

BrDR Custom Template Database: Consistent agency libraries and settings

AASHTOWare RADBUG Meeting

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BrDR Architecture: Local Client GUI and Database (local/network)

- Bridge Explorer and Workspace GUI
 - Enter and view data
 - Run analysis
- Database
 - Store model data
 - Libraries, settings

The image illustrates the BrDR architecture, showing the interaction between the local client GUI and the database.

Bridge Explorer and Workspace GUI: The top-left window shows the Bridge Explorer and Workspace GUI. The Bridge Explorer lists various bridges, including TrainingBridge1 through TrainingBridge16. The Workspace shows a list of components, including Diaphragm Definitions, Lateral Bracing Definitions, and Bridge Alternatives.

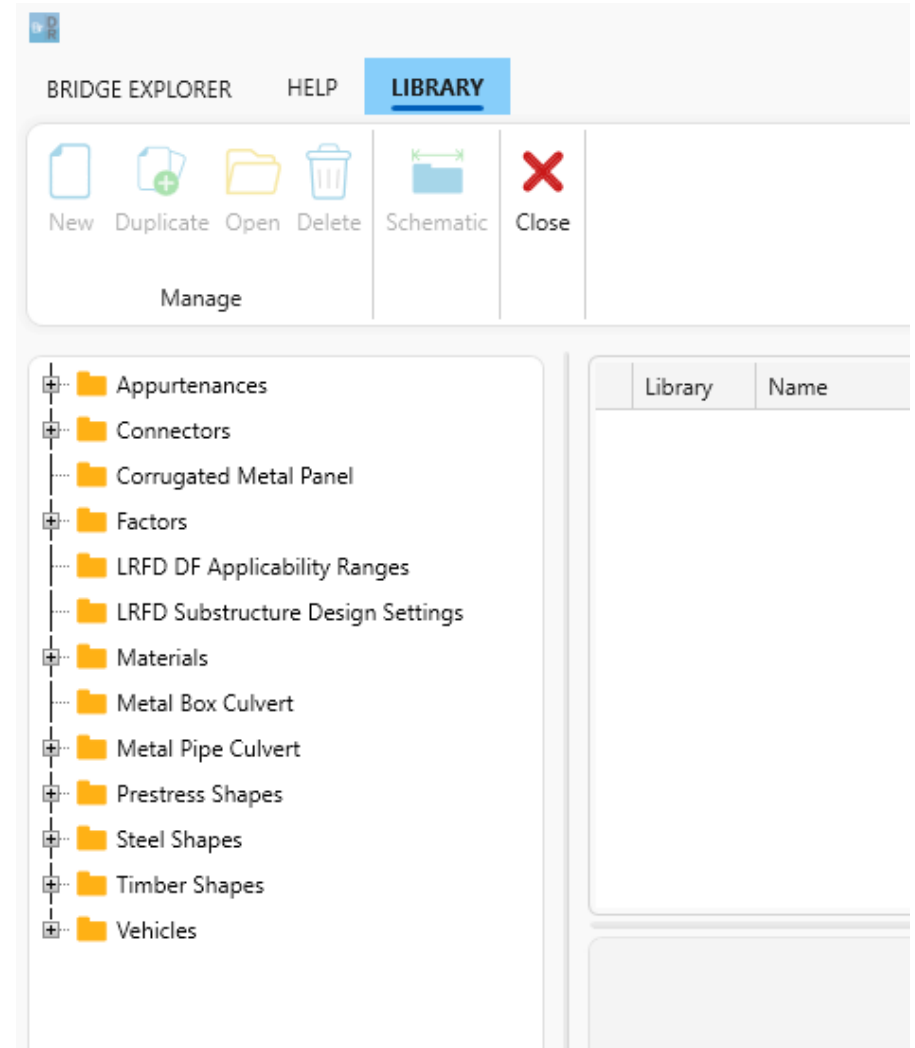
Manage Connections Dialog: The top-right window shows the Manage Connections dialog. It displays connection details for AASHTOWareB7B, including the profile name, connection type (Microsoft SQL Server), host address, and database.

SQL Query Results: The bottom-right window shows the SQL query results. The query is a SELECT statement that retrieves various fields from the database, including bridge_id, bridge_guid, agency_code, bridge_number, name, bridge_rating_ind, bridge_design_ind, bridge_management_ind, descr, elevation, x_plane_coordinate, y_plane_coordinate, prev_count_year, recent_count_year, recent_count_adtt, prev_adtt, prev_growth_rate, future_count_year, future_count_adtt, traffic_factor, final_design_event_id, last_modified_event_id, creation_event_id, lrfd_constant_impact_factor, lrfd_fatigue_impact_factor, impact_factor_adjustment, impact_factor_override, impact_factor_type, bridge_units_type, deleted_ind, template_ind, completely_defined_ind, last_change_timestamp, mpf_reduce_based_on_adtt_ind, and traffic_adtt.

