The information presented on this drawing represents the results of a survey processing software: HYPACK 2018, Echosounder: ODOM HYDROTAC/ECHOTRAC, Survey Vessel: R/V ECHO.

This map is CEPD compliant in accordance with ER 1110-2-8160 and EM 1110-2-1003. The soundings on this map meet EM 1110-2-1003 accuracy standards. The data depicted on this map are representative of a larger data set. The planimetrics and orthophotos shown on this map are for orientation only. The shoreline and onshore features are approximate and were taken from the New York State GIS Clearinghouse. The coordinate system is NAD83. The grid system is in feet and is the New York Long Island State Plane Coordinate System, NAD83.

The survey shown was conducted by Ocean Surveys, Inc. using the following:

- ECHOSOUNDER: ODOM HYDROTAC/ECHOTRAC
- SURVEY VESSEL: R/V ECHO

THE INFORMATION PRESENTED ON THIS DRAWING REPRESENTS THE RESULTS OF A SURVEY PROCESSING SOFTWARE: HYPACK 2018, ECHOSOUNDER: ODOM HYDROTAC/ECHOTRAC, SURVEY VESSEL: R/V ECHO.

THE SURVEY SHOWN WAS CONDUCTED BY OCEAN SURVEYS, INC. USING THE FOLLOWING:

- ECHOSOUNDER: ODOM HYDROTAC/ECHOTRAC
- SURVEY VESSEL: R/V ECHO

THE SOUNDINGS ON THIS MAP MEET EM 1110-2-1003 ACCURACY STANDARDS. THE DATA DEPICTED ON THIS MAP ARE REPRESENTATIVE OF A LARGER DATA SET. THE PLANIMETRICS AND ORTHOPHOTOS SHOWN ON THIS MAP ARE FOR ORIENTATION ONLY. THE SHORELINE AND ONSHORE FEATURES ARE APPROXIMATE AND WERE TAKEN FROM THE NEW YORK STATE GIS CLEARINGHOUSE. THE COORDINATE SYSTEM IS NAD83. THE GRID SYSTEM IS IN FEET AND IS THE NEW YORK LONG ISLAND STATE PLANE COORDINATE SYSTEM, NAD83.

RISK OF THE USER AND WITHOUT LIABILITY TO OSI. THE SPECIFIC SCOPE OF WORK FOR WHICH IT WAS ACQUIRED SHALL BE AT THE SOLE DISCRETION OF THE USER.

4. THE INFORMATION PRESENTED ON THIS DRAWING REPRESENTS THE RESULTS OF A SURVEY PROCESSING SOFTWARE: HYPACK 2018, ECHOSOUNDER: ODOM HYDROTAC/ECHOTRAC, SURVEY VESSEL: R/V ECHO.

THE SURVEY SHOWN WAS CONDUCTED BY OCEAN SURVEYS, INC. USING THE FOLLOWING:

- ECHOSOUNDER: ODOM HYDROTAC/ECHOTRAC
- SURVEY VESSEL: R/V ECHO

THE SOUNDINGS ON THIS MAP MEET EM 1110-2-1003 ACCURACY STANDARDS. THE DATA DEPICTED ON THIS MAP ARE REPRESENTATIVE OF A LARGER DATA SET. THE PLANIMETRICS AND ORTHOPHOTOS SHOWN ON THIS MAP ARE FOR ORIENTATION ONLY. THE SHORELINE AND ONSHORE FEATURES ARE APPROXIMATE AND WERE TAKEN FROM THE NEW YORK STATE GIS CLEARINGHOUSE. THE COORDINATE SYSTEM IS NAD83. THE GRID SYSTEM IS IN FEET AND IS THE NEW YORK LONG ISLAND STATE PLANE COORDINATE SYSTEM, NAD83.

RISK OF THE USER AND WITHOUT LIABILITY TO OSI. THE SPECIFIC SCOPE OF WORK FOR WHICH IT WAS ACQUIRED SHALL BE AT THE SOLE DISCRETION OF THE USER.

3. THE INFORMATION PRESENTED ON THIS DRAWING REPRESENTS THE RESULTS OF A SURVEY PROCESSING SOFTWARE: HYPACK 2018, ECHOSOUNDER: ODOM HYDROTAC/ECHOTRAC, SURVEY VESSEL: R/V ECHO.

THE SURVEY SHOWN WAS CONDUCTED BY OCEAN SURVEYS, INC. USING THE FOLLOWING:

- ECHOSOUNDER: ODOM HYDROTAC/ECHOTRAC
- SURVEY VESSEL: R/V ECHO

THE SOUNDINGS ON THIS MAP MEET EM 1110-2-1003 ACCURACY STANDARDS. THE DATA DEPICTED ON THIS MAP ARE REPRESENTATIVE OF A LARGER DATA SET. THE PLANIMETRICS AND ORTHOPHOTOS SHOWN ON THIS MAP ARE FOR ORIENTATION ONLY. THE SHORELINE AND ONSHORE FEATURES ARE APPROXIMATE AND WERE TAKEN FROM THE NEW YORK STATE GIS CLEARINGHOUSE. THE COORDINATE SYSTEM IS NAD83. THE GRID SYSTEM IS IN FEET AND IS THE NEW YORK LONG ISLAND STATE PLANE COORDINATE SYSTEM, NAD83.

