To: Navigation Interests		From: USACE, Norfolk District 803 Front St Norfolk, VA 23510					
RIVER/HARBOR NAME AND STATE ONANCOCK RIVER VIRGINIA					MINIMUM DEPTHS IN EACH WIDTH OF CHANNEL ENTERING FROM SEAWARD		
NAME OF CHANNEL	DATE OF SURVEY	PROJECT			LEFT OUTSIDE QUARTER (feet)	MIDDLE HALF (feet)	RIGHT OUTSIDE QUARTER (feet)
		WIDTH (feet)	LENGTH (miles)	DEPTH (feet)			
Channel from Mouth to Onancock	04-03-2019	100 200	5.9	12	3.1	9.0	8.4
Anchorage Basin at Mouth of Titlow Creek	04-03-2019	0	0.0	6	Entire Area 3.8		
Turning Basin at Onancock	04-03-2019	0	0.0	12	Entire Area 9.1		
Channel in North Branch	04-03-2019	100 130	0.2	12	6.5	7.3	7.0
Basin in North Branch	04-03-2019	100 180	0.0	12	Entire Area 7.9		
Channel in Joynes Branch	04-03-2019	100	0.1	6	3.8	4.1	2.3
Remarks: All Depths at Mean Lower Low Water (MLLW), 1983-2001 Tidal Epoch							

Benchmark
Shoalest Sounding in Quarter/Parameter of each Reach
Channel Toes
Channel Quarter/Parameter Line
Maintained Depth Contour Line

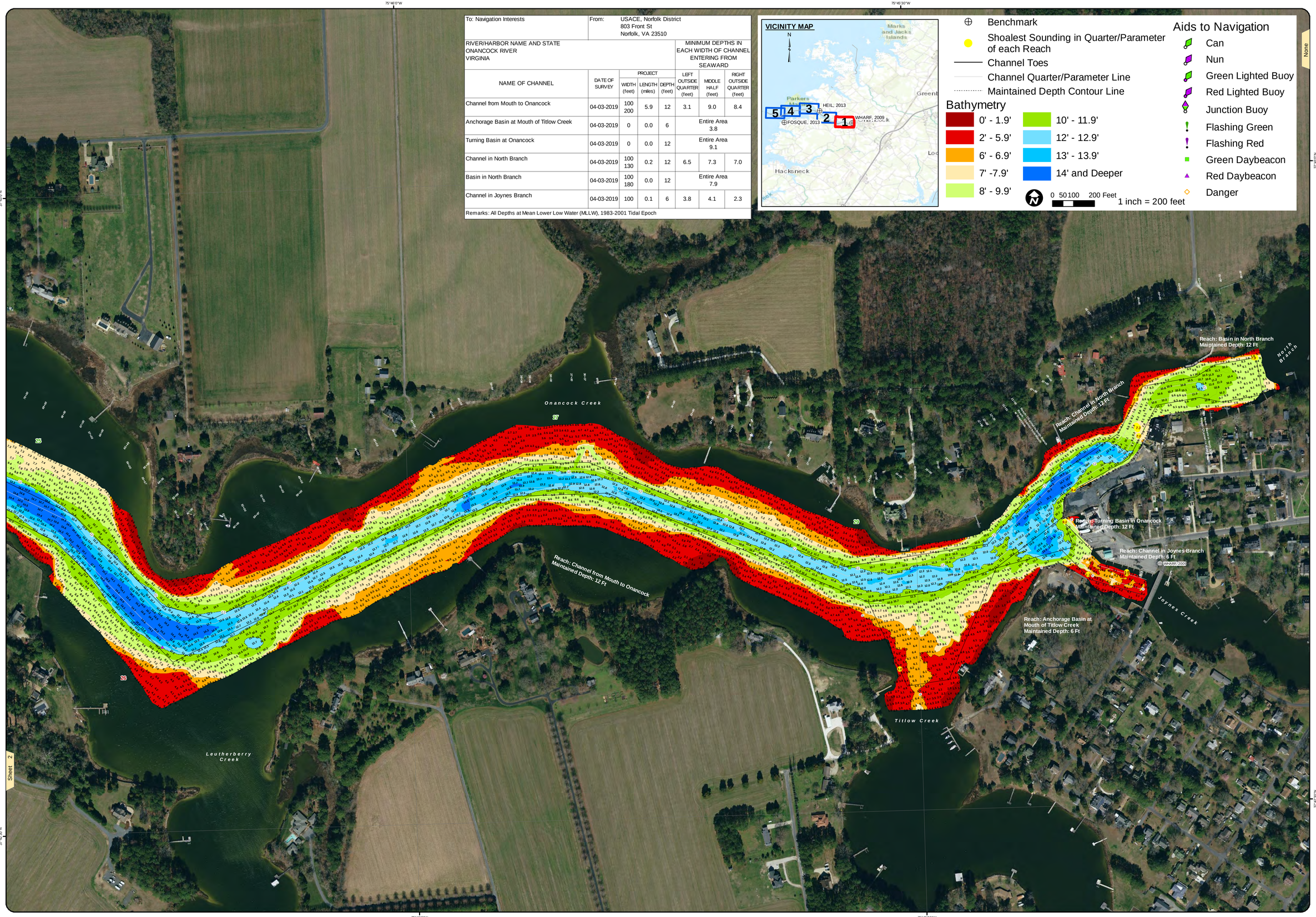
Bathymetry

0' - 1.9'	10' - 11.9'
2' - 5.9'	12' - 12.9'
6' - 6.9'	13' - 13.9'
7' -7.9'	14' and Deeper
8' - 9.9'	

0 50 100 200 Feet
1 inch = 200 feet

Aids to Navigation

- Can
- Nun
- Green Lighted Buoy
- Red Lighted Buoy
- Junction Buoy
- Flashing Green
- Flashing Red
- Green Daybeacon
- Red Daybeacon
- Danger



