

B.5.2 Surfaces

The following surfaces and/or BAGs were submitted to the Processing Branch:

Surface Name	Surface Type	Resolution	Depth Range	Surface Parameter	Purpose
H13037_MB_4m_MLLW_Final	CUBE	4 meters	0 meters - 80 meters	NOAA_4m	Set Line Spacing MBES
H13037_MB_8m_MLLW_Final	CUBE	8 meters	72 meters - 160 meters	NOAA_8m	Set Line Spacing MBES

Table 10: Submitted Surfaces

The final depth information for this survey was submitted as CARIS BASE surfaces (CSAR format) which best represented the seafloor at the time of the 2017 survey. The surfaces were created from fully processed data with all final corrections applied.

Surfaces were created using NOAA CUBE parameters and resolutions by depth range in conformance with the 2017 HSSD. Surfaces were finalized, and designated soundings were applied where applicable. Horizontal projection was selected as UTM Zone 4 North, NAD83.

Non-finalized versions of the CSAR surfaces are also included. These do not have the _Final designation in the filename.

A CARIS HOB file was submitted (H13037_FFF.HOB) with the survey deliverables as well. The final feature file (FFF) contains meta-data and other data not readily represented by the final surfaces, including bottom samples and shoreline verification results, if applicable. Each object is encoded with mandatory S-57 attributes and NOAA Extended Attributes (V#5.6).

C. Vertical and Horizontal Control

Additional information discussing the vertical or horizontal control for this survey can be found in the accompanying HVCR.

C.1 Vertical Control

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

Traditional Methods Used:

Discrete Zoning

The following National Water Level Observation Network (NWLON) stations served as datum control for this survey:

Station Name	Station ID
Sand Point, AK	9459450
King Cove, AK	9459881

Table 11: NWLON Tide Stations

The following subordinate water level stations were established for this survey:

Station Name	Station ID
Zachary Bay	9459465

Table 12: Subordinate Tide Stations

File Name	Status
9459450.tid	Final Approved

Table 13: Water Level Files (.tid)

File Name	Status
OPRR300KR2017_20171031.zdf	Final

Table 14: Tide Correctors (.zdf or .tc)

The Zachary Bay (9459465) station was used for tidal zoning purposes only. Final corrections used the NWLON station Sand Point, AK (9459450).

C.2 Horizontal Control

The horizontal datum for this project is NAD83 (2011).

The projection used for this project is UTM Zone 4N.

The following PPK methods were used for horizontal control:

Smart Base

Positioning and attitude data was post-processed for this project.

The Continually Operating Reference Station (CORS) site AB07 (Sand Point) was used as the primary base station for GPS post-processing. The site was used in an Applanix SmartBase (ASB) algorithm configuration, yielding final positioning results well within requirements. Project base stations installed in Sand Point (0056 and 5240) were not used for final positioning, but were utilized for independent position quality checks on the AB07-derived results.

Real-time positions for both vessels were replaced during data processing with post-processed kinematic (PPK) solutions, with few exceptions (noted if applicable earlier in this report).

Quality control confidence checks were performed at least weekly on the survey vessels as well as the project base stations. RMS error estimates for positioning results were very good, with RMS error generally estimated at 0.10 m (or better). Confidence check results are available in Separate I.

Refer to the project DAPR for additional details on quality control checks, results, and PPK processing methodology.

Final positions are NAD83 (2011).

The following CORS Stations were used for horizontal control:

HVCR Site ID	Base Station ID
AB07	Sand Point CORS

Table 15: CORS Base Stations