

# C. Vertical and Horizontal Control

A complete description of the horizontal and vertical control for survey H13193 can be found in the OPR-J347-KR-18 Horizontal and Vertical Control Report (HVCR), to be submitted with the final survey for this project. A summary of horizontal and vertical control for this survey follows.

## C.1 Vertical Control

The vertical datum for this project is LW Reference Plane 2007.

### ERS Datum Transformation

The following ellipsoid-to-chart vertical datum transformation was used:

<b>Method</b>	<b>Ellipsoid to Chart Datum Separation File</b>
ERS via VDATUM	NAD83- LWRP2007_RM13.4_MLLW2012-2016_Geoid12B.csar

*Table 12: ERS method and SEP file*

While ERS via VDATUM is listed in Table 12, it was one of the limited options available in the XML DR schema's enumerated values. The separation model covering the H13193 survey area was constructed by the HSD Operations Branch specifically for this survey project using NAVD88 (GEOID 2012B) to Mississippi

River Low Water Reference Plane of 2007 (LWRP 2007) values published by USACE. Refer to the HVCR submitted under separate cover for additional information.

## **C.2 Horizontal Control**

The horizontal datum for this project is North American Datum of 1983 (NAD 83).

The projection used for this project is Universal Transverse Mercator (UTM) Zone 15.

### RTK

During acquisition, RTK correctors were obtained from Louisiana State University's (LSU) Center for Geoinformatics (C4G) service via a dedicated cellular modem. These correctors provided RTK level of accuracy for horizontal and vertical positions for all survey data. If a loss of service was experienced during acquisition it was noted by the field watch stander, and those data were further analyzed to be resurveyed. No prolonged outages were experienced during survey acquisition of H13193. Verification of the C4G Network correctors were conducted by the field unit at various monuments established by USACE along the shoreline of the OPR-J347-KR-18 project area. Methods, analysis and results of these monument check-ins are further documented in the project wide HVCR.