

AASHTOWare BrDR 7.6.1

Report Tutorial

Report Tool 2.0

Report Tool 2.0

Topics Covered

- Bridge Workspace Reports
- Template Editor Window Overview
- Creating Custom BWS Report Tool Templates Using the Template Editor
- Opening Custom Templates from the Bridge Workspace

This example describes the use of the new Report Tool 2.0 feature in BrDR. *Note: The Report Tool 2.0 is included in BrDR for versions 7.5 and later.*

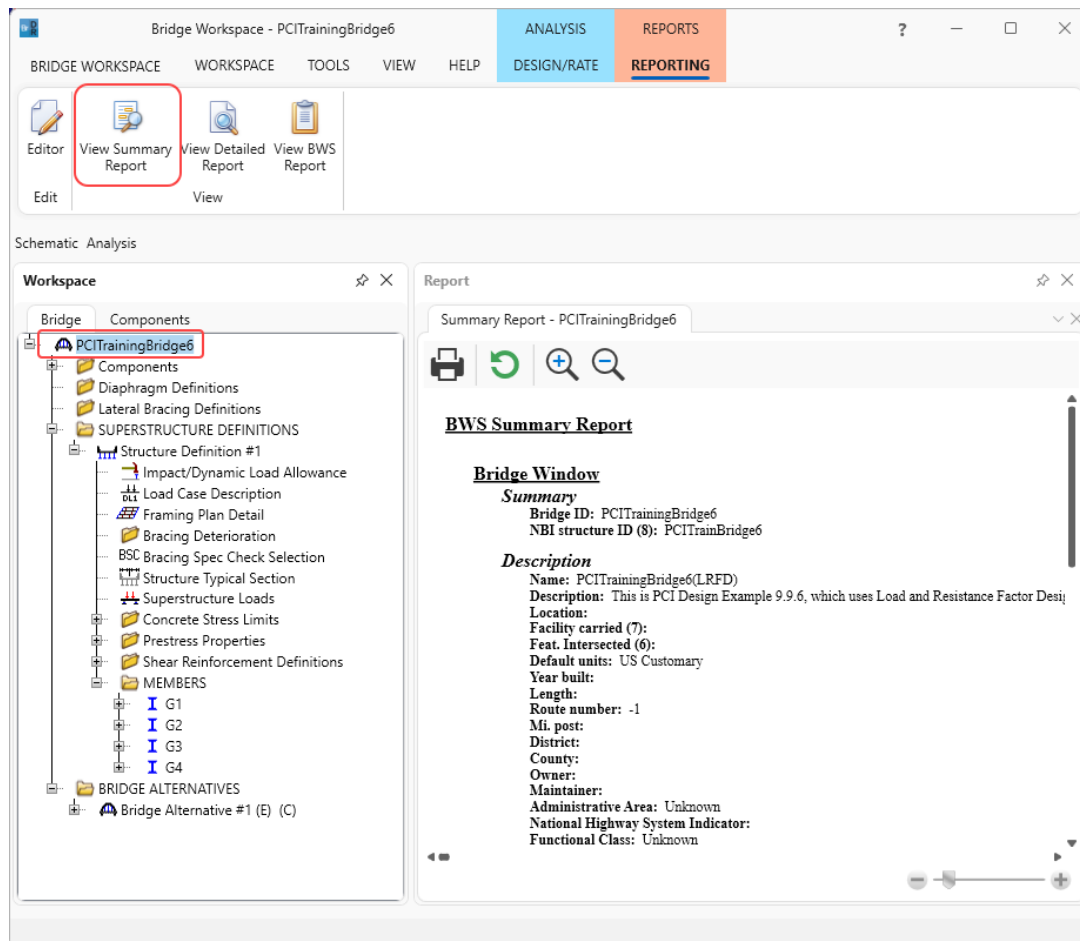
Bridge Workspace Reports

BWS Summary Reports

From the **Bridge Explorer** open sample bridge **PCITrainingBridge6** (BID 9).

Click on the **REPORTING** tab in the **Bridge Workspace** ribbon.

