDSON_2020.DGN

U.S. ARMY CORPS OF ENGINEERS
NEW YORK DISTRICT
NEW YORK, NY

McKIM & CREED
243 NORTH FRONT STREET
WILMINGTON, NORTH CAROLINA 28401
TELEPHONE (910) 251-8444
FAX (910) 251-8282

HYDROGRAPHIC CONDITIONS SURVEY
HUDSON RIVER FEDERAL NAVIGATION CHANNEL BETWEEN KINGSTON TO WATERFORD, NY REACH 63 TO REACH N01 KINGSTON, NY TO ABOVE THE FEDERAL DAM IN TROY

SHEET IDENTIFICATION
VH-101
SHEET 1 OF 103



PROJECT SPECIFIC NOTES:

1. COORDINATES REFER TO US STATE PLANE COORDINATE SYSTEM NAD 1983(2011). NEW YORK. 3101 EAST US SURVEY FEET.
2. 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.
3. THE SOUNDINGS ON THIS MAP MEET USACE EM 1110-2-1003 ACCURACY STANDARDS.
4. VERTICAL DATUM FOR THIS PROJECT IS CORPS OF ENGINEERS RIVER DATUM.
   A. REACH 63 TO REACH 01 AUTHORIZED PROJECT DEPTH OF 12', MEASURED FROM 2.55' BELOW NAVD 88.
   B. FROM 2200' SOUTH TO 900' SOUTH OF MALL DUNN BRIDGE AUTHORIZED PROJECT DEPTH OF 27' MEASURED FROM 3.8' BELOW NAVD 88.
   C. REACH 01 TO REACH N05 AUTHORIZED PROJECT DEPTH OF 14', MEASURED FROM 3.8' BELOW NAVD 88.
   D. REACH N04 TO N01 AUTHORIZED PROJECT DATUM IS 14', MEASURED FROM NORMAL POOL OF 13.59' ABOVE NAVD 88.
5. MULTI-BEAM SOUNDINGS AS SHOWN ARE REPRESENTED USING THE MEDIAN OF A THREE (3') FOOT CELL SORTED TO THIRTY (30') FEET WITH CHANNEL PRIORITY.
6. CONTOURS ON THIS MAP WERE GENERATED USING THE 3X3 MEDIAN DATA SET.
7. THE DATA DEPICTED ON THIS MAP SHOULD NOT BE USED FOR VOLUME CALCULATION PURPOSES.
8. THE PLANIMETRICS DEPICTED ON THIS MAP ARE FOR ORIENTATION PURPOSES ONLY.
9. THIS SURVEY WAS PERFORMED USING LOCAL CONTROL ESTABLISHED BY THE CORPS OF ENGINEERS.
10. THIS MAP IS CEPD COMPLIANT IN ACCORDANCE WITH ER 1110-2-8160 AND EM 1110-2-6056.
11. THE SURVEY WAS CONDUCTED BY MCKIM & CREED USING THE FOLLOWING:
    SURVEY VESSELS: SV BOTTOM LINE
    ECHOSOUNDER: R2SONIC 2022 AND R2SONIC 2024 MULTIBEAM SYSTEM.
    NAVIGATION SYSTEMS: INTEGRATED I2NS INERTIAL NAVIGATION SYSTEM. IN REAL TIME KINEMATIC (RTK)MODE.
    SURVEY ACQUISITION SOFTWARE: HYPACK VERSION 2020
    SURVEY PROCESSING SOFTWARE: HYPACK/HYSWEEP VERSION 2020
    CTD CAST WERE TAKEN DURING ACQUISITION FOR ACCURATE SPEED OF SOUND PROFILES
    USING AN AML BASE X2 AS WELL AS AN AML MICRO-X SOUND VELOCITY PROBE AT THE HEAD.
12. THE INFORMATION PRESENTED ON THIS DRAWING REPRESENTS THE RESULTS OF A SURVEY PERFORMED BY MCKIM & CREED BETWEEN AUGUST 22. AND OCTOBER 03. 2020 AND CAN ONLY BE CONSIDERED AS INDICATING THE CONDITIONS EXISTING AT THAT TIME. BECAUSE THESE CONDITIONS MAY BE SUBJECT TO RAPID CHANGE DUE TO SHOALING EVENTS. A PRUDENT MARINER SHOULD NOT RELY EXCLUSIVELY ON THE INFORMATION PROVIDED HERE. 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 MCKIM & CREED.
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NSRS/NGS CONTROL DATA			
BENCHMARK: TROY DAM 1	PID# BBDR68	NORTHING	EASTING
ELEVATION: 25.32' NAVD 88		1,428,037.76	709,760.15

LOCAL CONTROL DATA			
BENCHMARK: HR-12	PID#	NORTHING	EASTING
ELEVATION: 8.67' NAVD 88		1,318821.55	684451.34
STAMPED: HR-12 2016			

LOCAL CONTROL DATA			
BENCHMARK: 01-1	PID#	NORTHING	EASTING
ELEVATION: 3.87' NAVD 88		1,124,859.59	641003.46
STAMPED:			

STATE OF NEW YORK
RAYMOND B. DAWES
No. 49350
LICENSED LAND SURVEYOR

SCALE 1" = 100'
0 100 200 300 400

US Army Corps of Engineers ®
New York District

MARK	DESCRIPTION	DATE	APPR.	MARK	DESCRIPTION	DATE	APPR.

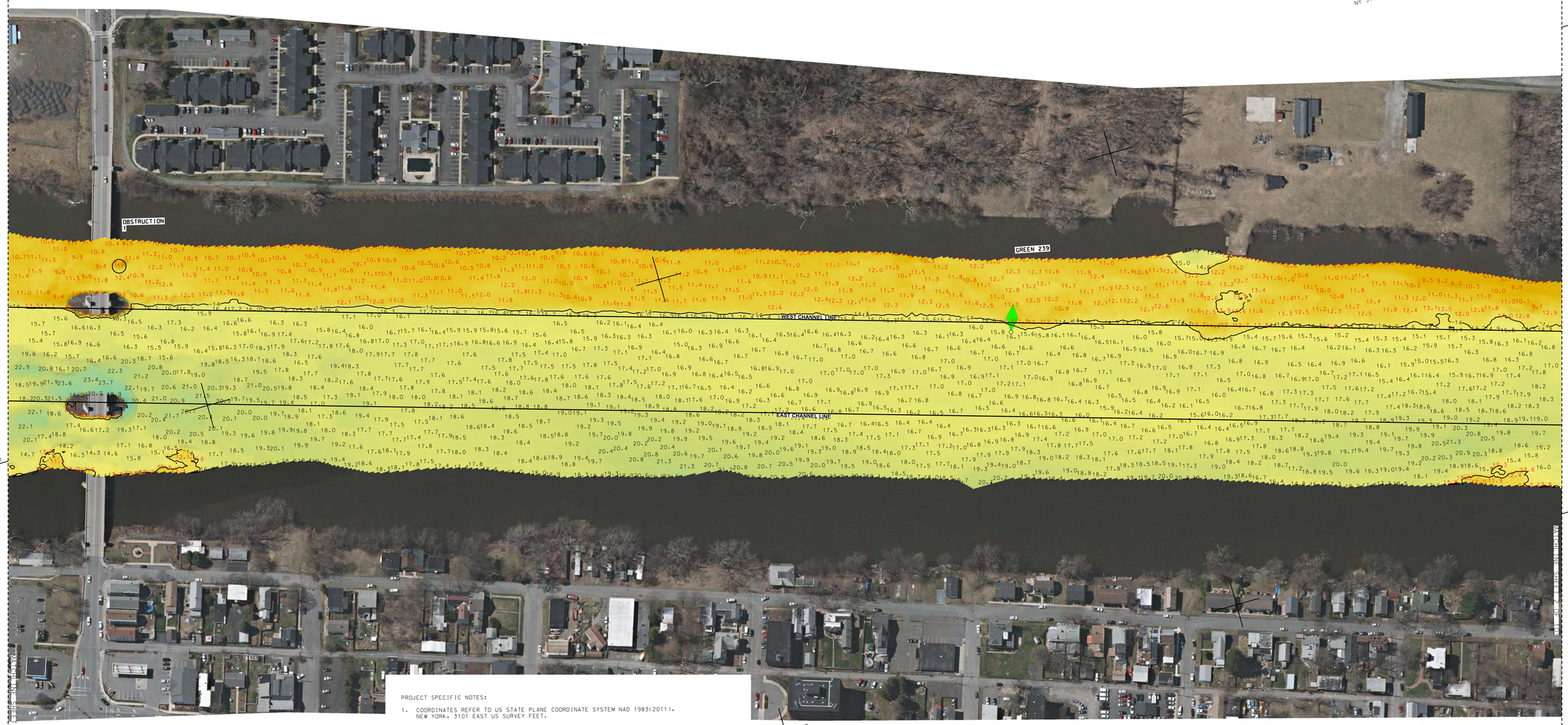
DESIGNED BY: CDD
DWN BY: MBH
CKD BY: RBD
SUBMITTED BY: DJI
DATE: AUGUST 22 - OCOTBER 03, 2020
SOLICITATION NO.:
CONTRACT NO.: W912DS-20-D-0003
FILE NUMBER:
ISSUE DATE: 13 MAY 2020
PLOT SCALE: 1=100'
SIZE: ANSI F
FILE NAME: VH-088990060_HUDSON_2020.DGN

U.S. ARMY CORPS OF ENGINEERS
NEW YORK DISTRICT
NEW YORK, NY

McKIM & CREED
243 NORTH FRONT STREET
WILMINGTON, NORTH CAROLINA 28401
TELEPHONE: (910) 251-8444
FAX: (910) 251-8282

HYDROGRAPHIC CONDITIONS SURVEY
HUDSON RIVER FEDERAL NAVIGATION CHANNEL
REACH N01

SHEET IDENTIFICATION
VH-102
SHEET 2 OF 103



PROJECT SPECIFIC NOTES:

1. COORDINATES REFER TO US STATE PLANE COORDINATE SYSTEM NAD 1983(2011). NEW YORK, 3101 EAST US SURVEY FEET.
2. 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.
3. THE SOUNDINGS ON THIS MAP MEET USACE EM 1110-2-1003 ACCURACY STANDARDS.
4. VERTICAL DATUM FOR THIS PROJECT IS CORPS OF ENGINEERS RIVER DATUM.
   A. REACH 63 TO REACH 01 AUTHORIZED PROJECT DEPTH OF 32'. MEASURED FROM 2.55' BELOW NAVD 88.
   B. FROM 220' SOUTH TO 900' SOUTH OF MALL DUNN BRIDGE AUTHORIZED PROJECT DEPTH OF 27' MEASURED FROM 3.8' BELOW NAVD 88.
   C. REACH 01 TO REACH N05 AUTHORIZED PROJECT DEPTH OF 14'. MEASURED FROM 3.8' BELOW NAVD 88.
   D. REACH N04 TO N01 AUTHORIZED PROJECT DATUM IS 14'. MEASURED FROM NORMAL POOL OF 13.59' ABOVE NAVD 88.
5. MULTI-BEAM SOUNDINGS AS SHOWN ARE REPRESENTED USING THE MEDIAN OF A THREE (3') FOOT CELL SORTED TO THIRTY (30') FEET WITH CHANNEL PRIORITY.
6. CONTOURS ON THIS MAP WERE GENERATED USING THE 3X3 MEDIAN DATA SET.
7. THE DATA DEPICTED ON THIS MAP SHOULD NOT BE USED FOR VOLUME CALCULATION PURPOSES.
8. THE PLANIMETRICS DEPICTED ON THIS MAP ARE FOR ORIENTATION PURPOSES ONLY.
9. THIS SURVEY WAS PERFORMED USING LOCAL CONTROL ESTABLISHED BY THE CORPS OF ENGINEERS.
10. THIS MAP IS CEPD COMPLIANT IN ACCORDANCE WITH ER 1110-2-8160 AND EM 1110-2-6056.
11. THE SURVEY WAS CONDUCTED BY MCKIM & CREED USING THE FOLLOWING:
    SURVEY VESSELS: SV BOTTOM LINE
    ECHOSOUNDER: R2SONIC 2022 AND R2SONIC 2024 MULTIBEAM SYSTEM.
    NAVIGATION SYSTEMS: INTEGRATED I2NS INERTIAL NAVIGATION SYSTEM. IN REAL TIME KINEMATIC (RTK) MODE.
    SURVEY ACQUISITION SOFTWARE: HYPACK VERSION 2020
    SURVEY PROCESSING SOFTWARE: HYPACK/HYSWEEP VERSION 2020
    CTD CAST WERE TAKEN DURING ACQUISITION FOR ACCURATE SPEED OF SOUND PROFILES
    USING AN AML BASE X2 AS WELL AS AN AML MICRO-X SOUND VELOCITY PROBE AT THE HEAD.
12. THE INFORMATION PRESENTED ON THIS DRAWING REPRESENTS THE RESULTS OF A SURVEY PERFORMED BY MCKIM & CREED BETWEEN AUGUST 22. AND OCTOBER 03. 2020 AND CAN ONLY BE CONSIDERED AS INDICATING THE CONDITIONS EXISTING AT THAT TIME. BECAUSE THESE CONDITIONS MAY BE SUBJECT TO RAPID CHANGE DUE TO SHOALING EVENTS. A PRUDENT MARINER SHOULD NOT RELY EXCLUSIVELY ON THE INFORMATION PROVIDED HERE. 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 MCKIM & CREED.
13. UNAUTHORIZED ALTERATION OR ADDITION TO A SURVEY MAP BEARING A LICENSED LAND SURVEYOR'S SEAL IS A VIOLATION OF SECTION 7209, SUB-DIVISION 2. OF THE NEW YORK STATE EDUCATION LAW.
14. THIS MAP WAS PREPARED IN ACCORDANCE WITH THE CURRENT EXISTING CODE OF PRACTICE FOR LAND SURVEYS ADOPTED BY THE NEW YORK STATE ASSOCIATION OF PROFESSIONAL LAND SURVEYORS, INC.
15. REPRODUCTION OR COPYING OF THIS DOCUMENT MAY BE A VIOLATION OF COPYRIGHT LAW UNLESS PERMISSION OF THE AUTHOR AND/OR COPYRIGHT HOLDER IS OBTAINED.
16. A COPY OF THIS DOCUMENT WITHOUT A PROPER APPLICATION OF THE SURVEYOR'S EMBOSSED OR RED ELECTRONIC SEAL SHOULD BE ASSUMED TO BE AN UNAUTHORIZED COPY.

STATE OF NEW YORK
RAYMOND E. PARKER
3940
No. 49150
LICENSED LAND SURVEYOR

SCALE 1" = 100'
0 100 200 300 400

NSRS/NGS CONTROL DATA			
BENCHMARK: TROY DAM 1	PID# BB0R68	NORTHING	EASTING
ELEVATION: 25.32' NAVD 88		1,428,037.76	709,760.15

LOCAL CONTROL DATA			
BENCHMARK: HR-12	PID#	NORTHING	EASTING
ELEVATION: 8.67' NAVD 88		1,318821.55	684451.34
STAMPED: HR-12 2016			

LOCAL CONTROL DATA			
BENCHMARK: 01-1	PID#	NORTHING	EASTING
ELEVATION: 3.87' NAVD 88		1,124,859.59	641003.46
STAMPED:			

SHEET 4 OF 103

US Army Corps of Engineers ®
New York District

MARK	DESCRIPTION	DATE	APPR.	MARK	DESCRIPTION	DATE	APPR.

DESIGNED BY: DDO
DWN BY: MBH
CKD BY: RBD
SUBMITTED BY: DLJ
PLOT SCALE: 1" = 600'
SIZE: ANSI F
DATE: AUGUST 22 - OCOTBER 03, 2020
ISSUE DATE: SEPTEMBER 2020
SOLICITATION NO.:
CONTRACT NO.: W912DS-20-D-0003
FILE NUMBER:
FILE NAME: VH-0838950060_HUDSON_2020.DGN

U.S. ARMY CORPS OF ENGINEERS
NEW YORK DISTRICT
NEW YORK, NY

McKIM & CREED
243 NORTH FRONT STREET
WILMINGTON, NORTH CAROLINA 28401
TELEPHONE: (910) 251-1048
FAX: (910) 251-8282

HYDROGRAPHIC CONDITIONS SURVEY
HUDSON RIVER FEDERAL NAVIGATION CHANNEL
REACH N01

SHEET IDENTIFICATION
VH-103
SHEET 3 OF 103

PROJECT SPECIFIC NOTES:

1. COORDINATES REFER TO US STATE PLANE COORDINATE SYSTEM NAD 1983(2011). NEW YORK. 3101 EAST US SURVEY FEET.
2. 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.
3. THE SOUNDINGS ON THIS MAP MEET USACE EM 1110-2-1003 ACCURACY STANDARDS.
4. VERTICAL DATUM FOR THIS PROJECT IS CORPS OF ENGINEERS RIVER DATUM.
   A. REACH 63 TO REACH 01 AUTHORIZED PROJECT DEPTH OF 32'. MEASURED FROM 2.55' BELOW NAVD 88.
   B. FROM 2200' SOUTH TO 900' SOUTH OF MALL DUNN BRIDGE AUTHORIZED PROJECT DEPTH OF 27' MEASURED FROM 3.8' BELOW NAVD 88.
   C. REACH 01 TO REACH N05 AUTHORIZED PROJECT DEPTH OF 14'. MEASURED FROM 3.8' BELOW NAVD 88.
   D. REACH N04 TO N01 AUTHORIZED PROJECT DATUM IS 14'. MEASURED FROM NORMAL POOL OF 13.59' ABOVE NAVD 88.
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7. THE DATA DEPICTED ON THIS MAP SHOULD NOT BE USED FOR VOLUME CALCULATION PURPOSES.
8. THE PLANIMETRICS DEPICTED ON THIS MAP ARE FOR ORIENTATION PURPOSES ONLY.
9. THIS SURVEY WAS PERFORMED USING LOCAL CONTROL ESTABLISHED BY THE CORPS OF ENGINEERS.
10. THIS MAP IS CEPD COMPLIANT IN ACCORDANCE WITH ER 1110-2-8160 AND EM 1110-2-6056.
11. THE SURVEY WAS CONDUCTED BY MCKIM & CREED USING THE FOLLOWING:
    SURVEY VESSELS: SV BOTTOM LINE
    ECHOSOUNDER: R2SONIC 2022 AND R2SONIC 2024 MULTIBEAM SYSTEM.
    NAVIGATION SYSTEMS: INTEGRATED I2NS INERTIAL NAVIGATION SYSTEM. IN REAL TIME KINEMATIC (RTK)MODE.
    SURVEY ACQUISITION SOFTWARE: HYPACK VERSION 2020
    SURVEY PROCESSING SOFTWARE: HYPACK/HYSWEEP VERSION 2020
    CTD CAST WERE TAKEN DURING ACQUISITION FOR ACCURATE SPEED OF SOUND PROFILES USING AN AML BASE X2 AS WELL AS AN AML MICRO-X SOUND VELOCITY PROBE AT THE HEAD.
12. THE INFORMATION PRESENTED ON THIS DRAWING REPRESENTS THE RESULTS OF A SURVEY PERFORMED BY MCKIM & CREED BETWEEN AUGUST 22. AND OCTOBER 03. 2020 AND CAN ONLY BE CONSIDERED AS INDICATING THE CONDITIONS EXISTING AT THAT TIME. BECAUSE THESE CONDITIONS MAY BE SUBJECT TO RAPID CHANGE DUE TO SHOALING EVENTS. A PRUDENT MARINER SHOULD NOT RELY EXCLUSIVELY ON THE INFORMATION PROVIDED HERE. 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 MCKIM & CREED.
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STATE OF NEW YORK
RAYMOND B. DYER
No. 49350
LICENSED LAND SURVEYOR

SCALE 1" = 100'
0 100 200 300 400

NSRS/NGS CONTROL DATA			
BENCHMARK: TROY DAM 1	PID# BBDR68	NORTHING	EASTING
ELEVATION: 25.32' NAVD 88		1,428,037.76	709,760.15

LOCAL CONTROL DATA			
BENCHMARK: HR-12	PID#	NORTHING	EASTING
ELEVATION: 8.67' NAVD 88		1,318821.55	684451.34
STAMPED: HR-12 2016			

LOCAL CONTROL DATA			
BENCHMARK: 01-1	PID#	NORTHING	EASTING
ELEVATION: 3.87' NAVD 88		1,124,859.59	641003.46
STAMPED:			

US Army Corps of Engineers ®
New York District

MARK	DESCRIPTION	DATE	APPR.	MARK	DESCRIPTION	DATE	APPR.

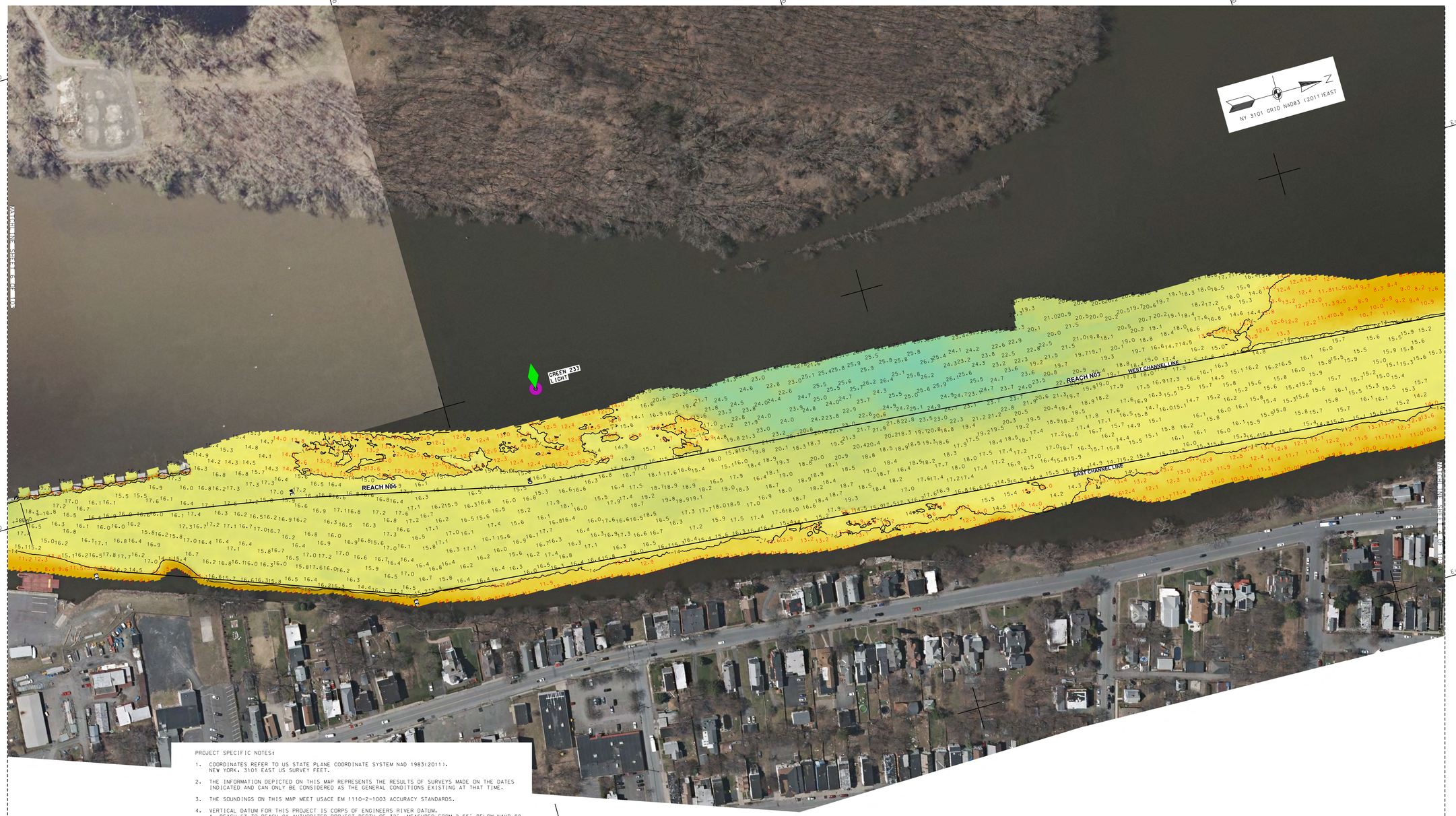
DESIGNED BY: DDD
DWN BY: MBH
CKD BY: RBD
SUBMITTED BY: DLJ
PLOT SCALE: 1"=100'
SIZE: ANSI F
DATE: AUGUST 22 - OCOTBER 03, 2020
SOLICITATION NO.:
CONTRACT NO.: W912DS-20-D-0003
ISSUE DATE: SEPTEMBER 2020
FILE NUMBER:
FILE NAME: VH-658890090_HUDSON_2020.DGN

U.S. ARMY CORPS OF ENGINEERS
NEW YORK DISTRICT
NEW YORK, NY

McKIM & CREED
243 NORTH FRONT STREET
WILMINGTON, NORTH CAROLINA 28401
TELEPHONE: (910) 251-8848
FAX: (910) 251-8282

HYDROGRAPHIC CONDITIONS SURVEY
HUDSON RIVER FEDERAL NAVIGATION CHANNEL
REACH N02
FATHOMETER SOUNDINGS IN FEET

SHEET IDENTIFICATION
VH-104
SHEET 4 OF 103



PROJECT SPECIFIC NOTES:

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2. 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.
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4. VERTICAL DATUM FOR THIS PROJECT IS CORPS OF ENGINEERS RIVER DATUM.
   A. REACH 63 TO REACH 01 AUTHORIZED PROJECT DEPTH OF 32'. MEASURED FROM 2.55' BELOW NAVD 88.
   B. FROM 2200' SOUTH TO 900' SOUTH OF MALL DUNN BRIDGE AUTHORIZED PROJECT DEPTH OF 27' MEASURED FROM 3.8' BELOW NAVD 88.
   C. REACH 01 TO REACH N05 AUTHORIZED PROJECT DEPTH OF 14'. MEASURED FROM 3.8' BELOW NAVD 88.
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    ECHOSOUNDER: R2SONIC 2022 AND R2SONIC 2024 MULTIBEAM SYSTEM.
    NAVIGATION SYSTEMS: INTEGRATED I2NS INERTIAL NAVIGATION SYSTEM. IN REAL TIME KINEMATIC (RTK)MODE.
    SURVEY ACQUISITION SOFTWARE: HYPACK VERSION 2020
    SURVEY PROCESSING SOFTWARE: HYPACK/HYSWEEP VERSION 2020
    CTD CAST WERE TAKEN DURING ACQUISITION FOR ACCURATE SPEED OF SOUND PROFILES USING AN AML BASE X2 AS WELL AS AN AML MICRO-X SOUND VELOCITY PROBE AT THE HEAD.
12. THE INFORMATION PRESENTED ON THIS DRAWING REPRESENTS THE RESULTS OF A SURVEY PERFORMED BY MCKIM & CREED BETWEEN AUGUST 22. AND OCTOBER 03. 2020 AND CAN ONLY BE CONSIDERED AS INDICATING THE CONDITIONS EXISTING AT THAT TIME. BECAUSE THESE CONDITIONS MAY BE SUBJECT TO RAPID CHANGE DUE TO SHOALING EVENTS. A PRUDENT MARINER SHOULD NOT RELY EXCLUSIVELY ON THE INFORMATION PROVIDED HERE. 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 MCKIM & CREED.
13. UNAUTHORIZED ALTERATION OR ADDITION TO A SURVEY MAP BEARING A LICENSED LAND SURVEYOR'S SEAL IS A VIOLATION OF SECTION 7209. SUB-DIVISION 2. OF THE NEW YORK STATE EDUCATION LAW.
14. THIS MAP WAS PREPARED IN ACCORDANCE WITH THE CURRENT EXISTING CODE OF PRACTICE FOR LAND SURVEYS ADOPTED BY THE NEW YORK STATE ASSOCIATION OF PROFESSIONAL LAND SURVEYORS. INC.
15. REPRODUCTION OR COPYING OF THIS DOCUMENT MAY BE A VIOLATION OF COPYRIGHT LAW UNLESS PERMISSION OF THE AUTHOR AND/OR COPYRIGHT HOLDER IS OBTAINED.
16. A COPY OF THIS DOCUMENT WITHOUT A PROPER APPLICATION OF THE SURVEYOR'S EMBOSSED OR RED ELECTRONIC SEAL SHOULD BE ASSUMED TO BE AN UNAUTHORIZED COPY.

STATE OF NEW YORK
RAYMOND B. DAMBER
No. 49350
LICENSED LAND SURVEYOR

NSRS/NGS CONTROL DATA			
BENCHMARK: TROY DAM 1	PID# BBDR68	NORTHING	EASTING
ELEVATION: 25.32' NAVD 88		1,428,037.76	709,760.15

LOCAL CONTROL DATA			
BENCHMARK: HR-12	PID#	NORTHING	EASTING
ELEVATION: 8.67' NAVD 88		1,318821.55	684451.34
STAMPED: HR-12 2016			

LOCAL CONTROL DATA			
BENCHMARK: 01-1	PID#	NORTHING	EASTING
ELEVATION: 3.87' NAVD 88		1,124,859.59	641003.46
STAMPED:			

SCALE 1" = 100'
0 100 200 300 400

US Army Corps of Engineers ®
New York District

MARK	DESCRIPTION	DATE	APPR.	MARK	DESCRIPTION	DATE	APPR.

DESIGNED BY: DDD
DWN BY: MBH
CKD BY: RBD
SUBMITTED BY: DLJ
PLOT SCALE: 1" = 50'
PLOT DATE: 1/5/2021
SIZE: ANSI F
DATE: AUGUST 22 - OCOTBER 03, 2020
SOLICITATION NO.:
CONTRACT NO.: W912DS-20-D-0003
ISSUE DATE: 1/5/2021
FILE NUMBER: VH-0598890960_HUDSON_2020.DGN

U.S. ARMY CORPS OF ENGINEERS
NEW YORK DISTRICT
NEW YORK, NY

McKIM & CREED
243 NORTH FRONT STREET
WILMINGTON, NORTH CAROLINA 28401
TELEPHONE: (910) 251-1048
FAX: (910) 251-8282

HYDROGRAPHIC CONDITIONS SURVEY
HUDSON RIVER FEDERAL NAVIGATION CHANNEL
REACH N03-N04

SHEET IDENTIFICATION
VH-105
SHEET 5 OF 103

PROJECT SPECIFIC NOTES:

1. COORDINATES REFER TO US STATE PLANE COORDINATE SYSTEM NAD 1983(2011). NEW YORK. 3101 EAST US SURVEY FEET.
2. 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.
3. THE SOUNDINGS ON THIS MAP MEET USACE EM 1110-2-1003 ACCURACY STANDARDS.
4. VERTICAL DATUM FOR THIS PROJECT IS CORPS OF ENGINEERS RIVER DATUM.
   A. REACH 63 TO REACH 01 AUTHORIZED PROJECT DEPTH OF 32'. MEASURED FROM 2.55' BELOW NAVD 88.
   B. FROM 2200' SOUTH TO 900' SOUTH OF MALL DUNN BRIDGE AUTHORIZED PROJECT DEPTH OF 27' MEASURED FROM 3.8' BELOW NAVD 88.
   C. REACH 01 TO REACH N05 AUTHORIZED PROJECT DEPTH OF 14'. MEASURED FROM 3.8' BELOW NAVD 88.
   D. REACH N04 TO N01 AUTHORIZED PROJECT DATUM IS 14'. MEASURED FROM NORMAL POOL OF 13.59' ABOVE NAVD 88.
5. MULTI-BEAM SOUNDINGS AS SHOWN ARE REPRESENTED USING THE MEDIAN OF A THREE (3') FOOT CELL SORTED TO THIRTY (30') FEET WITH CHANNEL PRIORITY.
6. CONTOURS ON THIS MAP WERE GENERATED USING THE 3X3 MEDIAN DATA SET.
7. THE DATA DEPICTED ON THIS MAP SHOULD NOT BE USED FOR VOLUME CALCULATION PURPOSES.
8. THE PLANIMETRICS DEPICTED ON THIS MAP ARE FOR ORIENTATION PURPOSES ONLY.
9. THIS SURVEY WAS PERFORMED USING LOCAL CONTROL ESTABLISHED BY THE CORPS OF ENGINEERS.
10. THIS MAP IS CEPD COMPLIANT IN ACCORDANCE WITH ER 1110-2-8160 AND EM 1110-2-6056.
11. THE SURVEY WAS CONDUCTED BY MCKIM & CREED USING THE FOLLOWING:
    SURVEY VESSELS: SV BOTTOM LINE
    ECHOSOUNDER: R2SONIC 2022 AND R2SONIC 2024 MULTIBEAM SYSTEM.
    NAVIGATION SYSTEMS: INTEGRATED I2NS INERTIAL NAVIGATION SYSTEM. IN REAL TIME KINEMATIC (RTK)MODE.
    SURVEY ACQUISITION SOFTWARE: HYPACK VERSION 2020
    SURVEY PROCESSING SOFTWARE: HYPACK/HYSWEEP VERSION 2020
    CTD CAST WERE TAKEN DURING ACQUISITION FOR ACCURATE SPEED OF SOUND PROFILES
    USING AN AML BASE X2 AS WELL AS AN AML MICRO-X SOUND VELOCITY PROBE AT THE HEAD.
12. THE INFORMATION PRESENTED ON THIS DRAWING REPRESENTS THE RESULTS OF A SURVEY PERFORMED BY MCKIM & CREED BETWEEN AUGUST 22. AND OCTOBER 03. 2020 AND CAN ONLY BE CONSIDERED AS INDICATING THE CONDITIONS EXISTING AT THAT TIME. BECAUSE THESE CONDITIONS MAY BE SUBJECT TO RAPID CHANGE DUE TO SHOALING EVENTS. A PRUDENT MARINER SHOULD NOT RELY EXCLUSIVELY ON THE INFORMATION PROVIDED HERE. 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 MCKIM & CREED.
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STATE OF NEW YORK
RAYMOND B. DWYER
No. 49350
LICENSED LAND SURVEYOR

NSRS/NGS CONTROL DATA			
BENCHMARK: TROY DAM 1	PID# BBDR68	NORTHING	EASTING
ELEVATION: 25.32' NAVD 88		1,428,037.76	709,760.15

LOCAL CONTROL DATA			
BENCHMARK: HR-12	PID#	NORTHING	EASTING
ELEVATION: 8.67' NAVD 88		1,318821.55	684451.34
STAMPED: HR-12 2016			

LOCAL CONTROL DATA			
BENCHMARK: 01-1	PID#	NORTHING	EASTING
ELEVATION: 3.87' NAVD 88		1,124,859.59	641003.46
STAMPED:			

SCALE 1" = 100'
0 100 200 300 400

US Army Corps of Engineers ®
New York District

MARK	DESCRIPTION	DATE	APPR.	MARK	DESCRIPTION	DATE	APPR.

DESIGNED BY: 000
DWN BY: MBH
CKD BY: RBD
SUBMITTED BY: DLJ
PLOT SCALE: 1:100
PLOT DATE: 1:1200
SIZE: ANSI F
DATE: AUGUST 22 - OCTOBER 03, 2020
SOLICITATION NO.:
CONTRACT NO.: W912DS-20-D-0003
FILE NUMBER:
FILE NAME: VH-598890060_HUDSON_2020.DGN

U.S. ARMY CORPS OF ENGINEERS
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NEW YORK, NY

McKIM & CREED
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WILMINGTON, NORTH CAROLINA 28401
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FAX: (910) 251-8282

HYDROGRAPHIC CONDITIONS SURVEY
HUDSON RIVER FEDERAL NAVIGATION CHANNEL
REACH N05-N06

SHEET IDENTIFICATION
VH-106
SHEET 6 OF 103

PROJECT SPECIFIC NOTES:

1. COORDINATES REFER TO US STATE PLANE COORDINATE SYSTEM NAD 1983(2011). NEW YORK. 3101 EAST US SURVEY FEET.
2. 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.
3. THE SOUNDINGS ON THIS MAP MEET USACE EM 1110-2-1003 ACCURACY STANDARDS.
4. VERTICAL DATUM FOR THIS PROJECT IS CORPS OF ENGINEERS RIVER DATUM.
   A. REACH 63 TO REACH 01 AUTHORIZED PROJECT DEPTH OF 32', MEASURED FROM 2.55' BELOW NAVD 88.
   B. FROM 2200' SOUTH TO 900' SOUTH OF MALL DUNN BRIDGE AUTHORIZED PROJECT DEPTH OF 27' MEASURED FROM 3.8' BELOW NAVD 88.
   C. REACH 01 TO REACH N05 AUTHORIZED PROJECT DEPTH OF 14', MEASURED FROM 3.8' BELOW NAVD 88.
   D. REACH N04 TO N01 AUTHORIZED PROJECT DATUM IS 14', MEASURED FROM NORMAL POOL OF 13.59' ABOVE NAVD 88.
5. MULTI-BEAM SOUNDINGS AS SHOWN ARE REPRESENTED USING THE MEDIAN OF A THREE (3') FOOT CELL SORTED TO THIRTY (30') FEET WITH CHANNEL PRIORITY.
6. CONTOURS ON THIS MAP WERE GENERATED USING THE 3X3 MEDIAN DATA SET.
7. THE DATA DEPICTED ON THIS MAP SHOULD NOT BE USED FOR VOLUME CALCULATION PURPOSES.
8. THE PLANIMETRICS DEPICTED ON THIS MAP ARE FOR ORIENTATION PURPOSES ONLY.
9. THIS SURVEY WAS PERFORMED USING LOCAL CONTROL ESTABLISHED BY THE CORPS OF ENGINEERS.
10. THIS MAP IS CEPD COMPLIANT IN ACCORDANCE WITH ER 1110-2-8160 AND EM 1110-2-6056.
11. THE SURVEY WAS CONDUCTED BY MCKIM & CREED USING THE FOLLOWING:
    SURVEY VESSELS: SV BOTTOM LINE
    ECHOSOUNDER: R2SONIC 2022 AND R2SONIC 2024 MULTIBEAM SYSTEM.
    NAVIGATION SYSTEMS: INTEGRATED I2NS INERTIAL NAVIGATION SYSTEM, IN REAL TIME KINEMATIC (RTK)MODE.
    SURVEY ACQUISITION SOFTWARE: HYPACK VERSION 2020
    SURVEY PROCESSING SOFTWARE: HYPACK/HYSWEEP VERSION 2020
    CTD CAST WERE TAKEN DURING ACQUISITION FOR ACCURATE SPEED OF SOUND PROFILES USING AN AML BASE X2 AS WELL AS AN AML MICRO-X SOUND VELOCITY PROBE AT THE HEAD.
12. THE INFORMATION PRESENTED ON THIS DRAWING REPRESENTS THE RESULTS OF A SURVEY PERFORMED BY MCKIM & CREED BETWEEN AUGUST 22, AND OCTOBER 03, 2020 AND CAN ONLY BE CONSIDERED AS INDICATING THE CONDITIONS EXISTING AT THAT TIME. BECAUSE THESE CONDITIONS MAY BE SUBJECT TO RAPID CHANGE DUE TO SHOALING EVENTS, A PRUDENT MARINER SHOULD NOT RELY EXCLUSIVELY ON THE INFORMATION PROVIDED HERE. 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 MCKIM & CREED.
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16. A COPY OF THIS DOCUMENT WITHOUT A PROPER APPLICATION OF THE SURVEYOR'S EMBOSSED OR RED ELECTRONIC SEAL SHOULD BE ASSUMED TO BE AN UNAUTHORIZED COPY.

NY 3101 GRID NAD83 (2011) EAST

REACH N10
REACH N09
REACH N08
REACH N07
WEST CHANNEL LINE
EAST CHANNEL LINE
OBSTRUCTION 11
OBSTRUCTION 12
ALARC
MARAD
MARAD SHEET PILE WALL
MARAD SHEET PILE WALL ON THIS SIDE

NSRS/NGS CONTROL DATA				
BENCHMARK: TROY DAM 1	PID# BBDR68	NORTHING	EASTING	
ELEVATION: 25.32' NAVD 88		1,428,037.76	709,760.15	

LOCAL CONTROL DATA			
BENCHMARK: HR-12	PID#	NORTHING	EASTING
ELEVATION: 8.67' NAVD 88		1,318821.55	684451.34
STAMPED: HR-12 2016			

LOCAL CONTROL DATA			
BENCHMARK: 01-1	PID#	NORTHING	EASTING
ELEVATION: 3.87' NAVD 88		1,124,859.59	641003.46
STAMPED:			

STATE OF NEW YORK
RAYMOND B. DANNER
LICENSED No. 49350
LICENSED LAND SURVEYOR

SCALE 1" = 100'
0 100 200 300 400

US Army Corps of Engineers ®
New York District

MARK	DESCRIPTION	DATE	APPR.	MARK	DESCRIPTION	DATE	APPR.

DESIGNED BY: 000
DRN BY: MBH
CKD BY: RBD
SUBMITTED BY: DLJ
DATE: AUGUST 22 - OCOTBER 03, 2020
SOLICITATION NO.:
CONTRACT NO.: W912DS-20-D-0003
PLOT SCALE: 1" = 100'
ISSUE DATE: 2021
FILE NUMBER:
SIZE: ANSI F
FILE NAME: VH-058890060_HUDSON_2020.DGN

U.S. ARMY CORPS OF ENGINEERS
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NEW YORK, NY

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WILMINGTON, NORTH CAROLINA 28401
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FAX (910) 251-8252

HYDROGRAPHIC CONDITIONS SURVEY
HUDSON RIVER FEDERAL NAVIGATION CHANNEL
REACHES N07-N10

SHEET IDENTIFICATION
VH-107
SHEET 7 OF 103

PROJECT SPECIFIC NOTES:

1. COORDINATES REFER TO US STATE PLANE COORDINATE SYSTEM NAD 1983(2011). NEW YORK, 3101 EAST US SURVEY FEET.
2. 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.
3. THE SOUNDINGS ON THIS MAP MEET USACE EM 1110-2-1003 ACCURACY STANDARDS.
4. VERTICAL DATUM FOR THIS PROJECT IS CORPS OF ENGINEERS RIVER DATUM.
   A. REACH 63 TO REACH 01 AUTHORIZED PROJECT DEPTH OF 32'. MEASURED FROM 2.55' BELOW NAVD 88.
   B. FROM 2200' SOUTH TO 900' SOUTH OF MALL DUNN BRIDGE AUTHORIZED PROJECT DEPTH OF 27' MEASURED FROM 3.8' BELOW NAVD 88.
   C. REACH 01 TO REACH N05 AUTHORIZED PROJECT DEPTH OF 14'. MEASURED FROM 3.8' BELOW NAVD 88.
   D. REACH N04 TO N01 AUTHORIZED PROJECT DATUM IS 14'. MEASURED FROM NORMAL POOL OF 13.59' ABOVE NAVD 88.
5. MULTI-BEAM SOUNDINGS AS SHOWN ARE REPRESENTED USING THE MEDIAN OF A THREE (3') FOOT CELL SORTED TO THIRTY (30') FEET WITH CHANNEL PRIORITY.
6. CONTOURS ON THIS MAP WERE GENERATED USING THE 3X3 MEDIAN DATA SET.
7. THE DATA DEPICTED ON THIS MAP SHOULD NOT BE USED FOR VOLUME CALCULATION PURPOSES.
8. THE PLANIMETRICS DEPICTED ON THIS MAP ARE FOR ORIENTATION PURPOSES ONLY.
9. THIS SURVEY WAS PERFORMED USING LOCAL CONTROL ESTABLISHED BY THE CORPS OF ENGINEERS.
10. THIS MAP IS CEPD COMPLIANT IN ACCORDANCE WITH ER 1110-2-8160 AND EM 1110-2-6056.
11. THE SURVEY WAS CONDUCTED BY MCKIM & CREED USING THE FOLLOWING:
    SURVEY VESSELS: SV BOTTOM LINE
    ECHOSOUNDER: R2SONIC 2022 AND R2SONIC 2024 MULTIBEAM SYSTEM.
    NAVIGATION SYSTEMS: INTEGRATED I2NS INERTIAL NAVIGATION SYSTEM. IN REAL TIME KINEMATIC (RTK)MODE.
    SURVEY ACQUISITION SOFTWARE: HYPACK VERSION 2020
    SURVEY PROCESSING SOFTWARE: HYPACK/HYSWEEP VERSION 2020
    CTD CAST WERE TAKEN DURING ACQUISITION FOR ACCURATE SPEED OF SOUND PROFILES USING AN AML BASE X2 AS WELL AS AN AML MICRO-X SOUND VELOCITY PROBE AT THE HEAD.
12. THE INFORMATION PRESENTED ON THIS DRAWING REPRESENTS THE RESULTS OF A SURVEY PERFORMED BY MCKIM & CREED BETWEEN AUGUST 22. AND OCTOBER 03. 2020 AND CAN ONLY BE CONSIDERED AS INDICATING THE CONDITIONS EXISTING AT THAT TIME. BECAUSE THESE CONDITIONS MAY BE SUBJECT TO RAPID CHANGE DUE TO SHOALING EVENTS. A PRUDENT MARINER SHOULD NOT RELY EXCLUSIVELY ON THE INFORMATION PROVIDED HERE. 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 MCKIM & CREED.
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STATE OF NEW YORK
RAYMOND B. DAWES
No. 49259
LICENSED LAND SURVEYOR

NSRS/NGS CONTROL DATA			
BENCHMARK: TROY DAM 1	PID# BBDR68	NORTHING	EASTING
ELEVATION: 25.32' NAVD 88		1,428,037.76	709,760.15

LOCAL CONTROL DATA			
BENCHMARK: HR-12	PID#	NORTHING	EASTING
ELEVATION: 8.67' NAVD 88		1,318821.55	684451.34
STAMPED: HR-12 2016			

LOCAL CONTROL DATA			
BENCHMARK: 01-1	PID#	NORTHING	EASTING
ELEVATION: 3.87' NAVD 88		1,124,859.59	641003.46
STAMPED:			

SCALE 1" = 100'
0 100 200 300 400

US Army Corps of Engineers ®
New York District

MARK	DESCRIPTION	DATE	APPR.	MARK	DESCRIPTION	DATE	APPR.

