

C. Vertical and Horizontal Control

In accordance with HSSD Section 2.2, the horizontal datum for this project is NAD83. HSSD Section 2.2 states that the “only exception for the NAD83 datum requirement is that the S-57 Final Feature File (Section 7.3) will be in the WGS84 datum to comply with international S-57 specifications”. As discussed in the DAPR Section C.7, for every feature flag in a GSF MBES file, SABER converts the position from the NAD83 datum to the WGS84 datum to generate the S-57 file and comply with HSSD and IHO requirements. Feature positions meet the precision stated in HSSD Section 7.4 for each respective datum. Depending on geographic reference there may be approximately a 1-meter difference comparing positions between NAD83 and WGS84 datums. Therefore, if the feature overrides from the BAG surface (NAD83) are compared to the Final Feature File S-57 positions (WGS84) it is anticipated that there could be positional differences exceeding those listed in Section 7.4 of the HSSD. Additional information discussing the vertical and horizontal control for this survey can be found in the DAPR.

C.1 Vertical Control

The vertical datum for this project is Mean Lower Low Water.

ERS Datum Transformation

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

| Method | Ellipsoid to Chart Datum Separation File |
|----------------|--|
| ERS via VDATUM | OPR-K380-KR-21_NAD83_VDatum_MLLW.cov |

Table 13: ERS method and SEP file

Refer to the DAPR for details regarding the application of VDatum to the MBES data files. No final tide note was provided nor was it required from NOAA Center for Operational Oceanographic Products and Services (CO-OPS).

C.2 Horizontal Control

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