



## RM Bridge CONNECT Edition V11 Update 10 Release Notes (Nov 2020)

### Enhancements in RM Bridge CONNECT Edition V11 Update 10:

RM Bridge CONNECT Edition V11 Update 10 (V11.10.00.XXX) contains the following enhancements and error corrections:

1. BIM Workflow: Improve Model Transfer from OpenBridge Modeler (OBM)
2. New Wizard for Rail Structure Interaction
3. Enhancements in GUI:
  - Display Modeler Axis Orientation
  - New option for Ascending/descending Tendons in Modeler
  - New Options for Substructure, Cable-Stayed, and Rail-Structure
  - Updated Display Load Options in The Main Window
4. Error Corrections

**Note:** All enhancements will be available in OpenBridge Designer (OBD) CE V10.08.03, and error corrections are only included in RM Bridge standalone download (V11.08.02.xx).

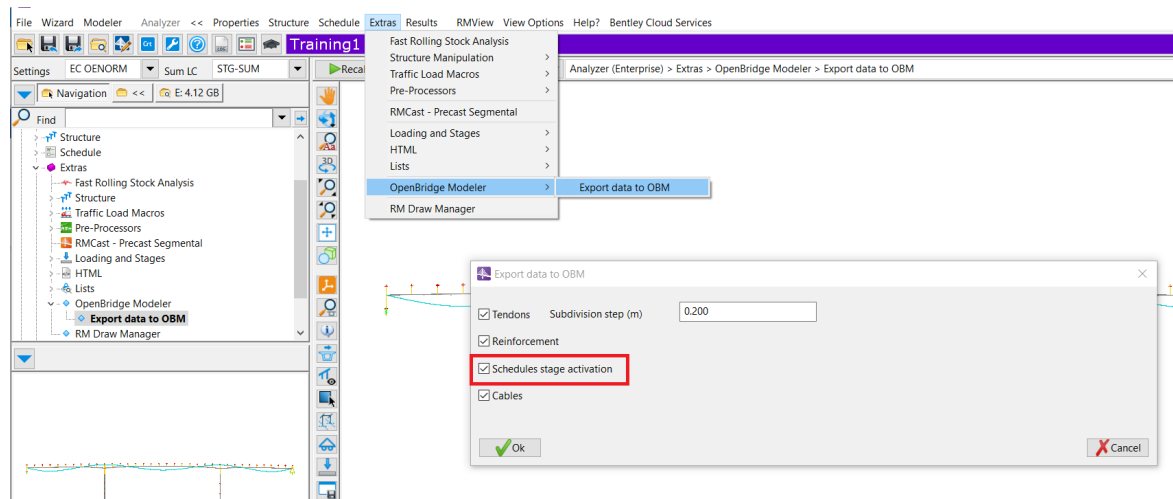
**Note:** RM Bridge View automatically will be installed with RM Bridge, RM Bridge Advanced, and RM Bridge Enterprise on your machine. Prior to installing the latest version, please uninstall any pre-existing RM Bridge View.

If you get an installation error message 1603 or 2738, please follow these steps:

1. Click on the Start menu, choose Run, type cmd, and click OK
2. For 32-bit OS
  - To unregister the VBScript engine, run this command:  
reg delete "HKCU\SOFTWARE\Classes\CLSID\{B54F3741-5B07-11CF-A4B0-00AA004A55E8}" /f
  - To unregister the JScript engine, run this command:  
reg delete "HKCU\SOFTWARE\Classes\CLSID\{F414C260-6AC0-11CF-B6D1-00AA00BBB58}" /f
3. 64-bit OS
  - To unregister the VBScript engine, run this command:  
reg delete "HKCU\SOFTWARE\Classes\Wow6432Node\CLSID\{B54F3741-5B07-11CF-A4B0-00AA004A55E8}" /f
  - To unregister the JScript engine, run this command:  
reg delete "HKCU\SOFTWARE\Classes\Wow6432Node\CLSID\{F414C260-6AC0-11CF-B6D1-00AA00BBB58}" /f
4. Retry installation