DESIGNED BY: 000
DWN BY: MBH
CKD BY: RBD
SUBMITTED BY: DJJ
PLOT SCALE: 1=100'
PLOT DATE: 1/14/2021
SIZE: ANSI F
DATE: AUGUST 22 - OCOTBER 03, 2020
SOLICITATION NO.:
CONTRACT NO.: W912DS-20-D-0005
FILE NUMBER:
ISSUE DATE: 1/14/2021
FILE NAME: VH-0389990060_HUDSON_2020.DGN

U.S. ARMY CORPS OF ENGINEERS
NEW YORK DISTRICT
NEW YORK, NY

McKIM & CREED
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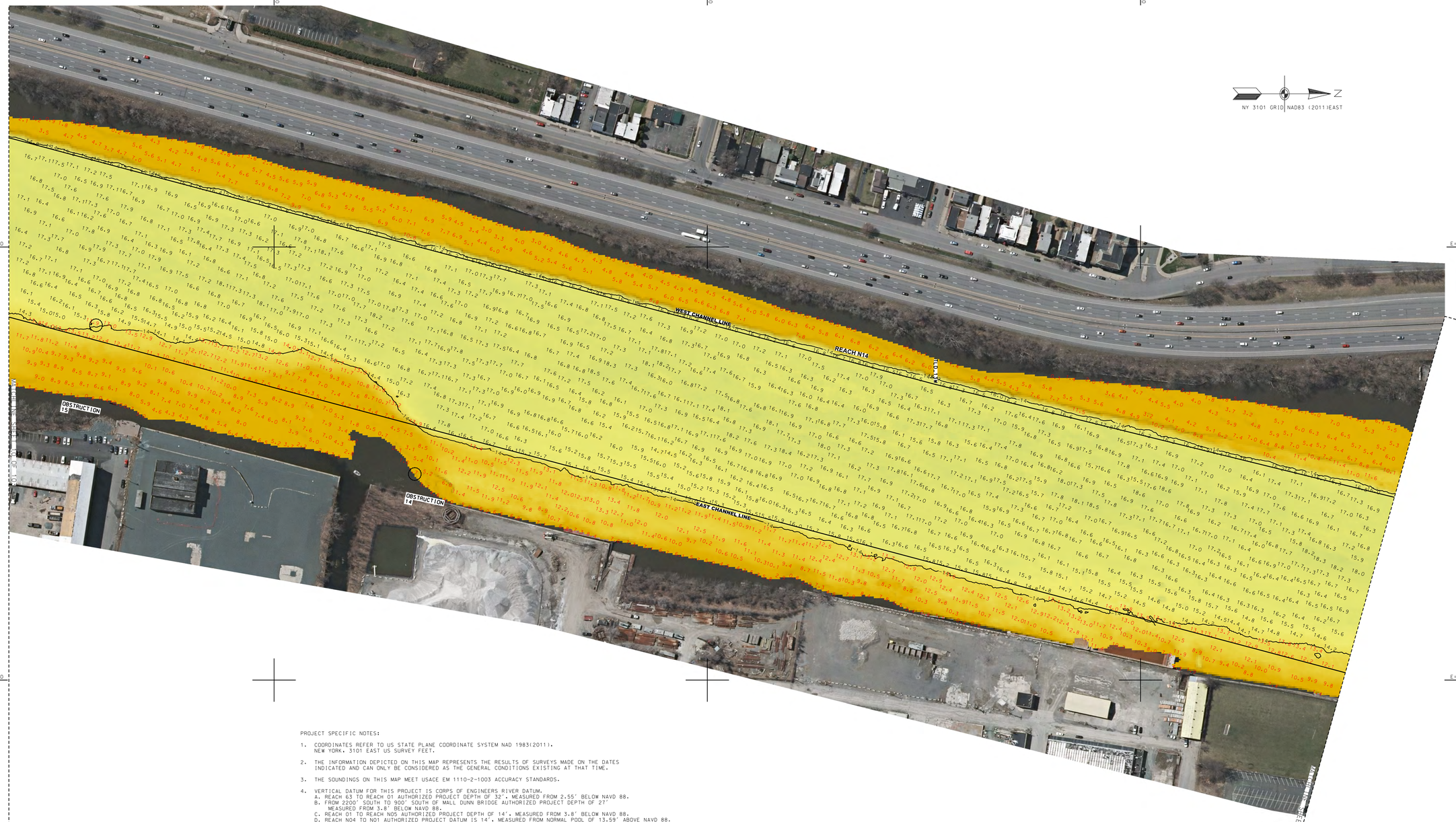
WILMINGTON, NORTH CAROLINA 28401
TELEPHONE: (910) 251-1104
FAX: (910) 251-8282

HYDROGRAPHIC CONDITIONS SURVEY
HUDSON RIVER FEDERAL NAVIGATION CHANNEL
REACHS N11-N14

SHEET IDENTIFICATION
VH-108
SHEET 8 OF 103



PROJECT SPECIFIC NOTES:

1. COORDINATES REFER TO US STATE PLANE COORDINATE SYSTEM NAD 1983(2011). NEW YORK. 3101 EAST US SURVEY FEET.

2. 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.

3. THE SOUNDINGS ON THIS MAP MEET USACE EM 1110-2-1003 ACCURACY STANDARDS.

4. VERTICAL DATUM FOR THIS PROJECT IS CORPS OF ENGINEERS RIVER DATUM.
   A. REACH 63 TO REACH 01 AUTHORIZED PROJECT DEPTH OF 32'. MEASURED FROM 2.55' BELOW NAVD 88.
   B. FROM 2200' SOUTH TO 900' SOUTH OF MALL DUNN BRIDGE AUTHORIZED PROJECT DEPTH OF 27' MEASURED FROM 3.8' BELOW NAVD 88.
   C. REACH 01 TO REACH N05 AUTHORIZED PROJECT DEPTH OF 14'. MEASURED FROM 3.8' BELOW NAVD 88.
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5. MULTI-BEAM SOUNDINGS AS SHOWN ARE REPRESENTED USING THE MEDIAN OF A THREE (3') FOOT CELL SORTED TO THIRTY (30') FEET WITH CHANNEL PRIORITY.

6. CONTOURS ON THIS MAP WERE GENERATED USING THE 3X3 MEDIAN DATA SET.

7. THE DATA DEPICTED ON THIS MAP SHOULD NOT BE USED FOR VOLUME CALCULATION PURPOSES.

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9. THIS SURVEY WAS PERFORMED USING LOCAL CONTROL ESTABLISHED BY THE CORPS OF ENGINEERS.

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

11. THE SURVEY WAS CONDUCTED BY MCKIM & CREED USING THE FOLLOWING:
    SURVEY VESSELS: SV BOTTOM LINE
    ECHOSOUNDER: R2SONIC 2022 AND R2SONIC 2024 MULTIBEAM SYSTEM.
    NAVIGATION SYSTEMS: INTEGRATED I2NS INERTIAL NAVIGATION SYSTEM. IN REAL TIME KINEMATIC (RTK)MODE.
    SURVEY ACQUISITION SOFTWARE: HYPACK VERSION 2020
    SURVEY PROCESSING SOFTWARE: HYPACK/HYSWEEP VERSION 2020
    CTD CAST WERE TAKEN DURING ACQUISITION FOR ACCURATE SPEED OF SOUND PROFILES USING AN AML BASE X2 AS WELL AS AN AML MICRO-X SOUND VELOCITY PROBE AT THE HEAD.

12. THE INFORMATION PRESENTED ON THIS DRAWING REPRESENTS THE RESULTS OF A SURVEY PERFORMED BY MCKIM & CREED BETWEEN AUGUST 22. AND OCTOBER 03. 2020 AND CAN ONLY BE CONSIDERED AS INDICATING THE CONDITIONS EXISTING AT THAT TIME, BECAUSE THESE CONDITIONS MAY BE SUBJECT TO RAPID CHANGE DUE TO SHOALING EVENTS. A PRUDENT MARINER SHOULD NOT RELY EXCLUSIVELY ON THE INFORMATION PROVIDED HERE. 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 MCKIM & CREED.

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14. THIS MAP WAS PREPARED IN ACCORDANCE WITH THE CURRENT EXISTING CODE OF PRACTICE FOR LAND SURVEYS ADOPTED BY THE NEW YORK STATE ASSOCIATION OF PROFESSIONAL LAND SURVEYORS. INC.

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16. A COPY OF THIS DOCUMENT WITHOUT A PROPER APPLICATION OF THE SURVEYOR'S EMBOSSED OR RED ELECTRONIC SEAL SHOULD BE ASSUMED TO BE AN UNAUTHORIZED COPY.

NSRS/NGS CONTROL DATA			
BENCHMARK: TROY DAM 1	PID# BBDR68	NORTHING	EASTING
ELEVATION: 25.32' NAVD 88		1,428,037.76	709,760.15

LOCAL CONTROL DATA			
BENCHMARK: HR-12	PID#	NORTHING	EASTING
ELEVATION: 8.67' NAVD 88		1,318821.55	684451.34
STAMPED: HR-12 2016			

LOCAL CONTROL DATA			
BENCHMARK: 01-1	PID#	NORTHING	EASTING
ELEVATION: 3.87' NAVD 88		1,124,859.59	641003.46
STAMPED:			

STATE OF NEW YORK
RAYMOND B. TARBER
049350
LICENSED LAND SURVEYOR

SCALE 1" = 100'
0 100 200 300 400

US Army Corps of Engineers ®
New York District

MARK	DESCRIPTION	DATE	APPR.

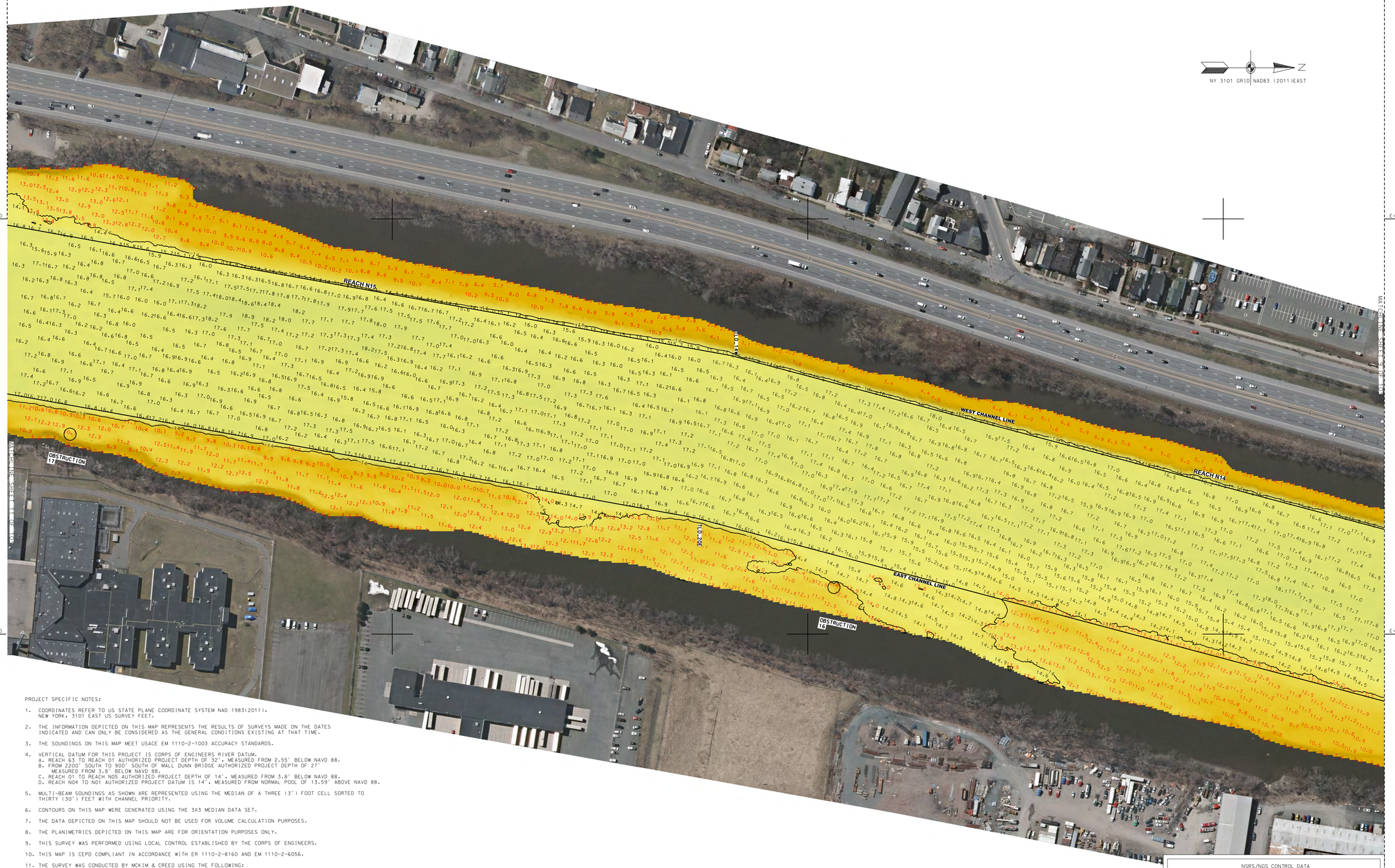
DESIGNED BY: 000
DWN BY: MBH
CKD BY: RBD
SUBMITTED BY: DLJ
DATE: AUGUST 22 - OCOTBER 03, 2020
SOLICITATION NO.:
CONTRACT NO.: W912DS-20-D-0003
PLOT SCALE: 1:1000
PLOT STYLE TABLE: ACAD.CTB
ISSUE DATE: MAY 2020
FILE NUMBER:
SIZE: ANSI F
FILE NAME: VH-0938990060_HUDSON_2020.DGN

U.S. ARMY CORPS OF ENGINEERS
NEW YORK DISTRICT
NEW YORK, NY

McKIM & CREED
243 NORTH FRONT STREET
WILMINGTON, NORTH CAROLINA 28401
TELEPHONE: (910) 341-0104
FAX: (910) 251-8282

HYDROGRAPHIC CONDITIONS SURVEY
HUDSON RIVER FEDERAL NAVIGATION CHANNEL
REACH N14

SHEET IDENTIFICATION
VH-109
SHEET 9 OF 103



PROJECT SPECIFIC NOTES:

1. COORDINATES REFER TO US STATE PLANE COORDINATE SYSTEM NAD 1983(2011). NEW YORK. 3101 EAST US SURVEY FEET.

2. 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.

3. THE SOUNDINGS ON THIS MAP MEET USACE EM 1110-2-1003 ACCURACY STANDARDS.

4. VERTICAL DATUM FOR THIS PROJECT IS CORPS OF ENGINEERS RIVER DATUM.
   A. REACH 63 TO REACH 01 AUTHORIZED PROJECT DEPTH OF 32'. MEASURED FROM 2.55' BELOW NAVD 88.
   B. FROM 2200' SOUTH TO 900' SOUTH OF MALL DUNN BRIDGE AUTHORIZED PROJECT DEPTH OF 27' MEASURED FROM 3.8' BELOW NAVD 88.
   C. REACH 01 TO REACH N05 AUTHORIZED PROJECT DEPTH OF 14', MEASURED FROM 3.8' BELOW NAVD 88.
   D. REACH N04 TO N01 AUTHORIZED PROJECT DATUM IS 14'. MEASURED FROM NORMAL POOL OF 13.59' ABOVE NAVD 88.

5. MULTI-BEAM SOUNDINGS AS SHOWN ARE REPRESENTED USING THE MEDIAN OF A THREE (3') FOOT CELL SORTED TO THIRTY (30') FEET WITH CHANNEL PRIORITY.

6. CONTOURS ON THIS MAP WERE GENERATED USING THE 3X3 MEDIAN DATA SET.

7. THE DATA DEPICTED ON THIS MAP SHOULD NOT BE USED FOR VOLUME CALCULATION PURPOSES.

8. THE PLANIMETRICS DEPICTED ON THIS MAP ARE FOR ORIENTATION PURPOSES ONLY.

9. THIS SURVEY WAS PERFORMED USING LOCAL CONTROL ESTABLISHED BY THE CORPS OF ENGINEERS.

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

11. THE SURVEY WAS CONDUCTED BY MCKIM & CREED USING THE FOLLOWING:
    SURVEY VESSELS: SV BOTTOM LINE
    ECHOSOUNDER: R2SONIC 2022 AND R2SONIC 2024 MULTIBEAM SYSTEM.
    NAVIGATION SYSTEMS: INTEGRATED I2NS INERTIAL NAVIGATION SYSTEM. IN REAL TIME KINEMATIC (RTK)MODE.
    SURVEY ACQUISITION SOFTWARE: HYPACK VERSION 2020
    SURVEY PROCESSING SOFTWARE: HYPACK/HYSWEEP VERSION 2020
    CTD CAST WERE TAKEN DURING ACQUISITION FOR ACCURATE SPEED OF SOUND PROFILES
    USING AN AML BASE X2 AS WELL AS AN AML MICRO-X SOUND VELOCITY PROBE AT THE HEAD.

12. THE INFORMATION PRESENTED ON THIS DRAWING REPRESENTS THE RESULTS OF A SURVEY PERFORMED BY MCKIM & CREED BETWEEN AUGUST 22ND AND OCTOBER 03, 2020 AND CAN ONLY BE CONSIDERED AS INDICATING THE CONDITIONS EXISTING AT THAT TIME. BECAUSE THESE CONDITIONS MAY BE SUBJECT TO RAPID CHANGE DUE TO SHOALING EVENTS, A PRUDENT MARINER SHOULD NOT RELY EXCLUSIVELY ON THE INFORMATION PROVIDED HERE. 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 MCKIM & CREED.

13. UNAUTHORIZED ALTERATION OR ADDITION TO A SURVEY MAP BEARING A LICENSED LAND SURVEYOR'S SEAL IS A VIOLATION OF SECTION 7209, SUB-DIVISION 2, OF THE NEW YORK STATE EDUCATION LAW.

14. THIS MAP WAS PREPARED IN ACCORDANCE WITH THE CURRENT EXISTING CODE OF PRACTICE FOR LAND SURVEYS ADOPTED BY THE NEW YORK STATE ASSOCIATION OF PROFESSIONAL LAND SURVEYORS, INC.

15. REPRODUCTION OR COPYING OF THIS DOCUMENT MAY BE A VIOLATION OF COPYRIGHT LAW UNLESS PERMISSION OF THE AUTHOR AND/OR COPYRIGHT HOLDER IS OBTAINED.

16. A COPY OF THIS DOCUMENT WITHOUT A PROPER APPLICATION OF THE SURVEYOR'S EMBOSSED OR RED ELECTRONIC SEAL SHOULD BE ASSUMED TO BE AN UNAUTHORIZED COPY.

NSRS/NGS CONTROL DATA			
BENCHMARK: TROY DAM 1	PID# BB0R68	NORTHING	EASTING
ELEVATION: 25.32' NAVD 88		1,428,037.76	709,760.15

LOCAL CONTROL DATA			
BENCHMARK: HR-12	PID#	NORTHING	EASTING
ELEVATION: 8.67' NAVD 88		1,318821.55	684451.34
STAMPED: HR-12 2016			

LOCAL CONTROL DATA			
BENCHMARK: 01-1	PID#	NORTHING	EASTING
ELEVATION: 3.87' NAVD 88		1,124,859.59	641003.46
STAMPED:			

STATE OF NEW YORK
RAYMOND B. DANNER
No. 49350
LICENSED LAND SURVEYOR

SCALE 1" = 100'
0 100 200 300 400

US Army Corps of Engineers ®
New York District

MARK	DESCRIPTION	DATE	APPR.

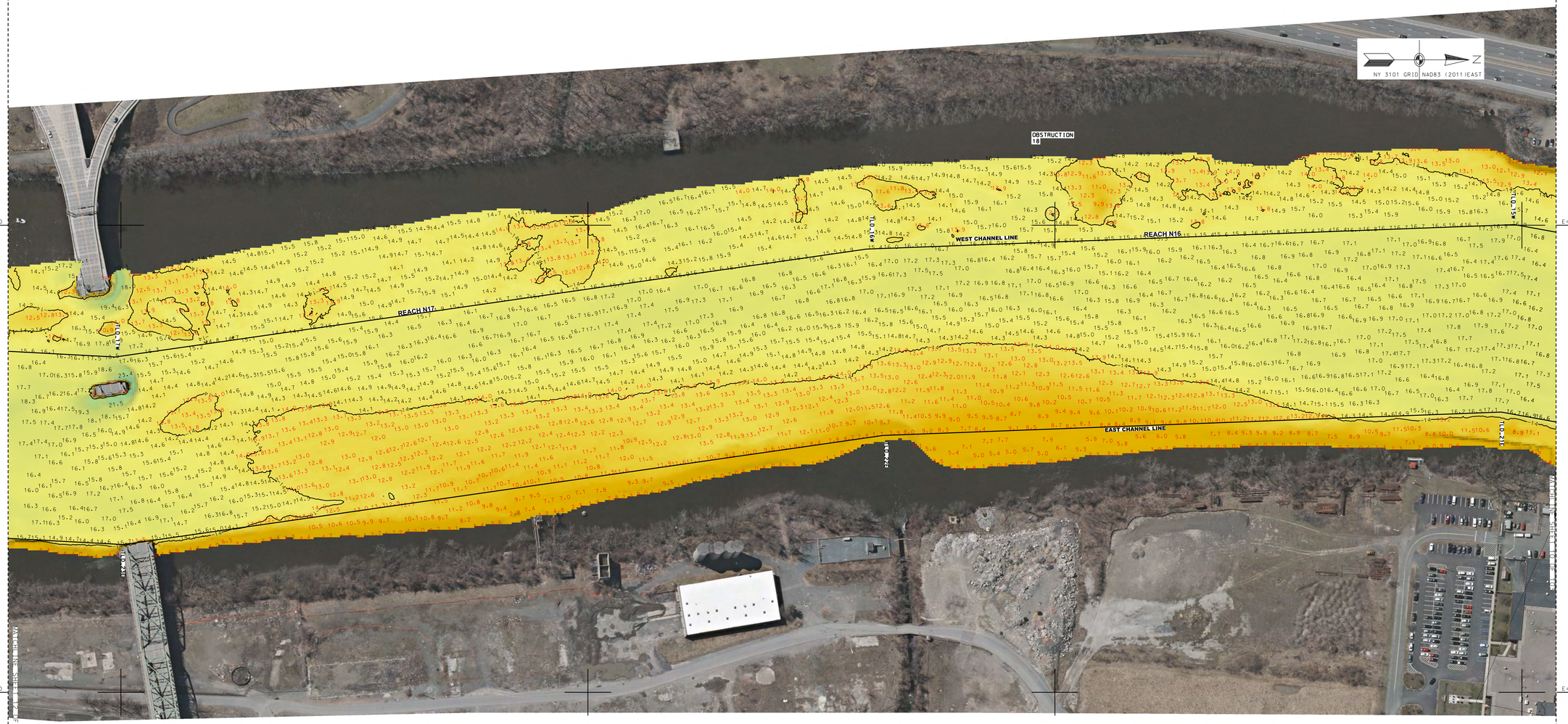
DESIGNED BY: DDO
DWN BY: MBH
CKD BY: RBD
SUBMITTED BY: DJ
DATE: AUGUST 22 - OCOTBER 03, 2020
SOLICITATION NO.:
CONTRACT NO.: W912DS-20-D-0003
PLOT SCALE: 1" = 200'
ISSUE DATE: MARCH 2021
SIZE: ANSI F
FILE NUMBER:
FILE NAME: V:\1-0\68990\060_HUDSON_2020.DGN

U.S. ARMY CORPS OF ENGINEERS
NEW YORK DISTRICT
NEW YORK, NY

McKIM & CREED
243 NORTH FRONT STREET
WILMINGTON, NORTH CAROLINA 28401
TELEPHONE: (910) 251-1048
FAX: (910) 251-8282

HYDROGRAPHIC CONDITIONS SURVEY
HUDSON RIVER FEDERAL NAVIGATION CHANNEL
REACH 14-15

SHEET IDENTIFICATION
VH-110
SHEET 10 OF 103



PROJECT SPECIFIC NOTES:

1. COORDINATES REFER TO US STATE PLANE COORDINATE SYSTEM NAD 1983(2011). NEW YORK. 3101 EAST US SURVEY FEET.

2. 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.

3. THE SOUNDINGS ON THIS MAP MEET USACE EM 1110-2-1003 ACCURACY STANDARDS.

4. VERTICAL DATUM FOR THIS PROJECT IS CORPS OF ENGINEERS RIVER DATUM.
   A. REACH 63 TO REACH 01 AUTHORIZED PROJECT DEPTH OF 32'. MEASURED FROM 2.55' BELOW NAVD 88.
   B. FROM 2200' SOUTH TO 900' SOUTH OF MALL DUNN BRIDGE AUTHORIZED PROJECT DEPTH OF 27' MEASURED FROM 3.8' BELOW NAVD 88.
   C. REACH 01 TO REACH N05 AUTHORIZED PROJECT DEPTH OF 14'. MEASURED FROM 3.8' BELOW NAVD 88.
   D. REACH N04 TO N01 AUTHORIZED PROJECT DATUM IS 14'. MEASURED FROM NORMAL POOL OF 13.59' ABOVE NAVD 88.

5. MULTI-BEAM SOUNDINGS AS SHOWN ARE REPRESENTED USING THE MEDIAN OF A THREE (3') FOOT CELL SORTED TO THIRTY (30') FEET WITH CHANNEL PRIORITY.

6. CONTOURS ON THIS MAP WERE GENERATED USING THE 3X3 MEDIAN DATA SET.

7. THE DATA DEPICTED ON THIS MAP SHOULD NOT BE USED FOR VOLUME CALCULATION PURPOSES.

8. THE PLANIMETRICS DEPICTED ON THIS MAP ARE FOR ORIENTATION PURPOSES ONLY.

9. THIS SURVEY WAS PERFORMED USING LOCAL CONTROL ESTABLISHED BY THE CORPS OF ENGINEERS.

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

11. THE SURVEY WAS CONDUCTED BY MCKIM & CREED USING THE FOLLOWING:
    SURVEY VESSELS: SV BOTTOM LINE
    ECHOSOUNDER: R2SONIC 2022 AND R2SONIC 2024 MULTIBEAM SYSTEM.
    NAVIGATION SYSTEMS: INTEGRATED I2NS INERTIAL NAVIGATION SYSTEM. IN REAL TIME KINEMATIC (RTK)MODE.
    SURVEY ACQUISITION SOFTWARE: HYPACK VERSION 2020
    SURVEY PROCESSING SOFTWARE: HYPACK/HYSWEEP VERSION 2020
    CTD CAST WERE TAKEN DURING ACQUISITION FOR ACCURATE SPEED OF SOUND PROFILES
    USING AN AML BASE X2 AS WELL AS AN AML MICRO-X SOUND VELOCITY PROBE AT THE HEAD.

12. THE INFORMATION PRESENTED ON THIS DRAWING REPRESENTS THE RESULTS OF A SURVEY PERFORMED BY MCKIM & CREED BETWEEN AUGUST 22. AND OCTOBER 03. 2020 AND CAN ONLY BE CONSIDERED AS INDICATING THE CONDITIONS EXISTING AT THAT TIME. BECAUSE THESE CONDITIONS MAY BE SUBJECT TO RAPID CHANGE DUE TO SHOALING EVENTS. A PRUDENT MARINER SHOULD NOT RELY EXCLUSIVELY ON THE INFORMATION PROVIDED HERE. 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 MCKIM & CREED.

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NSRS/NGS CONTROL DATA			
BENCHMARK: TROY DAM 1	PID# BBDR68	NORTHING	EASTING
ELEVATION: 25.32' NAVD 88		1,428,037.76	709,760.15

LOCAL CONTROL DATA			
BENCHMARK: HR-12	PID#	NORTHING	EASTING
ELEVATION: 8.67' NAVD 88		1,318821.55	684451.34
STAMPED: HR-12 2016			

LOCAL CONTROL DATA			
BENCHMARK: 01-1	PID#	NORTHING	EASTING
ELEVATION: 3.87' NAVD 88		1,124,859.59	641003.46
STAMPED:			

STATE OF NEW YORK
RAYMOND B. DARBER
No. 49350
LICENSED LAND SURVEYOR

SCALE 1" = 100'
0 100 200 300 400

US Army Corps of Engineers ®
New York District

MARK	DESCRIPTION	DATE	APPR.	MARK	DESCRIPTION	DATE	APPR.

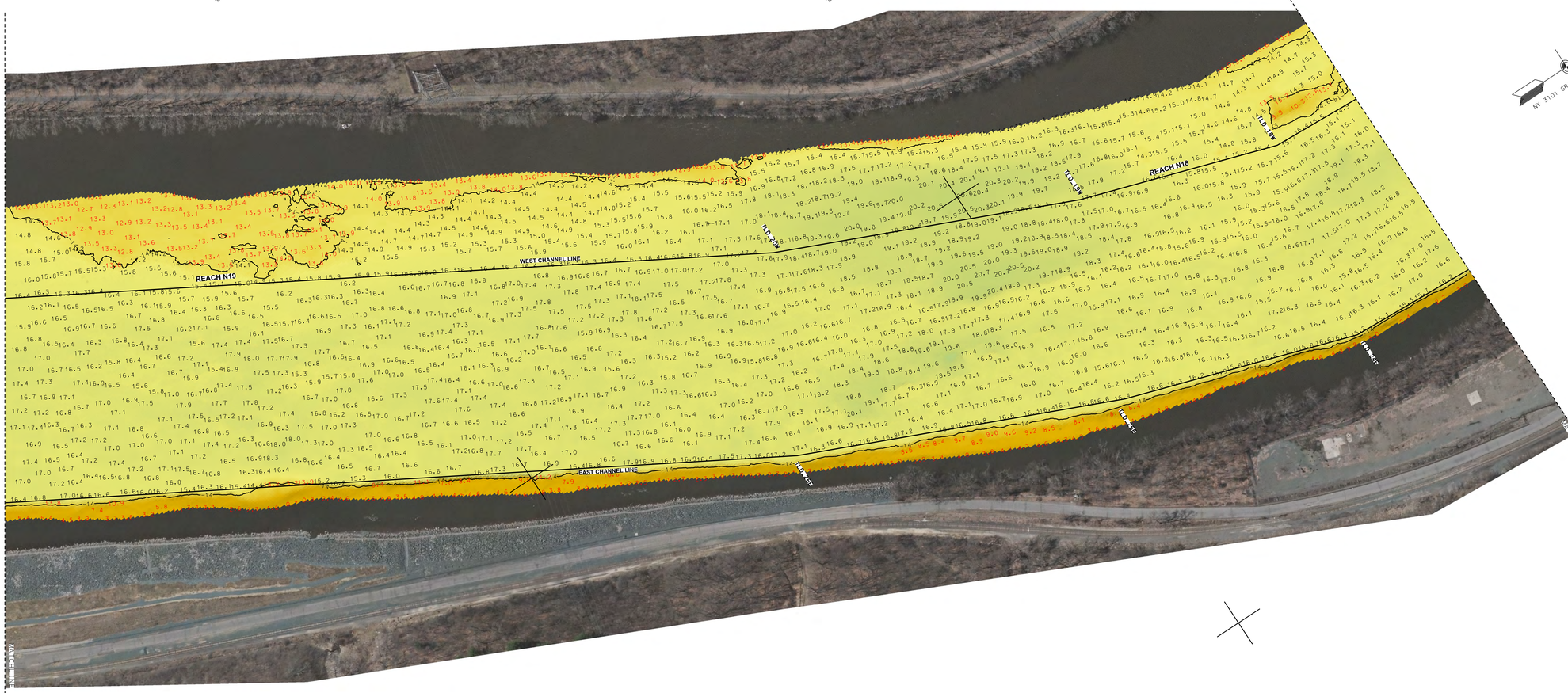
DESIGNED BY: 000
DWN BY: MBH
CKD BY: RBD
SUBMITTED BY: DLJ
PLOT SCALE: 1"=100'
PLOT DATE: 12/14/2020
SIZE: ANSI F
DATE: AUGUST 22 - OCOTBER 03, 2020
SOLICITATION NO.:
CONTRACT NO.: W912DS-20-D-0003
FILE NUMBER:
ISSUE DATE:
FILE NAME: VH-058890950_HUDSON_2020.DGN

U.S. ARMY CORPS OF ENGINEERS
NEW YORK DISTRICT
NEW YORK, NY

McKIM & CREED
243 NORTH FRONT STREET
WILMINGTON, NORTH CAROLINA 28401
TELEPHONE: (910) 251-8448
FAX: (910) 251-8252

HYDROGRAPHIC CONDITIONS SURVEY
HUDSON RIVER FEDERAL NAVIGATION CHANNEL
REACH N16-N17

SHEET IDENTIFICATION
VH-111
SHEET 11 OF 103



PROJECT SPECIFIC NOTES:

1. COORDINATES REFER TO US STATE PLANE COORDINATE SYSTEM NAD 1983(2011). NEW YORK. 3101 EAST US SURVEY FEET.
2. 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.
3. THE SOUNDINGS ON THIS MAP MEET USACE EM 1110-2-1003 ACCURACY STANDARDS.
4. VERTICAL DATUM FOR THIS PROJECT IS CORPS OF ENGINEERS RIVER DATUM.
   A. REACH 63 TO REACH 01 AUTHORIZED PROJECT DEPTH OF 32'. MEASURED FROM 2.55' BELOW NAVD 88.
   B. FROM 2200' SOUTH TO 900' SOUTH OF MALL DUNN BRIDGE AUTHORIZED PROJECT DEPTH OF 27' MEASURED FROM 3.8' BELOW NAVD 88.
   C. REACH 01 TO REACH N05 AUTHORIZED PROJECT DEPTH OF 14'. MEASURED FROM 3.8' BELOW NAVD 88.
   D. REACH N04 TO N01 AUTHORIZED PROJECT DATUM IS 14'. MEASURED FROM NORMAL POOL OF 13.59' ABOVE NAVD 88.
5. MULTI-BEAM SOUNDINGS AS SHOWN ARE REPRESENTED USING THE MEDIAN OF A THREE (3') FOOT CELL SORTED TO THIRTY (30') FEET WITH CHANNEL PRIORITY.
6. CONTOURS ON THIS MAP WERE GENERATED USING THE 3X3 MEDIAN DATA SET.
7. THE DATA DEPICTED ON THIS MAP SHOULD NOT BE USED FOR VOLUME CALCULATION PURPOSES.
8. THE PLANIMETRICS DEPICTED ON THIS MAP ARE FOR ORIENTATION PURPOSES ONLY.
9. THIS SURVEY WAS PERFORMED USING LOCAL CONTROL ESTABLISHED BY THE CORPS OF ENGINEERS.
10. THIS MAP IS CEPD COMPLIANT IN ACCORDANCE WITH ER 1110-2-8160 AND EM 1110-2-6056.
11. THE SURVEY WAS CONDUCTED BY MCKIM & CREED USING THE FOLLOWING:
    SURVEY VESSELS: SV BOTTOM LINE
    ECHOSOUNDER: R2SONIC 2022 AND R2SONIC 2024 MULTIBEAM SYSTEM.
    NAVIGATION SYSTEMS: INTEGRATED I2NS INERTIAL NAVIGATION SYSTEM. IN REAL TIME KINEMATIC (RTK)MODE.
    SURVEY ACQUISITION SOFTWARE: HYPACK VERSION 2020
    SURVEY PROCESSING SOFTWARE: HYPACK/HYSWEEP VERSION 2020
    CTD CAST WERE TAKEN DURING ACQUISITION FOR ACCURATE SPEED OF SOUND PROFILES
    USING AN AML BASE X2 AS WELL AS AN AML MICRO-X SOUND VELOCITY PROBE AT THE HEAD.
12. THE INFORMATION PRESENTED ON THIS DRAWING REPRESENTS THE RESULTS OF A SURVEY PERFORMED BY MCKIM & CREED BETWEEN AUGUST 22, AND OCTOBER 03, 2020 AND CAN ONLY BE CONSIDERED AS INDICATING THE CONDITIONS EXISTING AT THAT TIME. BECAUSE THESE CONDITIONS MAY BE SUBJECT TO RAPID CHANGE DUE TO SHOALING EVENTS. A PRUDENT MARINER SHOULD NOT RELY EXCLUSIVELY ON THE INFORMATION PROVIDED HERE. 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 MCKIM & CREED.
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NSRS/NGS CONTROL DATA			
BENCHMARK: TROY DAM 1	PID# BBDR68	NORTHING	EASTING
ELEVATION: 25.32' NAVD 88		1,428,037.76	709,760.15

LOCAL CONTROL DATA			
BENCHMARK: HR-12	PID#	NORTHING	EASTING
ELEVATION: 8.67' NAVD 88		1,318821.55	684451.34
STAMPED: HR-12 2016			

LOCAL CONTROL DATA			
BENCHMARK: 01-1	PID#	NORTHING	EASTING
ELEVATION: 3.87' NAVD 88		1,124,859.59	641003.46
STAMPED:			

RAYMOND B. BAKER — STATE OF NEW YORK — No. 49360 — LICENSED LAND SURVEYOR

SCALE 1" = 100'
0 100 200 300 400

SHEET 13 OF 103

US Army Corps of Engineers ®
New York District

MARK	DESCRIPTION	DATE	APPR.	MARK	DESCRIPTION	DATE	APPR.

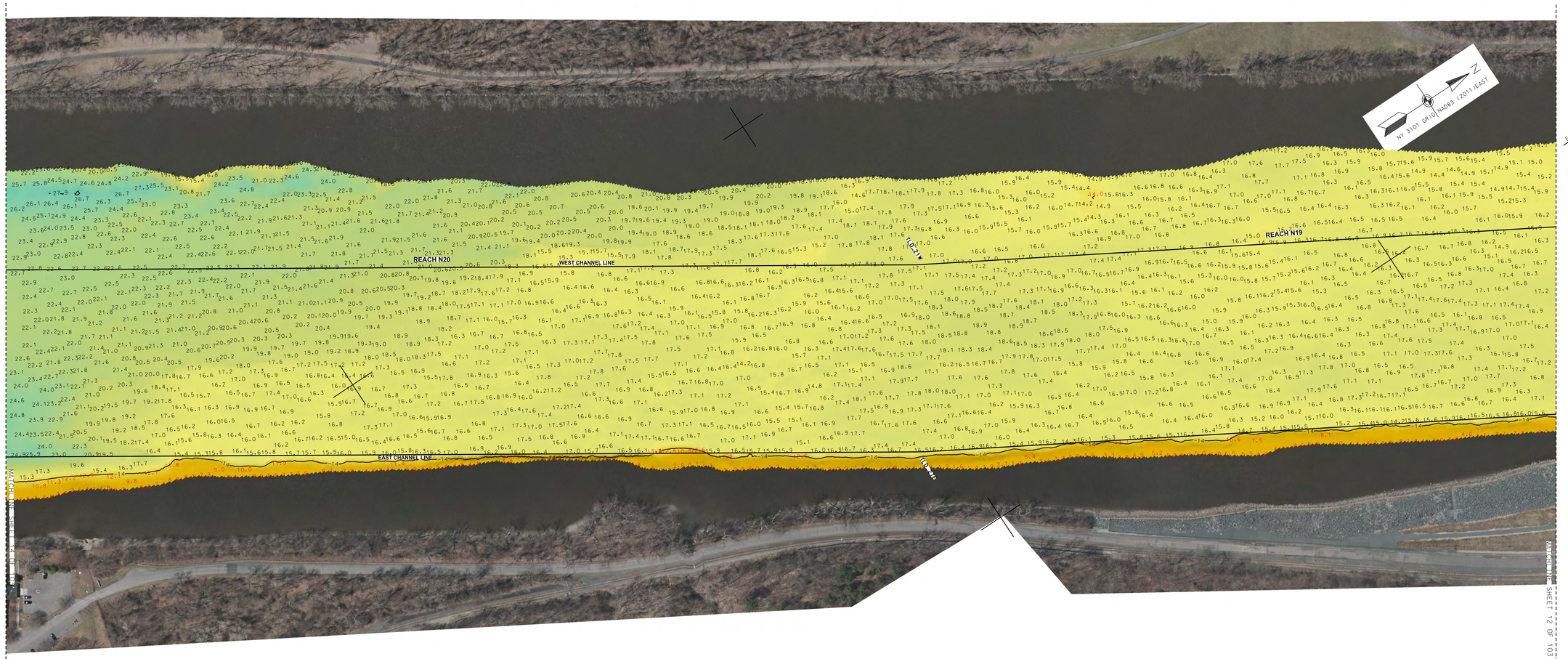
DESIGNED BY: ODD
DWN BY: MBH
CKD BY: RBD
SUBMITTED BY: DLJ
DATE: AUGUST 22 - OCOTBER 03, 2020
SOLICITATION NO.:
CONTRACT NO.: W912DS-20-D-0003
FILE NUMBER:
PLOT SCALE: 1=100'
PLOT DATE: 1/14/2020
SIZE: ANSI F
ISSUE DATE:
FILE NAME: VH-0389890060_HUDSON_2020.DGN

U.S. ARMY CORPS OF ENGINEERS
NEW YORK DISTRICT
NEW YORK, NY

McKIM & CREED
243 NORTH FRONT STREET
WILMINGTON, NORTH CAROLINA 28401
TELEPHONE: (910) 251-1104
FAX: (910) 251-8282

HYDROGRAPHIC CONDITIONS SURVEY
HUDSON RIVER FEDERAL NAVIGATION CHANNEL
REACH N18-N19

SHEET IDENTIFICATION
VH-112
SHEET 12 OF 103



PROJECT SPECIFIC NOTES:

1. COORDINATES REFER TO US STATE PLANE COORDINATE SYSTEM NAD 1983(2011). NEW YORK. 3101 EAST US SURVEY FEET.

2. 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.

3. THE SOUNDINGS ON THIS MAP MEET USACE EM 1110-2-1003 ACCURACY STANDARDS.

4. VERTICAL DATUM FOR THIS PROJECT IS CORPS OF ENGINEERS RIVER DATUM.
   A. REACH 63 TO REACH 01 AUTHORIZED PROJECT DEPTH OF 32', MEASURED FROM 2.55' BELOW NAVD 88.
   B. FROM 2200' SOUTH TO 900' SOUTH OF MALL DUNN BRIDGE AUTHORIZED PROJECT DEPTH OF 27' MEASURED FROM 3.8' BELOW NAVD 88.
   C. REACH 01 TO REACH N05 AUTHORIZED PROJECT DEPTH OF 14', MEASURED FROM 3.8' BELOW NAVD 88.
   D. REACH N04 TO N01 AUTHORIZED PROJECT DATUM IS 14', MEASURED FROM NORMAL POOL OF 13.59' ABOVE NAVD 88.

5. MULTI-BEAM SOUNDINGS AS SHOWN ARE REPRESENTED USING THE MEDIAN OF A THREE (3') FOOT CELL SORTED TO THIRTY (30') FEET WITH CHANNEL PRIORITY.

6. CONTOURS ON THIS MAP WERE GENERATED USING THE 3X3 MEDIAN DATA SET.

7. THE DATA DEPICTED ON THIS MAP SHOULD NOT BE USED FOR VOLUME CALCULATION PURPOSES.

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9. THIS SURVEY WAS PERFORMED USING LOCAL CONTROL ESTABLISHED BY THE CORPS OF ENGINEERS.

