

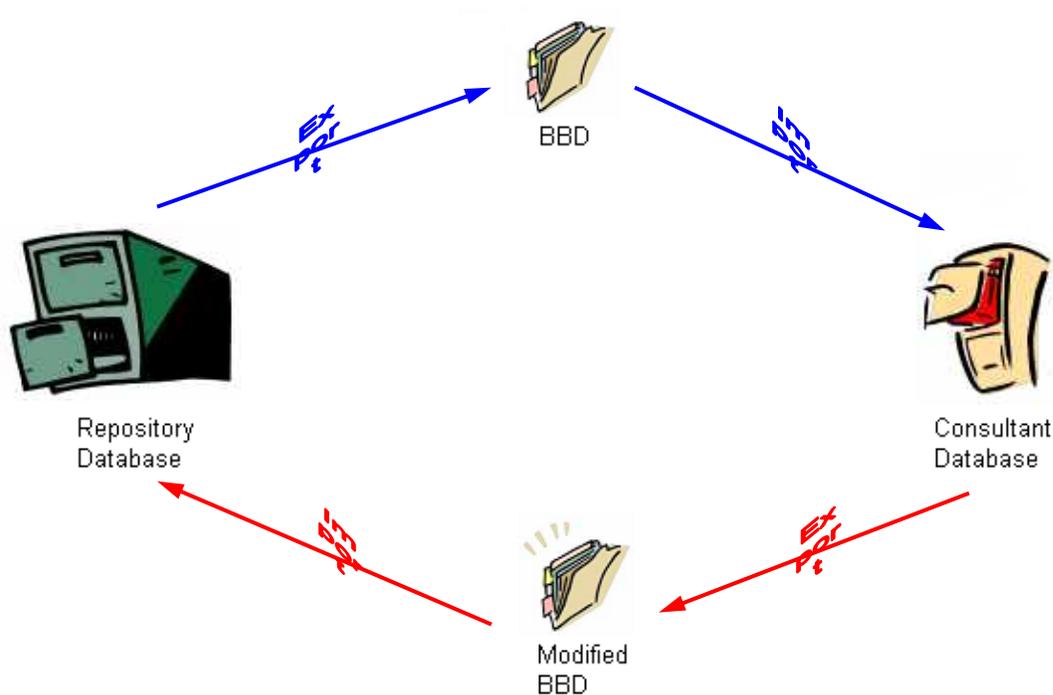
AASHTOWare BrR/BrD 6.8

Feature Tutorial
Bridge Exchange Feature Example

Topics Covered

- Overview of Bridge Exchange feature.
- Export a bridge from the repository database.
- Import the bridge to the consultant database.
- Export the bridge from the consultant database.
- Import the bridge back to the repository database.

Overview of Bridge Exchange feature



The Bridge Exchange feature provides the capability of exchanging bridges between repository and consultant databases while maintaining a history of events and analysis results. A repository database is the database where an agency maintains bridge descriptions. The agency can export a bridge using the Bridge Exchange feature and gives the resulting bridge (XML) file to a consultant. Exporting a bridge using the Bridge Exchange feature causes the bridge to be checked out of the repository database. The bridge description cannot be changed in the repository database while the bridge is checked out. The consultant can then import the XML file into their database, called the consultant database, using the Bridge Exchange feature and modify the bridge description. Bridge descriptions that are imported into consultant databases using the Bridge Exchange feature have security on them to prevent consultants from modifying existing data in the bridge description. Consultants can only add new components, such as member alternatives, superstructure definitions, or materials, to the bridge description.

Bridge X - Bridge Exchange Feature Example

After the consultant has modified the bridge description, they can export the bridge using the Bridge Exchange feature and send the resulting XML file back to the agency. The agency can then import the XML file back into the repository database using the Bridge Exchange feature and review the new data added by the consultant. If the new components pass the quality assurance review by the agency, the agency can then check out the bridge from the repository database, mark the new superstructure definitions and/or member alternatives as "Existing" so they will be used for future ratings instead of the original descriptions and then check the bridge back into the repository database.

The Bridge Exchange feature has the following additional restrictions:

Only one bridge can be exported or imported at a time.

The repository database must have checkin/checkout enabled.

You can only import XML files back into the original repository database from which the bridge was originally exported. For example, if Bridge "A" was exported from repository Database "1", you cannot import Bridge "A" into repository Database "2". It can only be imported back into Database "1".

Timestamps are checked when importing back into the repository database to prevent importing a bridge with a timestamp earlier than the timestamp when the bridge was originally exported from the repository database.

