

RELEASE NOTES

for

BRASS-CULVERT™

Version 3.8

November 2021

General

The BRASS™ Incident Tracking System can be found at <https://www.wydot-brass.com>. Users without an account for the incident tracking system can request an account by clicking on the "Open a New Account" link/button and e-mailing the address or calling the phone number listed. A username and password will be created and sent to the user. All BRASS™ technical support questions should be logged in this system.

Program Maintenance

The following issues were addressed for this release. The incident number is listed in parentheses after each issue if applicable.

Maintenance

- Update the GUI: Output help topic to indicate that it may be necessary to select a more robust editor if large output files are not able to be opened with Notepad or the currently designated editor. (1158)
- Updated the GUI grid control to use Spread.NET Version 14. (1863)
- Updated the application to provide 64-bit executables and DLLs. (1875, 1882, 1886)
- Verified the program is current with the 2020 Interim Revisions to the AASHTO Manual for Bridge Evaluation, 3rd Edition. No changes were necessary.
- Added Oregon special hauling vehicles (OR-SU4, OR-SU5, OR-SU6, OR-SU7) to the standard vehicle library. (1913)
- Updated the analysis engine to use Intel Fortran Compiler 2021. (1920)
- Updated the installation to install 32-bit or 64-bit executables and DLLs depending on the operating system. (1926)
- Changed the floating-point input default to use four digits right of the decimal. As before, trailing zeros will be truncated.
- Updated the Input Report to include a drawing of the culvert. (1862)

- Updated the options available when creating a new file to remove the “SI” option, which is no longer available. (1972)
- Implemented a Live Load Factor Tool form to collect ADTT in order to compute the legal live load factor. (1976)
- Implemented a Live Load Factor Tool form to collect ADTT and permit information in order to compute the permit live load factor. (1977)
- Implemented a table of contents for the main output file. (1998, 2002, 2003, 2008)
- Revised the GUI to open the Live Loads form as read-only when the Standard Live Loads are different between the data file and the Preferences file. (2005)

Bug Fixes

- Corrected an error translating old .cus data sets. (1885)
- Updated the program help to more clearly specify the cases when live load actions are ignored due to depth of fill and span lengths. (1900)
- Updated the program output to refer to the right end of a slab correctly based on whether it’s in an interior or exterior cell. (1923)
- Corrected the default minimum value of the EH load factor. It has been set to 0.90. (1928)
- Corrected the application of the minimum LS load factor in the output. A negative value for flexure is now output and multiplied by the LS factor of 0.00. (1955)
- Corrected an error in the longitudinal live load distribution model to add another foot to the distribution length. (1969)
- Corrected an output error that resulted in a negative Dynamic Load Allowance being displayed. (1978)
- Corrected the conditions under which the live load can be ignored for LRFR analyses. (1988)
- Corrected formatting inconsistencies in the Help system. (1990)
- Corrected several problems with page headings and pagination for the printable version of the main output file. (1999)
- Corrected a program crash when performing an ASD analysis on a culvert with three or more cells. (2007)
- Corrected an error in the fatigue calculations for multi-cell culverts without bottom slabs. (2016)

Program Verification

Regression testing was performed on BRASS-CULVERT™ using its feature that allows automatically-varying geometry and load parameters. The results of the new version were compared to the previous version and examined for any unexpected results.