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

11. THE SURVEY WAS CONDUCTED BY MCKIM & CREED USING THE FOLLOWING:
    SURVEY VESSELS: SV BOTTOM LINE
    ECHOSOUNDER: R2SONIC 2022 AND R2SONIC 2024 MULTIBEAM SYSTEM.
    NAVIGATION SYSTEMS: INTEGRATED IXNS INERTIAL NAVIGATION SYSTEM. IN REAL TIME KINEMATIC (RTK)MODE.
    SURVEY ACQUISITION SOFTWARE: HYPACK VERSION 2020
    SURVEY PROCESSING SOFTWARE: HYPACK/HYSWEEP VERSION 2020
    CTD CAST WERE TAKEN DURING ACQUISITION FOR ACCURATE SPEED OF SOUND PROFILES USING AN AML BASE X2 AS WELL AS AN AML MICRO-X SOUND VELOCITY PROBE AT THE HEAD.

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STATE OF NEW YORK
RAYMOND B. DANNER
046 49390
LICENSED LAND SURVEYOR

NSRS/NGS CONTROL DATA			
BENCHMARK: TROY DAM 1	PID# BBDR68	NORTHING	EASTING
ELEVATION: 25.32' NAVD 88		1,428,037.76	709,760.15

LOCAL CONTROL DATA			
BENCHMARK: HR-12	PID#	NORTHING	EASTING
ELEVATION: 8.67' NAVD 88		1,318821.55	684451.34
STAMPED: HR-12 2016			

LOCAL CONTROL DATA			
BENCHMARK: 01-1	PID#	NORTHING	EASTING
ELEVATION: 3.87' NAVD 88		1,124,859.59	641003.46
STAMPED:			

SCALE 1" = 100'
0 100 200 300 400

US Army Corps of Engineers
New York District

MARK	DESCRIPTION	DATE	APPR.

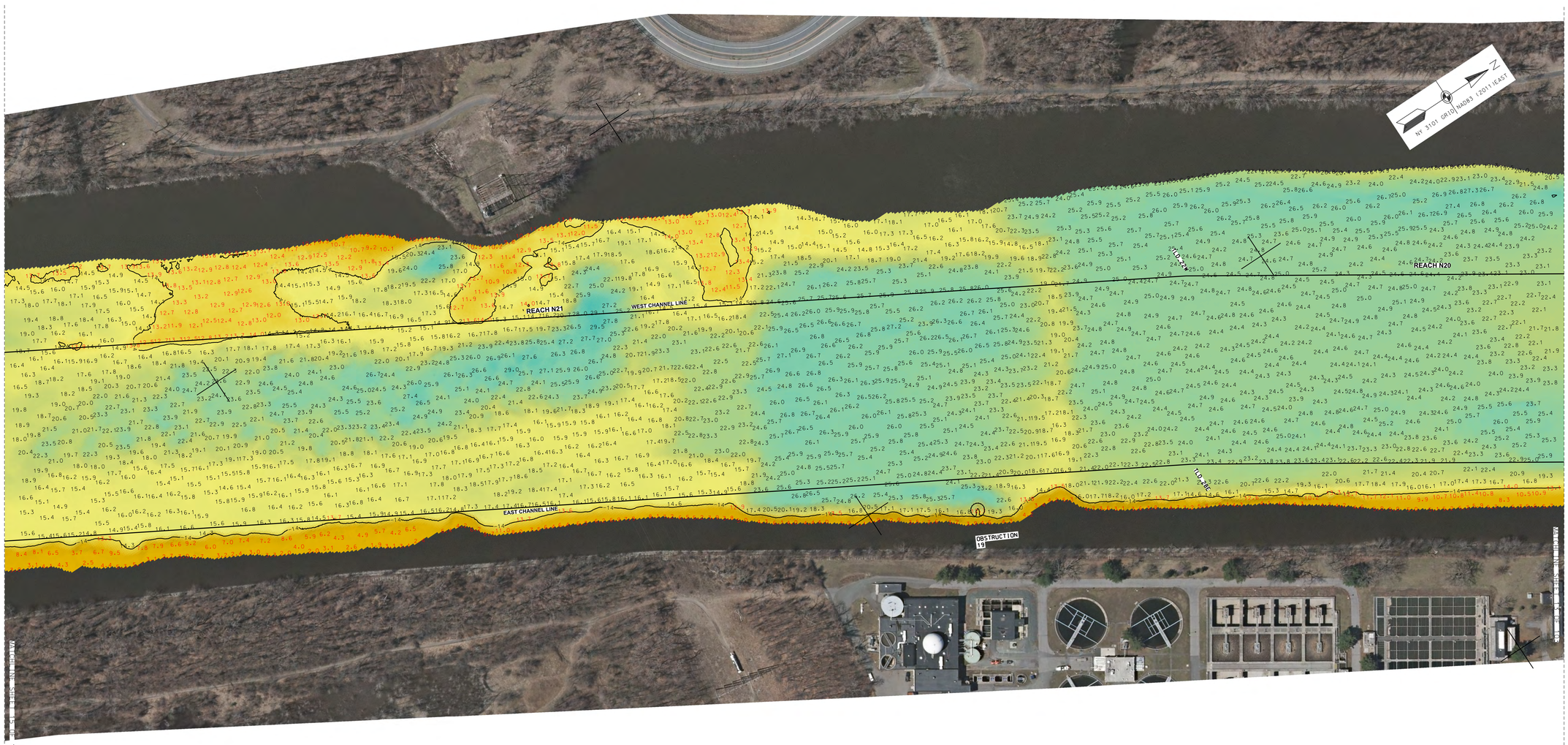
DESIGNED BY: 000
DWN BY: MBH
CKD BY: RBD
SUBMITTED BY: DLJ
PLOT SCALE: 1" = 100'
PLOT DATE: 12/14/2020
SIZE: ANSI F
FILE NAME: VH-058890060_HUDSON_2020.DGN
DATE: AUGUST 22 - OCOTBER 03, 2020
SOLICITATION NO.:
CONTRACT NO.: W912DS-20-D-0003
FILE NUMBER:

U.S. ARMY CORPS OF ENGINEERS
NEW YORK DISTRICT
NEW YORK, NY

McKIM & CREED
243 NORTH FRONT STREET
WILMINGTON, NORTH CAROLINA 28401
TELEPHONE (910) 251-8348
FAX (910) 251-8282

HYDROGRAPHIC CONDITIONS SURVEY
HUDSON RIVER FEDERAL NAVIGATION CHANNEL
REACH N19-N20

SHEET IDENTIFICATION
VH-113
SHEET 13 OF 103



PROJECT SPECIFIC NOTES:

1. COORDINATES REFER TO US STATE PLANE COORDINATE SYSTEM NAD 1983(2011). NEW YORK, 3101 EAST US SURVEY FEET.

2. 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.

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   A. REACH 63 TO REACH 01 AUTHORIZED PROJECT DEPTH OF 32'. MEASURED FROM 2.55' BELOW NAVD 88.
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    SURVEY VESSELS: SV BOTTOM LINE
    ECHOSOUNDER: R2SONIC 2022 AND R2SONIC 2024 MULTIBEAM SYSTEM.
    NAVIGATION SYSTEMS: INTEGRATED I2NS INERTIAL NAVIGATION SYSTEM. IN REAL TIME KINEMATIC (RTK)MODE.
    SURVEY ACQUISITION SOFTWARE: HYPACK VERSION 2020
    SURVEY PROCESSING SOFTWARE: HYPACK/HYSWEEP VERSION 2020
    CTD CAST WERE TAKEN DURING ACQUISITION FOR ACCURATE SPEED OF SOUND PROFILES USING AN AML BASE X2 AS WELL AS AN AML MICRO-X SOUND VELOCITY PROBE AT THE HEAD.

12. THE INFORMATION PRESENTED ON THIS DRAWING REPRESENTS THE RESULTS OF A SURVEY PERFORMED BY MCKIM & CREED BETWEEN AUGUST 22. AND OCTOBER 03. 2020 AND CAN ONLY BE CONSIDERED AS INDICATING THE CONDITIONS EXISTING AT THAT TIME. BECAUSE THESE CONDITIONS MAY BE SUBJECT TO RAPID CHANGE DUE TO SHOALING EVENTS. A PRUDENT MARINER SHOULD NOT RELY EXCLUSIVELY ON THE INFORMATION PROVIDED HERE. 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 MCKIM & CREED.

13. UNAUTHORIZED ALTERATION OR ADDITION TO A SURVEY MAP BEARING A LICENSED LAND SURVEYOR'S SEAL IS A VIOLATION OF SECTION 7209, SUB-DIVISION 2. OF THE NEW YORK STATE EDUCATION LAW.

14. THIS MAP WAS PREPARED IN ACCORDANCE WITH THE CURRENT EXISTING CODE OF PRACTICE FOR LAND SURVEYS ADOPTED BY THE NEW YORK STATE ASSOCIATION OF PROFESSIONAL LAND SURVEYORS, INC.

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16. A COPY OF THIS DOCUMENT WITHOUT A PROPER APPLICATION OF THE SURVEYOR'S EMBOSSED OR RED ELECTRONIC SEAL SHOULD BE ASSUMED TO BE AN UNAUTHORIZED COPY.

STATE OF NEW YORK
RAYMOND B. DAMBER
No. 49350
LICENSED LAND SURVEYOR

NSRS/NGS CONTROL DATA			
BENCHMARK: TROY DAM 1	PID# BBDR68	NORTHING	EASTING
ELEVATION: 25.32' NAVD 88		1,428,037.76	709,760.15

LOCAL CONTROL DATA			
BENCHMARK: HR-12	PID#	NORTHING	EASTING
ELEVATION: 8.67' NAVD 88		1,318821.55	684451.34
STAMPED: HR-12 2016			

LOCAL CONTROL DATA			
BENCHMARK: 01-1	PID#	NORTHING	EASTING
ELEVATION: 3.87' NAVD 88		1,124,859.59	641003.46
STAMPED:			

SCALE 1" = 100'
0 100 200 300 400

US Army Corps of Engineers ®
New York District

MARK	DESCRIPTION	DATE	APPR.	MARK	DESCRIPTION	DATE	APPR.

DESIGNED BY: 000
DWN BY: MBH
CKD BY: RBD
SUBMITTED BY: DLJ
PLOT SCALE: 1" = 100'
SIZE: ANSI F
DATE: AUGUST 22 - OCOTBER 03, 2020
SOLICITATION NO.:
CONTRACT NO.: W912DS-20-D-0003
ISSUE DATE: JUNE 2020
FILE NUMBER:
FILE NAME: VH-0588900160_HUDSON_2020.DGN

U.S. ARMY CORPS OF ENGINEERS
NEW YORK DISTRICT
NEW YORK, NY

McKIM & CREED
243 NORTH FRONT STREET
WILMINGTON, NORTH CAROLINA 28401
TELEPHONE (910) 341-7800
FAX: (910) 251-8282

HYDROGRAPHIC CONDITIONS SURVEY
HUDSON RIVER FEDERAL NAVIGATION CHANNEL
REACH N20-N21

SHEET IDENTIFICATION
VH-114
SHEET 14 OF 103

PROJECT SPECIFIC NOTES:

1. COORDINATES REFER TO US STATE PLANE COORDINATE SYSTEM NAD 1983(2011). NEW YORK. 3101 EAST US SURVEY FEET.

2. 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.

3. THE SOUNDINGS ON THIS MAP MEET USACE EM 1110-2-1003 ACCURACY STANDARDS.

4. VERTICAL DATUM FOR THIS PROJECT IS CORPS OF ENGINEERS RIVER DATUM.
   A. REACH 63 TO REACH 01 AUTHORIZED PROJECT DEPTH OF 32'. MEASURED FROM 2.55' BELOW NAVD 88.
   B. FROM 2200' SOUTH TO 900' SOUTH OF MALL DUNN BRIDGE AUTHORIZED PROJECT DEPTH OF 27' MEASURED FROM 3.8' BELOW NAVD 88.
   C. REACH 01 TO REACH N05 AUTHORIZED PROJECT DEPTH OF 14'. MEASURED FROM 3.8' BELOW NAVD 88.
   D. REACH N04 TO N01 AUTHORIZED PROJECT DATUM IS 14'. MEASURED FROM NORMAL POOL OF 13.59' ABOVE NAVD 88.

5. MULTI-BEAM SOUNDINGS AS SHOWN ARE REPRESENTED USING THE MEDIAN OF A THREE (3') FOOT CELL SORTED TO THIRTY (30') FEET WITH CHANNEL PRIORITY.

6. CONTOURS ON THIS MAP WERE GENERATED USING THE 3X3 MEDIAN DATA SET.

7. THE DATA DEPICTED ON THIS MAP SHOULD NOT BE USED FOR VOLUME CALCULATION PURPOSES.

8. THE PLANIMETRICS DEPICTED ON THIS MAP ARE FOR ORIENTATION PURPOSES ONLY.

9. THIS SURVEY WAS PERFORMED USING LOCAL CONTROL ESTABLISHED BY THE CORPS OF ENGINEERS.

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

11. THE SURVEY WAS CONDUCTED BY MCKIM & CREED USING THE FOLLOWING:
    SURVEY VESSELS: SV BOTTOM LINE
    ECHOSOUNDER: R2SONIC 2022 AND R2SONIC 2024 MULTIBEAM SYSTEM.
    NAVIGATION SYSTEMS: INTEGRATED I2NS INERTIAL NAVIGATION SYSTEM. IN REAL TIME KINEMATIC (RTK)MODE.
    SURVEY ACQUISITION SOFTWARE: HYPACK VERSION 2020
    SURVEY PROCESSING SOFTWARE: HYPACK/HYSWEEP VERSION 2020
    CTD CAST WERE TAKEN DURING ACQUISITION FOR ACCURATE SPEED OF SOUND PROFILES
    USING AN AML BASE X2 AS WELL AS AN AML MICRO-X SOUND VELOCITY PROBE AT THE HEAD.

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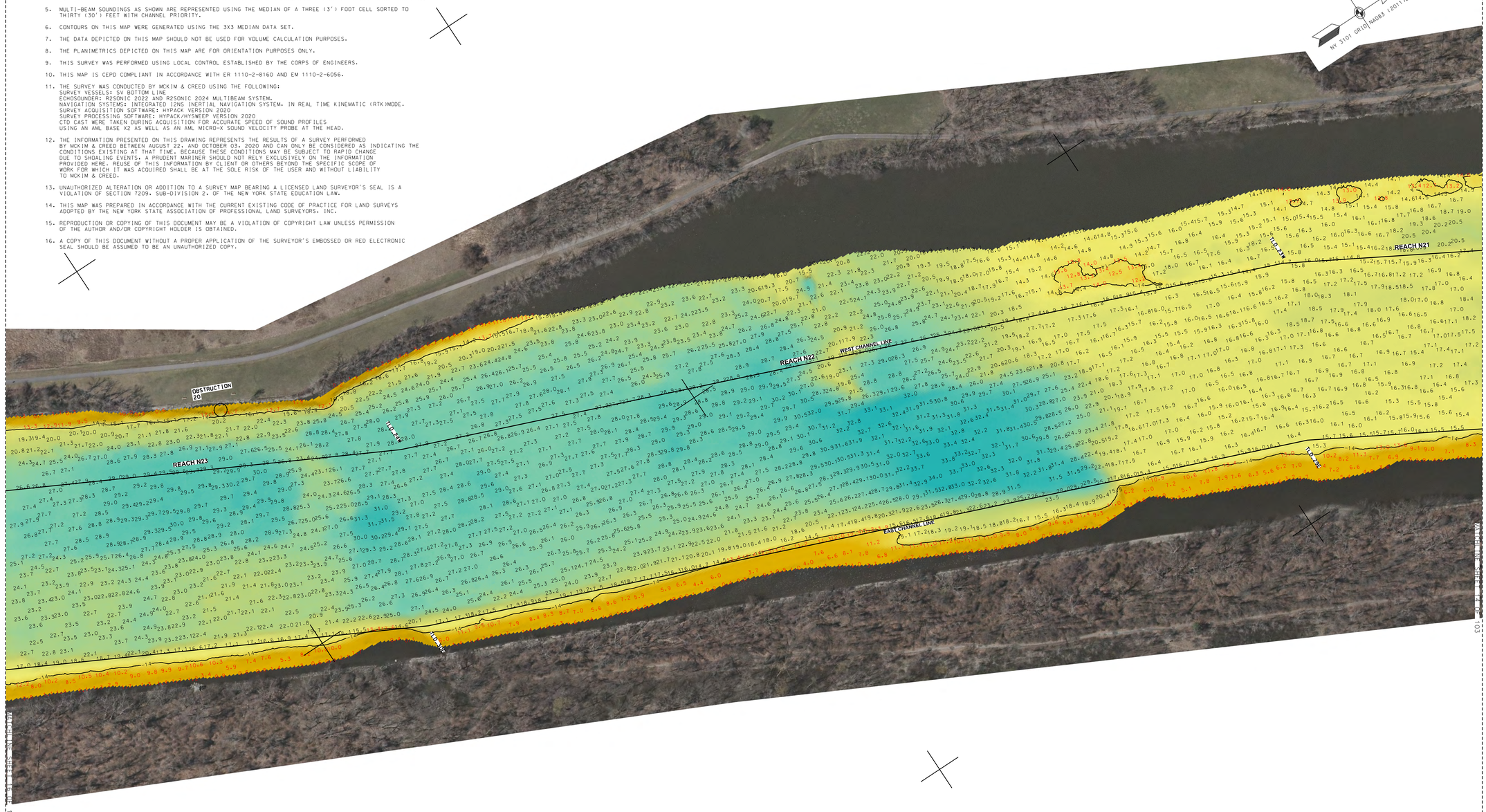

NSRS/NGS CONTROL DATA			
BENCHMARK: TROY DAM 1	PID# BBDR68	NORTHING	EASTING
ELEVATION: 25.32' NAVD 88		1,428,037.76	709,760.15

LOCAL CONTROL DATA			
BENCHMARK: HR-12	PID#	NORTHING	EASTING
ELEVATION: 8.67' NAVD 88		1,318821.55	684451.34
STAMPED: HR-12 2016			

LOCAL CONTROL DATA			
BENCHMARK: 01-1	PID#	NORTHING	EASTING
ELEVATION: 3.87' NAVD 88		1,124,859.59	641003.46
STAMPED:			

RAYMOND B. BAXTER — STATE OF NEW YORK — No. 49350 — LICENSED LAND SURVEYOR

SCALE 1" = 100'
0 100 200 300 400

US Army Corps of Engineers ®
New York District

MARK	DESCRIPTION	DATE	APPR.	MARK	DESCRIPTION	DATE	APPR.

DESIGNED BY: DDO
DWN BY: MBH
CKD BY: RBD
SUBMITTED BY: DLJ
DATE: AUGUST 22 - OCOTBER 03, 2020
SOLICITATION NO.:
CONTRACT NO.: W912DS-20-D-0003
PLOT SCALE: 1:100
PLOT DATE: 11/5/2020
FILE NUMBER:
SIZE: ANSI F
FILE NAME: VH-038899060_HUDSON_2020.DGN

U.S. ARMY CORPS OF ENGINEERS
NEW YORK DISTRICT
NEW YORK, NY

McKIM & CREED
243 NORTH FRONT STREET
WILMINGTON, NORTH CAROLINA 28401
TELEPHONE: (910) 251-0468
FAX: (910) 251-2252

HYDROGRAPHIC CONDITIONS SURVEY
HUDSON RIVER FEDERAL NAVIGATION CHANNEL
REACHES N21-N23

SHEET IDENTIFICATION
VH-115
SHEET 15 OF 103

PROJECT SPECIFIC NOTES:

1. COORDINATES REFER TO US STATE PLANE COORDINATE SYSTEM NAD 1983(2011). NEW YORK. 3101 EAST US SURVEY FEET.

2. 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.

3. THE SOUNDINGS ON THIS MAP MEET USACE EM 1110-2-1003 ACCURACY STANDARDS.

4. VERTICAL DATUM FOR THIS PROJECT IS CORPS OF ENGINEERS RIVER DATUM.
   A. REACH 63 TO REACH 01 AUTHORIZED PROJECT DEPTH OF 32'. MEASURED FROM 2.55' BELOW NAVD 88.
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   C. REACH 01 TO REACH N05 AUTHORIZED PROJECT DEPTH OF 14'. MEASURED FROM 3.8' BELOW NAVD 88.
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8. THE PLANIMETRICS DEPICTED ON THIS MAP ARE FOR ORIENTATION PURPOSES ONLY.

9. THIS SURVEY WAS PERFORMED USING LOCAL CONTROL ESTABLISHED BY THE CORPS OF ENGINEERS.

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

11. THE SURVEY WAS CONDUCTED BY MCKIM & CREED USING THE FOLLOWING:
    SURVEY VESSELS: SV BOTTOM LINE
    ECHOSOUNDER: R2SONIC 2022 AND R2SONIC 2024 MULTIBEAM SYSTEM.
    NAVIGATION SYSTEMS: INTEGRATED I2NS INERTIAL NAVIGATION SYSTEM. IN REAL TIME KINEMATIC (RTK) MODE.
    SURVEY ACQUISITION SOFTWARE: HYPACK VERSION 2020
    SURVEY PROCESSING SOFTWARE: HYPACK/HYSWEEP VERSION 2020
    CTD CAST WERE TAKEN DURING ACQUISITION FOR ACCURATE SPEED OF SOUND PROFILES USING AN AML BASE X2 AS WELL AS AN AML MICRO-X SOUND VELOCITY PROBE AT THE HEAD.

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NY 3101 GRID NAD83 (2011) EAST

REACH N25

REACH N24

REACH N23

WEST CHANNEL LINE

EAST CHANNEL LINE

I.D.-215

I.D.-214

I.D.-212

I.D.-211

SEE SHEET VH-115 FOR CONTINUATION

SEE SHEET VH-117 FOR CONTINUATION

NSRS/NGS CONTROL DATA			
BENCHMARK: TROY DAM 1	PID# BBDR68	NORTHING	EASTING
ELEVATION: 25.32' NAVD 88		1,428,037.76	709,760.15

LOCAL CONTROL DATA			
BENCHMARK: HR-12	PID#	NORTHING	EASTING
ELEVATION: 8.67' NAVD 88		1,318821.55	684451.34
STAMPED: HR-12 2016			

LOCAL CONTROL DATA			
BENCHMARK: 01-1	PID#	NORTHING	EASTING
ELEVATION: 3.87' NAVD 88		1,124,859.59	641003.46
STAMPED:			

STATE OF NEW YORK
RAYMOND B. DEWEES
No. 49350
LICENSED LAND SURVEYOR

SCALE 1" = 100'
0 100 200 300 400

US Army Corps of Engineers ®
New York District

MARK	DESCRIPTION	DATE	APPR.	MARK	DESCRIPTION	DATE	APPR.

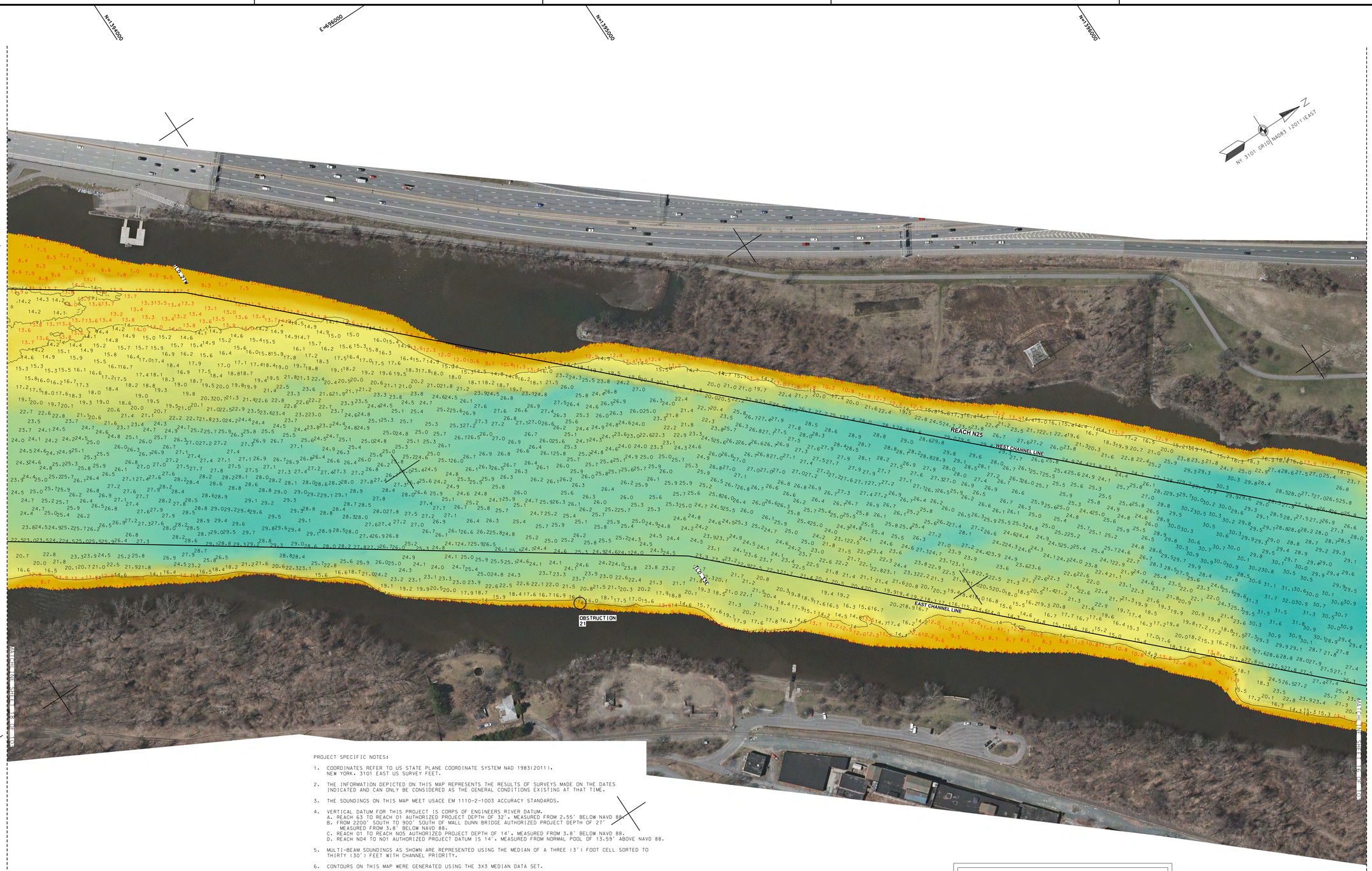
U.S. ARMY CORPS OF ENGINEERS
NEW YORK DISTRICT
NEW YORK, NY

McKIM & CREED
243 NORTH FRONT STREET
WILMINGTON, NORTH CAROLINA 28401
TELEPHONE: (910) 251-1048
FAX: (910) 251-8282

DESIGNED BY: DDD	DATE: AUGUST 22 - OCOTBER 03, 2020
DWN BY: MBH	CKD BY: RBD
SUBMITTED BY: DLJ	SOLICITATION NO.:
PLOT SCALE: 1" = 50'	CONTRACT NO.: W912DS-20-D-0003
PLOT DATE: ANSI F	ISSUE DATE: 12/21/2020
SIZE: ANSI F	FILE NUMBER: VH-0598890060_HUDSON_2020.DGN

HYDROGRAPHIC CONDITIONS SURVEY
HUDSON RIVER FEDERAL NAVIGATION CHANNEL
REACH N23-N25

SHEET IDENTIFICATION
VH-116
SHEET 16 OF 103



PROJECT SPECIFIC NOTES:

1. COORDINATES REFER TO US STATE PLANE COORDINATE SYSTEM NAD 1983(2011). NEW YORK. 3101 EAST US SURVEY FEET.
2. 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.
3. THE SOUNDINGS ON THIS MAP MEET USACE EM 1110-2-1003 ACCURACY STANDARDS.
4. VERTICAL DATUM FOR THIS PROJECT IS CORPS OF ENGINEERS RIVER DATUM.
   A. REACH 63 TO REACH 01 AUTHORIZED PROJECT DEPTH OF 32'. MEASURED FROM 2.55' BELOW NAVD 88.
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10. THIS MAP IS CEPD COMPLIANT IN ACCORDANCE WITH ER 1110-2-8160 AND EM 1110-2-6056.
11. THE SURVEY WAS CONDUCTED BY MCKIM & CREED USING THE FOLLOWING:
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    ECHOSOUNDER: R2SONIC 2022 AND R2SONIC 2024 MULTIBEAM SYSTEM.
    NAVIGATION SYSTEMS: INTEGRATED I2NS INERTIAL NAVIGATION SYSTEM. IN REAL TIME KINEMATIC (RTK)MODE.
    SURVEY ACQUISITION SOFTWARE: HYPACK VERSION 2020
    SURVEY PROCESSING SOFTWARE: HYPACK/HYSWEEP VERSION 2020
    CTD CAST WERE TAKEN DURING ACQUISITION FOR ACCURATE SPEED OF SOUND PROFILES USING AN AML BASE X2 AS WELL AS AN AML MICRO-X SOUND VELOCITY PROBE AT THE HEAD.
12. THE INFORMATION PRESENTED ON THIS DRAWING REPRESENTS THE RESULTS OF A SURVEY PERFORMED BY MCKIM & CREED BETWEEN AUGUST 22. AND OCTOBER 03. 2020 AND CAN ONLY BE CONSIDERED AS INDICATING THE CONDITIONS EXISTING AT THAT TIME. BECAUSE THESE CONDITIONS MAY BE SUBJECT TO RAPID CHANGE DUE TO SHOALING EVENTS, A PRUDENT MARINER SHOULD NOT RELY EXCLUSIVELY ON THE INFORMATION PROVIDED HERE. 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 MCKIM & CREED.
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NSRS/NGS CONTROL DATA			
BENCHMARK: TROY DAM 1	PID# BBDR68	NORTHING	EASTING
ELEVATION: 25.32' NAVD 88		1,428,037.76	709,760.15

LOCAL CONTROL DATA			
BENCHMARK: HR-12	PID#	NORTHING	EASTING
ELEVATION: 8.67' NAVD 88		1,318821.55	684451.34
STAMPED: HR-12 2016			

LOCAL CONTROL DATA			
BENCHMARK: 01-1	PID#	NORTHING	EASTING
ELEVATION: 3.87' NAVD 88		1,124,859.59	641003.46
STAMPED:			

STATE OF NEW YORK
RAYMOND B. BAKER
No. 49360
LICENSED LAND SURVEYOR

SCALE 1" = 100'
0 100 200 300 400

US Army Corps of Engineers ®
New York District

MARK	DESCRIPTION	DATE	APPR.
MARK	DESCRIPTION	DATE	APPR.

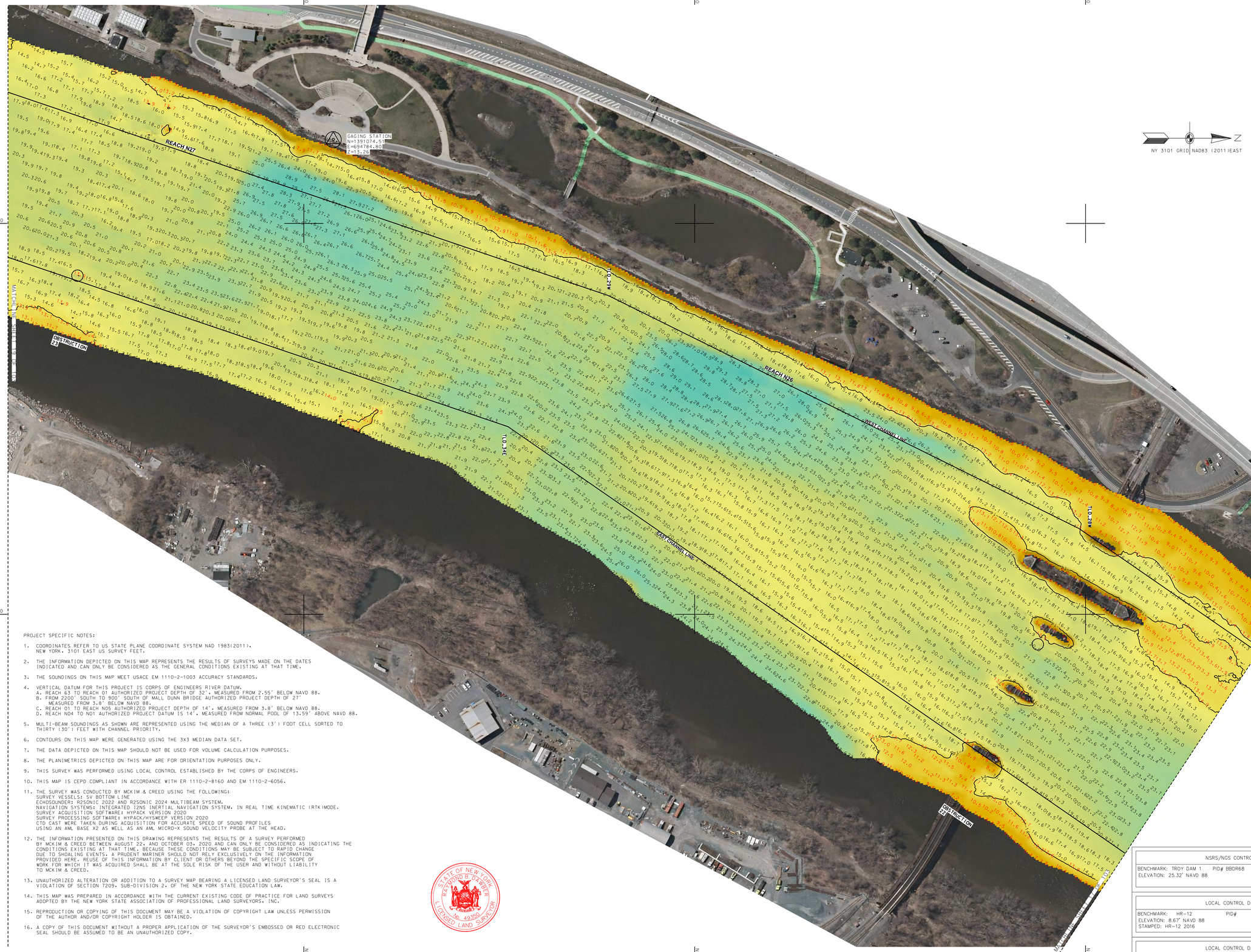
U.S. ARMY CORPS OF ENGINEERS
NEW YORK DISTRICT
NEW YORK, NY

McKIM & CREED
243 NORTH FRONT STREET
WILMINGTON, NORTH CAROLINA 28401
TELEPHONE: (910) 251-0748
FAX: (910) 251-2252

DESIGNED BY: OOO	DWN BY: MBH	SUBMITTED BY: DLJ	PLOT SCALE: 1" = 100'
DATE: AUGUST 22 - OCOTBER 03, 2020	CKD BY: RBD	SOLICITATION NO.:	CONTRACT NO.: W912DS-20-D-0003
ISSUE DATE: DECEMBER 2020	FILE NUMBER:		
SIZE: ANSI F	FILE NAME: VH-036899060_HUDSON_2020.DGN		

HYDROGRAPHIC CONDITIONS SURVEY
HUDSON RIVER FEDERAL NAVIGATION CHANNEL
REACH N25

SHEET IDENTIFICATION
VH-117
SHEET 17 OF 103



PROJECT SPECIFIC NOTES:

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    ECHOSOUNDER: R2SONIC 2022 AND R2SONIC 2024 MULTIBEAM SYSTEM.
    NAVIGATION SYSTEMS: INTEGRATED I2NS INERTIAL NAVIGATION SYSTEM. IN REAL TIME KINEMATIC (RTK) MODE.
    SURVEY ACQUISITION SOFTWARE: HYPACK VERSION 2020
    SURVEY PROCESSING SOFTWARE: HYPACK/HYSWEEP VERSION 2020
    CTD CAST WERE TAKEN DURING ACQUISITION FOR ACCURATE SPEED OF SOUND PROFILES USING AN AML BASE X2 AS WELL AS AN AML MICRO-X SOUND VELOCITY PROBE AT THE HEAD.
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STATE OF NEW YORK
RAYMOND B. DOWNES
No. 49350
LICENSED LAND SURVEYOR

NSRS/NGS CONTROL DATA			
BENCHMARK: TROY DAM 1	PID# BBDR68	NORTHING	EASTING
ELEVATION: 25.32' NAVD 88		1,428,037.76	709,760.15

LOCAL CONTROL DATA			
BENCHMARK: HR-12	PID#	NORTHING	EASTING
ELEVATION: 8.67' NAVD 88		1,318821.55	684451.34
STAMPED: HR-12 2016			

LOCAL CONTROL DATA			
BENCHMARK: 01-1	PID#	NORTHING	EASTING
ELEVATION: 3.87' NAVD 88		1,124,859.59	641003.46
STAMPED:			

US Army Corps of Engineers ®
New York District

MARK	DESCRIPTION	DATE	APPR.	MARK	DESCRIPTION	DATE	APPR.

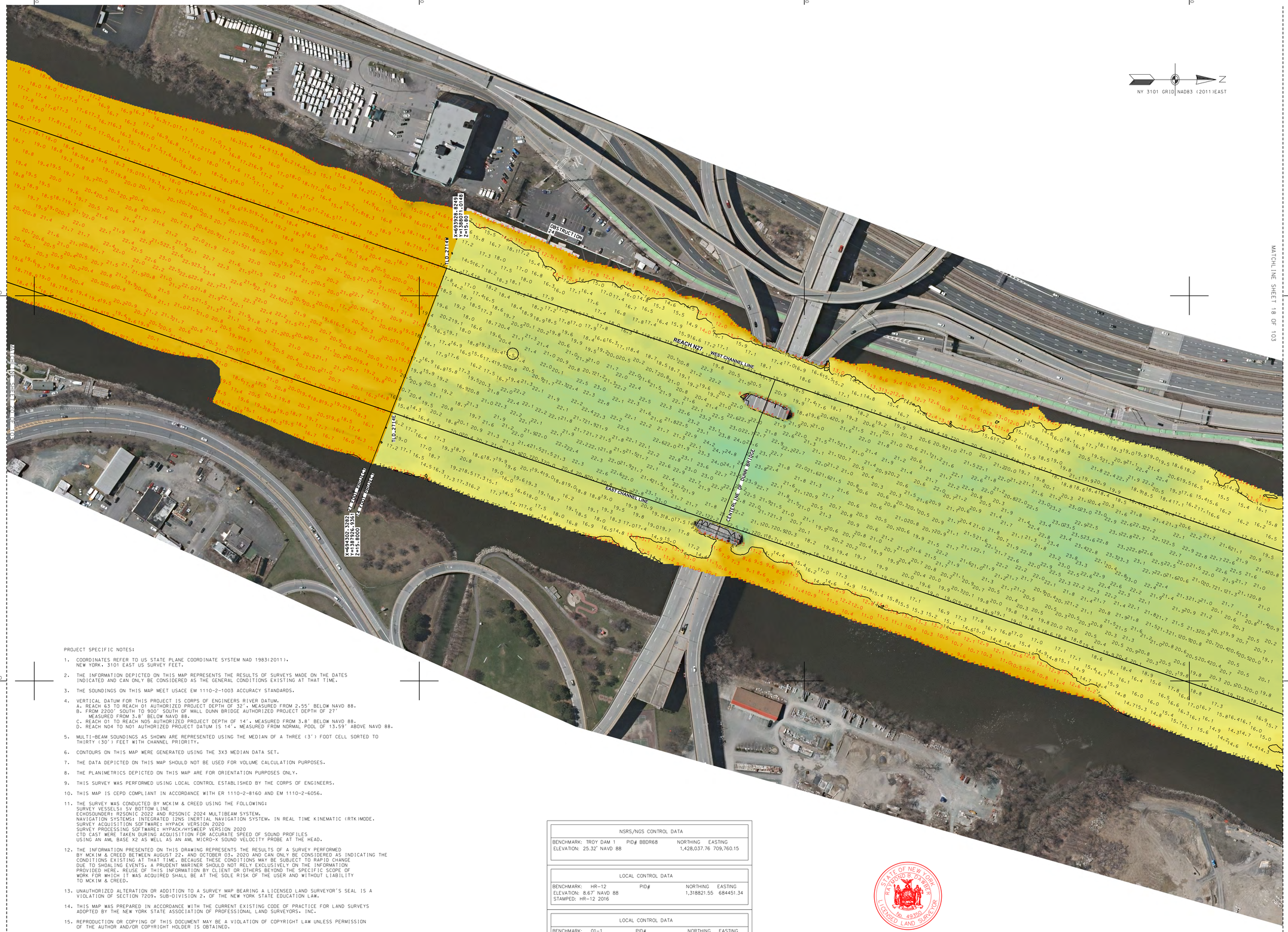
DESIGNED BY: 000
DWN BY: MBH
CKD BY: RBD
SUBMITTED BY: DLJ
DATE: AUGUST 22 - OCOTBER 03, 2020
SOLICITATION NO.:
CONTRACT NO.: W912DS-20-D-0003
PLOT SCALE: 1" = 100'
ISSUE DATE: DECEMBER 2020
FILE NUMBER:
SIZE: ANSI F
FILE NAME: VH-508890950_HUDSON_2020.DGN

U.S. ARMY CORPS OF ENGINEERS
NEW YORK DISTRICT
NEW YORK, NY

McKIM & CREED
243 NORTH FRONT STREET
WILMINGTON, NORTH CAROLINA 28401
TELEPHONE: (910) 251-8848
FAX: (910) 251-8282

HYDROGRAPHIC CONDITIONS SURVEY
HUDSON RIVER FEDERAL NAVIGATION CHANNEL
REACH N26-N27

SHEET IDENTIFICATION
VH-118
SHEET 18 OF 103



PROJECT SPECIFIC NOTES:

1. COORDINATES REFER TO US STATE PLANE COORDINATE SYSTEM NAD 1983(2011). NEW YORK. 3101 EAST US SURVEY FEET.
2. 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.
3. THE SOUNDINGS ON THIS MAP MEET USACE EM 1110-2-1003 ACCURACY STANDARDS.
4. VERTICAL DATUM FOR THIS PROJECT IS CORPS OF ENGINEERS RIVER DATUM.
   A. REACH 63 TO REACH 01 AUTHORIZED PROJECT DEPTH OF 32'. MEASURED FROM 2.55' BELOW NAVD 88.
   B. FROM 2200' SOUTH TO 900' SOUTH OF MALL DUNN BRIDGE AUTHORIZED PROJECT DEPTH OF 27' MEASURED FROM 3.8' BELOW NAVD 88.
   C. REACH 01 TO REACH N05 AUTHORIZED PROJECT DEPTH OF 14'. MEASURED FROM 3.8' BELOW NAVD 88.
   D. REACH N04 TO N01 AUTHORIZED PROJECT DATUM IS 14'. MEASURED FROM NORMAL POOL OF 13.59' ABOVE NAVD 88.
5. MULTI-BEAM SOUNDINGS AS SHOWN ARE REPRESENTED USING THE MEDIAN OF A THREE (3') FOOT CELL SORTED TO THIRTY (30') FEET WITH CHANNEL PRIORITY.
6. CONTOURS ON THIS MAP WERE GENERATED USING THE 3X3 MEDIAN DATA SET.
7. THE DATA DEPICTED ON THIS MAP SHOULD NOT BE USED FOR VOLUME CALCULATION PURPOSES.
8. THE PLANIMETRICS DEPICTED ON THIS MAP ARE FOR ORIENTATION PURPOSES ONLY.
9. THIS SURVEY WAS PERFORMED USING LOCAL CONTROL ESTABLISHED BY THE CORPS OF ENGINEERS.
10. THIS MAP IS CEPD COMPLIANT IN ACCORDANCE WITH ER 1110-2-8160 AND EM 1110-2-6056.
11. THE SURVEY WAS CONDUCTED BY MCKIM & CREED USING THE FOLLOWING:
    SURVEY VESSELS: SV BOTTOM LINE
    ECHOSOUNDER: R2SONIC 2022 AND R2SONIC 2024 MULTIBEAM SYSTEM.
    NAVIGATION SYSTEMS: INTEGRATED I2NS INERTIAL NAVIGATION SYSTEM. IN REAL TIME KINEMATIC (RTK)MODE.
    SURVEY ACQUISITION SOFTWARE: HYPACK VERSION 2020
    SURVEY PROCESSING SOFTWARE: HYPACK/HYSWEEP VERSION 2020
    CTD CAST WERE TAKEN DURING ACQUISITION FOR ACCURATE SPEED OF SOUND PROFILES USING AN AML BASE X2 AS WELL AS AN AML MICRO-X SOUND VELOCITY PROBE AT THE HEAD.
12. THE INFORMATION PRESENTED ON THIS DRAWING REPRESENTS THE RESULTS OF A SURVEY PERFORMED BY MCKIM & CREED BETWEEN AUGUST 22. AND OCTOBER 03. 2020 AND CAN ONLY BE CONSIDERED AS INDICATING THE CONDITIONS EXISTING AT THAT TIME, BECAUSE THESE CONDITIONS MAY BE SUBJECT TO RAPID CHANGE DUE TO SHOALING EVENTS. A PRUDENT MARINER SHOULD NOT RELY EXCLUSIVELY ON THE INFORMATION PROVIDED HERE. 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 MCKIM & CREED.
13. UNAUTHORIZED ALTERATION OR ADDITION TO A SURVEY MAP BEARING A LICENSED LAND SURVEYOR'S SEAL IS A VIOLATION OF SECTION 7209, SUB-DIVISION 2, OF THE NEW YORK STATE EDUCATION LAW.
14. THIS MAP WAS PREPARED IN ACCORDANCE WITH THE CURRENT EXISTING CODE OF PRACTICE FOR LAND SURVEYS ADOPTED BY THE NEW YORK STATE ASSOCIATION OF PROFESSIONAL LAND SURVEYORS. INC.
15. REPRODUCTION OR COPYING OF THIS DOCUMENT MAY BE A VIOLATION OF COPYRIGHT LAW UNLESS PERMISSION OF THE AUTHOR AND/OR COPYRIGHT HOLDER IS OBTAINED.
16. A COPY OF THIS DOCUMENT WITHOUT A PROPER APPLICATION OF THE SURVEYOR'S EMBOSSED OR RED ELECTRONIC SEAL SHOULD BE ASSUMED TO BE AN UNAUTHORIZED COPY.