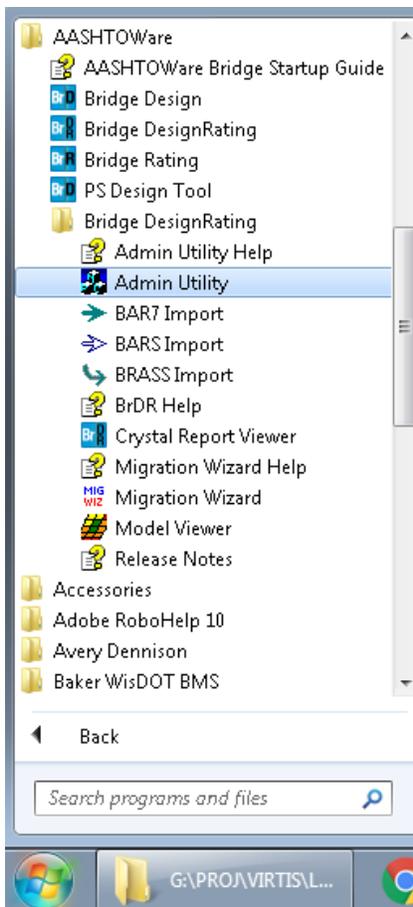
Access Privileges are provided to permit or restrict users from using the Bridge Exchange feature.

The Import/Export feature of BrR/BrD still operates as detailed in Import/Export BrR/BrD Data. Using the File/Import or File/Export functions will import or export bridge descriptions without the security features available in the Bridge Exchange feature.

Export a bridge from the repository database

In this example, we will export TrainingBridge3 from the repository database and import into the consultant database. A new member alternative will be created for adding section loss data. Then, we will export the bridge from the consultant database and import back into the repository database.

Before exporting TrainingBridge3 from BrR/BrD, we need to check whether the repository database has the proper properties for the Bridge Exchange feature. To do that, start BridgeWareAdmin as the owner of the database and make sure the database has checkin/checkout and bridge repository enabled. Close BridgeWareAdmin after the properties are confirmed.



Bridge X - Bridge Exchange Feature Example

The screenshot shows the 'AASHTOWare Bridge Admin' dialog box. It is divided into three main sections:

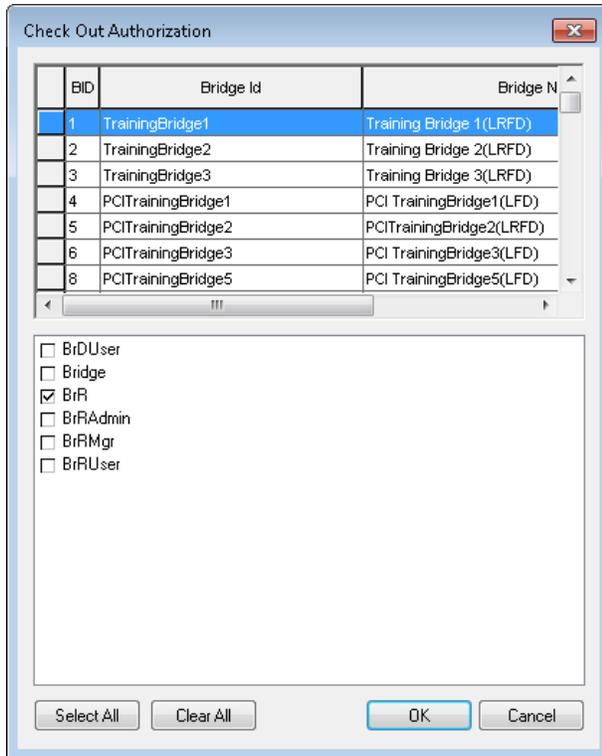
- Database Properties:** Contains several checkboxes: 'Enable check-in/check-out' (checked), 'Enable Bridge Protection' (unchecked), 'Bridge Repository' (checked), 'BrM and BrDR share this database' (unchecked), 'Enable Project Explorer' (unchecked), and 'Enable Load Rating Tool' (checked).
- Database Access Role Settings:** A table with columns for 'Role Name', 'Password', and 'Confirm Password'.

Role Name	Password	Confirm Password
Read Only Role: VIRTIS_USER_READ_ONLY_ROLE		
Read/Write Role: VIRTIS_USER_READ_WRITE_ROLE	*****	*****
- Database Cleanup:** Includes an 'Empty Deleted Bridges' button, a 'Modification Event Cleanup' section with checkboxes for 'Clean events older than [] days' and 'Keep at least [] events in the event chain', and a 'Transfer Events' section with 'From' and 'To' dropdown menus and a 'Transfer Now' button.

At the bottom of the dialog are 'OK', 'Apply', and 'Cancel' buttons.

Start BrR/BrD and log into the repository database as BrR. BrR belongs to a user group that has read, write, create, and delete access privileges of Bridge Exchange feature. Read, write, and create access privileges are needed to perform a Bridge Exchange export or import. Delete access privilege is needed to cancel a Bridge Exchange export. Select all bridges and click Bridge\Check Out Authorization\By Bridge.

