CSiBridge v22.2.0 Release Notes

Notice Date: 16-October-2020

This document lists changes made to CSiBridge since v22.1.0, released 06-June-2020. Items marked with an asterisk (*) in the first column are more significant.

Analysis

Enhancements Implemented

*	Ticket	Description
	4921	The initial rigid stiffness of parametric PMM hinges was improved and is now based on the stiffness of the frame object containing the hinge. This change is intended to prevent excessive stiffnesses which can adversely affect the convergence behavior of the model and will not significantly affect analysis results for well-conditioned models.
	5138	An enhancement was made to the Nonlinear Parameters form (Define menu > Load Cases) to provide a clearer interface. The options "Use Iteration" and "Use Event-to-Event Stepping" have been merged into one parameter "Solution Scheme", which specifies the overall solution method used in the analysis. The new Solution Scheme options are: (1) Iterative Only, equivalent to “Use Event-to-event stepping” = No and “Use Iteration” = Yes (2) Iterative Event-to-Event, equivalent to “Use Event-to-event stepping” = Yes and “Use Iteration” = Yes (3) Event-to-Event Only, equivalent to “Use Event-to-event stepping” = Yes and “Use Iteration” = No. Only the nonlinear parameters relevant to the selected solution scheme will be shown in the form. It is suggested to select the solution scheme first before specifying the nonlinear parameters, since the nonlinear parameters may be reset when the solution scheme is changed. See also Ticket 5232 for additional parameters and changed behavior for the Event-to-Event Only solution scheme.
*	5139	An enhancement has been made to speed-up the recovery of analysis results, with particular improvement for hinge response. In addition, new options are now provided to control advanced parameters affecting analysis, design, and response recovery. These include: (1) Use of memory-mapped file IO for design and response recovery. This can speed-up retrieval of saved analysis results. Systems with Solid State Drives (SSDs) and adequate RAM (memory) will benefit the most. (2) Number of analysis threads. Using more threads (up to number of physical cores) will speed-up analysis, but also uses more RAM (memory) to be efficient. (3) Maximum file size for storing analysis results. This may affect certain backup or archival systems. (4) Merging results from non-identical models. Normally this is not recommended, but it can be permitted.
*	5141	An enhancement has been made to speed-up repeated solving of the stiffness matrix when using the Multi-threaded Solver option. This should significantly increase the speed of nonlinear static, nonlinear multi-step static, and nonlinear direct-integration time-history load cases, especially when using Newton-Raphson iteration and/or event-to-event stepping. Staged-construction load cases will similarly benefit within stages and between stages where the structure does not change. Eigen modal load cases will benefit when many frequency shifts are performed, and linear direct-integration time-history loads cases will benefit when the time-stepping is not constant. This change does not affect the default Advanced Solver or the Standard Solver. Use the command Analyze > Advanced SAPFire Options to select the Multi-threaded Solver.