NSRS/NGS CONTROL DATA			
BENCHMARK: TROY DAM 1	PID# BBDR68	NORTHING	EASTING
ELEVATION: 25.32' NAVD 88		1,428,037.76	709,760.15

LOCAL CONTROL DATA			
BENCHMARK: HR-12	PID#	NORTHING	EASTING
ELEVATION: 8.67' NAVD 88		1,318821.55	684451.34
STAMPED: HR-12 2016			

LOCAL CONTROL DATA			
BENCHMARK: 01-1	PID#	NORTHING	EASTING
ELEVATION: 3.87' NAVD 88		1,124,859.59	641003.46
STAMPED:			

STATE OF NEW YORK
RAYMOND B. DARBEE
No. 49350
LICENSED LAND SURVEYOR

SCALE 1" = 100'
0 100 200 300 400

US Army Corps of Engineers ®
New York District

MARK	DESCRIPTION	DATE	APPR.

DESIGNED BY: 000
DWN BY: MBH
CKD BY: RBD
SUBMITTED BY: DLJ
DATE: AUGUST 22 - OCOTBER 03, 2020
SOLICITATION NO.:
CONTRACT NO.: W912DS-20-D-0003
FILE NUMBER:
PLOT SCALE: 1:100
ISSUE DATE: 01/14/2020
SIZE: ANSI F
FILE NAME: VH-508890950_HUDSON_2020.DGN

U.S. ARMY CORPS OF ENGINEERS
NEW YORK DISTRICT
NEW YORK, NY

McKIM & CREED
243 NORTH FRONT STREET
WILMINGTON, NORTH CAROLINA 28401
TEL: (910) 251-8848
FAX: (910) 251-8282

HYDROGRAPHIC CONDITIONS SURVEY
HUDSON RIVER FEDERAL NAVIGATION CHANNEL
REACH N27

SHEET IDENTIFICATION
VH-119
SHEET 19 OF 103

PROJECT SPECIFIC NOTES:

1. COORDINATES REFER TO US STATE PLANE COORDINATE SYSTEM NAD 1983(2011), NEW YORK. 3101 EAST US SURVEY FEET.
2. 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.
3. THE SOUNDINGS ON THIS MAP MEET USACE EM 1110-2-1003 ACCURACY STANDARDS.
4. VERTICAL DATUM FOR THIS PROJECT IS CORPS OF ENGINEERS RIVER DATUM.
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   C. REACH 01 TO REACH N05 AUTHORIZED PROJECT DEPTH OF 14', MEASURED FROM 3.8' BELOW NAVD 88.
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6. CONTOURS ON THIS MAP WERE GENERATED USING THE 3X3 MEDIAN DATA SET.
7. THE DATA DEPICTED ON THIS MAP SHOULD NOT BE USED FOR VOLUME CALCULATION PURPOSES.
8. THE PLANIMETRICS DEPICTED ON THIS MAP ARE FOR ORIENTATION PURPOSES ONLY.
9. THIS SURVEY WAS PERFORMED USING LOCAL CONTROL ESTABLISHED BY THE CORPS OF ENGINEERS.
10. THIS MAP IS CEPD COMPLIANT IN ACCORDANCE WITH ER 1110-2-8160 AND EM 1110-2-6056.
11. THE SURVEY WAS CONDUCTED BY MCKIM & CREED USING THE FOLLOWING:
    SURVEY VESSELS: SV BOTTOM LINE
    ECHOSOUNDER: R2SONIC 2022 AND R2SONIC 2024 MULTIBEAM SYSTEM.
    NAVIGATION SYSTEMS: INTEGRATED I2NS INERTIAL NAVIGATION SYSTEM. IN REAL TIME KINEMATIC (RTK)MODE.
    SURVEY ACQUISITION SOFTWARE: HYPACK VERSION 2020
    SURVEY PROCESSING SOFTWARE: HYPACK/HYSWEEP VERSION 2020
    CTD CAST WERE TAKEN DURING ACQUISITION FOR ACCURATE SPEED OF SOUND PROFILES USING AN AML BASE X2 AS WELL AS AN AML MICRO-X SOUND VELOCITY PROBE AT THE HEAD.
12. THE INFORMATION PRESENTED ON THIS DRAWING REPRESENTS THE RESULTS OF A SURVEY PERFORMED BY MCKIM & CREED BETWEEN AUGUST 22. AND OCTOBER 03. 2020 AND CAN ONLY BE CONSIDERED AS INDICATING THE CONDITIONS EXISTING AT THAT TIME. BECAUSE THESE CONDITIONS MAY BE SUBJECT TO RAPID CHANGE DUE TO SHOALING EVENTS, A PRUDENT MARINER SHOULD NOT RELY EXCLUSIVELY ON THE INFORMATION PROVIDED HERE. 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 MCKIM & CREED.
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NSRS/NGS CONTROL DATA			
BENCHMARK: TROY DAM 1	PID# BBDR68	NORTHING	EASTING
ELEVATION: 25.32' NAVD 88		1,428,037.76	709,760.15

LOCAL CONTROL DATA			
BENCHMARK: HR-12	PID#	NORTHING	EASTING
ELEVATION: 8.67' NAVD 88		1,318821.55	684451.34
STAMPED: HR-12 2016			

LOCAL CONTROL DATA			
BENCHMARK: 01-1	PID#	NORTHING	EASTING
ELEVATION: 3.87' NAVD 88		1,124,859.59	641003.46
STAMPED:			

STATE OF NEW YORK
RAYMOND B. DARBY
No. 49356
LICENSED LAND SURVEYOR

US Army Corps of Engineers ®
New York District

MARK	DESCRIPTION	DATE	APPR.	MARK	DESCRIPTION	DATE	APPR.

DESIGNED BY: DDO
DWN BY: MBH
CKD BY: RBD
SUBMITTED BY: DLJ
DATE: AUGUST 22 - OCOTBER 03, 2020
SOLICITATION NO.:
CONTRACT NO.: W912DS-20-D-0003
PLOT SCALE: 1:100
ISSUE DATE: 12 NOVEMBER 2020
FILE NUMBER:
SIZE: ANSI F
FILE NAME: VH-638899060_HUDSON_2020.DGN

U.S. ARMY CORPS OF ENGINEERS
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NEW YORK, NY

McKIM & CREED
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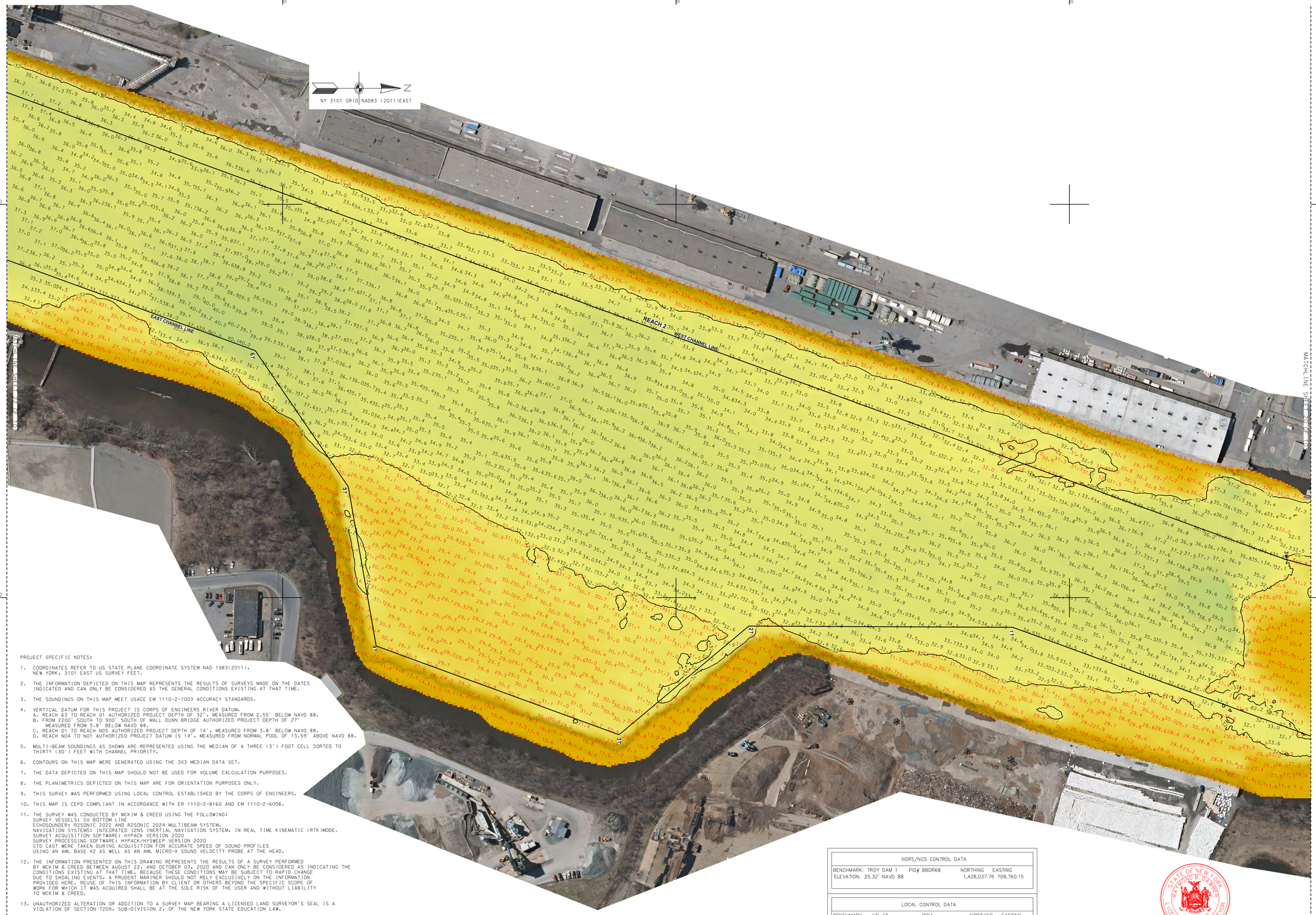
TELEPHONE: (910) 251-0348
FAX: (910) 251-2252

HYDROGRAPHIC CONDITIONS SURVEY
HUDSON RIVER FEDERAL NAVIGATION CHANNEL
REACH 01

SHEET IDENTIFICATION
VH-120
SHEET 20 OF 103



PROJECT SPECIFIC NOTES:

1. COORDINATES REFER TO US STATE PLANE COORDINATE SYSTEM NAD 1983(2011). NEW YORK, 3101 EAST US SURVEY FEET.
2. 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.
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10. THIS MAP IS CEPD COMPLIANT IN ACCORDANCE WITH ER 1110-2-8160 AND EM 1110-2-6056.
11. THE SURVEY WAS CONDUCTED BY MCKIM & CREED USING THE FOLLOWING:
    SURVEY VESSELS: SV BOTTOM LINE
    ECHOSOUNDER: R2SONIC 2022 AND R2SONIC 2024 MULTIBEAM SYSTEM.
    NAVIGATION SYSTEMS: INTEGRATED I2NS INERTIAL NAVIGATION SYSTEM. IN REAL TIME KINEMATIC (RTK)MODE.
    SURVEY ACQUISITION SOFTWARE: HYPACK VERSION 2020
    SURVEY PROCESSING SOFTWARE: HYPACK/HYSWEEP VERSION 2020
    CTD CAST WERE TAKEN DURING ACQUISITION FOR ACCURATE SPEED OF SOUND PROFILES USING AN AML BASE X2 AS WELL AS AN AML MICRO-X SOUND VELOCITY PROBE AT THE HEAD.
12. THE INFORMATION PRESENTED ON THIS DRAWING REPRESENTS THE RESULTS OF A SURVEY PERFORMED BY MCKIM & CREED BETWEEN AUGUST 22. AND OCTOBER 03. 2020 AND CAN ONLY BE CONSIDERED AS INDICATING THE CONDITIONS EXISTING AT THAT TIME. BECAUSE THESE CONDITIONS MAY BE SUBJECT TO RAPID CHANGE DUE TO SHOALING EVENTS. A PRUDENT MARINER SHOULD NOT RELY EXCLUSIVELY ON THE INFORMATION PROVIDED HERE. 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 MCKIM & CREED.
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NSRS/NGS CONTROL DATA			
BENCHMARK: TROY DAM 1	PID# BBDR68	NORTHING	EASTING
ELEVATION: 25.32' NAVD 88		1,428,037.76	709,760.15

LOCAL CONTROL DATA			
BENCHMARK: HR-12	PID#	NORTHING	EASTING
ELEVATION: 8.67' NAVD 88		1,318821.55	684451.34
STAMPED: HR-12 2016			

LOCAL CONTROL DATA			
BENCHMARK: 01-1	PID#	NORTHING	EASTING
ELEVATION: 3.87' NAVD 88		1,124,859.59	641003.46
STAMPED:			

STATE OF NEW YORK
RAYMOND B. LAWYER
No. 49358
LICENSED LAND SURVEYOR

SCALE 1" = 100'
0 100 200 300 400

US Army Corps of Engineers ®
New York District

MARK	DESCRIPTION	DATE	APPR.	MARK	DESCRIPTION	DATE	APPR.

DATE: AUGUST 22 - OCOTBER 03, 2020
SOLICITATION NO.:
CONTRACT NO.: W912DS-20-D-0003
FILE NUMBER:
ISSUE DATE: NOVEMBER 2020
FILE NAME: VH-0938990060_HUDSON_2020.DGN

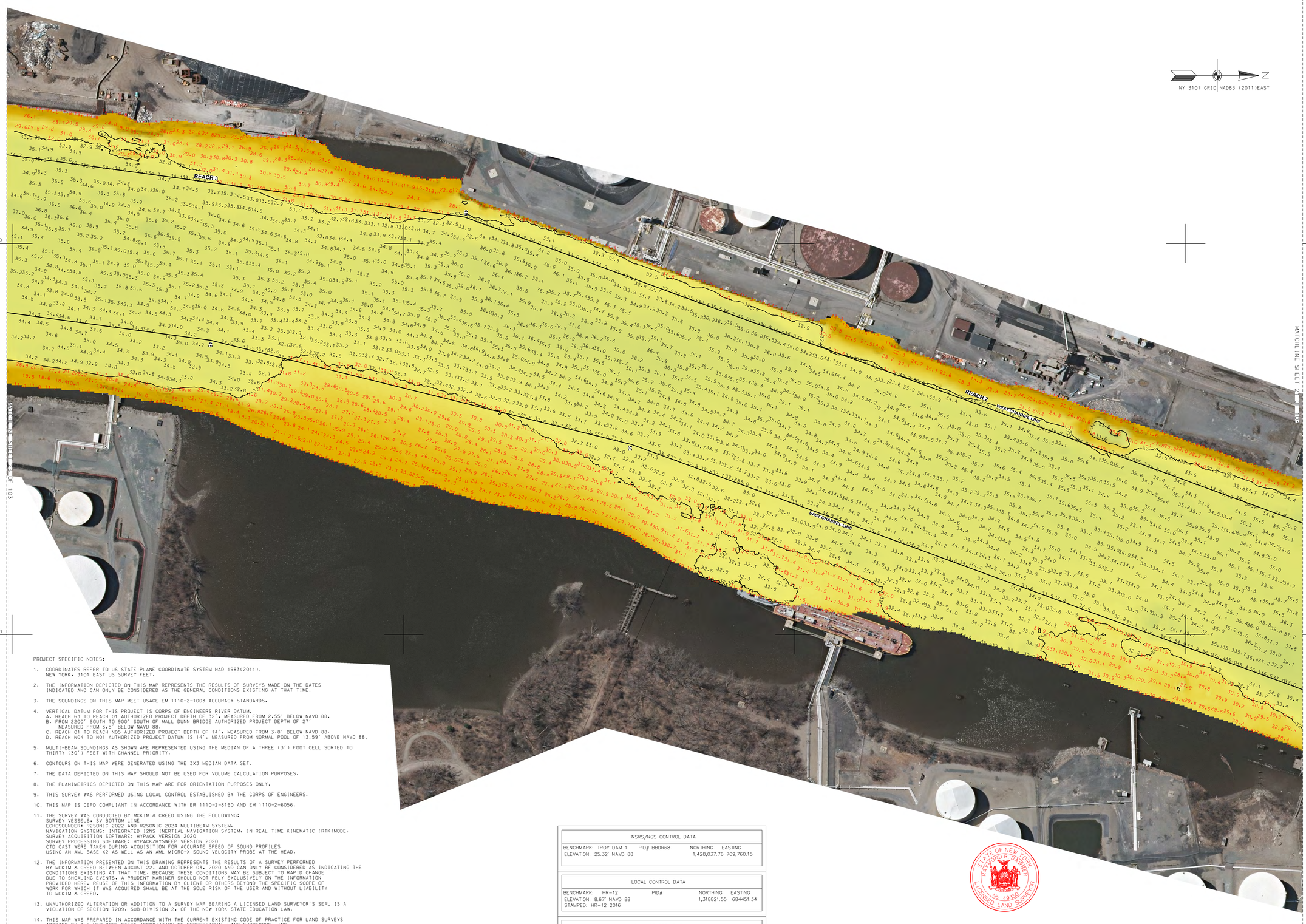
DESIGNED BY: 000
DWN BY: MBH
CKD BY: RBD
SUBMITTED BY: DJJ
PLOT SCALE: 1=100'
SIZE: ANSI F

U.S. ARMY CORPS OF ENGINEERS
NEW YORK DISTRICT
NEW YORK, NY

McKIM & CREED
243 NORTH FRONT STREET
WILMINGTON, NORTH CAROLINA 28401
TELEPHONE: (910) 251-0468
FAX: (910) 251-8282

HYDROGRAPHIC CONDITIONS SURVEY
HUDSON RIVER FEDERAL NAVIGATION CHANNEL
REACH 02

SHEET IDENTIFICATION
VH-121
SHEET 21 OF 103



PROJECT SPECIFIC NOTES:

1. COORDINATES REFER TO US STATE PLANE COORDINATE SYSTEM NAD 1983(2011). NEW YORK. 3101 EAST US SURVEY FEET.

2. 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.

3. THE SOUNDINGS ON THIS MAP MEET USACE EM 1110-2-1003 ACCURACY STANDARDS.

4. VERTICAL DATUM FOR THIS PROJECT IS CORPS OF ENGINEERS RIVER DATUM.
   A. REACH 63 TO REACH 01 AUTHORIZED PROJECT DEPTH OF 32', MEASURED FROM 2.55' BELOW NAVD 88.
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6. CONTOURS ON THIS MAP WERE GENERATED USING THE 3X3 MEDIAN DATA SET.

7. THE DATA DEPICTED ON THIS MAP SHOULD NOT BE USED FOR VOLUME CALCULATION PURPOSES.

8. THE PLANIMETRICS DEPICTED ON THIS MAP ARE FOR ORIENTATION PURPOSES ONLY.

9. THIS SURVEY WAS PERFORMED USING LOCAL CONTROL ESTABLISHED BY THE CORPS OF ENGINEERS.

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

11. THE SURVEY WAS CONDUCTED BY MCKIM & CREED USING THE FOLLOWING:
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    ECHOSOUNDER: R2SONIC 2022 AND R2SONIC 2024 MULTIBEAM SYSTEM.
    NAVIGATION SYSTEMS: INTEGRATED I2NS INERTIAL NAVIGATION SYSTEM. IN REAL TIME KINEMATIC (RTK)MODE.
    SURVEY ACQUISITION SOFTWARE: HYPACK VERSION 2020
    SURVEY PROCESSING SOFTWARE: HYPACK/HYSWEEP VERSION 2020
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NSRS/NGS CONTROL DATA			
BENCHMARK: TROY DAM 1	PID# BBDR68	NORTHING	EASTING
ELEVATION: 25.32' NAVD 88		1,428,037.76	709,760.15

LOCAL CONTROL DATA			
BENCHMARK: HR-12	PID#	NORTHING	EASTING
ELEVATION: 8.67' NAVD 88		1,318821.55	684451.34
STAMPED: HR-12 2016			

LOCAL CONTROL DATA			
BENCHMARK: 01-1	PID#	NORTHING	EASTING
ELEVATION: 3.87' NAVD 88		1,124,859.59	641003.46
STAMPED:			

STATE OF NEW YORK
RICHARD B. BAKER
090 49361
LICENSED LAND SURVEYOR

US Army Corps of Engineers ®
New York District

MARK	DESCRIPTION	DATE	APPR.	MARK	DESCRIPTION	DATE	APPR.

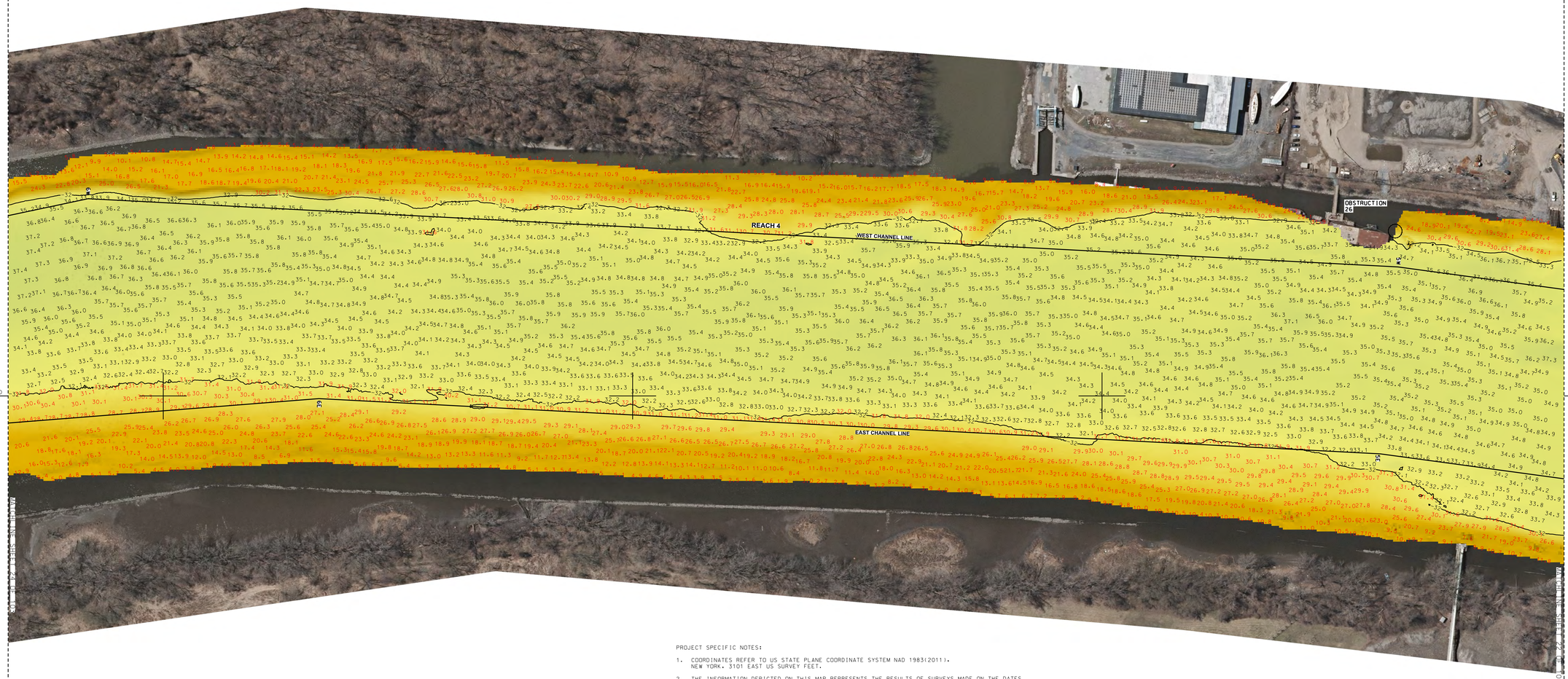
DESIGNED BY: 000
DWN BY: MBH
CKD BY: RBD
SUBMITTED BY: DLJ
PLOT SCALE: 1.000
PLOT DATE: 1" = 100'
SIZE: ANSI F
DATE: AUGUST 22 - OCTOBER 03, 2020
SOLICITATION NO.:
CONTRACT NO.: W912DS-20-D-0003
FILE NUMBER:
FILE NAME: VH-5985890950_HUDSON_2020.DGN

U.S. ARMY CORPS OF ENGINEERS
NEW YORK DISTRICT
NEW YORK, NY

McKIM & CREED
243 NORTH FRONT STREET
WILMINGTON, NORTH CAROLINA 28401
TEL: (910) 251-8444
FAX: (910) 251-8282

HYDROGRAPHIC CONDITIONS SURVEY
HUDSON RIVER FEDERAL NAVIGATION CHANNEL
REACH 02-03

SHEET IDENTIFICATION
VH-122
SHEET 22 OF 103



PROJECT SPECIFIC NOTES:

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9. THIS SURVEY WAS PERFORMED USING LOCAL CONTROL ESTABLISHED BY THE CORPS OF ENGINEERS.
10. THIS MAP IS CEPD COMPLIANT IN ACCORDANCE WITH ER 1110-2-8160 AND EM 1110-2-6056.
11. THE SURVEY WAS CONDUCTED BY MCKIM & CREED USING THE FOLLOWING:
    SURVEY VESSELS: SV BOTTOM LINE
    ECHOSOUNDER: R2SONIC 2022 AND R2SONIC 2024 MULTIBEAM SYSTEM.
    NAVIGATION SYSTEMS: INTEGRATED I2NS INERTIAL NAVIGATION SYSTEM. IN REAL TIME KINEMATIC (RTK)MODE.
    SURVEY ACQUISITION SOFTWARE: HYPACK VERSION 2020
    SURVEY PROCESSING SOFTWARE: HYPACK/HYSWEEP VERSION 2020
    CTD CAST WERE TAKEN DURING ACQUISITION FOR ACCURATE SPEED OF SOUND PROFILES USING AN AML BASE X2 AS WELL AS AN AML MICRO-X SOUND VELOCITY PROBE AT THE HEAD.
12. THE INFORMATION PRESENTED ON THIS DRAWING REPRESENTS THE RESULTS OF A SURVEY PERFORMED BY MCKIM & CREED BETWEEN AUGUST 22, AND OCTOBER 03, 2020 AND CAN ONLY BE CONSIDERED AS INDICATING THE CONDITIONS EXISTING AT THAT TIME. BECAUSE THESE CONDITIONS MAY BE SUBJECT TO RAPID CHANGE DUE TO SHOALING EVENTS, A PRUDENT MARINER SHOULD NOT RELY EXCLUSIVELY ON THE INFORMATION PROVIDED HERE. 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 MCKIM & CREED.
13. UNAUTHORIZED ALTERATION OR ADDITION TO A SURVEY MAP BEARING A LICENSED LAND SURVEYOR'S SEAL IS A VIOLATION OF SECTION 7209, SUB-DIVISION 2, OF THE NEW YORK STATE EDUCATION LAW.
14. THIS MAP WAS PREPARED IN ACCORDANCE WITH THE CURRENT EXISTING CODE OF PRACTICE FOR LAND SURVEYS ADOPTED BY THE NEW YORK STATE ASSOCIATION OF PROFESSIONAL LAND SURVEYORS, INC.
15. REPRODUCTION OR COPYING OF THIS DOCUMENT MAY BE A VIOLATION OF COPYRIGHT LAW UNLESS PERMISSION OF THE AUTHOR AND/OR COPYRIGHT HOLDER IS OBTAINED.
16. A COPY OF THIS DOCUMENT WITHOUT A PROPER APPLICATION OF THE SURVEYOR'S EMBOSSED OR RED ELECTRONIC SEAL SHOULD BE ASSUMED TO BE AN UNAUTHORIZED COPY.

STATE OF NEW YORK
RAYMOND B. BAKER
No. 49360
LICENSED LAND SURVEYOR

NSRS/NGS CONTROL DATA			
BENCHMARK: TROY DAM 1	PID# BBDR68	NORTHING	EASTING
ELEVATION: 25.32' NAVD 88		1,428,037.76	709,760.15

LOCAL CONTROL DATA			
BENCHMARK: HR-12	PID#	NORTHING	EASTING
ELEVATION: 8.67' NAVD 88		1,318821.55	684451.34
STAMPED: HR-12 2016			

LOCAL CONTROL DATA			
BENCHMARK: 01-1	PID#	NORTHING	EASTING
ELEVATION: 3.87' NAVD 88		1,124,859.59	641003.46
STAMPED:			

SCALE 1" = 100'
0 100 200 300 400

US Army Corps of Engineers ®
New York District

MARK	DESCRIPTION	DATE	APPR.
MARK	DESCRIPTION	DATE	APPR.

DESIGNED BY: DDD
DWN BY: MBH
CKD BY: RBD
SUBMITTED BY: DLJ
PLOT SCALE: 1:100' 0"
PLOT DATE: 11/6/2020
SIZE: ANSI F
DATE: AUGUST 22 - OCOTBER 03, 2020
SOLICITATION NO.:
CONTRACT NO.: W912DS-20-D-0003
FILE NUMBER:
FILE NAME: VH-DSB890960_HUDSON_2020.DGN

U.S. ARMY CORPS OF ENGINEERS
NEW YORK DISTRICT
NEW YORK, NY

McKIM & CREED
243 NORTH FRONT STREET
WILMINGTON, NORTH CAROLINA 28401
TELEPHONE: (910) 251-1048
FAX: (910) 251-8282

HYDROGRAPHIC CONDITIONS SURVEY
HUDSON RIVER FEDERAL NAVIGATION CHANNEL
REACH 04

SHEET IDENTIFICATION
VH-123
SHEET 23 OF 103

PROJECT SPECIFIC NOTES:

1. COORDINATES REFER TO US STATE PLANE COORDINATE SYSTEM NAD 1983(2011). NEW YORK, 3101 EAST US SURVEY FEET.

2. 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.

3. THE SOUNDINGS ON THIS MAP MEET USACE EM 1110-2-1003 ACCURACY STANDARDS.

4. VERTICAL DATUM FOR THIS PROJECT IS CORPS OF ENGINEERS RIVER DATUM.
   A. REACH 63 TO REACH 01 AUTHORIZED PROJECT DEPTH OF 32'. MEASURED FROM 2.55' BELOW NAVD 88.
   B. FROM 2200' SOUTH TO 900' SOUTH OF MALL DUNN BRIDGE AUTHORIZED PROJECT DEPTH OF 27' MEASURED FROM 3.8' BELOW NAVD 88.
   C. REACH 01 TO REACH N05 AUTHORIZED PROJECT DEPTH OF 14'. MEASURED FROM 3.8' BELOW NAVD 88.
   D. REACH N04 TO N01 AUTHORIZED PROJECT DATUM IS 14'. MEASURED FROM NORMAL POOL OF 13.59' ABOVE NAVD 88.

5. MULTI-BEAM SOUNDINGS AS SHOWN ARE REPRESENTED USING THE MEDIAN OF A THREE (3') FOOT CELL SORTED TO THIRTY (30') FEET WITH CHANNEL PRIORITY.

6. CONTOURS ON THIS MAP WERE GENERATED USING THE 3X3 MEDIAN DATA SET.

7. THE DATA DEPICTED ON THIS MAP SHOULD NOT BE USED FOR VOLUME CALCULATION PURPOSES.

8. THE PLANIMETRICS DEPICTED ON THIS MAP ARE FOR ORIENTATION PURPOSES ONLY.

9. THIS SURVEY WAS PERFORMED USING LOCAL CONTROL ESTABLISHED BY THE CORPS OF ENGINEERS.

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

11. THE SURVEY WAS CONDUCTED BY MCKIM & CREED USING THE FOLLOWING:
    SURVEY VESSELS: SV BOTTOM LINE
    ECHOSOUNDER: R2SONIC 2022 AND R2SONIC 2024 MULTIBEAM SYSTEM.
    NAVIGATION SYSTEMS: INTEGRATED I2NS INERTIAL NAVIGATION SYSTEM. IN REAL TIME KINEMATIC (RTK)MODE.
    SURVEY ACQUISITION SOFTWARE: HYPACK VERSION 2020
    SURVEY PROCESSING SOFTWARE: HYPACK/HYSWEEP VERSION 2020
    CTD CAST WERE TAKEN DURING ACQUISITION FOR ACCURATE SPEED OF SOUND PROFILES
    USING AN AML BASE X2 AS WELL AS AN AML MICRO-X SOUND VELOCITY PROBE AT THE HEAD.

12. THE INFORMATION PRESENTED ON THIS DRAWING REPRESENTS THE RESULTS OF A SURVEY PERFORMED BY MCKIM & CREED BETWEEN AUGUST 22, AND OCTOBER 03, 2020 AND CAN ONLY BE CONSIDERED AS INDICATING THE CONDITIONS EXISTING AT THAT TIME. BECAUSE THESE CONDITIONS MAY BE SUBJECT TO RAPID CHANGE DUE TO SHOALING EVENTS, A PRUDENT MARINER SHOULD NOT RELY EXCLUSIVELY ON THE INFORMATION PROVIDED HERE. 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 MCKIM & CREED.

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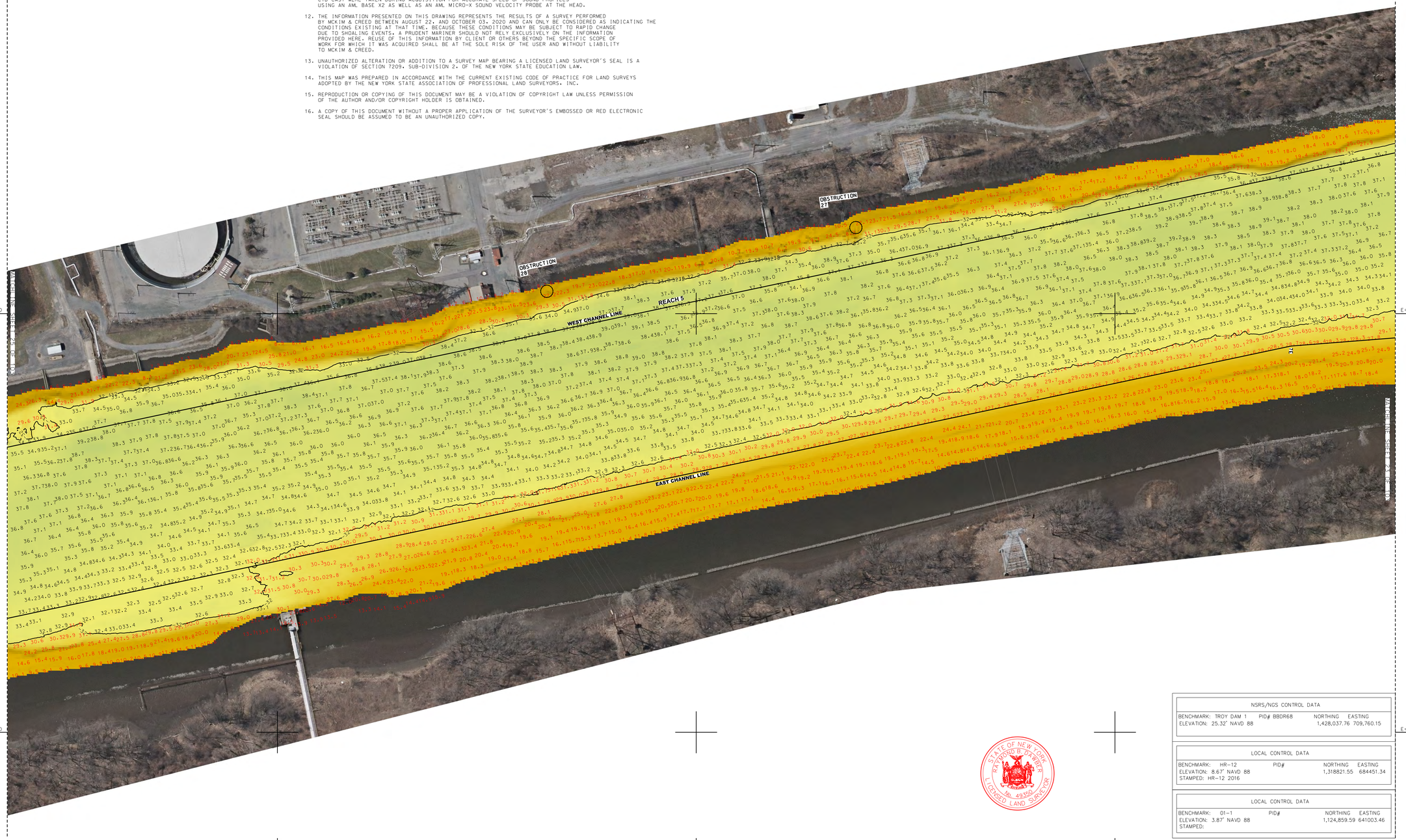

N:1371000 N:1372000 N:1373000

E=690000 E=691000 E=692000

NSRS/NGS CONTROL DATA

BENCHMARK: TROY DAM 1	PID# BBDR68	NORTHING EASTING
ELEVATION: 25.32' NAVD 88		1,428,037.76 709,760.15

LOCAL CONTROL DATA

BENCHMARK: HR-12	PID#	NORTHING EASTING
ELEVATION: 8.67' NAVD 88		1,318821.55 684451.34
STAMPED: HR-12 2016		

LOCAL CONTROL DATA

BENCHMARK: 01-1	PID#	NORTHING EASTING
ELEVATION: 3.87' NAVD 88		1,124,859.59 641003.46
STAMPED:		

STATE OF NEW YORK RAYMOND B. DAWES No. 49350 LICENSED LAND SURVEYOR

SCALE 1" = 100'
0 100 200 300 400

US Army Corps of Engineers ®
New York District

MARK	DESCRIPTION	DATE	APPR.	MARK	DESCRIPTION	DATE	APPR.

DATE: AUGUST 22 - OCTOBER 03, 2020
SOLICITATION NO.:
CONTRACT NO.: W912DS-20-D-0005
FILE NUMBER:
ISSUE DATE: NOVEMBER 2020
FILE NAME: VH-098990060_HUDSON_2020.DGN

DESIGNED BY: 000
DWN BY: MBH
CKD BY: RBD
SUBMITTED BY: DJ
PLOT SCALE: 1" = 200'
SIZE: ANSI F

U.S. ARMY CORPS OF ENGINEERS
NEW YORK DISTRICT
NEW YORK, NY

McKIM & CREED
243 NORTH FRONT STREET
WILMINGTON, NORTH CAROLINA 28401
TELEPHONE: (910) 251-8444
FAX: (910) 251-8282

HYDROGRAPHIC CONDITIONS SURVEY
HUDSON RIVER FEDERAL NAVIGATION CHANNEL
REACH 05

SHEET IDENTIFICATION
VH-124
SHEET 24 OF 103

PROJECT SPECIFIC NOTES:

1. COORDINATES REFER TO US STATE PLANE COORDINATE SYSTEM NAD 1983(2011). NEW YORK. 3101 EAST US SURVEY FEET.

2. 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.

3. THE SOUNDINGS ON THIS MAP MEET USACE EM 1110-2-1003 ACCURACY STANDARDS.

4. VERTICAL DATUM FOR THIS PROJECT IS CORPS OF ENGINEERS RIVER DATUM.
   A. REACH 63 TO REACH 01 AUTHORIZED PROJECT DEPTH OF 32', MEASURED FROM 2.55' BELOW NAVD 88.
   B. FROM 2200' SOUTH TO 900' SOUTH OF MALL DUNN BRIDGE AUTHORIZED PROJECT DEPTH OF 27' MEASURED FROM 3.8' BELOW NAVD 88.
   C. REACH 01 TO REACH N05 AUTHORIZED PROJECT DEPTH OF 14', MEASURED FROM 3.8' BELOW NAVD 88.
   D. REACH N04 TO N01 AUTHORIZED PROJECT DATUM IS 14', MEASURED FROM NORMAL POOL OF 13.59' ABOVE NAVD 88.

5. MULTI-BEAM SOUNDINGS AS SHOWN ARE REPRESENTED USING THE MEDIAN OF A THREE (3') FOOT CELL SORTED TO THIRTY (30') FEET WITH CHANNEL PRIORITY.

6. CONTOURS ON THIS MAP WERE GENERATED USING THE 3x3 MEDIAN DATA SET.

7. THE DATA DEPICTED ON THIS MAP SHOULD NOT BE USED FOR VOLUME CALCULATION PURPOSES.

8. THE PLANIMETRICS DEPICTED ON THIS MAP ARE FOR ORIENTATION PURPOSES ONLY.

9. THIS SURVEY WAS PERFORMED USING LOCAL CONTROL ESTABLISHED BY THE CORPS OF ENGINEERS.

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

11. THE SURVEY WAS CONDUCTED BY MCKIM & CREED USING THE FOLLOWING:
    SURVEY VESSELS: SV BOTTOM LINE
    ECHOSOUNDER: R2SONIC 2022 AND R2SONIC 2024 MULTIBEAM SYSTEM.
    NAVIGATION SYSTEMS: INTEGRATED I2NS INERTIAL NAVIGATION SYSTEM. IN REAL TIME KINEMATIC (RTK)MODE.
    SURVEY ACQUISITION SOFTWARE: HYPACK VERSION 2020
    SURVEY PROCESSING SOFTWARE: HYPACK/HYSWEEP VERSION 2020
    CTD CAST WERE TAKEN DURING ACQUISITION FOR ACCURATE SPEED OF SOUND PROFILES USING AN AML BASE X2 AS WELL AS AN AML MICRO-X SOUND VELOCITY PROBE AT THE HEAD.

12. THE INFORMATION PRESENTED ON THIS DRAWING REPRESENTS THE RESULTS OF A SURVEY PERFORMED BY MCKIM & CREED BETWEEN AUGUST 22. AND OCTOBER 03. 2020 AND CAN ONLY BE CONSIDERED AS INDICATING THE CONDITIONS EXISTING AT THAT TIME. BECAUSE THESE CONDITIONS MAY BE SUBJECT TO RAPID CHANGE DUE TO SHOALING EVENTS, A PRUDENT MARINER SHOULD NOT RELY EXCLUSIVELY ON THE INFORMATION PROVIDED HERE. 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 MCKIM & CREED.

