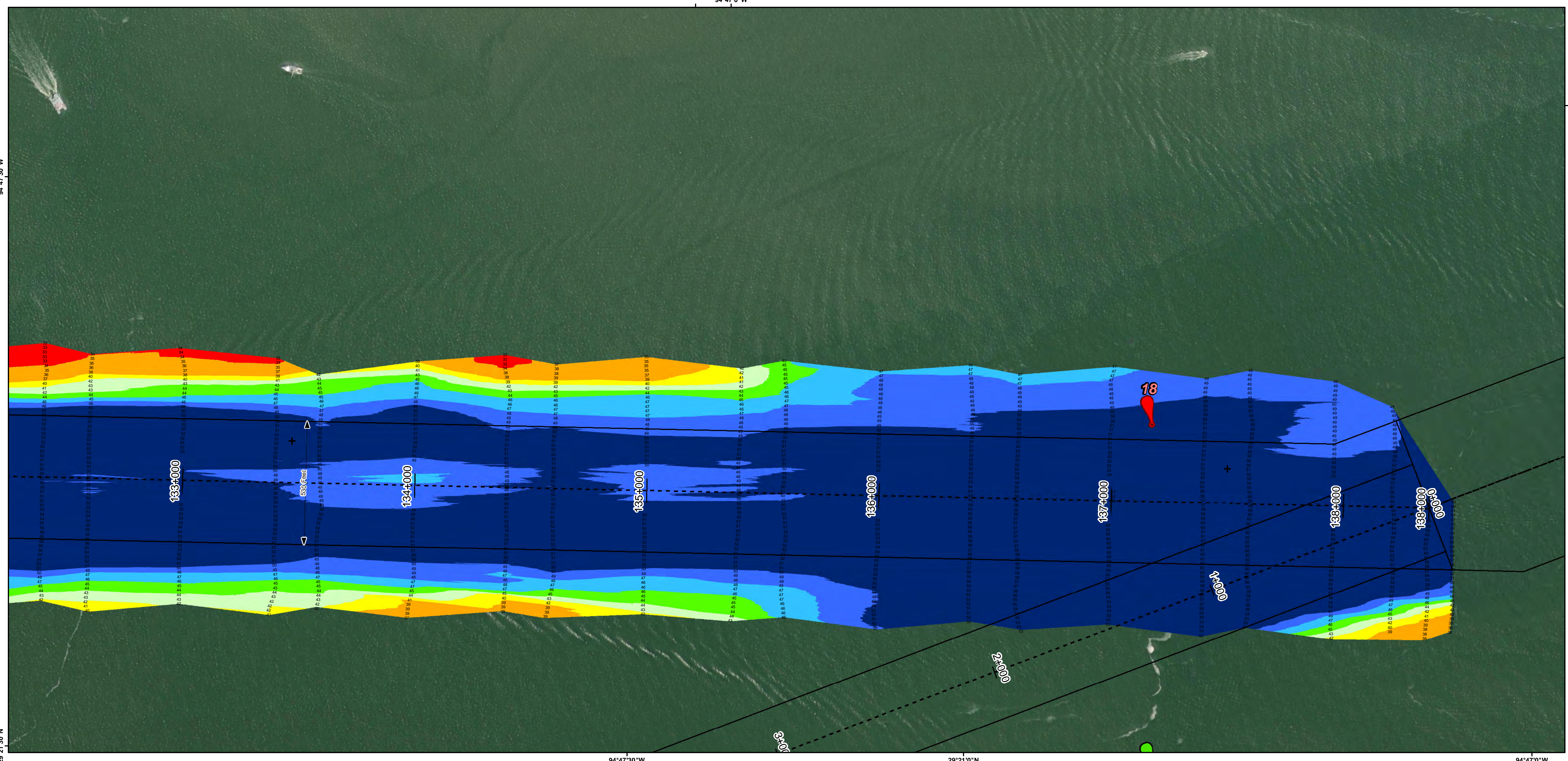
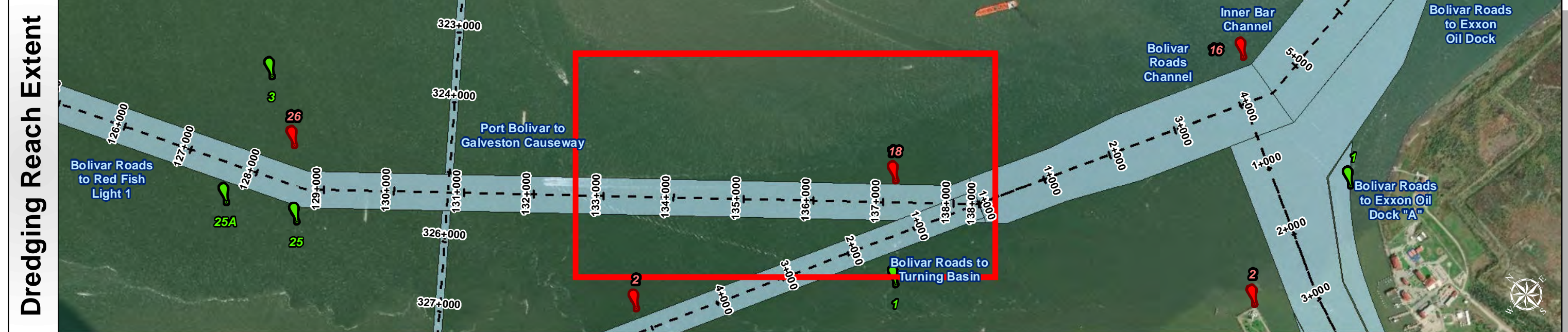
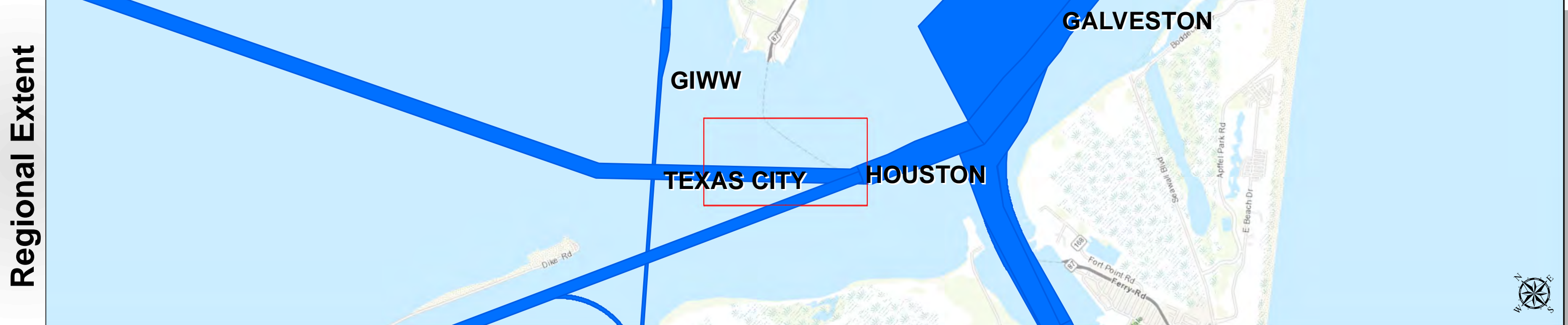


Houston Ship Channel: Bolivar Roads to Red Fish Light 1



U.S. Army Corps of Engineers
Galveston District



Channel Features

- Channel Toe
- Channel Center Line
- Channel Station Lines
- Channel Dimensions

Aids to Navigation

- Green Side Aids
- Red Side Aids
- Lights

MLLW

0 - 30	30 - 35	35 - 40	40 - 42	42 - 44	44 - 46	46 - 48	48 - 50	< 50
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NOAA Bathymetry (DREDGING REACH EXTENT)

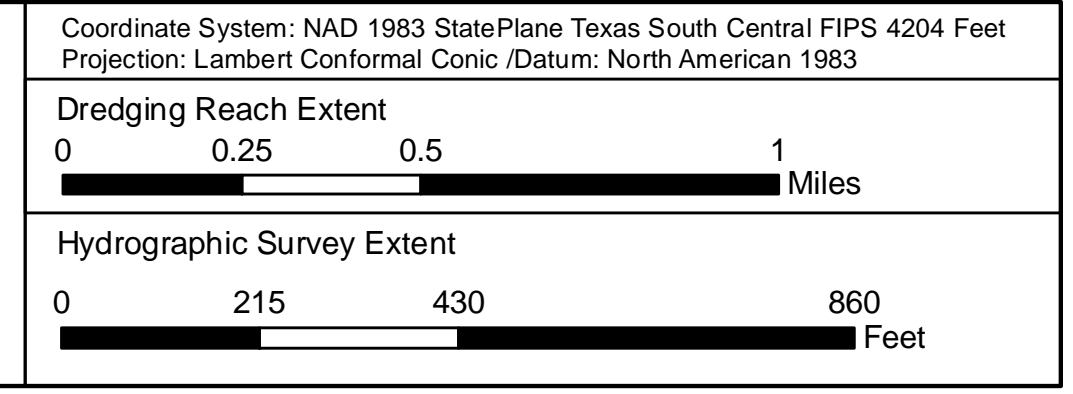
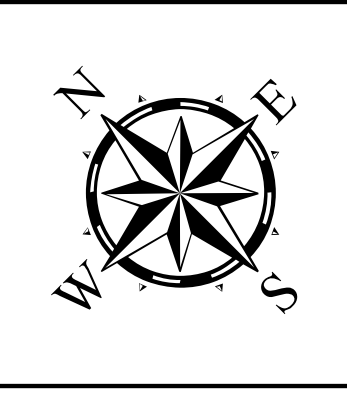
0 - 10	10 - 15	15 - 20	20 - 25	25 - 30	30 - 50
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NOTES:

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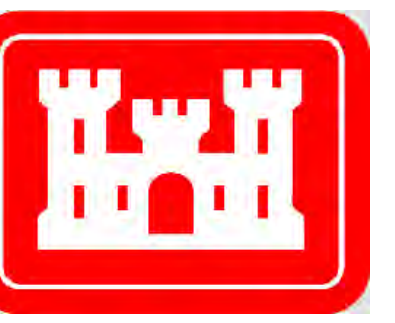


Survey Date(s): 06 July 2019	Authorized Depth: -46ft.
Page: 1 of 61	Side Slope Ratio: (Rise : Run)
Scale: 1:2,500	Additional Imagery: © DigitalGlobe Inc.
Mapped by: MSAOX PAC	Print Date: 12/13/2019
Additional Info :	