None

US Army Corps of Engineers
Norfolk District

NOTES:

1. PROJECT: A CHANNEL 200 FEET WIDE, 12 FEET DEEP ACROSS ONANCOCK BAR, THENCE A MINIMUM WIDTH OF 100 FEET TO A POINT ABOUT 1,250 FEET ABOVE THE MOUTH OF THE NORTH BRANCH, WIDENED AT THE UPPER END TO FORM A TURNING BASIN 12 FEET DEEP AND 100 FEET WIDE IN THE LOWER 500 FEET OF JOYNES BRANCH, AND AN ANCHORAGE BASIN 6 FEET DEEP AND 300 FEET WIDE IN THE LOWER 500 FEET OF JOYNES BRANCH, AND AN ANCHORAGE BASIN 6 FEET DEEP AND 3 ACRES IN EXTENT AT THE MOUTH OF TITLOW CREEK.
2. THE SURVEY REPRESENTED ON THIS MAP REPRESENTS THE RESULTS OF SURVEYS MADE ON THE DATE(S) INDICATED & CAN ONLY BE CONSIDERED AS INDICATING THE GENERAL CONDITIONS EXISTING AT THAT TIME.
3. SOUNDINGS: SHOWN IN FEET CENTERED ON POINT OF SHOALEST DEPTH IN 25 FT RADIUS GENERATED FROM 1983-2001 TIDAL EPOCH.
4. BACKGROUND: VIRGINIA BASE MAPPING PROGRAM MOST RECENT IMAGERY GIS WEB SERVICE.
5. AIDS TO NAVIGATION LOCATED WITH SURVEY VESSEL +/- 10 FEET.
6. SURVEY XYZ (*.XYZ) AND METADATA (*.MET) FILE NAME REFERENCED BY eHYDRO FILE NAME.

PROJECTED COORDINATE SYSTEM:	STATE PLANE
NAD 1983	
HORIZONTAL ZONE:	VIRGINIA SOUTH ZONE
PROJECTED COORDINATE UNITS:	US SURVEY FEET
INPUT HORIZONTAL ACCURACY:	+/- 0.5 FEET
HORIZONTAL CONTROL:	LEICA SMART NET
VERTICAL REFERENCE DATUM:	NGS MLLW
VERTICAL DATUM:	NAVD88
IMPLIED VERTICAL ACCURACY:	+/- 0.5 FEET
VERTICAL CONTROL:	RTK/LEICA SMART NET
INPUT SOUNDINGS:	SINGLE FREQUENCY
SYSTEM/METHOD:	MULTI-BEAM
BIN SIZE:	5X5
BIN SELECTION METHOD:	AVERAGE CELL CENTER

GEODETIC CONTROL MONUMENTS

MONUMENT	MLLW	NAVD88	MEAN RANGE OF TIDE
CE "WHARF, 2009"	4.73'	3.44'(GEOID12B)	1.76'
CE "HEIL, 2013"	7.33'	6.04'(GEOID12B)	1.76'
CE "FOSQUE, 2010"	3.06'	1.77'(GEOID12B)	1.76'

