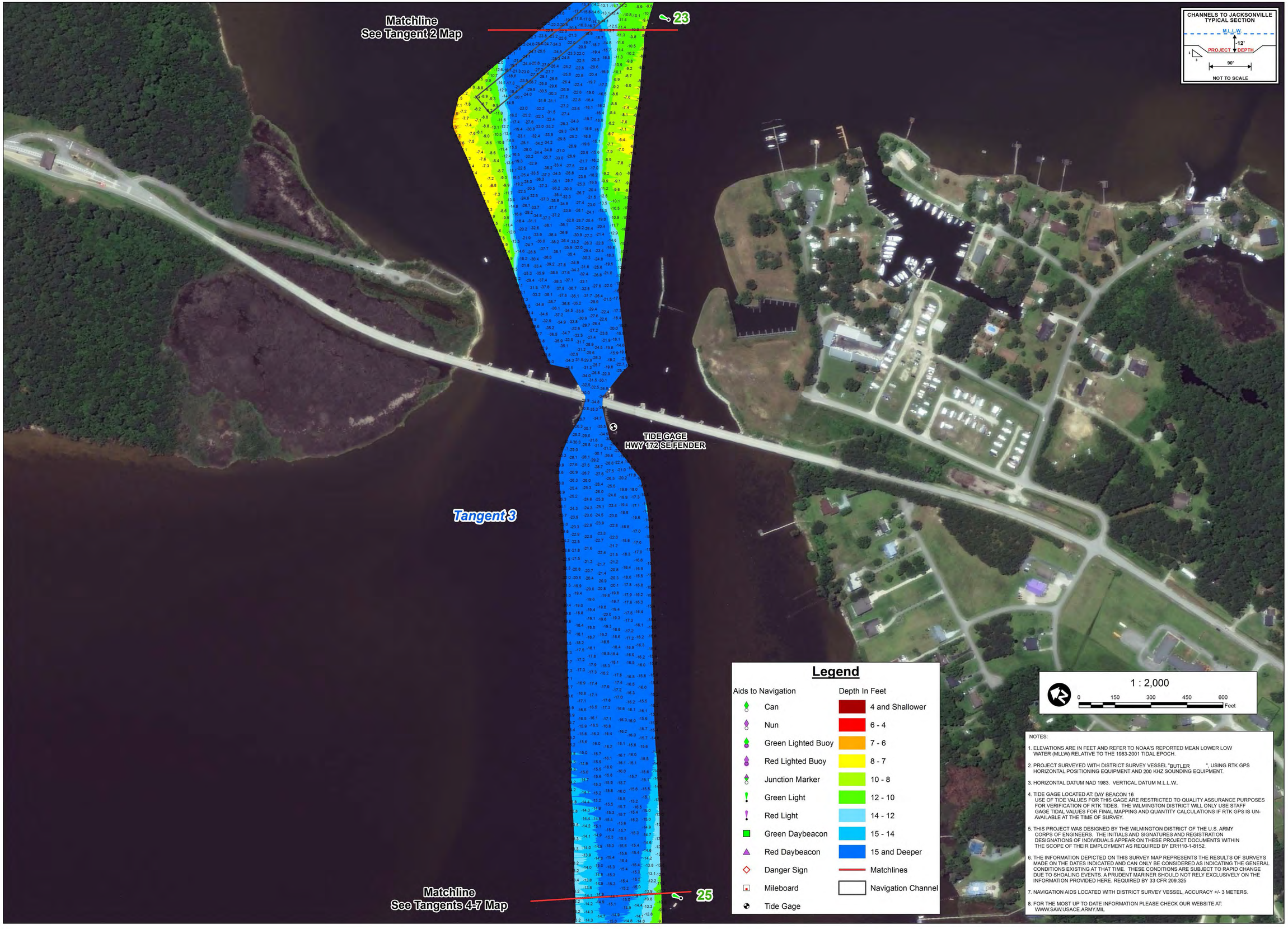
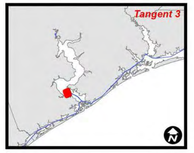


NOTES:

1. ELEVATIONS ARE IN FEET AND REFER TO NOAA'S REPORTED MEAN LOWER LOW WATER (MLLW) RELATIVE TO THE 1983-2001 TIDAL EPOCH.
2. PROJECT SURVEYED WITH DISTRICT SURVEY VESSEL "BUTLER ", USING RTK GPS HORIZONTAL POSITIONING EQUIPMENT AND 200 KHZ SOUNDING EQUIPMENT.
3. HORIZONTAL DATUM NAD 1983. VERTICAL DATUM M.L.L.W..
4. TIDE GAGE LOCATED AT; DAY BEACON 16
   USE OF TIDE VALUES FOR THIS GAGE ARE RESTRICTED TO QUALITY ASSURANCE PURPOSES FOR VERIFICATION OF RTK TIDES. THE WILMINGTON DISTRICT WILL ONLY USE STAFF GAGE TIDAL VALUES FOR FINAL MAPPING AND QUANTITY CALCULATIONS IF RTK GPS IS UN-AVAILABLE AT THE TIME OF SURVEY.
5. THIS PROJECT WAS DESIGNED BY THE WILMINGTON DISTRICT OF THE U.S. ARMY CORPS OF ENGINEERS. THE INITIALS AND SIGNATURES AND REGISTRATION DESIGNATIONS OF INDIVIDUALS APPEAR ON THESE PROJECT DOCUMENTS WITHIN THE SCOPE OF THEIR EMPLOYMENT AS REQUIRED BY ER1110-1-8152.
6. THE INFORMATION DEPICTED ON THIS SURVEY MAP REPRESENTS THE RESULTS OF SURVEYS MADE ON THE DATES INDICATED AND CAN ONLY BE CONSIDERED AS INDICATING THE GENERAL CONDITIONS EXISTING AT THAT TIME. THESE CONDITIONS ARE SUBJECT TO RAPID CHANGE DUE TO SHOALING EVENTS. A PRUDENT MARINER SHOULD NOT RELY EXCLUSIVELY ON THE INFORMATION PROVIDED HERE. REQUIRED BY 33 CFR 209.325
7. NAVIGATION AIDS LOCATED WITH DISTRICT SURVEY VESSEL, ACCURACY +/- 3 METERS.
8. FOR THE MOST UP TO DATE INFORMATION PLEASE CHECK OUR WEBSITE AT: WWW.SAW.USACE.ARMY.MIL

US Army Corps of Engineers
Wilmington District



SURVEYED BY: LMT, SRV
MAPPED: K7OPNDJM
PROCESSED BY: K7OPNDJM

SURVEY DATE: 30 JANUARY - 01 FEBRUARY 2017
MAP DATE: 30 JUNE 2017
MAP SCALE: 1:2,000
IMAGERY DATE: 09 JUNE 2017
MAP FILE NAME: CHANNELS_TO_JACKSONVILLE_TANGENT_3_20170130.MXD