Bridge X - Bridge Exchange Feature Example



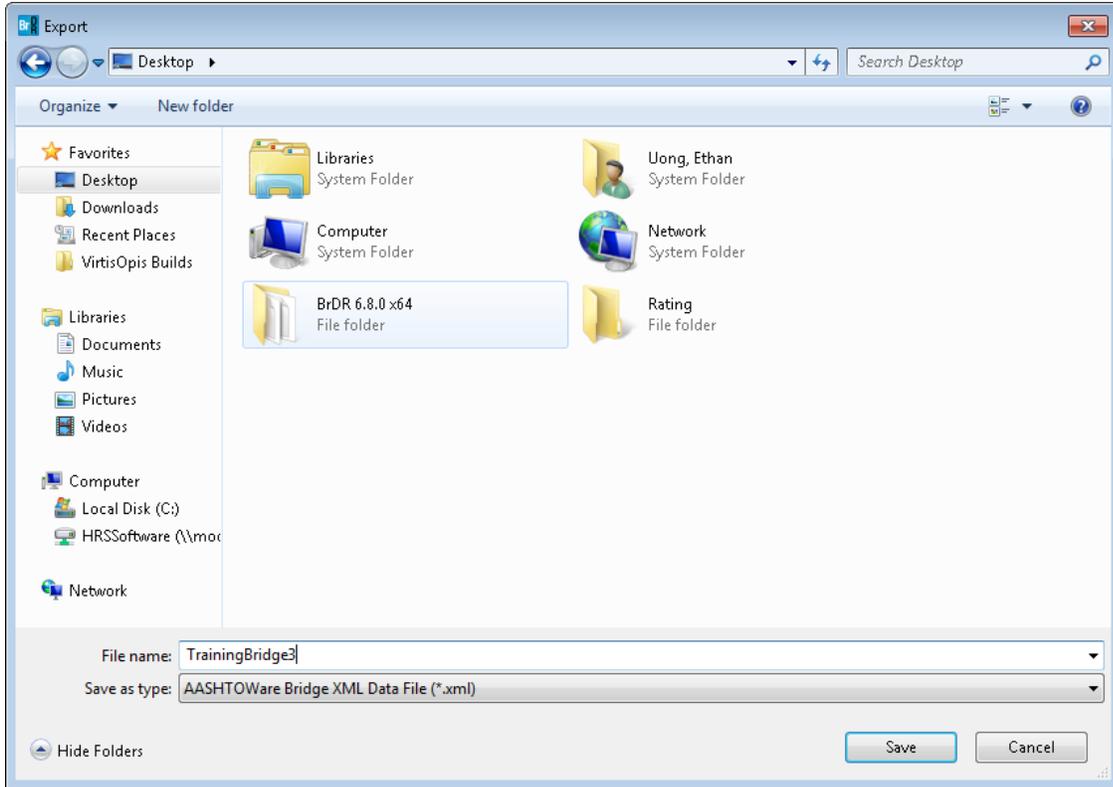
Check BrR and click OK.

Select TrainingBridge3 in the Bridge Explorer for export.

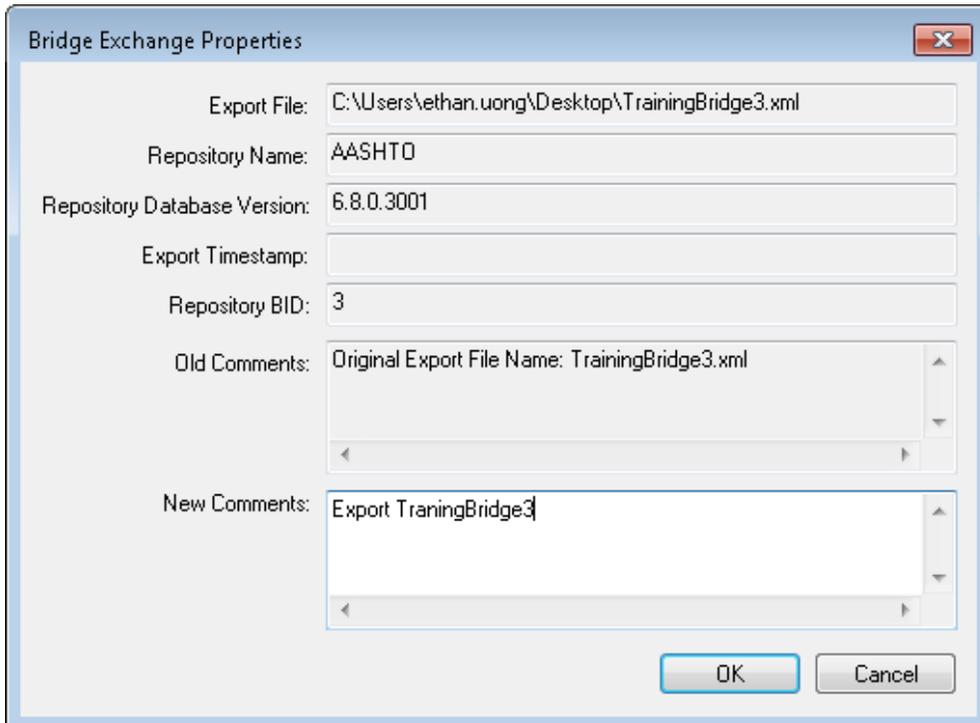
Checked Out	Checked Out By	BID	Bridge ID	Bridge Name	District	County	Facility	Location	Route	Feature Intersected	Mile/Km Post (mi)	Owner	Maintainer	Area	Length (ft)
		1	TrainingBridge1	Training Bridge 1(LRFD)	District	01 Abb	SR 005	Pittsburg	0051	SR 6060	17.00	State H	State High	Not A	161.00
		2	TrainingBridge2	Training Bridge 2(LRFD)	Unkno	Unkno	N/A	N/A	-1	N/A		Unkno			
		3	TrainingBridge3	Training Bridge 3(LRFD)	District	01 Abb	79	Pittsburg	0079	Ohio River	125.00	State H	State High	Unkn	455.00
		4	PCITrainingBridge1	PCI TrainingBridge1(LFD)					-1						Unkn
		5	PCITrainingBridge2	PCI TrainingBridge2(LRFD)					-1						Unkn
		6	PCITrainingBridge3	PCI TrainingBridge3(LFD)					-1						Unkn
		8	PCITrainingBridge5	PCI TrainingBridge5(LFD)					-1						Unkn
		9	PCITrainingBridge6	PCI TrainingBridge6(LRFD)					-1						Unkn
		10	Example7	Example 7 PS (LFD)					-1						Unkn
		11	RCTrainingBridge1	RC Training Bridge1(LFD)					-1						Unkn
		12	Timber.TrainingBridge1	Timber Tr. Bridge1 (ASD)					-1						Unkn
		13	FSys GFS TrainingBridge1	FloorSystem GFS Training Bridge 1	District	15 Coll	NI-Tur	NUCity	-1						Unkn
		14	FSys FS TrainingBridge2	FloorSystem FS Training Bridge 2	District	333 No	L-95	NYC	-1			State H	County H		Unkn