AREA
00+00 to 83+00 and (1+00 to 20+00 Joynes)
84+00 to 223+00
234+00 to 326+00

ONANCOCK RIVER
PROJECT CONDITION SURVEY

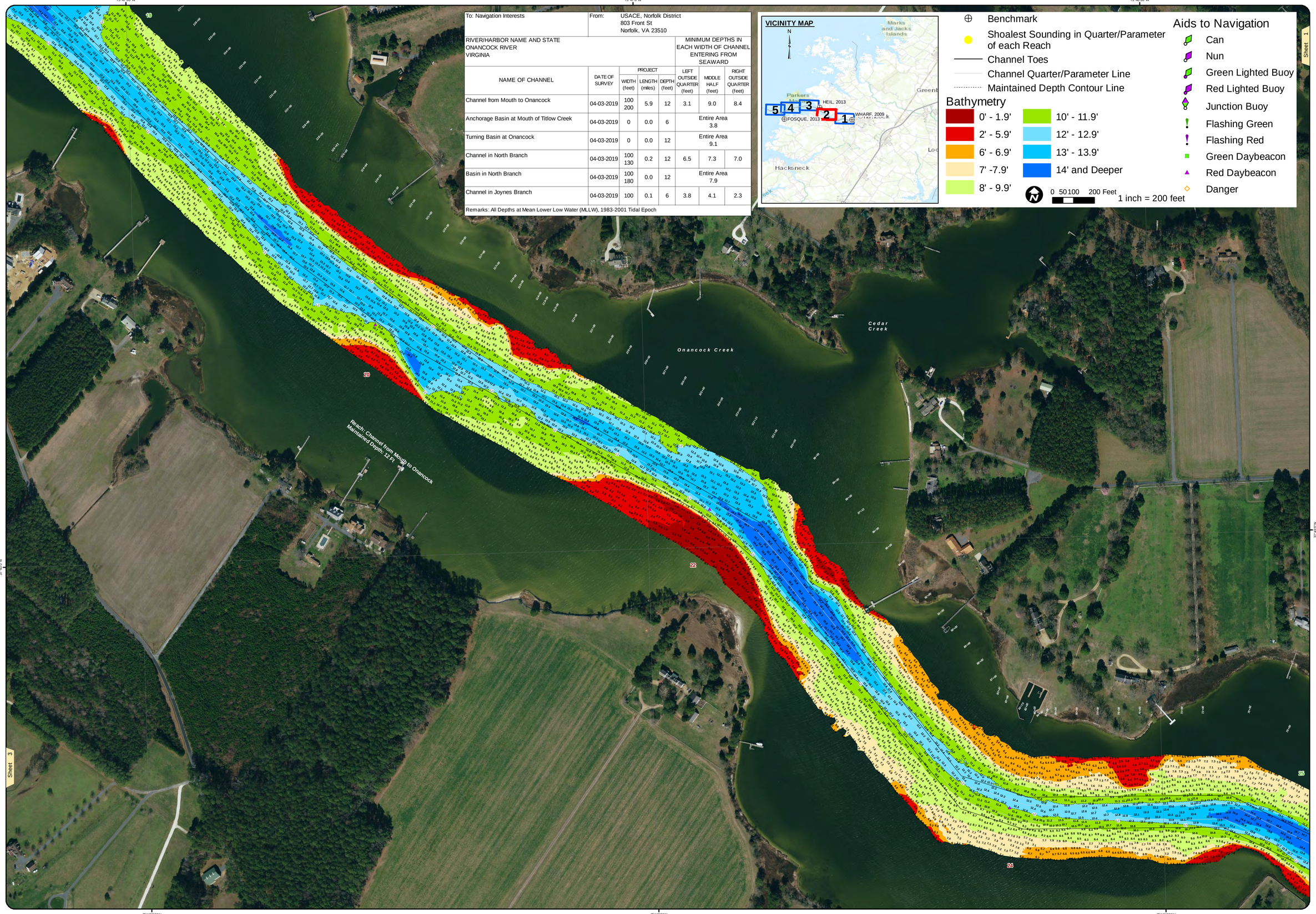
SURVEY DATES:
April 3, 4 & 9, 2019

SURVEY BY: USACE Team Lead: Joseph N. Moore Jr.
eHYDRO FILE: ON_01_ONC_20190403.CS

SHEET 1 of 5
Map Produced: 4/23/2019

APPROVED:
Jeff Swallow
Digitally signed by Jeff Swallow
Date: 2019.04.23 15:55:41 -05'00'
Chief, Navigation Analysis Section

APPROVED:
Digitally signed by Eric Legaspi
Date: 2019.05.02 13:32:08 -04'00'
Chief, Navigation Support and Survey Section



To: Navigation Interests		From: USACE, Norfolk District 803 Front St Norfolk, VA 23510					
RIVER/HARBOR NAME AND STATE ONANCOCK RIVER VIRGINIA					MINIMUM DEPTHS IN EACH WIDTH OF CHANNEL ENTERING FROM SEAWARD		
NAME OF CHANNEL	DATE OF SURVEY	PROJECT			LEFT OUTSIDE QUARTER (feet)	MIDDLE HALF (feet)	RIGHT OUTSIDE QUARTER (feet)
		WIDTH (feet)	LENGTH (miles)	DEPTH (feet)			
Channel from Mouth to Onancock	04-03-2019	100 200	5.9	12	3.1	9.0	8.4
Anchorage Basin at Mouth of Titlow Creek	04-03-2019	0	0.0	6	Entire Area 3.8		
Turning Basin at Onancock	04-03-2019	0	0.0	12	Entire Area 9.1		
Channel in North Branch	04-03-2019	100 130	0.2	12	6.5	7.3	7.0
Basin in North Branch	04-03-2019	100 180	0.0	12	Entire Area 7.9		
Channel in Joynes Branch	04-03-2019	100	0.1	6	3.8	4.1	2.3
Remarks: All Depths at Mean Lower Low Water (MLLW), 1983-2001 Tidal Epoch							

VICINITY MAP

Benchmark
Shoalest Sounding in Quarter/Parameter of each Reach
Channel Toes
Channel Quarter/Parameter Line
Maintained Depth Contour Line

Bathymetry

0' - 1.9'
2' - 5.9'
6' - 6.9'
7' -7.9'
8' - 9.9'
10' - 11.9'
12' - 12.9'
13' - 13.9'
14' and Deeper

0 50 100 200 Feet
1 inch = 200 feet

Aids to Navigation

Can
Nun
Green Lighted Buoy
Red Lighted Buoy
Junction Buoy
Flashing Green
Flashing Red
Green Daybeacon
Red Daybeacon
Danger

US Army Corps of Engineers Norfolk District

NOTES:

1. PROJECT: A CHANNEL 200 FEET WIDE, 12 FEET DEEP ACROSS ONANCOCK BAR, THENCE A MINIMUM WIDTH OF 100 FEET TO A POINT ABOUT 1,200 FEET ABOVE THE MOUTH OF THE NORTH BRANCH, WIDENED AT THE UPPER END TO FORM A TURNING BASIN 200 FEET WIDE, 600 FEET LONG, AND 12 FEET DEEP; THENCE A MINIMUM WIDTH OF 100 FEET TO FORM A CHANNEL 6 FEET DEEP AND 100 FEET WIDE IN THE LOWER 500 FEET OF JOYNES BRANCH, AND AN ANCHORAGE BASIN 6 FEET DEEP AND 300 FEET WIDE AT TITLOW CREEK.
2. AVG 3 FOOT SEA HEIGHTS AT THE MOUTH OF ONANCOCK.
3. SOUNDINGS: SHOWN IN FEET CENTERED ON POINT OF SHOALEST DEPTH IN 25 FT RADIUS GENERATED FROM HYDROSWEEP DATA.
4. BACKGROUND: VIRGINIA BASE MAPPING PROGRAM MOST RECENT IMAGERY GIS WEB SERVICE.
5. AIDS TO NAVIGATION LOCATED WITH SURVEY VESSEL +/- 10 FEET.
6. SURVEY XYZ (+.XYZ) AND METADATA (*.MET) FILE NAME REFERENCED BY eHYDRO FILE NAME.