*	5223	The biaxial friction-pendulum isolator link element now uses tangent stiffness for iteration when running nonlinear static, staged-construction, and nonlinear direct-integration time-history load cases. Previously this isolator used the initial stiffness for iteration in versions 19.1.0 to 22.1.0. Using the tangent stiffness is generally more efficient, although convergence behavior is always problem dependent. This change may cause some differences in analysis results from previous versions. These will usually be within the convergence tolerance except for numerically sensitive or ill-conditioned models. Results for Verification Example 6-011, which can vary with different processors, are slightly affected by this change. The tension-compression (T/C) friction-pendulum isolator already was using the tangent stiffness for iteration, while the triple friction-pendulum isolator will continue to use initial stiffness for iteration. Note that the use of tangent stiffness for the biaxial and tension-compression friction-pendulum isolators also makes them suitable for pure event-to-event solution methods, but the same is not true for the triple friction-pendulum isolator using initial stiffness.
*	5232	An enhancement was made to nonlinear static and nonlinear direct-integration load cases that use the "Event-to-Event Only" solution method to better handle how equilibrium unbalances are passed to each subsequent step. This change may affect results for non-iterative event-to-event analyses where the relative unbalance reported in the .LOG files are large, but the change is expected to reduce the relative unbalance in the analyses. Additionally, four parameters are added to the Nonlinear Parameters form (Define menu > Load Cases) to allow more user control for the Event-to-Event Only method: (1) Stop Analysis when Maximum Events per Step is Exceeded. Selecting Yes for this option enables a new feature where the analysis will terminate if the specified Maximum Events per Step is reached in an analysis step. (2) Minimum Event Step Size. The minimum event size that is allowed during analysis. When the Maximum Null Events per Step is exceeded, events that are smaller than this value are increased and counted as Null Steps. (3) Maximum Null Events per Step. If this is set to a non-zero value, this is the number of events smaller than the specified Minimum Event Step Size allowed in an analysis step. If set to zero, the Minimum Event Step Size will not be enforced. (4) Use Correction Step for Large Unbalance. The options are "None", "Every Step", and "Last Step". When "Every Step" is specified, an additional correction step with no applied load will be taken at the end of any step where the relative unbalance is larger than 1.0e-4 to resolve unbalances in the model before moving to the next step. If "Last Step" is specified, this correction step will be taken at the end of a Nonlinear Static load case or at the end of every stage for a Staged Construction load case. This parameter is only applicable to Nonlinear Static load cases. Event-to-Event Only analysis can be defined by setting the "Solution Scheme" option to "Event-to-Event Only" in the Nonlinear Parameters form. See also Ticket 5138 for changes to the Nonlinear Parameters form.
	5310	Optimizations have been made to speed up the analysis for models with a large number of load patterns and/or element loads. This should primarily increase the speed of linear load cases in models with Multi-Step Bridge Live Load patterns that internally create many load patterns and/or element loads.

Bridge Design and Rating

Enhancements Implemented

*	Ticket	Description
	4198	The ability to specify the vertical position of longitudinal web stiffeners has been added as a single parameter to the design and rating requests for steel I-girder and U-girder service and constructability checks using the AASHTO LRFD code. This enhancement enables the calculation of the web bend-buckling coefficient k per 6.10.1.9.2 for webs with longitudinal stiffeners.
	4572	Comprehensive calculation reports are now available for the AASHTO LRFD Concrete Tee Beam Flexure and Shear design checks, and the AASHTO RATING Concrete Tee Beam Flexure and Shear rating checks.

*	Ticket	Description
	4574	Comprehensive calculation reports are now available for the Service and Constructability superstructure design requests for steel I-girder bridge sections per the Canadian CAN/CSA-S6-14 code.
	4931	An enhancement was implemented to output three additional intermediate parameters for the JTG 3662-2018 Crack Width design request. The new parameters include ρte (effective reinforcement ratio of longitudinal tension bars), Np0 (the resultant force of prestressed steel bar and ordinary steel bar when the normal stress of concrete is equal to zero), and z (the distance from the resultant point of longitudinal tensile steel bars to the resultant point of the compression zone of the section). Note that the value for term ep in the equation for e is assumed to be zero: e = ep + (Ms ± Mp2) / Np0. Detailed calculation of ep will be made available in a future version of the software.
	5290	A change was made for bridge superstructure design and rating per the AASHTO LRFD code that affects steel I-girder bridge sections designed in accordance with LRFD Section A6.3. For an unbraced length of a steel I-girder in which the member is non-prismatic, the flexural resistance Mnc at each design section within the unbraced length is now taken as equal to the smallest resistance within the unbraced length multiplied by the ratio of Sxc at the section under consideration to Sxc at the section governing the lateral torsional buckling resistance. Previously the multiplication by the ratio was not included, resulting in conservative underestimation of the capacity. This change applies to steel I-girder strength design and rating requests for all versions of AASHTO LRFD.