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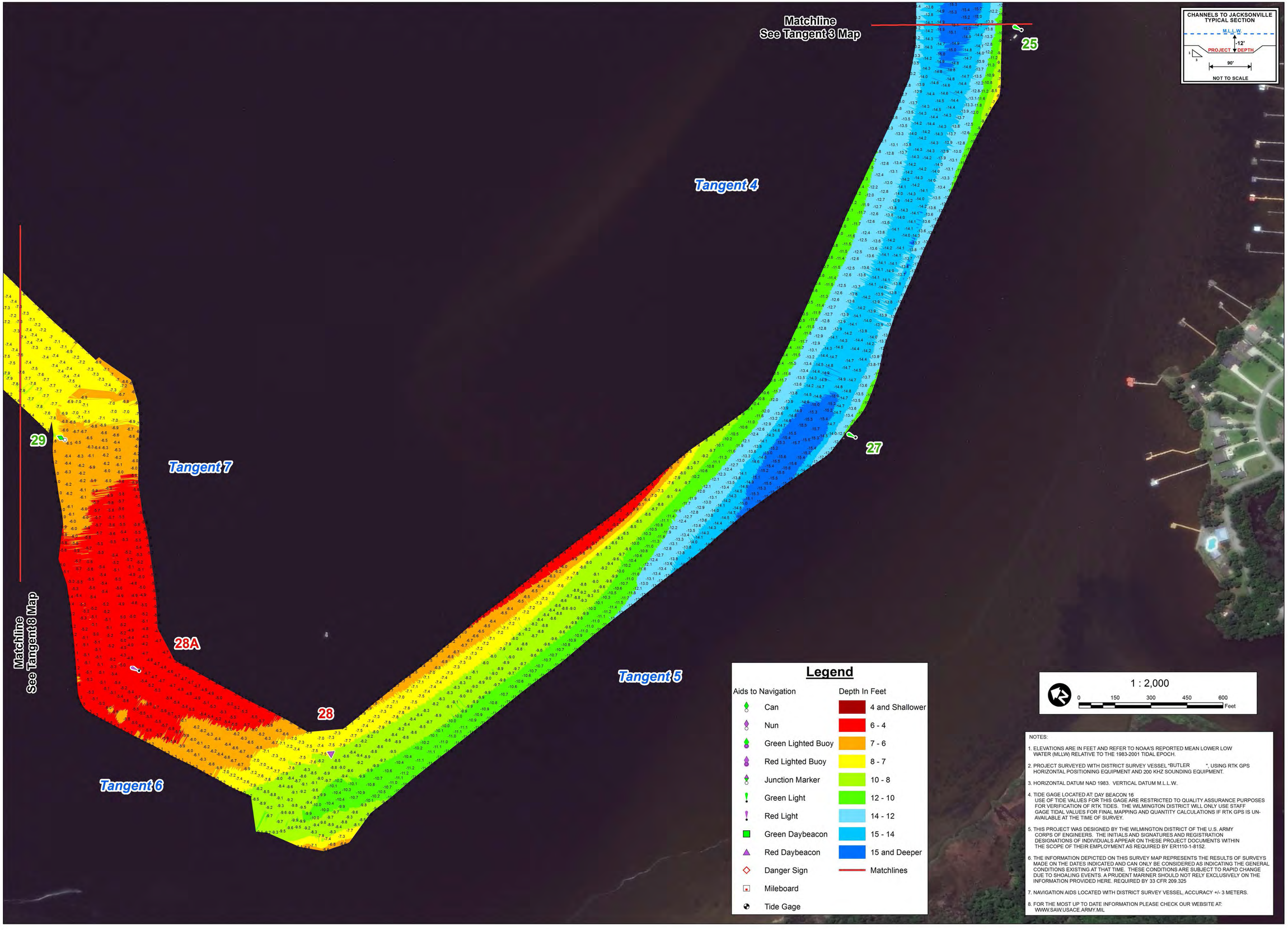
HYDROGRAPHIC SURVEY

U.S. ARMY ENGINEER DISTRICT
CORPS OF ENGINEERS
WILMINGTON, NORTH CAROLINA

Channels to Jacksonville Tangent 3

JACKSONVILLE, NORTH CAROLINA



NOTES:

1. ELEVATIONS ARE IN FEET AND REFER TO NOAA'S REPORTED MEAN LOWER LOW WATER (MLLW) RELATIVE TO THE 1983-2001 TIDAL EPOCH.

2. PROJECT SURVEYED WITH DISTRICT SURVEY VESSEL "BUTLER ", USING RTK GPS HORIZONTAL POSITIONING EQUIPMENT AND 200 KHZ SOUNDING EQUIPMENT.

3. HORIZONTAL DATUM NAD 1983. VERTICAL DATUM M.L.L.W..

4. TIDE GAGE LOCATED AT: DAY BEACON 16
USE OF TIDE VALUES FOR THIS GAGE ARE RESTRICTED TO QUALITY ASSURANCE PURPOSES FOR VERIFICATION OF RTK TIDES. THE WILMINGTON DISTRICT WILL ONLY USE STAFF GAGE TIDAL VALUES FOR FINAL MAPPING AND QUANTITY CALCULATIONS IF RTK GPS IS UN-AVAILABLE AT THE TIME OF SURVEY.

5. THIS PROJECT WAS DESIGNED BY THE WILMINGTON DISTRICT OF THE U.S. ARMY CORPS OF ENGINEERS. THE INITIALS AND SIGNATURES AND REGISTRATION DESIGNATIONS OF INDIVIDUALS APPEAR ON THESE PROJECT DOCUMENTS WITHIN THE SCOPE OF THEIR EMPLOYMENT AS REQUIRED BY ER1110-1-8152.

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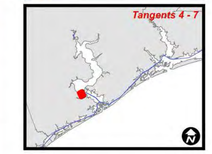
7. NAVIGATION AIDS LOCATED WITH DISTRICT SURVEY VESSEL, ACCURACY +/- 3 METERS.

8. FOR THE MOST UP TO DATE INFORMATION PLEASE CHECK OUR WEBSITE AT:
WWW.SAW.USACE.ARMY.MIL

US Army Corps of Engineers
Wilmington District



SURVEY DATE: 30 JANUARY - 01 FEBRUARY 2017

SURVEYED BY: LMT, SRV

MAPPED: K7OPNDJM

PROCESSED BY: K7OPNDJM

MAP DATE: 30 JUNE 2017

MAP SCALE: 1:2,000

IMAGERY DATE: 09 JUNE 2017

MAP FILE NAME: CHANNELS_TO_JACKSONVILLE_TANGENTS_4_7_20170130.MXD

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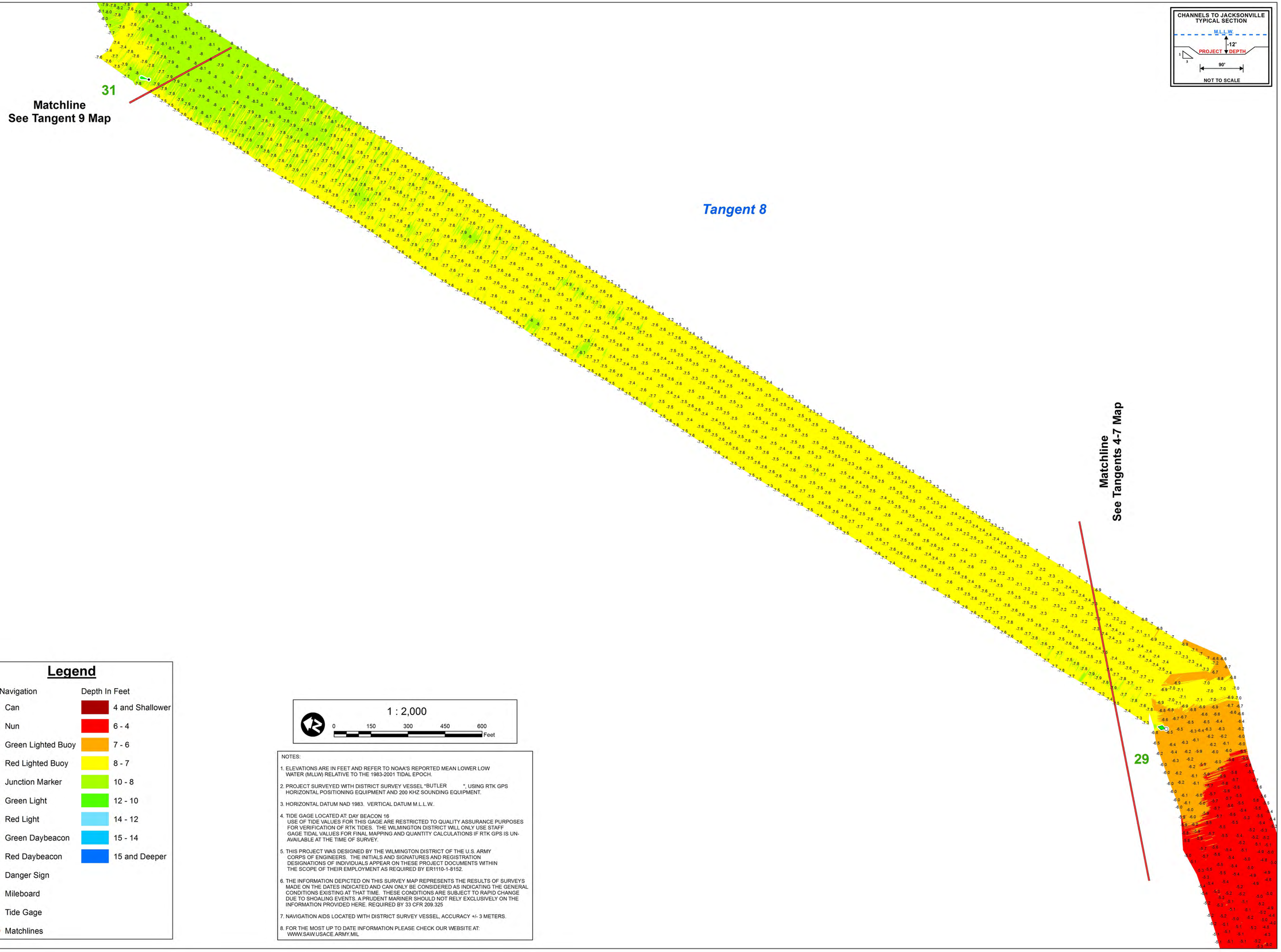
HYDROGRAPHIC SURVEY

