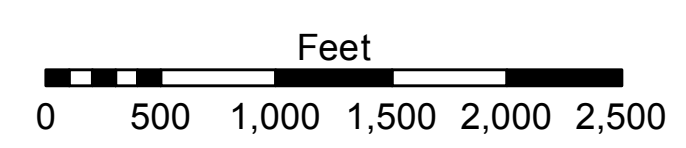
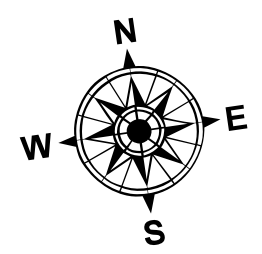
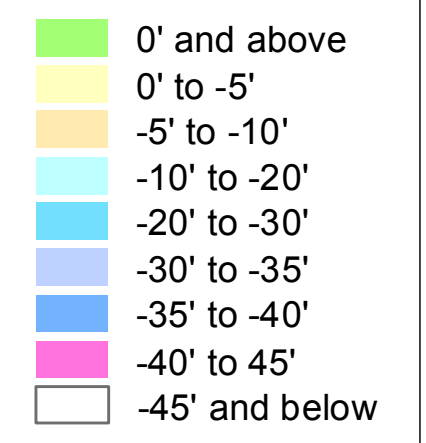


LEGEND	
--- Federal Navigation Channel	○ Cable Area
— Federal Navigation Center Line	□ Placement Area
— As-built Pipeline/Cable	□ Anchorage Area
..... Unconfirmed Pipeline/Cable	⊗ Obstruction Point
— Project Depth Contour	⚓ Wrecks-Submerged
□ Borrow Area	★ Beacon, General
● Shoalest Sounding**	◆ Red Navigation Buoy
◆ Green Navigation Buoy	



LWRP: 1.9  
 Gage Reading: BR:27.9 D:18.7 USED:23.70 NAVD  
 Sea Conditions: CALM  
 Vessel Name: OB-189  
 Survey Type: CS  
 Sounding Frequency\*\*\*: HIGH

**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 Low Water Reference Plane 2007 (NAVD).  
 Distances on the Mississippi River, above and below Head of Passes are shown at 1 mile intervals.  
 The location of navigation aids are base on and provided by the U.S. Coast Guard and USACE crew.  
 2015 Aerial Photography data source: NAIP, USDA-FSA-APFO Aerial Photography Field Office.  
 Reference is N.O.A. Navigation Chart No. 11370.  
 \*\* 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.



**DISTRIBUTION LIABILITY:** The data represents the results of data collection processing for a specific US Army Corps of Engineers project. It is only valid for its intended use, control, time and accuracy specifications. The user is responsible for the results. For more information, the application of the data for other than its intended purpose.  
 Data Constraints: Hydrographic survey data is subject to change rapidly due to several factors including but not limited to dredging, sedimentation, and channel migration. The user is responsible for the accuracy of the data. The information depicted on this map represents the results of a survey conducted on the date of the survey. The user is responsible for the accuracy of the data. The information depicted on this map represents the results of a survey conducted on the date of the survey. The user is responsible for the accuracy of the data.

Submitted:	RYLAND/RHODEN
Recommended:	BD
Approved:	AC

U.S. ARMY CORPS OF ENGINEERS  
 NEW ORLEANS DISTRICT

**MISSISSIPPI RIVER - B.R. TO GULF  
 GRANADA CROSSING  
 MD\_10\_GRA\_20210114\_CS  
 14 January 2021**

**Sheet Reference Number  
 10 of 97**