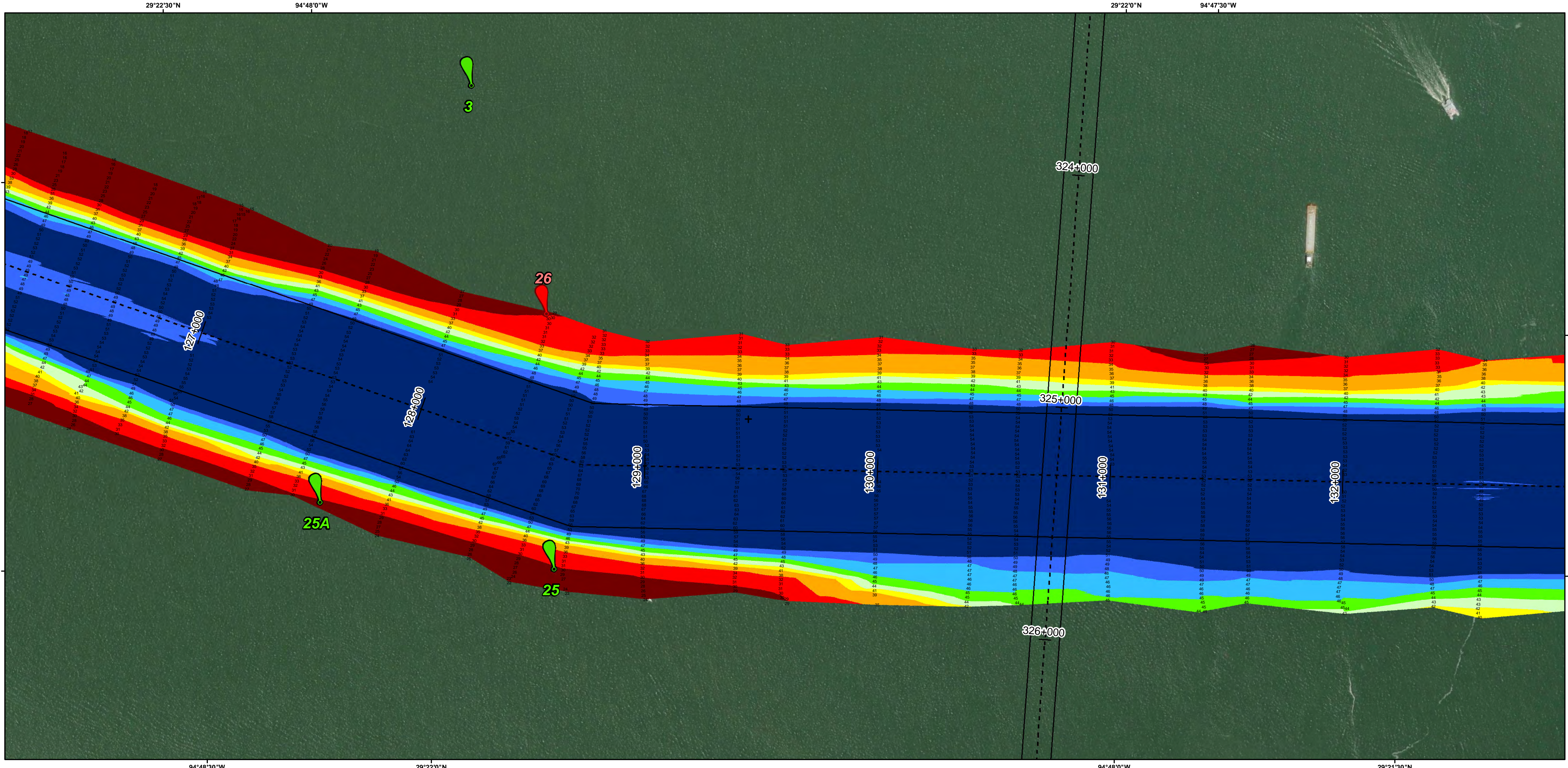
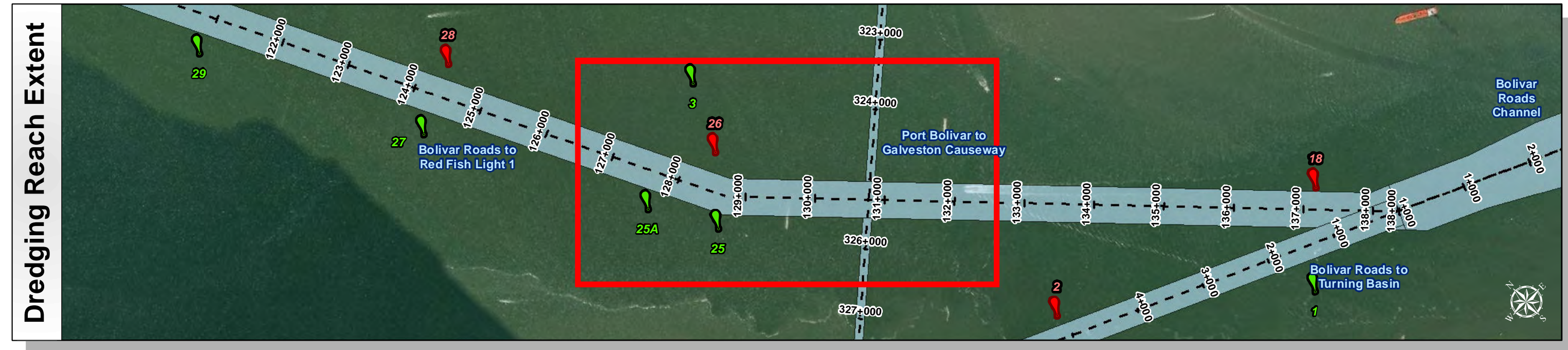
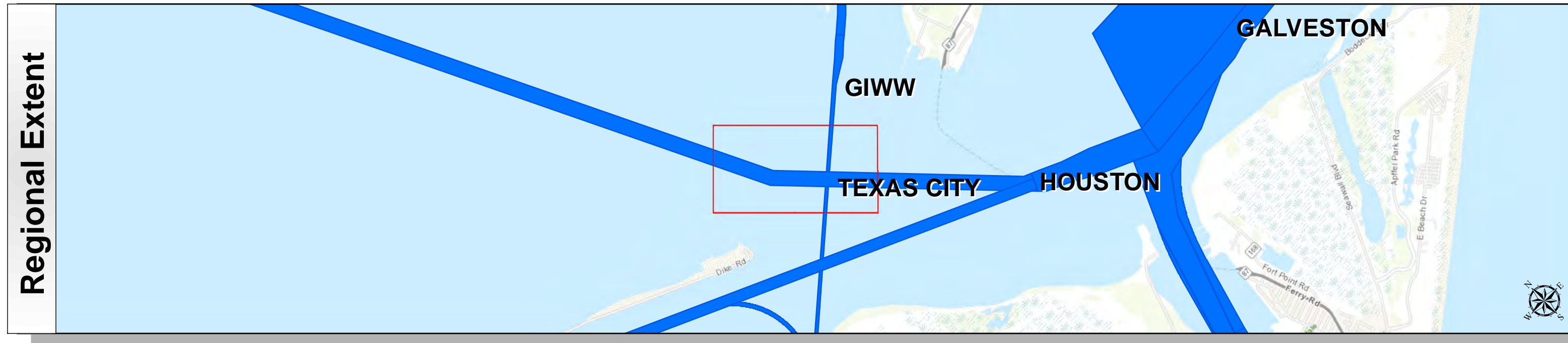
HYDROGRAPHIC SURVEY
U.S. ARMY ENGINEER DISTRICT
CORPS OF ENGINEERS
GALVESTON, TEXAS

Station: 138+476 to 78+844
HOUSTON
HOUSTON, TEXAS

Houston Ship Channel: Bolivar Roads to Red Fish Light 1



U.S. Army Corps of Engineers
Galveston District



Channel Features	Aids to Navigation	MLLW
— Channel Toe	Green Side Aids	0 - 30, 30 - 35, 35 - 40, 40 - 42, 42 - 44, 44 - 46, 46 - 48, 48 - 50, < 50
- - - Channel Center Line	Red Side Aids	NOAA Bathymetry (DREDGING REACH EXTENT)
— Channel Station Lines	Lights	0 - 10, 10 - 15, 15 - 20, 20 - 25, 25 - 30, 30 - 50
↔ Channel Dimensions		

NOTES:
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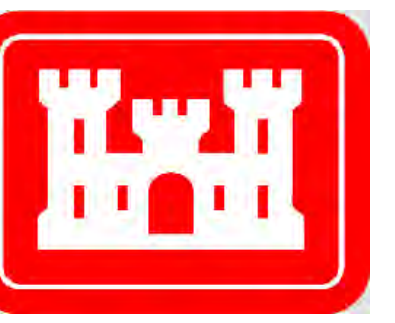
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Dredging Reach Extent	
Hydrographic Survey Extent	

Survey Date(s): 06 July 2019	Authorized Depth: -46ft.
Page: 2 of 61	Side Slope Ratio: (Rise : Run)
Scale: 1:2,500	Additional Imagery: © DigitalGlobe Inc.
Mapped by: MSAOX PAC	Print Date: 12/13/2019
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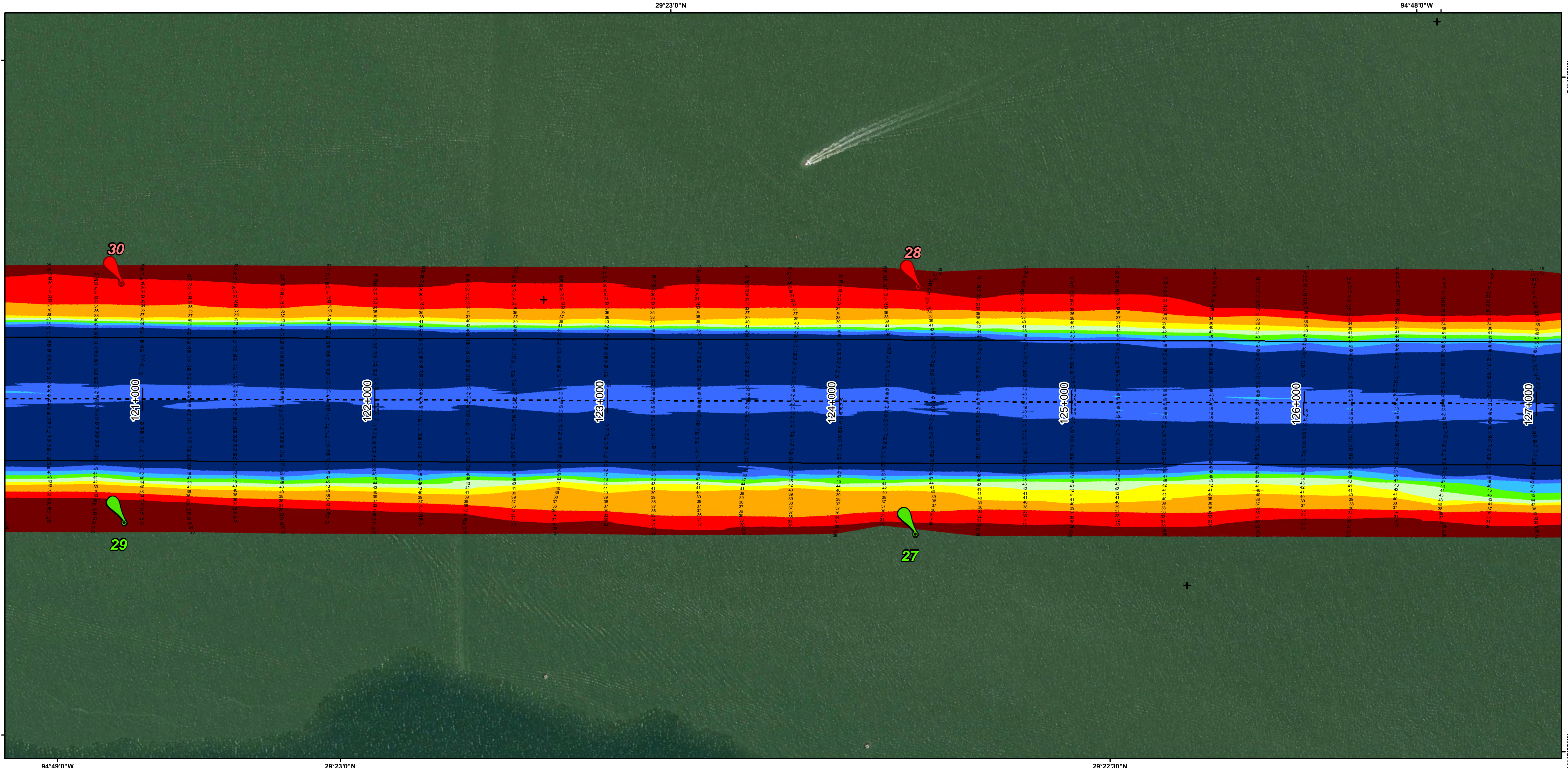
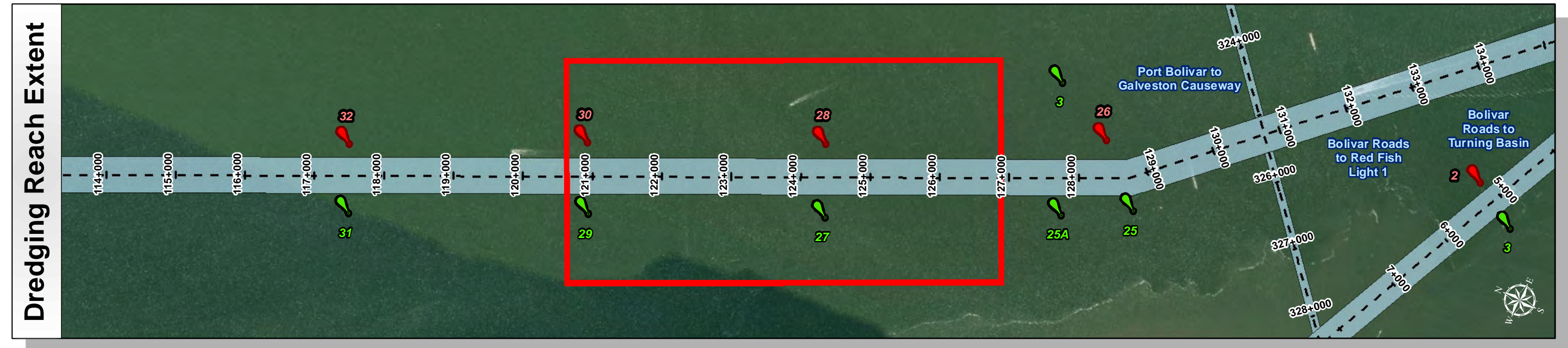
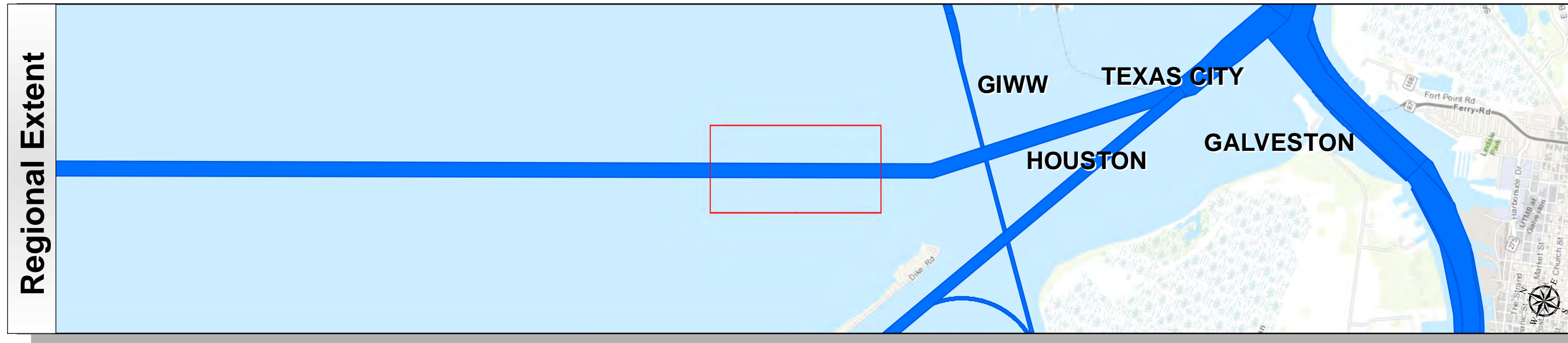
HYDROGRAPHIC SURVEY
 U.S. ARMY ENGINEER DISTRICT
 CORPS OF ENGINEERS
 GALVESTON, TEXAS