RISK OF THE USER AND WITHOUT LIABILITY TO OSI. THE SPECIFIC SCOPE OF WORK FOR WHICH IT WAS ACQUIRED SHALL BE AT THE SOLE DISCRETION OF THE USER.

2. THE INFORMATION PRESENTED ON THIS DRAWING REPRESENTS THE RESULTS OF A SURVEY PROCESSING SOFTWARE: HYPACK 2018, ECHOSOUNDER: ODOM HYDROTAC/ECHOTRAC, SURVEY VESSEL: R/V ECHO.

THE SURVEY SHOWN WAS CONDUCTED BY OCEAN SURVEYS, INC. USING THE FOLLOWING:

- ECHOSOUNDER: ODOM HYDROTAC/ECHOTRAC
- SURVEY VESSEL: R/V ECHO

THE SOUNDINGS ON THIS MAP MEET EM 1110-2-1003 ACCURACY STANDARDS. THE DATA DEPICTED ON THIS MAP ARE REPRESENTATIVE OF A LARGER DATA SET. THE PLANIMETRICS AND ORTHOPHOTOS SHOWN ON THIS MAP ARE FOR ORIENTATION ONLY. THE SHORELINE AND ONSHORE FEATURES ARE APPROXIMATE AND WERE TAKEN FROM THE NEW YORK STATE GIS CLEARINGHOUSE. THE COORDINATE SYSTEM IS NAD83. THE GRID SYSTEM IS IN FEET AND IS THE NEW YORK LONG ISLAND STATE PLANE COORDINATE SYSTEM, NAD83.

RISK OF THE USER AND WITHOUT LIABILITY TO OSI. THE SPECIFIC SCOPE OF WORK FOR WHICH IT WAS ACQUIRED SHALL BE AT THE SOLE DISCRETION OF THE USER.

1. THE INFORMATION PRESENTED ON THIS DRAWING REPRESENTS THE RESULTS OF A SURVEY PROCESSING SOFTWARE: HYPACK 2018, ECHOSOUNDER: ODOM HYDROTAC/ECHOTRAC, SURVEY VESSEL: R/V ECHO.

THE SURVEY SHOWN WAS CONDUCTED BY OCEAN SURVEYS, INC. USING THE FOLLOWING:

- ECHOSOUNDER: ODOM HYDROTAC/ECHOTRAC
- SURVEY VESSEL: R/V ECHO

THE SOUNDINGS ON THIS MAP MEET EM 1110-2-1003 ACCURACY STANDARDS. THE DATA DEPICTED ON THIS MAP ARE REPRESENTATIVE OF A LARGER DATA SET. THE PLANIMETRICS AND ORTHOPHOTOS SHOWN ON THIS MAP ARE FOR ORIENTATION ONLY. THE SHORELINE AND ONSHORE FEATURES ARE APPROXIMATE AND WERE TAKEN FROM THE NEW YORK STATE GIS CLEARINGHOUSE. THE COORDINATE SYSTEM IS NAD83. THE GRID SYSTEM IS IN FEET AND IS THE NEW YORK LONG ISLAND STATE PLANE COORDINATE SYSTEM, NAD83.

RISK OF THE USER AND WITHOUT LIABILITY TO OSI. THE SPECIFIC SCOPE OF WORK FOR WHICH IT WAS ACQUIRED SHALL BE AT THE SOLE DISCRETION OF THE USER.

THE INFORMATION PRESENTED ON THIS DRAWING REPRESENTS THE RESULTS OF A SURVEY PROCESSING SOFTWARE: HYPACK 2018, ECHOSOUNDER: ODOM HYDROTAC/ECHOTRAC, SURVEY VESSEL: R/V ECHO.

THE SURVEY SHOWN WAS CONDUCTED BY OCEAN SURVEYS, INC. USING THE FOLLOWING:

- ECHOSOUNDER: ODOM HYDROTAC/ECHOTRAC
- SURVEY VESSEL: R/V ECHO

THE SOUNDINGS ON THIS MAP MEET EM 1110-2-1003 ACCURACY STANDARDS. THE DATA DEPICTED ON THIS MAP ARE REPRESENTATIVE OF A LARGER DATA SET. THE PLANIMETRICS AND ORTHOPHOTOS SHOWN ON THIS MAP ARE FOR ORIENTATION ONLY. THE SHORELINE AND ONSHORE FEATURES ARE APPROXIMATE AND WERE TAKEN FROM THE NEW YORK STATE GIS CLEARINGHOUSE. THE COORDINATE SYSTEM IS NAD83. THE GRID SYSTEM IS IN FEET AND IS THE NEW YORK LONG ISLAND STATE PLANE COORDINATE SYSTEM, NAD83.

