

Legend

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

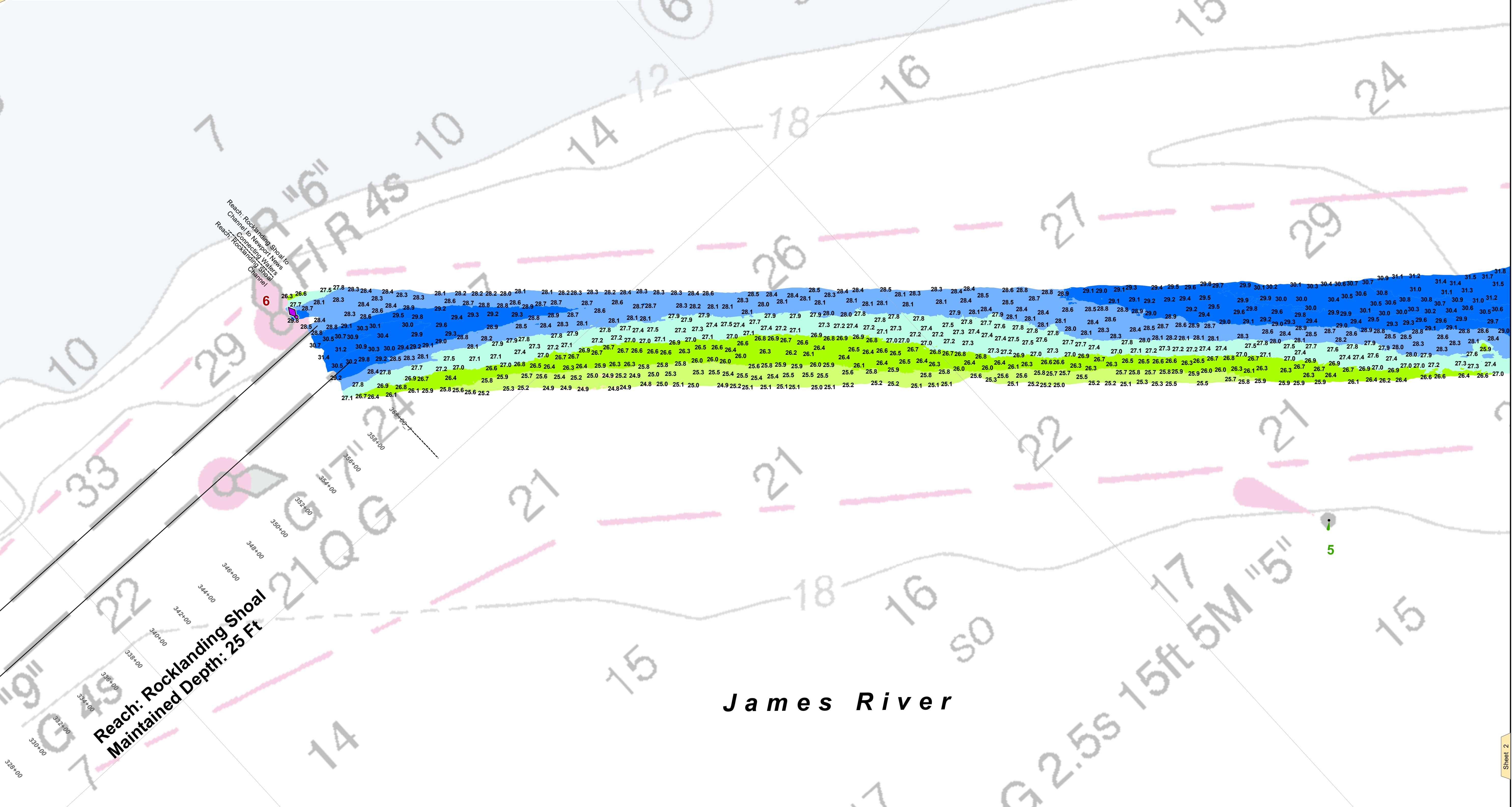
Maintained Depth (MD) +/- Feet

MD - 5' & Shoaler	MD
MD - 4'	MD + 1'
MD - 3'	MD + 2'
MD - 2'	MD + 3'
MD - 1'	MD + 4' & Deeper

Aids to Navigation

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

1 inch = 300 feet
0 150 300 600 Feet



NOTES:

- PROJECT: A CHANNEL 300 FEET WIDE AND 35 FEET DEEP MAINTAINED AT A DEPTH OF 25 FT.
- NOT FOR NAVIGATION USE. THE INFORMATION 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.
- SOUNDINGS: SHOWN IN FEET CENTERED ON POINT OF SHOALEST DEPTH IN 7.5 FT RADIUS GENERATED FROM HYDRO SURVEY DATA.
- BACKGROUND: NOAA RNC GIS WEB SERVICE.
- AIDS TO NAVIGATION LOCATED WITH SURVEY VESSEL +/- 10 FEET ON DATE OF SURVEY.
- SURVEY: XYZ, C, XY, Z, AND METADATA (Y, MET) FILE NAME REFERENCED BY HYDRO FILE NAME.