PROJECTED COORDINATE SYSTEM: STATE PLANE
DATUM/ELLIPSOID: NAD 83 / GRS 80
HORIZONTAL ZONE: VIRGINIA SOUTH ZONE
PROJECTED COORDINATE UNITS: US SURVEY FEET
INVERSE PROJECTION ACCURACY: +/- 1 FOOT
HORIZONTAL CONTROL: LEICA SMART NET

VERTICAL REFERENCE DATUM: NGS MLLW
VERTICAL UNITS: US SURVEY FEET
IMPLIED VERTICAL ACCURACY: +/- 0.5 FEET
VERTICAL CONTROL: RTK/LEICA SMART NET
INVERSE PROJECTION: RETRACE FROM MLLW TO NAVD88 USING VDATUM MDL
SYSTEM/METHOD: MULTI-BEAM
BIN SIZE: 5x5
BIN SELECTION METHOD: AVERAGE CELL CENTER

GEODETIC CONTROL MONUMENTS

MONUMENT	MLLW	NAVD88	MEAN RANGE OF TIDE	AREA
CE "WHARF, 2009"	4.73'	3.44'(GEOID12B)	1.76'	00+00 to 83+00 and (+00 to 00+00 in Joynes Creek)
CE "HEIL, 2013"	7.33'	6.04'(GEOID12B)	1.76'	84+00 to 223+00
CE "FOSQUE, 2010"	3.06'	1.77'(GEOID12B)	1.76'	234+00 to 329+00

ONANCOCK RIVER
PROJECT CONDITION SURVEY

SURVEY DATES:
April 3, 4 & 9, 2019

SURVEY BY: USACE Team Lead: Joseph N. Moore Jr.
eHYDRO FILE: ON_01_ONC_20190403_CS

SHEET 2 of 5
Map Produced: 4/23/2019

APPROVED:
Chief, Navigation Analysis Section

APPROVED:
Chief, Navigation Support and Survey Section

To: Navigation Interests		From: USACE, Norfolk District 803 Front St Norfolk, VA 23510					
RIVER/HARBOR NAME AND STATE ONANCOCK RIVER VIRGINIA					MINIMUM DEPTHS IN EACH WIDTH OF CHANNEL ENTERING FROM SEAWARD		
NAME OF CHANNEL	DATE OF SURVEY	PROJECT			LEFT OUTSIDE QUARTER (feet)	MIDDLE HALF (feet)	RIGHT OUTSIDE QUARTER (feet)
		WIDTH (feet)	LENGTH (miles)	DEPTH (feet)			
Channel from Mouth to Onancock	04-03-2019	100 200	5.9	12	3.1	9.0	8.4
Anchorage Basin at Mouth of Titlow Creek	04-03-2019	0	0.0	6	Entire Area 3.8		
Turning Basin at Onancock	04-03-2019	0	0.0	12	Entire Area 9.1		
Channel in North Branch	04-03-2019	100 130	0.2	12	6.5	7.3	7.0
Basin in North Branch	04-03-2019	100 180	0.0	12	Entire Area 7.9		
Channel in Joynes Branch	04-03-2019	100	0.1	6	3.8	4.1	2.3
Remarks: All Depths at Mean Lower Low Water (MLLW), 1983-2001 Tidal Epoch							

Benchmark
Shoalest Sounding in Quarter/Parameter of each Reach
Channel Toes
Channel Quarter/Parameter Line
Maintained Depth Contour Line