Station: 138+476 to 78+844
HOUSTON
 HOUSTON, TEXAS

Houston Ship Channel: Bolivar Roads to Red Fish Light 1



U.S. Army Corps of Engineers
Galveston District



Channel Features	Aids to Navigation	MLLW
— Channel Toe	Green Side Aids	0 - 30
- - - Channel Center Line	Red Side Aids	30 - 35
— Channel Station Lines	Lights	35 - 40
↔ Channel Dimensions		40 - 42
		42 - 44
		44 - 46
		46 - 48
		48 - 50
		< 50
		NOAA Bathymetry (DREDGING REACH EXTENT)
		0 - 10
		10 - 15
		15 - 20
		20 - 25
		25 - 30
		30 - 50

NOTES:

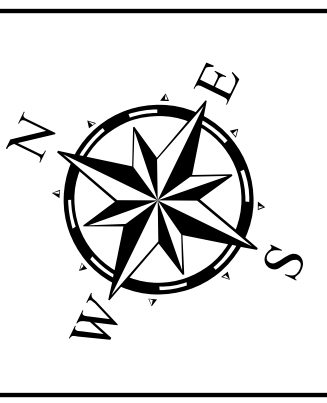
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Coordinate System: NAD 1983 StatePlane Texas South Central FIPS 4204 Feet
Projection: Lambert Conformal Conic /Datum: North American 1983

Dredging Reach Extent
0 0.25 0.5 1 Miles

Hydrographic Survey Extent
0 215 430 860 Feet

Survey Date(s): 06 July 2019	Authorized Depth: -46ft.
Page: 3 of 61	Side Slope Ratio: (Rise : Run)
Scale: 1:2,500	Additional Imagery: © DigitalGlobe Inc.
Mapped by: MSAOX PAC	Print Date: 12/13/2019
Additional Info:	

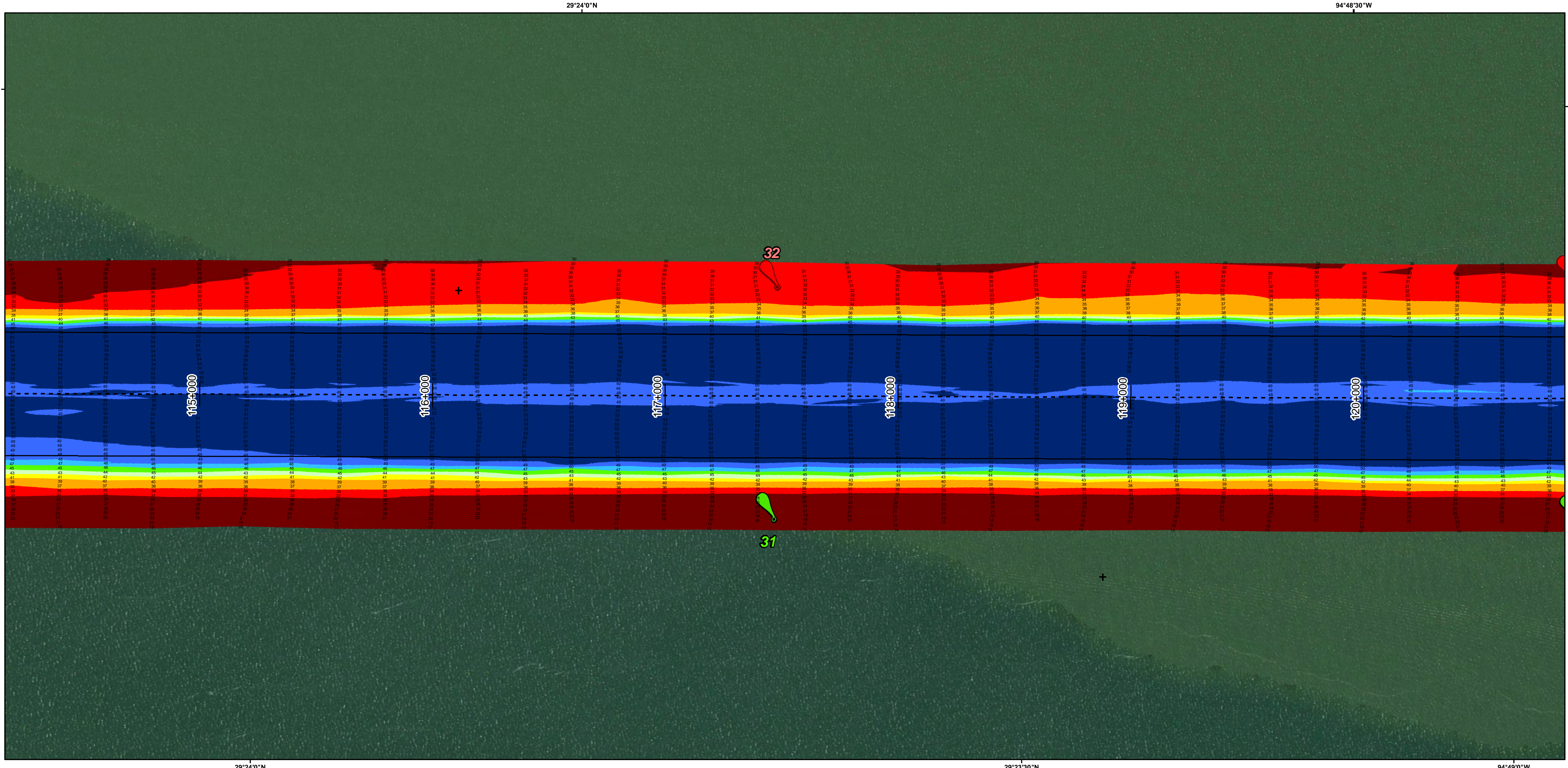
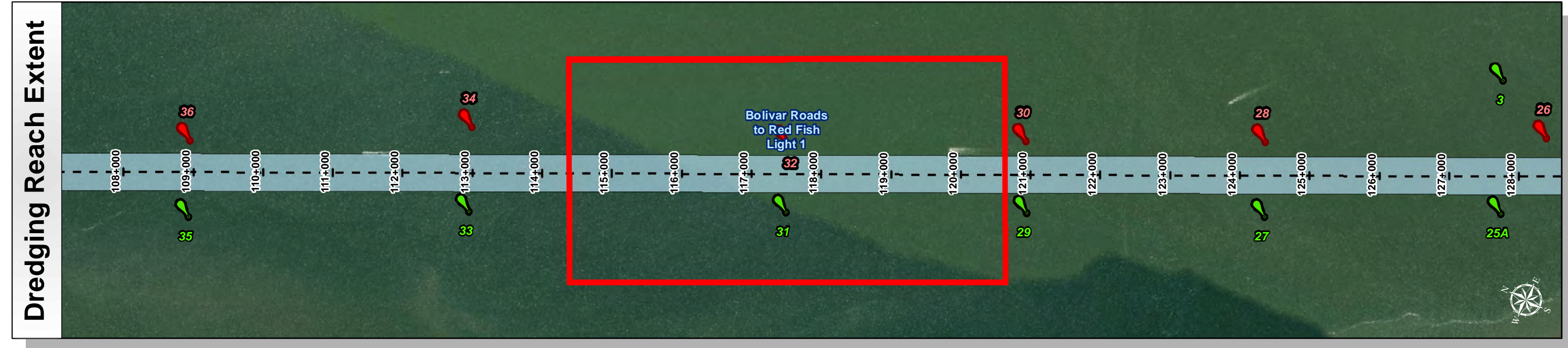
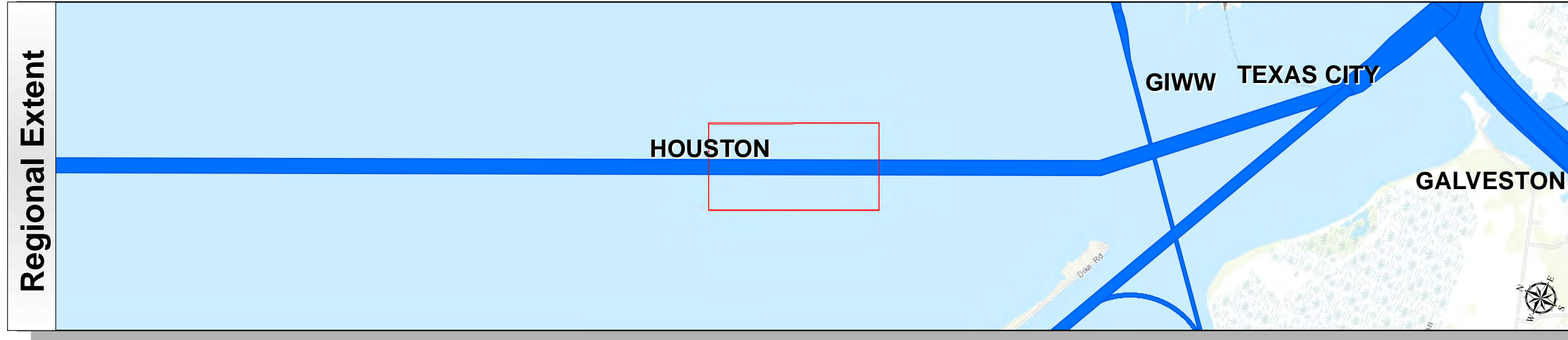
HYDROGRAPHIC SURVEY
U.S. ARMY ENGINEER DISTRICT
CORPS OF ENGINEERS
GALVESTON, TEXAS