VERTICAL REFERENCE DATUM: NOS MLLW		MEAN RANGE OF TIDE	
1985 ELLIOTT	1985 ELLIOTT	N/A	N/A
IMPLIED VERTICAL ACCURACY: RTK/LEICA SMART NET	IMPLIED VERTICAL ACCURACY: RTK/LEICA SMART NET	AREA	N/A
TIDE APPLICATION: IBCAM	TIDE APPLICATION: IBCAM	MEAN RANGE OF TIDE	N/A
BIAS SIZE METHOD: 5/5'	BIAS SIZE METHOD: 5/5'	MONUMENT	N/A
AVERAGE CELL CENTER	AVERAGE CELL CENTER	MLLW	N/A
		NAVD88	N/A

**JAMES RIVER
ROCKLANDING SHOAL TO
CHANNEL TO NEWPORT NEWS
CONNECTING WATERS
PROJECT CONDITION SURVEY**

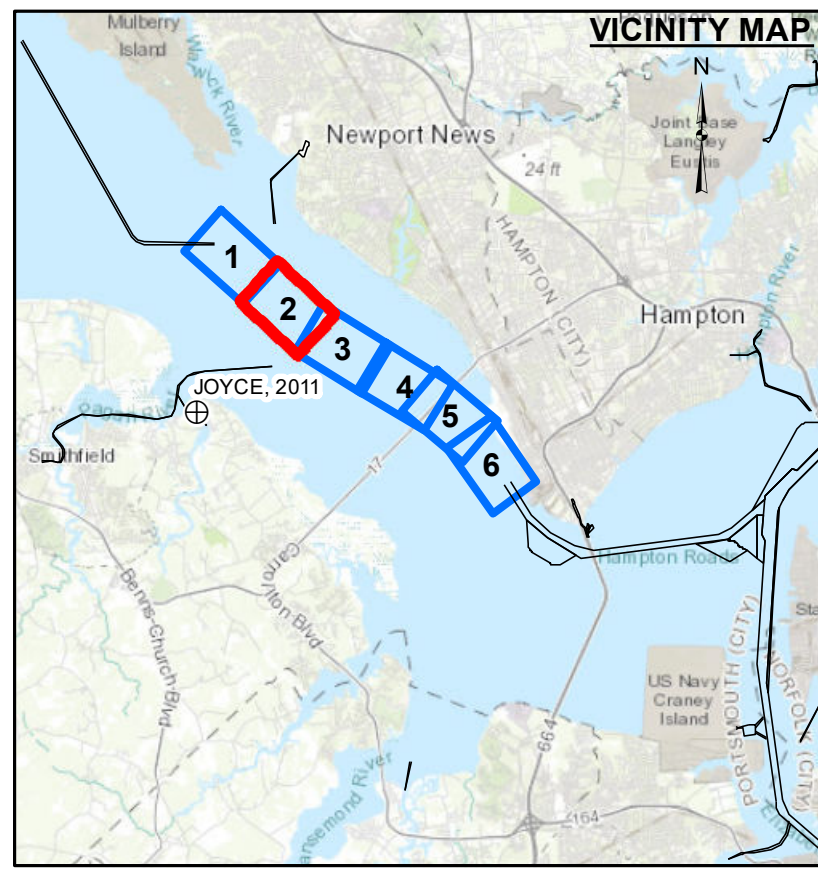
SURVEY DATES:
May 1, 4 & 16, 2020

SURVEY BY: USAACE Town Land, Mike Williams
HYDRO FILE: UR_50_R20R_20200501_CS

SHEET 1 of 6
Map Produced: 6/5/2020

APPROVED: _____
Chief, Navigation Analysis Section

APPROVED: _____
Chief, Navigation Support and Survey Section



- ⊕ Benchmark
 - Shoalest Sounding in Quarter/Parameter of each Reach
 - Channel Toes
 - Channel Quarter/Parameter Line
 - - - - Maintained Depth Contour Line
- Maintained Depth (MD) +/- Feet**
- | | |
|---------------------|--------------------|
| ■ MD - 5' & Shoaler | ■ MD |
| ■ MD - 4' | ■ MD + 1' |
| ■ MD - 3' | ■ MD + 2' |
| ■ MD - 2' | ■ MD + 3' |
| ■ MD - 1' | ■ MD + 4' & Deeper |
- Aids to Navigation**
- ⬭ Can
 - ⬭ Nun
 - ⬭ Green Lighted Buoy
 - ⬭ Red Lighted Buoy
 - ⬭ Junction Buoy
 - ⬭ Flashing Green
 - ⬭ Flashing Red
 - ⬭ Green Daybeacon
 - ⬭ Red Daybeacon
 - ⬭ Danger
- 1 inch = 300 feet
- 0 150 300 600 Feet



NOTES:

- PROJECT: A CHANNEL 300 FEET WIDE AND 36 FEET DEEP MAINTAINED AT A DEPTH OF 25 FT.
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- BACKGROUND: NOAA RNC GIS WEB SERVICE.
- AIDS TO NAVIGATION LOCATED WITH SURVEY VESSEL +/- 10 FEET ON DATE OF SURVEY.
- SURVEY XYZ (.XYZ) AND METADATA (.MET) FILE NAME REFERENCED BY HYDRO FILE NAME.