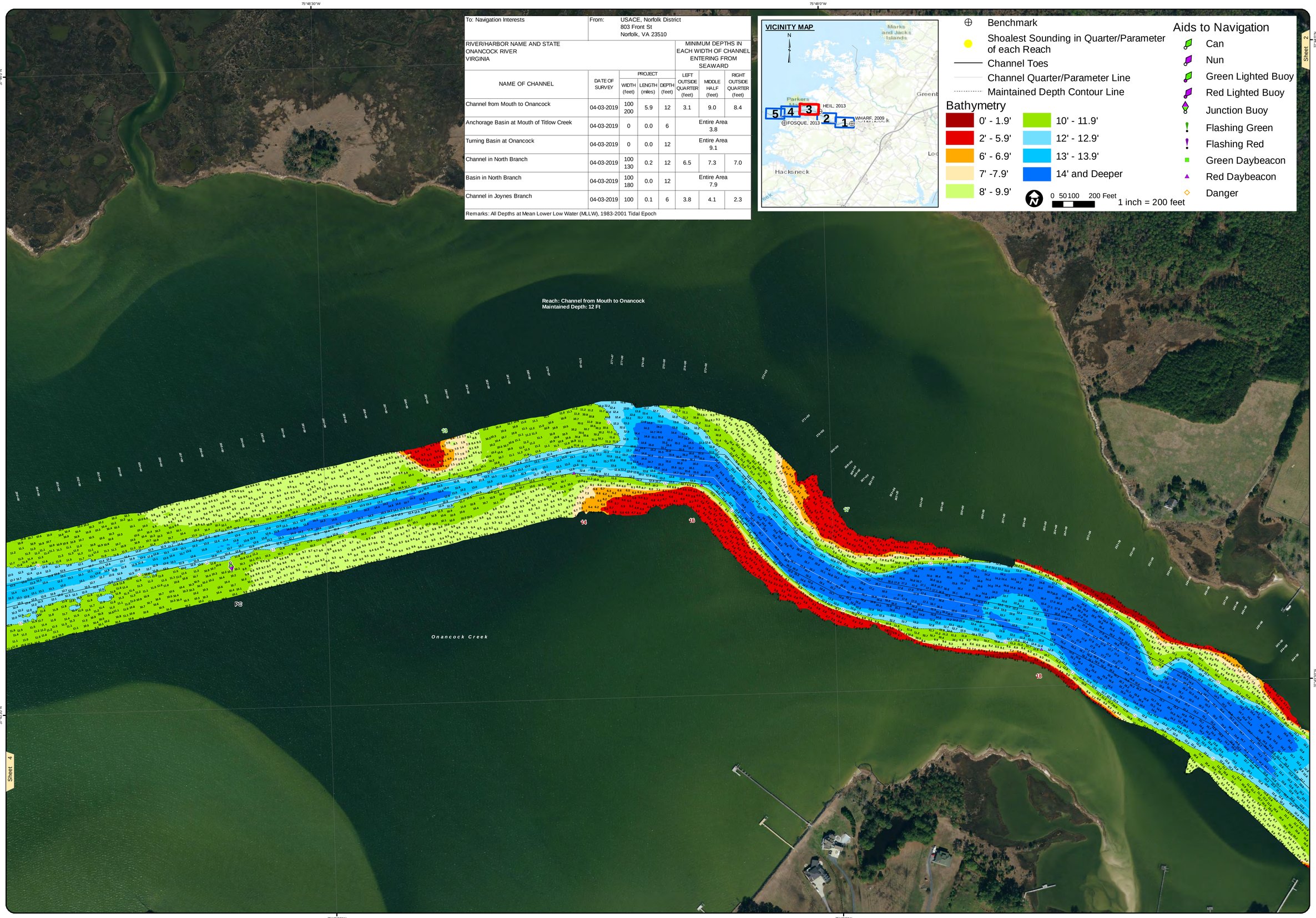
Bathymetry

0' - 1.9'	10' - 11.9'
2' - 5.9'	12' - 12.9'
6' - 6.9'	13' - 13.9'
7' -7.9'	14' and Deeper
8' - 9.9'	

0 50 100 200 Feet
1 inch = 200 feet

Aids to Navigation

- Can
- Nun
- Green Lighted Buoy
- Red Lighted Buoy
- Junction Buoy
- Flashing Green
- Flashing Red
- Green Daybeacon
- Red Daybeacon
- Danger



US Army Corps of Engineers
Norfolk District

NOTES:

1. PROJECT: A CHANNEL 200 FEET WIDE, 12 FEET DEEP ACROSS ONANCOCK BAR, THENCE A MINIMUM WIDTH OF 100 FEET TO A POINT ABOUT 1,200 FEET ABOVE THE MOUTH OF THE NORTH BRANCH, WIDENED AT THE UPPER END TO FORM A TURNING BASIN 200 FEET WIDE, 600 FEET LONG, AND 6 FEET DEEP; THENCE A MINIMUM WIDTH OF 100 FEET TO FORM A CHANNEL 6 FEET DEEP AND 100 FEET WIDE IN THE LOWER 500 FEET OF JOYNES BRANCH, AND AN ANCHORAGE BASIN 6 FEET DEEP AND 300 FEET WIDE ADJACENT TO THE TOWN OF ONANCOCK.
2. AUTO SCALE BY AREA AT THE HORIZONTAL PROJECTION ON THIS MAP REPRESENTS THE RESULTS OF SURVEY'S MADE ON THE DATE(S) INDICATED & CAN ONLY BE CONSIDERED AS INDICATING THE GENERAL CONDITIONS EXISTING AT THAT TIME.
3. SOUNDINGS: SHOWN IN FEET CENTERED ON POINT OF SHOALEST DEPTH IN 25 FT RADIUS GENERATED FROM HYPACK 2018 SOFTWARE.
4. BACKGROUND: VIRGINIA BASE MAPPING PROGRAM MOST RECENT IMAGERY GIS WEB SERVICE.
5. AIDS TO NAVIGATION LOCATED WITH SURVEY VESSEL +/- 10 FEET.
6. SURVEY XYZ (+.XYZ) AND METADATA (*.MET) FILE NAME REFERENCED BY eHYDRO FILE NAME.

PROJECTED COORDINATE SYSTEM: STATE PLANE
DATUM/ZONE: NAD83, VIRGINIA SOUTH ZONE
HORIZONTAL ZONE: VIRGINIA SOUTH ZONE
PROJECTED COORDINATE UNITS: US SURVEY FEET
NAVIGATION SYSTEM ACCURACY: 10 FEET
HORIZONTAL CONTROL: LEICA SMART NET

VERTICAL REFERENCE DATUM: NGS MLLW
VERTICAL CONTROL: NAVD88
IMPLIED VERTICAL ACCURACY: +/- 0.5 FEET
VERTICAL CONTROL: RTK/LEICA SMART NET
SOUNDING DATUM: MEAN LOWER LOW WATER MDL
SYSTEM/METHOD: MULTI-BEAM
BIN SIZE: 5X5
BIN SELECTION METHOD: AVERAGE CELL CENTER

GEODETIC CONTROL MONUMENTS

MONUMENT	MLLW	NAVD88	MEAN RANGE OF TIDE	AREA
CE "WHARF, 2009"	4.73'	3.44'(GEOID12B)	1.76'	00+00 to 83+00 and (1+00 to 97+00 in Channel)
CE "HEIL, 2013"	7.33'	6.04'(GEOID12B)	1.76'	84+00 to 223+00
CE "FOSQUE, 2010"	3.06'	1.77'(GEOID12B)	1.76'	234+00 to 329+00

ONANCOCK RIVER
PROJECT CONDITION SURVEY

SURVEY DATES:
April 3, 4 & 9, 2019

SURVEY BY: USACE Team Lead: Joseph N. Moore Jr.
eHYDRO FILE: ON_01_ONC_20190403.CS