Select Bridge/Bridge Exchange/Export from the menu. An export file dialog will open. Enter "TrainingBridge3" as the name of the xml file.

Bridge X - Bridge Exchange Feature Example

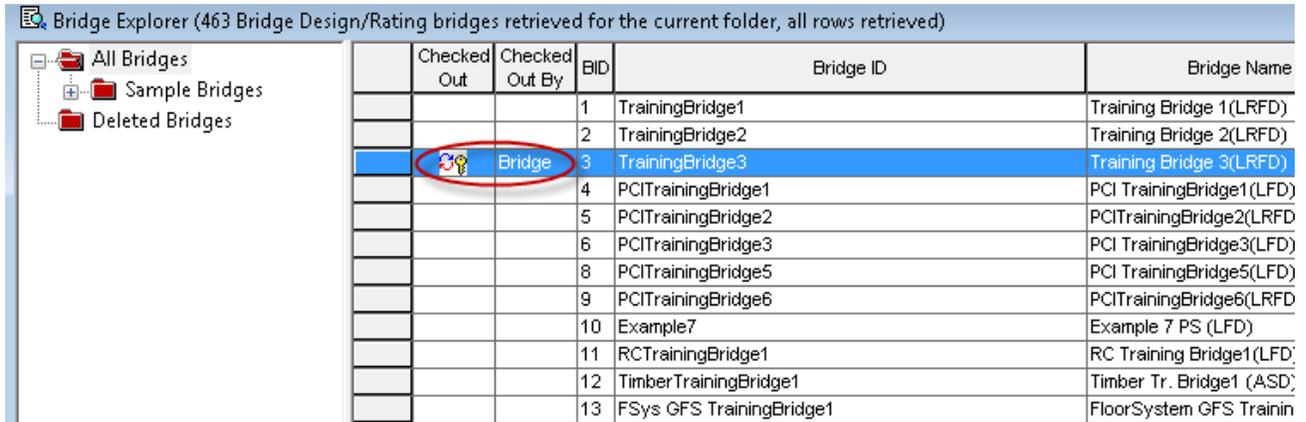


Click Save and the Bridge Exchange Properties dialog will open with the information of the export. Enter “Export TrainingBridge3” as the New Comments.



Bridge X - Bridge Exchange Feature Example

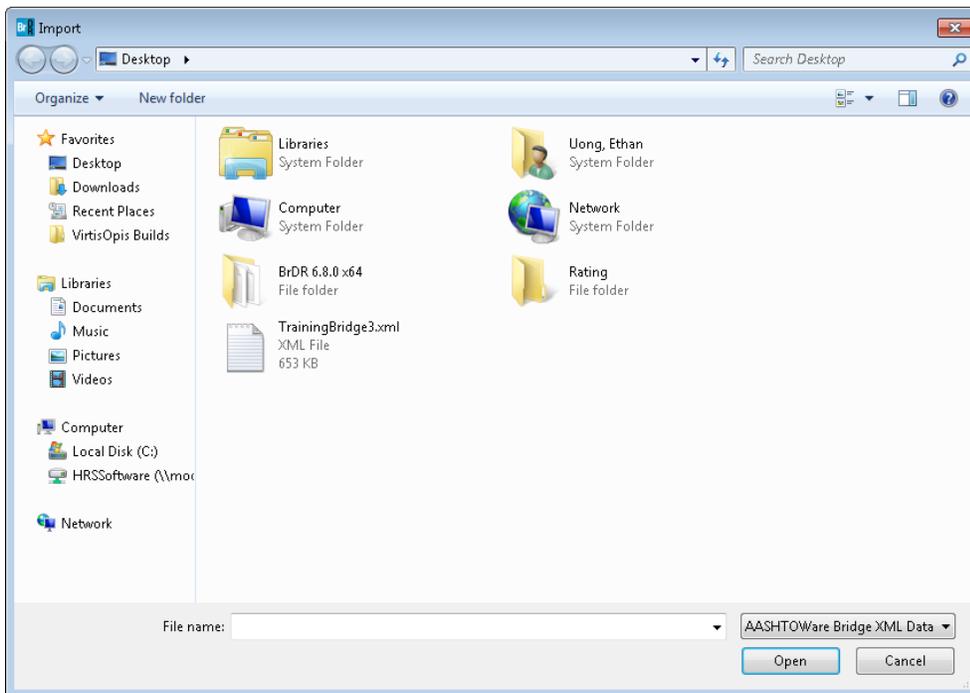
Click OK to complete the export. The Bridge Explorer will be updated to reflect TrainingBridge3 has been exported for exchange by BrR.