Database Tables

Enhancements Implemented

*	Ticket	Description
*	4263	An enhancement was performed to allow the name of the database file that is automatically saved after the analysis is run to include a path. Also, multiple files can now be specified to be automatically saved after the analysis is run.
	5188	The composite moment of inertia is now reported in the Design Properties and Rating Properties output tables for the AASHTO LRFD Service and Strength, Design and Rating requests, for steel I-girder and steel U-girder bridge sections. This is the steel-based transformed composite property for negative moment and long-term positive moment.

Installation and Licensing

Enhancements Implemented

*	Ticket	Description
*	4595	The version number has been changed to v22.2.0 for a new intermediate release.

Loading

Enhancements Implemented

*	Ticket	Description
	4635	An enhancement was implemented, adding the Korean vehicle library according to the LSD 2015 loading standard.

Results Display and Output

Enhancements Implemented

*	Ticket	Description
	5373	An enhancement was implemented to include the database tables for the latest response spectrum function codes in the seismic design report.

Analysis

Incidents Resolved

*	Ticket	Description
*	1437	An incident was resolved where the use of line search in a nonlinear static or staged-construction load case could produce results that were not in equilibrium for unstable or ill-conditioned models. When this occurred the error was usually obvious due to the large discrepancies between the applied load and the response. This was not common. Nonlinear direct-integration time-history load cases were not affected.
	2782	An incident was resolved where, when the number of frame sections defined in a model was less than the number of area sections, the assignment "Rebar Ratio for Creep Analysis" on area objects (command Assign > Area > Rebar Ratio for Creep Analysis) could become unassigned on some area objects when the analysis was run. When this issue occurred, the rebar ratios actually used for creep analysis were consistent with the "Rebar Ratio for Creep Analysis" assignments on the area objects as reported after analysis had been run. This issue was corrected for version 22.0.0 but inadvertently omitted from the Release Notes.
	4149	An incident was resolved where staged-construction load cases could not be run if they included a Pour Concrete or Remove Forms operation acting on a Concrete Pour definition that did not contain any steel I-girder, steel U-girder, or precast concrete I-girder bridge sections. Now under this condition, the Pour Concrete operation will do nothing, and the Remove Forms operation will simply add the concrete slab as cured and apply self-weight and permanent loads. Only for steel I-girder, steel U-girder, and precast concrete I-girder bridge sections will the Pour Concrete operation apply wet concrete loads onto the girders, and the Remove Forms operation remove those load while adding the cured slab, self-weight, and permanent loads.
*	4654	An incident was resolved where a moving load case could generate an error message and fail to complete the analysis when computing the moving-load response for a frame object loaded by vehicles on a floating lane set that (1) contained floating lanes that did not run the full length of the floating lane set, and (2) loaded frame objects directly. When this occurred, no results were available. This did not occur when the floating lane set loaded only shell and/or solid objects, which is the usual case when the bridge deck is modeled with area (shell) objects.
*	5125	An issue was resolved where a Nonlinear Static load case with the Load Application Control option set to "Displacement Control" could produce results that were dependent on the scale factor of the applied load. This occurs if the model had shell objects, the Geometric Nonlinearity Parameter was set to "P-Delta", and the Nonlinear Parameters options "Use Event-to-event Stepping" and "Use Iteration" were set to "Yes" and "No", respectively. This issue only occurred for non-iterative event-to-event analysis and, generally, a larger load scale factor would result in smaller equilibrium error at each step. Very small differences may now still be exhibited for sensitive models, but they are not of engineering significance.
	5253	An incident was resolved where the analysis failed to run with a nondescript error message, and then caused the user interface to become non-responsive, if the full path to the model file contained illegal characters and/or characters from a Windows System Locale different than the current setting. Now a proper error message is displayed and the control is returned to the user. Corrective action by the user will still be required to run the model, either by modifying the model filename and path or the Windows System Locale to be consistent with each other.
*	5327	An incident was resolved where changing any link property to a multi-linear plastic link with at least one nonlinear degree-of-freedom during a staged construction analysis resulted in a fatal analysis error. When this occurred, the results were not available.