SHEET 3 of 5
Map Produced: 4/23/2019

APPROVED:
Chief, Navigation Analysis Section

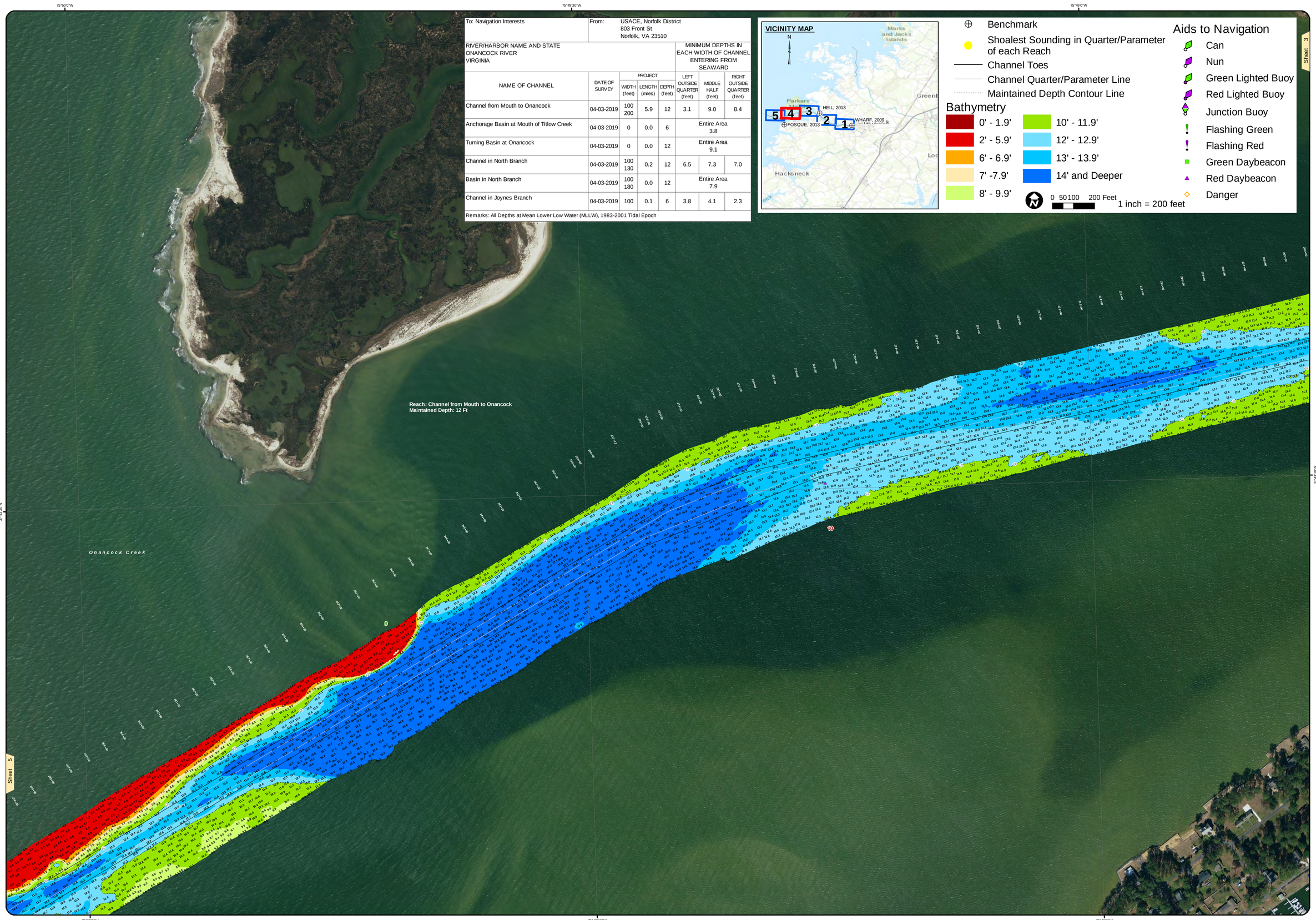
APPROVED:
Chief, Navigation Support and Survey Section

To: Navigation Interests	From: USACE, Norfolk District 803 Front St Norfolk, VA 23510

RIVER/HARBOR NAME AND STATE
ONANCOCK RIVER
VIRGINIA

NAME OF CHANNEL	DATE OF SURVEY	PROJECT WIDTH (feet)	PROJECT LENGTH (miles)	PROJECT DEPTH (feet)	MINIMUM DEPTHS IN EACH WIDTH OF CHANNEL ENTERING FROM SEAWARD: LEFT OUTSIDE QUARTER (feet)	MIDDLE HALF (feet)	RIGHT OUTSIDE QUARTER (feet)
Channel from Mouth to Onancock	04-03-2019	100 200	5.9	12	3.1	9.0	8.4
Anchorage Basin at Mouth of Titlow Creek	04-03-2019	0	0.0	6	Entire Area 3.8		
Turning Basin at Onancock	04-03-2019	0	0.0	12	Entire Area 9.1		
Channel in North Branch	04-03-2019	100 130	0.2	12	6.5	7.3	7.0
Basin in North Branch	04-03-2019	100 180	0.0	12	Entire Area 7.9		
Channel in Joynes Branch	04-03-2019	100	0.1	6	3.8	4.1	2.3

Remarks: All Depths at Mean Lower Low Water (MLLW), 1983-2001 Tidal Epoch



US Army Corps of Engineers
Norfolk District

NOTES:

1. PROJECT: A CHANNEL 200 FEET WIDE, ±2 FEET DEEP ACROSS ONANCOCK BAR, THENCE A MINIMUM WIDTH OF 100 FEET TO A POINT ABOUT 1,250 FEET ABOVE THE MOUTH OF THE NORTH BRANCH, WIDENED AT THE UPPER END TO FORM A TURNING BASIN 100 FEET WIDE IN THE LOWER 500 FEET OF ONANCOCK CREEK, THENCE A MINIMUM WIDTH OF 100 FEET TO A POINT 6 FEET DEEP AND 100 FEET WIDE IN THE LOWER 500 FEET OF JOYNES BRANCH, AND AN ANCHORAGE BASIN 6 FEET DEEP AND 3 ACRES IN EXTENT AT THE MOUTH OF TITLOW CREEK.
2. ALL DEPTHS ARE BASED ON THE MEAN LOWER LOW WATER DEPTHS ON THIS MAP REPRESENTS THE RESULTS OF SURVEY'S MADE ON THE DATE(S) INDICATED & CAN ONLY BE CONSIDERED AS INDICATING THE GENERAL CONDITIONS EXISTING AT THAT TIME.
3. SOUNDINGS: SHOWN IN FEET CENTERED ON POINT OF SHOALEST DEPTH IN 25 FT RADIUS GENERATED FROM 1983-2001 TIDAL EPOCH.
4. BACKGROUND: VIRGINIA BASE MAPPING PROGRAM MOST RECENT IMAGERY GIS WEB SERVICE.
5. AIDS TO NAVIGATION LOCATED WITH SURVEY VESSEL +/- 10 FEET.
6. SURVEY XYZ (.XYZ) AND METADATA (*.MET) FILE NAME REFERENCED BY eHYDRO FILE NAME.