Checked Out	Checked Out By	BID	Bridge ID	Bridge Name
		1	TrainingBridge1	Training Bridge 1(LRFD)
		2	TrainingBridge2	Training Bridge 2(LRFD)
Bridge		3	TrainingBridge3	Training Bridge 3(LRFD)
		4	PCITrainingBridge1	PCI TrainingBridge1(LFD)
		5	PCITrainingBridge2	PCITrainingBridge2(LRFD)
		6	PCITrainingBridge3	PCI TrainingBridge3(LFD)
		8	PCITrainingBridge5	PCI TrainingBridge5(LFD)
		9	PCITrainingBridge6	PCITrainingBridge6(LRFD)
		10	Example7	Example 7 PS (LFD)
		11	RCTrainingBridge1	RC Training Bridge1(LFD)
		12	TimberTrainingBridge1	Timber Tr. Bridge1 (ASD)
		13	FSys GFS TrainingBridge1	FloorSystem GFS Trainin

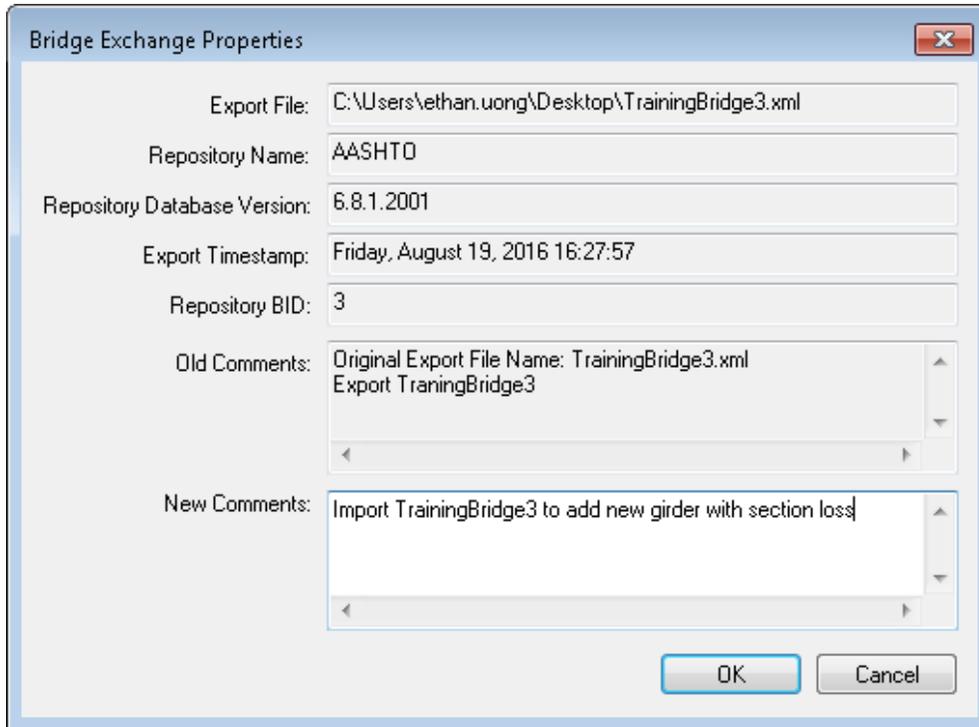
Import the bridge to the consultant database

Start BrR/BrD and log into the consultant database. Select Bridge/Bridge Exchange/Import from the menu. An import file dialog will open. Select “TrainingBridge3.xml” as the file to import.



Bridge X - Bridge Exchange Feature Example

Click Open and the Bridge Exchange Properties dialog will open with the information of the import. All exchange comments are displayed in Old Comments. Enter “Import TrainingBridge3 to add new girder with section loss” as the New Comments.