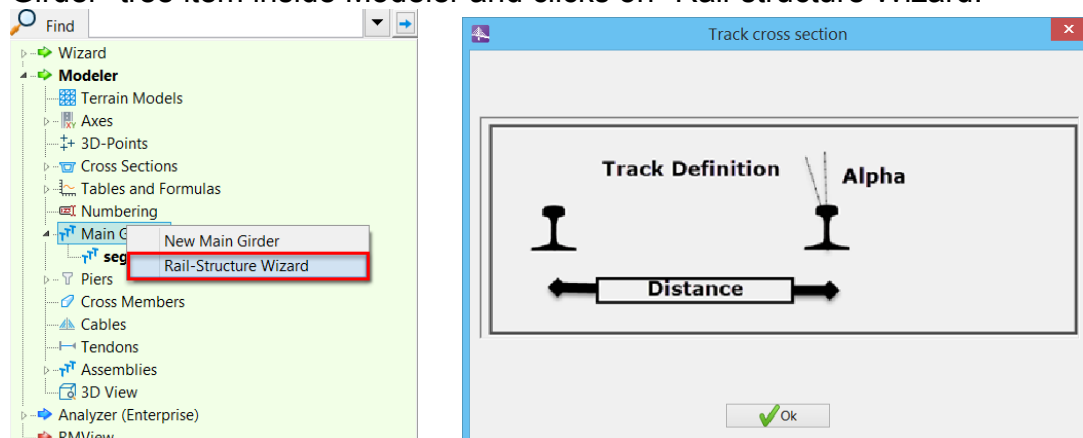
## 1. BIM Workflow: Update Build Order for Balance Cantilever Models Transferred from OpenBridge Modeler (OBM)

A new option for updating the build order for cantilever models in segmental bridges is now available. RM automatically creates a stage for build orders in balance cantilever models defined in OBD and transferred to RM. If the user changes the stage activation for a specific segment in the build order, this change can be sent back to OBM to update the model.



## 2. New Wizard for Rail Structure Interaction

A new option for creating rail structure interaction in Modeler is now available. This new option allows users to define multiple tracks in the main girder at once. Users can choose from the list of tracks and determine parameters for the track interaction spring element. The new feature is available by right click on the "Main Girder" tree item inside Modeler and clicks on "Rail-structure Wizard."



Pnt. No.	Station	Distance	CS before	ok	CS after	ok	C	Pnt. No.	Station	Distance	CS before	ok	CS after	ok	C
1	0.0000	4.0000	cross1		+ cross1		#	16	60.0000	4.0000	cross1		+ cross1		+
2	4.0000	4.0000	cross1		+ cross1		+	17	64.0000	4.0000	cross1		+ cross1		+
3	8.0000	4.0000	cross1		+ cross1		+	18	68.0000	4.0000	cross1		+ cross1		+
4	12.0000	4.0000	cross1		+ cross1		+	19	72.0000	4.0000	cross1		+ cross1		+
5	16.0000	4.0000	cross1		+ cross1		+	20	76.0000	4.0000	cross1		+ cross1		+
6	20.0000	4.0000	cross1		+ cross1		+	21	80.0000	4.0000	cross1		+ cross1		+
7	24.0000	4.0000	cross1		+ cross1		+	22	84.0000	4.0000	cross1		+ cross1		+
8	28.0000	4.0000	cross1		+ cross1		+	23	88.0000	4.0000	cross1		+ cross1		+
9	32.0000	4.0000	cross1		+ cross1		+	24	92.0000	4.0000	cross1		+ cross1		+
10	36.0000	4.0000	cross1		+ cross1		+	25	96.0000	4.0000	cross1		+ cross1		+
11	40.0000	4.0000	cross1		+ cross1		#	26	100.0000	4.0000	cross1		+ cross1		+
12	44.0000	4.0000	cross1		+ cross1		+	27	104.0000	4.0000	cross1		+ cross1		+
13	48.0000	4.0000	cross1		+ cross1		+	28	108.0000	4.0000	cross1		+ cross1		+
14	52.0000	4.0000	cross1		+ cross1		+	29	112.0000	4.0000	cross1		+ cross1		+
15	56.0000	4.0000	cross1		+ cross1		+	30	116.0000	4.0000	cross1		+ cross1		+

**Rail-Structure Wizard**

Select main girder:

Number of tracks:

Maximum length of element [m]:

Embankment length [m]:

**Rail-Structure Wizard**

Standard\_UIC\_60

Standard\_UIC\_60

Standard\_UIC\_50

Three\_Foot\_Six\_Inch\_60

Three\_Foot\_Six\_Inch\_50

Metric\_60

Metric\_50

Three\_Foot\_60

Three\_Foot\_50

900mm\_60

900mm\_50

Swedish\_three-foot\_60

Swedish\_three-foot\_50

Iberian\_Gauge\_60

Iberian\_Gauge\_50

Baltimore\_Gauge\_60

Baltimore\_Gauge\_50

Dresden\_Gauge\_60

Dresden\_Gauge\_50

Track number: 1

Track Name: Track\_1

Connection Point: CP1

Material:

Track cross section

Name: Standard\_UIC\_60

Rail type: Vignole

Rail distance [m]: 1.4350 Alpha [deg]: 2.5000

Track structural connection

Type: Ballast

Ballast

Elastomeric bearings

Parameters

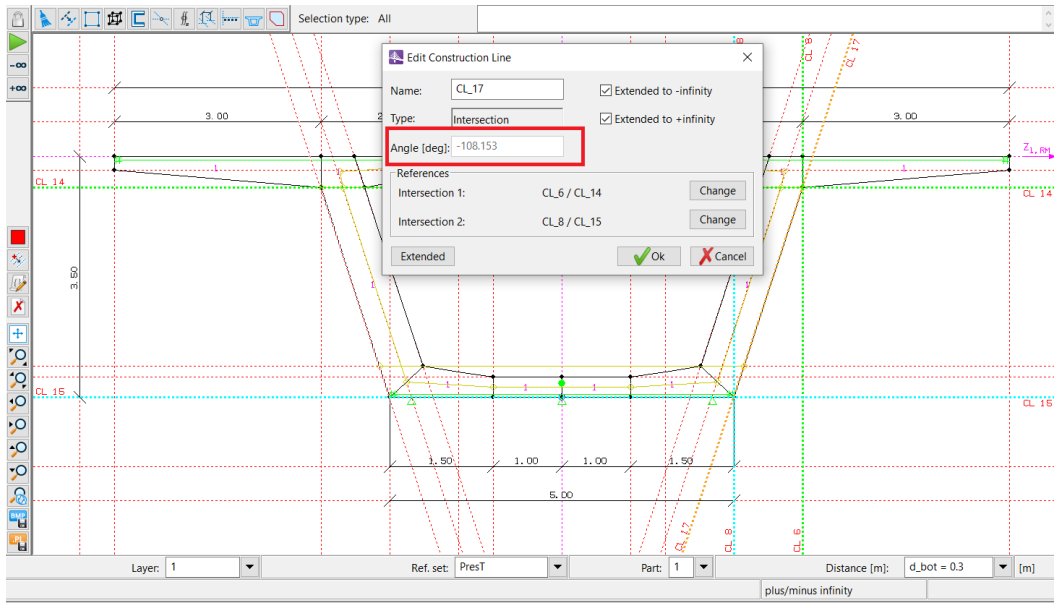
Ok Cancel

### 3. Enhancements in GUI

The following GUI enhancements are available in the program:

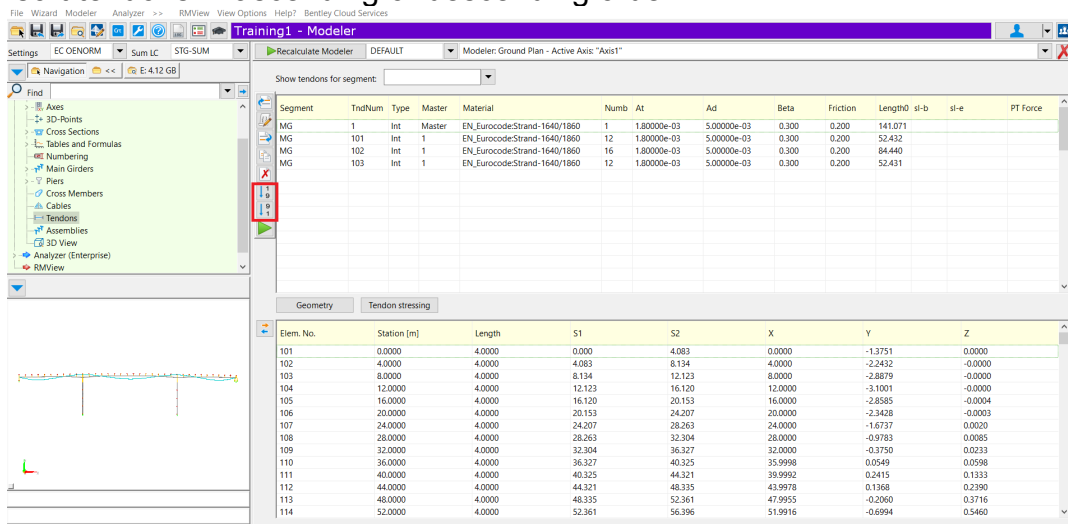
#### 3.1 Display Modeler Axis Orientation

A new information tab has been added to the "Edit Construction Line" dialog inside the Modeler cross-section. This tab presents the angle of the construction line as it is drawn inside the 2D.



