Negative Zero Reported in Certain Scenarios

Applies to the following products:

- BrDR, version 7.6 and onwards
- BrD, version 7.6 and onwards
- BrR, version 7.6 and onwards
- PSDT, version 7.6 and onwards
- SDT, version 7.6 and onwards
- ARC Tool, version 2.0 and onwards – included with BrDR/BrD/BrR version 7.6

Description

Prior to version 7.6, BrDR was developed using .NET Framework. In 2020, Microsoft superseded .NET Framework with a cross-platform framework called .NET. Microsoft stopped developing new features for .NET Framework and recommended that applications upgrade to .NET as soon as possible. As a result, BrDR was upgraded to .NET 8.0 in the version 7.6 release.

The upgrade to .NET 8.0 included a breaking change in the way that floating point values are reported. The new IEEE standard used in .NET 8.0, may report floating point values as -0.0 in certain scenarios. For example, if a negative number is multiplied by zero or if a small negative number is rounded to zero, this may result in a displayed value of -0.0 in BrDR version 7.6 and beyond. In prior versions of BrDR, the same result would have been displayed as 0.0.

Programmatically, negative zero values are treated the same as zero values. The difference is purely cosmetic in the user interface and reports.

Workaround

There is currently no workaround. This technical note is informational only.

Status

AASHTOWare BrDR, BrD, BrR, and supporting applications will be updated in future releases to display negative zero values as 0.0.