VERTICAL REFERENCE DATUM:	NGS MLLW
HORIZONTAL DATUM:	NAD83
IMPLIED VERTICAL ACCURACY:	+/- 0.5 FEET
VERTICAL CONTROL:	RTK/LEICA SMART NET
TIDE ZONE:	ONANCOCK, DATUM MDL
SYSTEM/METHOD:	MULTI-BEAM
BIN SIZE:	5x5
BIN SELECTION METHOD:	AVERAGE CELL CENTER

MONUMENTS	MEAN RANGE OF TIDE	AREA
		50+00 to 83+00 and 0+00 to 10+00 CHAN
	1.76'	84+00 to 223+00
	1.76'	234+00 to 329+00

PROJECTED COORDINATE SYSTEM:	STATE PLANE
DATUM/FRAME:	NAD83
HORIZONTAL ZONE:	VIRGINIA SOUTH ZONE
PROJECTED COORDINATE UNITS:	US SURVEY FEET
IMPLIED HORIZONTAL ACCURACY:	+/- 1.0 FEET
HORIZONTAL CONTROL:	LEICA SMART NET

GEODETIC CONTROL MONUMENTS

MONUMENT	MLLW	NAVD88
CE "WHARF, 2009"	4.73'	3.44'(GEOID12B)
CE "HEIL, 2013"	7.33'	6.04'(GEOID12B)
CE "FOSQUE, 2010"	3.06'	1.77'(GEOID12B)

ONANCOCK RIVER
PROJECT CONDITION SURVEY

SURVEY DATES:
April 3, 4 & 9, 2019

SURVEY BY: USACE Team Lead: Joseph N. Moore Jr.
eHYDRO FILE: ON_01_ONC_20190403.CS

SHEET 4 of 5
Map Produced: 4/23/2019

APPROVED:

Chief, Navigation Analysis Section

APPROVED:

Chief, Navigation Support and Survey Section

To: Navigation Interests	From: USACE, Norfolk District 803 Front St Norfolk, VA 23510						
RIVER/HARBOR NAME AND STATE ONANCOCK RIVER VIRGINIA					MINIMUM DEPTHS IN EACH WIDTH OF CHANNEL ENTERING FROM SEAWARD		
NAME OF CHANNEL	DATE OF SURVEY	PROJECT			LEFT OUTSIDE QUARTER (feet)	MIDDLE HALF (feet)	RIGHT OUTSIDE QUARTER (feet)
		WIDTH (feet)	LENGTH (miles)	DEPTH (feet)			
Channel from Mouth to Onancock	04-03-2019	100 200	5.9	12	3.1	9.0	8.4
Anchorage Basin at Mouth of Titlow Creek	04-03-2019	0	0.0	6	Entire Area 3.8		
Turning Basin at Onancock	04-03-2019	0	0.0	12	Entire Area 9.1		
Channel in North Branch	04-03-2019	100 130	0.2	12	6.5	7.3	7.0
Basin in North Branch	04-03-2019	100 180	0.0	12	Entire Area 7.9		
Channel in Joynes Branch	04-03-2019	100	0.1	6	3.8	4.1	2.3
Remarks: All Depths at Mean Lower Low Water (MLLW), 1983-2001 Tidal Epoch							

Benchmark
Shoalest Sounding in Quarter/Parameter of each Reach
Channel Toes
Channel Quarter/Parameter Line
Maintained Depth Contour Line