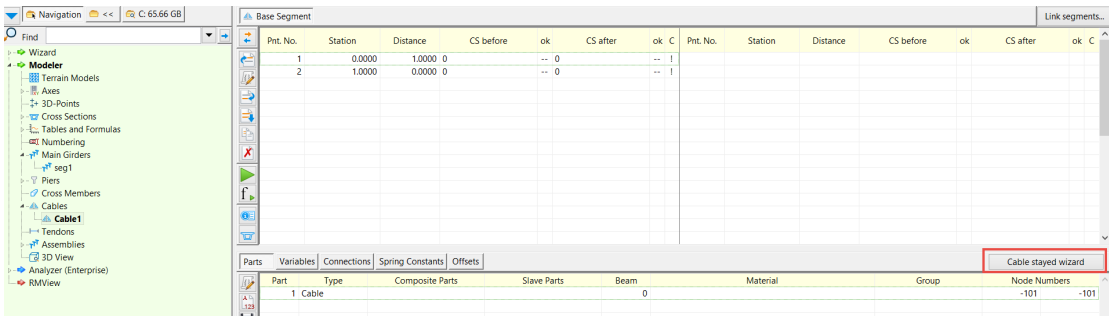
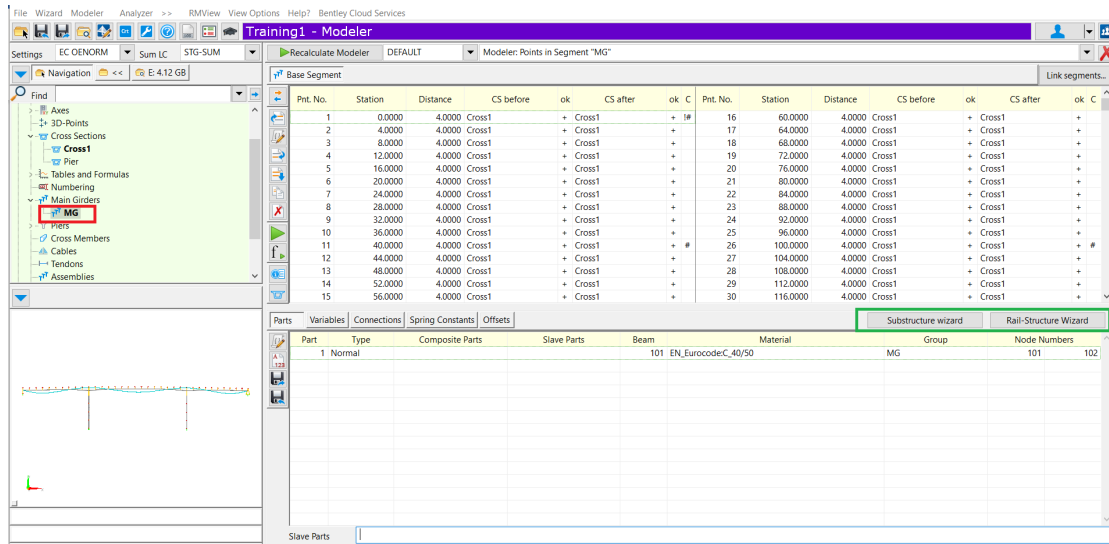
### 3.2 New Option for Ascending/descending Tendons in Modeler

New buttons have been added in the Tendon dialog in Modeler, allowing users to sort tendons in ascending or descending order.