Station: 138+476 to 78+844
HOUSTON
HOUSTON, TEXAS

Houston Ship Channel: Bolivar Roads to Red Fish Light 1



U.S. Army Corps of Engineers
Galveston District



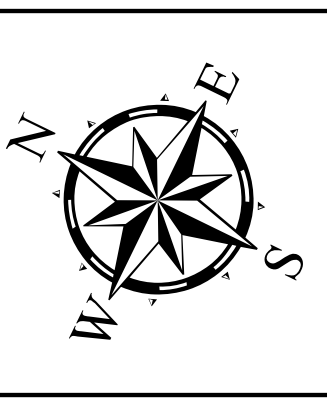
Channel Features	Aids to Navigation	MLLW
<ul style="list-style-type: none"> Channel Toe Channel Center Line Channel Station Lines Channel Dimensions 	<ul style="list-style-type: none"> Green Side Aids Red Side Aids Lights 	<p>0 - 30 30 - 35 35 - 40 40 - 42 42 - 44 44 - 46 46 - 48 48 - 50 < 50</p> <p>NOAA Bathymetry (DREDGING REACH EXTENT)</p> <p>0 - 10 10 - 15 15 - 20 20 - 25 25 - 30 30 - 50</p>

NOTES:

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Coordinate System: NAD 1983 StatePlane Texas South Central FIPS 4204 Feet
Projection: Lambert Conformal Conic; Datum: North American 1983

Dredging Reach Extent
0 0.25 0.5 1 Miles

Hydrographic Survey Extent
0 215 430 860 Feet

Survey Date(s): 06 July 2019	Authorized Depth: -46ft.
Page: 4 of 61	Side Slope Ratio: (Rise : Run)
Scale: 1:2,500	Additional Imagery: © DigitalGlobe Inc.
Map:	Print Date: 12/13/2019
Mapped by: MSAOX PAC	
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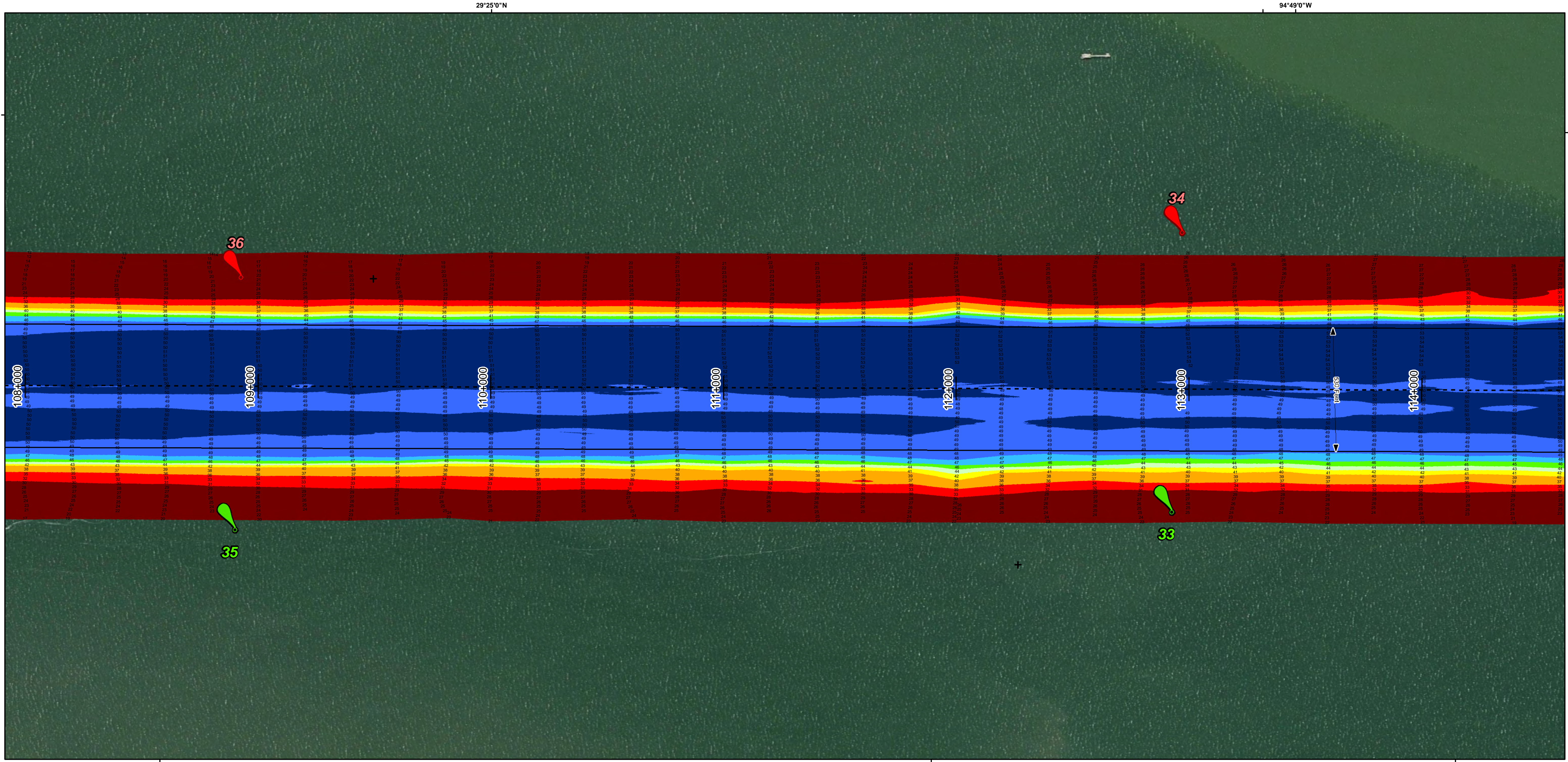
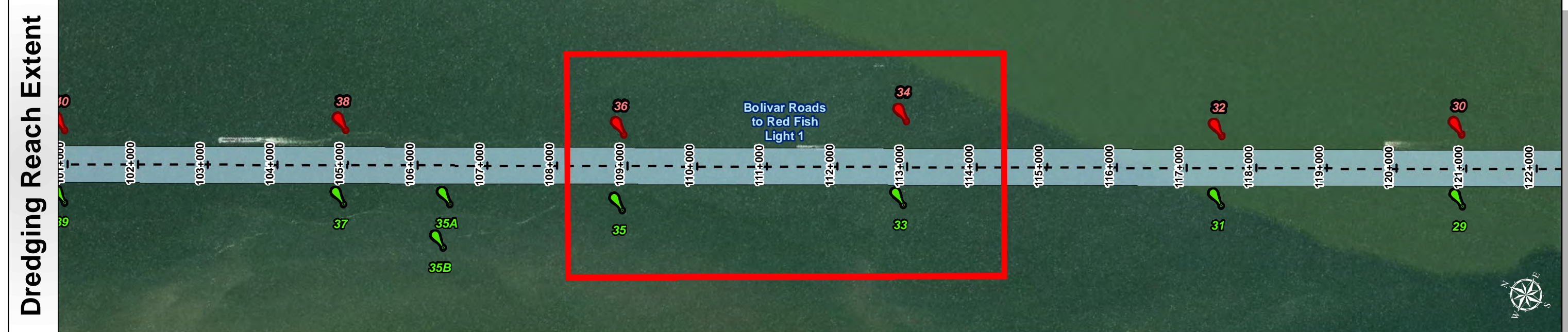
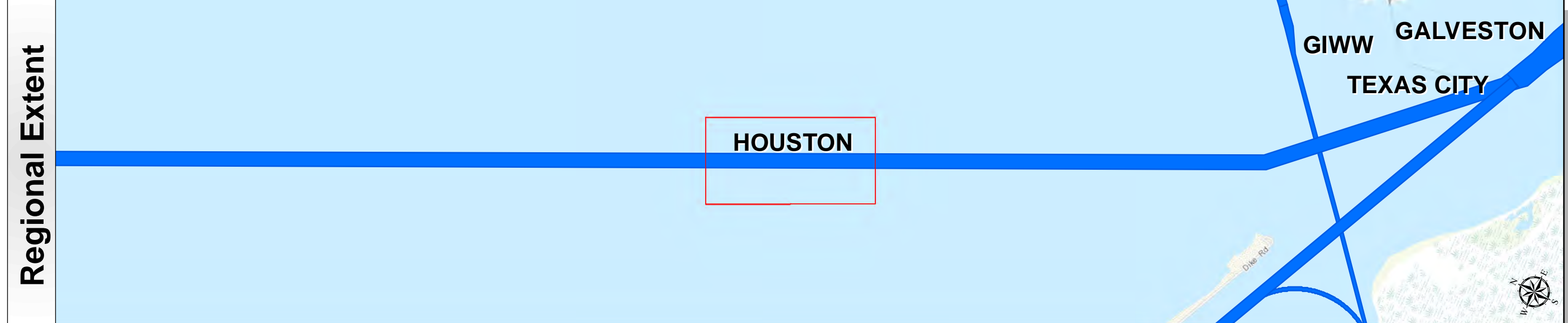
HYDROGRAPHIC SURVEY
U.S. ARMY ENGINEER DISTRICT
CORPS OF ENGINEERS
GALVESTON, TEXAS

Station: 138+476 to 78+844
HOUSTON
HOUSTON, TEXAS

Houston Ship Channel: Bolivar Roads to Red Fish Light 1



U.S. Army Corps of Engineers
Galveston District



Channel Features

- Channel Toe
- Channel Center Line
- Channel Station Lines
- Channel Dimensions

Aids to Navigation

- Green Side Aids
- Red Side Aids
- Lights

MLLW

0 - 30	30 - 35	35 - 40	40 - 42	42 - 44	44 - 46	46 - 48	48 - 50	< 50
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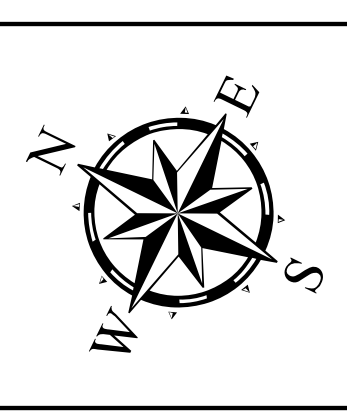
NOAA Bathymetry (DREDGING REACH EXTENT)

0 - 10	10 - 15	15 - 20	20 - 25	25 - 30	30 - 50
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Coordinate System: NAD 1983 StatePlane Texas South Central FIPS 4204 Feet
Projection: Lambert Conformal Conic /Datum: North American 1983