RISK OF THE USER AND WITHOUT LIABILITY TO OSI. THE SPECIFIC SCOPE OF WORK FOR WHICH IT WAS ACQUIRED SHALL BE AT THE SOLE DISCRETION OF THE USER.
### SURVEY PROCESSING SOFTWARE: HYPACK 2018

### SURVEY ACQUISITION SOFTWARE: HYPACK 2017A

### NAVIGATION SYSTEM: SBG EKINOX-D IN REAL TIME KINEMATIC (RTK) MODE

### SURVEY VESSEL: R/V ECHO

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**NOTES:**

1. The survey shown was conducted by Ocean Surveys, Inc. using the following:
   - Survey Processing Software: HYPACK 2018
   - Survey Acquisition Software: HYPACK 2017A
   - Navigation System: SBG EKINOX-D in Real Time Kinematic (RTK) Mode
   - Survey Vessel: R/V ECHO

2. This map is CEPD compliant in accordance with ER 1110-2-8160 and EM 1110-2-1172.

3. The data depicted on this map are representative of a larger data set.

4. The plane of mean lower low water (MLLW) is 0.7 feet to 1.40 feet.

5. Depths are in feet and are referenced to mean lower low water (MLLW).

6. The coordinate system is NAD83.

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**SURVEY ACQUISITION SOFTWARE:**

- **SURVEY ACQUISITION SOFTWARE:** HYPACK 2017A

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**SURVEY PROCESSING SOFTWARE:**

- **SURVEY PROCESSING SOFTWARE:** HYPACK 2018

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**SURVEY VESSEL:**

- **SURVEY VESSEL:** R/V ECHO

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**SURVEY VESSEL:**

- **SURVEY VESSEL:** R/V ECHO

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**SURVEY VESSEL:**

- **SURVEY VESSEL:** R/V ECHO

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**SURVEY VESSEL:**

- **SURVEY VESSEL:** R/V ECHO

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**SURVEY VESSEL:**

- **SURVEY VESSEL:** R/V ECHO
SURVEY ACQUISITION SOFTWARE: HYPACK 2017A
NAVIGATION SYSTEM: SBG EKINOX-D IN REAL TIME KINEMATIC (RTK) MODE

Specific Scope of Work for which it was acquired shall be at the sole
responsibility of the intended user.

The soundings on this map meet EM 1110-2-1003 accuracy standards.
Purposes only.
The planimetrics and orthophotos shown on this map are for orientation
purposes only.

The New York State GIS Clearinghouse.

Digital Orthophoto Quadrangles flown in 2016 and obtained from the New
York State GIS Clearinghouse.

Below NAVD 88. This value was determined using NOAA's VDATUM model.

Coordinate System: NAD83.

Waterway Mile 33.6+/-.
The information presented on this drawing represents the results of a survey acquisition software: Hypack 2017A.

Echosounder: Odom HydroTrac/Echotrac

Survey vessel: R/V Echo

The planimetrics and orthophotos shown on this map are for orientation purposes only. The soundings on this map meet EM 1110-2-1003 accuracy standards. The data depicted on this map are representative of a larger data set.

Grid system is in feet and is the New York Long Island State Plane (Version 3.6.1).

Elevation: 4.86' NAVD 88

Benchmark: Y 373 1956 (PID: KU0194)

Local control data

Scale: 1" = 100'

U.S. Army Corps of Engineers

New York District

Approved: J. Bean

Regional Smith

Field Books: Technical

File No.: 4860

Date:

Coastal Engineering Division

New York District
THE INFORMATION PRESENTED ON THIS DRAWING REPRESENTS THE RESULTS OF A NAVIGATION SYSTEM: SBG EKINOX-D IN REAL TIME KINEMATIC (RTK) MODE.

NOTES:

1. RISK OF THE USER AND WITHOUT LIABILITY TO OSI.
2. SPECIFIC SCOPE OF WORK FOR WHICH IT WAS ACQUIRED SHALL BE AT THE SOLE DISCRETION OF OSI.
3. THAT TIME. REUSE OF THIS INFORMATION BY CLIENT OR OTHERS BEYOND THE PURPOSES ONLY.
4. NEW YORK STATE GIS CLEARINGHOUSE.
5. DIGITAL ORTHOPHOTO QUADRANGLES FLOWN IN 2016 AND OBTAINED FROM THE NEW YORK DISTRICT."
The information presented on this drawing represents the results of a specific scope of work for which it was acquired. The survey performed by Ocean Surveys, Inc. (OSI) from 15 October to 23 November 2017. The soundings on this map meet EM 1110-2-1003 accuracy standards. The data depicted on this map are representative of a larger data set. The plane of mean lower low water (MLLW) is 0.7 feet to 1.40 feet. The elevation is 4.86' NAVD 88. Scale: 1" = 100'.
DATE OF SURVEY: 6.4.200

NOTES:
SPECIAL SCOPE OF WORK FOR WHICH IT WAS ACQUIRED SHALL BE AT THE SOLE
PURPOSES ONLY.
THE PLANIMETRICS AND ORTHOPHOTOS SHOWN ON THIS MAP ARE FOR ORIENTATION
THE SURVEY SHOWN WAS CONDUCTED BY OCEAN SURVEYS, INC. USING THE FOLLOWING:
1110-2-6056.
THE INFORMATION PRESENTED ON THIS DRAWING REPRESENTS THE RESULTS OF A
SURVEY ACQUISITION SOFTWARE: HYPACK 2017A
SURVEY VESSEL: R/V ECHO

DIGITAL ORTHOPHOTO QUADRANGLES FLOWN IN 2016 AND OBTAINED FROM THE NEW
SHORELINE AND ONSHORE FEATURES ARE APPROXIMATE AND WERE TAKEN FROM
BELOW NAVD 88. THIS VALUE WAS DETERMINED USING NOAA'S VDATUM MODEL
THE PLANE OF MEAN LOWER LOW WATER (MLLW) IS 0.7 FEET TO 1.40 FEET
DEPTHS ARE IN FEET AND ARE REFERENCED TO MEAN LOWER LOW WATER (MLLW).