U.S. ARMY ENGINEER DISTRICT
CORPS OF ENGINEERS
WILMINGTON, NORTH CAROLINA

Channels to Jacksonville Tangents 4 - 7

JACKSONVILLE, NORTH CAROLINA



US Army Corps of Engineers
Wilmington District

Legend

Aids to Navigation	Depth In Feet
Can	4 and Shallower
Nun	6 - 4
Green Lighted Buoy	7 - 6
Red Lighted Buoy	8 - 7
Junction Marker	10 - 8
Green Light	12 - 10
Red Light	14 - 12
Green Daybeacon	15 - 14
Red Daybeacon	15 and Deeper
Danger Sign	
Mileboard	
Tide Gage	
Matchlines	

1 : 2,000

0 150 300 450 600 Feet

NOTES:

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2. PROJECT SURVEYED WITH DISTRICT SURVEY VESSEL "BUTLER ", USING RTK GPS HORIZONTAL POSITIONING EQUIPMENT AND 200 KHZ SOUNDING EQUIPMENT.
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   USE OF TIDE VALUES FOR THIS GAGE ARE RESTRICTED TO QUALITY ASSURANCE PURPOSES FOR VERIFICATION OF RTK TIDES. THE WILMINGTON DISTRICT WILL ONLY USE STAFF GAGE TIDAL VALUES FOR FINAL MAPPING AND QUANTITY CALCULATIONS IF RTK GPS IS UN-AVAILABLE AT THE TIME OF SURVEY.
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SURVEY DATE: 30 JANUARY - 01 FEBRUARY 2017
28 JUNE 2017

SURVEYED BY: LMT, SRV
MAPPED: K7OPNDJM
PROCESSED BY: K7OPNDJM

MAP DATE: 30 JUNE 2017
MAP SCALE: 1:2,000

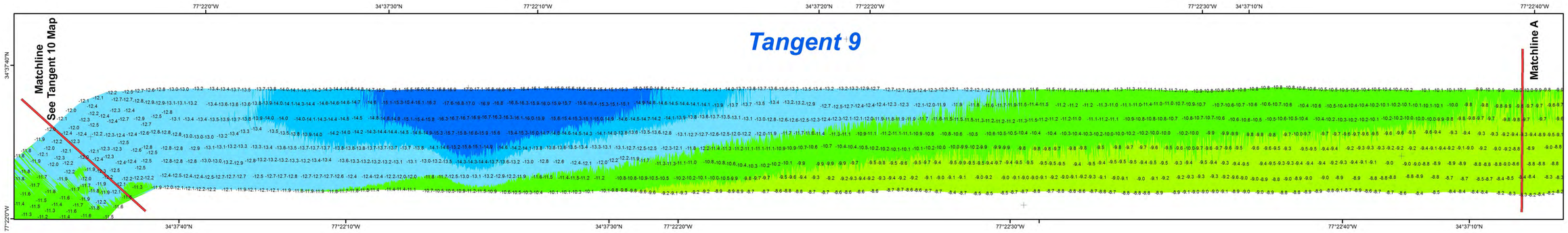
MAP FILE NAME: CHANNELS_TO_JACKSONVILLE_TANGENT_8_20170629.MXD

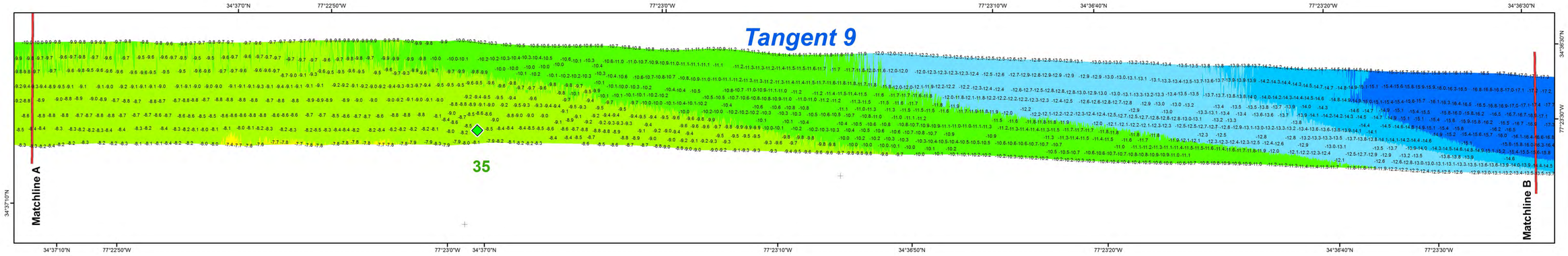
HYDROGRAPHIC SURVEY

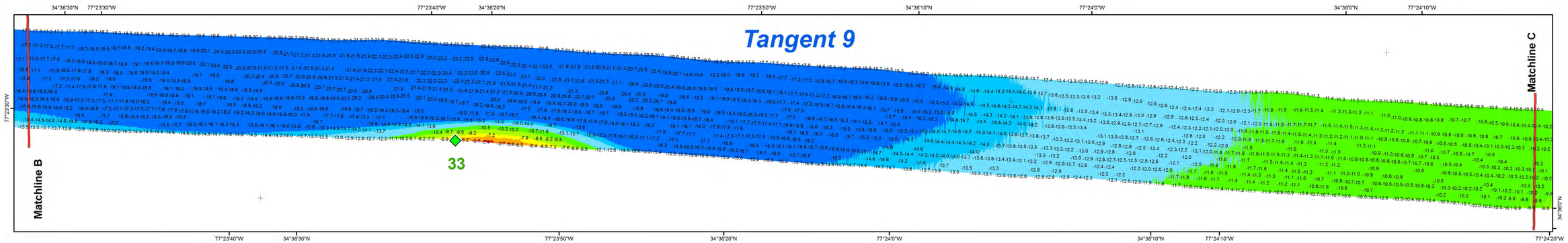
U.S. ARMY ENGINEER DISTRICT
CORPS OF ENGINEERS
WILMINGTON, NORTH CAROLINA

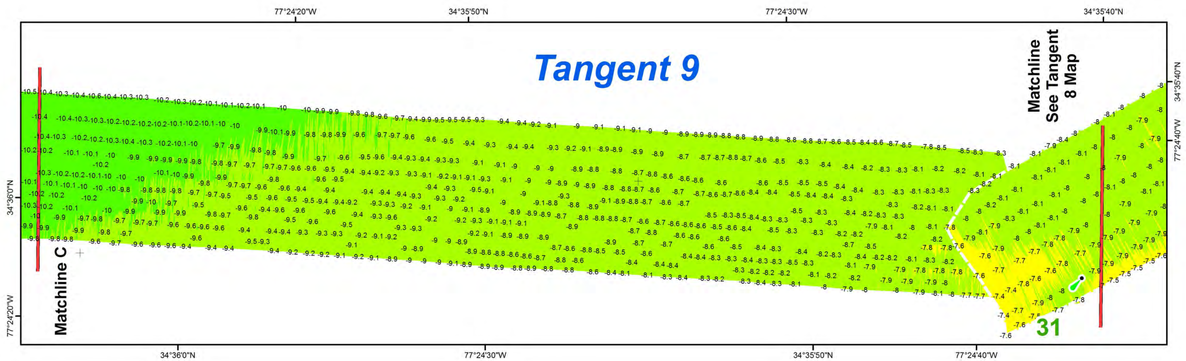
Channels to Jacksonville Tangent 8

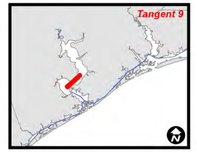
JACKSONVILLE, NORTH CAROLINA







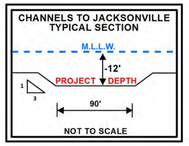




US Army Corps of Engineers
Wilmington District

SURVEY DATE: 10 - 12 MAY 2017
SURVEYED BY: LMT, WWW, SRV
MAPPED: K7OPNDJM
PROCESSED BY: K7OPNDJM
MAP DATE: 30 JUNE 2017
MAP SCALE: 1:2,000
MAP FILE NAME: CHANNELS_TO_JACKSONVILLE_TANGENT_09_20170510121MOD