Bridge Design and Rating

Incidents Resolved

*	Ticket	Description
	3203	An incident was resolved for bridge superstructure design and rating of steel girder bridges where design/rating requests could fail to run if the concrete haunch height (between the bottom of the slab and the top of the top flange) was zero. This was a numerical tolerance issue, and did not affect models where the haunch height was greater than the Auto Merge Tolerance. Now haunch heights of zero or very near zero will be accepted. This issue was resolved for version 22.1.0 but was inadvertently omitted from the Release Notes.
	3866	An incident was resolved where bridge seismic design requests were sometimes unable to run in cases where one or more bents or abutments were common between two or more bridge objects. In such a case, the common bent or abutment would be associated with the bridge object that was most recently updated as a linked model, and the design requests would fail for the other bridge objects because the expected support was not associated with them. Now these design requests will run and a message will be displayed in the design output tables "Bridge Seismic Design 01 - Bent D-C" and "Bridge Seismic Design 02 - Bent Column Force Demand" indicating that the expected bent or bent column is associated with a different bridge object. Results will only be available for that bent or abutment when the seismic design request is run for the associated bridge object. Note that bridge seismic design results were available, and still will be, for all bents and abutments in the most recently updated bridge object.
*	4751	An incident was resolved for bridge superstructure design of steel I-girder bridges per the AASHTO LRFD code where the flexural strength check was incorrectly neglecting the longitudinal rebar assigned to the slab (if any) when calculating the steel I-girder flange stresses in the case where the design request parameter “Use Stage Analysis” was set to "Yes". This error affected the calculation of the flange stresses and the corresponding D/C ratio. Results generally tended to be over-conservative. Results were not affected when "Use Stage Analysis" was set to "No".
	4941	An incident was resolved for the bridge design and rating optimization feature for steel I-girder and U-girder bridges where the bridge object was not able to run design or rating after making changes during optimization, selecting the "Unlock" or "New File" option, and clicking OK. Simply updating the bridge object using the Action "Clear and Create" before analyzing and designing the bridge model would resolve the issue. Now this will be done automatically after optimization when using the "Unlock" or "New File" options.
	4959	An incident was resolved where the bridge design or rating of a steel I-girder bridge would not run for a bridge object that both (1) contained more than one span and one of the spans had more steel I-girders than its previous span, and (2) for which either the option "Mesh Slab at Critical Steel I-Girder Locations" on the bridge update form was not checked or the steel I-girders were modeled as frame objects. Design and rating for such bridge objects were able to be run by selecting the option "Mesh Slab at Critical Steel I-Girder Locations" in the bridge update form and defining the bridge section to model the steel I-girders as mixed (frame and shell) or all shell objects.
	5287	An incident was resolved for bridge superstructure design and rating of steel I-girder bridges where the panel length calculated for a girder during design/rating could not be obtained in certain cases when the bridge section had parametric variation and the girder had staggered diaphragms assigned on both sides of the girder at the same location or very close together. This was due to the tolerance issue. When this occurred, an error message was displayed during the design/rating process and the design/rating request failed to produce results. This was not common. No other results were affected.

