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.

Standard Vertical Control Methods Used:

Discrete Zoning

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

Station Name	Station ID
Seaview Ferry Dock	8514779
Fire Island Coast Guard Station	8515186

Table 9: Subordinate Tide Stations

File Name	Status
8515186.tid	Final Approved

Table 10: Water Level Files (.tid)

File Name	Status
JOA-C331KR2013-GREAT SOUTH BAY - 20140506.zdf	Final

Table 11: Tide Correctors (.zdf or .tc)

A request for final approved tides was sent to N/OPS1 on 02/14/2014. The final tide note was received on 04/16/2014.

Stations 8514779 and 8515186 were both installed and functioning during the same period of time, however during its deployment gauge 8514779 (Seaview Ferry Dock) shifted 1.3cm down. This vertical shift prohibited its use to correct soundings. It was used to aid in the creation of the zoning file, however was not used to directly affect any soundings in sheet H12600.

The shift itself has no effect on the phase delay of the tide wave, and small effect on the range of the tide. The three months of collected data at Seaview were analyzed using a series of JOA created Python scripts, based on CO-OPS "Computational Techniques for Tidal Datums Handbook - NOAA Special Publication NOS CO-OPS 2". The method of Monthly Means was used for October through December, 2013. The Monthly Means were then corrected to the 1983-2001 tidal epoch by comparing with the published values for the NWLON at Sandy Hook, NJ. The Seaview gauge was reinstalled and operated from 7/31/14 to 9/8/14 in order to provide vertical datum and fulfill other NOAA objectives.

The HWI and LWI were averaged at Sandy Hook, Fire Island and Seaview, and were converted from decimal hours to minutes. By differencing the stations, Fire Island to Seaview was shown to be 150 minutes apart, which when divided by 6 minutes resulted in 25 zones. The range at Seaview is 60% the range at Fire Island, or 0.25m less. Each zone was then reduced 98-99% of the range from the previous zone.

More information can be found in Appendix I.

C.2 Horizontal Control

The horizontal datum for this project is North American Datum of 1983 (NAD83).

The following DGPS Stations were used for horizontal control:

DGPS Stations
Moriches, Broadcast Site ID: 803

Table 12: USCG DGPS Stations