Dredging Reach Extent

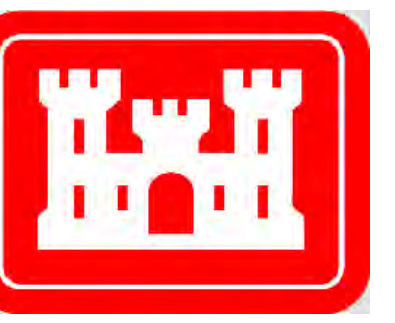
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Survey Date(s): 06 July 2019	Authorized Depth: -46ft.
Page: 5 of 61	Side Slope Ratio: (Rise : Run)
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Mapped by: MSAOX PAC	Print Date: 12/13/2019
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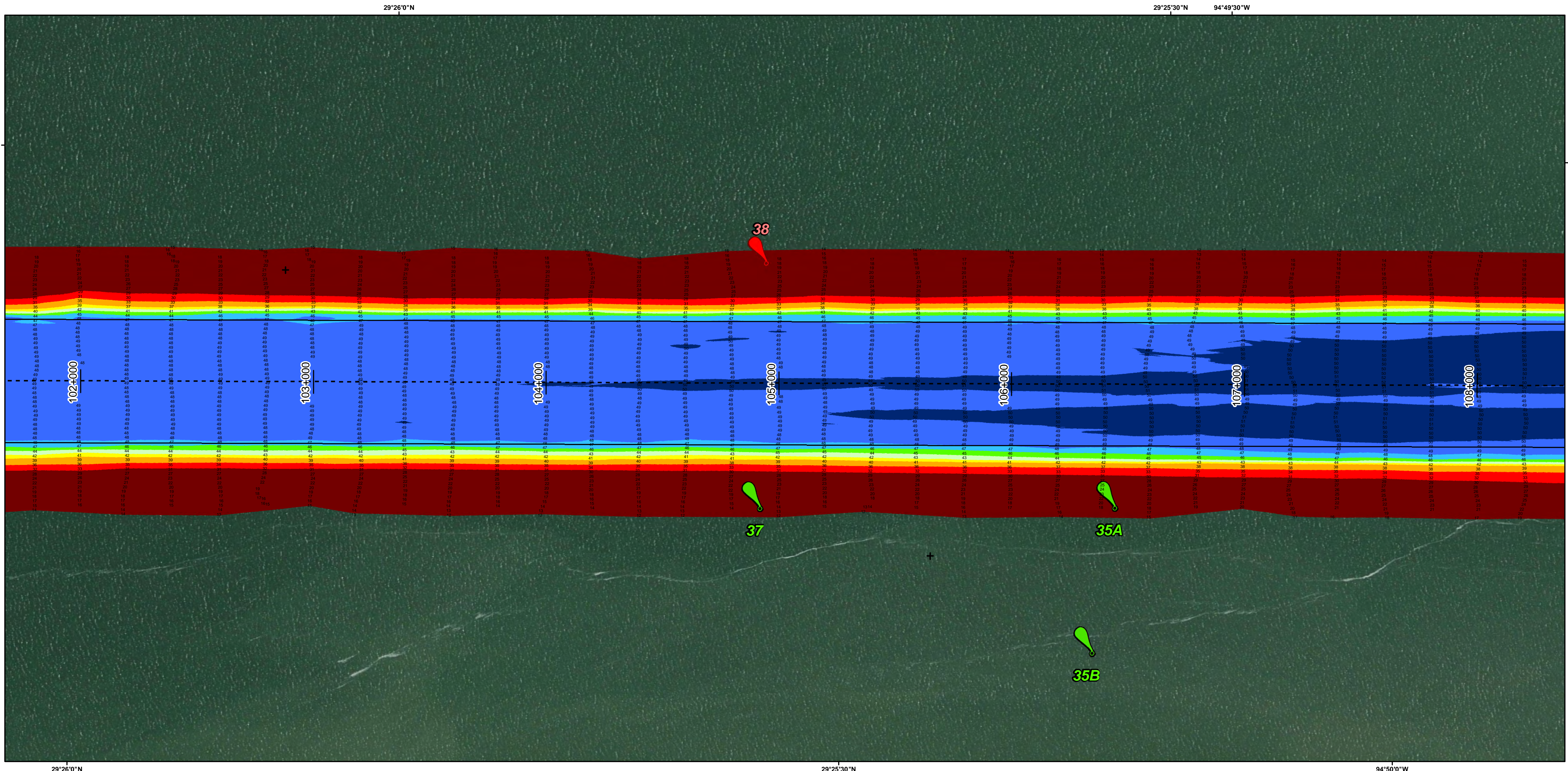
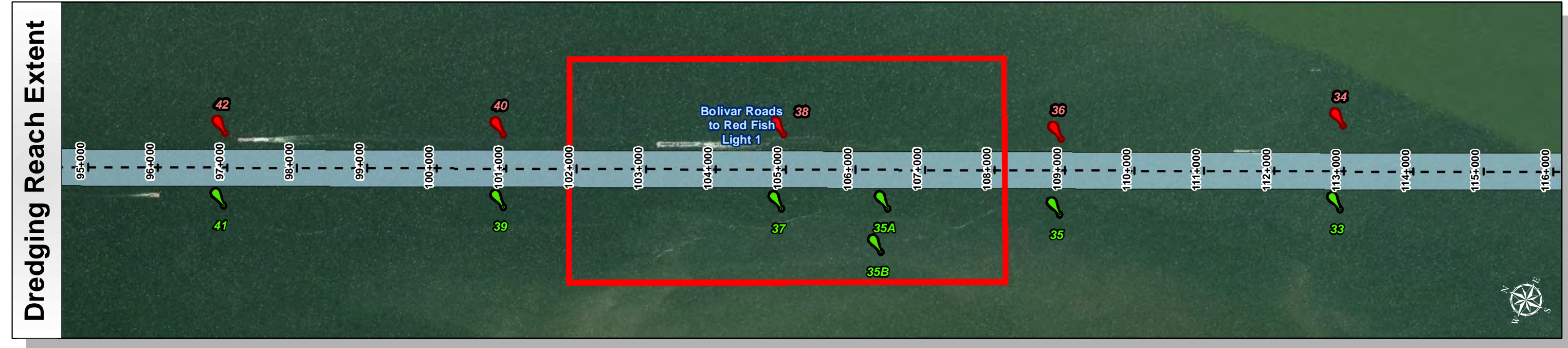
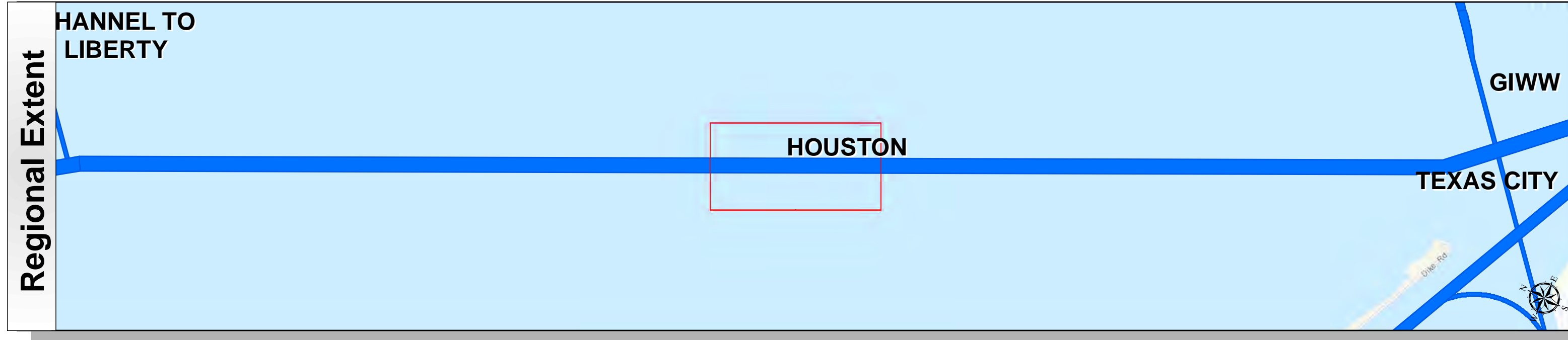
HYDROGRAPHIC SURVEY
U.S. ARMY ENGINEER DISTRICT
CORPS OF ENGINEERS
GALVESTON, TEXAS

Station: 138+476 to 78+844
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Houston Ship Channel: Bolivar Roads to Red Fish Light 1



U.S. Army Corps of Engineers
Galveston District



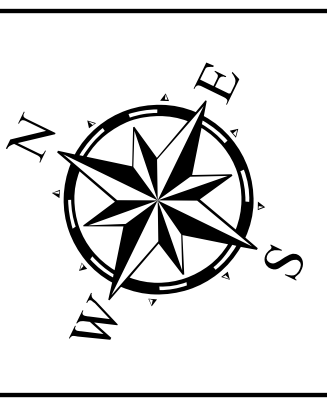
Channel Features	Aids to Navigation	MLLW
<ul style="list-style-type: none"> Channel Toe Channel Center Line Channel Station Lines Channel Dimensions 	<ul style="list-style-type: none"> Green Side Aids Red Side Aids Lights 	<p>NOAA Bathymetry (DREDGING REACH EXTENT)</p> <p>0 - 10 10 - 15 15 - 20 20 - 25 25 - 30 30 - 50</p>

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Coordinate System: NAD 1983 StatePlane Texas South Central FIPS 4204 Feet Projection: Lambert Conformal Conic /Datum: North American 1983
Dredging Reach Extent 0 0.25 0.5 1 Miles
Hydrographic Survey Extent 0 215 430 860 Feet

Survey Date(s): 06 July 2019	Authorized Depth: -46ft.
Page: 6 of 61	Side Slope Ratio: (Rise : Run)
Scale: 1:2,500	Additional Imagery: © DigitalGlobe Inc.
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Additional Info :	