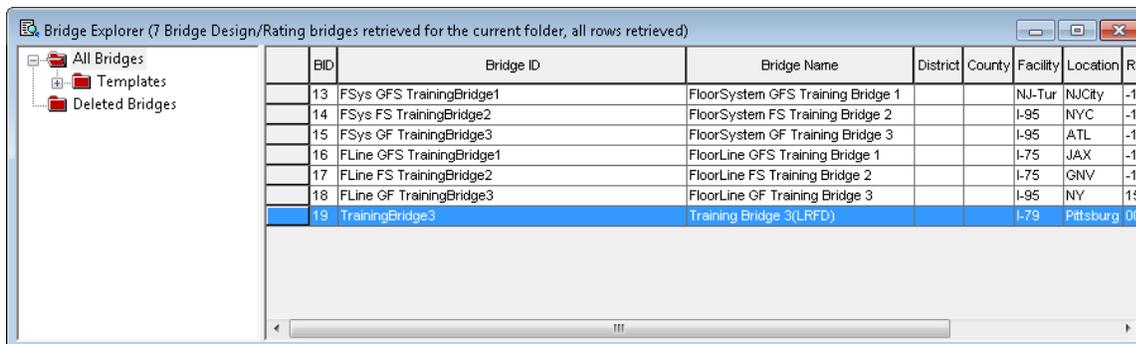


The Bridge Exchange Properties dialog box contains the following fields:

- Export File: C:\Users\ethan.uong\Desktop\TrainingBridge3.xml
- Repository Name: AASHTO
- Repository Database Version: 6.8.1.2001
- Export Timestamp: Friday, August 19, 2016 16:27:57
- Repository BID: 3
- Old Comments: Original Export File Name: TrainingBridge3.xml
Export TrainingBridge3
- New Comments: Import TrainingBridge3 to add new girder with section loss

Buttons: OK, Cancel

Click OK to complete the import. The Bridge Explorer will be updated with TrainingBridge3.

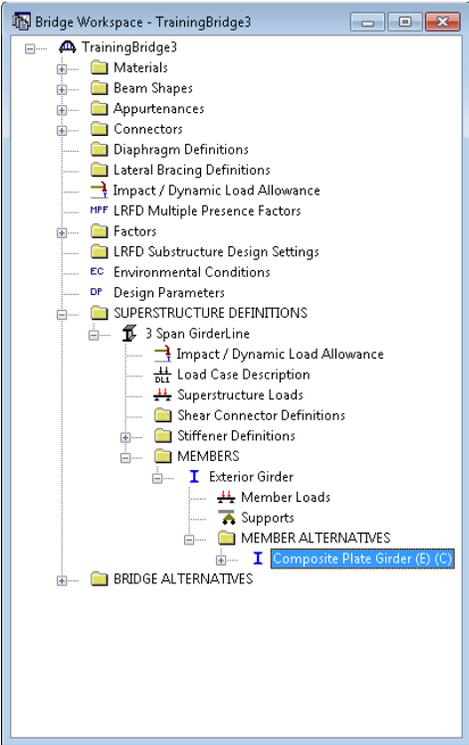


Bridge Explorer (7 Bridge Design/Rating bridges retrieved for the current folder, all rows retrieved)

	BID	Bridge ID	Bridge Name	District	County	Facility	Location	Rc
	13	FSys GFS TrainingBridge1	FloorSystem GFS Training Bridge 1			NJ-Tur	NJCity	-1
	14	FSys FS TrainingBridge2	FloorSystem FS Training Bridge 2		I-95	NYC		-1
	15	FSys GF TrainingBridge3	FloorSystem GF Training Bridge 3		I-95	ATL		-1
	16	FLine GFS TrainingBridge1	FloorLine GFS Training Bridge 1		I-75	JAX		-1
	17	FLine FS TrainingBridge2	FloorLine FS Training Bridge 2		I-75	GNV		-1
	18	FLine GF TrainingBridge3	FloorLine GF Training Bridge 3		I-95	NY		1E
	19	TrainingBridge3	Training Bridge 3(LRFD)		I-79	Pittsburg		0E

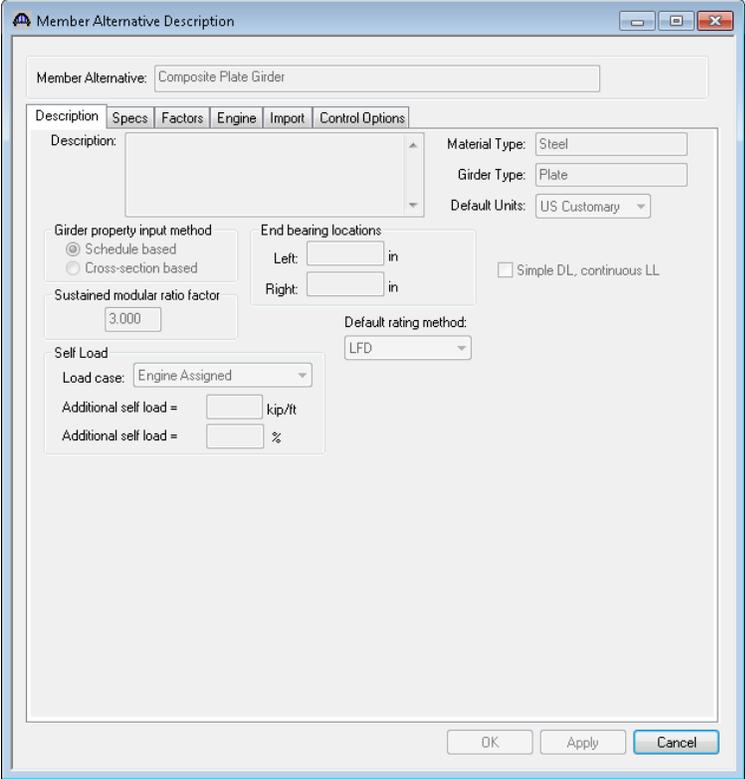
Bridge X - Bridge Exchange Feature Example

Double click TrainingBridge3 to open the Bridge Workspace.



