DPH-12 Report on Use of the LAS Withheld Bit Flag

The USGS Lidar Base Specification 2022 rev. A states: "The withheld bit flag, as defined in LAS specification version 1.4–R15 (ASPRS, 2019), shall only be used to identify points that cannot be reasonably interpreted as valid surface returns. Examples include outliers, blunders, geometrically unreliable points, aerosol back-scatter, laser multi-path, airborne objects, and sensor anomalies. The withheld flag may be used in conjunction with other classification codes (low/high noise for example), but it should be used in all cases where the previously mentioned criteria are met. The usage of the LAS Withheld Bit Flag is of such importance that proof of performance is required. This proof shall be provided as

 - Preferred: Maximum Surface Height Rasters as detailed in the appendix.
 - Other test or metadata as agreed to by the USGS in advance and documented in the project Task Order."

The purpose of this section is to list the presence and quantities of points flagged as Withheld for all lidar data files.

Data Source - V:\Mapping\Projects\65221273_MN_UpperMSRiver\Production\Final_Client_Deliverables\230958\MN_UpperMSRiver_2_B22_300138\point_cloud\tilecls

Total Withheld points in class 7 (all files)	49529350
Total Withheld points in class 18 (all files)	216294489
Total Withheld points (all classes, all files)	265823839

DPH-12 Report on Use of the LAS Withheld Bit Flag - continued

The purpose of this section is to show the presence and extent of points flagged as Withheld for all lidar data files.

Data Source - V:\Mapping\Projects\65221273_MN_UpperMSRiver\Production\Final_Client_Deliverables\230958\MN_Uppe rMSRiver_2_B22_300138\point_cloud\tilecls

Result Path - Y:\Mapping\Projects\65221273_MN_UpperMSRiver\Admin\QA_QC\MN_UpperMSRiver_2_B22_300138_A\DPH_12\W ithheld.jpg