BENCHMARK: MORICHES USCG 1994 (PID: AA9073)
NSRS CONTROL DATA
LOCAL CONTROL DATA
SCALE : 1" = 100'

DEPARTMENT OF THE ARMY
U.S. ARMY CORPS OF ENGINEERS
NEW YORK, NEW YORK 10278

APPROVED:
OPERATIONS DIVISION
FILE NO.: 4860
REQUEST NO.: 4860
DATE:

APPROVED:
FIELD BOOKS:
TUCKER, KRAY, SOS
WWW.

APPROVED:
DEPUTY CHIEF OF SURVEY
W W W .
DATE OF SURVEY: 7.8

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

PLANE SYSTEM: NAD83,
GRID SYSTEM: NEW YORK LONG ISLAND STATE PLANE
ELEVATION: 3.79' NAVD 88

BENCHMARK: Y 373 1956 (PID: KU0194)

SURVEY VESSEL: R/V ECHO
SURVEY PROCESSING SOFTWARE: HYPACK 2018

NOTE: SPECIFIC SCOPE OF WORK FOR WHICH IT WAS ACQUIRED SHALL BE AT THE SOLE
2019 AND CAN ONLY BE CONSIDERED AS INDICATING THE CONDITIONS EXISTING AT
SURVEY PERFORMED BY OCEAN SURVEYS, INC. 15 OCTOBER - 23 NOVEMBER

THE PLANIMETRICS AND ORTHOPHOTOS SHOWN ON THIS MAP ARE FOR ORIENTATION
DIGITAL ORTHOPHOTO QUADRANGLES FLOWN IN 2016 AND OBTAINED FROM THE NEW
GRID SYSTEM IS IN FEET AND IS THE NEW YORK LONG ISLAND STATE PLANE

APPROVED:
PROJECT MANAGER

APPROVED:
OPERATIONS DIVISION

APPROVED:
J. M. RAZA
THE INFORMATION PRESENTED ON THIS DRAWING REPRESENTS THE RESULTS OF A SURVEY PROCESSING SOFTWARE: HYPACK 2018
ECHOSONDER: ODOM HYDROTRAC/ECHOTRAC
SURVEY VESSEL: R/V ECHO

NOTES:
RISK OF THE USER AND WITHOUT LIABILITY TO OSI.
THAT TIME. REUSE OF THIS INFORMATION BY CLIENT OR OTHERS BEYOND THE 2019 AND CAN ONLY BE CONSIDERED AS INDICATING THE CONDITIONS EXISTING AT SURVEY PERFORMED BY OCEAN SURVEYS, INC. (OSI) 15 OCTOBER - 23 NOVEMBER 1110-2-6056.

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

BELOW NAVD 88. THIS VALUE WAS DETERMINED USING NOAA'S VDATUM MODEL DEPTHS ARE IN FEET AND ARE REFERENCED TO MEAN LOWER LOW WATER (MLLW).
COORDINATE SYSTEM, NAD83.

BENCHMARK: MORICHES USCG 1994 (PID: AA9073)
ELEVATION: 3.79' NAVD 88

APPROVED:
NEW YORK DISTRICT FIELD CARTOGRAPHER
U. S. ARMY PROJECT MANAGER

LEAD CARTOGRAPHER
SURVEY SECTION
COND SURVEY

APP ROVED:
CE NEAN-O P-S
FEBRUARY 2020
DATE:
SURVEY PROCESSING SOFTWARE: HYPACK 2018

SURVEY VESSEL: R/V ECHO

SPECIFIC SCOPE OF WORK FOR WHICH IT WAS ACQUIRED SHALL BE AT THE SOLE
PURPOSES ONLY.

THE PLANIMETRICS AND ORTHOPHOTOS SHOWN ON THIS MAP ARE FOR ORIENTATION
The information presented on this drawing represents the results of a survey processing software: HYPACK 2018.

EchoSounder: ODOM HYDROTRAC/ECHOTRAC

Survey Vessel: R/V ECHO

The soundings on this map meet EM 1110-2-1003 accuracy standards.

Depts are in feet and are referenced to mean lower low water (MLLW).
THE INFORMATION PRESENTED ON THIS DRAWING REPRESENTS THE RESULTS OF A SURVEY PROCESSING SOFTWARE: HYPACK 2018 NAVIGATION SYSTEM: SBG EKINOX-D IN REAL TIME KINEMATIC (RTK) MODE ECHOSOUNDER: ODOM HYDROTRAC/ECHOTRAC SURVEY VESSEL: R/V ECHO

THE DATA DEPICTED ON THIS MAP ARE REPRESENTATIVE OF A LARGER DATA SET. DIGITAL ORTHOPHOTO QUADRANGLES FLOWN IN 2016 AND OBTAINED FROM THE NEW SHORELINE AND ONSHORE FEATURES ARE APPROXIMATE AND WERE TAKEN FROM BELOW NAVD 88. THIS VALUE WAS DETERMINED USING NOAA'S VDATUM MODEL THE PLANE OF MEAN LOWER LOW WATER (MLLW) IS 0.7 FEET TO 1.40 FEET

RISK OF THE USER AND WITHOUT LIABILITY TO OSI. 2019 AND CAN ONLY BE CONSIDERED AS INDICATING THE CONDITIONS EXISTING AT THE SOUNDINGS ON THIS MAP MEET EM 1110-2-1003 ACCURACY STANDARDS.
THE INFORMATION PRESENTED ON THIS DRAWING REPRESENTS THE RESULTS OF A SURVEY VESSEL: R/V ECHO.