VERTICAL REFERENCE DATUM: NOS MLLW		GEOBETIC CONTROL MONUMENTS	
IMPLIED VERTICAL ACCURACY:	RTK/LEICA SMART NET	MLLW	N/A
IMPLIED HORIZONTAL ACCURACY:	RTK/NOAA VDatum MDL	NAVD88	N/A
TIDE APPLICATION:	595'	MEAN RANGE OF TIDE	N/A
BIN SIZE:	595'	AREA	N/A
BIN SELECTION METHOD:	AVERAGE CELL CENTER		

**JAMES RIVER
ROCKLANDING SHOAL TO
CHANNEL TO NEWPORT NEWS
CONNECTING WATERS
PROJECT CONDITION SURVEY**

SURVEY DATES:
May 1, 4 & 16, 2020

SURVEY BY: USAACE Town Lead: Mike Williams
HYDRO FILE: UR_50_R20R_20200501_CS

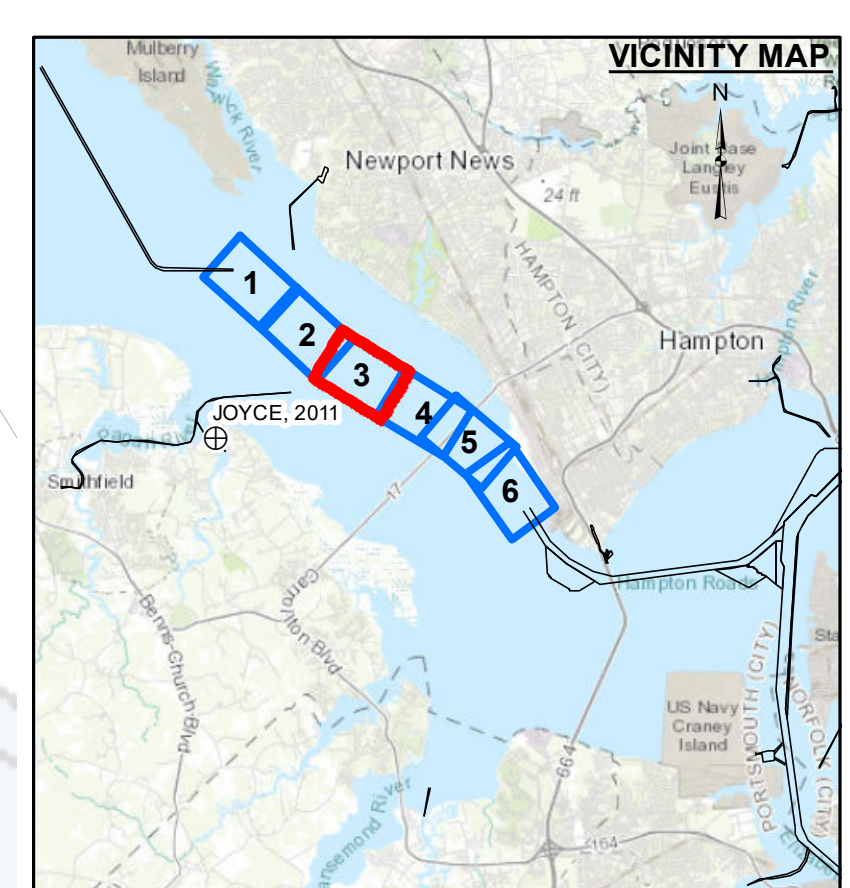
**SHEET 2 of 6
Map Produced: 6/5/2020**

APPROVED: _____
Chief, Navigation Analysis Section

APPROVED: _____
Chief, Navigation Support and Survey Section

Sheet 1

Sheet 3



Legend

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

Maintained Depth (MD) +/- Feet

MD - 5' & Shoaler	MD
MD - 4'	MD + 1'
MD - 3'	MD + 2'
MD - 2'	MD + 3'
MD - 1'	MD + 4' & Deeper