CHANNELS TO JACKSONVILLE
TYPICAL SECTION



1 : 2,000
0 150 300 450 600 Feet

Legend

Aids to Navigation
- Can
- Nun
- Green Lighted Buoy
- Red Lighted Buoy
- Junction Marker
- Green Light
- Red Light
- Green Daybeacon
- Red Daybeacon
- Danger Sign
- Mileboard
- Tide Gage

Depth In Feet
- 4 and Shallower
- 6 - 4
- 7 - 6
- 8 - 7
- 10 - 8
- 12 - 10
- 14 - 12
- 15 - 14
- 15 and Deeper
- Matchlines

NOTES:

1. ELEVATIONS ARE IN FEET AND REFER TO NOAA'S REPORTED MEAN LOWER LOW WATER (MLLW) RELATIVE TO THE 1983-2001 TIDAL EPOCH.
2. PROJECT SURVEYED WITH DISTRICT SURVEY VESSEL " ROGERS ", USING RTK GPS HORIZONTAL POSITIONING EQUIPMENT AND 200 KHZ SOUNDING EQUIPMENT.
3. HORIZONTAL DATUM NAD 1983. VERTICAL DATUM M.L.L.W..
4. TIDE GAGE LOCATED AT: BRIDGE PILING
   USE OF TIDE VALUES FOR THIS GAGE ARE RESTRICTED TO QUALITY ASSURANCE PURPOSES FOR VERIFICATION OF RTK TIDES. THE WILMINGTON DISTRICT WILL ONLY USE STAFF GAGE TIDAL VALUES FOR FINAL MAPPING AND QUANTITY CALCULATIONS IF RTK GPS IS UN-AVAILABLE AT THE TIME OF SURVEY.
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7. NAVIGATION AIDS LOCATED WITH DISTRICT SURVEY VESSEL, ACCURACY +/- 3 METERS.
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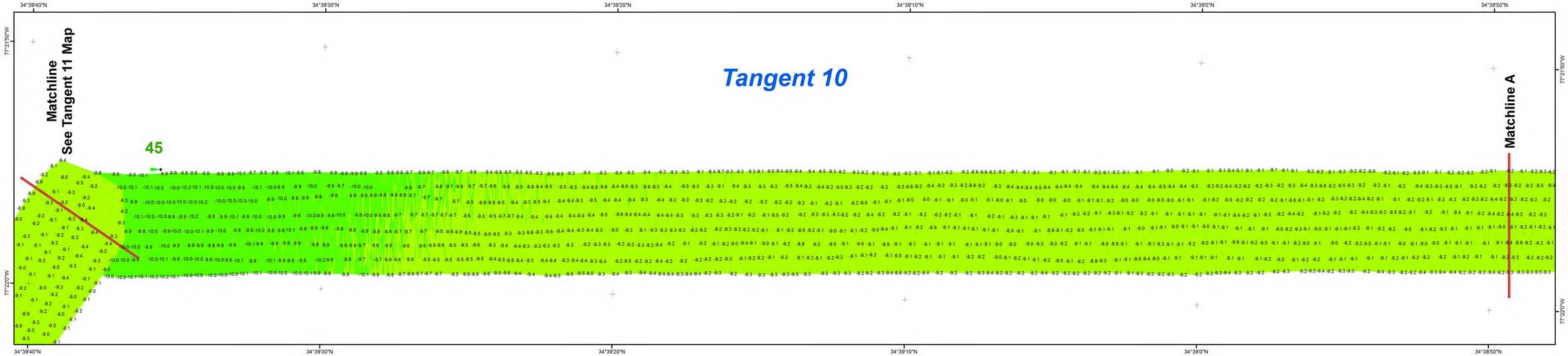
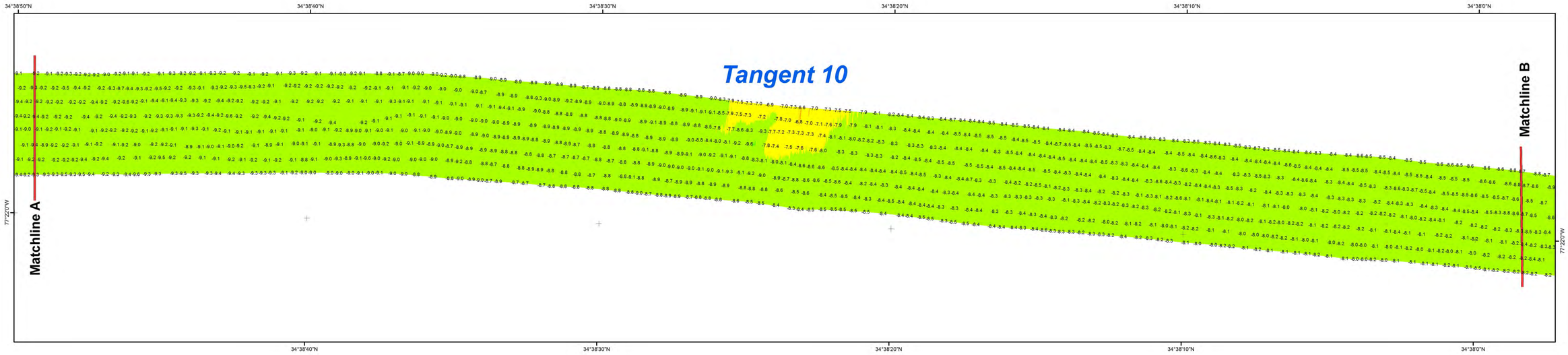
HYDROGRAPHIC SURVEY

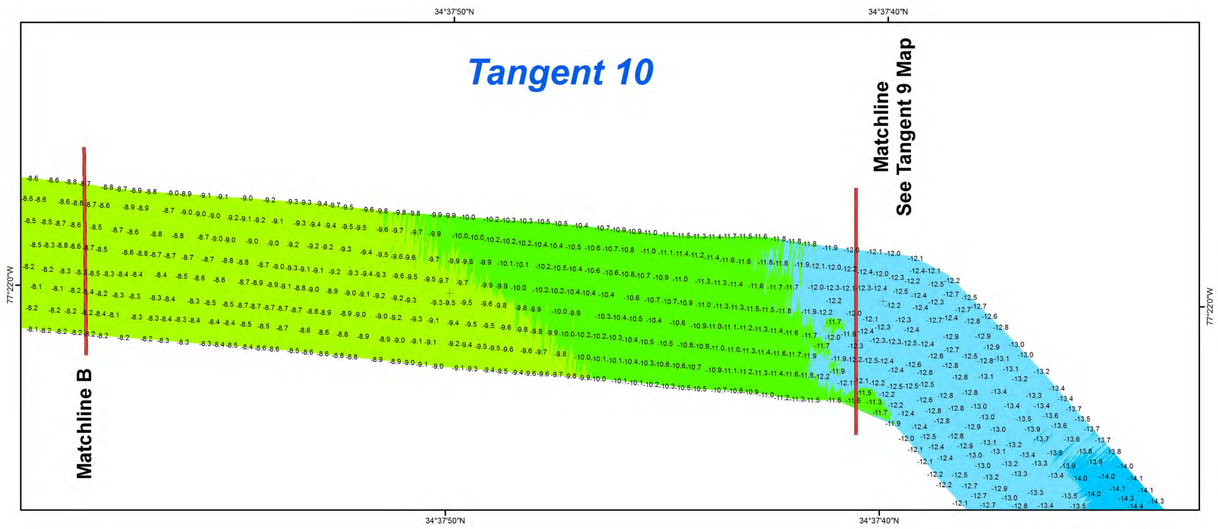
U.S. ARMY ENGINEER DISTRICT
CORPS OF ENGINEERS
WILMINGTON, NORTH CAROLINA

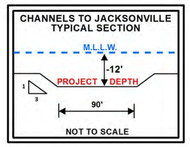
Channels to Jacksonville Tangent 9

JACKSONVILLE, NORTH CAROLINA









Legend

Aids to Navigation

- Can
- Nun
- Green Lighted Buoy
- Red Lighted Buoy
- Junction Marker
- Green Light
- Red Light
- Green Daybeacon
- Red Daybeacon
- Danger Sign
- Mileboard
- Tide Gage

Depth In Feet

- 4 and Shallower
- 6 - 4
- 7 - 6
- 8 - 7
- 10 - 8
- 12 - 10
- 14 - 12
- 15 - 14
- 15 and Deeper
- Matchlines

1 : 2,000

0 150 300 450 600 Feet

NOTES:

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3. HORIZONTAL DATUM NAD 1983. VERTICAL DATUM M.L.L.W..
4. TIDE GAGE LOCATED AT: BRIDGE PILING
   USE OF TIDE VALUES FOR THIS GAGE ARE RESTRICTED TO QUALITY ASSURANCE PURPOSES FOR VERIFICATION OF RTK TIDES. THE WILMINGTON DISTRICT WILL ONLY USE STAFF GAGE TIDAL VALUES FOR FINAL MAPPING AND QUANTITY CALCULATIONS IF RTK GPS IS UN-AVAILABLE AT THE TIME OF SURVEY.
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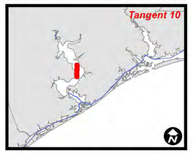
US Army Corps of Engineers
Wilmington District

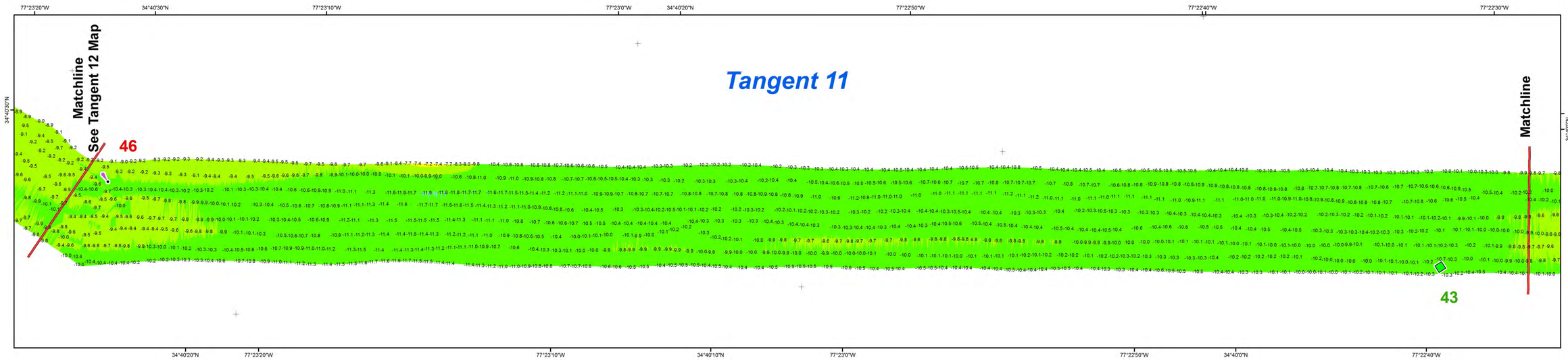


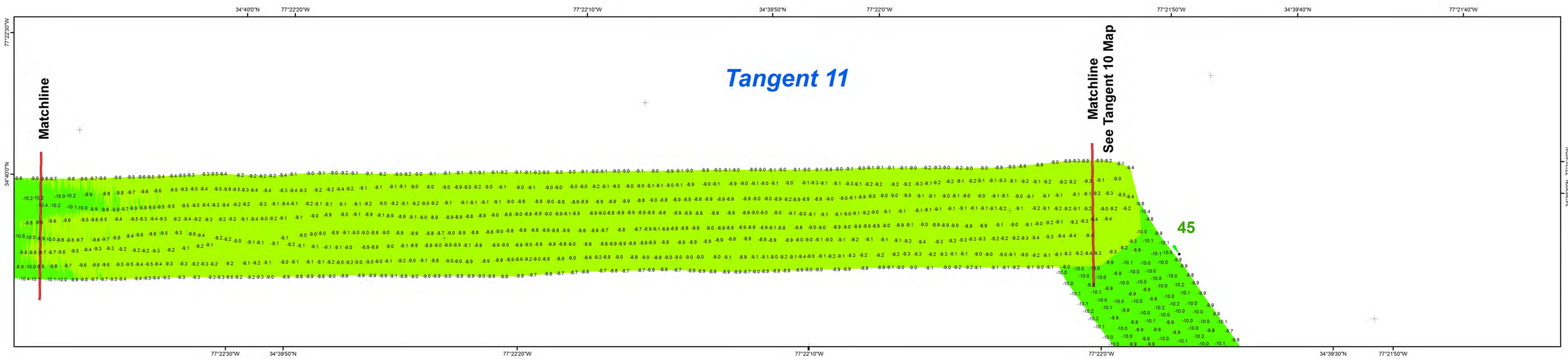
SURVEYED BY: LMT, WWW, SRV
MAPPED: K7OPNDJM
PROCESSED BY: K7OPNDJM
SURVEY DATE: 10 - 12 MAY 2017
MAP DATE: 30 JUNE 2017
MAP SCALE: 1:2,000
MAP FILE NAME: CHANNELS_TO_JACKSONVILLE_TANGENT_10_20170510T2MOD

HYDROGRAPHIC SURVEY
U.S. ARMY ENGINEER DISTRICT
CORPS OF ENGINEERS
WILMINGTON, NORTH CAROLINA

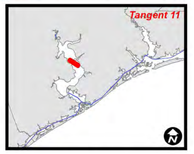
Channels to Jacksonville Tangent 10

JACKSONVILLE, NORTH CAROLINA





US Army Corps of Engineers
Wilmington District

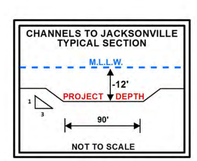


SURVEYED BY: WJC, JBD
MAPPED: K7OPNDJM
PROCESSED BY: K7OPNDJM
SURVEY DATE: 19, 23, 24, 25, MAY 2017
MAP DATE: 30 JUNE 2017
MAP SCALE: 1:2,000
MAP FILE NAME: CHANNELS_TO_JACKSONVILLE_TANGENT_11_20170519253.MXD

Legend

Aids to Navigation
- Can
- Nun
- Green Lighted Buoy
- Red Lighted Buoy
- Junction Marker
- Green Light
- Red Light
- Green Daybeacon
- Red Daybeacon
- Danger Sign
- Mileboard
- Tide Gage

Depth In Feet
- 4 and Shallower
- 6 - 4
- 7 - 6
- 8 - 7
- 10 - 8
- 12 - 10
- 14 - 12
- 15 - 14
- 15 and Deeper
- Matchlines



1 : 2,000
0 150 300 450 600 Feet

NOTES:

1. ELEVATIONS ARE IN FEET AND REFER TO NOAA'S REPORTED MEAN LOWER LOW WATER (MLLW) RELATIVE TO THE 1983-2001 TIDAL EPOCH.
2. PROJECT SURVEYED WITH DISTRICT SURVEY VESSEL "SANDERSON ", USING RTK GPS HORIZONTAL POSITIONING EQUIPMENT AND 200 KHZ SOUNDING EQUIPMENT.
3. HORIZONTAL DATUM NAD 1983. VERTICAL DATUM M.L.L.W.
4. TIDE GAGE LOCATED AT: HWY 172 SE FENDER
   USE OF TIDE VALUES FOR THIS GAGE ARE RESTRICTED TO QUALITY ASSURANCE PURPOSES FOR VERIFICATION OF RTK TIDES. THE WILMINGTON DISTRICT WILL ONLY USE STAFF GAGE TIDAL VALUES FOR FINAL MAPPING AND QUANTITY CALCULATIONS IF RTK GPS IS UN-AVAILABLE AT THE TIME OF SURVEY.
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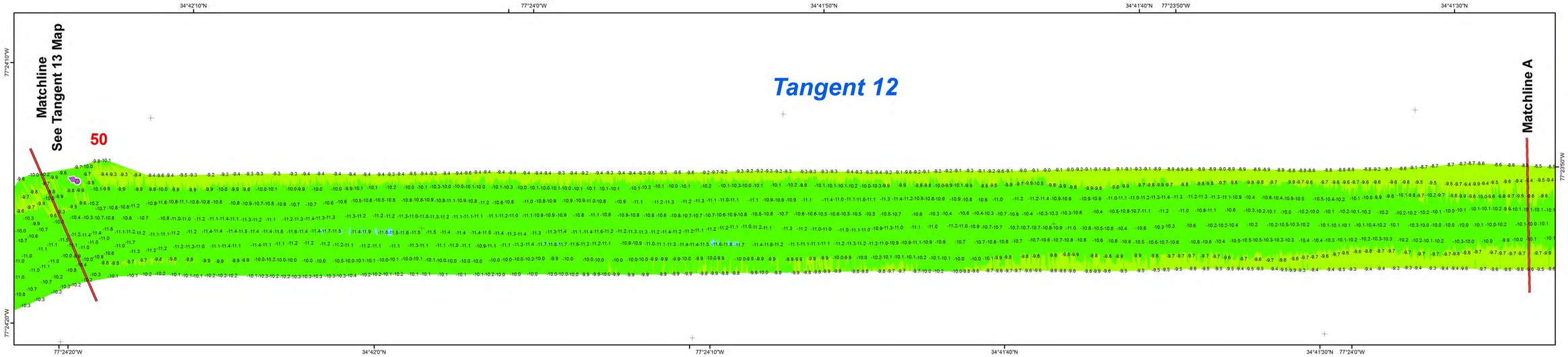
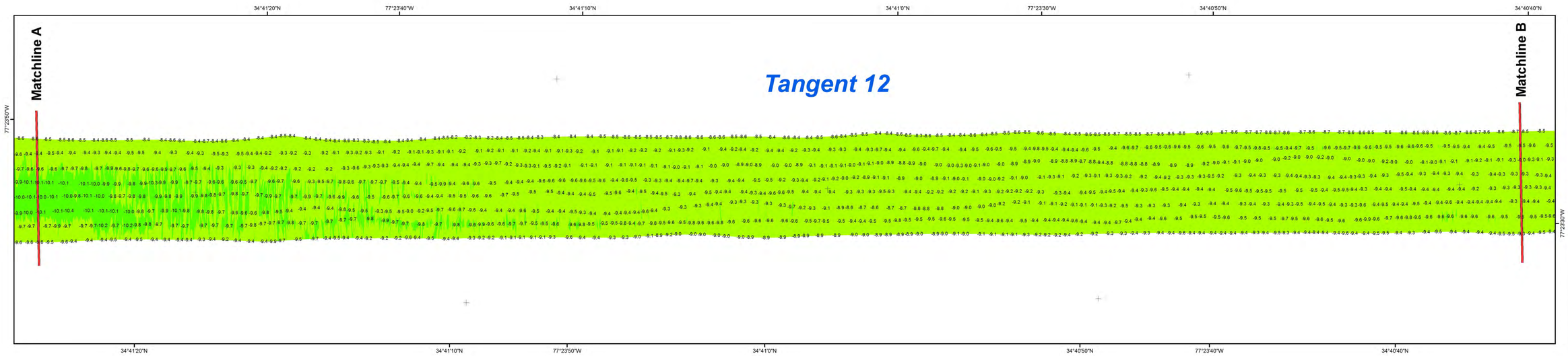
HYDROGRAPHIC SURVEY