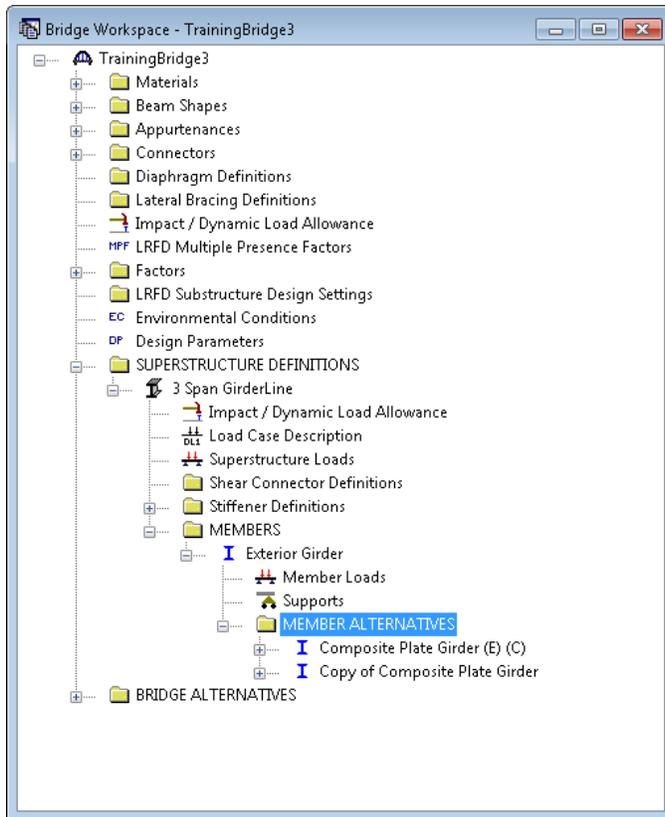
Double click "Composite Plate Girder" to open the Member Alternative Description window. Since the bridge is imported into the consultant database using the Bridge Exchange feature, the window is read-only.

Bridge X - Bridge Exchange Feature Example



Make a copy of the “Composite Plate Girder” member alternative and enter the deterioration in this copy. To make a copy of “Composite Plate Girder”, click on “Composite Plate Girder” in the tree and select Edit/Copy from the menu. Now click on MEMBER ALTERNATIVES in the tree and select Edit/Paste from the menu. The Bridge Workspace tree will be updated with the new copy.

Bridge X - Bridge Exchange Feature Example



Double click “Copy of Composite Plate Girder” to open the Member Alternative Description window. Since this member alternative is added after the bridge is imported into the consultant database, the data can be modified. Change the name of the member alternative to “Composite Plate Girder with Section Loss”. Click OK to close the window.

Bridge X - Bridge Exchange Feature Example

Define deterioration for the bottom flange by double clicking on “Deterioration Profile” in the tree. Enter the following data on the Bottom Flange tab. Click OK to save the data to memory and close the window.

The screenshot shows a software window titled "Deterioration Profile". At the top, there is a "Type:" dropdown menu set to "Plate Girder". Below this are three tabs: "Web", "Top Flange", and "Bottom Flange", with "Bottom Flange" being the active tab. The main area contains a table with the following data:

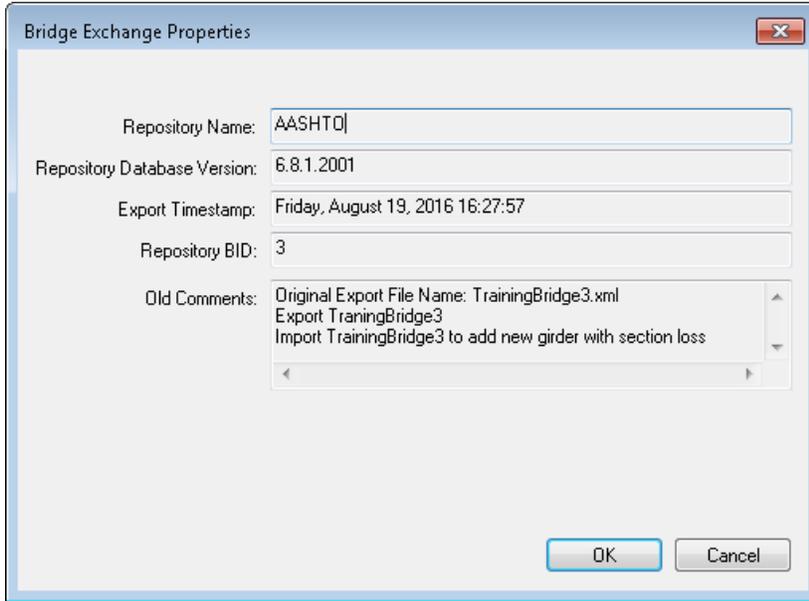
% Width Loss (%)	% Thickness Loss (%)	Support Number	Start Distance (ft)	Length (ft)	End Distance (ft)
	10.0	1	0.00	5.00	

Below the table are three buttons: "New", "Duplicate", and "Delete". At the bottom of the window are three buttons: "OK", "Apply", and "Cancel".