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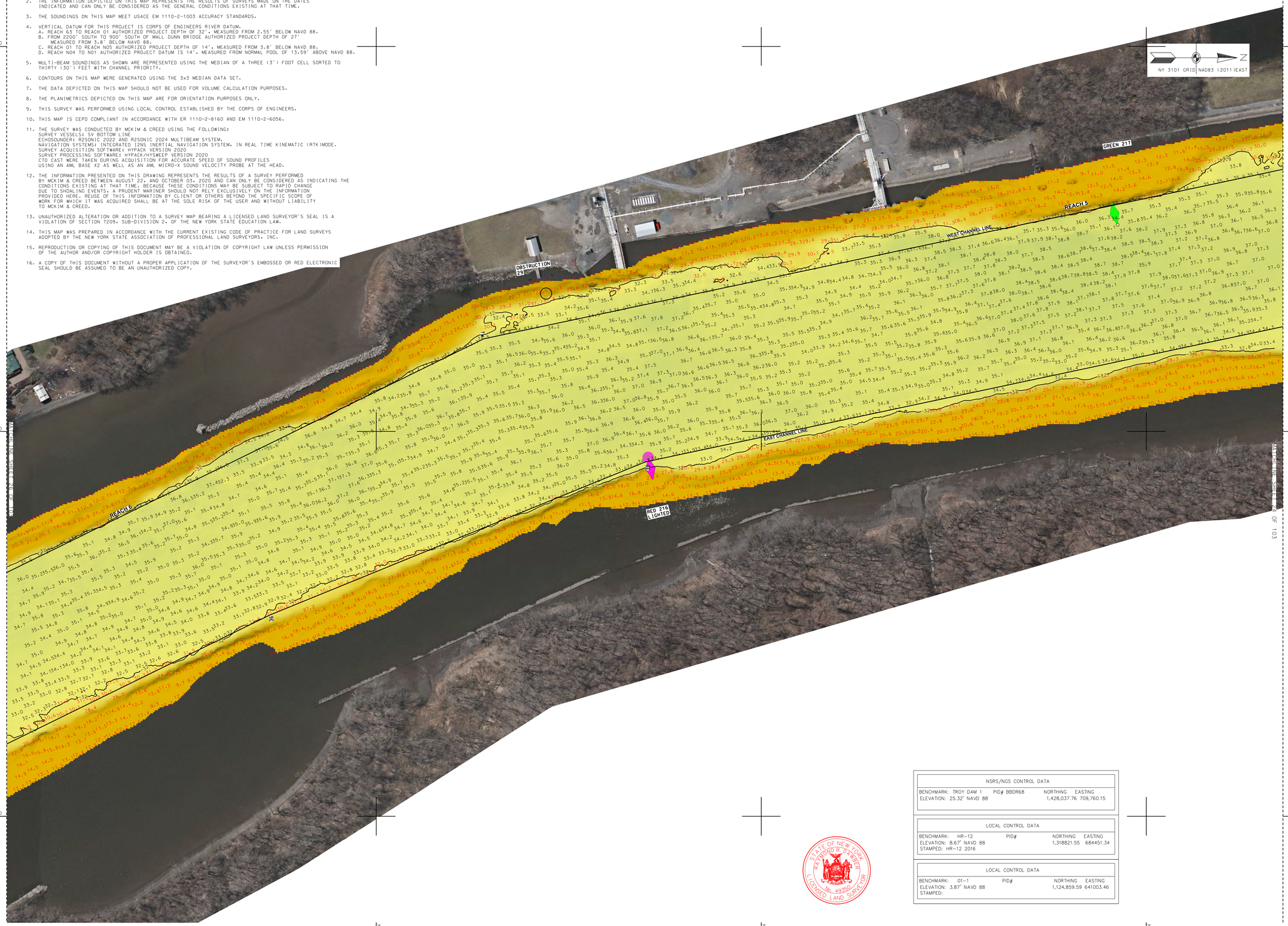

N=1368000 N=1369000 N=1370000

E=691000 E=692000 E=693000

NSRS/NGS CONTROL DATA			
BENCHMARK: TROY DAM 1	PID# BBDR68	NORTHING	EASTING
ELEVATION: 25.32' NAVD 88		1,428,037.76	709,760.15

LOCAL CONTROL DATA			
BENCHMARK: HR-12	PID#	NORTHING	EASTING
ELEVATION: 8.67' NAVD 88		1,318821.55	684451.34
STAMPED: HR-12 2016			

LOCAL CONTROL DATA			
BENCHMARK: 01-1	PID#	NORTHING	EASTING
ELEVATION: 3.87' NAVD 88		1,124,859.59	641003.46
STAMPED:			

STATE OF NEW YORK
RAYMOND B. PARKER
No. 49350
LICENSED LAND SURVEYOR

SCALE 1" = 100'
0 100 200 300 400

US Army Corps of Engineers ®
New York District

MARK	DESCRIPTION	DATE	APPR.

DESIGNED BY: 000
DWN BY: MBH
CKD BY: RBD
SUBMITTED BY: DLJ
DATE: AUGUST 22 - OCOTBER 03, 2020
SOLICITATION NO.:
CONTRACT NO.: W912DS-20-D-0003
FILE NUMBER:
PLOT SCALE: 1:100
ISSUE DATE: 21 DEC 2020
SIZE: ANSI F
FILE NAME: VH-508890060_HUDSON_2020.DGN

U.S. ARMY CORPS OF ENGINEERS
NEW YORK DISTRICT
NEW YORK, NY

McKIM & CREED
243 NORTH FRONT STREET
WILMINGTON, NORTH CAROLINA 28401
TELEPHONE: (910) 251-8448
FAX: (910) 251-8252

HYDROGRAPHIC CONDITIONS SURVEY
HUDSON RIVER FEDERAL NAVIGATION CHANNEL
REACH 05-06

SHEET IDENTIFICATION
VH-125
SHEET 25 OF 103

PROJECT SPECIFIC NOTES:

1. COORDINATES REFER TO US STATE PLANE COORDINATE SYSTEM NAD 1983(2011). NEW YORK. 3101 EAST US SURVEY FEET.

2. 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.

3. THE SOUNDINGS ON THIS MAP MEET USACE EM 1110-2-1003 ACCURACY STANDARDS.

4. VERTICAL DATUM FOR THIS PROJECT IS CORPS OF ENGINEERS RIVER DATUM.
   A. REACH 63 TO REACH 01 AUTHORIZED PROJECT DEPTH OF 32'. MEASURED FROM 2.55' BELOW NAVD 88.
   B. FROM 2200' SOUTH TO 900' SOUTH OF MALL DUNN BRIDGE AUTHORIZED PROJECT DEPTH OF 27' MEASURED FROM 3.8' BELOW NAVD 88.
   C. REACH 01 TO REACH N05 AUTHORIZED PROJECT DEPTH OF 14'. MEASURED FROM 3.8' BELOW NAVD 88.
   D. REACH N04 TO N01 AUTHORIZED PROJECT DATUM IS 14'. MEASURED FROM NORMAL POOL OF 13.59' ABOVE NAVD 88.

5. MULTI-BEAM SOUNDINGS AS SHOWN ARE REPRESENTED USING THE MEDIAN OF A THREE (3') FOOT CELL SORTED TO THIRTY (30') FEET WITH CHANNEL PRIORITY.

6. CONTOURS ON THIS MAP WERE GENERATED USING THE 3X3 MEDIAN DATA SET.

7. THE DATA DEPICTED ON THIS MAP SHOULD NOT BE USED FOR VOLUME CALCULATION PURPOSES.

8. THE PLANIMETRICS DEPICTED ON THIS MAP ARE FOR ORIENTATION PURPOSES ONLY.

9. THIS SURVEY WAS PERFORMED USING LOCAL CONTROL ESTABLISHED BY THE CORPS OF ENGINEERS.

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

11. THE SURVEY WAS CONDUCTED BY MCKIM & CREED USING THE FOLLOWING:
    SURVEY VESSELS: SV BOTTOM LINE
    ECHOSOUNDER: R2SONIC 2022 AND R2SONIC 2024 MULTIBEAM SYSTEM.
    NAVIGATION SYSTEMS: INTEGRATED I2NS INERTIAL NAVIGATION SYSTEM. IN REAL TIME KINEMATIC (RTK)MODE.
    SURVEY ACQUISITION SOFTWARE: HYPACK VERSION 2020
    SURVEY PROCESSING SOFTWARE: HYPACK/HYSWEEP VERSION 2020
    CTD CAST WERE TAKEN DURING ACQUISITION FOR ACCURATE SPEED OF SOUND PROFILES
    USING AN AML BASE X2 AS WELL AS AN AML MICRO-X SOUND VELOCITY PROBE AT THE HEAD.

12. THE INFORMATION PRESENTED ON THIS DRAWING REPRESENTS THE RESULTS OF A SURVEY PERFORMED BY MCKIM & CREED BETWEEN AUGUST 22. AND OCTOBER 03. 2020 AND CAN ONLY BE CONSIDERED AS INDICATING THE CONDITIONS EXISTING AT THAT TIME. BECAUSE THESE CONDITIONS MAY BE SUBJECT TO RAPID CHANGE DUE TO SHOALING EVENTS. A PRUDENT MARINER SHOULD NOT RELY EXCLUSIVELY ON THE INFORMATION PROVIDED HERE. 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 MCKIM & CREED.

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NY 3101 GRID NAD83 (2011)EAST

REACH 6

REACH 7

WEST CHANNEL LINE

EAST CHANNEL LINE

NSRS/NGS CONTROL DATA			
BENCHMARK: TROY DAM 1	PID# BBDR68	NORTHING	EASTING
ELEVATION: 25.32' NAVD 88		1,428,037.76	709,760.15

LOCAL CONTROL DATA			
BENCHMARK: HR-12	PID#	NORTHING	EASTING
ELEVATION: 8.67' NAVD 88		1,318821.55	684451.34
STAMPED: HR-12 2016			

LOCAL CONTROL DATA			
BENCHMARK: 01-1	PID#	NORTHING	EASTING
ELEVATION: 3.87' NAVD 88		1,124,859.59	641003.46
STAMPED:			

STATE OF NEW YORK
RAYMOND B. DAYBER
No. 49350
LICENSED LAND SURVEYOR

SCALE 1" = 100'
0 100 200 300 400

US Army Corps of Engineers ®
New York District

MARK	DESCRIPTION	DATE	APPR.	MARK	DESCRIPTION	DATE	APPR.

DESIGNED BY: 000
DWN BY: MBH
CKD BY: RBD
SUBMITTED BY: DLJ
PLOT SCALE: 1" = 100'
ISSUE DATE: 20MAR2020
SIZE: ANSI F
DATE: AUGUST 22 - OCOTBER 03, 2020
SOLICITATION NO.:
CONTRACT NO.: W912DS-20-D-0003
FILE NUMBER:
FILE NAME: VH-058890060_HUDSON_2020.DGN

U.S. ARMY CORPS OF ENGINEERS
NEW YORK DISTRICT
NEW YORK, NY

McKIM & CREED
243 NORTH FRONT STREET
WILMINGTON, NORTH CAROLINA 28401
TELEPHONE (910) 251-1848
FAX (910) 251-8282

HYDROGRAPHIC CONDITIONS SURVEY
HUDSON RIVER FEDERAL NAVIGATION CHANNEL
REACH 06-07

SHEET IDENTIFICATION
VH-126
SHEET 26 OF 103

PROJECT SPECIFIC NOTES:

1. COORDINATES REFER TO US STATE PLANE COORDINATE SYSTEM NAD 1983(2011). NEW YORK. 3101 EAST US SURVEY FEET.

2. 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.

3. THE SOUNDINGS ON THIS MAP MEET USACE EM 1110-2-1003 ACCURACY STANDARDS.

4. VERTICAL DATUM FOR THIS PROJECT IS CORPS OF ENGINEERS RIVER DATUM.
   A. REACH 63 TO REACH 01 AUTHORIZED PROJECT DEPTH OF 32', MEASURED FROM 2.55' BELOW NAVD 88.
   B. FROM 2200' SOUTH TO 900' SOUTH OF MALL DUNN BRIDGE AUTHORIZED PROJECT DEPTH OF 27' MEASURED FROM 3.8' BELOW NAVD 88.
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10. THIS MAP IS CEPD COMPLIANT IN ACCORDANCE WITH ER 1110-2-8160 AND EM 1110-2-6056.

11. THE SURVEY WAS CONDUCTED BY MCKIM & CREED USING THE FOLLOWING:
    SURVEY VESSELS: SV BOTTOM LINE
    ECHOSOUNDER: R2SONIC 2022 AND R2SONIC 2024 MULTIBEAM SYSTEM.
    NAVIGATION SYSTEMS: INTEGRATED I2NS INERTIAL NAVIGATION SYSTEM. IN REAL TIME KINEMATIC (RTK)MODE.
    SURVEY ACQUISITION SOFTWARE: HYPACK VERSION 2020
    SURVEY PROCESSING SOFTWARE: HYPACK/HYSWEEP VERSION 2020
    CTD CAST WERE TAKEN DURING ACQUISITION FOR ACCURATE SPEED OF SOUND PROFILES
    USING AN AML BASE X2 AS WELL AS AN AML MICRO-X SOUND VELOCITY PROBE AT THE HEAD.

12. THE INFORMATION PRESENTED ON THIS DRAWING REPRESENTS THE RESULTS OF A SURVEY PERFORMED BY MCKIM & CREED BETWEEN AUGUST 22. AND OCTOBER 03. 2020 AND CAN ONLY BE CONSIDERED AS INDICATING THE CONDITIONS EXISTING AT THAT TIME. BECAUSE THESE CONDITIONS MAY BE SUBJECT TO RAPID CHANGE DUE TO SHOALING EVENTS, A PRUDENT MARINER SHOULD NOT RELY EXCLUSIVELY ON THE INFORMATION PROVIDED HERE. 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 MCKIM & CREED.

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14. THIS MAP WAS PREPARED IN ACCORDANCE WITH THE CURRENT EXISTING CODE OF PRACTICE FOR LAND SURVEYS ADOPTED BY THE NEW YORK STATE ASSOCIATION OF PROFESSIONAL LAND SURVEYORS, INC.

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16. A COPY OF THIS DOCUMENT WITHOUT A PROPER APPLICATION OF THE SURVEYOR'S EMBOSSED OR RED ELECTRONIC SEAL SHOULD BE ASSUMED TO BE AN UNAUTHORIZED COPY.

STATE OF NEW YORK
RAYMOND B. LAWLER
No. 49250
LICENSED LAND SURVEYOR

NSRS/NGS CONTROL DATA			
BENCHMARK: TROY DAM 1	PID# BBDR68	NORTHING	EASTING
ELEVATION: 25.32' NAVD 88		1,428,037.76	709,760.15

LOCAL CONTROL DATA			
BENCHMARK: HR-12	PID#	NORTHING	EASTING
ELEVATION: 8.67' NAVD 88		1,318821.55	684451.34
STAMPED: HR-12 2016			

LOCAL CONTROL DATA			
BENCHMARK: 01-1	PID#	NORTHING	EASTING
ELEVATION: 3.87' NAVD 88		1,124,859.59	641003.46
STAMPED:			

SCALE 1" = 100'
0 100 200 300 400

US Army Corps of Engineers ®
New York District

MARK	DESCRIPTION	DATE	APPR.	MARK	DESCRIPTION	DATE	APPR.

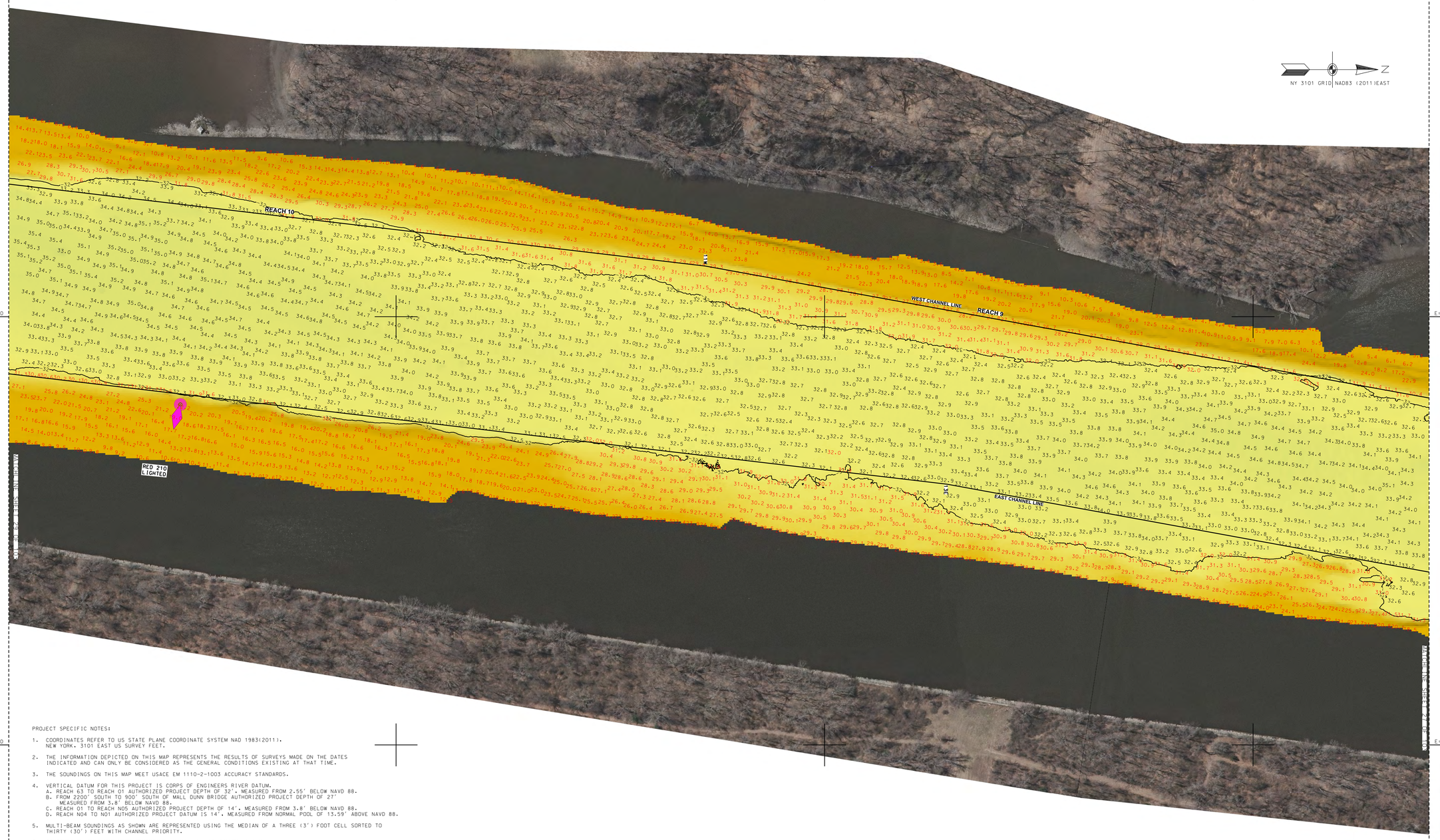
DESIGNED BY: 000
DRWN BY: MBH
CKD BY: RBD
SUBMITTED BY: DLJ
DATE: AUGUST 22 - OCOTBER 03, 2020
SOLICITATION NO.:
CONTRACT NO.: W912DS-20-D-0003
PLOT SCALE: 1=40'
PLOT DATE: 1/14/2020
SIZE: ANSI F
ISSUE DATE: 1/14/2020
FILE NUMBER:
FILE NAME: VH-0938990060_HUDSON_2020.DGN

U.S. ARMY CORPS OF ENGINEERS
NEW YORK DISTRICT
NEW YORK, NY

McKIM & CREED
243 NORTH FRONT STREET
WILMINGTON, NORTH CAROLINA 28401
TELEPHONE: (910) 251-0104
FAX: (910) 251-8282

HYDROGRAPHIC CONDITIONS SURVEY
HUDSON RIVER FEDERAL NAVIGATION CHANNEL
REACH 08-09

SHEET IDENTIFICATION
VH-127
SHEET 27 OF 103



PROJECT SPECIFIC NOTES:

1. COORDINATES REFER TO US STATE PLANE COORDINATE SYSTEM NAD 1983(2011). NEW YORK. 3101 EAST US SURVEY FEET.
2. 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.
3. THE SOUNDINGS ON THIS MAP MEET USACE EM 1110-2-1003 ACCURACY STANDARDS.
4. VERTICAL DATUM FOR THIS PROJECT IS CORPS OF ENGINEERS RIVER DATUM.
   A. REACH 63 TO REACH 01 AUTHORIZED PROJECT DEPTH OF 32', MEASURED FROM 2-55' BELOW NAVD 88.
   B. FROM 2200' SOUTH TO 900' SOUTH OF MALL DUNN BRIDGE AUTHORIZED PROJECT DEPTH OF 27' MEASURED FROM 3.8' BELOW NAVD 88.
   C. REACH 01 TO REACH N05 AUTHORIZED PROJECT DEPTH OF 14', MEASURED FROM 3.8' BELOW NAVD 88.
   D. REACH N04 TO N01 AUTHORIZED PROJECT DATUM IS 14', MEASURED FROM NORMAL POOL OF 13.59' ABOVE NAVD 88.
5. MULTI-BEAM SOUNDINGS AS SHOWN ARE REPRESENTED USING THE MEDIAN OF A THREE (3') FOOT CELL SORTED TO THIRTY (30') FEET WITH CHANNEL PRIORITY.
6. CONTOURS ON THIS MAP WERE GENERATED USING THE 3X3 MEDIAN DATA SET.
7. THE DATA DEPICTED ON THIS MAP SHOULD NOT BE USED FOR VOLUME CALCULATION PURPOSES.
8. THE PLANIMETRICS DEPICTED ON THIS MAP ARE FOR ORIENTATION PURPOSES ONLY.
9. THIS SURVEY WAS PERFORMED USING LOCAL CONTROL ESTABLISHED BY THE CORPS OF ENGINEERS.
10. THIS MAP IS CEPD COMPLIANT IN ACCORDANCE WITH ER 1110-2-8160 AND EM 1110-2-6056.
11. THE SURVEY WAS CONDUCTED BY MCKIM & CREED USING THE FOLLOWING:
    SURVEY VESSELS: SV BOTTOM LINE
    ECHOSOUNDERS: R2SONIC 2022 AND R2SONIC 2024 MULTIBEAM SYSTEM.
    NAVIGATION SYSTEMS: INTEGRATED I2NS INERTIAL NAVIGATION SYSTEM. IN REAL TIME KINEMATIC (RTK) MODE.
    SURVEY ACQUISITION SOFTWARE: HYPACK VERSION 2020
    SURVEY PROCESSING SOFTWARE: HYPACK/HYSWEEP VERSION 2020
    CTD CAST WERE TAKEN DURING ACQUISITION FOR ACCURATE SPEED OF SOUND PROFILES USING AN AML BASE X2 AS WELL AS AN AML MICRO-X SOUND VELOCITY PROBE AT THE HEAD.
12. THE INFORMATION PRESENTED ON THIS DRAWING REPRESENTS THE RESULTS OF A SURVEY PERFORMED BY MCKIM & CREED BETWEEN AUGUST 22. AND OCTOBER 03. 2020 AND CAN ONLY BE CONSIDERED AS INDICATING THE CONDITIONS EXISTING AT THAT TIME. BECAUSE THESE CONDITIONS MAY BE SUBJECT TO RAPID CHANGE DUE TO SHOALING EVENTS. A PRUDENT MARINER SHOULD NOT RELY EXCLUSIVELY ON THE INFORMATION PROVIDED HERE. 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 MCKIM & CREED.
13. UNAUTHORIZED ALTERATION OR ADDITION TO A SURVEY MAP BEARING A LICENSED LAND SURVEYOR'S SEAL IS A VIOLATION OF SECTION 7209. SUB-DIVISION 2. OF THE NEW YORK STATE EDUCATION LAW.
14. THIS MAP WAS PREPARED IN ACCORDANCE WITH THE CURRENT EXISTING CODE OF PRACTICE FOR LAND SURVEYS ADOPTED BY THE NEW YORK STATE ASSOCIATION OF PROFESSIONAL LAND SURVEYORS. INC.
15. REPRODUCTION OR COPYING OF THIS DOCUMENT MAY BE A VIOLATION OF COPYRIGHT LAW UNLESS PERMISSION OF THE AUTHOR AND/OR COPYRIGHT HOLDER IS OBTAINED.
16. A COPY OF THIS DOCUMENT WITHOUT A PROPER APPLICATION OF THE SURVEYOR'S EMBOSSED OR RED ELECTRONIC SEAL SHOULD BE ASSUMED TO BE AN UNAUTHORIZED COPY.

STATE OF NEW YORK
RAYMOND B. DARKER
049150
LICENSED LAND SURVEYOR

SCALE 1" = 100'
0 100 200 300 400

NSRS/NGS CONTROL DATA			
BENCHMARK: TROY DAM 1	PID# BBDR68	NORTHING	EASTING
ELEVATION: 25.32' NAVD 88		1,428,037.76	709,760.15

LOCAL CONTROL DATA			
BENCHMARK: HR-12	PID#	NORTHING	EASTING
ELEVATION: 8.67' NAVD 88		1,318821.55	684451.34
STAMPED: HR-12 2016			

LOCAL CONTROL DATA			
BENCHMARK: 01-1	PID#	NORTHING	EASTING
ELEVATION: 3.87' NAVD 88		1,124,859.59	641003.46
STAMPED:			

US Army Corps of Engineers ®
New York District

MARK	DESCRIPTION	DATE	APPR.

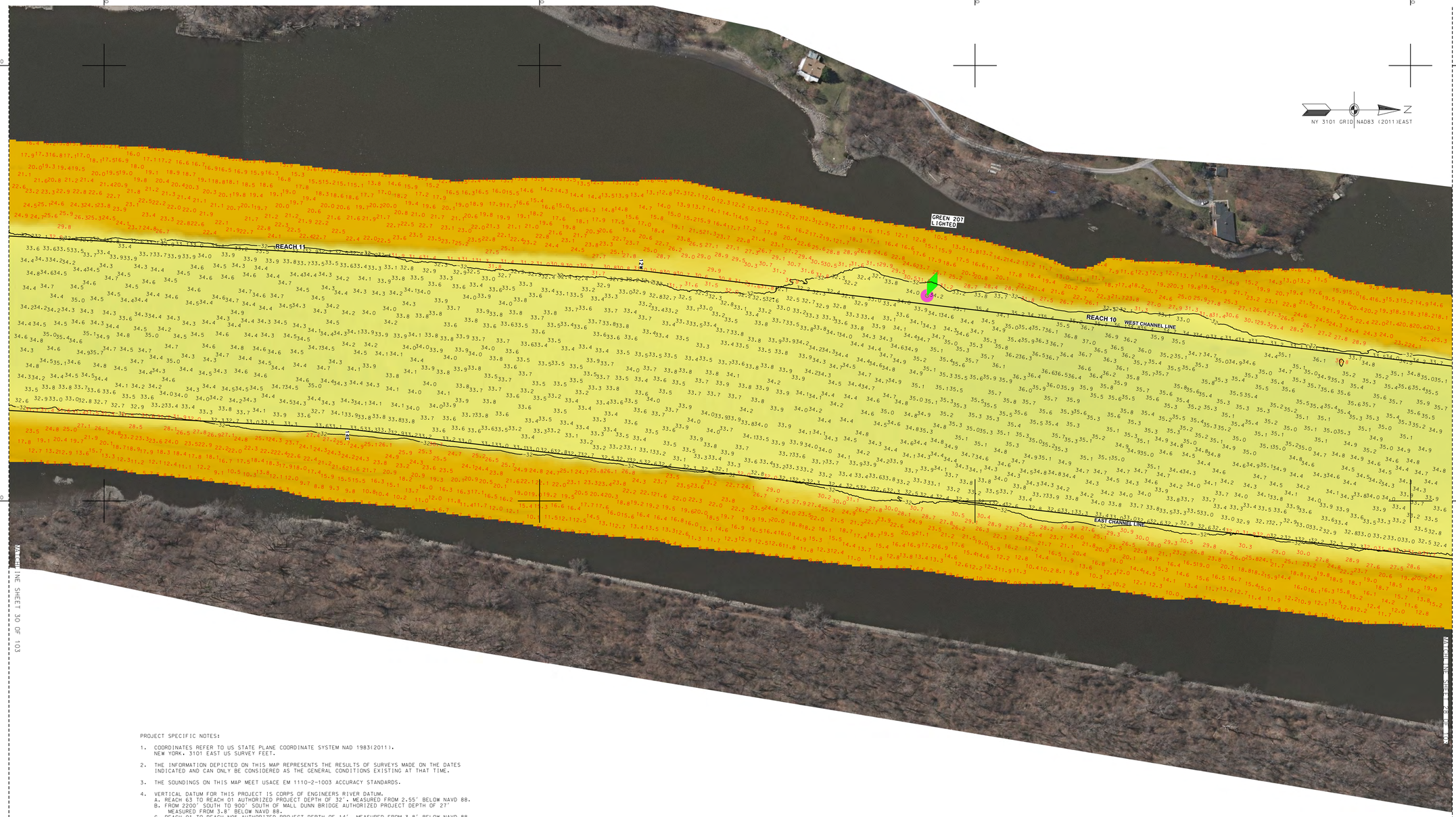
DESIGNED BY: 000
DWN BY: MBH
CKD BY: RBD
SUBMITTED BY: DLJ
DATE: AUGUST 22 - OCOTBER 03, 2020
SOLICITATION NO.:
CONTRACT NO.: W912DS-20-D-0003
PLOT SCALE: 1:600
PLOT DATE: 1/1/2000
FILE NUMBER:
FILE NAME: VH-5085890560_HUDSON_2020.DGN
SIZE: ANSI F

U.S. ARMY CORPS OF ENGINEERS
NEW YORK DISTRICT
NEW YORK, NY

McKIM & CREED
243 NORTH FRONT STREET
WILMINGTON, NORTH CAROLINA 28401
TEL: (910) 251-8444
FAX: (910) 251-8282

HYDROGRAPHIC CONDITIONS SURVEY
HUDSON RIVER FEDERAL NAVIGATION CHANNEL
REACH 09-10

SHEET IDENTIFICATION
VH-128
SHEET 28 OF 103



PROJECT SPECIFIC NOTES:

1. COORDINATES REFER TO US STATE PLANE COORDINATE SYSTEM NAD 1983(2011). NEW YORK. 3101 EAST US SURVEY FEET.

2. 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.

3. THE SOUNDINGS ON THIS MAP MEET USACE EM 1110-2-1003 ACCURACY STANDARDS.

4. VERTICAL DATUM FOR THIS PROJECT IS CORPS OF ENGINEERS RIVER DATUM.
   A. REACH 63 TO REACH 01 AUTHORIZED PROJECT DEPTH OF 32'. MEASURED FROM 2.55' BELOW NAVD 88.
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   C. REACH 01 TO REACH N05 AUTHORIZED PROJECT DEPTH OF 14'. MEASURED FROM 3.8' BELOW NAVD 88.
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5. MULTI-BEAM SOUNDINGS AS SHOWN ARE REPRESENTED USING THE MEDIAN OF A THREE (3') FOOT CELL SORTED TO THIRTY (30') FEET WITH CHANNEL PRIORITY.

6. CONTOURS ON THIS MAP WERE GENERATED USING THE 3X3 MEDIAN DATA SET.

7. THE DATA DEPICTED ON THIS MAP SHOULD NOT BE USED FOR VOLUME CALCULATION PURPOSES.

8. THE PLANIMETRICS DEPICTED ON THIS MAP ARE FOR ORIENTATION PURPOSES ONLY.

9. THIS SURVEY WAS PERFORMED USING LOCAL CONTROL ESTABLISHED BY THE CORPS OF ENGINEERS.

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

11. THE SURVEY WAS CONDUCTED BY MCKIM & CREED USING THE FOLLOWING:
    SURVEY VESSELS: SV BOTTOM LINE
    ECHOSOUNDER: R2SONIC 2022 AND R2SONIC 2024 MULTIBEAM SYSTEM.
    NAVIGATION SYSTEMS: INTEGRATED I2NS INERTIAL NAVIGATION SYSTEM. IN REAL TIME KINEMATIC (RTK)MODE.
    SURVEY ACQUISITION SOFTWARE: HYPACK VERSION 2020
    SURVEY PROCESSING SOFTWARE: HYPACK/HYSWEEP VERSION 2020
    CTD CAST WERE TAKEN DURING ACQUISITION FOR ACCURATE SPEED OF SOUND PROFILES USING AN AML BASE X2 AS WELL AS AN AML MICRO-X SOUND VELOCITY PROBE AT THE HEAD.

12. THE INFORMATION PRESENTED ON THIS DRAWING REPRESENTS THE RESULTS OF A SURVEY PERFORMED BY MCKIM & CREED BETWEEN AUGUST 22. AND OCTOBER 03. 2020 AND CAN ONLY BE CONSIDERED AS INDICATING THE CONDITIONS EXISTING AT THAT TIME. BECAUSE THESE CONDITIONS MAY BE SUBJECT TO RAPID CHANGE DUE TO SHOALING EVENTS. A PRUDENT MARINER SHOULD NOT RELY EXCLUSIVELY ON THE INFORMATION PROVIDED HERE. 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 MCKIM & CREED.

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16. A COPY OF THIS DOCUMENT WITHOUT A PROPER APPLICATION OF THE SURVEYOR'S EMBOSSED OR RED ELECTRONIC SEAL SHOULD BE ASSUMED TO BE AN UNAUTHORIZED COPY.

STATE OF NEW YORK
RAYMOND B. ARMER
049350
LICENSED LAND SURVEYOR

NSRS/NGS CONTROL DATA			
BENCHMARK: TROY DAM 1	PID# BBDR68	NORTHING	EASTING
ELEVATION: 25.32' NAVD 88		1,428,037.76	709,760.15

LOCAL CONTROL DATA			
BENCHMARK: HR-12	PID#	NORTHING	EASTING
ELEVATION: 8.67' NAVD 88		1,318821.55	684451.34
STAMPED: HR-12 2016			

LOCAL CONTROL DATA			
BENCHMARK: 01-1	PID#	NORTHING	EASTING
ELEVATION: 3.87' NAVD 88		1,124,859.59	641003.46
STAMPED:			

SCALE 1" = 100'
0 100 200 300 400

US Army Corps of Engineers ®
New York District

MARK	DESCRIPTION	DATE	APPR.

DESIGNED BY: DDD
DWN BY: MBH
CKD BY: RBD
SUBMITTED BY: DLJ
PLOT SCALE: 1" = 50'
SIZE: ANSI F
DATE: AUGUST 22 - OCOTBER 03, 2020
SOLICITATION NO.:
CONTRACT NO.: W912DS-20-D-0003
ISSUE DATE: 5 MAR 2020
FILE NUMBER:
FILE NAME: VH-089890960_HUDSON_2020.DGN

U.S. ARMY CORPS OF ENGINEERS
NEW YORK DISTRICT
NEW YORK, NY

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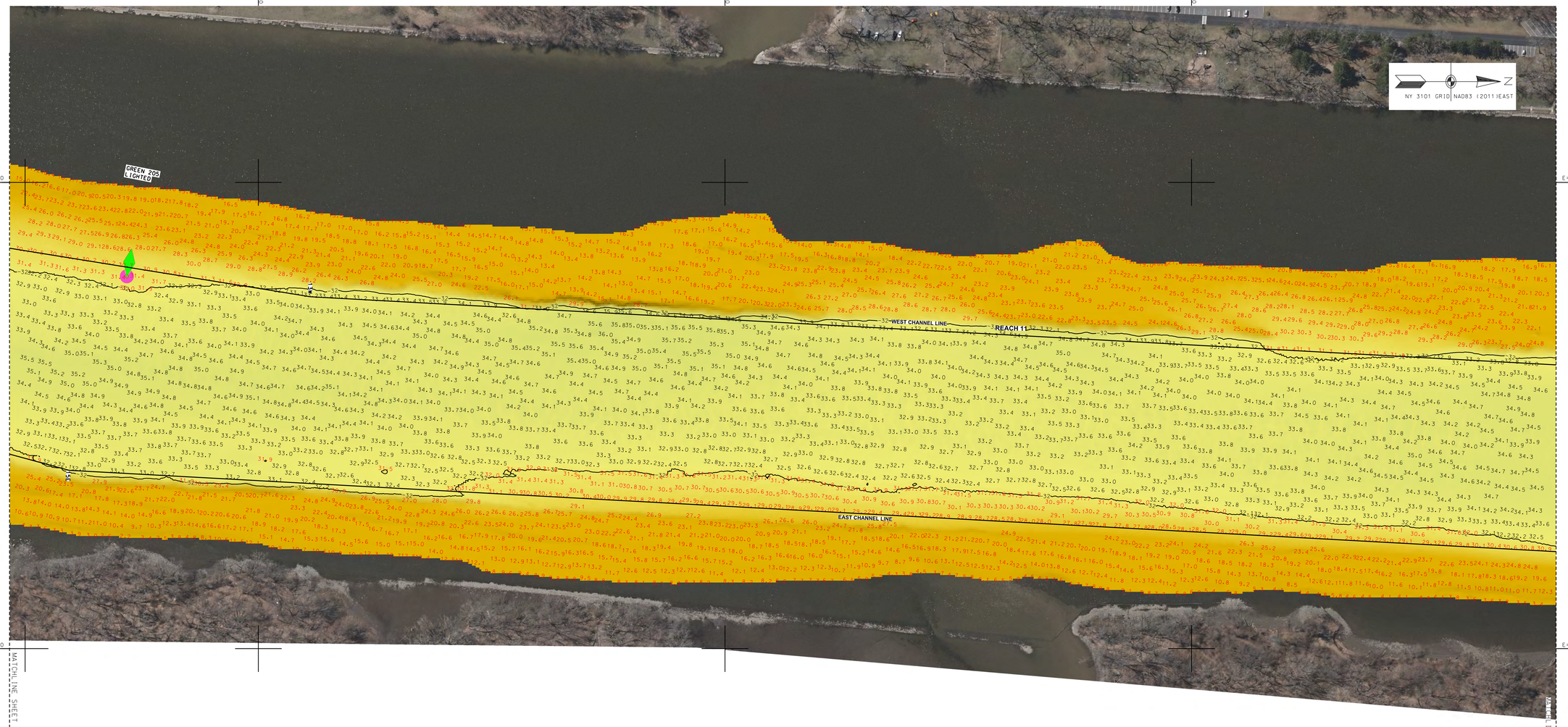
FAX: (910) 251-8282

HYDROGRAPHIC CONDITIONS SURVEY
HUDSON RIVER FEDERAL NAVIGATION CHANNEL
REACH 10-11

SHEET IDENTIFICATION
VH-129
SHEET 29 OF 103



PROJECT SPECIFIC NOTES:

1. COORDINATES REFER TO US STATE PLANE COORDINATE SYSTEM NAD 1983(2011). NEW YORK. 3101 EAST US SURVEY FEET.

2. 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.

3. THE SOUNDINGS ON THIS MAP MEET USACE EM 1110-2-1003 ACCURACY STANDARDS.

4. VERTICAL DATUM FOR THIS PROJECT IS CORPS OF ENGINEERS RIVER DATUM.
   A. REACH 63 TO REACH 01 AUTHORIZED PROJECT DEPTH OF 32'. MEASURED FROM 2.55' BELOW NAVD 88.
   B. FROM 2200' SOUTH TO 900' SOUTH OF MALL DUNN BRIDGE AUTHORIZED PROJECT DEPTH OF 27' MEASURED FROM 3.8' BELOW NAVD 88.
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5. MULTI-BEAM SOUNDINGS AS SHOWN ARE REPRESENTED USING THE MEDIAN OF A THREE (3') FOOT CELL SORTED TO THIRTY (30') FEET WITH CHANNEL PRIORITY.

6. CONTOURS ON THIS MAP WERE GENERATED USING THE 3X3 MEDIAN DATA SET.

7. THE DATA DEPICTED ON THIS MAP SHOULD NOT BE USED FOR VOLUME CALCULATION PURPOSES.

8. THE PLANIMETRICS DEPICTED ON THIS MAP ARE FOR ORIENTATION PURPOSES ONLY.

9. THIS SURVEY WAS PERFORMED USING LOCAL CONTROL ESTABLISHED BY THE CORPS OF ENGINEERS.

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

11. THE SURVEY WAS CONDUCTED BY MCKIM & CREED USING THE FOLLOWING:
    SURVEY VESSELS: SV BOTTOM LINE
    ECHOSOUNDER: R2SONIC 2022 AND R2SONIC 2024 MULTIBEAM SYSTEM.
    NAVIGATION SYSTEMS: INTEGRATED IXNS INERTIAL NAVIGATION SYSTEM. IN REAL TIME KINEMATIC (RTK)MODE.
    SURVEY ACQUISITION SOFTWARE: HYPACK VERSION 2020
    SURVEY PROCESSING SOFTWARE: HYPACK/HYSWEEP VERSION 2020
    CTD CAST WERE TAKEN DURING ACQUISITION FOR ACCURATE SPEED OF SOUND PROFILES
    USING AN AML BASE X2 AS WELL AS AN AML MICRO-X SOUND VELOCITY PROBE AT THE HEAD.

12. THE INFORMATION PRESENTED ON THIS DRAWING REPRESENTS THE RESULTS OF A SURVEY PERFORMED BY MCKIM & CREED BETWEEN AUGUST 22, AND OCTOBER 03, 2020 AND CAN ONLY BE CONSIDERED AS INDICATING THE CONDITIONS EXISTING AT THAT TIME. BECAUSE THESE CONDITIONS MAY BE SUBJECT TO RAPID CHANGE DUE TO SHOALING EVENTS. A PRUDENT MARINER SHOULD NOT RELY EXCLUSIVELY ON THE INFORMATION PROVIDED HERE. 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 MCKIM & CREED.

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14. THIS MAP WAS PREPARED IN ACCORDANCE WITH THE CURRENT EXISTING CODE OF PRACTICE FOR LAND SURVEYS ADOPTED BY THE NEW YORK STATE ASSOCIATION OF PROFESSIONAL LAND SURVEYORS, INC.

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16. A COPY OF THIS DOCUMENT WITHOUT A PROPER APPLICATION OF THE SURVEYOR'S EMBOSSED OR RED ELECTRONIC SEAL SHOULD BE ASSUMED TO BE AN UNAUTHORIZED COPY.

STATE OF NEW YORK
RAYFORD B. OWEN
090 49356
LICENSED LAND SURVEYOR

NSRS/NGS CONTROL DATA			
BENCHMARK: TROY DAM 1	PID# BBDR68	NORTHING	EASTING
ELEVATION: 25.32' NAVD 88		1,428,037.76	709,760.15

LOCAL CONTROL DATA			
BENCHMARK: HR-12	PID#	NORTHING	EASTING
ELEVATION: 8.67' NAVD 88		1,318821.55	684451.34
STAMPED: HR-12 2016			

LOCAL CONTROL DATA			
BENCHMARK: 01-1	PID#	NORTHING	EASTING
ELEVATION: 3.87' NAVD 88		1,124,859.59	641003.46
STAMPED:			

SCALE 1" = 100'
0 100 200 300 400

US Army Corps of Engineers ®
New York District

MARK	DESCRIPTION	DATE	APPR.	MARK	DESCRIPTION	DATE	APPR.