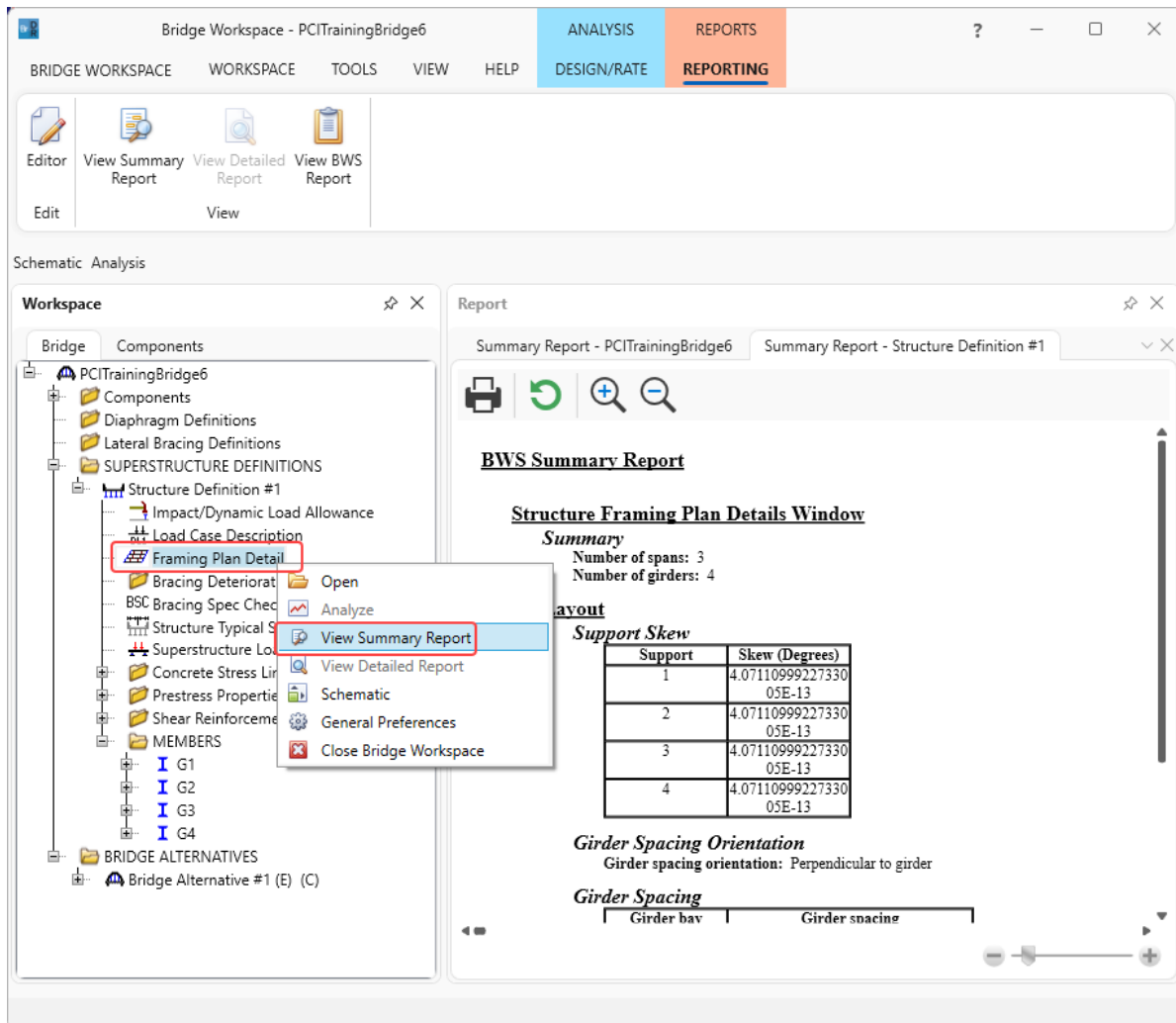
Select the bridge item from the **Bridge Workspace** tree and click **View Summary Report** in the **Bridge Workspace** ribbon.



A summary report of the bridge will be generated and displayed in the **Report** panel.

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Expand the **Structure Definition #1** item in the tree. **Right click** on the **Framing Plan Detail** item from **Bridge Workspace** tree and select **View Summary Report**.



The **Framing Plan Details Summary Report** will be generated and will open as a new tab in the **Report** panel. The summary reports will only include data from the window associated with the selected **Bridge Workspace** tree node item. Only **Bridge Workspace** tree nodes that have a BrDR window associated with them will have the **Summary Report** option enabled.

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BWS Detailed Reports

Now select **Structure Definition #1** from the **Bridge Workspace** tree and click **View Detailed Report** in the **Bridge Workspace** ribbon.

The screenshot shows the Bridge Workspace - PCITrainingBridge6 application. The top ribbon has tabs for ANALYSIS, REPORTS, DESIGN/RATE, and REPORTING. The REPORTING tab is active, showing buttons for Editor, View Summary Report, View Detailed Report (highlighted with a red box), and View BWS Report. Below the ribbon is the Workspace tree on the left, showing a hierarchy of components. 'Structure Definition #1' is selected and highlighted with a red box. The right panel shows the 'Report' window with tabs for 'Summary Report - Structure Definition #1' and 'Detailed Report - Structure Definition #1'. The 'Detailed Report' tab is active, displaying the 'BWS Detailed Report' for 'Girder System Superstructure Definition Window'. The report includes a 'Definition' section with a 'Summary' and a 'Span' table.