Aids to Navigation

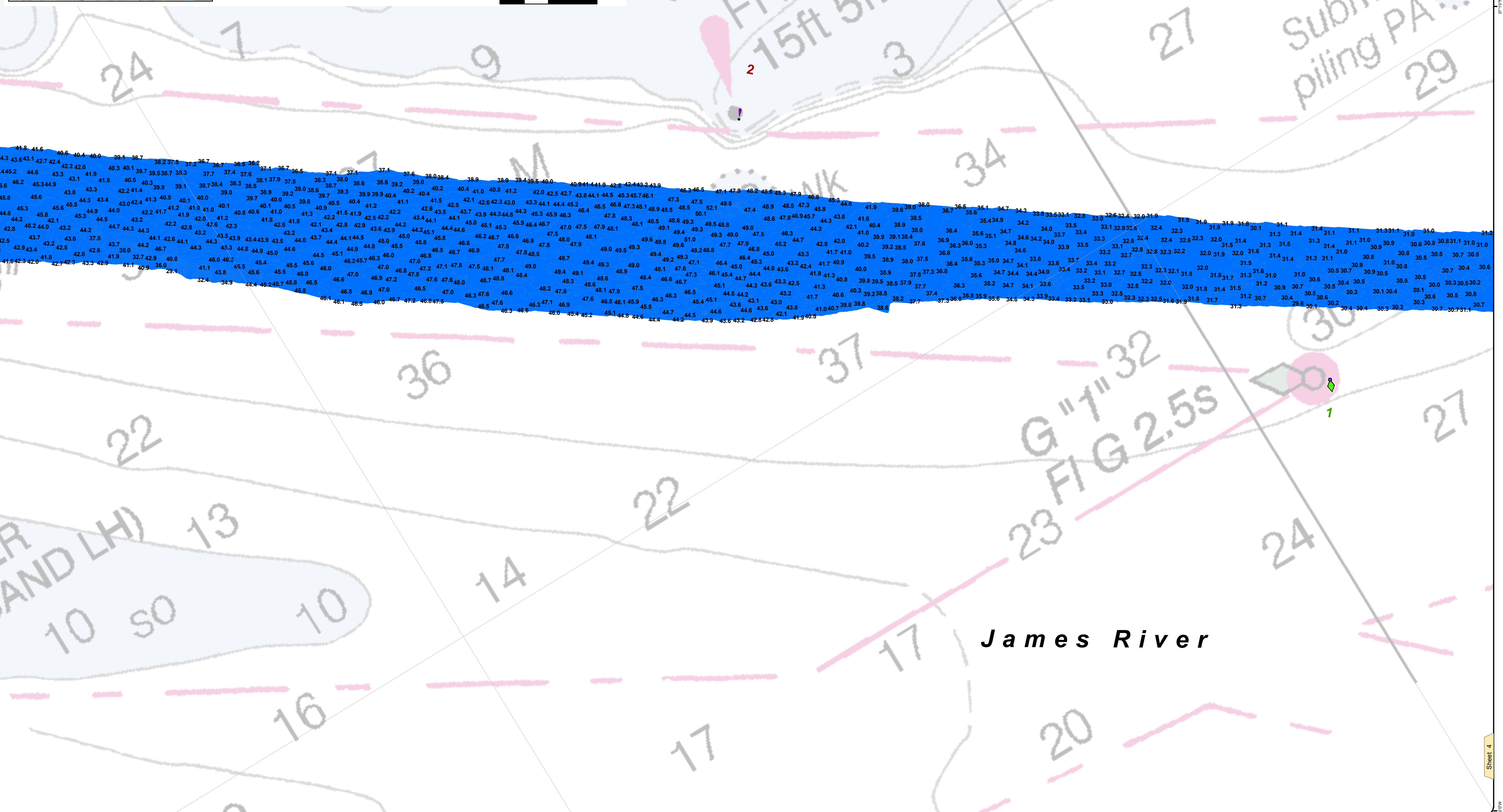
- Can
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1 inch = 300 feet
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- SOUNDINGS: SHOWN IN FEET CENTERED ON POINT OF SHOALEST DEPTH IN 75 FT RADIUS GENERATED FROM HYDRO SURVEY DATA.
- BACKGROUND: NOAA RNC GIS WEB SERVICE.
- AIDS TO NAVIGATION LOCATED WITH SURVEY VESSEL +/- 10 FEET ON DATE OF SURVEY.
- SURVEY: XYZ (.XYZ) AND METADATA (.MET) FILE NAME REFERENCED BY #HYDRO FILE NAME.



VERTICAL REFERENCE DATUM: NOS MLLW		MEAN RANGE OF TIDE	
IMPLIED VERTICAL ACCURACY:	RTK/LEICA SMART NET	AREA	N/A
TIDE CONTROL:	RTK/NOAA DATUM MDT	MEAN RANGE OF TIDE	N/A
IMPLIED HORIZONTAL ACCURACY:	LEICA SMART NET	MONUMENT	N/A
HORIZONTAL CONTROL:	LEICA SMART NET	MLLW	N/A
GEODETIC CONTROL MONUMENTS	NAVD88	MEAN RANGE OF TIDE	N/A
		AREA	N/A