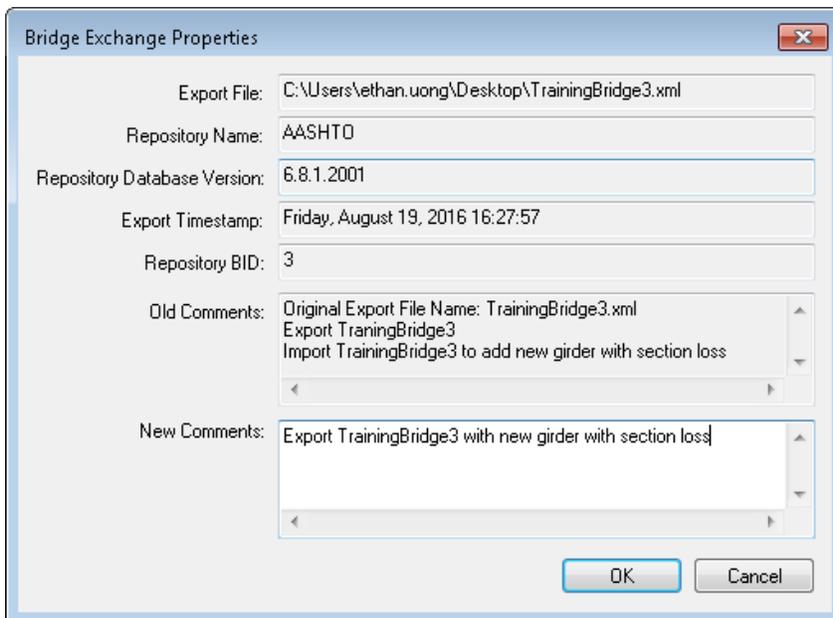
Select File/Save to save the data in the memory to the consultant database. The description of the new member alternative with section loss is complete. Select File/Close to close the Bridge Workspace.

Export the bridge from the consultant database

Select Bridge/Bridge Exchange/Information to review Bridge Exchange Properties. Click OK to close the dialog.

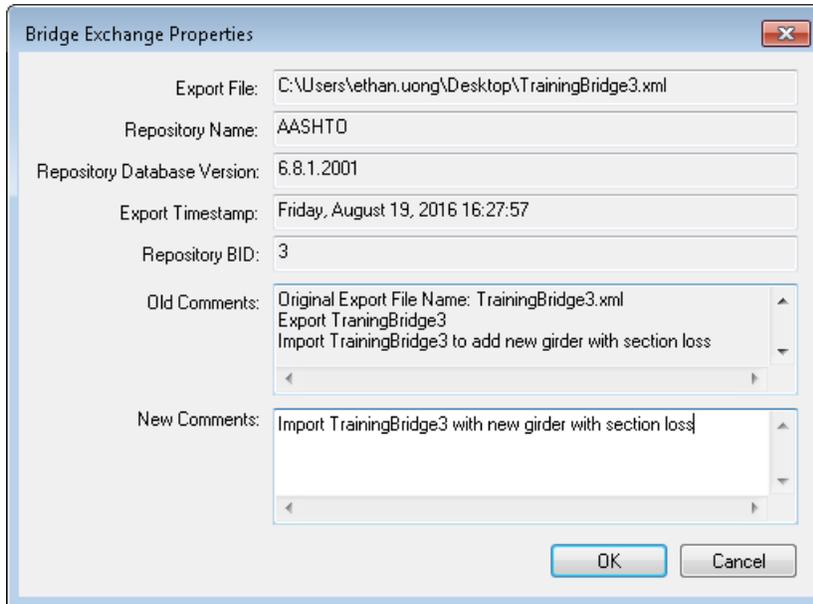


Select Bridge/Bridge Exchange/Export from the menu. An export file dialog will open. Enter "TrainingBridge3" as the name of the XML file. Click Save and the Bridge Exchange Properties dialog will open for New Comments. Enter "Export TrainingBridge3 with new girder with section loss". Click OK to complete the export.



Import the bridge back to the repository database

Start BrR/BrD and log into the repository database. Select Bridge/Bridge Exchange/Import from the menu. An import file dialog will open. Select “TrainingBridge3.XML” as the file to import. Click Open and the Bridge Exchange Properties dialog will open with the information of the import. Enter “Import TrainingBridge3 with new girder with section loss” as the New Comments.



Click OK to complete the import. The Bridge Explorer will be updated to reflect TrainingBridge3 has been imported back into the repository database.