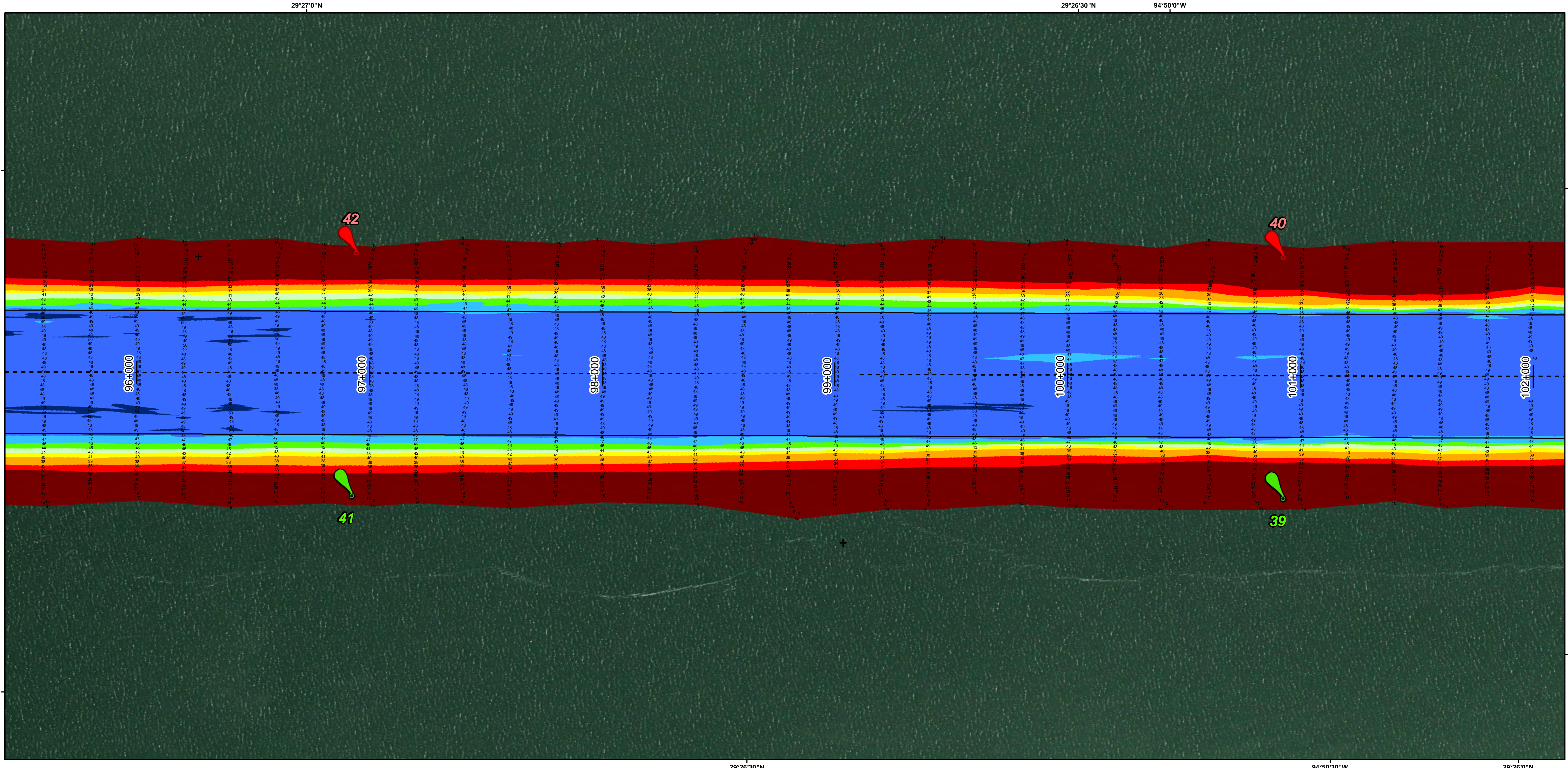
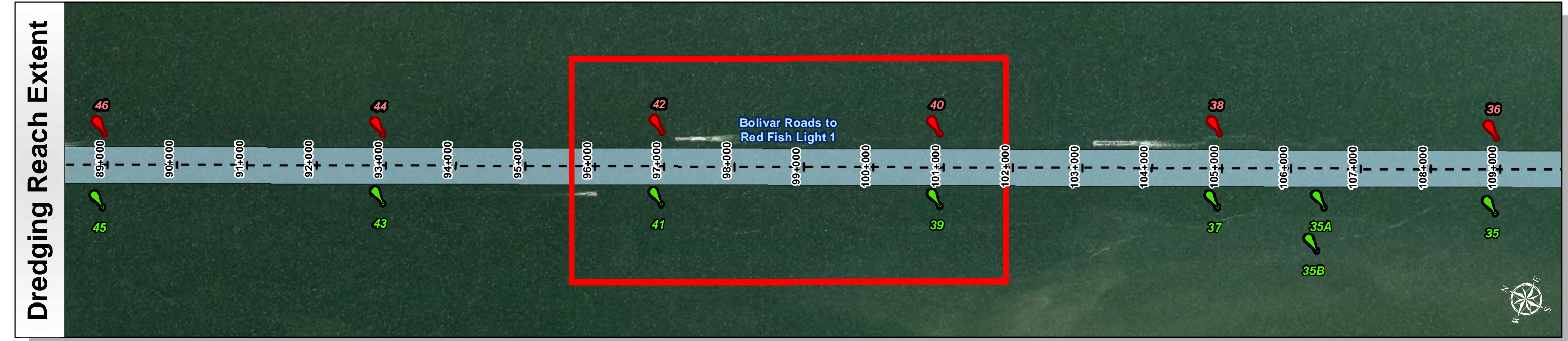
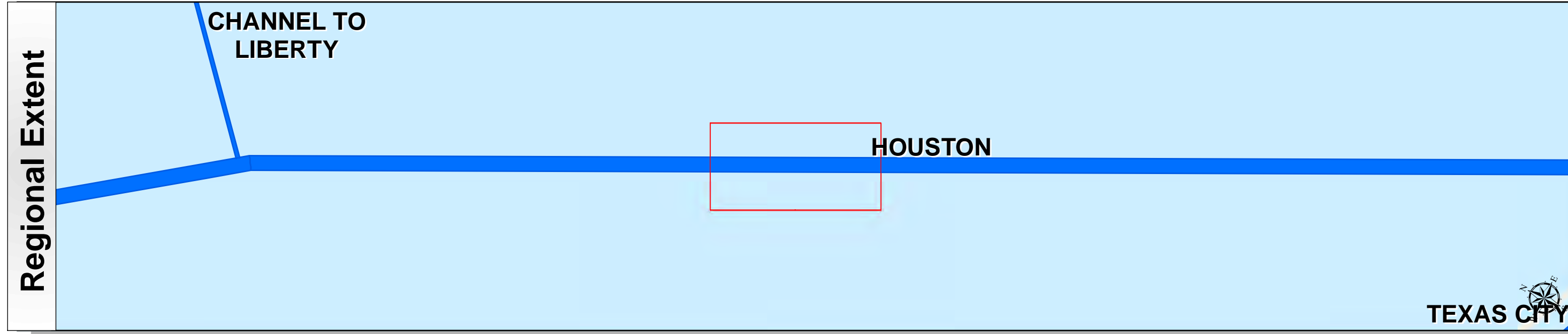
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U.S. ARMY ENGINEER DISTRICT
CORPS OF ENGINEERS
GALVESTON, TEXAS

Station: 138+476 to 78+844
HOUSTON
HOUSTON, TEXAS

Houston Ship Channel: Bolivar Roads to Red Fish Light 1



U.S. Army Corps of Engineers
Galveston District



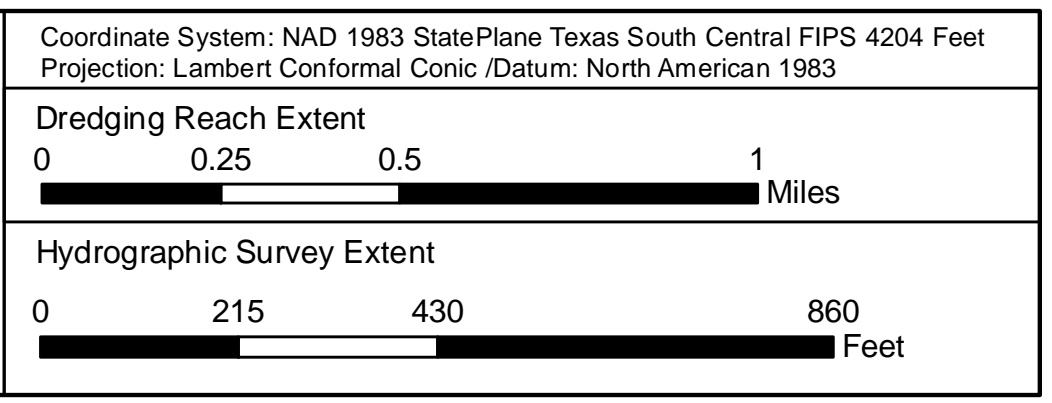
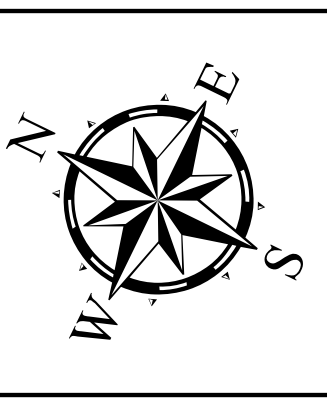
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Additional Info:	

Channel Features	Aids to Navigation	MLLW
<ul style="list-style-type: none"> Channel Toe Channel Center Line Channel Station Lines Channel Dimensions 	<ul style="list-style-type: none"> Green Side Aids Red Side Aids Lights 	<p>NOAA Bathymetry (DREDGING REACH EXTENT)</p>

NOTES:

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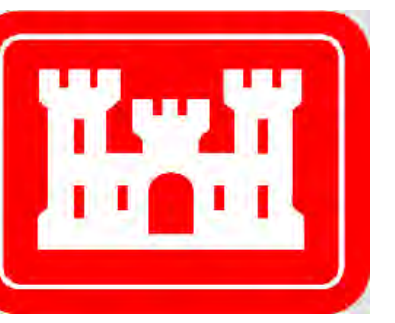
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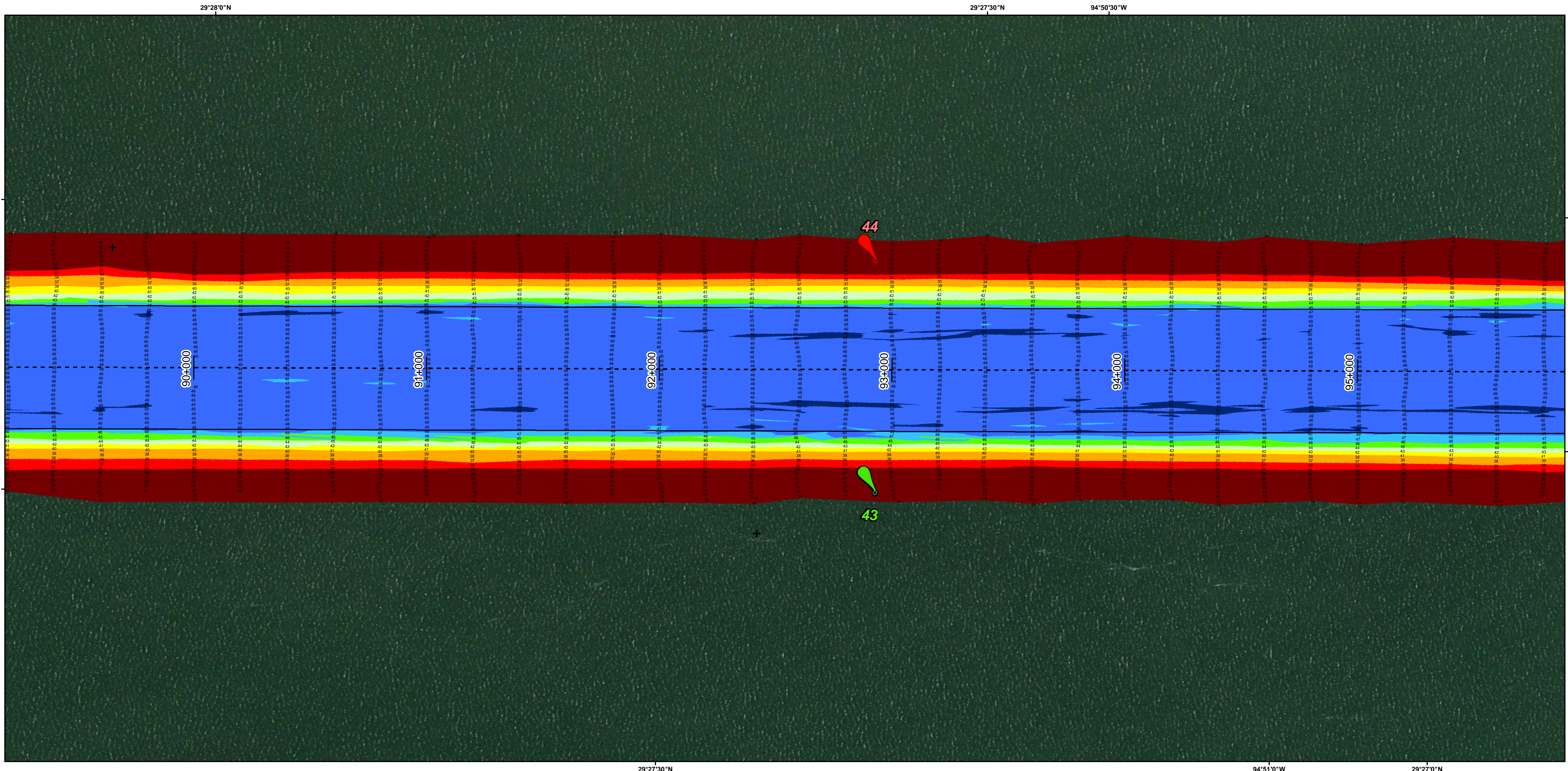
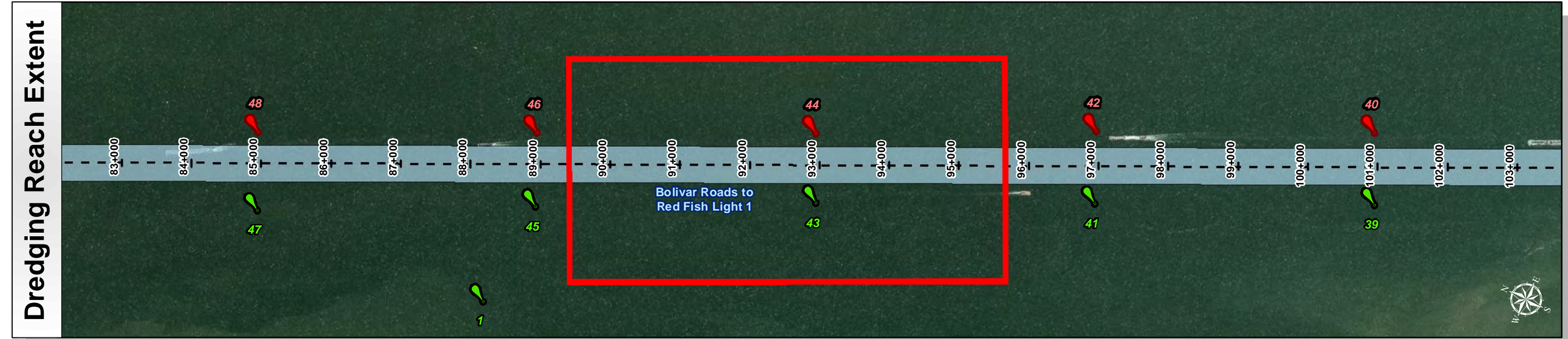
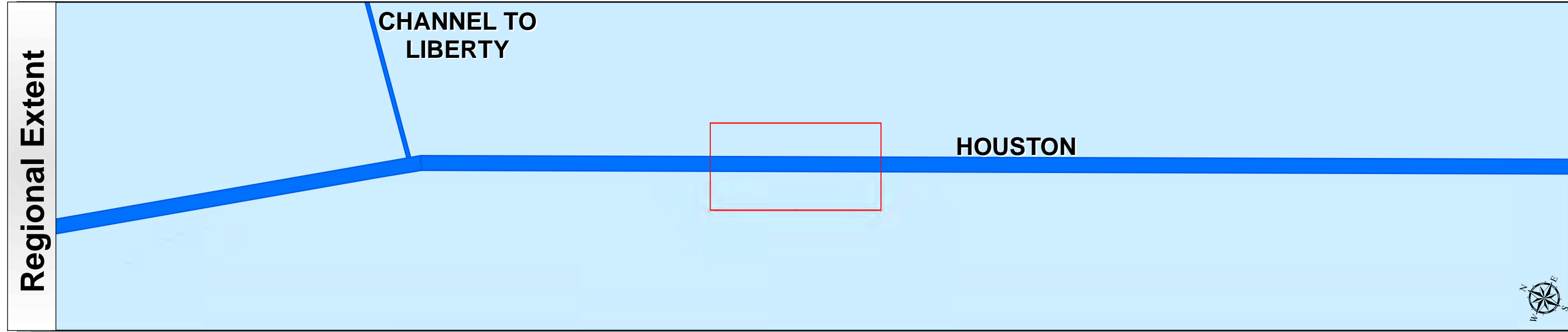
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U.S. ARMY ENGINEER DISTRICT
CORPS OF ENGINEERS
GALVESTON, TEXAS