DATE: AUGUST 22 - OCOTBER 03, 2020
SOLICITATION NO.:
CONTRACT NO.: W912DS-20-D-0005
FILE NUMBER:

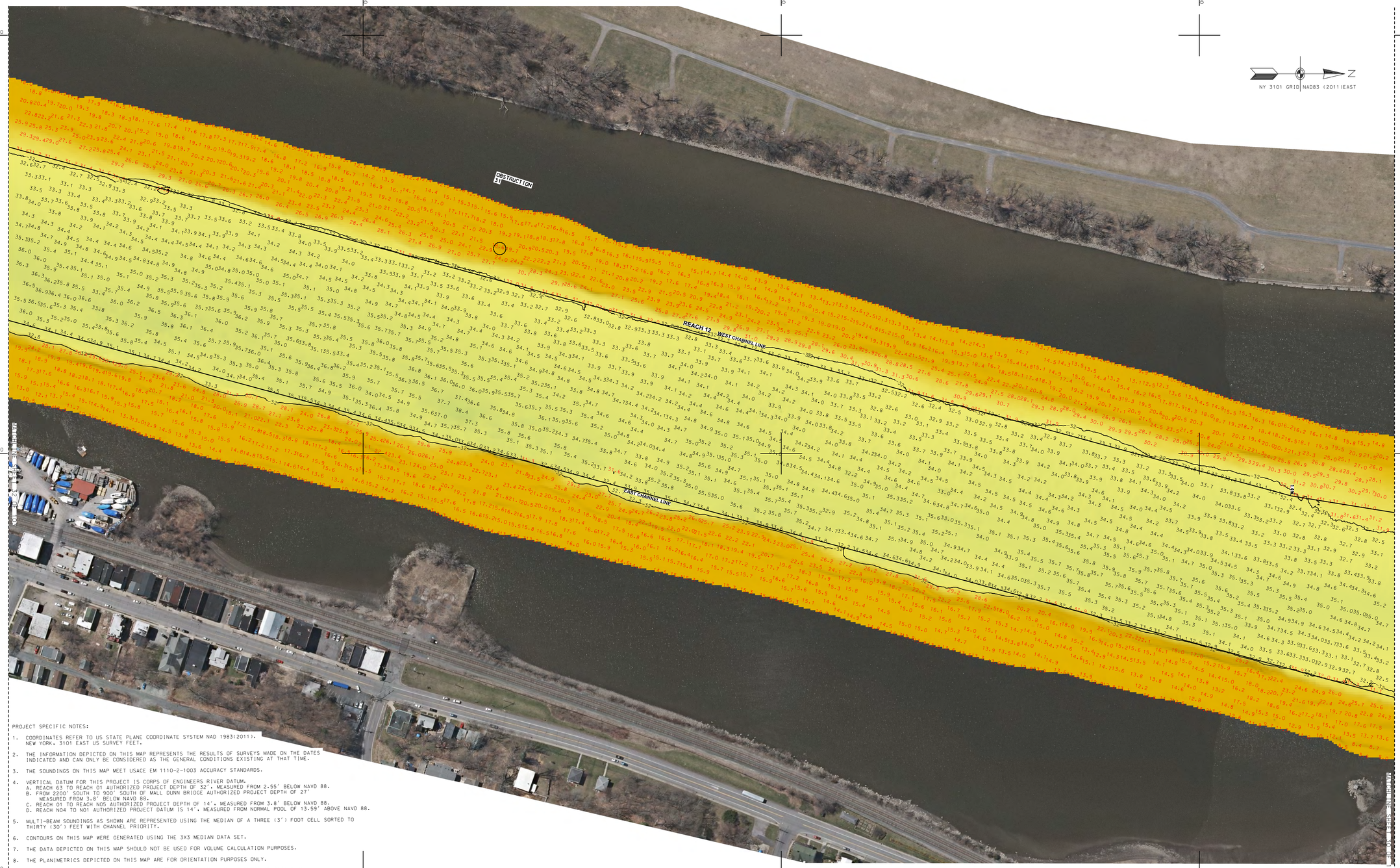
DESIGNED BY: 000
DWN BY: MBH
CKD BY: RBD
SUBMITTED BY: DLJ
PLOT SCALE: 1" = 100'
ISSUE DATE: 1 MAY 2020
SIZE: ANSI F
FILE NAME: VH-0938990060_HUDSON_2020.DGN

U.S. ARMY CORPS OF ENGINEERS
NEW YORK DISTRICT
NEW YORK, NY

McKIM & CREED
243 NORTH FRONT STREET
WILMINGTON, NORTH CAROLINA 28401
TELEPHONE: (910) 251-8444
FAX: (910) 251-8282

HYDROGRAPHIC CONDITIONS SURVEY
HUDSON RIVER FEDERAL NAVIGATION CHANNEL
REACH 11

SHEET IDENTIFICATION
VH-130
SHEET 30 OF 103



PROJECT SPECIFIC NOTES:

1. COORDINATES REFER TO US STATE PLANE COORDINATE SYSTEM NAD 1983(2011). NEW YORK, 3101 EAST US SURVEY FEET.
2. 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.
3. THE SOUNDINGS ON THIS MAP MEET USACE EM 1110-2-1003 ACCURACY STANDARDS.
4. VERTICAL DATUM FOR THIS PROJECT IS CORPS OF ENGINEERS RIVER DATUM.
   A. REACH 63 TO REACH 01 AUTHORIZED PROJECT DEPTH OF 32', MEASURED FROM 2.55' BELOW NAVD 88.
   B. FROM 2200' SOUTH TO 900' SOUTH OF MALL DUNN BRIDGE AUTHORIZED PROJECT DEPTH OF 27' MEASURED FROM 3.8' BELOW NAVD 88.
   C. REACH 01 TO REACH N05 AUTHORIZED PROJECT DEPTH OF 14', MEASURED FROM 3.8' BELOW NAVD 88.
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11. THE SURVEY WAS CONDUCTED BY MCKIM & CREED USING THE FOLLOWING:
    SURVEY VESSELS: SV BOTTOM LINE
    ECHOSOUNDER: R2SONIC 2022 AND R2SONIC 2024 MULTIBEAM SYSTEM.
    NAVIGATION SYSTEMS: INTEGRATED I2NS INERTIAL NAVIGATION SYSTEM. IN REAL TIME KINEMATIC (RTK)MODE.
    SURVEY ACQUISITION SOFTWARE: HYPACK VERSION 2020
    SURVEY PROCESSING SOFTWARE: HYPACK/HYSWEEP VERSION 2020
    CTD CAST WERE TAKEN DURING ACQUISITION FOR ACCURATE SPEED OF SOUND PROFILES USING AN AML BASE X2 AS WELL AS AN AML MICRO-X SOUND VELOCITY PROBE AT THE HEAD.
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NSRS/NGS CONTROL DATA			
BENCHMARK: TROY DAM 1	PID# BBDR68	NORTHING	EASTING
ELEVATION: 25.32' NAVD 88		1,428,037.76	709,760.15

LOCAL CONTROL DATA			
BENCHMARK: HR-12	PID#	NORTHING	EASTING
ELEVATION: 8.67' NAVD 88		1,318821.55	684451.34
STAMPED: HR-12 2016			

LOCAL CONTROL DATA			
BENCHMARK: 01-1	PID#	NORTHING	EASTING
ELEVATION: 3.87' NAVD 88		1,124,859.59	641003.46
STAMPED:			

STATE OF NEW YORK · RICHARD B. DOWER · No. 49350 · LICENSED LAND SURVEYOR

SCALE 1" = 100'
0 100 200 300 400

US Army Corps of Engineers ®
New York District

MARK	DESCRIPTION	DATE	APPR.
MARK	DESCRIPTION	DATE	APPR.

DESIGNED BY: 000
DWN BY: MBH
CKD BY: RBD
SUBMITTED BY: DLJ
DATE: AUGUST 22 - OCOTBER 03, 2020
SOLICITATION NO.:
CONTRACT NO.: W912DS-20-D-0003
PLOT SCALE: 1:600
ISSUE DATE: NOVEMBER 2020
FILE NUMBER:
SIZE: ANSI F
FILE NAME: VH-036899060_HUDSON_2020.DGN

U.S. ARMY CORPS OF ENGINEERS
NEW YORK DISTRICT
NEW YORK, NY

McKIM & CREED
243 NORTH FRONT STREET
WILMINGTON, NORTH CAROLINA 28401
TELEPHONE: (910) 251-8444
FAX: (910) 251-2282

HYDROGRAPHIC CONDITIONS SURVEY
HUDSON RIVER FEDERAL NAVIGATION CHANNEL
REACH 12

SHEET IDENTIFICATION
VH-131
SHEET 31 OF 103

PROJECT SPECIFIC NOTES:

1. COORDINATES REFER TO US STATE PLANE COORDINATE SYSTEM NAD 1983(2011). NEW YORK, 3101 EAST US SURVEY FEET.
2. 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.
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   B. FROM 2200' SOUTH TO 900' SOUTH OF MALL DUNN BRIDGE AUTHORIZED PROJECT DEPTH OF 27' MEASURED FROM 3.8' BELOW NAVD 88.
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   D. REACH N04 TO NOT AUTHORIZED PROJECT DATUM IS 14', MEASURED FROM NORMAL POOL OF 13.59' ABOVE NAVD 88.
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10. THIS MAP IS CEPD COMPLIANT IN ACCORDANCE WITH ER 1110-2-8160 AND EM 1110-2-6056.
11. THE SURVEY WAS CONDUCTED BY MCKIM & CREED USING THE FOLLOWING:
    SURVEY VESSELS: SV BOTTOM LINE
    ECHOSOUNDER: R2SONIC 2022 AND R2SONIC 2024 MULTIBEAM SYSTEM.
    NAVIGATION SYSTEMS: INTEGRATED IXNS INERTIAL NAVIGATION SYSTEM. IN REAL TIME KINEMATIC (RTK)MODE.
    SURVEY ACQUISITION SOFTWARE: HYPACK VERSION 2020
    SURVEY PROCESSING SOFTWARE: HYPACK/HYSWEEP VERSION 2020
    CTD CAST WERE TAKEN DURING ACQUISITION FOR ACCURATE SPEED OF SOUND PROFILES USING AN AML BASE X2 AS WELL AS AN AML MICRO-X SOUND VELOCITY PROBE AT THE HEAD.
12. THE INFORMATION PRESENTED ON THIS DRAWING REPRESENTS THE RESULTS OF A SURVEY PERFORMED BY MCKIM & CREED BETWEEN AUGUST 22, AND OCTOBER 03, 2020 AND CAN ONLY BE CONSIDERED AS INDICATING THE CONDITIONS EXISTING AT THAT TIME. BECAUSE THESE CONDITIONS MAY BE SUBJECT TO RAPID CHANGE DUE TO SHOALING EVENTS, A PRUDENT MARINER SHOULD NOT RELY EXCLUSIVELY ON THE INFORMATION PROVIDED HERE. 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 MCKIM & CREED.
13. UNAUTHORIZED ALTERATION OR ADDITION TO A SURVEY MAP BEARING A LICENSED LAND SURVEYOR'S SEAL IS A VIOLATION OF SECTION 7209, SUB-DIVISION 2. OF THE NEW YORK STATE EDUCATION LAW.
14. THIS MAP WAS PREPARED IN ACCORDANCE WITH THE CURRENT EXISTING CODE OF PRACTICE FOR LAND SURVEYS ADOPTED BY THE NEW YORK STATE ASSOCIATION OF PROFESSIONAL LAND SURVEYORS, INC.
15. REPRODUCTION OR COPYING OF THIS DOCUMENT MAY BE A VIOLATION OF COPYRIGHT LAW UNLESS PERMISSION OF THE AUTHOR AND/OR COPYRIGHT HOLDER IS OBTAINED.
16. A COPY OF THIS DOCUMENT WITHOUT A PROPER APPLICATION OF THE SURVEYOR'S EMBOSSED OR RED ELECTRONIC SEAL SHOULD BE ASSUMED TO BE AN UNAUTHORIZED COPY.

NSRS/NGS CONTROL DATA			
BENCHMARK: TROY DAM 1	PID# BBDR68	NORTHING	EASTING
ELEVATION: 25.32' NAVD 88		1,428,037.76	709,760.15

LOCAL CONTROL DATA			
BENCHMARK: HR-12	PID#	NORTHING	EASTING
ELEVATION: 8.67' NAVD 88		1,318821.55	684451.34
STAMPED: HR-12 2016			

LOCAL CONTROL DATA			
BENCHMARK: 01-1	PID#	NORTHING	EASTING
ELEVATION: 3.87' NAVD 88		1,124,859.59	641003.46
STAMPED:			

STATE OF NEW YORK
RICHARD B. OAKES
LICENSED LAND SURVEYOR
NO. 49350

US Army Corps of Engineers ®
New York District

MARK	DESCRIPTION	DATE	APPR.	MARK	DESCRIPTION	DATE	APPR.

DESIGNED BY: DDD
DWN BY: MBH
CKD BY: RBD
SUBMITTED BY: DLJ
PLOT SCALE: 1:100
PLOT DATE: 1:100
SIZE: ANSI F
ISSUE DATE: 1:100
FILE NAME: VH-SMB890060_HUDSON_2020.DGN

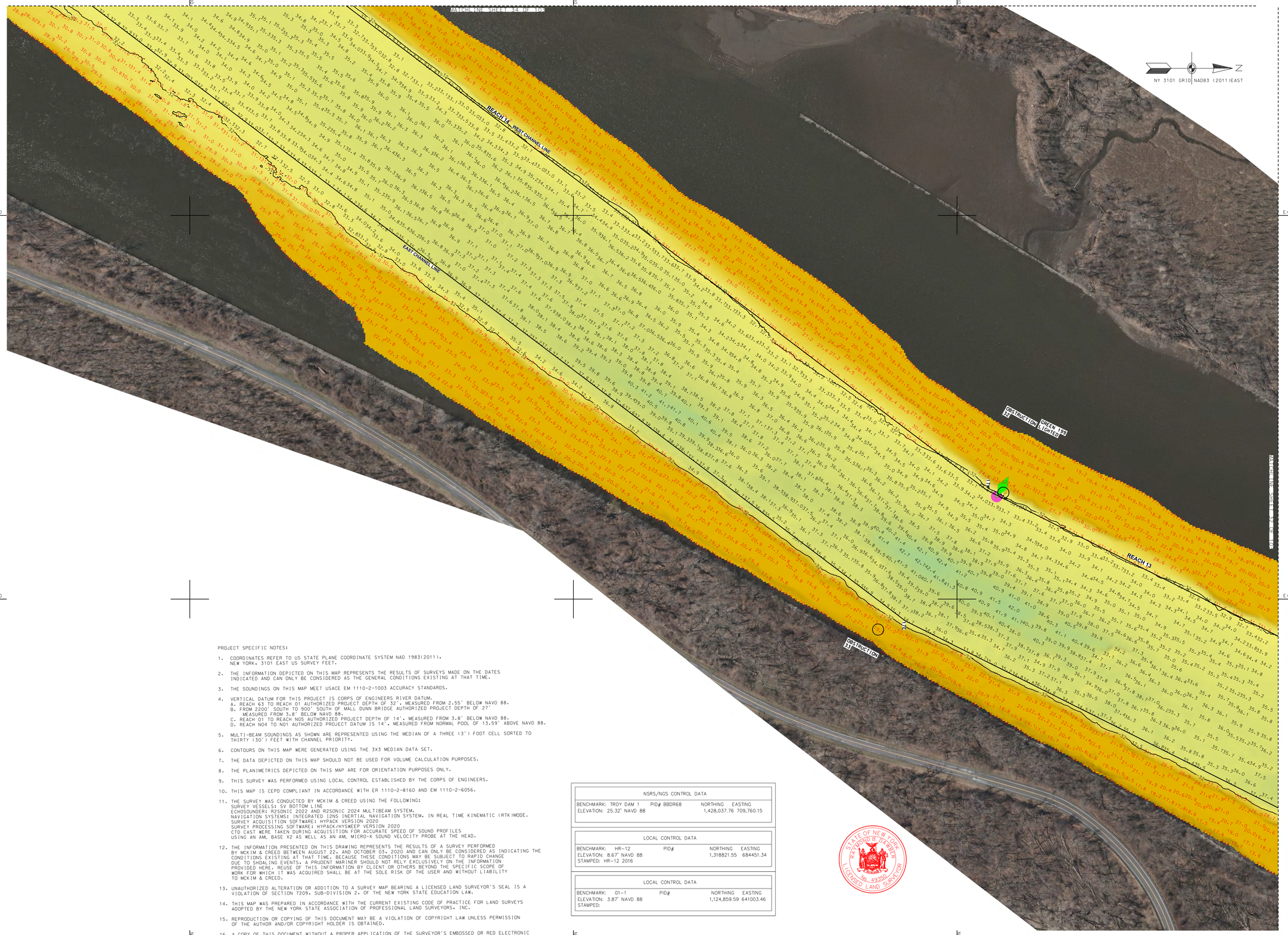
DATE: AUGUST 22 - OCTOBER 03, 2020
SOLICITATION NO.:
CONTRACT NO.: W912DS-20-D-0003
FILE NUMBER:

U.S. ARMY CORPS OF ENGINEERS
NEW YORK DISTRICT
NEW YORK, NY

McKIM & CREED
243 NORTH FRONT STREET
WILMINGTON, NORTH CAROLINA 28401
TELEPHONE: (910) 251-8348
FAX: (910) 251-8282

HYDROGRAPHIC CONDITIONS SURVEY
HUDSON RIVER FEDERAL NAVIGATION CHANNEL
REACH 12-13

SHEET IDENTIFICATION
VH-132
SHEET 32 OF 103



PROJECT SPECIFIC NOTES:

1. COORDINATES REFER TO US STATE PLANE COORDINATE SYSTEM NAD 1983(2011). NEW YORK. 3101 EAST US SURVEY FEET.
2. 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.
3. THE SOUNDINGS ON THIS MAP MEET USACE EM 1110-2-1003 ACCURACY STANDARDS.
4. VERTICAL DATUM FOR THIS PROJECT IS CORPS OF ENGINEERS RIVER DATUM.
   A. REACH 63 TO REACH 01 AUTHORIZED PROJECT DEPTH OF 32', MEASURED FROM 2.55' BELOW NAVD 88.
   B. FROM 2200' SOUTH TO 900' SOUTH OF MALL DUNN BRIDGE AUTHORIZED PROJECT DEPTH OF 27' MEASURED FROM 3.8' BELOW NAVD 88.
   C. REACH 01 TO REACH N05 AUTHORIZED PROJECT DEPTH OF 14', MEASURED FROM 3.8' BELOW NAVD 88.
   D. REACH N04 TO N01 AUTHORIZED PROJECT DATUM IS 14', MEASURED FROM NORMAL POOL OF 13.59' ABOVE NAVD 88.
5. MULTI-BEAM SOUNDINGS AS SHOWN ARE REPRESENTED USING THE MEDIAN OF A THREE (3') FOOT CELL SORTED TO THIRTY (30') FEET WITH CHANNEL PRIORITY.
6. CONTOURS ON THIS MAP WERE GENERATED USING THE 3X3 MEDIAN DATA SET.
7. THE DATA DEPICTED ON THIS MAP SHOULD NOT BE USED FOR VOLUME CALCULATION PURPOSES.
8. THE PLANIMETRICS DEPICTED ON THIS MAP ARE FOR ORIENTATION PURPOSES ONLY.
9. THIS SURVEY WAS PERFORMED USING LOCAL CONTROL ESTABLISHED BY THE CORPS OF ENGINEERS.
10. THIS MAP IS CEPD COMPLIANT IN ACCORDANCE WITH ER 1110-2-8160 AND EM 1110-2-6056.
11. THE SURVEY WAS CONDUCTED BY MCKIM & CREED USING THE FOLLOWING:
    SURVEY VESSELS: SV BOTTOM LINE
    ECHOSOUNDER: R2SONIC 2022 AND R2SONIC 2024 MULTIBEAM SYSTEM.
    NAVIGATION SYSTEMS: INTEGRATED I2NS INERTIAL NAVIGATION SYSTEM. IN REAL TIME KINEMATIC (RTK)MODE.
    SURVEY ACQUISITION SOFTWARE: HYPACK VERSION 2020
    SURVEY PROCESSING SOFTWARE: HYPACK/HYSWEEP VERSION 2020
    CTD CAST WERE TAKEN DURING ACQUISITION FOR ACCURATE SPEED OF SOUND PROFILES USING AN AML BASE X2 AS WELL AS AN AML MICRO-X SOUND VELOCITY PROBE AT THE HEAD.
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NSRS/NGS CONTROL DATA			
BENCHMARK: TROY DAM 1	PID# BBDR68	NORTHING	EASTING
ELEVATION: 25.32' NAVD 88		1,428,037.76	709,760.15

LOCAL CONTROL DATA			
BENCHMARK: HR-12	PID#	NORTHING	EASTING
ELEVATION: 8.67' NAVD 88		1,318821.55	684451.34
STAMPED: HR-12 2016			

LOCAL CONTROL DATA			
BENCHMARK: 01-1	PID#	NORTHING	EASTING
ELEVATION: 3.87' NAVD 88		1,124,859.59	641003.46
STAMPED:			

STATE OF NEW YORK
RAYMOND B. DWYER
LICENSED LAND SURVEYOR
No. 49356

SCALE 1" = 100'
0 100 200 300 400

US Army Corps of Engineers ®
New York District

MARK	DESCRIPTION	DATE	APPR.	MARK	DESCRIPTION	DATE	APPR.

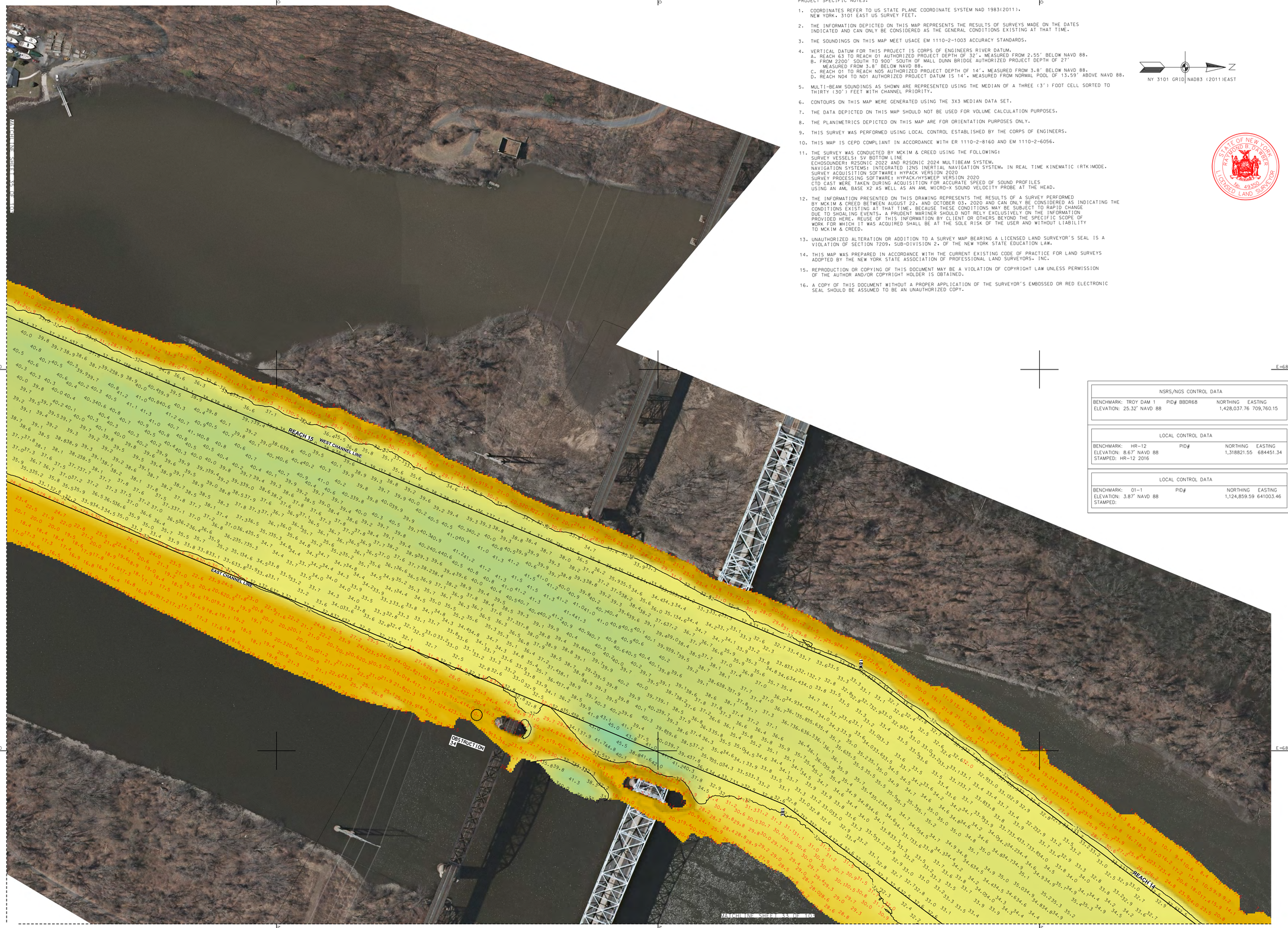
DESIGNED BY: 000
DWN BY: MBH
CKD BY: RBD
SUBMITTED BY: DJ
DATE: AUGUST 22 - OCOTBER 03, 2020
SOLICITATION NO.:
CONTRACT NO.: W912DS-20-D-0003
ISSUE DATE: MAY 2020
PLOT SCALE: 1=100'
SIZE: ANSI F
FILE NUMBER:
FILE NAME: VH-0938990060_HUDSON_2020.DGN

U.S. ARMY CORPS OF ENGINEERS
NEW YORK DISTRICT
NEW YORK, NY

McKIM & CREED
243 NORTH FRONT STREET
WILMINGTON, NORTH CAROLINA 28401
TELEPHONE: (910) 251-8444
FAX: (910) 251-8282

HYDROGRAPHIC CONDITIONS SURVEY
HUDSON RIVER FEDERAL NAVIGATION CHANNEL
REACH 13-14

SHEET IDENTIFICATION
VH-133
SHEET 33 OF 103



PROJECT SPECIFIC NOTES:

1. COORDINATES REFER TO US STATE PLANE COORDINATE SYSTEM NAD 1983(2011). NEW YORK. 3101 EAST US SURVEY FEET.
2. 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.
3. THE SOUNDINGS ON THIS MAP MEET USACE EM 1110-2-1003 ACCURACY STANDARDS.
4. VERTICAL DATUM FOR THIS PROJECT IS CORPS OF ENGINEERS RIVER DATUM.
   A. REACH 63 TO REACH 01 AUTHORIZED PROJECT DEPTH OF 32', MEASURED FROM 2.55' BELOW NAVD 88.
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9. THIS SURVEY WAS PERFORMED USING LOCAL CONTROL ESTABLISHED BY THE CORPS OF ENGINEERS.
10. THIS MAP IS CEPD COMPLIANT IN ACCORDANCE WITH ER 1110-2-8160 AND EM 1110-2-6056.
11. THE SURVEY WAS CONDUCTED BY MCKIM & CREED USING THE FOLLOWING:
    SURVEY VESSELS: SV BOTTOM LINE
    ECHOSOUNDER: R2SONIC 2022 AND R2SONIC 2024 MULTIBEAM SYSTEM.
    NAVIGATION SYSTEMS: INTEGRATED I2NS INERTIAL NAVIGATION SYSTEM. IN REAL TIME KINEMATIC (RTK)MODE.
    SURVEY ACQUISITION SOFTWARE: HYPACK VERSION 2020
    SURVEY PROCESSING SOFTWARE: HYPACK/HYSWEEP VERSION 2020
    CTD CAST WERE TAKEN DURING ACQUISITION FOR ACCURATE SPEED OF SOUND PROFILES USING AN AML BASE X2 AS WELL AS AN AML MICRO-X SOUND VELOCITY PROBE AT THE HEAD.
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NY 3101 GRID | NAD83 (2011)EAST

STATE OF NEW YORK
RAYMOND B. PARKER
090 49360
LICENSED LAND SURVEYOR

NSRS/NGS CONTROL DATA			
BENCHMARK: TROY DAM 1	PID# BBDR68	NORTHING	EASTING
ELEVATION: 25.32' NAVD 88		1,428,037.76	709,760.15

LOCAL CONTROL DATA			
BENCHMARK: HR-12	PID#	NORTHING	EASTING
ELEVATION: 8.67' NAVD 88		1,318821.55	684451.34
STAMPED: HR-12 2016			

LOCAL CONTROL DATA			
BENCHMARK: 01-1	PID#	NORTHING	EASTING
ELEVATION: 3.87' NAVD 88		1,124,859.59	641003.46
STAMPED:			

US Army Corps of Engineers ®
New York District

MARK	DESCRIPTION	DATE	APPR.
MARK	DESCRIPTION	DATE	APPR.

DESIGNED BY: DDO
DWN BY: MBH
CKD BY: RBD
SUBMITTED BY: DLJ
DATE: AUGUST 22 - OCOTBER 03, 2020
SOLICITATION NO.:
CONTRACT NO.: W912DS-20-D-0003
PLOT SCALE: 1:100
PLOT DATE: 1/14/2020
ISSUE DATE: FILE NUMBER:
SIZE: ANSI F
FILE NAME: VH-035890060_HUDSON_2020.DGN

U.S. ARMY CORPS OF ENGINEERS
NEW YORK DISTRICT
NEW YORK, NY

McKIM & CREED
243 NORTH FRONT STREET
WILMINGTON, NORTH CAROLINA 28401
TELEPHONE: (910) 251-1088
FAX: (910) 251-8282

HYDROGRAPHIC CONDITIONS SURVEY
HUDSON RIVER FEDERAL NAVIGATION CHANNEL
REACH 14-15

SHEET IDENTIFICATION
VH-134
SHEET 34 OF 103

SCALE 1" = 100'
0 100 200 300 400

PROJECT SPECIFIC NOTES:

1. COORDINATES REFER TO US STATE PLANE COORDINATE SYSTEM NAD 1983(2011). NEW YORK. 3101 EAST US SURVEY FEET.
2. 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.
3. THE SOUNDINGS ON THIS MAP MEET USACE EM 1110-2-1003 ACCURACY STANDARDS.
4. VERTICAL DATUM FOR THIS PROJECT IS CORPS OF ENGINEERS RIVER DATUM.
   A. REACH 63 TO REACH 01 AUTHORIZED PROJECT DEPTH OF 32'. MEASURED FROM 2.55' BELOW NAVD 88.
   B. FROM 2200' SOUTH TO 900' SOUTH OF MALL DUNN BRIDGE AUTHORIZED PROJECT DEPTH OF 27' MEASURED FROM 3.8' BELOW NAVD 88.
   C. REACH 01 TO REACH N05 AUTHORIZED PROJECT DEPTH OF 14'. MEASURED FROM 3.8' BELOW NAVD 88.
   D. REACH N04 TO N01 AUTHORIZED PROJECT DATUM IS 14'. MEASURED FROM NORMAL POOL OF 13.59' ABOVE NAVD 88.
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10. THIS MAP IS CEPD COMPLIANT IN ACCORDANCE WITH ER 1110-2-8160 AND EM 1110-2-6056.
11. THE SURVEY WAS CONDUCTED BY MCKIM & CREED USING THE FOLLOWING:
    SURVEY VESSELS: SV BOTTOM LINE
    ECHOSOUNDER: R2SONIC 2022 AND R2SONIC 2024 MULTIBEAM SYSTEM.
    NAVIGATION SYSTEMS: INTEGRATED I2NS INERTIAL NAVIGATION SYSTEM. IN REAL TIME KINEMATIC (RTK)MODE.
    SURVEY ACQUISITION SOFTWARE: HYPACK VERSION 2020
    SURVEY PROCESSING SOFTWARE: HYPACK/HYSWEEP VERSION 2020
    CTD CAST WERE TAKEN DURING ACQUISITION FOR ACCURATE SPEED OF SOUND PROFILES USING AN AML BASE X2 AS WELL AS AN AML MICRO-X SOUND VELOCITY PROBE AT THE HEAD.
12. THE INFORMATION PRESENTED ON THIS DRAWING REPRESENTS THE RESULTS OF A SURVEY PERFORMED BY MCKIM & CREED BETWEEN AUGUST 22. AND OCTOBER 03. 2020 AND CAN ONLY BE CONSIDERED AS INDICATING THE CONDITIONS EXISTING AT THAT TIME. BECAUSE THESE CONDITIONS MAY BE SUBJECT TO RAPID CHANGE DUE TO SHOALING EVENTS. A PRUDENT MARINER SHOULD NOT RELY EXCLUSIVELY ON THE INFORMATION PROVIDED HERE. 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 MCKIM & CREED.
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NY 3101 GRID | NAD83 (2011)EAST

WEST CHANNEL LINE

DESTRUCTION 35

REACH 15

EAST CHANNEL LINE

NSRS/NGS CONTROL DATA			
BENCHMARK: TROY DAM 1	PID# BBDR68	NORTHING	EASTING
ELEVATION: 25.32' NAVD 88		1,428,037.76	709,760.15

LOCAL CONTROL DATA			
BENCHMARK: HR-12	PID#	NORTHING	EASTING
ELEVATION: 8.67' NAVD 88		1,318821.55	684451.34
STAMPED: HR-12 2016			

LOCAL CONTROL DATA			
BENCHMARK: 01-1	PID#	NORTHING	EASTING
ELEVATION: 3.87' NAVD 88		1,124,859.59	641003.46
STAMPED:			

STATE OF NEW YORK RAYMOND B. TARBER No. 49350 LICENSED LAND SURVEYOR

SCALE 1" = 100'
0 100 200 300 400

US Army Corps of Engineers
New York District

DESCRIPTION	DATE	APPR.

MARK	DESCRIPTION	DATE	APPR.

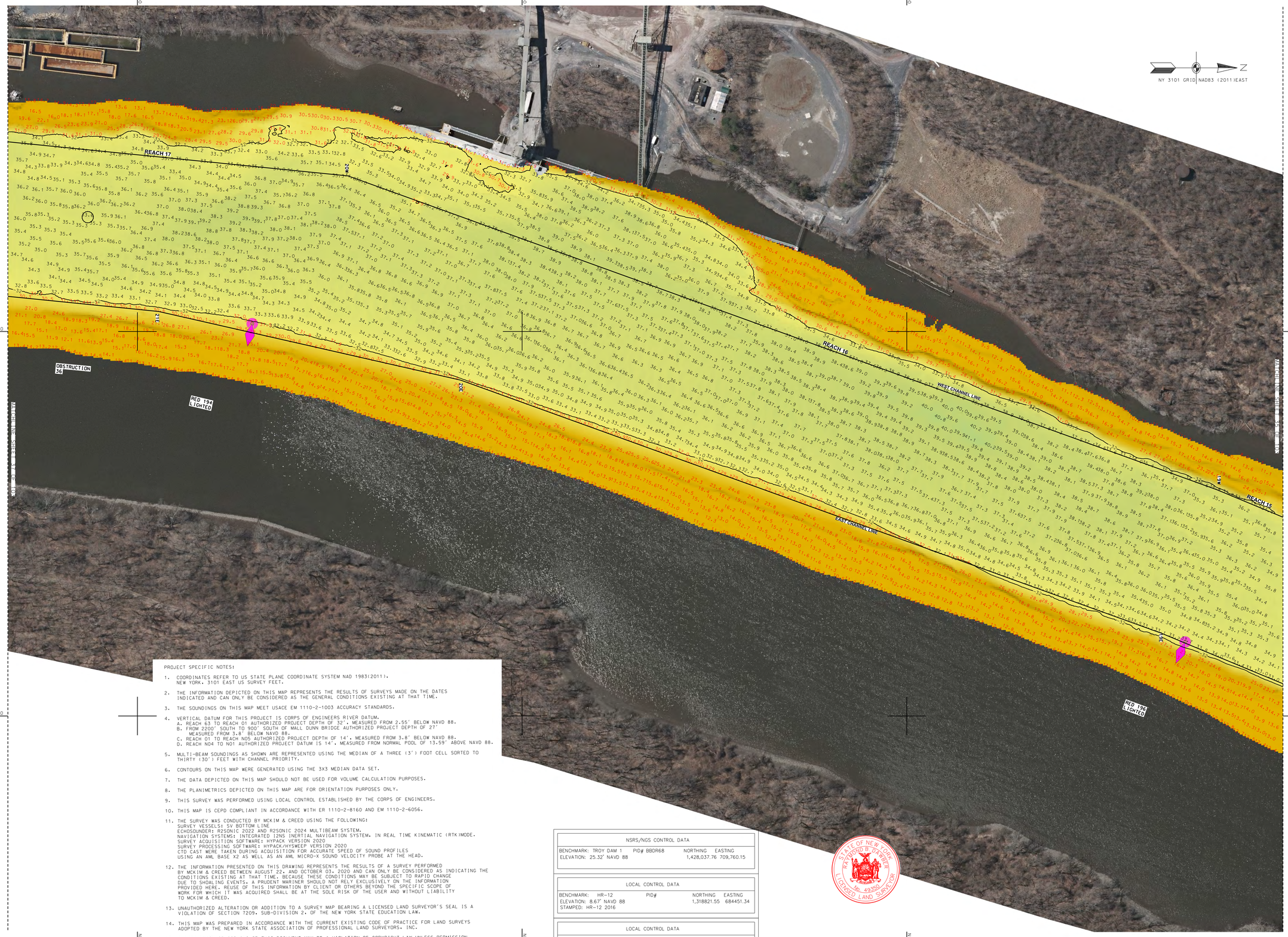
DESIGNED BY: 000
DRWN BY: MBH
CKD BY: RBD
SUBMITTED BY: DLJ
DATE: AUGUST 22 - OCOTBER 03, 2020
SOLICITATION NO.:
CONTRACT NO.: W912DS-20-D-0003
FILE NUMBER:
PLOT SCALE: 1" = 100'
PLOT DATE: 20240930
SIZE: ANSI F
ISSUE DATE:
FILE NAME: VH-508890950_HUDSON_2020.DGN

U.S. ARMY CORPS OF ENGINEERS
NEW YORK DISTRICT
NEW YORK, NY

McKIM & CREED
241 NORTH FRONT STREET
WILMINGTON, NORTH CAROLINA 28401
TELEPHONE: (910) 251-8348
FAX: (910) 251-8252

HYDROGRAPHIC CONDITIONS SURVEY
HUDSON RIVER FEDERAL NAVIGATION CHANNEL
REACH 15

SHEET IDENTIFICATION
VH-135
SHEET 35 OF 103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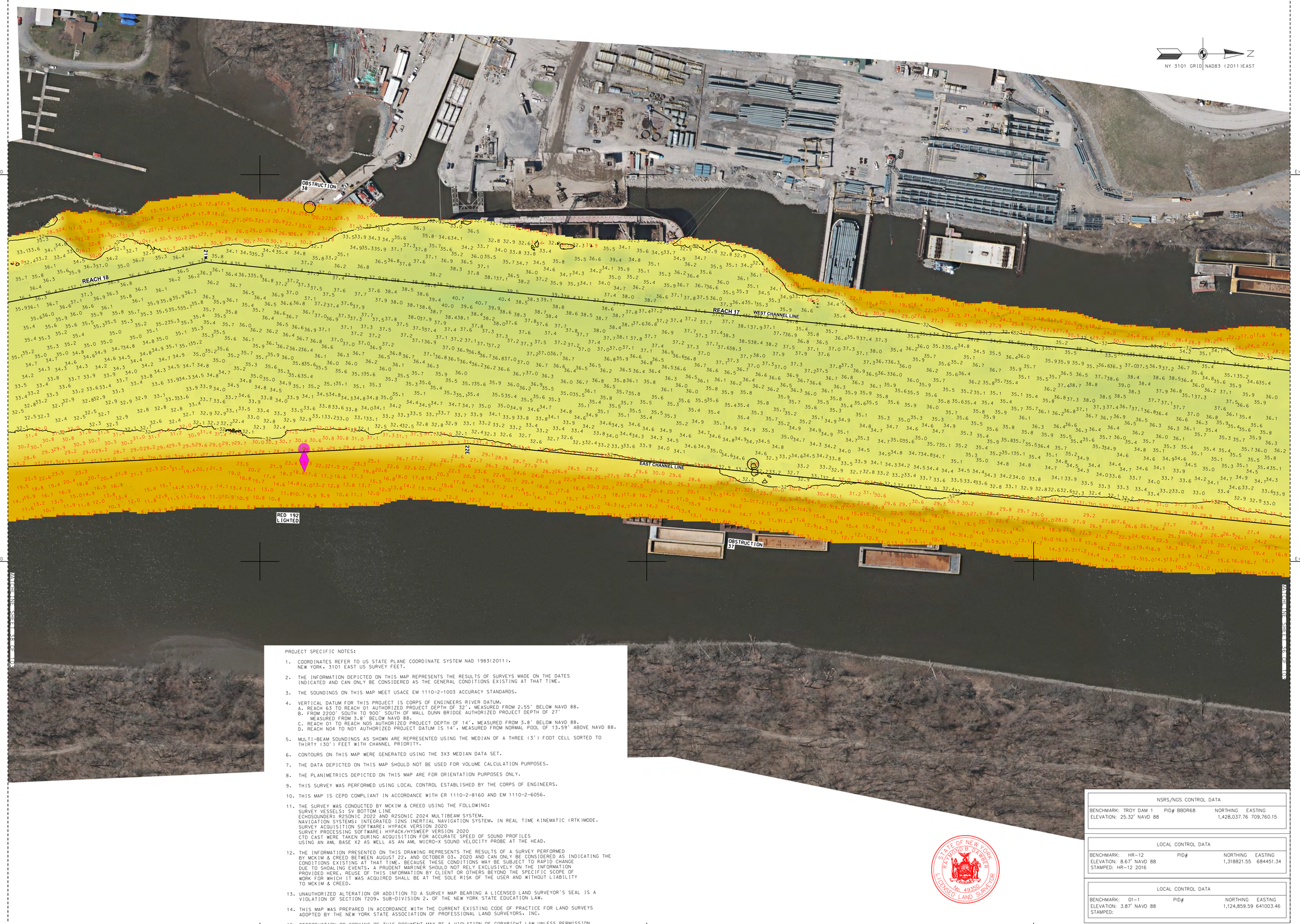
N=1333000
N=1334000
E=685000
E=686000
NY 3101 GRID NAD83 (2011) EAST
REACH 17
REACH 16
REACH 15
WEST CHANNEL LINE
EAST CHANNEL LINE
OBSTRUCTION 36
RED 194 LIGHTED
RED 196 LIGHTED
205
212
212
212



PROJECT SPECIFIC NOTES:

1. COORDINATES REFER TO US STATE PLANE COORDINATE SYSTEM NAD 1983(2011). NEW YORK. 3101 EAST US SURVEY FEET.

2. 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.

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   D. REACH N04 TO N01 AUTHORIZED PROJECT DATUM IS 14', MEASURED FROM NORMAL POOL OF 13.59' ABOVE NAVD 88.

5. MULTI-BEAM SOUNDINGS AS SHOWN ARE REPRESENTED USING THE MEDIAN OF A THREE (3') FOOT CELL SORTED TO THIRTY (30') FEET WITH CHANNEL PRIORITY.

6. CONTOURS ON THIS MAP WERE GENERATED USING THE 3X3 MEDIAN DATA SET.

7. THE DATA DEPICTED ON THIS MAP SHOULD NOT BE USED FOR VOLUME CALCULATION PURPOSES.

8. THE PLANIMETRICS DEPICTED ON THIS MAP ARE FOR ORIENTATION PURPOSES ONLY.

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

11. THE SURVEY WAS CONDUCTED BY MCKIM & CREED USING THE FOLLOWING:
    SURVEY VESSELS: SV BOTTOM LINE
    ECHOSOUNDER: R2SONIC 2022 AND R2SONIC 2024 MULTIBEAM SYSTEM.
    NAVIGATION SYSTEMS: INTEGRATED IXNS INERTIAL NAVIGATION SYSTEM. IN REAL TIME KINEMATIC (RTK)MODE.
    SURVEY ACQUISITION SOFTWARE: HYPACK VERSION 2020
    SURVEY PROCESSING SOFTWARE: HYPACK/HYSWEEP VERSION 2020
    CTD CAST WERE TAKEN DURING ACQUISITION FOR ACCURATE SPEED OF SOUND PROFILES USING AN AML BASE X2 AS WELL AS AN AML MICRO-X SOUND VELOCITY PROBE AT THE HEAD.

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STATE OF NEW YORK
RAYMOND B. D'ARBER
049350
LICENSED LAND SURVEYOR

NSRS/NGS CONTROL DATA			
BENCHMARK: TROY DAM 1	PID# BBDR68	NORTHING	EASTING
ELEVATION: 25.32' NAVD 88		1,428,037.76	709,760.15

LOCAL CONTROL DATA			
BENCHMARK: HR-12	PID#	NORTHING	EASTING
ELEVATION: 8.67' NAVD 88		1,318821.55	684451.34
STAMPED: HR-12 2016			

LOCAL CONTROL DATA			
BENCHMARK: 01-1	PID#	NORTHING	EASTING
ELEVATION: 3.87' NAVD 88		1,124,859.59	641003.46
STAMPED:			

SCALE 1" = 100'
0 100 200 300 400

US Army Corps of Engineers
New York District

MARK	DESCRIPTION	DATE	APPR.

