

## 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_D304_TJ_19_VDatum_100m_WGS84- MLLW_geoid12b.csar

*Table 11: ERS method and SEP file*

All soundings submitted for H13326 are reduced to MLLW using VDatum techniques as outlined in the DAPR

## C.2 Horizontal Control

The horizontal datum for this project is World Geodetic System (WGS) 1984.

The projection used for this project is Universal Transverse Mercator (UTM) Zone 18.

### PPP

Trimble-RTX service was used with an Applanix POS MVv5 GNSS\_INS system to obtain highly accurate ellipsoidally referenced position data to meet ERS specifications for H13326 MBES data from vessels HSL 2903 and S222. The Fugro Marinestar G2 real-time precise point positioning service was used for MBES data of the DriX to meet ERS specifications for GNSS positioning.

### WAAS

The Wide Area Augmentation System (WAAS) was used for real-time horizontal control during data acquisition on vessels S222 and HSL 2903.