Station: 138+476 to 78+844
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Houston Ship Channel: Bolivar Roads to Red Fish Light 1



U.S. Army Corps of Engineers
Galveston District

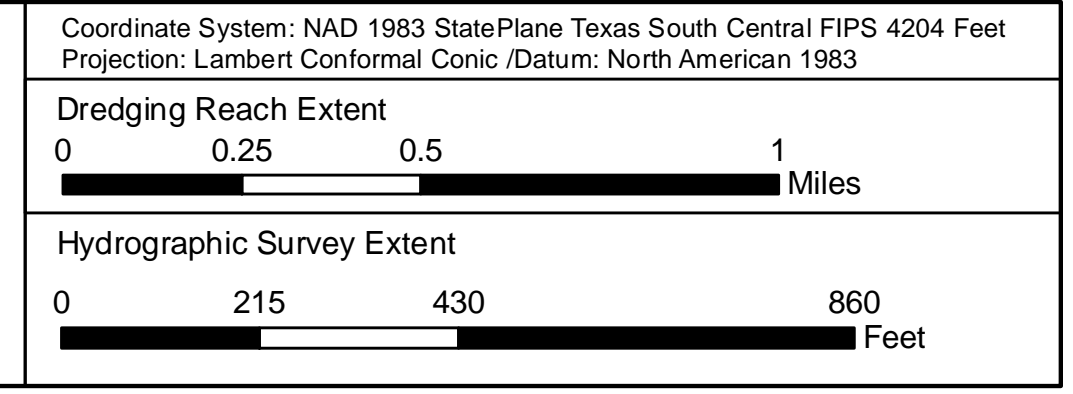
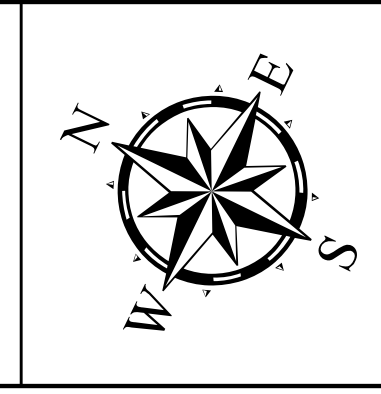


Channel Features	Aids to Navigation	MLLW
— Channel Toe	Green Side Aids	0 - 30
- - - Channel Center Line	Red Side Aids	30 - 35
— Channel Station Lines	Lights	35 - 40
↔ Channel Dimensions		40 - 42
		42 - 44
		44 - 46
		46 - 48
		48 - 50
		< 50
		NOAA Bathymetry (DREDGING REACH EXTENT)
		0 - 10
		10 - 15
		15 - 20
		20 - 25
		25 - 30
		30 - 50

NOTES:

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Page: 8 of 61	Side Slope Ratio: (Rise : Run)
Scale: 1:2,500	Additional Imagery: © DigitalGlobe Inc.
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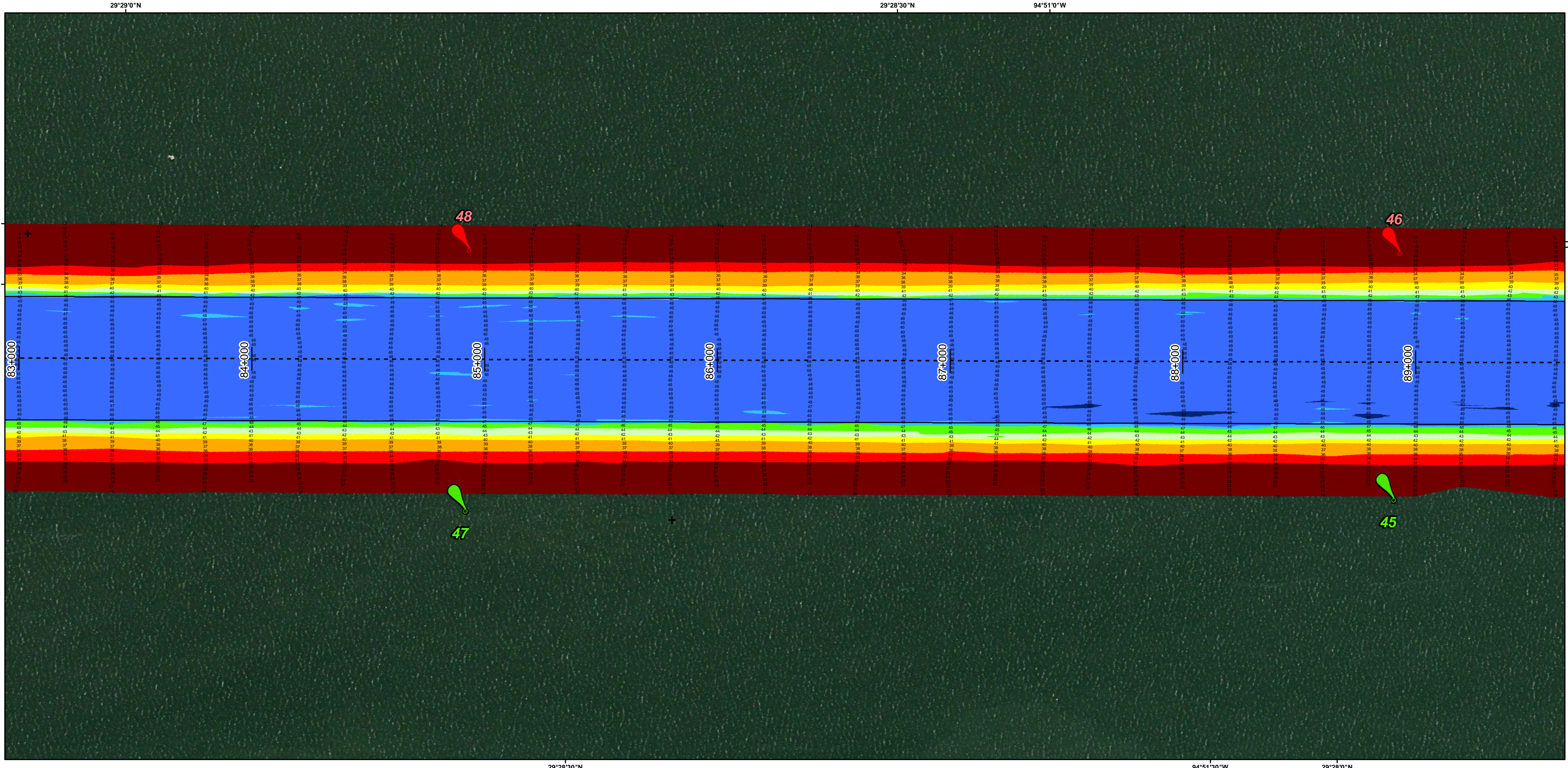
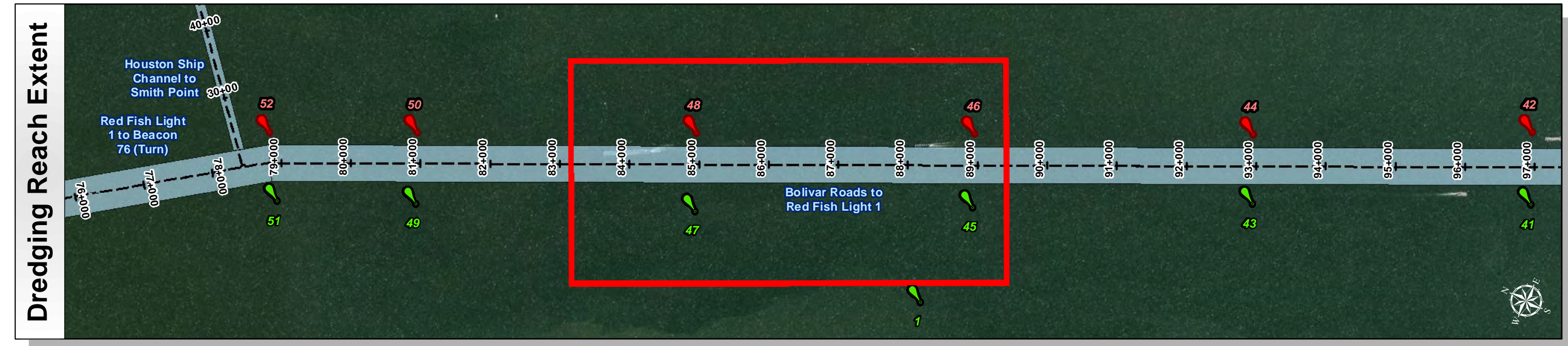
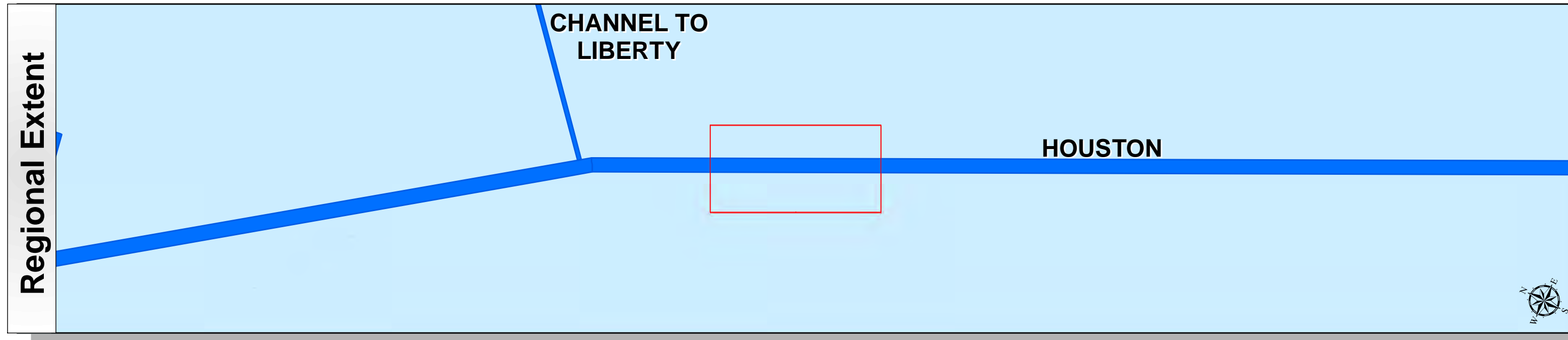
HYDROGRAPHIC SURVEY
U.S. ARMY ENGINEER DISTRICT
CORPS OF ENGINEERS
GALVESTON, TEXAS