Bridge Modeler

Incidents Resolved

*	Ticket	Description
	4621	An incident was resolved for the Bridge Modeler affecting steel I-girder, steel U-girder, and precast concrete I-girder bridge objects with two or more spans where setting the option "Mesh superstructure to match bent bearing" to "No" could cause the area-object model to be generated incorrectly at a bent location if the bent support was highly skewed (e.g., greater than 50 degrees) or not skewed at all. When this occurred, the effect was obvious, and results agreed with the model as generated. However, the option to mesh the superstructure independently of the bent bearing may still not work when the skew angle of the bent is large relative to the length/width ratio of the span on either side of the bent. In such a case, the superstructure will now be meshed to match the bent bearing and an informational message provided when the bridge object is updated. Previously an invalid mesh may have been generated.
	4633	An incident was resolved for the Bridge Modeler for steel I-girder bridge sections, where the flanges of the steel I-girders were essentially missing if the girder section was of type 'Built Up I-Section with Cover Plates' and the girder modeling type in the bridge section was set to 'Mixed'. In this case, the frame objects representing the girder flanges were assigned a 'None' frame section, which is not included in the analysis model. Modeling the girders as 'Frame' or 'Shell' did not exhibit this error.
	4655	An incident was resolved for the Bridge Modeler where redundant line objects were created above the bottom of bent columns supported by an advanced pile group or pier/shaft foundation if the soil cover was set to be thicker than the first soil layer. This could stiffen the model locally, but generally had little effect on the overall analysis results.
*	4847	An incident was resolved for the Bridge Modeler where, for certain models with multiple rail tracks defined, only the first rail track was generated. This mostly affected models with composite bridge sections where the slab was modeled with area (shell) objects and the steel or precast-concrete girders were modeled as frame objects. When this occurred, results were consistent with the model as generated.
	4871	An incident was resolved for the Bridge Modeler where a bridge tendon could not be generated correctly if a bridge tendon control point was too close to the end of a span. This problem was caused by a tolerance issue and could be avoided by moving the control point further away from the end of the spans. Results agreed with the model as generated.
	4992	An incident has been resolved for the Bridge Modeler where the bounding box and insertion points for the spine model generated from a user-defined bridge section did not properly account for any variation in the total depth or total width of the section. The bounding box and insertion points were being calculated with respect to the depth and width of the base section without variation. This could particularly affect whether or not tendons were properly connected to the superstructure, since this connection is based on the bounding box.
	5107	An incident was resolved for the Bridge Modeler where updating a bridge object might take a long time (or fail to complete) when any parametric variation assigned to a span was defined such that one of its control points was very close to the end of that span and there was no support property assigned at that end. This did not occur if the control point of the parametric variation was moved to be exactly at the end of the span. Results were not affected for any bridge object that was able to be updated in this case.
	5349	An incident was resolved in the Bridge Modeler for steel U-girder bridge sections where the orientation of a U-girder internal diaphragm could be incorrect (not normal to the girder line) near the skew support if the expected internal diaphragm location was very close to a skewed support. When this occurred the effect was obvious, and results agreed with the model as generated.

Database Tables

Incidents Resolved

*	Ticket	Description
	5256	An incident has been resolved to properly export and import the core dimensions of section designer sections with rectangular or polygon shape to/from the model text file (.s2k). In addition, the program determined core dimensions are also updated immediately after the shape is changed using the reshaping tool.

Graphics

Incidents Resolved

*	Ticket	Description
	3852	An incident was resolved where deformed shape plots with contours would not display correctly in some cases. The problem was limited to Standard Graphics. DirectX graphics was not affected. Also, this would only happen when the model was just run and the deformed shape was displayed. Closing the model and reopening and then plotting the deformed shape worked correctly.

Loading

Incidents Resolved

*	Ticket	Description
*	2425	An incident was resolved where the length effects for vehicle axle loads were usually calculated based on the length of the bridge rather than the length of the span. When this occurred, the applied axle loads were typically smaller than expected for the AASHTO Impact function, where the scale factor applied to the axle loads decreases with increasing span length. On the other hand, the applied axle loads were typically larger than expected for the JTG 3662 function. This error did not occur when the option to allow loads to reduce severity was selected, but it did affect the default case where vehicle loads are not applied when they would reduce the severity of the response. It should be noted that the span length used for each individual response quantity (force, moment, stress, displacement) is determined from the influence line for that quantity, not from the structure definition. This means that highly localized response may show a shorter span length than the structure definition, but represents the increased probability of larger impact forces over shorter loaded regions. This error did not affect the calculation of length effects for distributed (lane) loads, and this has not been changed. Length effects for distributed loads do not usually represent impact, but rather capture the decreased likelihood of longer loaded lengths carrying the same magnitude of load as shorter lengths, such as for the BD 37/01 (HA) function. For distributed loads, the span length calculated from the influence line represents the minimum loaded length considered for the length-effect function, and this calculation was correct. That length is then increased to achieve the maximum effect considering both the length effect and magnitude of the load over the full influence line.
*	3217	An incident was resolved for the Bridge Modeler where bridge loads defined as part of a bridge object could be incorrectly applied to tendons rather than to the concrete superstructure when the bridge object was modeled as a spine model. While this did not normally affect equilibrium, in certain cases torsional load applied to straight tendons could cause an instability in linear load cases or non-convergent behavior in nonlinear load cases. When this occurred, the error was obvious. Bridge objects modeled as area (shell) or solid models were not affected.