**JAMES RIVER
ROCKLANDING SHOAL TO
CHANNEL TO NEWPORT NEWS
CONNECTING WATERS
PROJECT CONDITION SURVEY**

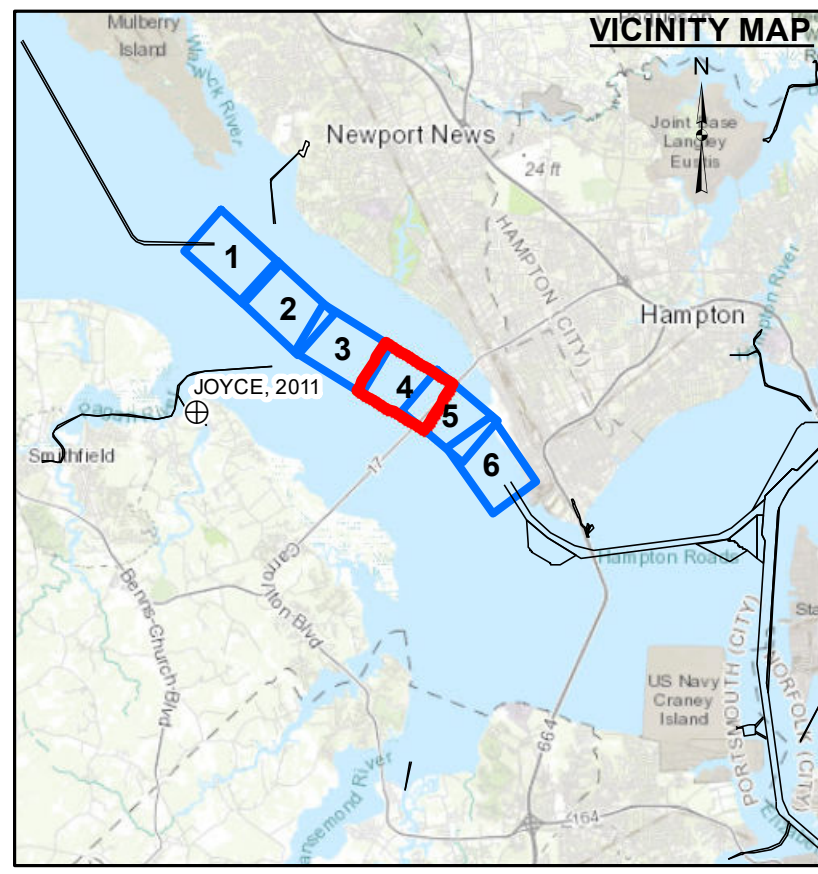
SURVEY DATES:
May 1, 4 & 16, 2020

SURVEY BY: USAACE Town Lead: Mike Williams
#HYDRO FILE: JR_50_R20R_20200501_CS

**SHEET 3 of 6
Map Produced: 6/5/2020**

APPROVED: _____
Chief, Navigation Analysis Section

APPROVED: _____
Chief, Navigation Support and Survey Section



Legend

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

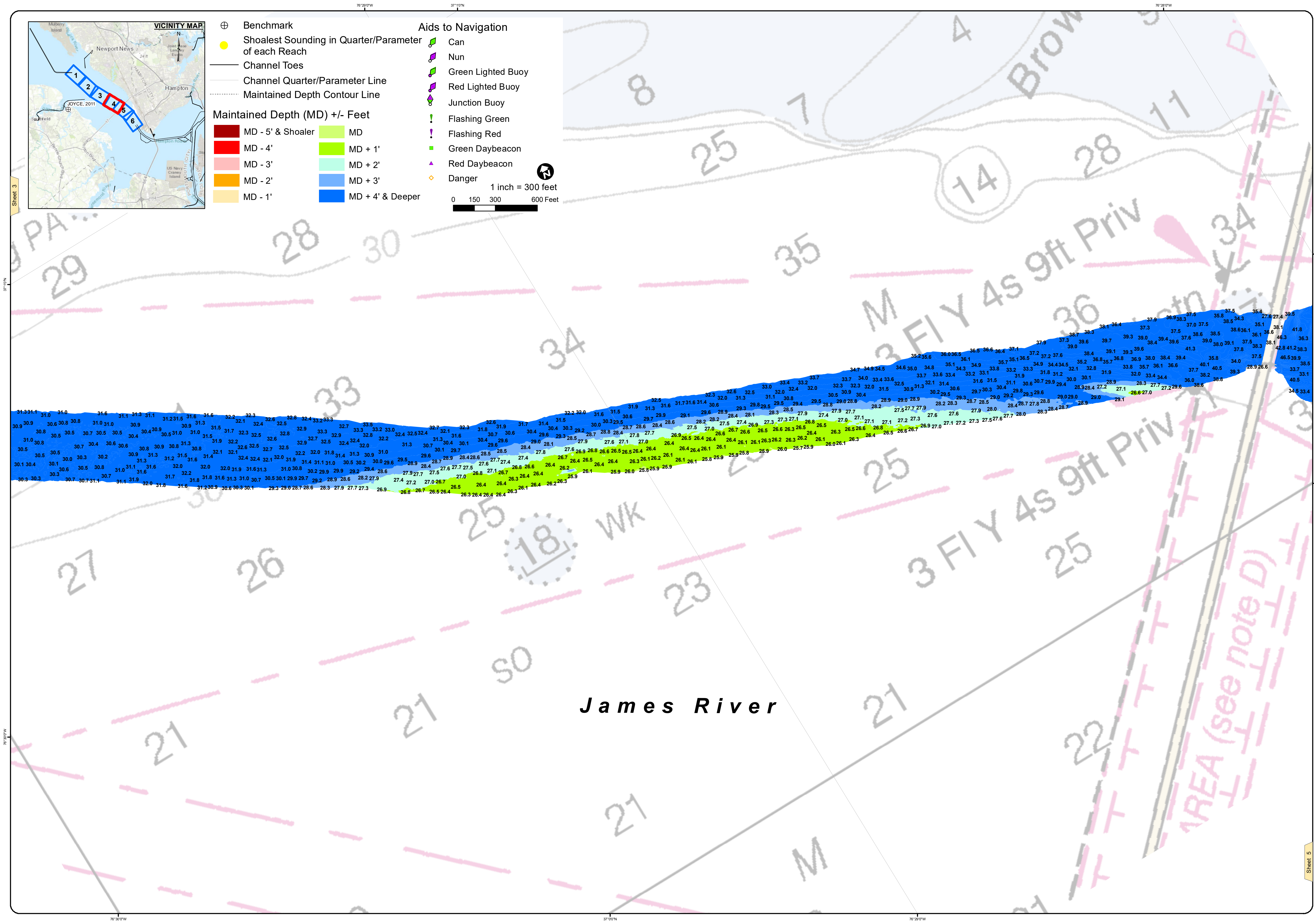
Maintained Depth (MD) +/- Feet

MD - 5' & Shoaler	MD
MD - 4'	MD + 1'
MD - 3'	MD + 2'
MD - 2'	MD + 3'
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Aids to Navigation

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- Junction Buoy
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NOTES:

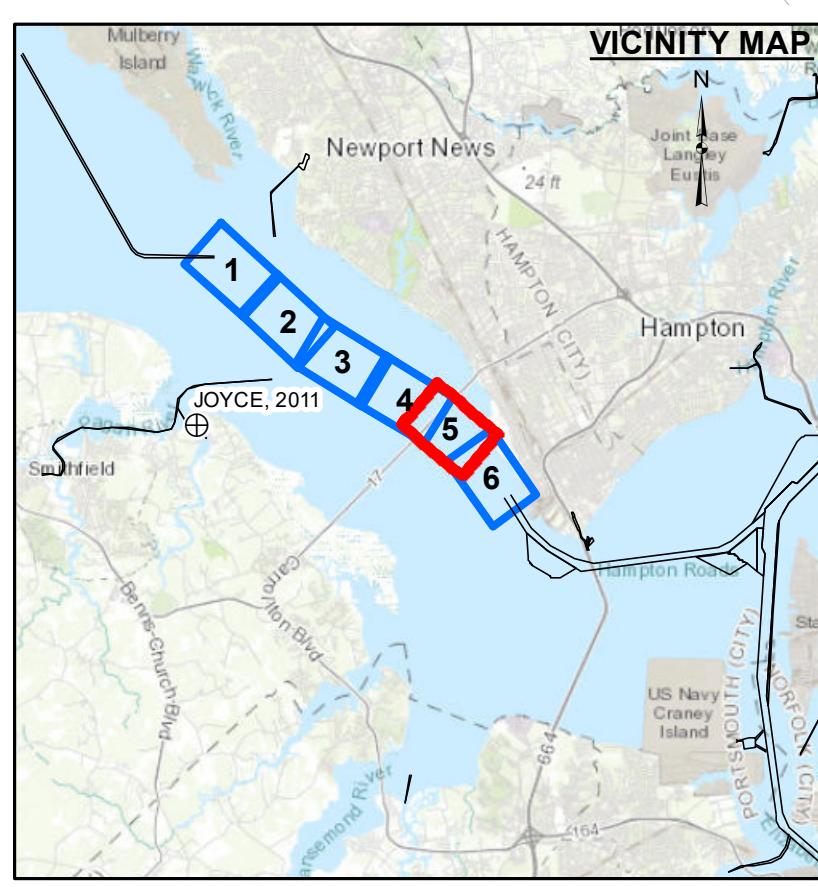
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- SURVEY: XYZ, C, XYZ, AND METADATA (V, MET) FILE NAME REFERENCED BY #HYDRO FILE NAME.

VERTICAL REFERENCE DATUM: NOS MLLW		GEOBETIC CONTROL MONUMENTS	
IMPLIED VERTICAL ACCURACY:	RTK/NOAA DATUM MDL	MONUMENT	N/A
TIDE APPLICATION:	LEICA SMART NET	MLLW	N/A
BIN SIZE:	5'x5'	NAVD88	N/A
BIN SELECTION METHOD:	AVERAGE CELL CENTER	MEAN RANGE OF TIDE	N/A
AREA	N/A		

