

RELEASE NOTES

for

BRASS-GIRDER™ Version 8.3

February 2019

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 help topics for the Control form and Splice Locations form to clarify the Generation Control options for splice locations. (1459)
- Updated the GUI to validate the existence and version of required files upon opening the GUI. This includes engine and translator DLLs, schemas, stylesheets, etc. (1494)
- Determined there are three output settings that are turned on automatically when BRASS™ is called from BrDR and the BrDR results objects for dead or live load actions are requested: dead load actions, live load actions, and load combinations. These settings override those specified in the Analysis Event engine properties, which is why these settings could not be explicitly controlled. Notes describing the overrides within the analysis engine were added to the Analysis Event Properties: Primary help topic. (1347)
- Revised the engine to issue a warning when bearing stiffeners are entered for a steel structure and the compression resistance factor does not match the default for the LRFD or LRFR specification. The GUI had been issuing this warning, but some users found this cumbersome. (1510)
- Improved sections of the input report when there is no input. Rather than showing table headers with no data, the report will say that no data has been defined. This included debonding,

development lengths, spring constants, bearing stiffener schedules, omitting strands, beam overhangs, torsional inertia, settlement, and reaction distribution factors/wheel fractions. (1525)

- Revised the Member Spacing section of the input report when there is an equal member spacing. (1526)
- Updated the analysis engine to Intel Parallel Studio XE Composer Edition for Fortran 2019. (1482)
- Updated the translators to Intel Parallel Studio XE Composer Edition for Fortran 2019. (1483)

Bug Fixes

- Updated the engine to only exercise LRFD 4.6.2.2.2a-1 for Interior Beams with Wood Decks. LRFD 4.6.2.2.2b discusses Interior Beams with Concrete Decks and does not mention an additional adjustment for the distributed live load shear. For the case of structures in which the deck geometry is defined, the program will use the Deck Material entered on the Control form. For the case of member line structures in which the deck geometry is not defined, a checkbox was added to the Timber tab of the Member Control form. This allows the user to specify an Interior Beam with Wood Deck. (1352)
- Corrected the internal view settings on the Bracing tab of the Component Groups form, so the tab is shown for any analysis method. (1450)
- Revised the GUI to detect incompatible shear indicators in the concrete shear schedules and change the option to the default to correct existing data files. (1461)
- Corrected an error in the GUI that occurred when editing the Development Length grid. (1472)
- Updated the calculations for friction losses for parabolic post-tensioned strands for the simple-span made continuous using mild reinforcement configuration. (1476)
- Updated the GUI to prevent grid sheet labels from being longer than 31 characters and having unsupported characters ([] * ? / \). This was occurring for Dead Load Group and Strand Group names were input by the user and then transferred to the grid sheet labels. (1478)
- Updated the installation to install FarPoint.Win.Chart.dll. This DLL was not required before upgrading to the Spread .NET Version 11 grid control back in Version 8.1. This DLL is now required for some instances of copying and pasting within grid controls. (1504)
- Updated the start taper/fillet input on the Beam Profile form to allow the user to enter the dimensions as zero. This is consistent with the older BRASS-GIRDER(LRFD)TM and BRASS-GIRDER(STD) programs. The color of the input cells was changed to the light yellow for optional input. Additionally, the box beam input on the User Sections form was also revised to allow zero to be input for the taper/fillet dimensions. (1505)
- Corrected the floorbeam analysis to apply the multiple presence adjustment factor. The live load action report for a floorbeam analysis was revised to report the multiple presence adjustment factor instead of the scale factor, which was not used. The floorbeam intermediate output file was revised to include a note that the multiple presence adjustment factor is applied. (1508)

- Corrected the export to set the equivalent web thickness to twice the R/C box beam wall thickness. (1512)
- Revised the beam profile and deck profile data validation to only validate the slab and reinforcement input for the selected analysis method. (1514)
- Corrected the Strand Visualization drawing for a box beam user section so it includes the bottom flange thickness, which was missing. (1516)
- Corrected the import of the floorbeam data into the analysis engine to set the combination weight if a valid value is not found. (1517)
- Corrected the input report to list the Strand Groups section. (1521)
- Corrected the engine to calculate the modulus of rupture for a slab on a steel structure when this value was not input. (1522)
- Revised the Cross Section Code drop-down on the Distribution tab of the Control form to include Cross Section "d" for post-tensioned structures. (1527)
- Revised the Member Control form (for prestressed concrete structures) to only show the Additional Times grid when the PCI loss method is selected. (1529)

Enhancements

- Revised the GUI to permit post-tensioned parabolic strands for simple spans made continuous using mild reinforcement. (1470)
- Added the following AASHTO box beams to the standard sections library: (1513)
 - BI-36, BII-36, BIII-36, BIV-36
 - BI-48, BII-48, BIII-48, BIV-48
- Added the following AASHTO slab beams to the standard sections library: (1515)
 - SI-36, SII-36, SIII-36, SIV-36
 - SI-48, SII-48, SIII-48, SIV-48
- Revised the export to pass the full BrDR live load name to the BRASS™ analysis engine. Revised the engine to provide a table that cross references the 12-character BRASS™ live load names with the full BrDR live load name. The new table is called “LIVE LOAD NAME CROSS REFERENCE” and is only written if the Live Load Settings options is selected on the BRASS Engine Properties - Analysis Event window. (1422)

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.