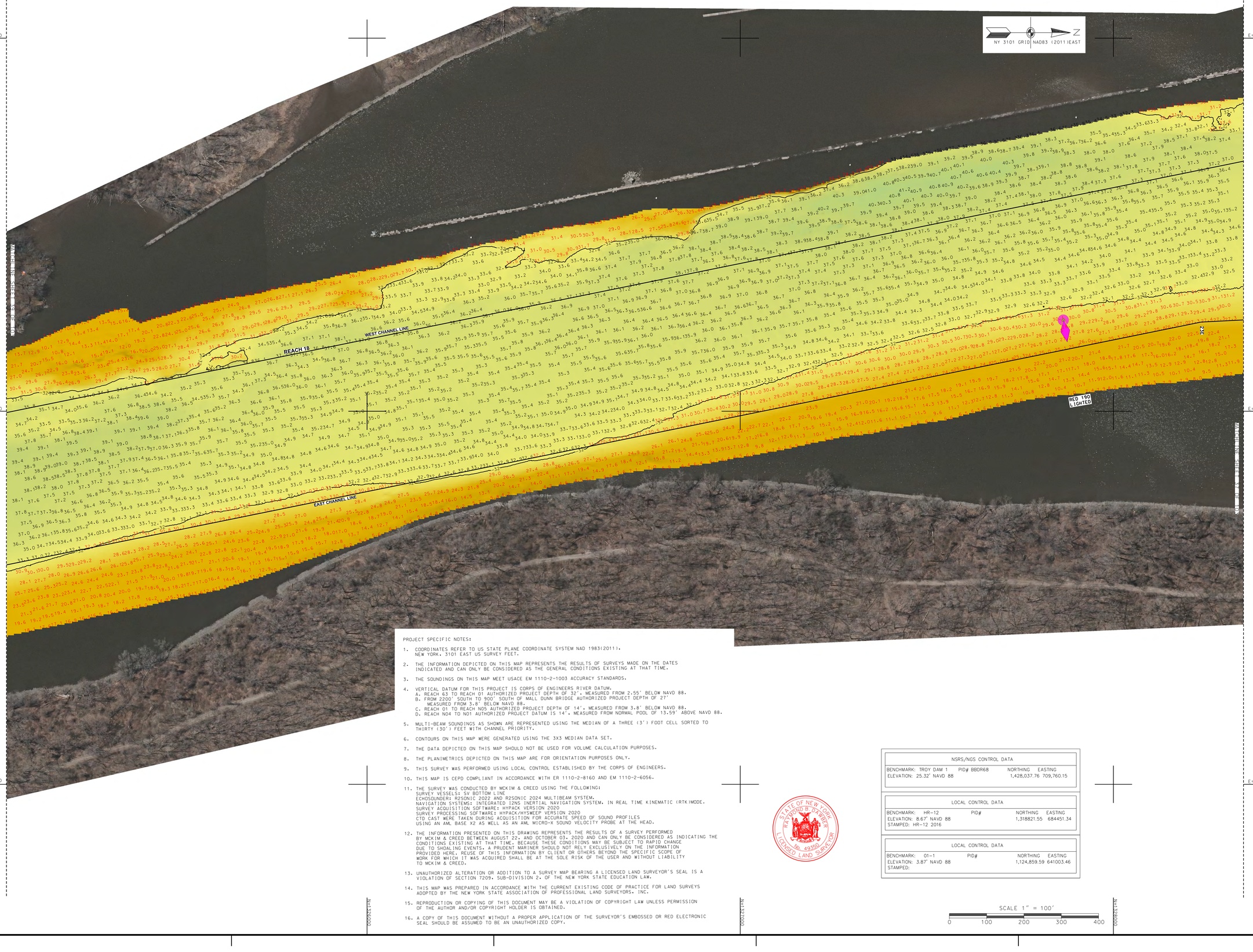
DESIGNED BY: 000
DWN BY: MBH
CKD BY: RBD
SUBMITTED BY: DLJ
PLOT SCALE: 1:100
PLOT DATE: 1:1000
ISSUE DATE: 12/21/2020
SIZE: ANSI F
DATE: AUGUST 22 - OCOTBER 03, 2020
SOLICITATION NO.:
CONTRACT NO.: W912DS-20-D-0003
FILE NUMBER:
FILE NAME: VH-5985890560_HUDSON_2020.DGN

U.S. ARMY CORPS OF ENGINEERS
NEW YORK DISTRICT
NEW YORK, NY

McKIM & CREED
243 NORTH FRONT STREET
WILMINGTON, NORTH CAROLINA 28401
TEL: (910) 251-8348
FAX: (910) 251-8282

HYDROGRAPHIC CONDITIONS SURVEY
HUDSON RIVER FEDERAL NAVIGATION CHANNEL
REACH 17-18

SHEET IDENTIFICATION
VH-137
SHEET 37 OF 103



PROJECT SPECIFIC NOTES:

1. COORDINATES REFER TO US STATE PLANE COORDINATE SYSTEM NAD 1983(2011). NEW YORK. 3101 EAST US SURVEY FEET.
2. 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.
3. THE SOUNDINGS ON THIS MAP MEET USACE EM 1110-2-1003 ACCURACY STANDARDS.
4. VERTICAL DATUM FOR THIS PROJECT IS CORPS OF ENGINEERS RIVER DATUM.
   A. REACH 63 TO REACH 01 AUTHORIZED PROJECT DEPTH OF 32'. MEASURED FROM 2.55' BELOW NAVD 88.
   B. FROM 2200' SOUTH TO 900' SOUTH OF MALL DUNN BRIDGE AUTHORIZED PROJECT DEPTH OF 27' MEASURED FROM 3.8' BELOW NAVD 88.
   C. REACH 01 TO REACH N05 AUTHORIZED PROJECT DEPTH OF 14'. MEASURED FROM 3.8' BELOW NAVD 88.
   D. REACH N04 TO N01 AUTHORIZED PROJECT DATUM IS 14'. MEASURED FROM NORMAL POOL OF 13.59' ABOVE NAVD 88.
5. MULTI-BEAM SOUNDINGS AS SHOWN ARE REPRESENTED USING THE MEDIAN OF A THREE (3') FOOT CELL SORTED TO THIRTY (30') FEET WITH CHANNEL PRIORITY.
6. CONTOURS ON THIS MAP WERE GENERATED USING THE 3X3 MEDIAN DATA SET.
7. THE DATA DEPICTED ON THIS MAP SHOULD NOT BE USED FOR VOLUME CALCULATION PURPOSES.
8. THE PLANIMETRICS DEPICTED ON THIS MAP ARE FOR ORIENTATION PURPOSES ONLY.
9. THIS SURVEY WAS PERFORMED USING LOCAL CONTROL ESTABLISHED BY THE CORPS OF ENGINEERS.
10. THIS MAP IS CEPD COMPLIANT IN ACCORDANCE WITH ER 1110-2-8160 AND EM 1110-2-6056.
11. THE SURVEY WAS CONDUCTED BY MCKIM & CREED USING THE FOLLOWING:
    SURVEY VESSELS: SV BOTTOM LINE
    ECHOSOUNDER: R2SONIC 2022 AND R2SONIC 2024 MULTIBEAM SYSTEM.
    NAVIGATION SYSTEMS: INTEGRATED I2NS INERTIAL NAVIGATION SYSTEM. IN REAL TIME KINEMATIC (RTK)MODE.
    SURVEY ACQUISITION SOFTWARE: HYPACK VERSION 2020
    SURVEY PROCESSING SOFTWARE: HYPACK/HYSWEEP VERSION 2020
    CTD CAST WERE TAKEN DURING ACQUISITION FOR ACCURATE SPEED OF SOUND PROFILES USING AN AML BASE X2 AS WELL AS AN AML MICRO-X SOUND VELOCITY PROBE AT THE HEAD.
12. THE INFORMATION PRESENTED ON THIS DRAWING REPRESENTS THE RESULTS OF A SURVEY PERFORMED BY MCKIM & CREED BETWEEN AUGUST 22. AND OCTOBER 03. 2020 AND CAN ONLY BE CONSIDERED AS INDICATING THE CONDITIONS EXISTING AT THAT TIME. BECAUSE THESE CONDITIONS MAY BE SUBJECT TO RAPID CHANGE DUE TO SHOALING EVENTS. A PRUDENT MARINER SHOULD NOT RELY EXCLUSIVELY ON THE INFORMATION PROVIDED HERE. 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 MCKIM & CREED.
13. UNAUTHORIZED ALTERATION OR ADDITION TO A SURVEY MAP BEARING A LICENSED LAND SURVEYOR'S SEAL IS A VIOLATION OF SECTION 7209. SUB-DIVISION 2. OF THE NEW YORK STATE EDUCATION LAW.
14. THIS MAP WAS PREPARED IN ACCORDANCE WITH THE CURRENT EXISTING CODE OF PRACTICE FOR LAND SURVEYS ADOPTED BY THE NEW YORK STATE ASSOCIATION OF PROFESSIONAL LAND SURVEYORS, INC.
15. REPRODUCTION OR COPYING OF THIS DOCUMENT MAY BE A VIOLATION OF COPYRIGHT LAW UNLESS PERMISSION OF THE AUTHOR AND/OR COPYRIGHT HOLDER IS OBTAINED.
16. A COPY OF THIS DOCUMENT WITHOUT A PROPER APPLICATION OF THE SURVEYOR'S EMBOSSED OR RED ELECTRONIC SEAL SHOULD BE ASSUMED TO BE AN UNAUTHORIZED COPY.

STATE OF NEW YORK
RICHARD B. DAUBER
049350
LICENSED LAND SURVEYOR

NSRS/NGS CONTROL DATA			
BENCHMARK: TROY DAM 1	PID# BBDR68	NORTHING	EASTING
ELEVATION: 25.32' NAVD 88		1,428,037.76	709,760.15

LOCAL CONTROL DATA			
BENCHMARK: HR-12	PID#	NORTHING	EASTING
ELEVATION: 8.67' NAVD 88		1,318821.55	684451.34
STAMPED: HR-12 2016			

LOCAL CONTROL DATA			
BENCHMARK: 01-1	PID#	NORTHING	EASTING
ELEVATION: 3.87' NAVD 88		1,124,859.59	641003.46
STAMPED:			

SCALE 1" = 100'
0 100 200 300 400

US Army Corps of Engineers
New York District

MARK	DESCRIPTION	DATE	APPR.

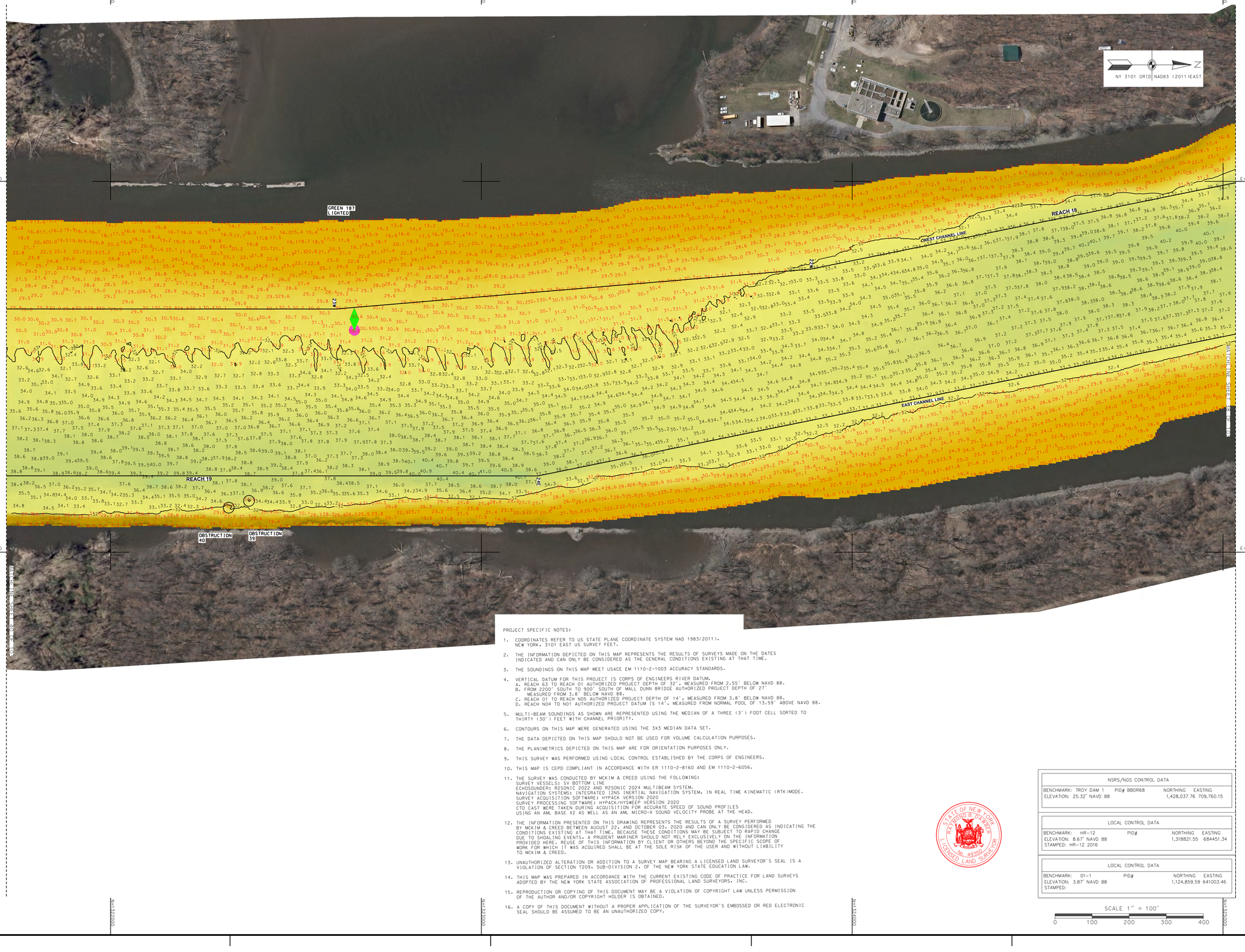
DESIGNED BY: 000
DWN BY: MBH
CKD BY: RBD
SUBMITTED BY: DLJ
PLOT SCALE: 1" = 100'
PLOT DATE: 12/14/2020
DATE: AUGUST 22 - OCTOBER 03, 2020
SOLICITATION NO.:
CONTRACT NO.: W912DS-20-D-0003
FILE NUMBER:
FILE NAME: VH-5985890060_HUDSON_2020.DGN
SIZE: ANSI F

U.S. ARMY CORPS OF ENGINEERS
NEW YORK DISTRICT
NEW YORK, NY

McKIM & CREED
243 NORTH FRONT STREET
WILMINGTON, NORTH CAROLINA 28401
TELEPHONE: (910) 251-8444
FAX: (910) 251-8282

HYDROGRAPHIC CONDITIONS SURVEY
HUDSON RIVER FEDERAL NAVIGATION CHANNEL
REACH 18

SHEET IDENTIFICATION
VH-138
SHEET 38 OF 103



PROJECT SPECIFIC NOTES:

1. COORDINATES REFER TO US STATE PLANE COORDINATE SYSTEM NAD 1983(2011). NEW YORK. 3101 EAST US SURVEY FEET.
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6. CONTOURS ON THIS MAP WERE GENERATED USING THE 3X3 MEDIAN DATA SET.
7. THE DATA DEPICTED ON THIS MAP SHOULD NOT BE USED FOR VOLUME CALCULATION PURPOSES.
8. THE PLANIMETRICS DEPICTED ON THIS MAP ARE FOR ORIENTATION PURPOSES ONLY.
9. THIS SURVEY WAS PERFORMED USING LOCAL CONTROL ESTABLISHED BY THE CORPS OF ENGINEERS.
10. THIS MAP IS CEPD COMPLIANT IN ACCORDANCE WITH ER 1110-2-8160 AND EM 1110-2-6056.
11. THE SURVEY WAS CONDUCTED BY MCKIM & CREED USING THE FOLLOWING:
    SURVEY VESSELS: SV BOTTOM LINE
    ECHOSOUNDER: R2SONIC 2022 AND R2SONIC 2024 MULTIBEAM SYSTEM.
    NAVIGATION SYSTEMS: INTEGRATED I2NS INERTIAL NAVIGATION SYSTEM. IN REAL TIME KINEMATIC (RTK)MODE.
    SURVEY ACQUISITION SOFTWARE: HYPACK VERSION 2020
    SURVEY PROCESSING SOFTWARE: HYPACK/HYSWEEP VERSION 2020
    CTD CAST WERE TAKEN DURING ACQUISITION FOR ACCURATE SPEED OF SOUND PROFILES
    USING AN AML BASE X2 AS WELL AS AN AML MICRO-X SOUND VELOCITY PROBE AT THE HEAD.
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NSRS/NGS CONTROL DATA			
BENCHMARK: TROY DAM 1	PID# BBDR68	NORTHING	EASTING
ELEVATION: 25.32' NAVD 88		1,428,037.76	709,760.15

LOCAL CONTROL DATA			
BENCHMARK: HR-12	PID#	NORTHING	EASTING
ELEVATION: 8.67' NAVD 88		1,318821.55	684451.34
STAMPED: HR-12 2016			

LOCAL CONTROL DATA			
BENCHMARK: 01-1	PID#	NORTHING	EASTING
ELEVATION: 3.87' NAVD 88		1,124,859.59	641003.46
STAMPED:			

STATE OF NEW YORK
RAYMOND B. BAKER
No. 49359
LICENSED LAND SURVEYOR

SCALE 1" = 100'
0 100 200 300 400

US Army Corps of Engineers ®
New York District

MARK	DESCRIPTION	DATE	APPR.

DESIGNED BY: 000
DWN BY: MBH
CKD BY: RBD
SUBMITTED BY: DLJ
DATE: AUGUST 22 - OCTOBER 03, 2020
SOLICITATION NO.:
CONTRACT NO.: W912DS-20-D-0003
PLOT SCALE: 1:600
ISSUE DATE: 22 DEC 2020
FILE NUMBER:
SIZE: ANSI F
FILE NAME: VH-5958900560_HUDSON_2020.DGN

U.S. ARMY CORPS OF ENGINEERS
NEW YORK DISTRICT
NEW YORK, NY

McKIM & CREED
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WILMINGTON, NORTH CAROLINA 28401
TEL: (910) 251-8444
FAX: (910) 251-8282

HYDROGRAPHIC CONDITIONS SURVEY
HUDSON RIVER FEDERAL NAVIGATION CHANNEL
REACH 18-19

SHEET IDENTIFICATION
VH-139
SHEET 39 OF 103

PROJECT SPECIFIC NOTES:

1. COORDINATES REFER TO US STATE PLANE COORDINATE SYSTEM NAD 1983(2011). NEW YORK, 3101 EAST US SURVEY FEET.
2. 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.
3. THE SOUNDINGS ON THIS MAP MEET USACE EM 1110-2-1003 ACCURACY STANDARDS.
4. VERTICAL DATUM FOR THIS PROJECT IS CORPS OF ENGINEERS RIVER DATUM.
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10. THIS MAP IS CEPD COMPLIANT IN ACCORDANCE WITH ER 1110-2-8160 AND EM 1110-2-6056.
11. THE SURVEY WAS CONDUCTED BY MCKIM & CREED USING THE FOLLOWING:
    SURVEY VESSELS: SV BOTTOM LINE
    ECHOSOUNDER: R2SONIC 2022 AND R2SONIC 2024 MULTIBEAM SYSTEM.
    NAVIGATION SYSTEMS: INTEGRATED I2NS INERTIAL NAVIGATION SYSTEM. IN REAL TIME KINEMATIC (RTK)MODE.
    SURVEY ACQUISITION SOFTWARE: HYPACK VERSION 2020
    SURVEY PROCESSING SOFTWARE: HYPACK/HYSWEEP VERSION 2020
    CTD CAST WERE TAKEN DURING ACQUISITION FOR ACCURATE SPEED OF SOUND PROFILES USING AN AML BASE X2 AS WELL AS AN AML MICRO-X SOUND VELOCITY PROBE AT THE HEAD.
12. THE INFORMATION PRESENTED ON THIS DRAWING REPRESENTS THE RESULTS OF A SURVEY PERFORMED BY MCKIM & CREED BETWEEN AUGUST 22. AND OCTOBER 03. 2020 AND CAN ONLY BE CONSIDERED AS INDICATING THE CONDITIONS EXISTING AT THAT TIME. BECAUSE THESE CONDITIONS MAY BE SUBJECT TO RAPID CHANGE DUE TO SHOALING EVENTS, A PRUDENT MARINER SHOULD NOT RELY EXCLUSIVELY ON THE INFORMATION PROVIDED HERE. 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 MCKIM & CREED.
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NSRS/NGS CONTROL DATA

BENCHMARK: TROY DAM 1	PID# BBDR68	NORTHING	EASTING
ELEVATION: 25.32' NAVD 88		1,428,037.76	709,760.15

LOCAL CONTROL DATA

BENCHMARK: HR-12	PID#	NORTHING	EASTING
ELEVATION: 8.67' NAVD 88		1,318821.55	684451.34
STAMPED: HR-12 2016			

LOCAL CONTROL DATA

BENCHMARK: 01-1	PID#	NORTHING	EASTING
ELEVATION: 3.87' NAVD 88		1,124,859.59	641003.46
STAMPED:			

STATE OF NEW YORK
RAYMOND B. DWYER
No. 49356
LICENSED LAND SURVEYOR

SCALE 1" = 100'
0 100 200 300 400

US Army Corps of Engineers
New York District

MARK	DESCRIPTION	DATE	APPR.	MARK	DESCRIPTION	DATE	APPR.

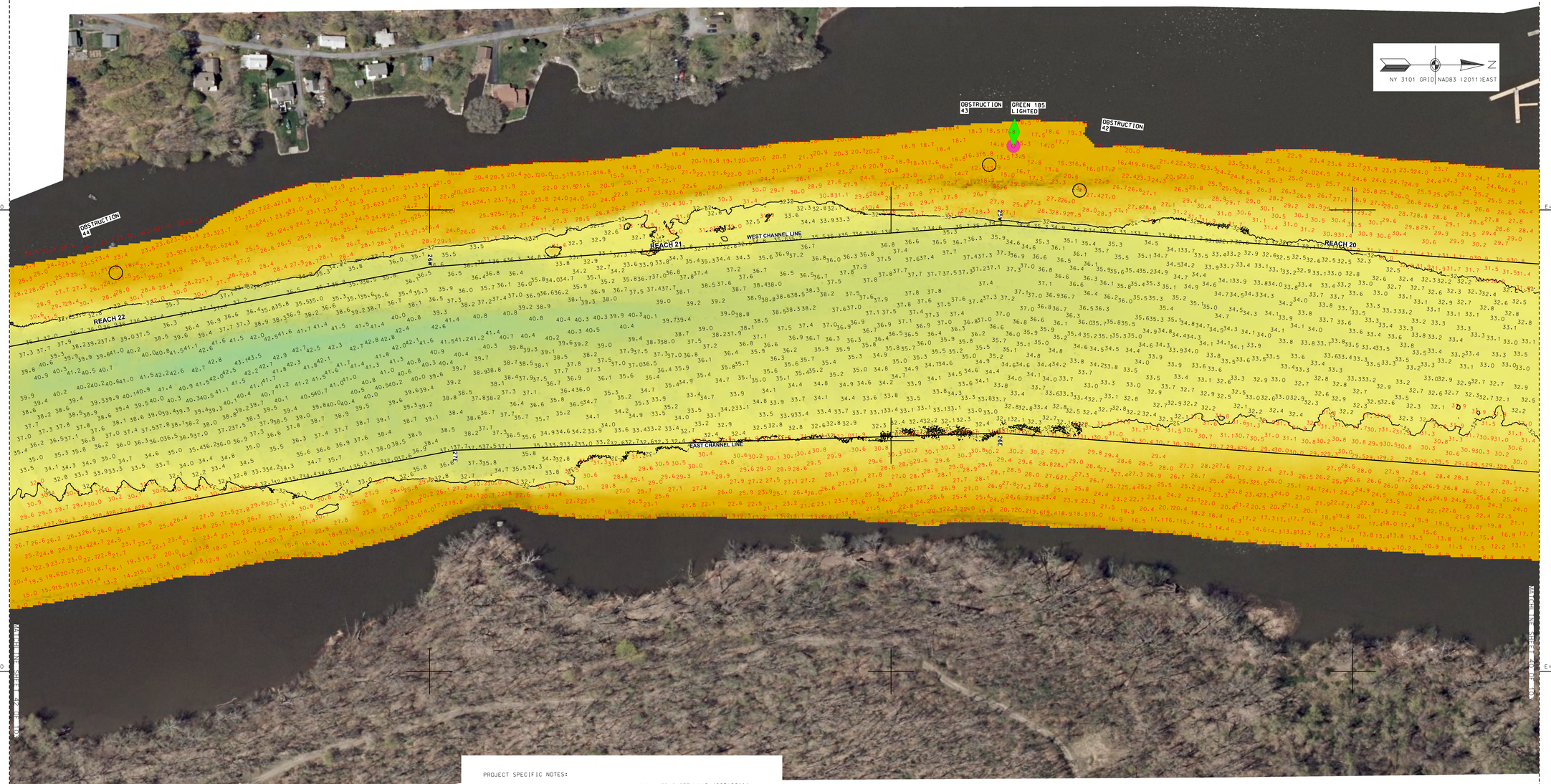
DESIGNED BY: 000
DWN BY: MBH
CKD BY: RBD
SUBMITTED BY: DLJ
DATE: AUGUST 22 - OCOTBER 03, 2020
SOLICITATION NO.:
CONTRACT NO.: W912DS-20-D-0005
PLOT SCALE: 1:600
ISSUE DATE:
FILE NUMBER:
SIZE: ANSI F
FILE NAME: VH-5958800560_HUDSON_2020.DGN

U.S. ARMY CORPS OF ENGINEERS
NEW YORK DISTRICT
NEW YORK, NY

McKIM & CREED
243 NORTH FRONT STREET
WILMINGTON, NORTH CAROLINA 28401
TEL: (910) 251-8251 FAX: (910) 251-8252

HYDROGRAPHIC CONDITIONS SURVEY
HUDSON RIVER FEDERAL NAVIGATION CHANNEL
REACH 20

SHEET IDENTIFICATION
VH-140
SHEET 40 OF 103



PROJECT SPECIFIC NOTES:

1. COORDINATES REFER TO US STATE PLANE COORDINATE SYSTEM NAD 1983(2011). NEW YORK. 3101 EAST US SURVEY FEET.
2. 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.
3. THE SOUNDINGS ON THIS MAP MEET USACE EM 1110-2-1003 ACCURACY STANDARDS.
4. VERTICAL DATUM FOR THIS PROJECT IS CORPS OF ENGINEERS RIVER DATUM.
   A. REACH 63 TO REACH 01 AUTHORIZED PROJECT DEPTH OF 32'. MEASURED FROM 2.55' BELOW NAVD 88.
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    ECHOSOUNDER: R2SONIC 2022 AND R2SONIC 2024 MULTIBEAM SYSTEM.
    NAVIGATION SYSTEMS: INTEGRATED I2NS INERTIAL NAVIGATION SYSTEM. IN REAL TIME KINEMATIC (RTK)MODE.
    SURVEY ACQUISITION SOFTWARE: HYPACK VERSION 2020
    SURVEY PROCESSING SOFTWARE: HYPACK/HYSWEEP VERSION 2020
    CTD CAST WERE TAKEN DURING ACQUISITION FOR ACCURATE SPEED OF SOUND PROFILES USING AN AML BASE X2 AS WELL AS AN AML MICRO-X SOUND VELOCITY PROBE AT THE HEAD.
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STATE OF NEW YORK
RAYMOND B. BAKER
No. 49350
LICENSED LAND SURVEYOR

NSRS/NGS CONTROL DATA			
BENCHMARK: TROY DAM 1	PID# BBDR68	NORTHING	EASTING
ELEVATION: 25.32' NAVD 88		1,428,037.76	709,760.15

LOCAL CONTROL DATA			
BENCHMARK: HR-12	PID#	NORTHING	EASTING
ELEVATION: 8.67' NAVD 88		1,318821.55	684451.34
STAMPED: HR-12 2016			

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BENCHMARK: 01-1	PID#	NORTHING	EASTING
ELEVATION: 3.87' NAVD 88		1,124,859.59	64103.46
STAMPED:			

SCALE 1" = 100'
0 100 200 300 400

US Army Corps of Engineers ®
New York District

MARK	DESCRIPTION	DATE	APPR.

DESIGNED BY: 000
DWN BY: MBH
CKD BY: RBD
SUBMITTED BY: DLJ
DATE: AUGUST 22 - OCOTBER 03, 2020
SOLICITATION NO.:
CONTRACT NO.: W912DS-20-D-0003
FILE NUMBER:
PLOT SCALE: 1:100'
PLOT DATE: 21-Dec-2020
ISSUE DATE:
SIZE: ANSI F
FILE NAME: VH-508890950_HUDSON_2020.DGN

U.S. ARMY CORPS OF ENGINEERS
NEW YORK DISTRICT
NEW YORK, NY

McKIM & CREED
243 NORTH FRONT STREET
WILMINGTON, NORTH CAROLINA 28401
TELEPHONE: (910) 251-8348
FAX: (910) 251-8252

HYDROGRAPHIC CONDITIONS SURVEY
HUDSON RIVER FEDERAL NAVIGATION CHANNEL
REACH 20-22

SHEET IDENTIFICATION
VH-141
SHEET 41 OF 103

PROJECT SPECIFIC NOTES:

1. COORDINATES REFER TO US STATE PLANE COORDINATE SYSTEM NAD 1983(2011). NEW YORK, 3101 EAST US SURVEY FEET.
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7. THE DATA DEPICTED ON THIS MAP SHOULD NOT BE USED FOR VOLUME CALCULATION PURPOSES.
8. THE PLANIMETRICS DEPICTED ON THIS MAP ARE FOR ORIENTATION PURPOSES ONLY.
9. THIS SURVEY WAS PERFORMED USING LOCAL CONTROL ESTABLISHED BY THE CORPS OF ENGINEERS.
10. THIS MAP IS CEPD COMPLIANT IN ACCORDANCE WITH ER 1110-2-8160 AND EM 1110-2-6056.
11. THE SURVEY WAS CONDUCTED BY MCKIM & CREED USING THE FOLLOWING:
    SURVEY VESSELS: SV BOTTOM LINE
    ECHOSOUNDER: R2SONIC 2022 AND R2SONIC 2024 MULTIBEAM SYSTEM.
    NAVIGATION SYSTEMS: INTEGRATED I2NS INERTIAL NAVIGATION SYSTEM. IN REAL TIME KINEMATIC (RTK)MODE.
    SURVEY ACQUISITION SOFTWARE: HYPACK VERSION 2020
    SURVEY PROCESSING SOFTWARE: HYPACK/HYSWEEP VERSION 2020
    CTD CAST WERE TAKEN DURING ACQUISITION FOR ACCURATE SPEED OF SOUND PROFILES
    USING AN AML BASE X2 AS WELL AS AN AML MICRO-X SOUND VELOCITY PROBE AT THE HEAD.
12. THE INFORMATION PRESENTED ON THIS DRAWING REPRESENTS THE RESULTS OF A SURVEY PERFORMED BY MCKIM & CREED BETWEEN AUGUST 22. AND OCTOBER 03. 2020 AND CAN ONLY BE CONSIDERED AS INDICATING THE CONDITIONS EXISTING AT THAT TIME. BECAUSE THESE CONDITIONS MAY BE SUBJECT TO RAPID CHANGE DUE TO SHOALING EVENTS. A PRUDENT MARINER SHOULD NOT RELY EXCLUSIVELY ON THE INFORMATION PROVIDED HERE. 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 MCKIM & CREED.
13. UNAUTHORIZED ALTERATION OR ADDITION TO A SURVEY MAP BEARING A LICENSED LAND SURVEYOR'S SEAL IS A VIOLATION OF SECTION 7209, SUB-DIVISION 2, OF THE NEW YORK STATE EDUCATION LAW.
14. THIS MAP WAS PREPARED IN ACCORDANCE WITH THE CURRENT EXISTING CODE OF PRACTICE FOR LAND SURVEYS ADOPTED BY THE NEW YORK STATE ASSOCIATION OF PROFESSIONAL LAND SURVEYORS, INC.
15. REPRODUCTION OR COPYING OF THIS DOCUMENT MAY BE A VIOLATION OF COPYRIGHT LAW UNLESS PERMISSION OF THE AUTHOR AND/OR COPYRIGHT HOLDER IS OBTAINED.
16. A COPY OF THIS DOCUMENT WITHOUT A PROPER APPLICATION OF THE SURVEYOR'S EMBOSSED OR RED ELECTRONIC SEAL SHOULD BE ASSUMED TO BE AN UNAUTHORIZED COPY.

STATE OF NEW YORK
PATRICK B. DEWEES
No. 49350
LICENSED LAND SURVEYOR

NSRS/NGS CONTROL DATA			
BENCHMARK: TROY DAM 1	PID# BB0R68	NORTHING	EASTING
ELEVATION: 25.32' NAVD 88		1,428,037.76	709,760.15

LOCAL CONTROL DATA			
BENCHMARK: HR-12	PID#	NORTHING	EASTING
ELEVATION: 8.67' NAVD 88		1,318821.55	684451.34
STAMPED: HR-12 2016			

LOCAL CONTROL DATA			
BENCHMARK: 01-1	PID#	NORTHING	EASTING
ELEVATION: 3.87' NAVD 88		1,124,859.59	641003.46
STAMPED:			

SCALE 1" = 100'
0 100 200 300 400

US Army Corps of Engineers ®
New York District

MARK	DESCRIPTION	DATE	APPR.	MARK	DESCRIPTION	DATE	APPR.

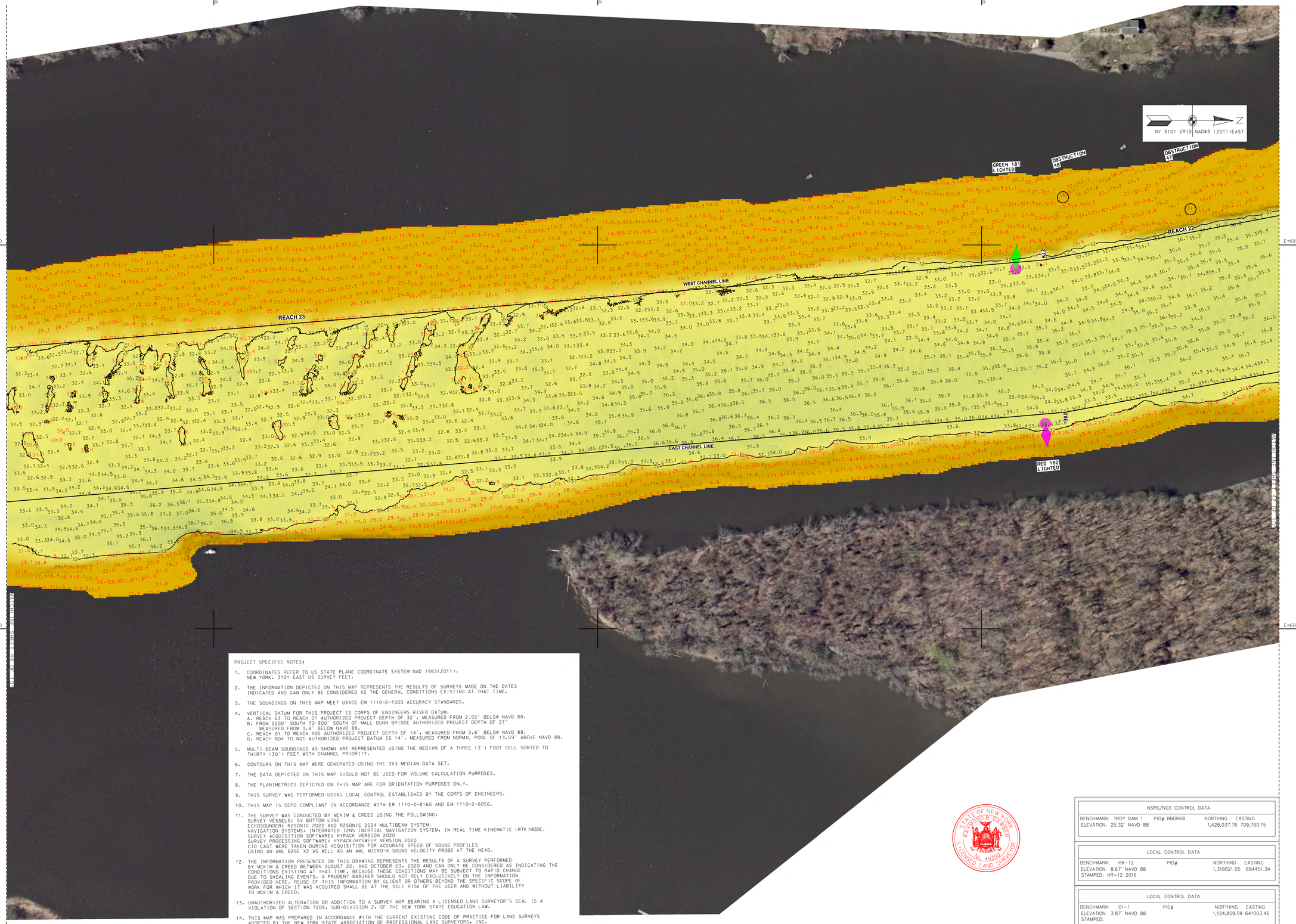
DESIGNED BY: ODO
DWN BY: MBH
CKD BY: RBD
SUBMITTED BY: DJ
PLOT SCALE: 1" = 100'
SIZE: ANSI F
ISSUE DATE: 5 MAY 2020
FILE NAME: VH-0838900060_HUDSON_2020.DGN
DATE: AUGUST 22 - OCOTBER 03, 2020
SOLICITATION NO.:
CONTRACT NO.: W912DS-20-D-0003
FILE NUMBER:

U.S. ARMY CORPS OF ENGINEERS
NEW YORK DISTRICT
NEW YORK, NY

McKIM & CREED
243 NORTH FRONT STREET
WILMINGTON, NORTH CAROLINA 28401
TELEPHONE: (910) 251-1048
FAX: (910) 251-8282

HYDROGRAPHIC CONDITIONS SURVEY
HUDSON RIVER FEDERAL NAVIGATION CHANNEL
REACH 22

SHEET IDENTIFICATION
VH-142
SHEET 42 OF 103



PROJECT SPECIFIC NOTES:

1. COORDINATES REFER TO US STATE PLANE COORDINATE SYSTEM NAD 1983(2011). NEW YORK. 3101 EAST US SURVEY FEET.
2. 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.
3. THE SOUNDINGS ON THIS MAP MEET USACE EM 1110-2-1003 ACCURACY STANDARDS.
4. VERTICAL DATUM FOR THIS PROJECT IS CORPS OF ENGINEERS RIVER DATUM.
   A. REACH 63 TO REACH 01 AUTHORIZED PROJECT DEPTH OF 32'. MEASURED FROM 2.55' BELOW NAVD 88.
   B. FROM 2200' SOUTH TO 900' SOUTH OF MALL DUNN BRIDGE AUTHORIZED PROJECT DEPTH OF 27' MEASURED FROM 3.8' BELOW NAVD 88.
   C. REACH 01 TO REACH N05 AUTHORIZED PROJECT DEPTH OF 14'. MEASURED FROM 3.8' BELOW NAVD 88.
   D. REACH N04 TO N01 AUTHORIZED PROJECT DATUM IS 14'. MEASURED FROM NORMAL POOL OF 13.59' ABOVE NAVD 88.
5. MULTI-BEAM SOUNDINGS AS SHOWN ARE REPRESENTED USING THE MEDIAN OF A THREE (3') FOOT CELL SORTED TO THIRTY (30') FEET WITH CHANNEL PRIORITY.
6. CONTOURS ON THIS MAP WERE GENERATED USING THE 3X3 MEDIAN DATA SET.
7. THE DATA DEPICTED ON THIS MAP SHOULD NOT BE USED FOR VOLUME CALCULATION PURPOSES.
8. THE PLANIMETRICS DEPICTED ON THIS MAP ARE FOR ORIENTATION PURPOSES ONLY.
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10. THIS MAP IS CEPD COMPLIANT IN ACCORDANCE WITH ER 1110-2-8160 AND EM 1110-2-6056.
11. THE SURVEY WAS CONDUCTED BY MCKIM & CREED USING THE FOLLOWING:
    SURVEY VESSELS: SV BOTTOM LINE
    ECHOSOUNDER: R2SONIC 2022 AND R2SONIC 2024 MULTIBEAM SYSTEM.
    NAVIGATION SYSTEMS: INTEGRATED I2NS INERTIAL NAVIGATION SYSTEM. IN REAL TIME KINEMATIC (RTK)MODE.
    SURVEY ACQUISITION SOFTWARE: HYPACK VERSION 2020
    SURVEY PROCESSING SOFTWARE: HYPACK/HYSWEEP VERSION 2020
    CTD CAST WERE TAKEN DURING ACQUISITION FOR ACCURATE SPEED OF SOUND PROFILES USING AN AML BASE X2 AS WELL AS AN AML MICRO-X SOUND VELOCITY PROBE AT THE HEAD.
12. THE INFORMATION PRESENTED ON THIS DRAWING REPRESENTS THE RESULTS OF A SURVEY PERFORMED BY MCKIM & CREED BETWEEN AUGUST 22. AND OCTOBER 03. 2020 AND CAN ONLY BE CONSIDERED AS INDICATING THE CONDITIONS EXISTING AT THAT TIME. BECAUSE THESE CONDITIONS MAY BE SUBJECT TO RAPID CHANGE DUE TO SHOALING EVENTS, A PRUDENT MARINER SHOULD NOT RELY EXCLUSIVELY ON THE INFORMATION PROVIDED HERE. 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 MCKIM & CREED.
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STATE OF NEW YORK
RAYMOND B. BARBER
090 49360
LICENSED LAND SURVEYOR

NSRS/NGS CONTROL DATA			
BENCHMARK: TROY DAM 1	PID# BBDR68	NORTHING	EASTING
ELEVATION: 25.32' NAVD 88		1,428,037.76	709,760.15

LOCAL CONTROL DATA			
BENCHMARK: HR-12	PID#	NORTHING	EASTING
ELEVATION: 8.67' NAVD 88		1,318821.55	684451.34
STAMPED: HR-12 2016			

LOCAL CONTROL DATA			
BENCHMARK: 01-1	PID#	NORTHING	EASTING
ELEVATION: 3.87' NAVD 88		1,124,859.59	641003.46
STAMPED:			

SCALE 1" = 100'
0 100 200 300 400

US Army Corps of Engineers ®
New York District

MARK	DESCRIPTION	DATE	APPR.	MARK	DESCRIPTION	DATE	APPR.

DESIGNED BY: 000
DRWN BY: MBH
CKD BY: RBD
SUBMITTED BY: DJJ
DATE: AUGUST 22 - OCOTBER 03, 2020
SOLICITATION NO.:
CONTRACT NO.: W912DS-20-D-0003
PLOT SCALE: 1" = 200'
ISSUE DATE: 5 MAR 2020
SIZE: ANSI F
FILE NAME: VH-DSB9950060_HUDSON_2020.DGN
FILE NUMBER:

U.S. ARMY CORPS OF ENGINEERS
NEW YORK DISTRICT
NEW YORK, NY

McKIM & CREED
243 NORTH FRONT STREET
WILMINGTON, NORTH CAROLINA 28401
TELEPHONE: (910) 251-0104AR
FAX: (910) 251-8252

HYDROGRAPHIC CONDITIONS SURVEY
HUDSON RIVER FEDERAL NAVIGATION CHANNEL
REACH 22-23

SHEET IDENTIFICATION
VH-143
SHEET 43 OF 103

PROJECT SPECIFIC NOTES:

1. COORDINATES REFER TO US STATE PLANE COORDINATE SYSTEM NAD 1983(2011). NEW YORK. 3101 EAST US SURVEY FEET.
2. 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.
3. THE SOUNDINGS ON THIS MAP MEET USACE EM 1110-2-1003 ACCURACY STANDARDS.
4. VERTICAL DATUM FOR THIS PROJECT IS CORPS OF ENGINEERS RIVER DATUM.
   A. REACH 63 TO REACH 01 AUTHORIZED PROJECT DEPTH OF 32', MEASURED FROM 2.55' BELOW NAVD 88.
   B. FROM 2200' SOUTH TO 900' SOUTH OF MALL DUNN BRIDGE AUTHORIZED PROJECT DEPTH OF 27' MEASURED FROM 3.8' BELOW NAVD 88.
   C. REACH 01 TO REACH N05 AUTHORIZED PROJECT DEPTH OF 14', MEASURED FROM 3.8' BELOW NAVD 88.
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5. MULTI-BEAM SOUNDINGS AS SHOWN ARE REPRESENTED USING THE MEDIAN OF A THREE (3') FOOT CELL SORTED TO THIRTY (30') FEET WITH CHANNEL PRIORITY.
6. CONTOURS ON THIS MAP WERE GENERATED USING THE 3X3 MEDIAN DATA SET.
7. THE DATA DEPICTED ON THIS MAP SHOULD NOT BE USED FOR VOLUME CALCULATION PURPOSES.
8. THE PLANIMETRICS DEPICTED ON THIS MAP ARE FOR ORIENTATION PURPOSES ONLY.
9. THIS SURVEY WAS PERFORMED USING LOCAL CONTROL ESTABLISHED BY THE CORPS OF ENGINEERS.
10. THIS MAP IS CEPD COMPLIANT IN ACCORDANCE WITH ER 1110-2-8160 AND EM 1110-2-6056.
11. THE SURVEY WAS CONDUCTED BY MCKIM & CREED USING THE FOLLOWING:
    SURVEY VESSELS: SV BOTTOM LINE
    ECHOSOUNDERS: R2SONIC 2022 AND R2SONIC 2024 MULTIBEAM SYSTEM.
    NAVIGATION SYSTEMS: INTEGRATED I2NS INERTIAL NAVIGATION SYSTEM. IN REAL TIME KINEMATIC (RTK)MODE.
    SURVEY ACQUISITION SOFTWARE: HYPACK VERSION 2020
    SURVEY PROCESSING SOFTWARE: HYPACK/HYSWEEP VERSION 2020
    CTD CAST WERE TAKEN DURING ACQUISITION FOR ACCURATE SPEED OF SOUND PROFILES USING AN AML BASE X2 AS WELL AS AN AML MICRO-X SOUND VELOCITY PROBE AT THE HEAD.
12. THE INFORMATION PRESENTED ON THIS DRAWING REPRESENTS THE RESULTS OF A SURVEY PERFORMED BY MCKIM & CREED BETWEEN AUGUST 22. AND OCTOBER 03. 2020 AND CAN ONLY BE CONSIDERED AS INDICATING THE CONDITIONS EXISTING AT THAT TIME. BECAUSE THESE CONDITIONS MAY BE SUBJECT TO RAPID CHANGE DUE TO SHOALING EVENTS, A PRUDENT MARINER SHOULD NOT RELY EXCLUSIVELY ON THE INFORMATION PROVIDED HERE. 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 MCKIM & CREED.
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16. A COPY OF THIS DOCUMENT WITHOUT A PROPER APPLICATION OF THE SURVEYOR'S EMBOSSED OR RED ELECTRONIC SEAL SHOULD BE ASSUMED TO BE AN UNAUTHORIZED COPY.