**JAMES RIVER
ROCKLANDING SHOAL TO
CHANNEL TO NEWPORT NEWS
CONNECTING WATERS
PROJECT CONDITION SURVEY**

SURVEY DATES:
May 1, 4 & 16, 2020

SURVEY BY: USACE Team Lead: Mike Williams
#HYDRO FILE: UR_50_R20_20200501_CS

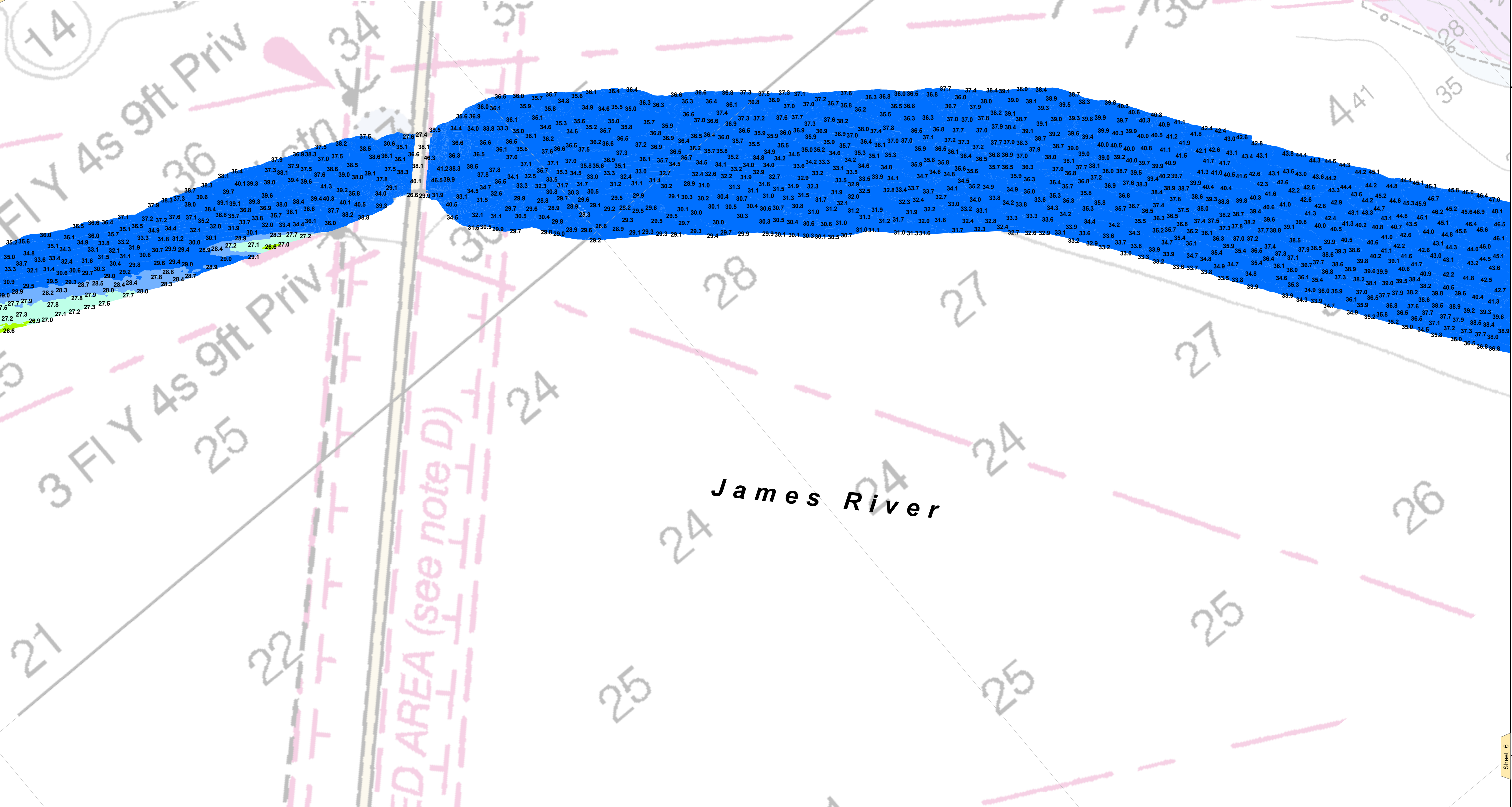


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- | | |
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- SURVEY XYZ ("XYZ") AND METADATA ("MET") FILE NAME REFERENCED BY #HYDRO FILE NAME.



PROJECTED COORDINATE SYSTEM:		STATE PLANE	
DATUM NAME:	MD NAD 83 SOUTH ZONE	MD NAD 83 SOUTH ZONE	MD NAD 83 SOUTH ZONE
PROJ. COORDINATE UNITS:	US SURVEY FEET	US SURVEY FEET	US SURVEY FEET
PROJ. HORIZONTAL ACCURACY:	+/- 1 FOOT	LEICA SMART NET	LEICA SMART NET
HORIZONTAL CONTROL:			
GEOBETIC CONTROL MONUMENTS		MEAN RANGE OF TIDE	
MONUMENT	N/A	MLLW	N/A
		NAVD83	N/A
		AREA	N/A

**JAMES RIVER
ROCKLANDING SHOAL TO
CHANNEL TO NEWPORT NEWS
CONNECTING WATERS
PROJECT CONDITION SURVEY**

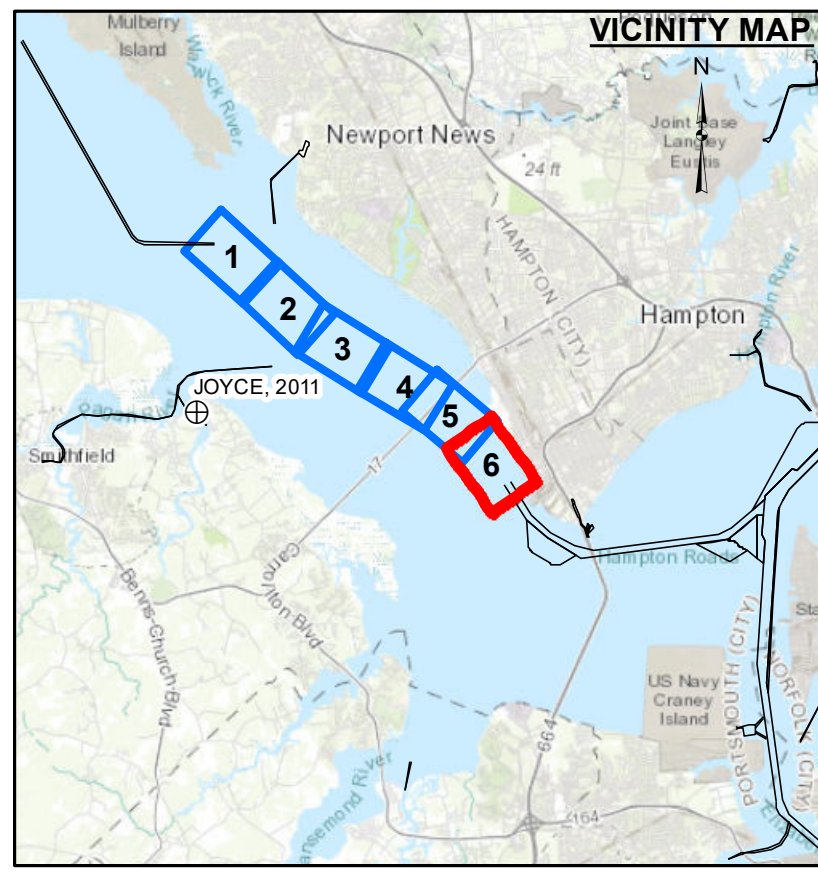
SURVEY DATES:
May 1, 4 & 16, 2020

SURVEY BY: USAACE Town Land, Mike Williams
#HYDRO FILE: JR_50_R20_20200501_CS

SHEET 5 of 6
Map Produced: 6/5/2020

APPROVED: _____
Chief, Navigation Analysis Section

APPROVED: _____
Chief, Navigation Support and Survey Section



Legend

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Maintained Depth (MD) +/- Feet

	MD - 5' & Shoaler		MD
	MD - 4'		MD + 1'
	MD - 3'		MD + 2'
	MD - 2'		MD + 3'
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Aids to Navigation