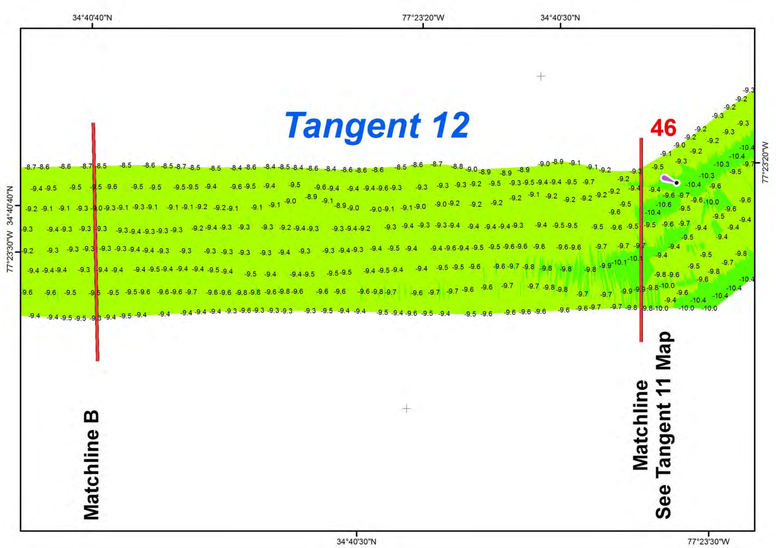
U.S. ARMY ENGINEER DISTRICT
CORPS OF ENGINEERS
WILMINGTON, NORTH CAROLINA

Channels to Jacksonville Tangent 11

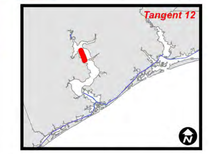
JACKSONVILLE, NORTH CAROLINA

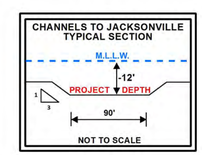






US Army Corps of Engineers
Wilmington District





1 : 2,000

0 150 300 450 600 Feet

NOTES:

1. ELEVATIONS ARE IN FEET AND REFER TO NOAA'S REPORTED MEAN LOWER LOW WATER (MLLW) RELATIVE TO THE 1983-2001 TIDAL EPOCH.
2. PROJECT SURVEYED WITH DISTRICT SURVEY VESSEL "SANDERSON ", USING RTK GPS HORIZONTAL POSITIONING EQUIPMENT AND 200 KHZ SOUNDING EQUIPMENT.
3. HORIZONTAL DATUM NAD 1983. VERTICAL DATUM M.L.L.W..
4. TIDE GAGE LOCATED AT: HWY 172 SE FENDER
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5. THIS PROJECT WAS DESIGNED BY THE WILMINGTON DISTRICT OF THE U.S. ARMY CORPS OF ENGINEERS. THE INITIALS AND SIGNATURES AND REGISTRATION DESIGNATIONS OF INDIVIDUALS APPEAR ON THESE PROJECT DOCUMENTS WITHIN THE SCOPE OF THEIR EMPLOYMENT AS REQUIRED BY ER1110-1-8152.
6. THE INFORMATION DEPICTED ON THIS SURVEY MAP REPRESENTS THE RESULTS OF SURVEYS MADE ON THE DATES INDICATED AND CAN ONLY BE CONSIDERED AS INDICATING THE GENERAL CONDITIONS EXISTING AT THAT TIME. THESE CONDITIONS ARE SUBJECT TO RAPID CHANGE DUE TO SHOALING EVENTS. A PRUDENT MARINER SHOULD NOT RELY EXCLUSIVELY ON THE INFORMATION PROVIDED HERE. REQUIRED BY 33 CFR 209.325
7. NAVIGATION AIDS LOCATED WITH DISTRICT SURVEY VESSEL, ACCURACY +/- 3 METERS.
8. FOR THE MOST UP TO DATE INFORMATION PLEASE CHECK OUR WEBSITE AT: WWW.SAW.USACE.ARMY.MIL

Legend

Aids to Navigation
- Can
- Nun
- Green Lighted Buoy
- Red Lighted Buoy
- Junction Marker
- Green Light
- Red Light
- Green Daybeacon
- Red Daybeacon
- Danger Sign
- Mileboard
- Tide Gage

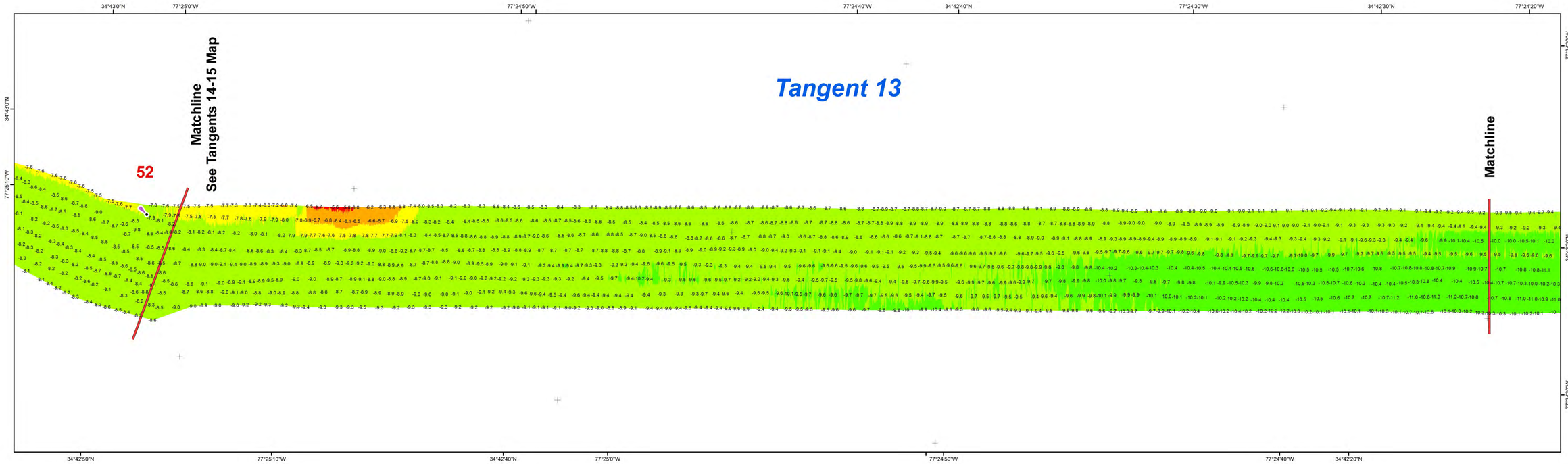
Depth In Feet
- 4 and Shallower
- 6 - 4
- 7 - 6
- 8 - 7
- 10 - 8
- 12 - 10
- 14 - 12
- 15 - 14
- 15 and Deeper
- Matchlines