*	4507	An incident was resolved where importing a KBC 2009 or a KBC 2016 or a TSC 2018 Response Spectrum function from a text file (.S2K, $2K), database-table file (Excel, Access, XML), or the interactive database editor caused the two specified site coefficients Fa and Fv to be ignored and set to 1.0. This generated an incorrect response-spectrum function that could significantly affect analysis results when used in a response-spectrum load case. Using the menu command Define > Functions > Response Spectrum Functions to modify/show the function would restore the affected site coefficients to correct program calculated values, and the curve displayed correctly. Clicking OK would then save the correct values for analysis, but clicking Cancel would not. The new version will automatically correct the response spectrum when the model is rerun.
*	4950	An incident was resolved where the stations used to specify the start and/or end of user-defined floating lanes were not correctly utilized during analysis unless the generated lane loading points started at station 0.0 (zero) on the layout line used to define the floating lane set. When this occurred, the shortened floating lane could be absent at stations where it should have been present, possibly resulting in less load being applied than expected; or it could be present at stations where it should have been absent, possibly resulting in excess load being applied. Floating-lane sets where all the floating lanes run full length were not affected; this is the default case. Floating-lane sets that start at station zero, when applied to bridges that start at station zero, were not affected, even if some of the floating lanes were shortened. Models that could possibly be affected should be re-run using the new version to check the results.
*	4982	An incident was resolved where a nonlinear static, staged-construction, or direct-integration time-history load case that had loads with a scale factor of exactly zero (0) could apply additional frame loads that were not specified in the load case. This issue only occurred for load cases that continued from the end of another nonlinear static, staged-construction, or direct-integration time-history load case and that applied frame loads in a load pattern, scaled by zero, that was also applied in the previous nonlinear load case (or one if its predecessors). When this issue occurred, the load pattern scaled that was scaled by zero was being applied with a scale factor from some other load pattern in the same load case. The extra loads were reflected in all analysis results, including base reactions and frame reactions. This issue affected CSiBridge v21.1.0 to v22.1.0.
*	5048	An incident was resolved for influence-based moving load analysis where models having floating lanes could produce incorrect response for moving load cases containing more than a single assignment of vehicle classes to the lanes. The effect of the first assignment was correct. However, the vehicles in the second and subsequent assignments could be applied to the wrong lanes or to no lanes at all. Models without any floating lanes defined were not affected. Load cases with only a single vehicle class assignment were not affected, regardless of how many lanes that assignment loaded. Multi-step moving load cases were not affected. This error affected versions 20.0.0 to 22.1.0 for which floating lanes were available. Models and load cases that could be affected should be re-run in the latest version to confirm results.

Results Display and Output

Incidents Resolved

*	Ticket	Description
*	4526	An incident was resolved for the Bridge Modeler where the calculation of stresses for user-defined bridge sections was sensitive to the origin used to define the polygons making up the bridge section. Stresses were correct when the origin was located at the lower left corner of the bounding box of the section polygons (when viewed looking up-station), which is the default location. Any shifts of the origin from this corner had the effect of shifting the location about which moments were taken from the centroid when calculating stresses. This affected the stresses plotted in the Bridge Object Superstructure Display form, produced in tables, and used for stress-based design and rating requests. No other results were affected. Only the user-defined section could be affected by this issue.