A large blue double-headed arrow indicates the bidirectional communication between the GUI and the database.

What is Stored in Database?

1. All bridge model inputs
2. Libraries (partial list)
 - Appurtenances
 - Materials
 - Factors
 - DF Applicability Ranges
 - Shapes
 - Vehicles



What is Stored in Database?

3. Systems Data (partial list)

- Analysis Settings templates
- General Preferences templates
- System Defaults

AASHTOWareBridgeAdmin
Oracle
PostgreSQL
SQLServer

TableColumnReport780.pdf
TableReport780.pdf

Installation Files:
Contains a list of all
Tables, Columns

The screenshot displays the SQL Server Enterprise Manager interface. The 'System Data Export' window is open, showing a list of system data items: 'Analysis Event Template', 'Load Combination Settings Template', and 'Load Palette Template'. The 'Details' pane shows a table with columns 'Name' and 'Description'. The 'Object Explorer' pane shows a list of tables in the 'dbo' schema, including 'dbo.abw_bolt_def', 'dbo.abw_bot_flange_lat_bracing_loc', 'dbo.abw_bot_flange_lat_sup_loc_range', 'dbo.abw_bracket_mbr', 'dbo.abw_bridge_def', 'dbo.abw_bridge_guid', 'dbo.abw_bridge_rating', 'dbo.abw_bridge_design', 'dbo.abw_bridge_management', 'dbo.abw_bridge_elevation', 'dbo.abw_bridge_x_plane_coordinate', 'dbo.abw_bridge_y_plane_coordinate', 'dbo.abw_bridge_prev_count_year', 'dbo.abw_bridge_recent_count_year', and 'dbo.abw_bridge_recent_count_adtt'. A context menu is open over the 'dbo.abw_bridge_def' table, showing options like 'Table...', 'Design', 'Select Top 1000 Rows', 'Edit Top 200 Rows', 'Script Table as...', 'View Dependencies', 'Memory Optimization Advisor', 'Always Encrypted Wizard...', 'Full-Text index', 'Storage', 'Policies', 'Facets', 'Start PowerShell', 'Reports', 'Rename', 'Delete', 'Refresh', and 'Properties'. The 'Messages' pane shows a query result for 'SELECT TOP (1000) [bridge_id], [bridge_guid], [agency_code], [bridge_number], [name], [bridge_rating_ind], [bridge_design_ind], [bridge_management_ind], [descr], [elevation], [x_plane_coordinate], [y_plane_coordinate], [prev_count_year], [recent_count_year], [recent_count_adtt]'. The result table has columns 'bridge_id', 'bridge_guid', 'agency_code', 'bridge_number', and 'name'. A row is highlighted, showing values for 'TrainingBridge1'.

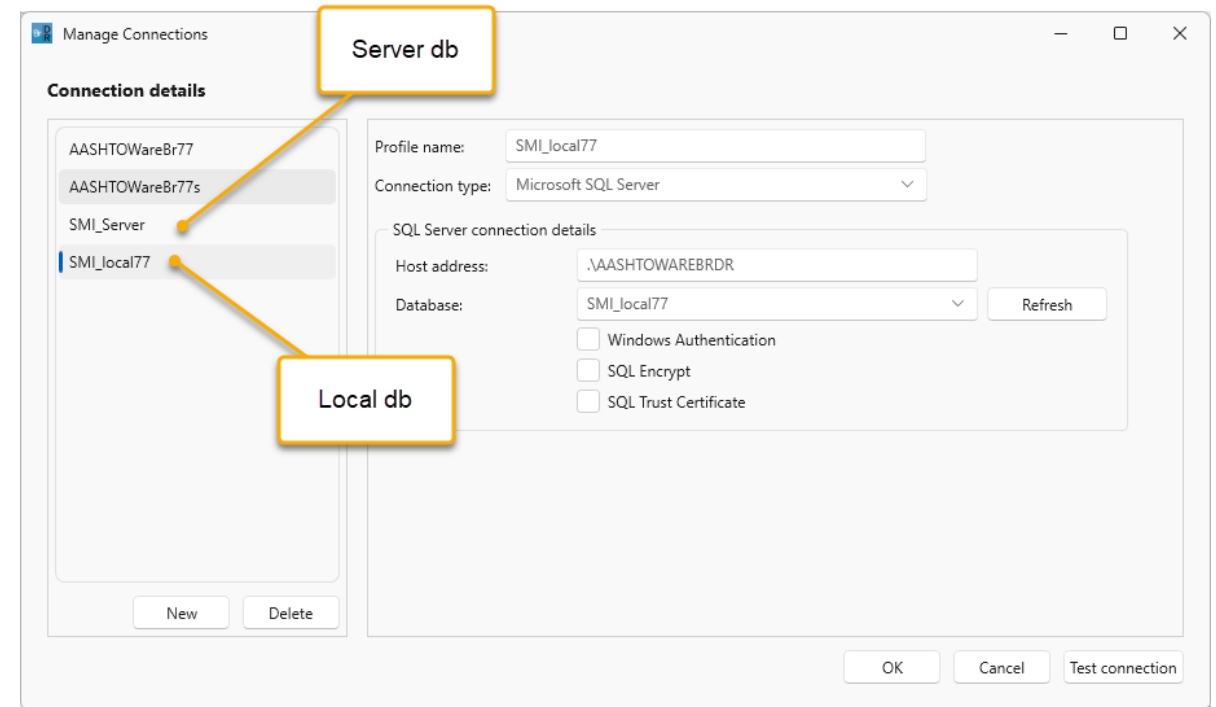
Name	Description
LFR (CA- Closely Spaced)	CA LFR Setting for closely spaced...
LFR (CA- Widely Spaced)	CA LFR Setting for widely spaced...
LFR (CA- 3D)	CA LFR Setting for widely spaced...