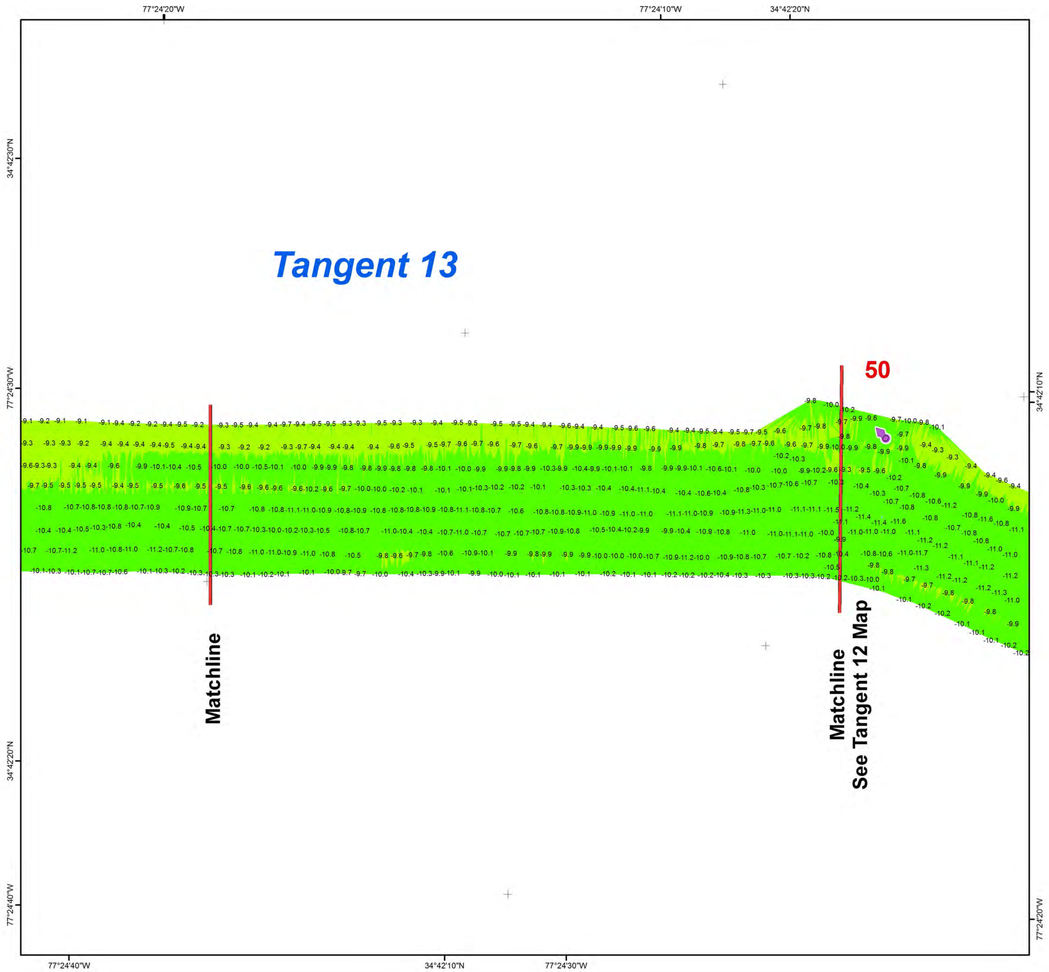
SURVEYED BY: WJC, JBD
MAPPED: K7OPNDJM
PROCESSED BY: K7OPNDJM
SURVEY DATE: 19, 23, 24, 25, MAY 2017
MAP DATE: 30 JUNE 2017
MAP SCALE: 1:2,000
MAP FILE NAME: CHANNELS_TO_JACKSONVILLE_TANGENT_12_20170515025.MXD

HYDROGRAPHIC SURVEY
U.S. ARMY ENGINEER DISTRICT
CORPS OF ENGINEERS
WILMINGTON, NORTH CAROLINA

Channels to Jacksonville Tangent 12

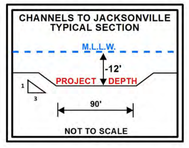
JACKSONVILLE, NORTH CAROLINA





Legend

Aids to Navigation	Depth In Feet
Can	4 and Shallower
Nun	6 - 4
Green Lighted Buoy	7 - 6
Red Lighted Buoy	8 - 7
Junction Marker	10 - 8
Green Light	12 - 10
Red Light	14 - 12
Green Daybeacon	15 - 14
Red Daybeacon	15 and Deeper
Danger Sign	Matchlines
Mileboard	
Tide Gage	



1 : 2,000

0 150 300 450 600 Feet

NOTES:

1. ELEVATIONS ARE IN FEET AND REFER TO NOAA'S REPORTED MEAN LOWER LOW WATER (MLLW) RELATIVE TO THE 1983-2001 TIDAL EPOCH.

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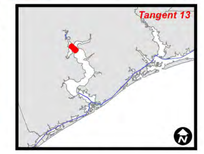
7. NAVIGATION AIDS LOCATED WITH DISTRICT SURVEY VESSEL, ACCURACY +/- 3 METERS.

