

## Overview

The following list breaks down the information included in the Positional Accuracy <posacc> section in the various metadata files (project-, deliverable-, and lift-level):

### Project-Level metadata:

- Raw NVA values derived from the raw point cloud
- NVA values derived from the DEM
- VVA values derived from the DEM

### DEM metadata:

- NVA values derived from the DEM
- VVA values derived from the DEM

### All other metadata files:

- No Positional Accuracy section

### Classified LAS and Lift-Level metadata:

- Raw NVA values derived from the raw point cloud

## Metadata Content

The following is the information that would be included in the Vertical Positional Accuracy Report <vertaccr> and Quantitative Vertical Accuracy <qvertpa> sections.

### Vertical Positional Accuracy Report <vertaccr>

#### Project-Level, Classified LAS, and Lift-Level files only:

The specifications require that only raw Nonvegetated Vertical Accuracy (NVA) be computed for raw lidar point cloud swath files. The raw NVA was tested with # independent survey points distributed throughout the project area and located in open terrain. These checkpoints were not used in the calibration or post-processing of the lidar point cloud data. Specifications for this project require that the raw NVA be 19.6 cm or better AccuracyZ at 95 percent confidence level.

#### Project-Level and DEM files only

The specifications require that Nonvegetated Vertical Accuracy (NVA) be computed for DEM files. The NVA was tested with # independent survey points distributed throughout the project area and located in open terrain. These checkpoints were not used in the calibration or post-processing of the lidar point cloud data. Specifications for this project require that the NVA be 19.6 cm or better AccuracyZ at 95 percent confidence level.

#### Project-Level and DEM files only

The specifications require that Vegetated Vertical Accuracy (VVA) be computed for DEM files. The VVA was tested with # independent survey points distributed throughout the project area and located in vegetated terrain. These checkpoints were not used in the calibration or post-processing of the lidar point cloud data. Specifications for this project require that the VVA be 29.4 cm or better at the 95th percentile.

## **Quantitative Vertical Accuracy <qvertpa>:**

### **Vertical Accuracy Value <vertaccv> and Vertical Accuracy Explanation <vertaccv>**

One Quantitative Vertical Accuracy Section for each type of value reported

#### **Raw NVA – Project-Level, Classified LAS, and Lift-Level files only**

**Value:** #<!--meters; raw NVA at the 95 percent Confidence Interval-->

**Explanation:** The raw NVA was tested using # independent survey points located in open terrain. The surveyed checkpoints were distributed throughout the project area and surveyed using GNSS procedures and methodologies that provide reliable and consistent results to meet the project's accuracy requirements. Please see the "Survey Accuracy Requirements" and "Field Methodology" sections in the Survey Report for more information. Elevations from the unclassified lidar surface were measured for the x,y location of each check point. Elevations interpolated from the unclassified lidar surface were then compared to the elevation values of the surveyed control. The RMSEz was computed to be # meters and AccuracyZ to be # meters. This meets the required AccuracyZ value of 19.6 cm raw NVA at 95 percent confidence level using (RMSEz \* 1.9600) as defined by the National Standards for Spatial Data Accuracy (NSSDA); assessed and reported using National Digital Elevation Program (NDEP)/ASPRS Guidelines.

#### **NVA – Project-Level and DEM files only**

**Value:** #<!--meters; NVA at the 95 percent Confidence Interval-->

**Explanation:** The NVA was tested using # independent survey points located in open terrain. The surveyed checkpoints were distributed throughout the project area and surveyed using GNSS procedures and methodologies that provide reliable and consistent results to meet the project's accuracy requirements. Please see the "Survey Accuracy Requirements" and "Field Methodology" sections in the Survey Report for more information. Elevations from the DEM surface were measured for the x,y location of each check point. Elevations interpolated from the DEM surface were then compared to the elevation values of the surveyed control. The RMSEz was computed to be # meters and AccuracyZ to be # meters. This meets the required AccuracyZ value of 19.6 cm NVA at 95 percent confidence level using (RMSEz \* 1.9600) as defined by the National Standards for Spatial Data Accuracy (NSSDA); assessed and reported using National Digital Elevation Program (NDEP)/ASPRS Guidelines.

#### **VVA – Project-Level and DEM files only**

**Value:** #<!--meters; VVA at the 95<sup>th</sup> Percentile-->

**Explanation:** The VVA was tested using # independent survey points located in vegetated terrain. The surveyed checkpoints were distributed throughout the project area and surveyed using GNSS procedures and methodologies that provide reliable and consistent results to meet the project's accuracy requirements. Please see the "Survey Accuracy Requirements" and "Field Methodology" sections in the Survey Report for more information. Elevations from the DEM surface were measured for the x,y location of each check point. Elevations interpolated from the DEM surface were then compared to the elevation values of the surveyed control. The VVA was computed to be # meters. This meets the required value of 29.4 cm VVA at 95th percentile level using the 95th percentile of the absolute value of

all vertical errors in all combined vegetation classes as defined by the National Standards for Spatial Data Accuracy (NSSDA); assessed and reported using National Digital Elevation Program (NDEP)/ASPRS Guidelines.