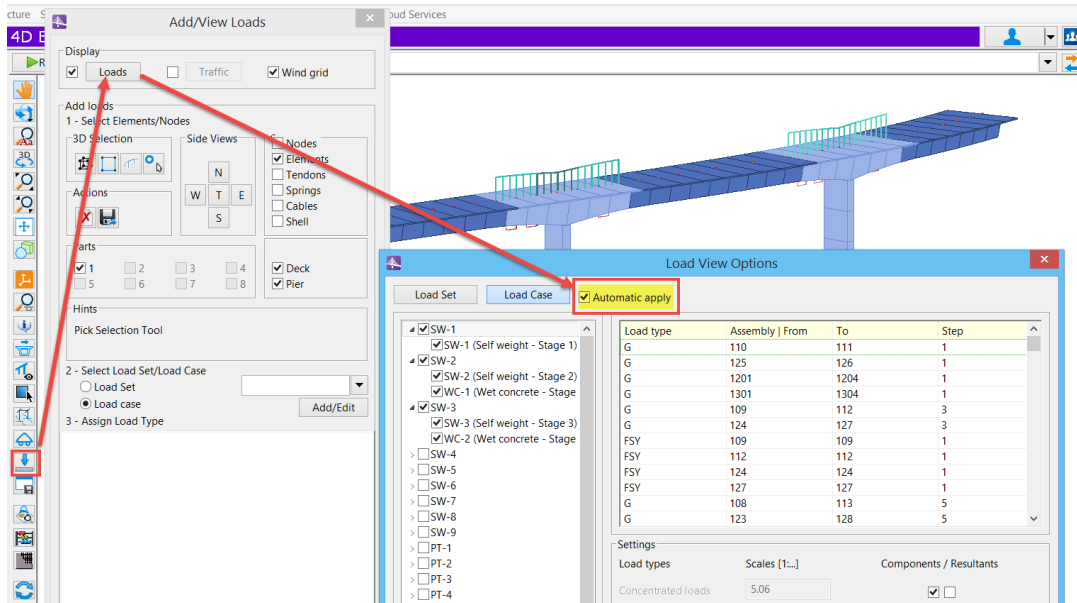
### 3.3 New Options for Substructure, Cable-stayed, and Rail-structure Wizards

New buttons for the substructure, cable-stayed, and rail-structure wizards have been added in the main girder and cable definition in Modeler. These wizards can also be accessed with a right-click on Main Girder and Cable in the tree menu.



### 3.4 Updated Display Load Options in The Main Window

A new option for automatic display of loads in the main window has been added. This option allows users to simultaneously select and view the desired load case/s in the main window.



#### **4. Error Corrections**

The following errors have been corrected and are available in RM Bridge and OpenBridge Designer (OBD):

- The Issue of displaying active shell elements in stage simulation has been fixed.
- The global hinge setting was not applied correctly in element hinge action "ElemHinge." This issue has been corrected.
- The issue of tracking creep load cases problem in TrackSup action has been fixed. This issue was related to absolute tolerances, which have been corrected.
- The issue related to the inaccurate automatic assignment of a node number to a node part, which is used in another element has been fixed.
- The Issue of computing node number for the cases that node number set to zero has been fixed. For this case, If the number was set to 0, when recalculating, the numbering was set to the same node as the element at the same station which cause an error. This Issue is now fixed.
- The Issue with extracting results from superposition files when using a tcl script has been fixed. The Issue was related to reading more than 9 supfiles from a TCL script. There was a hardcoded limitation of maximum nine supfiles being opened at the same time, apparent primarily in TCL scripts. The Issue was resolved by removing the limitation.
- Speed performance has been restored for response spectra and wind analysis in CQCX
- Main Girder updated cross-section and missing numbering:
- The Issue of adding shell elements in the cross-section that send from OBM to RM has been fixed.
- The Issue with placing shell elements on a cross section in the correct position has been fixed.
- The Issue with displaying cable self-weight load case on elements has been fixed.
- The Issue with presenting incorrect results for external load cases in DoRep action has been fixed.
- The new mom-curvature analysis has been carried out by using pushover analysis on a single element with displacement control methodology. The new calculations provide accurate results for reinforced structures. The excel and list files in then new release shows the converged results only.
- The Issue with plotting moment-curvature diagram has been fixed. The new implementation takes maximum number of iterations for Newton-Raphson from ReCalc dialog and stops the analysis when it fails. This puts a limit on range of curvature for which moments have been calculated. The moment-curvature diagrams show the plot for converged values only.

#### **Product Interoperability**

- OpenBridge Modeler
- MicroStation, GEOPAK, MXROAD

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