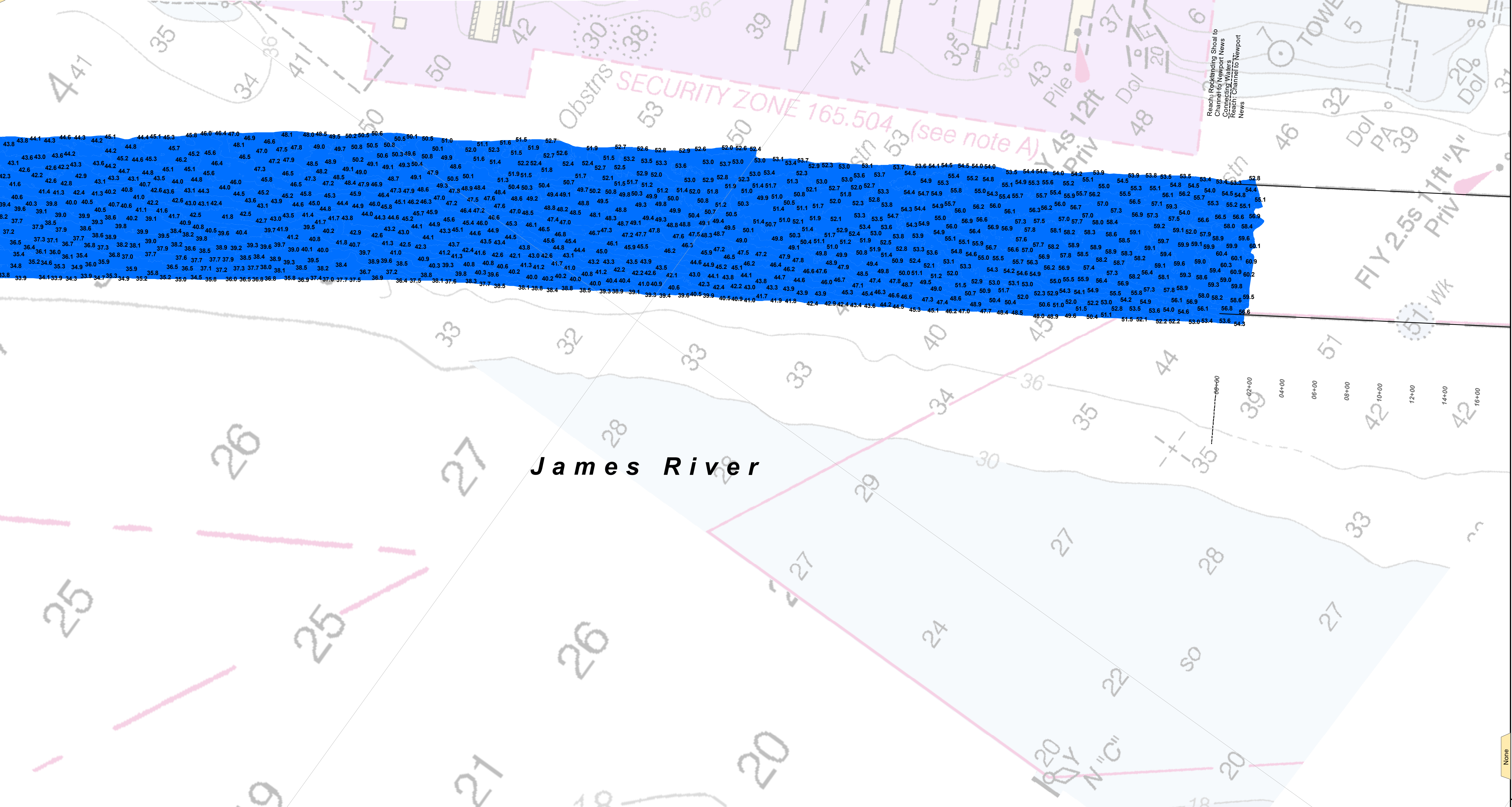
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PROJECTED COORDINATE SYSTEM:		STATE PLANE	
DATE:	1983-08-01	MD (NA SOUTH ZONE)	MD (NA SOUTH ZONE)
IMPLIED VERTICAL ACCURACY:	RTK/NOVA/SMART NET	US SURVEY FEET	US SURVEY FEET
TIDE APPLICATION:	LEICA SMART NET	+-1 FOOT	+-1 FOOT
HORIZONTAL CONTROL:	LEICA SMART NET	MONUMENT	N/A
VERTICAL CONTROL:	RTK/NOVA/SMART NET	MLLW	N/A
IMPL. METHOD:	RTK/NOVA/SMART NET	NAVD88	N/A
BIN SIZE:	5x5'	MEAN RANGE OF TIDE	N/A
BIN SELECTION METHOD:	AVERAGE CELL CENTER	AREA	N/A

**JAMES RIVER
ROCKLANDING SHOAL TO
CHANNEL TO NEWPORT NEWS
CONNECTING WATERS
PROJECT CONDITION SURVEY**

SURVEY DATES:
May 1, 4 & 16, 2020

SURVEY BY: USAACE Town Lead: Mike Williams
HYDRO FILE: UR_50_R22R_2020S01_CS

SHEET 6 of 6
Map Produced: 6/5/2020

APPROVED: _____
Chief, Navigation Analysis Section

APPROVED: _____
Chief, Navigation Support and Survey Section