NOTES:

- The information on this drawing represents the results of a survey vessel: R/V ECHO.
- The risks of the user and without liability to OSI.
- The specific scope of work for which it was acquired shall be at the sole discretion of the user.
- The soundings on this map meet EM 1110-2-1003 accuracy standards.

- The planimetrics and orthophotos shown on this map are for orientation purposes only.
- Local control data.
- Scale: 1" = 100 feet.

- Benchmark: Y 373 1956 (PID: KU0194).

- Date of survey: 2019.

- Town of Riverhead, Suffolk County, New York.
NOTES:

- The survey shown was conducted by Ocean Surveys, Inc. using the following:

- SURVEY ACQUISITION SOFTWARE: HYPACK 2017A
- ECHOSOUNDER: ODOM HYDROTRAC/ECHOTRAC

- The soundings on this map meet EM 1110-2-1003 accuracy standards.
- Shoreline and onshore features are approximate and were taken from (VERSION 3.6.1).
- The plane of mean lower low water (MLLW) is 0.7 feet to 1.40 feet.
- Depths are in feet and are referenced to mean lower low water (MLLW).
- Coordinate system, NAD83.

- This map is CEPC compliant in accordance with ER 1110-2-8160 and EM 1110-2-6056.

- The survey performed by Ocean Surveys, Inc. (OSI) from 15 October to 23 November 2019 and can only be considered as indicating the conditions existing at the time of the survey.

- The survey was conducted by Ocean Surveys, Inc. using the following equipment:

- SURVEY ACQUISITION SOFTWARE: HYPACK 2017A
- ECHOSOUNDER: ODOM HYDROTRAC/ECHOTRAC

- The soundings on this map meet EM 1110-2-1003 accuracy standards.
- Shoreline and onshore features are approximate and were taken from (VERSION 3.6.1).
- The plane of mean lower low water (MLLW) is 0.7 feet to 1.40 feet.
- Depths are in feet and are referenced to mean lower low water (MLLW).
- Coordinate system, NAD83.

- This map is CEPC compliant in accordance with ER 1110-2-8160 and EM 1110-2-6056.

- The survey was performed by Ocean Surveys, Inc. (OSI) from 15 October to 23 November 2019 and can only be considered as indicating the conditions existing at the time of the survey.
THE INFORMATION PRESENTED ON THIS DRAWING REPRESENTS THE RESULTS OF A NAVIGATION SYSTEM: SBG EKINOX-D IN REAL TIME KINEMATIC (RTK) MODE SURVEY VESSEL: R/V ECHO.

SPECIFIC SCOPE OF WORK FOR WHICH IT WAS ACQUIRED SHALL BE AT THE SOLE DISCRETION OF THE U.S. ARMY CORPS OF ENGINEERS, NEW YORK DISTRICT.

THE SURVEY SHOWN WAS CONDUCTED BY OCEAN SURVEYS, INC. USING THE FOLLOWING:

- PLANIMETRICS AND ORTHOPHOTOS SHOWN ON THIS MAP ARE FOR ORIENTATION PURPOSES ONLY.
- DEPTHS ARE IN FEET AND ARE REFERENCED TO MEAN LOWER LOW WATER (MLLW). COORDINATE SYSTEM, NAD83.
- THIS MAP IS CEPD COMPLIANT IN ACCORDANCE WITH ER 1110-2-8160 AND EM 1110-2-335 (VERSION 3.6.1).

LOCAL CONTROL DATA

FILE NO.: 4860
REQUEST NO.: 4860

APPROVED:
- OPERATIONS DIVISION DEPUTY CHIEF OF SURVEY
- LEAD CARTOGRAPHER
- NEW YORK DISTRICT U.S. ARMY WATERWAY, N.Y.

APPROVED:
- REGIONAL SMITH PROJECT MANAGER
- PROJECT MANAGER
- APPROVED: 4 FEBRUARY 2020
- DATE: 4631-02022020

FLOYD POINT

MORICHES BAY

25 OCTOBER 2019
SLACK
THE INFORMATION PRESENTED ON THIS DRAWING REPRESENTS THE RESULTS OF A SURVEY PROCESSING SOFTWARE: HYPACK 2018 NAVIGATION SYSTEM: SBG EKINOX-D IN REAL TIME KINEMATIC (RTK) MODE.

THE SURVEY SHOWN WAS CONDUCTED BY OCEAN SURVEYS, INC. USING THE FOLLOWING:

- DIGITAL ORTHOPHOTO QUADRANGLES FLOWN IN 2016 AND OBTAINED FROM THE NEW YORK LONG ISLAND STATE PLANE GRID SYSTEM.
- THIS MAP IS CEPD COMPLIANT IN ACCORDANCE WITH ER 1110-2-8160 AND EM 1110-2-1003.
- SHORELINE AND ONSHORE FEATURES ARE APPROXIMATE AND WERE TAKEN FROM THE PLANE OF MEAN LOWER LOW WATER (MLLW) IS 0.7 FEET TO 1.40 FEET DEPTHS ARE IN FEET AND ARE REFERENCED TO MEAN LOWER LOW WATER (MLLW).

