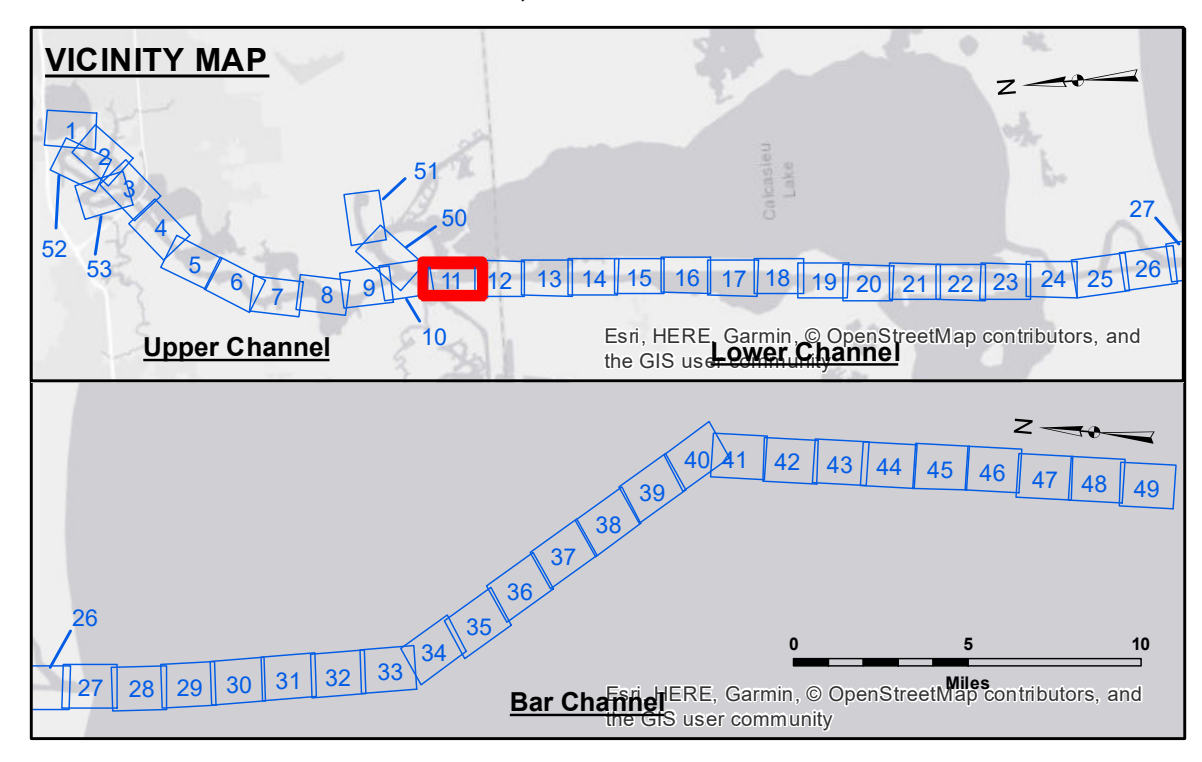


DISCLAIMER
 The information depicted on this map represents the results of a survey conducted by the U.S. Army Corps of Engineers. It is not intended to be used for any purpose other than that for which it was prepared. The user is responsible for the results of any use of this information. The U.S. Army Corps of Engineers does not warrant the accuracy, completeness, or reliability of the information for any purpose other than that for which it was prepared. The user is responsible for the results of any use of this information. The U.S. Army Corps of Engineers does not warrant the accuracy, completeness, or reliability of the information for any purpose other than that for which it was prepared. The user is responsible for the results of any use of this information.

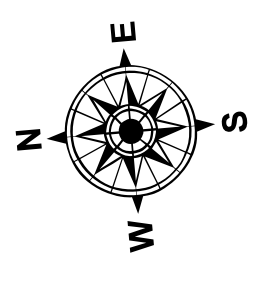
Submitted:	Surveyed By: JHDS
Recommended: Chief, Survey Section	Plotted By: AO
Approved: Chief, Waterways Maintenance Section	Checked By: AO

**CALCASIEU SHIP CHANNEL
 LOWER SHEET 11
 CR_11_LWR_20190417_CS
 17 April 2019**

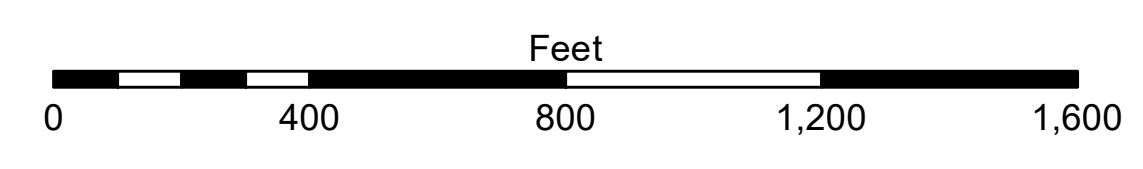


LEGEND

- Federal Navigation Channel
- Federal Navigation Center Line
- As-built Pipeline/Cable
- Unconfirmed Pipeline/Cable
- Project Depth Contour
- Cable Area
- Placement Area
- ⊗ Anchorage Area
- ⊗ Obstruction Point
- ⊗ Wrecks-Submerged
- 3 Fluff Thickness (feet)*
- Shoalest Sounding**
- ☆ Beacon, General
- ◆ Red Navigation Buoy
- ◆ Green Navigation Buoy
- 16' and above
- 16' to -21'
- 21' to -26'
- 26' to -33'
- 33' to -39'
- 39' to -41'
- 41' to -43'
- 43' and below



Gage Reading: DM86: 1.9 MLLW
 Sea Conditions: 1'
 Vessel Name: OB-189
 Survey Type: CS
 Sounding Frequency***: LOW



NOTES:
 Horizontal Coordinate System: North American Datum of 1983 (NAD83), projected to the State Plane Coordinate System (SPCS), Louisiana South Zone. Distance units in U.S. Survey Feet.
 Vertical Datum: Soundings are shown in feet and indicate depths below Mean Lower Low Water Datum (MLLW). Datum Relationships for gage 73595 as of December 2013: 0.0' NAVD83 (OPUS 2013) = 0.9' MLLW = 1.9' MLG or 0.0' MLLW = 1.0' MLG
 Distances on the Calcasieu River are shown at 1 mile intervals.
 The location of navigation aids are base on and provided by the U.S. Coast Guard and USACE survey crews.
 2015 Aerial Photography data source: NAIP
 Reference is N.O.A. Navigation Chart No. 11339.
 * Difference between high and low frequency elevations where greater than 1.0'.
 ** Shoalest Sounding per Quarter per Reach.
 *** High frequency (200 kHz) survey data represents the first signal return at a sounding location and will include suspended solids, known as "fluff", if present. Low frequency (20 kHz) survey data normally penetrates through this "fluff" layer to depict elevations of consolidated bottom material. Low frequency accuracies may vary depending on channel conditions and fathometer settings.

**Sheet Reference Number
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