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DEPARTMENT OF COMMERCE

National Oceanic and Atmospheric Administration

Supersession of Vertical Datum for Surveying and Mapping Activities for the Island of Tutuila, American Samoa

AGENCY: The Office of the National Geodetic Survey (NGS), National Ocean Service (NOS), National Oceanic and Atmospheric Administration (NOAA), Department of Commerce (DOC)

ACTION: Notice of vertical datum supersession within American Samoa.

SUMMARY: This Notice announces a decision by the National Geodetic Survey (NGS) to supersede the American Samoa Vertical Datum of 2002 (ASVD 02) and revert back to Local Tidal (LT) as the official civilian vertical datum for surveying and mapping activities for the island of Tutuila, American Samoa. As a member of the Federal Geographic Data Committee, NOAA is responsible for defining, maintaining and providing access to the National Spatial Reference System. Within NOAA, the National Geodetic Survey has the responsibility to accomplish this task. Due to geophysical activity, the ASVD 02 vertical datum is destroyed. To provide for vertical control, it is necessary to revert to heights based on a LT datum. To the extent it is legally allowable and feasible, all surveys performed or financed by the Federal agencies using or producing vertical height information will undertake an orderly transition to LT tied to the tide gauge at Pago Pago. Exceptions are for those with specific military related applications, which will use their own datum.

DATES: Effective date of this supersession is upon publication of this notice.

ADDRESSES: National Geodetic Survey, 1315 East-West Highway, Silver Spring, MD, 20910.

FOR FURTHER INFORMATION CONTACT: Dr. Daniel Roman, Chief Geodesist, National Geodetic Survey, by e-mail at *dan.roman@noaa.gov*, phone at (240) 533-9673 or mail at NOAA/NOS/NGS 1315 East-West Highway, Silver Spring, MD, 20910.

SUPPLEMENTARY INFORMATION: The National Geodetic Survey (NGS), National Ocean Service (NOS), has determined that the bench marks providing geodetic control for ASVD 02 shifted as a result of movements from earthquakes. Additionally, the Primary Bench Mark (PBM) associated with ASVD 02 at the Pago Pago tide gauge (177 0000 S) was determined to be unstable and was later destroyed in 2015. Consequently, neither the leveled bench marks nor the datum point associated with ASVD 02 is suitable for geodetic control. The North American Pacific Vertical Datum of 2022 (NAPGD2022) will replace ASVD 02 in the next few years. Rather than develop an interim product between now and then, Local Tidal (LT) will be used until NAPGD2022 is implemented. This will necessitate, until 2022, the incorporation of the tide gauge at Pago Pago Harbor into surveys requiring vertical control.

The basis for all LT heights is Mean Sea Level (MSL). The current National Tidal Datum Epoch (NTDE) is for the period 1983-2001. The Pago Pago tide gauge record was also disturbed by the earthquakes, and a provisional station datum was established from observations from 2011-2016. The Pago Pago tide station, therefore, is not formally a part of the current NTDE, because it is not based on the specified 18.6 year tidal cycle. A Station Datum (SD) has been determined by the NOS Center for Operational Oceanographic Products and Services (CO-OPS), and published for the

National Water Levels Observation Network (NWLON) bench mark number 177 0000 W (4.345 meters above the SD and 2.955 meters above MSL for the 2011-2016 observation period), located in Pago Pago. This bench mark should be occupied to complete geodetic surveys on the island of Tutuila in American Samoa. If occupation of the primary tidal bench mark is not practicable, other tidal bench marks for Pago Pago may be occupied for geodetic control, but they must be listed on the CO-OPS bench mark sheet at the time of the survey (*https://tidesandcurrents.noaa.gov/benchmarks.html?id=1770000*). Note that no other islands of American Samoa are part of ASVD 02, and they remain on their own respective LT datum.

Information for individual geodetic control monuments is available in digital form from the NGS web site: *https://geodesy.noaa.gov/datasheets/index.shtml*. Information on Pago Pago tidal bench marks is available at *https://tidesandcurrents.noaa.gov/benchmarks.html?id=1770000.*

(Authority: Coast and Geodetic Survey Act of 1947, 33 U.S.C. 883a *et seq.*)

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and Atmospheric Administration.

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