bridge_id	bridge_guid	agency_code	bridge_number	name
244BDBD9-C97F-455C-A9E7-3978EBE07DD6	A6685982-E29A-4675-9348-8E7D3A383A01	TrainingBridge1	TrainingBridge1	Training Bridge 1(LRFD)
F05B5BEF-B4F6-4206-9135-76C627F76084	D0F2A9E4-99A2-4F53-961C-EBD405FE0864	TrainingBridge2	TrainingBridge2	Training Bridge 2(LRFD)
E7AF08CD-0221-457B-8A31-B21443CEF44E	730FEFFD-1616-4F09-8F28-757362F06B06	TrainingBridge3	TrainingBridge3	Training Bridge 3(LRFD)
18D7AACC-C9F6-4FF9-BD07-A5893C3D5F9C	8A75AECB-8AD7-4ABE-BCF8-769BF6CB0D18	PCITrainingBridge1	PCITrainBridge1	PCI TrainingBridge1(LRFD)
DC06F6CD-210D-4976-B848-08CC4E14DF0	D93C10A0-AEA1-438E-94ED-0B3872F27E1D	PCITrainingBridge2	PCITrainBridge2	PCI TrainingBridge2(LRFD)
FE6A9AC0-AA4C-4F97-898A-3376700B74C7	8D350D05-AE49-469C-A4FD-7758086EFB4E	PCITrainingBridge3	PCITrainBridge3	PCI TrainingBridge3(LRFD)
0886E490-A231-457D-95BE-0644609150DF	F12AF5A8-77AC-4B68-A6E9-D39F382BEB88	PCITrainingBridge4	PCITrainBridge4	PCI TrainingBridge4(LRFD)
028D17CD-5F5A-4092-A329-11DFA576A60	43D7E3EA-B04D-46DE-816A-02D87D0024BE	RCTrainingBridge1	RCTrainBridge1	RC Training Bridge1(LRFD)
C604580D-D948-4753-B8F6-5099557E6DE2	C26C75F1-D098-483B-96FC-FCDDC6F0EEEB	TimberTrainingBridge1	TimberTrainBridge1	Timber Training Bridge 1 (ASD)
3363CB22-9EF1-4030-99D0-B519CD273577		FSys GFS TrainingBridge1	FS1	Training Bridge 1
		FSys FS TrainingBridge2	FS2	Training Bridge 2
		FSys GF TrainingBridge3	FS3	Training Bridge 3
		FLine GFS TrainingBridge1	FLine GFS Train	FloorLine GFS Training Bridge 1
		FLine FS TrainingBridge2	FLine FS Train	FloorLine FS Training Bridge 2
		FLine GF TrainingBridge3	FLine GF Train	FloorLine GF Training Bridge 3
		TrussTrainingExample	TrussTrainingEx	Truss Training Example

The Need for Template

Caltrans Load Rating Workflow

1. Using local/working database:
 - Load rating engineer creates the model
 - Model is sent to checker for comments
 - Model is finalized
2. Using shared network database:
 - Final model is imported from local db
 - Results verified to match local db
 - Load rating is finalized and model is locked



Local database: Each user has their own working db.

➤ Need a way to provide same library and settings for all users.

Network database: All users access the same database.