Station: 138+476 to 78+844
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Houston Ship Channel: Bolivar Roads to Red Fish Light 1



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Survey Date(s): 06 July 2019	Authorized Depth: -46ft.
Page: 9 of 61	Side Slope Ratio: (Rise : Run)
Scale: 1:2,500	Additional Imagery: © DigitalGlobe Inc.
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Additional Info:	

Channel Features

- Channel Toe
- Channel Center Line
- Channel Station Lines
- Channel Dimensions

Aids to Navigation

- Green Side Aids
- Red Side Aids
- Lights

MLLW

0 - 30	30 - 35	35 - 40	40 - 42	42 - 44	44 - 46	46 - 48	48 - 50	< 50
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NOAA Bathymetry (DREDGING REACH EXTENT)

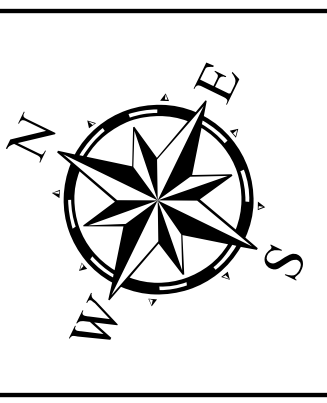
0 - 10	10 - 15	15 - 20	20 - 25	25 - 30	30 - 50
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Coordinate System: NAD 1983 StatePlane Texas South Central FIPS 4204 Feet
Projection: Lambert Conformal Conic, Datum: North American 1983

Dredging Reach Extent

Hydrographic Survey Extent

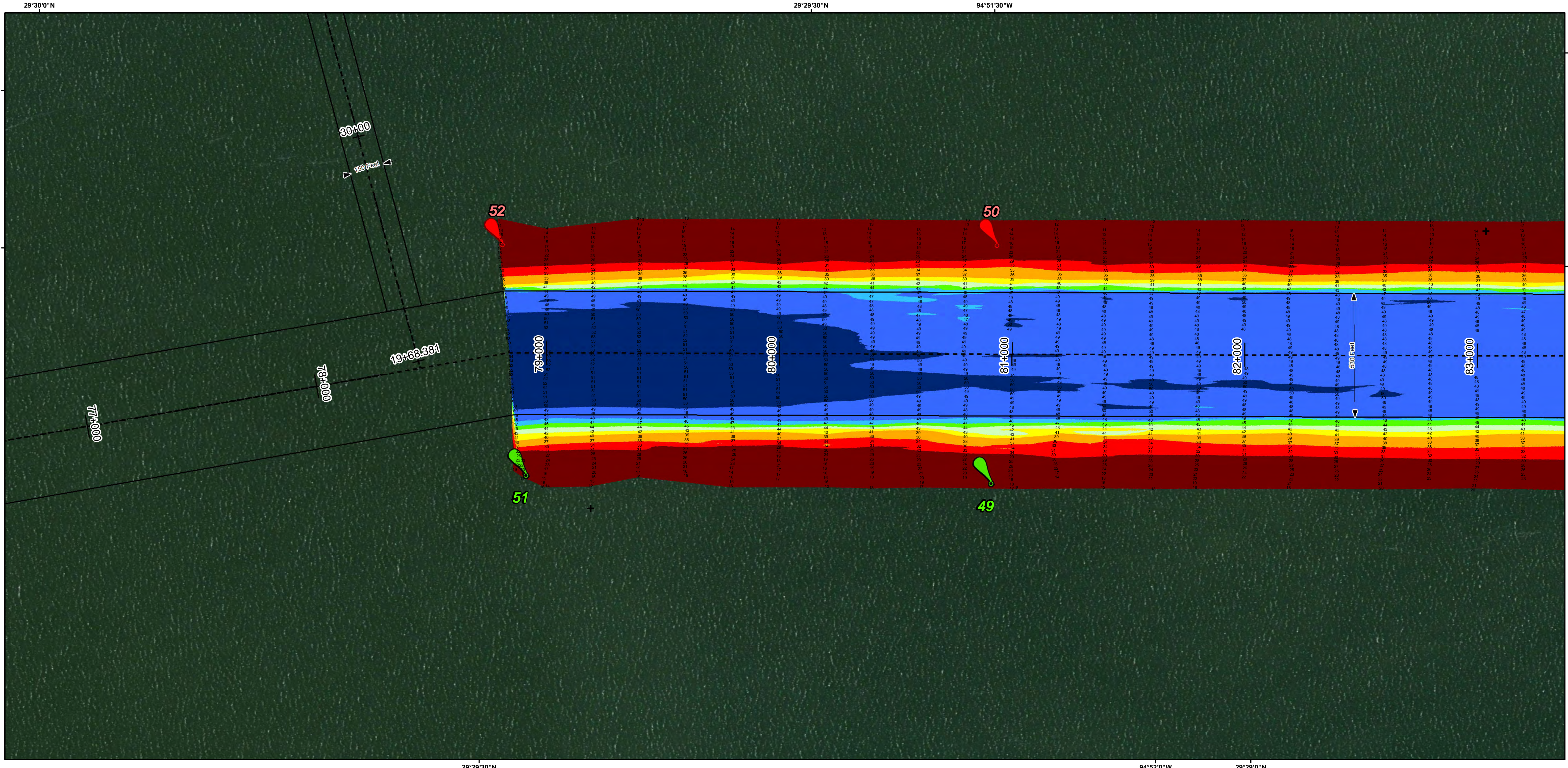
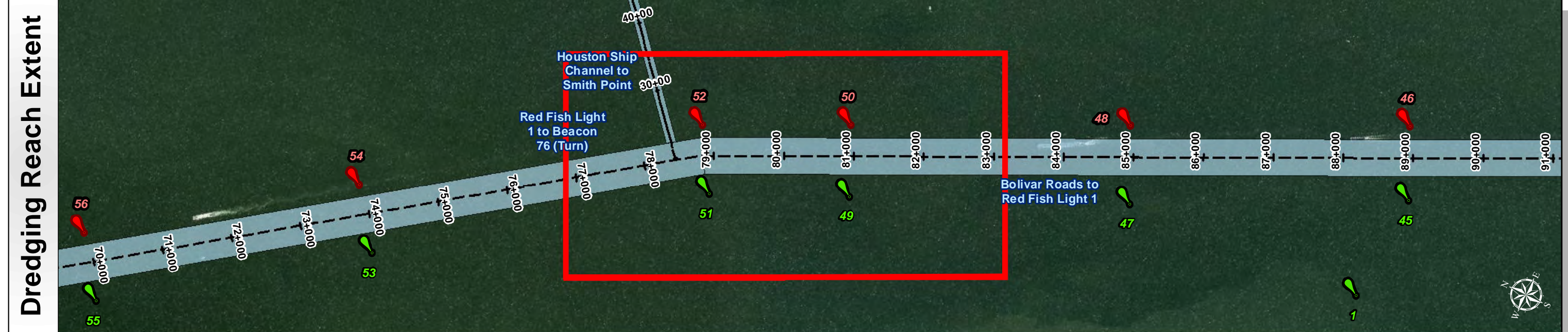
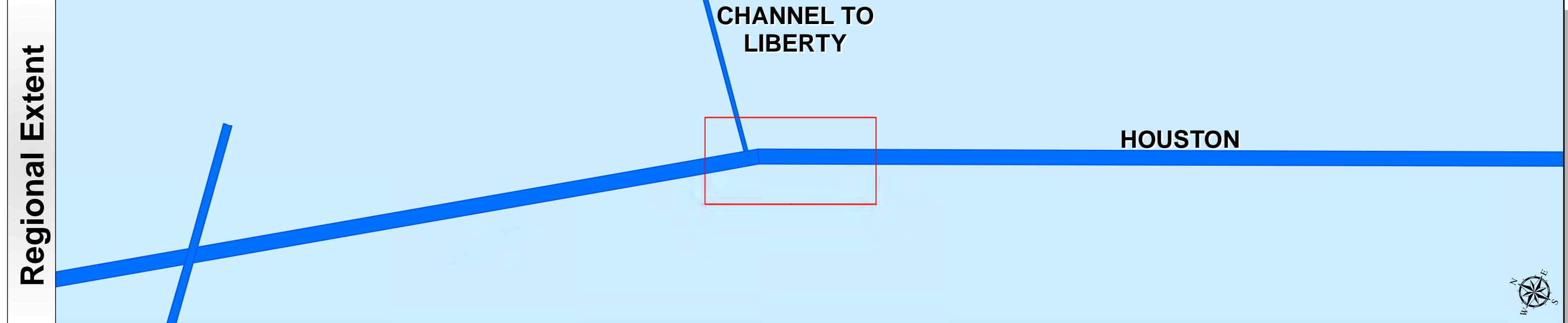
HYDROGRAPHIC SURVEY
U.S. ARMY ENGINEER DISTRICT
CORPS OF ENGINEERS
GALVESTON, TEXAS

Station: 138+476 to 78+844
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HOUSTON, TEXAS

Houston Ship Channel: Bolivar Roads to Red Fish Light 1



U.S. Army Corps of Engineers
Galveston District



Channel Features	Aids to Navigation	MLLW
<ul style="list-style-type: none"> Channel Toe Channel Center Line Channel Station Lines Channel Dimensions 	<ul style="list-style-type: none"> Green Side Aids Red Side Aids Lights 	<p>NOAA Bathymetry (DREDGING REACH EXTENT)</p>

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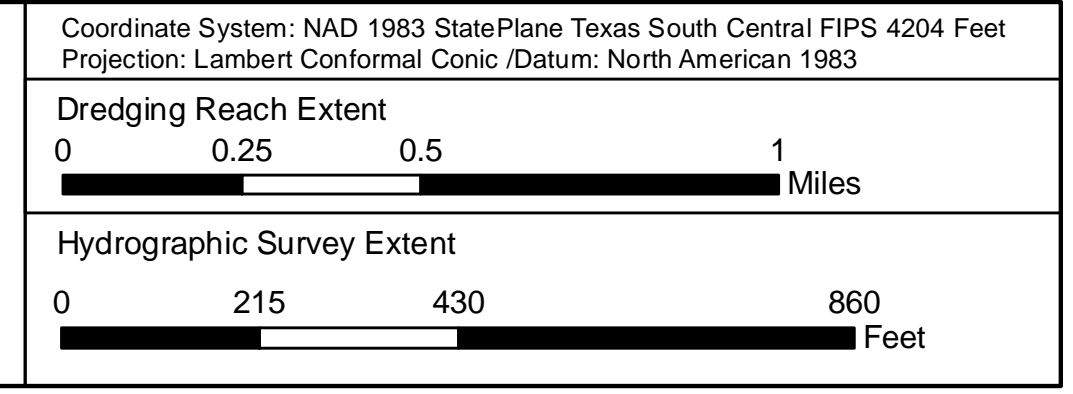
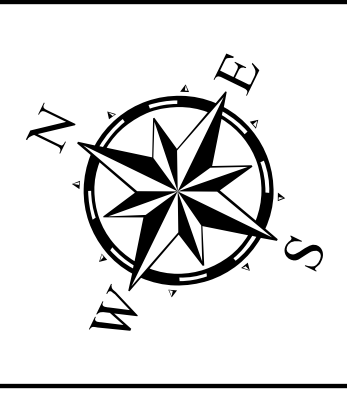
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