	4696	An incident was resolved for the bridge superstructure design and rating calculation reports where values with U.S. Customary stress units could be reported with 3- to 4-digit accuracy. For example, the value for the modulus of elasticity E = 29000.0 was reported as E = 29012.5 ksi. This was a reporting issue only for the reports, and did not affect any internal calculations or other results. Values reported in the tables were not affected.
	4720	An incident was resolved where the very first deformed-shape plot request after running the analysis or opening the model didn't plot any results if the request was for a moving load case that also happened to be the first in the list of load cases that were run. Once the deformed shape for any other load case was plotted, the deformed shape for the affected moving load case could be plotted. Tabulated results were not affected.
	5062	An incident was resolved where the display of the 10th-point displacement was not available in the Bridge Response Display form for the higher-numbered interior girders in spans where the number of girders was greater than the number of girders in the first span. Results for the higher-numbered girders were shown as zero. Also under this situation, extraneous objects were sometimes selected when checking the checkbox "Show Selected Girder" for the right exterior girder. No results were affected.
	5155	An incident was resolved in which the generated reports (regular and seismic design) were sometimes unable to be opened in Word when they contained images. This was a report generation issue only and did not affect results.
	5350	An incident was resolved where the bridge superstructure response form could not be displayed in certain uncommon cases for a bridge model with a user-defined bridge section when that bridge section was defined with a multi-linear girder-cut line. When this occurred the girder response was not be able to calculated. No other results were affected.

Structural Model

Incidents Resolved

*	Ticket	Description
	3153	An incident was resolved for the Bridge Modeler in which the bridge diaphragm (cross-frame) data at some spans could not be deleted. This was not common, and only affected models here one or more of the subsequent spans had been deleted after the diaphragms had been defined. Importing the model from the saved text file (.$BR, .B2K) corrected this problem.
	5345	An incident was resolved in the LandXML import of alignments where the import would fail if the LandXML file contained an empty XML element. Additional corrections were made to improve the correctness of the imported layout line when the horizontal and vertical data in the LandXML file did not start or end at the same stations.

User Interface

Incidents Resolved

*	Ticket	Description
	1458	An incident was resolved where the keyboard "Alt" key did not work for accessing menus in Menu mode and did not work for the File menu in Ribbon mode. No results were affected.
	2025	An incident was resolved for the bridge-object toolbar on the Menu interface where the selection of the bridge object would revert to the previously selected bridge object when trying to choose an option from the Span Items, Support Items, or Load Assignments tool buttons. Only models with more than one bridge object were affected.
	3949	An incident was resolved where in the Define Grid System Data form if you changed an Ordinate value and never clicked elsewhere on the grid data table, that value wouldn't be saved when clicking OK.
	4030	An incident was resolved in which the description for the seismic design request response spectrum angle option was incorrect on the design request preferences form and the database table column description. This issue did not affect any results.

	4632	An incident was resolved where the incorrect values of the 'Overwrite Fy' parameters could be displayed on the form Built Up I-Section With Cover Plates that is used to define frame sections of that type. This could occur when overwrite values of Fy were specified for the top flange, web, and/or bottom flange, the OK button was clicked to save these values, and then the form was visited again for the same frame section. The originally specified values were saved correctly when clicking OK, and these correct values were used for analysis and design. However, they were displayed incorrectly when the form was visited again. This would have no effect on the model if the Cancel button was clicked, or if the correct values were re-entered before clicking OK.
	5246	An incident was resolved where the Link/Support Property Data form would become locked, preventing changes to the data used to define a link property, after selecting an existing link property that was automatically generated by the Bridge Modeler and clicking Add a Copy or Modify/Show. The form remained locked even when attempting to add a New property or Modify/Show a user-defined property until the model was re-opened.
*	5387	An incident has been resolved for the bridge seismic design request parameter form in which an abnormal condition error occurred after changing the gravity load case option from the default option to another option and then clicking any item on the form. The error did not occur if clicking the OK button right after changing the gravity load case option. This was a user interface error and did not affect results.