RISK OF THE USER AND WITHOUT LIABILITY TO OSI.

SPECIFIC SCOPE OF WORK FOR WHICH IT WAS ACQUIRED SHALL BE AT THE SOLE DISCRETION OF THE USER.

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

APPENDIX:

- CONDITION SURVEY REQUEST NO.: 4860
- APPROVED: D.C. CLARK, PROJECT MANAGER
- DATE: 4 FEBRUARY 2020

PROJECT MANAGER: J.M. RAZA
SURVEY SECTION: T.T. EKOR

APPROVED:
D. CLARK
P. ENG.

M OR I C H E S   B A Y

S C A L E :
DATE OF SURVEY: 7.5

SURVEY ACQUISITION SOFTWARE: HYPACK 2017A
ECHOSOUNDER: ODOM HYDROTRAC/ECHOTRAC
SURVEY VESSEL: R/V ECHO

THIS MAP IS CEPD COMPLIANT IN ACCORDANCE WITH ER 1110-2-8160 AND EM 1110-2-1003.
THE SOUNDINGS ON THIS MAP MEET EM 1110-2-1003 ACCURACY STANDARDS.
THE PLANE OF MEAN LOWER LOW WATER (MLLW) IS 0.7 FEET TO 1.40 FEET DEPTHS ARE IN FEET AND ARE REFERENCED TO MEAN LOWER LOW WATER (MLLW).
GRID SYSTEM IS IN FEET AND IS THE NEW YORK LONG ISLAND STATE PLANE.
THE PLANIMETRICS AND ORTHOPHOTOS SHOWN ON THIS MAP ARE FOR ORIENTATION.
THE RISK OF THE USER AND WITHOUT LIABILITY TO OSI.
SPECIFIC SCOPE OF WORK FOR WHICH IT WAS ACQUIRED SHALL BE AT THE SOLE.
2019 AND CAN ONLY BE CONSIDERED AS INDICATING THE CONDITIONS EXISTING AT SURVEY PERFORMED BY OCEAN SURVEYS, INC. (OSI) 15 OCTOBER - 23 NOVEMBER.
The information presented on this drawing represents the results of a survey processing software: HYPACK 2018. Navigation system: SBG Ekinox-D in Real Time Kinematic (RTK) mode. Survey vessel: R/V Echo.

Notes:

- Risk of the user and without liability to OSI.
- Specific scope of work for which it was acquired shall be at the sole discretion of the party acquiring the data.
- This value was determined using NOAA's VDATUM model for the plane of mean lower low water (MLLW) is 0.7 feet to 1.40 feet.
- Local control data grid system is in feet and is the New York Long Island State Plane Coordinate System.
The information presented on this drawing represents the results of an Echosounder: ODOM HYDROTRAC/ECHOTRAC, 6.

That time. Reuse of this information by client or others beyond the 2019 and can only be considered as indicating the conditions existing at the soundings on this map meet EM 1110-2-1003 accuracy standards.

The shoreline and onshore features are approximate and were taken from the soundings on this map meet EM 1110-2-1003 accuracy standards.

Elevation: 4.86' NAVD 88
Benchmark: MORICHES USCG 1994 (PID: AA9073)

Elevation: 3.79' NAVD 88

NSRS Control Data

Local Control Data

Scale: 1" = 100'

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

Field Books:
Table of Contents

Request No.: 4860

Date:
THE INFORMATION PRESENTED ON THIS DRAWING REPRESENTS THE RESULTS OF A SURVEY PROCESSING SOFTWARE: HYPACK 2018
NAVIGATION SYSTEM: SBG EKINOX-D IN REAL TIME KINEMATIC (RTK) MODE

THE SURVEY SHOWN WAS CONDUCTED BY OCEAN SURVEYS, INC. USING THE FOLLOWING:

ELEVATION: 4.86' NAVD 88
BENCHMARK: Y 373 1956 (PID: KU0194)

NOTES:
SPECIFIC SCOPE OF WORK FOR WHICH IT WAS ACQUIRED SHALL BE AT THE SOLE DISCRETION OF THE ORDERING PARTY. REUSE OF THIS INFORMATION BY CLIENT OR OTHERS BEYOND THE SCOPE OF WORK FOR WHICH IT WAS ACQUIRED SHALL BE AT THE SOLE DISCRETION OF THE ORDERING PARTY. THIS MAP IS CEPD COMPLIANT IN ACCORDANCE WITH ER 1110-2-8160 AND EM 1110-2-8160.

THE DATA DEPICTED ON THIS MAP ARE REPRESENTATIVE OF A LARGER DATA SET.

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

REQUEST NO.: 4860
DATE: 4 FEBRUARY 2020
APPROVED: CECAH-O-P-S (SIGNED)
DEPUTY CHIEF OF SURVEY OPERATIONS DIVISION

U.S. ARMY REGINA W. SMITH, NEW YORK, NEW YORK 10278
The information presented on this drawing represents the results of an echosounder: Odom HydroTrac/Echotrac survey performed by Ocean Surveys, Inc. (OSI) 15 October - 23 November 2011-2-6056.

The soundings on this map meet EM 1110-2-1003 accuracy standards. (Version 3.6.1).