8. FOR THE MOST UP TO DATE INFORMATION PLEASE CHECK OUR WEBSITE AT: WWW.SAW.USACE.ARMY.MIL

US Army Corps of Engineers
Wilmington District

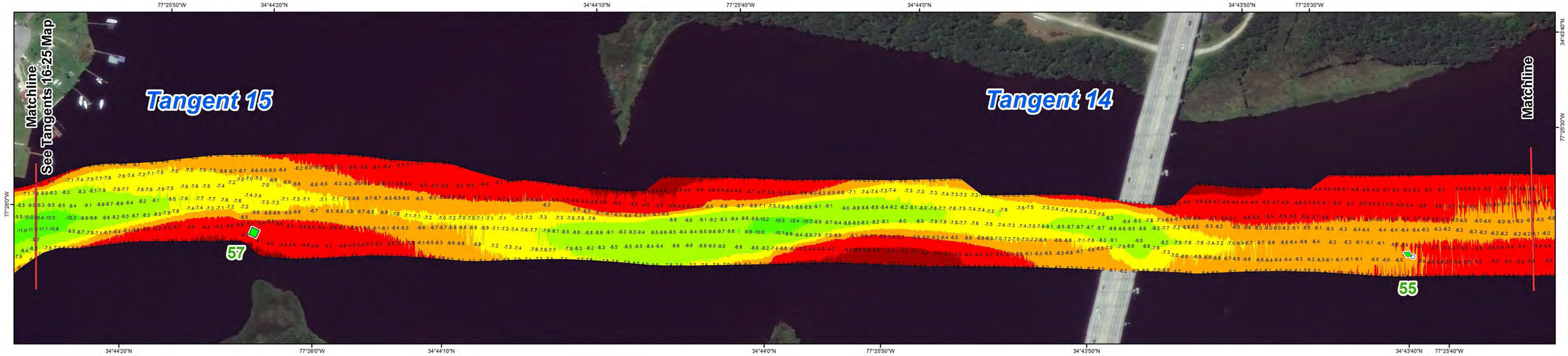


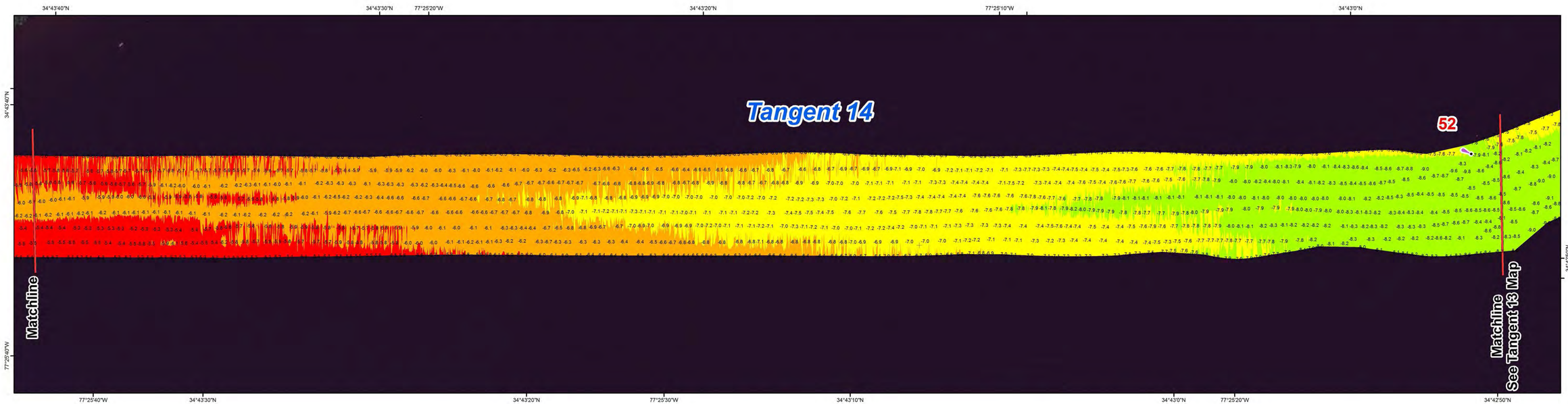
SURVEYED BY: WJC, JBD
MAPPED: K7OPNDJM
PROCESSED BY: K7OPNDJM
SURVEY DATE: 19, 23, 24, 25, MAY 2017
MAP DATE: 30 JUNE 2017
MAP SCALE: 1:2,000
MAP FILE NAME: CHANNELS_TO_JACKSONVILLE_TANGENT_13_20170515025.MXD

HYDROGRAPHIC SURVEY
U.S. ARMY ENGINEER DISTRICT
CORPS OF ENGINEERS
WILMINGTON, NORTH CAROLINA

Channels to Jacksonville Tangent 13

JACKSONVILLE, NORTH CAROLINA





Legend

Aids to Navigation

- Can
- Nun
- Green Lighted Buoy
- Red Lighted Buoy
- Junction Marker
- Green Light
- Red Light
- Green Daybeacon
- Red Daybeacon
- Danger Sign
- Mileboard
- Tide Gage

Depth In Feet

- 4 and Shallower
- 6 - 4
- 7 - 6
- 8 - 7
- 10 - 8
- 12 - 10
- 14 - 12
- 15 - 14
- 15 and Deeper
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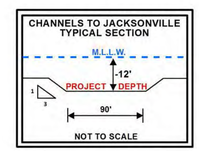
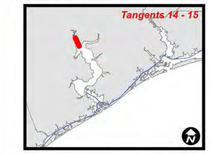


1 : 2,000

0 150 300 450 600 Feet

US Army Corps of Engineers
Wilmington District



SURVEYED BY: WJC, JBD
MAPPED: K7OPNDJM
PROCESSED BY: K7OPNDJM

SURVEY DATE: 19, 23, 24, 25, MAY 2017
MAP DATE: 30 JUNE 2017
MAP SCALE: 1:2,000
IMAGERY DATE: 09 JUNE 2017
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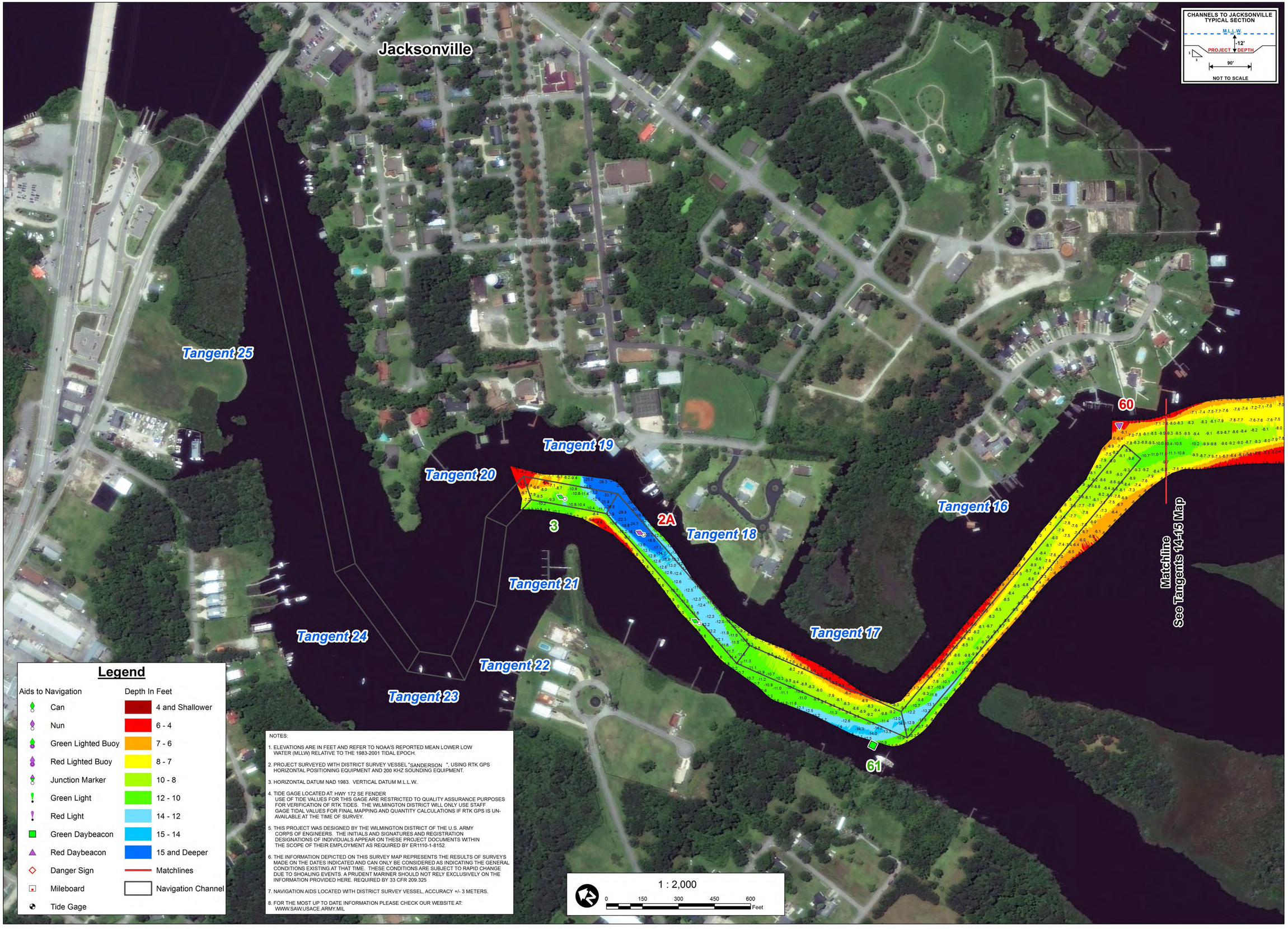
MAP FILE NAME: CHANNELS_TO_JACKSONVILLE_TANGENTS_14-15_20170519253.MXD

HYDROGRAPHIC SURVEY
U.S. ARMY ENGINEER DISTRICT
CORPS OF ENGINEERS
WILMINGTON, NORTH CAROLINA

Channels to Jacksonville Tangents 14 - 15

JACKSONVILLE, NORTH CAROLINA



Legend

Aids to Navigation	Depth In Feet
Can	4 and Shallower
Nun	6 - 4
Green Lighted Buoy	7 - 6
Red Lighted Buoy	8 - 7
Junction Marker	10 - 8
Green Light	12 - 10
Red Light	14 - 12
Green Daybeacon	15 - 14
Red Daybeacon	15 and Deeper
Danger Sign	Matchlines
Mileboard	Navigation Channel
Tide Gage	

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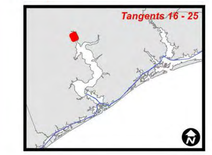

SURVEYED BY: WJC, JBD
MAPPED: K7OPNDJM
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IMAGERY DATE: 09 JUNE 2017
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SURVEY DATE: 19, 23, 24, 25, MAY 2017
MAP FILE NAME: CHANNELS_TO_JACKSONVILLE_TANGENTS_16-25_20170516253.MXD

HYDROGRAPHIC SURVEY
U.S. ARMY ENGINEER DISTRICT
CORPS OF ENGINEERS
WILMINGTON, NORTH CAROLINA

Channels to Jacksonville Tangents 16 - 25

JACKSONVILLE, NORTH CAROLINA