Wyoming Department of Transportation

RELEASE NOTES

for

BRASS-GIRDER™

Version 8.6

November 2020

General

The BRASS™ incident tracking system can be found at www.wydot-brass.com. Users without an account on the incident tracking system can request an account by clicking on the "Open a Technical Support 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

- Updated the program to the AASHTO LRFD *Bridge Design Specifications*, 9th Edition. (1776)
- Combined the multiple grids on the Prestress tab of the concrete Member Control form into one grid. This was necessary provide more room for the new Post-tensioning Duct input fields. (1797)
- Addressed issues with deleting materials or components that are referenced within members marked as identical on the Control form. A message is now provided explaining how to resolve this. (1800)
- Added the AISC 15th Edition steel shapes to the BRASS standard sections library. (1806)
- Reworded an analysis engine warning message, regarding dead load distribution, to indicate that it may be ignored if the dead loads were manually input for the member(s). (1818)
- Updated the GUI validation to check if a vehicle code is present in the vehicle library. The user can then address the issue when the Live Loads for is closed, when the data file is saved, or prior to running the analysis engine. This check had previously been performed within the analysis engine. (1822)
- Revised the Validation Messages form to populate the textbox below the grid with the summary of the selected validation message. (1823)

- Revised the GUI to discontinue the analysis of subsequent members when errors are detected on the current member. (1825)
- Addressed an issue with grid columns not always being initially sized correctly when the vertical scrollbar is present. The new implementation accounts for the presence of a partially visible grid row and adjusts each grid's variable-size column accordingly. (1829)
- Added a wait cursor and status bar message to the main GUI form when the Control form is closed to indicate that dependent input is being updated. When the Control form is closed, the data objects that are dependent on the changes made in this form are updated to add/remove/change the necessary input. This could take up to several seconds in which there was no indication why there is a delay. (1833)
- Revised the Multiple Presence Adjustment input on the Live Loads and Live Loads (Floorbeam) forms to provide a set of radio buttons for selecting the Multiple Presence Adjustment method. The Multiple Presence Adjustment Method is set for existing files based on the Multiple Presence Adjustment and ADTT. (1836)
- Updated the help topic for the Distribution tab of the Control form to clarify the use of the "Calculate LRFD live load distribution factors" option. (1838)
- Revised the GUI and engine to support up to 400 cross sections (up from 340) that are generated from the Beam Profile schedules. (1858)
- Updated the fatigue intermediate output for an LFD analysis of steel structures to report when there are no fatigue locations to analyze. Previously a header was shown with no additional information. (1860)

Bug Fixes

- Corrected an issue with specifying the "(same)" bar size option on the Beam Profile or Deck Profile forms when both the symmetry and interpolate reinforcement control options are specified. When the "(same)" bar size option was specified for the End of Range reinforcement entry on the Left-Half Schedule tab, the Start of Range reinforcement entry on the Right-Half Schedule tab listed the "(same)" bar size, which could not be resolved as a valid starting range bar size. Therefore, the function used to populate the Right-Half Schedule was revised to obtain the actual bar size and populate the associated cell accordingly. (886)
- Revised the GUI so the number of transverse members in a precast slab system are not inadvertently changed upon opening the Control form. Additionally, the necessary deck geometry data were passed to the engine, so the lever rule distribution factors could be calculated accordingly. (1793)
- Corrected the "Bracing (Bay)" symmetry component on the Input tab of the Control form so it is saved correctly. (1799)
- Corrected an error with deleting multiple grid rows from certain grids. The same message was being repeated for each row even if the reason a row could not be deleted was different from row to row. (1803)
- Corrected an error with deleting multiple grid rows when only some of the rows are marked as "assigned." Only unassigned rows are now deleted as expected. (1804)

- Corrected an error with deleting grid rows from the Concrete Stress Limits grid on Component Groups form, where the After Losses grid rows are not always being deleted based on the Before Losses grid. (1805)
- Corrected issues with pasting rows in the Cb factors grids on the Cb Factors (Standard) and Cb Factors (LRFD) tabs of the steel Schedules form. When a row with the Cb Method set to User-Defined was copied and pasted into a new row, the Cb factors were not pasted. The Cb factors cells also remained locked, which should only be done when the Cb Method is set to Standard. Pasting rows now behaves as expected. (1809)
- Revised the engine to detect the case of precast concrete slabs for which LRFD live load distribution factors equations can be used (cross section code "g"). (1826)
- Updated the Beam Profile form with the new fillet/taper images for steel plate girders. These images were missing from previous versions. (1827)
- Revised the LRFD translator to inform the user that the DIST-CONTROL-LL and DIST-BEAM-SCHEDULE commands cannot be used together. (1838)
- Revised the mechanism for storing translated file contents in the .girder XML file to overcome a limitation on recursive line feed replacements in the stylesheet. This issue only occurs for extremely long .dat files that were translated to .girder files. (1844)
- Revised the mechanism for storing bridge notes, member notes, and comments in the .girder XML file to overcome a limitation on recursive line feed replacements in the stylesheet. This issue only occurs for extremely long notes and comments. (1845)
- Corrected an error in the export from the GUI with passing the number of bars and vertical distances to the engine for the ending range when the Interpolate Reinforcement option is specified. (1854)
- Corrected an issue in the translator where the CONCRETE-6 command parameters were marked as unhandled parameters when that command was not even entered. (1855)
- Corrected the Translated File Contents section of the Input Report stylesheet so the Unhandled Parameters table data rows are written. (1856)
- Corrected the bottom flange grid on the Beam Profile form to not show the Material column for reinforced concrete members. The Material column is only applicable to steel members. (1857)
- Revised the GUI to check if the number of generated cross sections exceeds the limit. (1858)

Program Verification

The NCHRP 12-50 process was used to perform regression testing on this version of BRASS-GIRDER™. This process compares key results from this version of BRASS-GIRDER™ with the previous version.