The plane of mean lower low water (MLLW) is 0.7 feet to 1.40 feet. Depths are in feet and are referenced to mean lower low water (MLLW).

Waterway, N.Y.

F I E L D  B O O K S:

TO N

O P E R A T I O N S  D I V I S I O N

L E A D  C A R T O G R A P H E R

S U R V E Y  S E C T I O N

C E N A N - O P - S

D E P U T Y  C H I E F  O F  S U R V E Y

4  F E B R U A R Y  2020

DATE:
NAVIGATION SYSTEM: SBG EKINOX-D IN REAL TIME KINEMATIC (RTK) MODE

SURVEY VESSEL: R/V ECHO

THE SURVEY SHOWN WAS CONDUCTED BY OCEAN SURVEYS, INC. USING THE FOLLOWING:

DIGITAL ORTHOPHOTO QUADRANGLES FLOWN IN 2016 AND OBTAINED FROM THE NEW BELOW NAVD 88. THIS VALUE WAS DETERMINED USING NOAA'S VDATUM MODEL COORDINATE SYSTEM, NAD83.

ELEVATION: 3.79' NAVD 88

SCALE : 1" = 100'
THE INFORMATION PRESENTED ON THIS DRAWING REPRESENTS THE RESULTS OF A NAVIGATION SYSTEM: SBG EKINOX-D IN REAL TIME KINEMATIC (RTK) MODE.

ECHOSOUNDER: ODOM HYDROTRAC/ECHOTRAC.

NOTES:

- The survey shown was conducted by Ocean Surveys, Inc. using the following:
- This map is CEPD compliant in accordance with ER 1110-2-8160 and EM.
- Purposes only.
- Shoreline and onshore features are approximate and were taken from the plane of mean lower low water (MLLW) is 0.7 feet to 1.40 feet.
- Depths are in feet and are referenced to mean lower low water (MLLW).
- Risk of the user and without liability to OSI.
ELEVATION: 3.79' NAVD 88

SCALE : 1" = 100'
NOTES:
- SURVEY ACQUISITION SOFTWARE: HYPACK 2017A
- NAVIGATION SYSTEM: SBG EKINOX-D IN REAL TIME KINEMATIC (RTK) MODE
- DIGITAL ORTHOPHOTO QUADRANGLES FLOWN IN 2016 AND OBTAINED FROM THE NEW YORK DISTRICT
- THE PLANE OF MEAN LOWER LOW WATER (MLLW) IS 0.7 FEET TO 1.40 FEET
- DEPTHS ARE IN FEET AND ARE REFERENCED TO MEAN LOWER LOW WATER (MLLW).
- GRID SYSTEM IS IN FEET AND IS THE NEW YORK LONG ISLAND STATE PLANE
- NSRS CONTROL DATA
- SCALE: 1" = 100'
- ELEVATION: 4.86' NAVD 88
- BENCHMARK: MORICHES USCG 1994 (PID: AA9073)
- BENCHMARK: Y 373 1956 (PID: KU0194)

APPROVED:
- J. BEAN

DATE:
- 15 OCT. - 23 NOV. 2019

NEW YORK DISTRICT
- U.S. ARMY CORPS OF ENGINEERS
- LEAD CARTOGRAPHER
- PROJECT MANAGER

ON ONE INCH = 100 FEET

REQUEST NO.: 4860

VIRGINIA BEACH, VA

WWW.USBCE.GOV

129 SUFFOLK STREET, ALEXANDRIA, VA 22314
DATE OF SURVEY: 6.0

NOTES:

SPECIFIC SCOPE OF WORK FOR WHICH IT WAS ACQUIRED SHALL BE AT THE SOLE RESPONSIBILITY OF THE USER.

THE INFORMATION PRESENTED ON THIS DRAWING REPRESENTS THE RESULTS OF A SURVEY PERFORMED BY OCEAN SURVEYS, INC. (OSI) 15 OCTOBER - 23 NOVEMBER 2019 AND CAN ONLY BE CONSIDERED AS INDICATING THE CONDITIONS EXISTING AT THE PLANE OF MEAN LOWER LOW WATER (MLLW) IS 0.7 FEET TO 1.40 FEET ABOVE NAVD 88.

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

DIGITAL ORTHOPHOTO QUADRANGLES FLOWN IN 2016 AND OBTAINED FROM THE NEW YORK STATE GIS CLEARINGHOUSE.

ELEVATION: 4.86' NAVD 88

BENCHMARK: Y 373 1956 (PID: KU0194)

SCALE : 1" = 100'

US ARMY CORPS OF ENGINEERS NEW YORK DISTRICT

SHORELINE:

PHILIP'S POINT

E 1379000
N 242000

SHINNECOCK BAY

E 138000
N 243000

SCALE: 1 INCH = 100 FEET

LONG ISLAND INTRAOCAL VH-144

FILBRO No. 4860

LEADER CARTOGRAPHER

WWW.METRIC DATA SERVICES

J. BEAN

FILE NO.: 4860

U. S. ARMY CORPS OF ENGINEERS
NOTES:

SPECIFIC SCOPE OF WORK FOR WHICH IT WAS ACQUIRED SHALL BE AT THE SOLE
2019 AND CAN ONLY BE CONSIDERED AS INDICATING THE CONDITIONS EXISTING AT
SURVEY PERFORMED BY OCEAN SURVEYS, INC. 15 OCTOBER - 23 NOVEMBER
PURPOSES ONLY.