Bathymetry

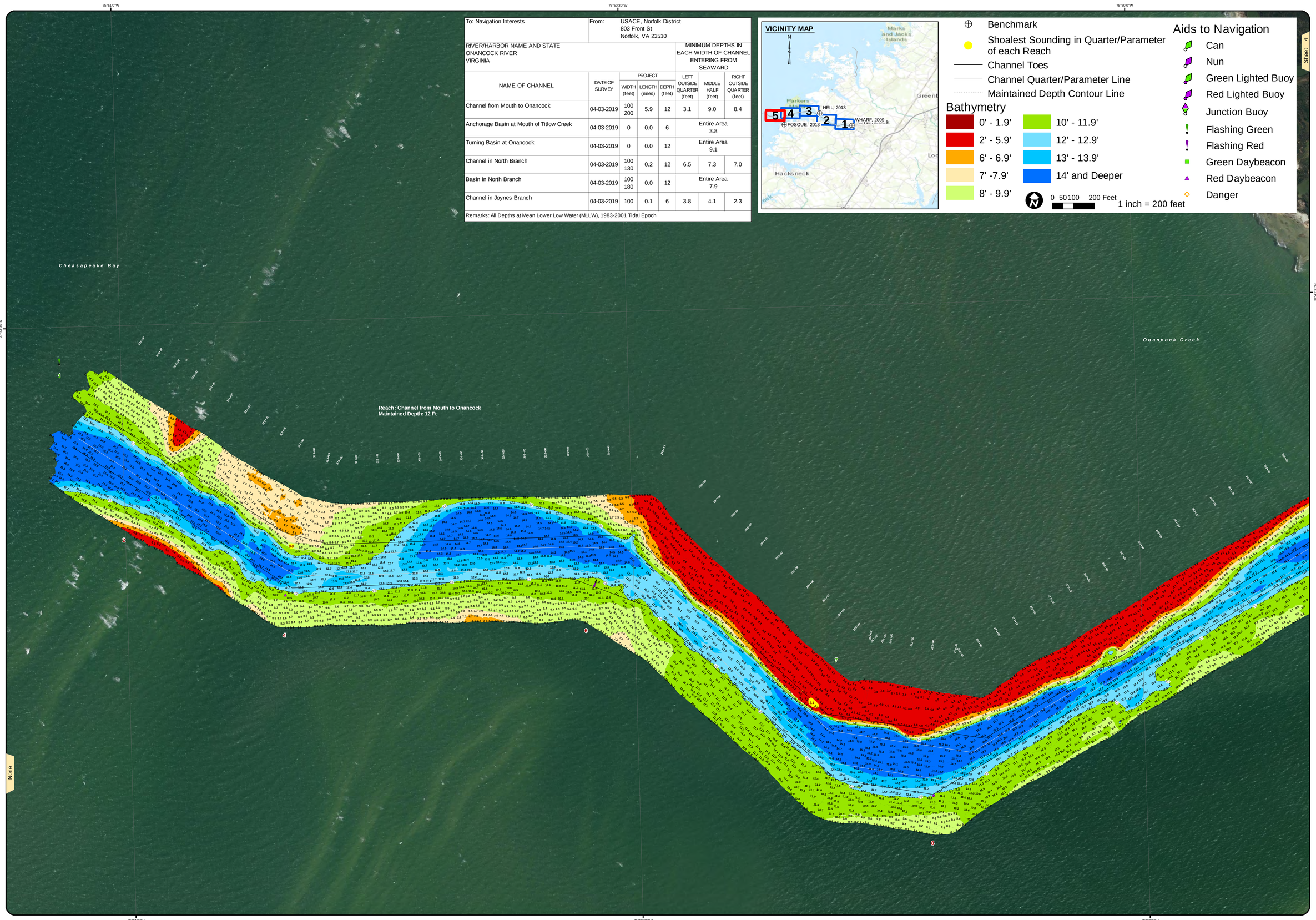
0' - 1.9'	10' - 11.9'
2' - 5.9'	12' - 12.9'
6' - 6.9'	13' - 13.9'
7' -7.9'	14' and Deeper
8' - 9.9'	

0 50 100 200 Feet
1 inch = 200 feet

Aids to Navigation

- Can
- Nun
- Green Lighted Buoy
- Red Lighted Buoy
- Junction Buoy
- Flashing Green
- Flashing Red
- Green Daybeacon
- Red Daybeacon
- Danger

Sheet 4



US Army Corps of Engineers
Norfolk District

NOTES:

1. PROJECT: A CHANNEL 200 FEET WIDE, 12 FEET DEEP ACROSS ONANCOCK BAR, THENCE A MINIMUM WIDTH OF 100 FEET TO A POINT ABOUT 1,200 FEET ABOVE THE MOUTH OF THE NORTH BRANCH, WIDENED AT THE UPPER END TO FORM A TURNING BASIN 200 FEET WIDE, 1,100 FEET LONG, AND 12 FEET DEEP; THENCE A MINIMUM WIDTH OF 100 FEET TO FORM A CHANNEL 6 FEET DEEP AND 100 FEET WIDE IN THE LOWER 500 FEET OF JOYNES BRANCH, AND AN ANCHORAGE BASIN 6 FEET DEEP AND 3 ACRES IN AREA AT THE MOUTH OF TITLOW CREEK.
2. NO TIDE GAGES WERE USED AT THE MOUTH OF ONANCOCK.
3. SOUNDINGS, SHOWN IN FEET CENTERED ON POINT OF SHOALEST DEPTH IN 25 FT RADIUS GENERATED FROM HYDRONAV, LLC.
4. BACKGROUND: VIRGINIA BASE MAPPING PROGRAM MOST RECENT IMAGERY GIS WEB SERVICE.
5. AIDS TO NAVIGATION LOCATED WITH SURVEY VESSEL +/- 10 FEET.
6. SURVEY XYZ (+.XYZ) AND METADATA (*.MET) FILE NAME REFERENCED BY eHYDRO FILE NAME.

VERTICAL REFERENCE DATUM:	NGS MLLW
TIDAL DATUM:	1983-2001
IMPLIED VERTICAL ACCURACY:	+/- 0.5 FEET
VERTICAL CONTROL:	RTK/LEICA SMART NET
HORIZONTAL METHOD:	RTK/LEICA VRS/TCM MDL
SYSTEM/METHOD:	MULTI-BEAM
BIN SIZE:	5x5
BIN SELECTION METHOD:	AVERAGE CELL CENTER

PROJECTED COORDINATE SYSTEM:	STATE PLANE
ZONE NAME:	VIRGINIA SOUTH ZONE
HORIZONTAL ZONE:	VIRGINIA SOUTH ZONE
PROJECTED COORDINATE UNITS:	US SURVEY FEET
IMPLIED HORIZONTAL ACCURACY:	+/- 0.5 FEET
HORIZONTAL CONTROL:	LEICA SMART NET

GEODETIC CONTROL MONUMENTS

MONUMENT	MLLW	NAVD88	MEAN RANGE OF TIDE	AREA
CE "WHARF, 2009"	4.73'	3.44'(GEOID12B)	1.76'	00+00 to 83+00 and 0+00 to 47+00 (Joynes Creek)
CE "HEIL, 2013"	7.33'	6.04'(GEOID12B)	1.76'	84+00 to 223+00
CE "FOSQUE, 2010"	3.06'	1.77'(GEOID12B)	1.76'	234+00 to 329+00

ONANCOCK RIVER
PROJECT CONDITION SURVEY

SURVEY DATES:
April 3, 4 & 9, 2019

SURVEY BY: USACE Team Lead: Joseph N. Moore Jr.
eHYDRO FILE: ON_01_ONC_20190403_CS

SHEET 5 of 5
Map Produced: 4/23/2019

APPROVED:

Chief, Navigation Analysis Section

APPROVED:

Chief, Navigation Support and Survey Section