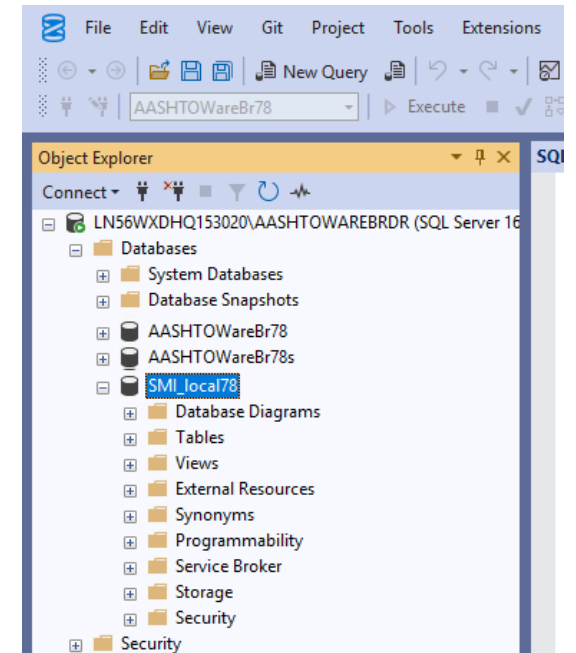
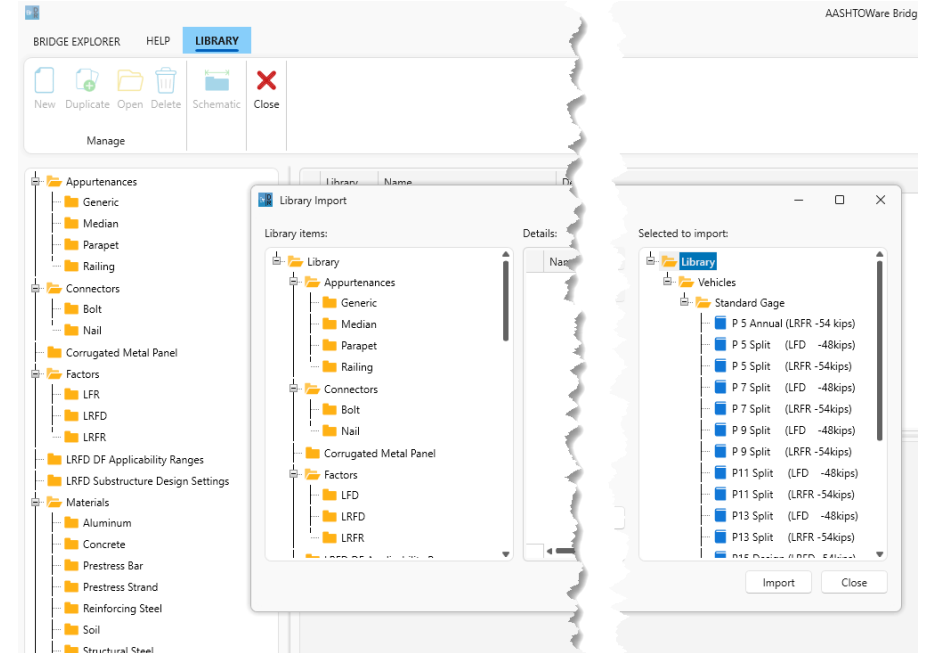
How to Share Standards

1. Share .brlx (library) and .brsx (systems data) files with users.

- Users import into their local db.
- Analysis settings templates that have vehicles with different names but same definition will not import
- Multiple steps, relies on users, prone to errors.

2. Create a template db.

- Local db template contains all libraries and settings.
- One time setup by administrator and auto install with one click for users



Caltrans Custom Template db: SMI_local

Template db for consistent libraries and settings for all local installations. Template contains custom California:

- Example bridge models of each bridge type (19)
- Bridge rails (62)
- Materials (many)
- LRFR factors (1)
- Beam shapes (45)
- Vehicles (22)
- LRFD DF Applicability Ranges (1)
- Analysis settings (9)
- General Preferences (for default Control Options)
- System Defaults
- Custom Agency fields

Deploying to Users

When ready to upgrade to new BrDR version:

1. Start with previous db template and make any desired changes
2. Migrate template to new version BrDR
3. Save new template .bak (db backup) file
4. Send installation files and .bak to Caltrans IT
5. IT prepares push installation package to install new version BrDR and create template db by restoring from .bak
6. Users are notified and upgrade is sent out to existing users
7. Users export any models they want to keep from old version
8. Users click to accept installation
9. Old version is removed and new version with new local db template installed

Advantages of Using a Custom db Template

- Consistency: All users have the same local db setup at installation- libraries, settings
- Efficiency: Quick setup and upgrades – no manual imports
- Easy maintenance: Centralized updates
- Useful for:
 - Organizations that have multiple users
 - Agencies that hire consultants



Questions?

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