NSRS/NGS CONTROL DATA			
BENCHMARK: TROY DAM 1	PID# BBDR68	NORTHING	EASTING
ELEVATION: 25.32' NAVD 88		1,428,037.76	709,760.15

LOCAL CONTROL DATA			
BENCHMARK: HR-12	PID#	NORTHING	EASTING
ELEVATION: 8.67' NAVD 88		1,318821.55	684451.34
STAMPED: HR-12 2016			

LOCAL CONTROL DATA			
BENCHMARK: 01-1	PID#	NORTHING	EASTING
ELEVATION: 3.87' NAVD 88		1,124,859.59	641003.46
STAMPED:			

STATE OF NEW YORK
RAYMOND B. OSTRER
LICENSED LAND SURVEYOR
LIC. NO. 49350

SCALE 1" = 100'
0 100 200 300 400

US Army Corps of Engineers ®
New York District

MARK	DESCRIPTION	DATE	APPR.

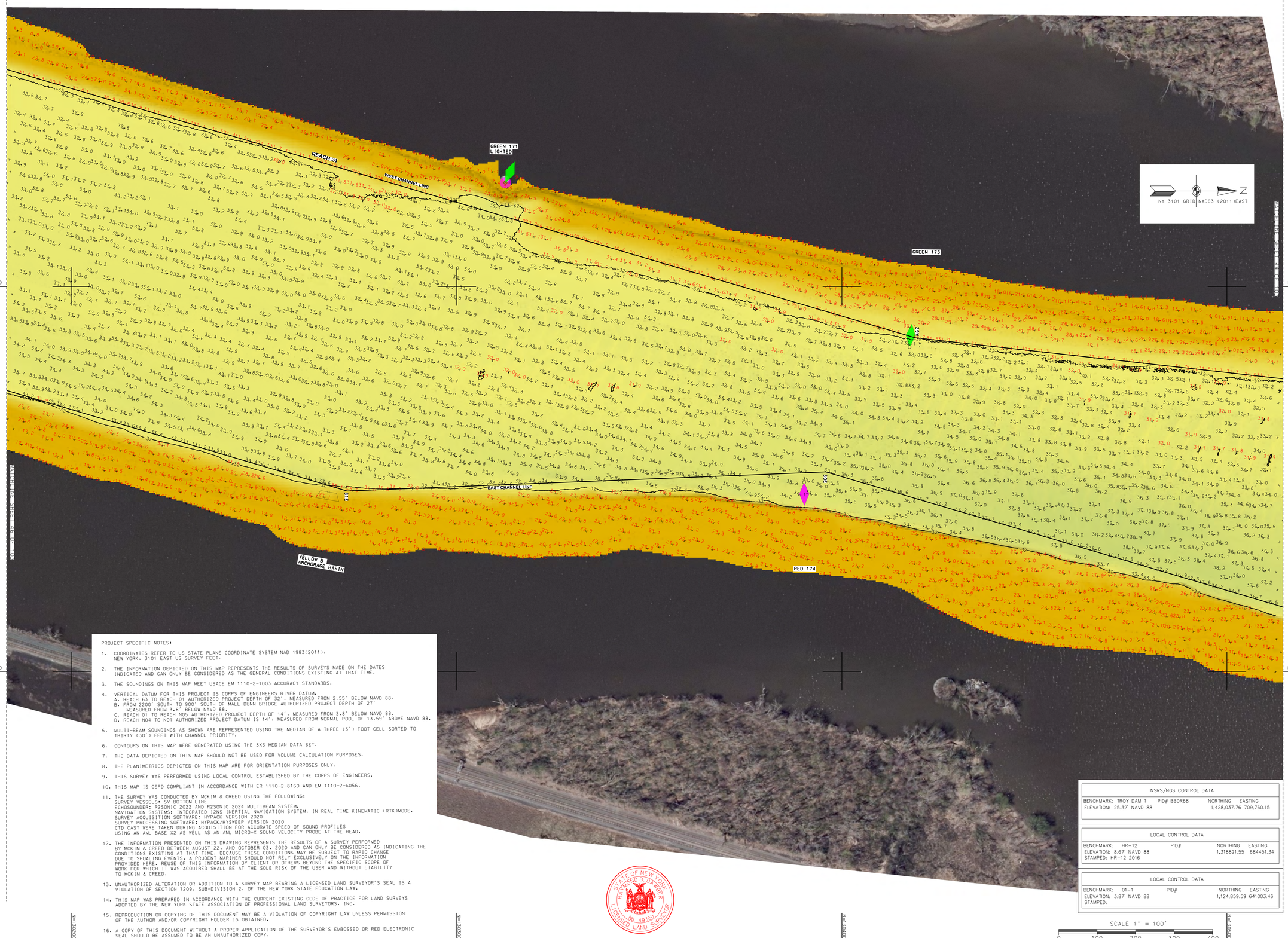
DESIGNED BY: 000
DWN BY: MBH
CHD BY: RED
SUBMITTED BY: DLJ
PLOT SCALE: 1" = 100'
PLOT DATE: 2/14/2020
FILE NAME: VH-5858900560_HUDSON_2020.DGN
SIZE: ANSI F
DATE: AUGUST 22 - OCOTBER 03, 2020
SOLICITATION NO.:
CONTRACT NO.: W912DB-20-D-0003
FILE NUMBER:

U.S. ARMY CORPS OF ENGINEERS
NEW YORK DISTRICT
NEW YORK, NY

McKIM & CREED
243 NORTH FRONT STREET
WILMINGTON, NORTH CAROLINA 28401
TEL: (910) 251-8444
FAX: (910) 251-8282

HYDROGRAPHIC CONDITIONS SURVEY
HUDSON RIVER FEDERAL NAVIGATION CHANNEL
REACH 23

SHEET IDENTIFICATION
VH-144
SHEET 44 OF 103



PROJECT SPECIFIC NOTES:

1. COORDINATES REFER TO US STATE PLANE COORDINATE SYSTEM NAD 1983(2011). NEW YORK. 3101 EAST US SURVEY FEET.
2. 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.
3. THE SOUNDINGS ON THIS MAP MEET USACE EM 1110-2-1003 ACCURACY STANDARDS.
4. VERTICAL DATUM FOR THIS PROJECT IS CORPS OF ENGINEERS RIVER DATUM.
   A. REACH 63 TO REACH 01 AUTHORIZED PROJECT DEPTH OF 32', MEASURED FROM 2.55' BELOW NAVD 88.
   B. FROM 2200' SOUTH TO 900' SOUTH OF MALL DUNN BRIDGE AUTHORIZED PROJECT DEPTH OF 27' MEASURED FROM 3.8' BELOW NAVD 88.
   C. REACH 01 TO REACH N05 AUTHORIZED PROJECT DEPTH OF 14', MEASURED FROM 3.8' BELOW NAVD 88.
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6. CONTOURS ON THIS MAP WERE GENERATED USING THE 3X3 MEDIAN DATA SET.
7. THE DATA DEPICTED ON THIS MAP SHOULD NOT BE USED FOR VOLUME CALCULATION PURPOSES.
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10. THIS MAP IS CEPD COMPLIANT IN ACCORDANCE WITH ER 1110-2-8160 AND EM 1110-2-6056.
11. THE SURVEY WAS CONDUCTED BY MCKIM & CREED USING THE FOLLOWING:
    SURVEY VESSELS: SV BOTTOM LINE
    ECHOSOUNDER: R2SONIC 2022 AND R2SONIC 2024 MULTIBEAM SYSTEM.
    NAVIGATION SYSTEMS: INTEGRATED I2NS INERTIAL NAVIGATION SYSTEM. IN REAL TIME KINEMATIC (RTK)MODE.
    SURVEY ACQUISITION SOFTWARE: HYPACK VERSION 2020
    SURVEY PROCESSING SOFTWARE: HYPACK/HYSWEEP VERSION 2020
    CTD CAST WERE TAKEN DURING ACQUISITION FOR ACCURATE SPEED OF SOUND PROFILES
    USING AN AML BASE X2 AS WELL AS AN AML MICRO-X SOUND VELOCITY PROBE AT THE HEAD.
12. THE INFORMATION PRESENTED ON THIS DRAWING REPRESENTS THE RESULTS OF A SURVEY PERFORMED BY MCKIM & CREED BETWEEN AUGUST 22. AND OCTOBER 03. 2020 AND CAN ONLY BE CONSIDERED AS INDICATING THE CONDITIONS EXISTING AT THAT TIME. BECAUSE THESE CONDITIONS MAY BE SUBJECT TO RAPID CHANGE DUE TO SHOALING EVENTS, A PRUDENT MARINER SHOULD NOT RELY EXCLUSIVELY ON THE INFORMATION PROVIDED HERE. 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 MCKIM & CREED.
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STATE OF NEW YORK
RAYMOND B. DARBEE
No. 49350
LICENSED LAND SURVEYOR

NSRS/NGS CONTROL DATA			
BENCHMARK: TROY DAM 1	PID# BB0R68	NORTHING	EASTING
ELEVATION: 25.32' NAVD 88		1,428,037.76	709,760.15

LOCAL CONTROL DATA			
BENCHMARK: HR-12	PID#	NORTHING	EASTING
ELEVATION: 8.67' NAVD 88		1,318821.55	684451.34
STAMPED: HR-12 2016			

LOCAL CONTROL DATA			
BENCHMARK: 01-1	PID#	NORTHING	EASTING
ELEVATION: 3.87' NAVD 88		1,124,859.59	641003.46
STAMPED:			

SCALE 1" = 100'
0 100 200 300 400

US Army Corps of Engineers ®
New York District

MARK	DESCRIPTION	DATE	APPR.
MARK	DESCRIPTION	DATE	APPR.

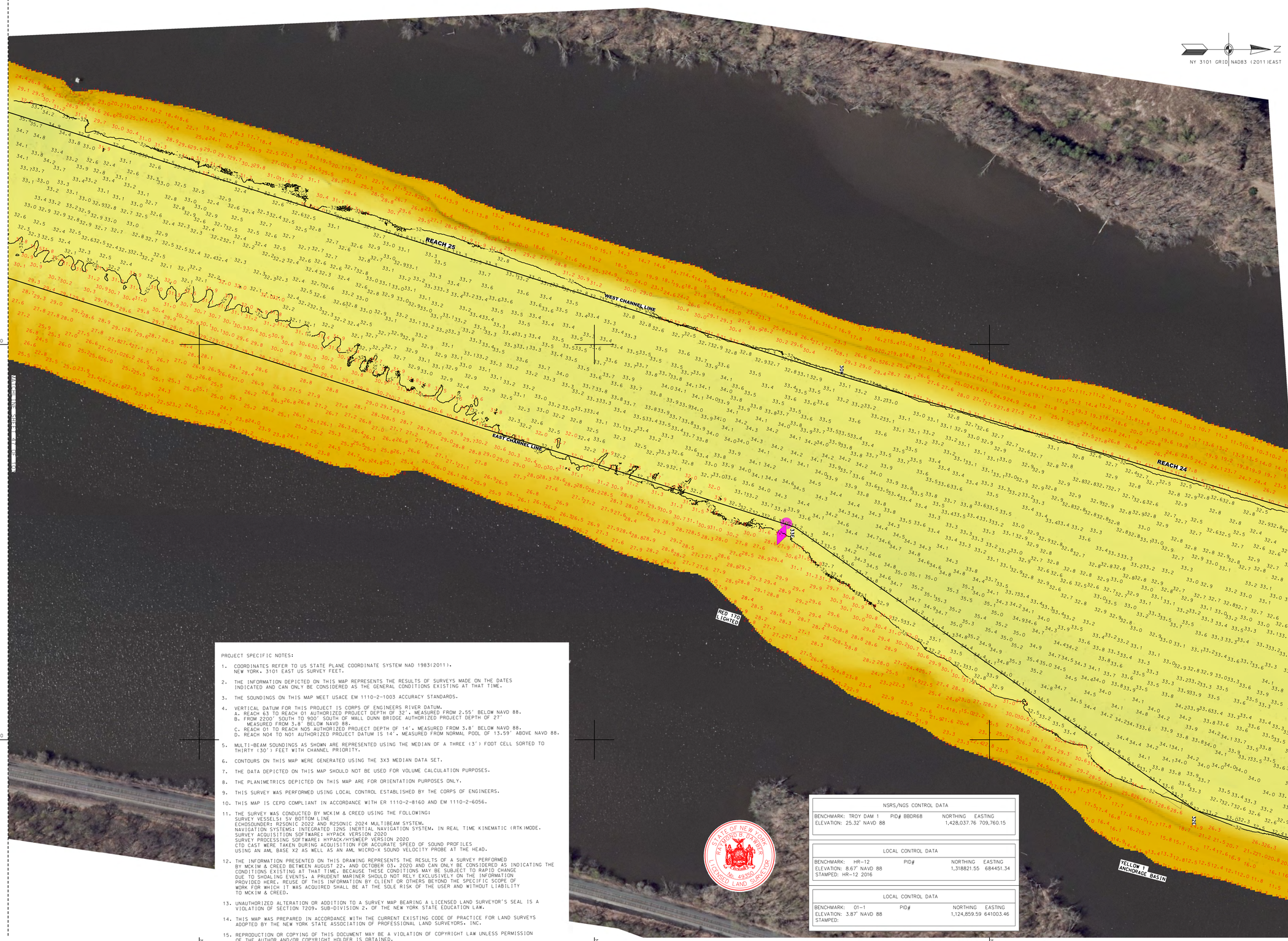
DESIGNED BY: DDO
DWN BY: MBH
CKD BY: RBD
SUBMITTED BY: DLJ
DATE: AUGUST 22 - OCOTBER 03, 2020
SOLICITATION NO.:
CONTRACT NO.: W912DS-20-D-0003
PLOT SCALE: 1" = 100'
ISSUE DATE: MAY 2020
FILE NUMBER:
SIZE: ANSI F
FILE NAME: VH-0589890060_HUDSON_2020.DGN

U.S. ARMY CORPS OF ENGINEERS
NEW YORK DISTRICT
NEW YORK, NY

McKIM & CREED
243 NORTH FRONT STREET
WILMINGTON, NORTH CAROLINA 28401
TELEPHONE: (910) 251-1048
FAX: (910) 251-8282

HYDROGRAPHIC CONDITIONS SURVEY
HUDSON RIVER FEDERAL NAVIGATION CHANNEL
REACH 24

SHEET IDENTIFICATION
VH-145
SHEET 45 OF 103



PROJECT SPECIFIC NOTES:

1. COORDINATES REFER TO US STATE PLANE COORDINATE SYSTEM NAD 1983(2011). NEW YORK. 3101 EAST US SURVEY FEET.
2. 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.
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10. THIS MAP IS CEPD COMPLIANT IN ACCORDANCE WITH ER 1110-2-8160 AND EM 1110-2-6056.
11. THE SURVEY WAS CONDUCTED BY MCKIM & CREED USING THE FOLLOWING:
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    ECHOSOUNDER: R2SONIC 2022 AND R2SONIC 2024 MULTIBEAM SYSTEM.
    NAVIGATION SYSTEMS: INTEGRATED I2NS INERTIAL NAVIGATION SYSTEM. IN REAL TIME KINEMATIC (RTK)MODE.
    SURVEY ACQUISITION SOFTWARE: HYPACK VERSION 2020
    SURVEY PROCESSING SOFTWARE: HYPACK/HYSWEEP VERSION 2020
    CTD CAST WERE TAKEN DURING ACQUISITION FOR ACCURATE SPEED OF SOUND PROFILES USING AN AML BASE X2 AS WELL AS AN AML MICRO-X SOUND VELOCITY PROBE AT THE HEAD.
12. THE INFORMATION PRESENTED ON THIS DRAWING REPRESENTS THE RESULTS OF A SURVEY PERFORMED BY MCKIM & CREED BETWEEN AUGUST 22. AND OCTOBER 03. 2020 AND CAN ONLY BE CONSIDERED AS INDICATING THE CONDITIONS EXISTING AT THAT TIME. BECAUSE THESE CONDITIONS MAY BE SUBJECT TO RAPID CHANGE DUE TO SHOALING EVENTS. A PRUDENT MARINER SHOULD NOT RELY EXCLUSIVELY ON THE INFORMATION PROVIDED HERE. 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 MCKIM & CREED.
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STATE OF NEW YORK
RAYMOND B. DARKER
LICENSED LAND SURVEYOR
No. 49150

NSRS/NGS CONTROL DATA			
BENCHMARK: TROY DAM 1	PID# BBDR68	NORTHING	EASTING
ELEVATION: 25.32' NAVD 88		1,428,037.76	709,760.15

LOCAL CONTROL DATA			
BENCHMARK: HR-12	PID#	NORTHING	EASTING
ELEVATION: 8.67' NAVD 88		1,318821.55	684451.34
STAMPED: HR-12 2016			

LOCAL CONTROL DATA			
BENCHMARK: 01-1	PID#	NORTHING	EASTING
ELEVATION: 3.87' NAVD 88		1,124,859.59	641003.46
STAMPED:			

SCALE 1" = 100'
0 100 200 300 400

US Army Corps of Engineers ®
New York District

MARK	DESCRIPTION	DATE	APPR.	MARK	DESCRIPTION	DATE	APPR.

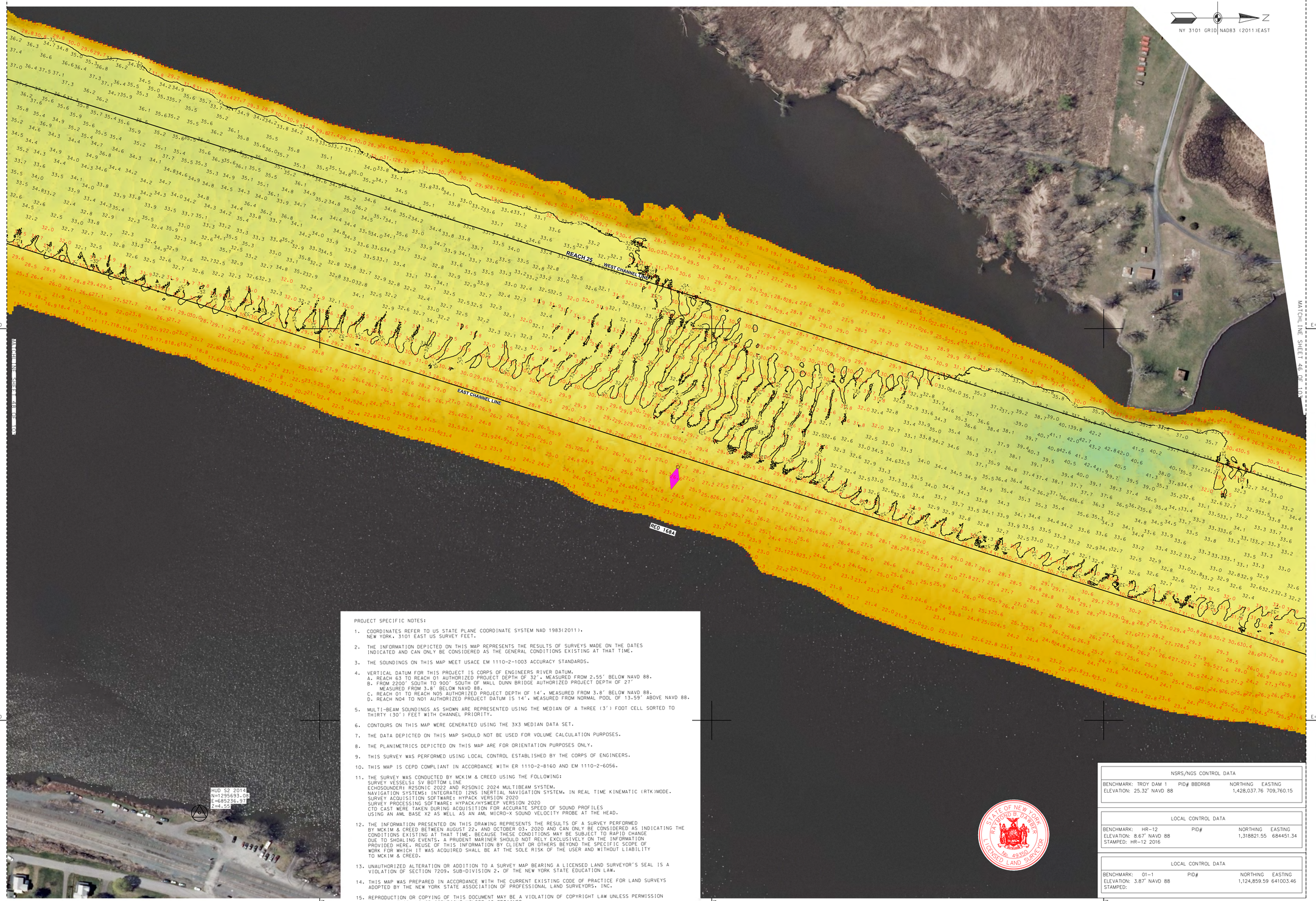
DESIGNED BY: 000
DWN BY: MBH
CKD BY: RBD
SUBMITTED BY: DLJ
DATE: AUGUST 22 - OCOTBER 03, 2020
SOLICITATION NO.:
CONTRACT NO.: W912DS-20-D-0003
FILE NUMBER:
PLOT SCALE: 1:1.000
PLOT DATE: 1:1.000
SIZE: ANSI F
FILE NAME: VH-5985890060_HUDSON_2020.DGN

U.S. ARMY CORPS OF ENGINEERS
NEW YORK DISTRICT
NEW YORK, NY

McKIM & CREED
243 NORTH FRONT STREET
WILMINGTON, NORTH CAROLINA 28401
TEL: (910) 251-8444
FAX: (910) 251-8282

HYDROGRAPHIC CONDITIONS SURVEY
HUDSON RIVER FEDERAL NAVIGATION CHANNEL
REACH 24-25

SHEET IDENTIFICATION
VH-146
SHEET 46 OF 103



PROJECT SPECIFIC NOTES:

1. COORDINATES REFER TO US STATE PLANE COORDINATE SYSTEM NAD 1983(2011). NEW YORK. 3101 EAST US SURVEY FEET.
2. 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.
3. THE SOUNDINGS ON THIS MAP MEET USACE EM 1110-2-1003 ACCURACY STANDARDS.
4. VERTICAL DATUM FOR THIS PROJECT IS CORPS OF ENGINEERS RIVER DATUM.
   A. REACH 63 TO REACH 01 AUTHORIZED PROJECT DEPTH OF 32'. MEASURED FROM 2.55' BELOW NAVD 88.
   B. FROM 2200' SOUTH TO 900' SOUTH OF MALL DUNN BRIDGE AUTHORIZED PROJECT DEPTH OF 27' MEASURED FROM 3.8' BELOW NAVD 88.
   C. REACH 01 TO REACH N05 AUTHORIZED PROJECT DEPTH OF 14'. MEASURED FROM 3.8' BELOW NAVD 88.
   D. REACH N04 TO N01 AUTHORIZED PROJECT DATUM IS 14'. MEASURED FROM NORMAL POOL OF 13.59' ABOVE NAVD 88.
5. MULTI-BEAM SOUNDINGS AS SHOWN ARE REPRESENTED USING THE MEDIAN OF A THREE (3') FOOT CELL SORTED TO THIRTY (30') FEET WITH CHANNEL PRIORITY.
6. CONTOURS ON THIS MAP WERE GENERATED USING THE 3X3 MEDIAN DATA SET.
7. THE DATA DEPICTED ON THIS MAP SHOULD NOT BE USED FOR VOLUME CALCULATION PURPOSES.
8. THE PLANIMETRICS DEPICTED ON THIS MAP ARE FOR ORIENTATION PURPOSES ONLY.
9. THIS SURVEY WAS PERFORMED USING LOCAL CONTROL ESTABLISHED BY THE CORPS OF ENGINEERS.
10. THIS MAP IS CEPD COMPLIANT IN ACCORDANCE WITH ER 1110-2-8160 AND EM 1110-2-6056.
11. THE SURVEY WAS CONDUCTED BY MCKIM & CREED USING THE FOLLOWING:
    SURVEY VESSELS: SV BOTTOM LINE
    ECHOSOUNDER: R2SONIC 2022 AND R2SONIC 2024 MULTIBEAM SYSTEM.
    NAVIGATION SYSTEMS: INTEGRATED I2NS INERTIAL NAVIGATION SYSTEM. IN REAL TIME KINEMATIC (RTK)MODE.
    SURVEY ACQUISITION SOFTWARE: HYPACK VERSION 2020
    SURVEY PROCESSING SOFTWARE: HYPACK/HYSWEEP VERSION 2020
    CTD CAST WERE TAKEN DURING ACQUISITION FOR ACCURATE SPEED OF SOUND PROFILES
    USING AN AML BASE X2 AS WELL AS AN AML MICRO-X SOUND VELOCITY PROBE AT THE HEAD.
12. THE INFORMATION PRESENTED ON THIS DRAWING REPRESENTS THE RESULTS OF A SURVEY PERFORMED BY MCKIM & CREED BETWEEN AUGUST 22, AND OCTOBER 03, 2020 AND CAN ONLY BE CONSIDERED AS INDICATING THE CONDITIONS EXISTING AT THAT TIME. BECAUSE THESE CONDITIONS MAY BE SUBJECT TO RAPID CHANGE DUE TO SHOALING EVENTS, A PRUDENT MARINER SHOULD NOT RELY EXCLUSIVELY ON THE INFORMATION PROVIDED HERE. 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 MCKIM & CREED.
13. UNAUTHORIZED ALTERATION OR ADDITION TO A SURVEY MAP BEARING A LICENSED LAND SURVEYOR'S SEAL IS A VIOLATION OF SECTION 7209, SUB-DIVISION 2, OF THE NEW YORK STATE EDUCATION LAW.
14. THIS MAP WAS PREPARED IN ACCORDANCE WITH THE CURRENT EXISTING CODE OF PRACTICE FOR LAND SURVEYS ADOPTED BY THE NEW YORK STATE ASSOCIATION OF PROFESSIONAL LAND SURVEYORS, INC.
15. REPRODUCTION OR COPYING OF THIS DOCUMENT MAY BE A VIOLATION OF COPYRIGHT LAW UNLESS PERMISSION OF THE AUTHOR AND/OR COPYRIGHT HOLDER IS OBTAINED.
16. A COPY OF THIS DOCUMENT WITHOUT A PROPER APPLICATION OF THE SURVEYOR'S EMBOSSED OR RED ELECTRONIC SEAL SHOULD BE ASSUMED TO BE AN UNAUTHORIZED COPY.

NSRS/NGS CONTROL DATA			
BENCHMARK: TROY DAM 1	PID# BBDR68	NORTHING	EASTING
ELEVATION: 25.32' NAVD 88		1,428,037.76	709,760.15

LOCAL CONTROL DATA			
BENCHMARK: HR-12	PID#	NORTHING	EASTING
ELEVATION: 8.67' NAVD 88		1,318821.55	684451.34
STAMPED: HR-12 2016			

LOCAL CONTROL DATA			
BENCHMARK: 01-1	PID#	NORTHING	EASTING
ELEVATION: 3.87' NAVD 88		1,124,859.59	641003.46
STAMPED:			

STATE OF NEW YORK
RAYMOND B. PARKER
LICENSED LAND SURVEYOR
No. 49150

SCALE 1" = 100'
0 100 200 300 400

US Army Corps of Engineers ®
New York District

MARK	DESCRIPTION	DATE	APPR.	MARK	DESCRIPTION	DATE	APPR.

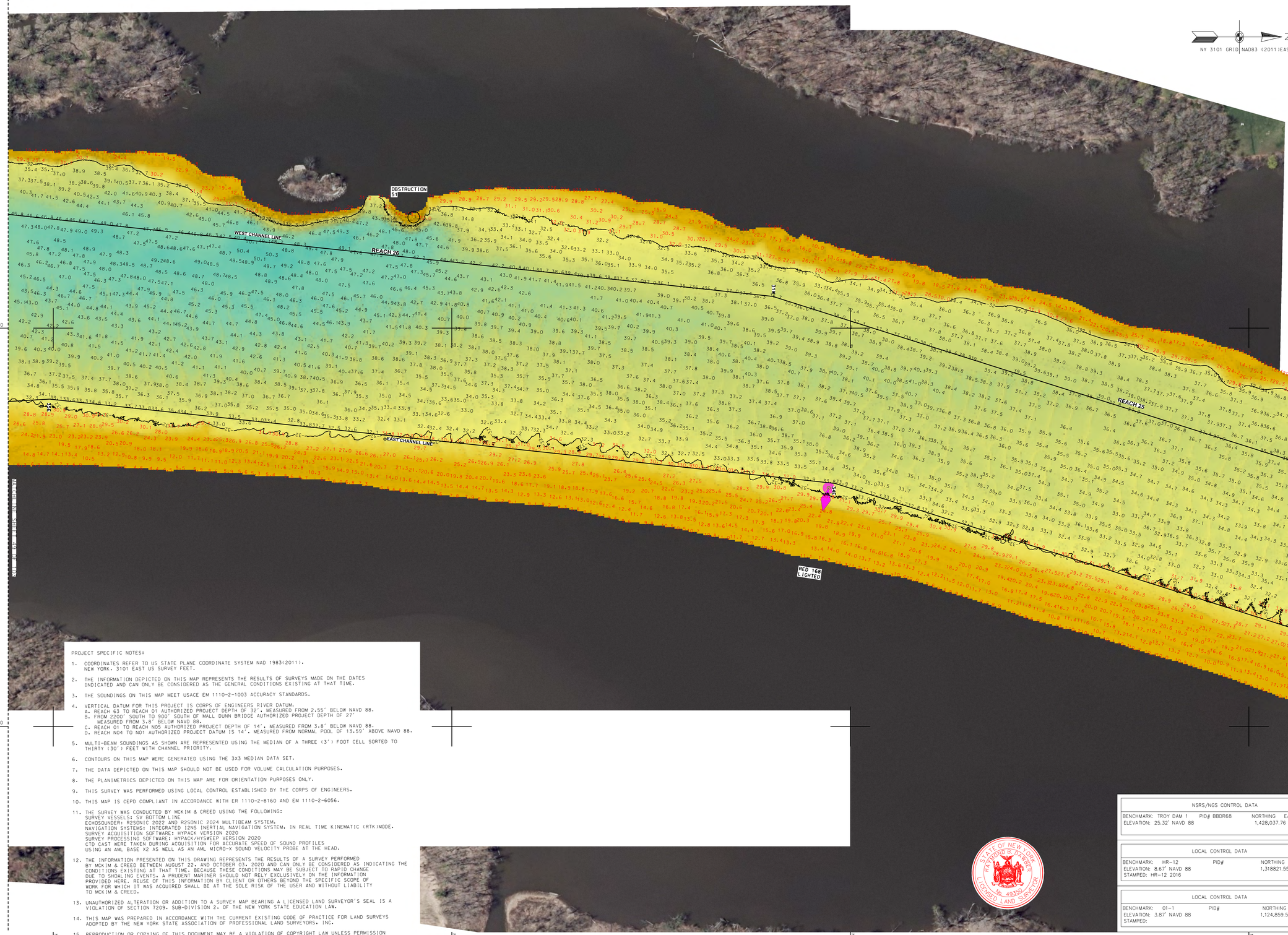
DESIGNED BY: 000
DRN BY: MBH
CKD BY: RBD
SUBMITTED BY: DLJ
PLOT SCALE: 1:1
PLOT DATE: 12/4/2020
DATE: AUGUST 22 - OCOTBER 03, 2020
SOLICITATION NO.:
CONTRACT NO.: W912DS-20-D-0003
FILE NUMBER:
SIZE: ANSI F
FILE NAME: VH-058890560_HUDSON_2020.DGN

U.S. ARMY CORPS OF ENGINEERS
NEW YORK DISTRICT
NEW YORK, NY

McKIM & CREED
243 NORTH FRONT STREET
WILMINGTON, NORTH CAROLINA 28401
TELEPHONE: (910) 251-8444
FAX: (910) 251-8282

HYDROGRAPHIC CONDITIONS SURVEY
HUDSON RIVER FEDERAL NAVIGATION CHANNEL
REACH 25

SHEET IDENTIFICATION
VH-147
SHEET 47 OF 103



PROJECT SPECIFIC NOTES:

1. COORDINATES REFER TO US STATE PLANE COORDINATE SYSTEM NAD 1983(2011). NEW YORK. 3101 EAST US SURVEY FEET.
2. 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.
3. THE SOUNDINGS ON THIS MAP MEET USACE EM 1110-2-1003 ACCURACY STANDARDS.
4. VERTICAL DATUM FOR THIS PROJECT IS CORPS OF ENGINEERS RIVER DATUM.
   A. REACH 63 TO REACH 01 AUTHORIZED PROJECT DEPTH OF 32', MEASURED FROM 2.55' BELOW NAVD 88.
   B. FROM 2200' SOUTH TO 900' SOUTH OF MALL DUNN BRIDGE AUTHORIZED PROJECT DEPTH OF 27' MEASURED FROM 3.8' BELOW NAVD 88.
   C. REACH 01 TO REACH N05 AUTHORIZED PROJECT DEPTH OF 14', MEASURED FROM 3.8' BELOW NAVD 88.
   D. REACH N04 TO N01 AUTHORIZED PROJECT DATUM IS 14', MEASURED FROM NORMAL POOL OF 13.59' ABOVE NAVD 88.
5. MULTI-BEAM SOUNDINGS AS SHOWN ARE REPRESENTED USING THE MEDIAN OF A THREE (3') FOOT CELL SORTED TO THIRTY (30') FEET WITH CHANNEL PRIORITY.
6. CONTOURS ON THIS MAP WERE GENERATED USING THE 3X3 MEDIAN DATA SET.
7. THE DATA DEPICTED ON THIS MAP SHOULD NOT BE USED FOR VOLUME CALCULATION PURPOSES.
8. THE PLANIMETRICS DEPICTED ON THIS MAP ARE FOR ORIENTATION PURPOSES ONLY.
9. THIS SURVEY WAS PERFORMED USING LOCAL CONTROL ESTABLISHED BY THE CORPS OF ENGINEERS.
10. THIS MAP IS CEPD COMPLIANT IN ACCORDANCE WITH ER 1110-2-8160 AND EM 1110-2-6056.
11. THE SURVEY WAS CONDUCTED BY MCKIM & CREED USING THE FOLLOWING:
    SURVEY VESSELS: SV BOTTOM LINE
    ECHOSOUNDER: R2SONIC 2022 AND R2SONIC 2024 MULTIBEAM SYSTEM.
    NAVIGATION SYSTEMS: INTEGRATED I2NS INERTIAL NAVIGATION SYSTEM. IN REAL TIME KINEMATIC (RTK)MODE.
    SURVEY ACQUISITION SOFTWARE: HYPACK VERSION 2020
    SURVEY PROCESSING SOFTWARE: HYPACK/HYSWEEP VERSION 2020
    CTD CAST WERE TAKEN DURING ACQUISITION FOR ACCURATE SPEED OF SOUND PROFILES USING AN AML BASE X2 AS WELL AS AN AML MICRO-X SOUND VELOCITY PROBE AT THE HEAD.
12. THE INFORMATION PRESENTED ON THIS DRAWING REPRESENTS THE RESULTS OF A SURVEY PERFORMED BY MCKIM & CREED BETWEEN AUGUST 22. AND OCTOBER 03. 2020 AND CAN ONLY BE CONSIDERED AS INDICATING THE CONDITIONS EXISTING AT THAT TIME. BECAUSE THESE CONDITIONS MAY BE SUBJECT TO RAPID CHANGE DUE TO SHOALING EVENTS, A PRUDENT MARINER SHOULD NOT RELY EXCLUSIVELY ON THE INFORMATION PROVIDED HERE. 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 MCKIM & CREED.
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15. REPRODUCTION OR COPYING OF THIS DOCUMENT MAY BE A VIOLATION OF COPYRIGHT LAW UNLESS PERMISSION OF THE AUTHOR AND/OR COPYRIGHT HOLDER IS OBTAINED.
16. A COPY OF THIS DOCUMENT WITHOUT A PROPER APPLICATION OF THE SURVEYOR'S EMBOSSED OR RED ELECTRONIC SEAL SHOULD BE ASSUMED TO BE AN UNAUTHORIZED COPY.

NSRS/NGS CONTROL DATA			
BENCHMARK: TROY DAM 1	PID# BBDR68	NORTHING	EASTING
ELEVATION: 25.32' NAVD 88		1,428,037.76	709,760.15

LOCAL CONTROL DATA			
BENCHMARK: HR-12	PID#	NORTHING	EASTING
ELEVATION: 8.67' NAVD 88		1,318821.55	684451.34
STAMPED: HR-12 2016			

LOCAL CONTROL DATA			
BENCHMARK: 01-1	PID#	NORTHING	EASTING
ELEVATION: 3.87' NAVD 88		1,124,859.59	641003.46
STAMPED:			

STATE OF NEW YORK
RAYMOND B. PARKER
049359
LICENSED LAND SURVEYOR

SCALE 1" = 100'
0 100 200 300 400

US Army Corps of Engineers ®
New York District

MARK	DESCRIPTION	DATE	APPR.	MARK	DESCRIPTION	DATE	APPR.

DESIGNED BY: 000
DWN BY: MBH
CKD BY: RBD
SUBMITTED BY: DLJ
PLOT SCALE: 1:100
PLOT DATE: 2021
SIZE: ANSI F
DATE: AUGUST 22 - OCTOBER 03, 2020
SOLICITATION NO.:
CONTRACT NO.: W912DS-20-D-0003
FILE NUMBER:
FILE NAME: VH-5985890560_HUDSON_2020.DGN

U.S. ARMY CORPS OF ENGINEERS
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NEW YORK, NY

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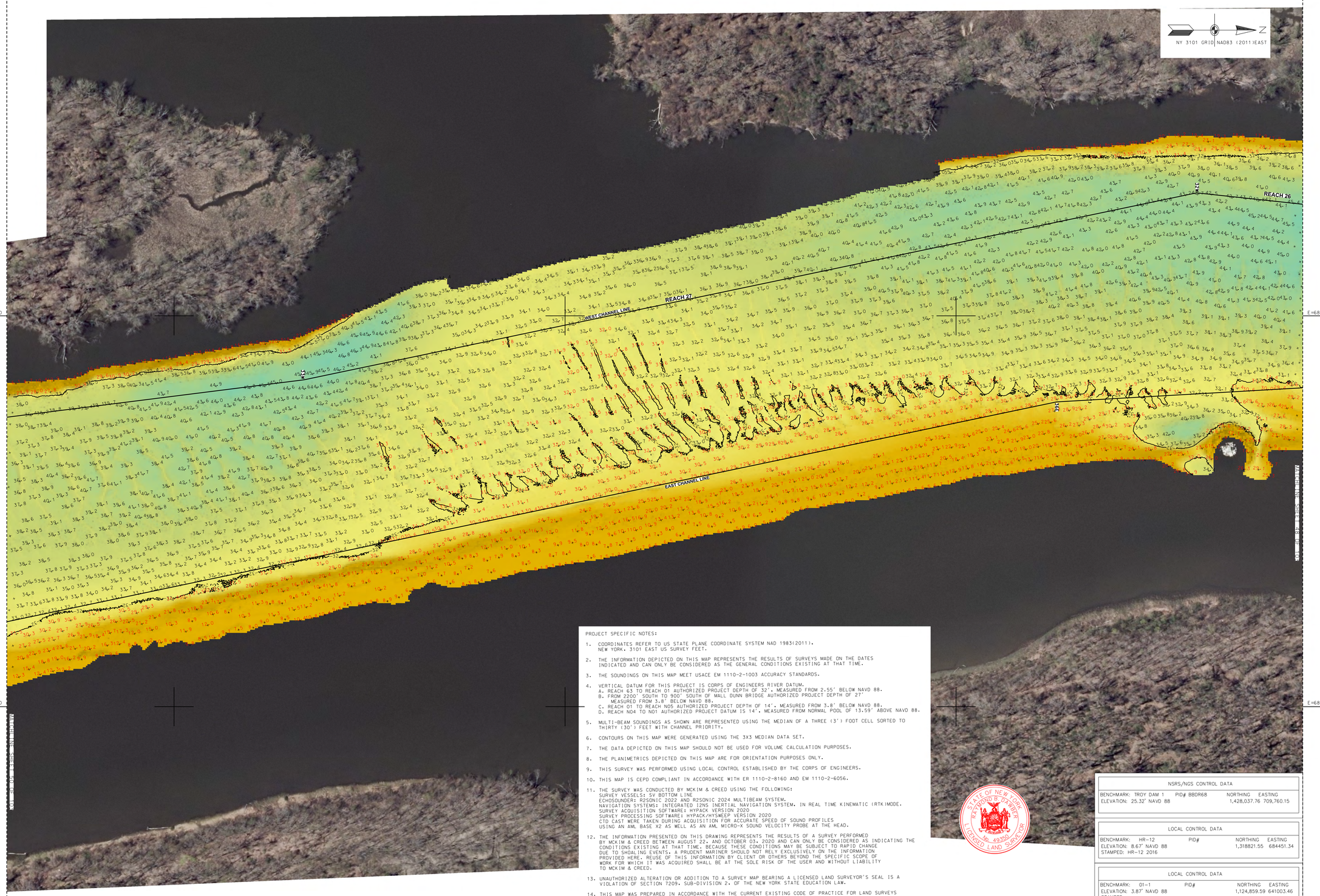
TELEPHONE: (910) 251-8448
FAX: (910) 251-8282

HYDROGRAPHIC CONDITIONS SURVEY
HUDSON RIVER FEDERAL NAVIGATION CHANNEL
REACH 25-26

SHEET IDENTIFICATION
VH-148
SHEET 48 OF 103



PROJECT SPECIFIC NOTES:

1. COORDINATES REFER TO US STATE PLANE COORDINATE SYSTEM NAD 1983(2011), NEW YORK, 3101 EAST US SURVEY FEET.
2. 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.
3. THE SOUNDINGS ON THIS MAP MEET USACE EM 1110-2-1003 ACCURACY STANDARDS.
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   B. FROM 2200' SOUTH TO 900' SOUTH OF MALL DUNN BRIDGE AUTHORIZED PROJECT DEPTH OF 27' MEASURED FROM 3.8' BELOW NAVD 88.
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    ECHOSOUNDER: R2SONIC 2022 AND R2SONIC 2024 MULTIBEAM SYSTEM.
    NAVIGATION SYSTEMS: INTEGRATED I2NS INERTIAL NAVIGATION SYSTEM, IN REAL TIME KINEMATIC (RTK)MODE.
    SURVEY ACQUISITION SOFTWARE: HYPACK VERSION 2020
    SURVEY PROCESSING SOFTWARE: HYPACK/HYSWEEP VERSION 2020
    CTD CAST WERE TAKEN DURING ACQUISITION FOR ACCURATE SPEED OF SOUND PROFILES USING AN AML BASE X2 AS WELL AS AN AML MICRO-X SOUND VELOCITY PROBE AT THE HEAD.
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16. A COPY OF THIS DOCUMENT WITHOUT A PROPER APPLICATION OF THE SURVEYOR'S EMBOSSED OR RED ELECTRONIC SEAL SHOULD BE ASSUMED TO BE AN UNAUTHORIZED COPY.

STATE OF NEW YORK
RAYMOND B. PARKER
No. 49350
LICENSED LAND SURVEYOR

NSRS/NGS CONTROL DATA			
BENCHMARK: TROY DAM 1	PID# BB0R68	NORTHING	EASTING
ELEVATION: 25.32' NAVD 88		1,428,037.76	709,760.15

LOCAL CONTROL DATA			
BENCHMARK: HR-12	PID#	NORTHING	EASTING
ELEVATION: 8.67' NAVD 88		1,318821.55	684451.34
STAMPED: HR-12 2016			

LOCAL CONTROL DATA			
BENCHMARK: 01-1	PID#	NORTHING	EASTING
ELEVATION: 3.87' NAVD 88		1,124,859.59	641003.46
STAMPED:			

SCALE 1" = 100'
0 100 200 300 400

US Army Corps of Engineers ®
New York District

MARK	DESCRIPTION	DATE	APPR.	MARK	DESCRIPTION	DATE	APPR.

DESIGNED BY: 000
DRN BY: MBH
CKD BY: RBD
SUBMITTED BY: DLJ
DATE: AUGUST 22 - OCOTBER 03, 2020
SOLICITATION NO.:
CONTRACT NO.: W912DS-20-D-0003
PLOT SCALE: 1" = 100'
ISSUE DATE: 2 DEC 2020
FILE NUMBER:
SIZE: ANSI F
FILE NAME: VH-058890060_HUDSON_2020.DGN

U.S. ARMY CORPS OF ENGINEERS
NEW YORK DISTRICT
NEW YORK, NY

McKIM & CREED
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HYDROGRAPHIC CONDITIONS SURVEY
HUDSON RIVER FEDERAL NAVIGATION CHANNEL
REACH 27

SHEET IDENTIFICATION
VH-149
SHEET 49 OF 103