THE PLANE OF MEAN LOWER LOW WATER (MLLW) IS 0.7 FEET TO 1.40 FEET
DEPTHS ARE IN FEET AND ARE REFERENCED TO MEAN LOWER LOW WATER (MLLW).
COORDINATE SYSTEM, NAD83.
SURVEY PROCESSING SOFTWARE: HYPACK 2018
NAVIGATION SYSTEM: SBG EKINOX-D IN REAL TIME KINEMATIC (RTK) MODE

SPECIFIC SCOPE OF WORK FOR WHICH IT WAS ACQUIRED SHALL BE AT THE SOLE DISCRETION OF THE CONTRACTOR. REUSE OF THIS INFORMATION BY CLIENT OR OTHERS BEYOND THE TER

THIS MAP IS CEPD COMPLIANT IN ACCORDANCE WITH ER 1110-2-8160 AND EM 1100-2-8180.

THE PLANIMETRICS AND ORTHOPHOTOS SHOWN ON THIS MAP ARE FOR ORIENTATION PURPOSES ONLY AND DO NOT CONSTITUTE LEGAL OR ENGINEERING HYDROGRAPHIC SURVEY DATA. THE WATERLINE SHOWN ON THIS MAP IS APPROXIMATE AND WAS TAKEN FROM "BELOW NAVD 88." THIS VALUE WAS DETERMINED USING NOAA'S VDATUM MODEL.

THE PLANE OF MEAN LOWER LOW WATER (MLLW) IS 0.7 FEET TO 1.40 FEET DEEP AT THIS LOCATION. THE WATERWAY IS 18 FEET DEEP AT THIS LOCATION. THE DEPTHS SHOWN ON THIS MAP ARE APPROXIMATE AND WERE TAKEN FROM "BELOW NAVD 88." THIS VALUE WAS DETERMINED USING NOAA'S VDATUM MODEL.

THE NSRS CONTROL DATA FOR THIS AREA IS BASED ON THE 1983 NORTH AMERICAN COORDINATE SYSTEM (NAD83). THIS DATA IS PROVIDED FOR ORIENTATION PURPOSES ONLY AND DO NOT CONSTITUTE LEGAL OR ENGINEERING HYDROGRAPHIC SURVEY DATA.

SCALE: 1" = 100'
THE INFORMATION PRESENTED ON THIS DRAWING REPRESENTS THE RESULTS OF A NAVIGATION SYSTEM: SBG EKINOX-D IN REAL TIME KINEMATIC (RTK) MODE.

SURVEY VESSEL: R/V ECHO

NOTES:

THAT TIME. REUSE OF THIS INFORMATION BY CLIENT OR OTHERS BEYOND THE PURPOSES ONLY.

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

SHORELINE AND ONSHORE FEATURES ARE APPROXIMATE AND WERE TAKEN FROM (VERSION 3.6.1).

THE PLANE OF MEAN LOWER LOW WATER (MLLW) IS 0.7 FEET TO 1.40 FEET DEPTHS ARE IN FEET AND ARE REFERENCED TO MEAN LOWER LOW WATER (MLLW).

ELEVATION: 3.79' NAVD 88

NSRS CONTROL DATA

NEW YORK DISTRICT

APPROVED: J. BEAN

NEW YORK, NEW YORK 10278

FEBRUARY 2020

FILE NO.: 4860

COND SURVEY

OPERATION DIVISION

FIELD BOOKS:

U. S. ARMY
The information presented on this drawing represents the results of a navigation system: SBG EKINOX-D in real time kinematic (RTK) mode.

Echosounder: ODOM HYDROTRAC/ECHOTRAC

Survey vessel: R/V Echo

Notes:

1. The soundings on this map meet EM 1110-2-1003 accuracy standards.
2. This map is CEPCD compliant in accordance with ER 1110-2-8160 and EM 1110-2-6056.
3. The plane of Mean Lower Low Water (MLLW) is 0.7 feet to 1.40 feet.
4. Elevation: 4.86' NAVD 88
5. Benchmark: Moriches USCG 1994 (PID: AA9073)
6. Scale: 1" = 100'
7. New York District of Engineers
8. Regional Smith Operations Division
9. Field Books: Operations Division (860)
10. Lead Cartographer (O.M.)
11. Date: October 15 - November 23, 2019
DATE OF SURVEY: 2003 NOVEMBER 2019

THE SOUNDINGS ON THIS MAP MEET EM 1110-2-1003 ACCURACY STANDARDS.
THE DATA DEPICTED ON THIS MAP ARE REPRESENTATIVE OF A LARGER DATA SET.
THE PLANE OF MEAN LOWER LOW WATER (MLLW) IS 0.7 FEET TO 1.40 FEET BELOW NAVD 88.
THIS VALUE WAS DETERMINED USING NOAA'S VDATUM MODEL.
This map is CEPD compliant in accordance with ER 1110-2-8160 and EMYORK STATE GIS CLEARINGHOUSE. Shoreline and onshore features are approximate and were taken from below NAVD 88. This value was determined using NOAA's VDATUM model.

Deepts are in feet and are referenced to mean lower low water (MLLW). Coordinate system, NAD83.