BWS Detailed Report

Girder System Superstructure Definition Window

Definition

Summary

Name: Structure Definition #1
Description:
Default units: US Customary
Number of spans: 3
Number of girders: 4

Span

Span	Length (ft)
0	109.99999999999999
1	120.00000000000000
2	110

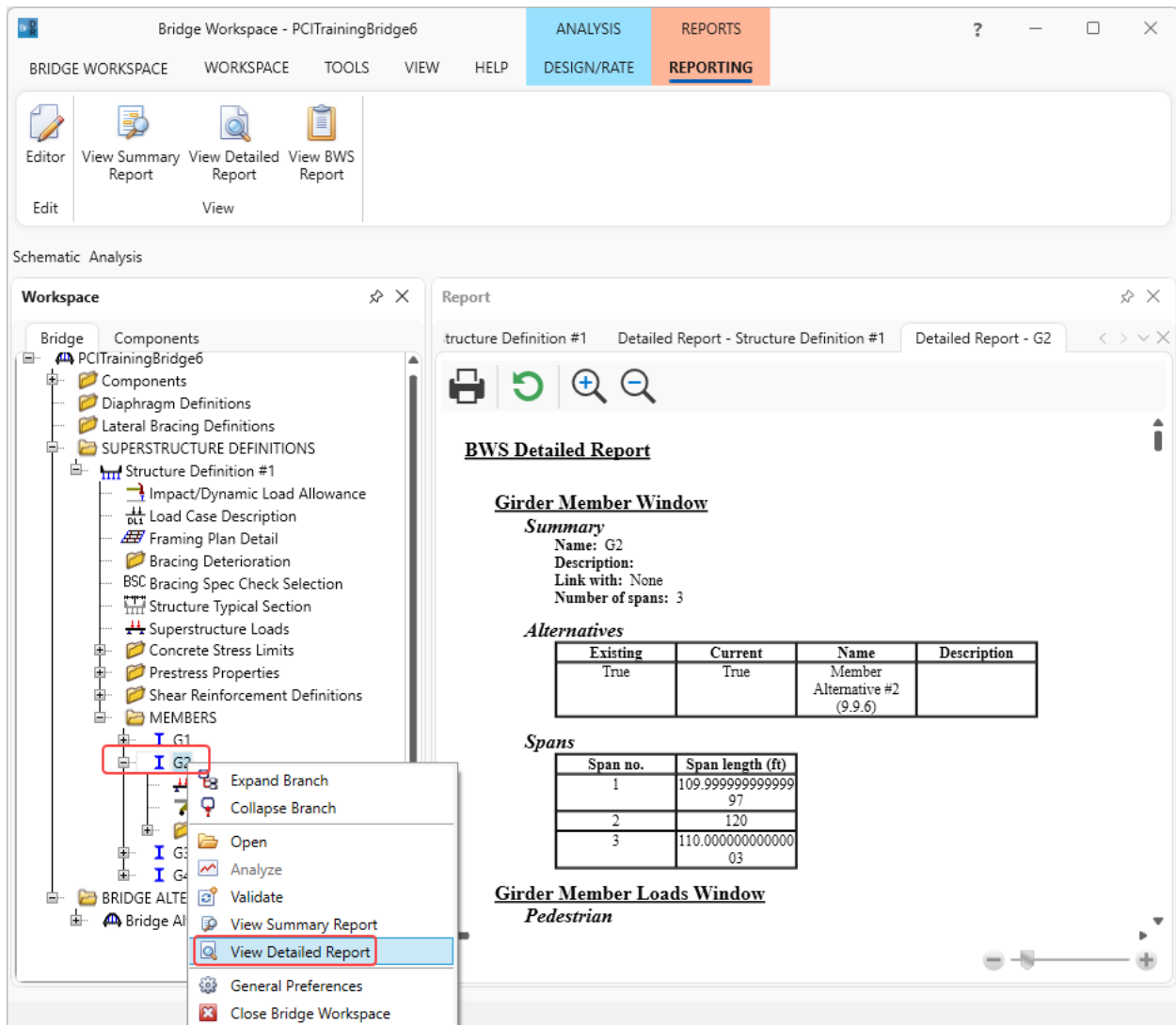
Horizontal Curvature Along Line

Horizontal curvature: False
Superstructure alignment type: Curved
Distance from PC to first support line:
Start tangent length:

A **Detailed Report** of the Superstructure Definition will be generated and displayed as a new tab in the **Report** panel.

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Expand the **MEMBERS** folder in the **Bridge Workspace** tree. **Right click** on the **G2** member and select **View Detailed Report**.



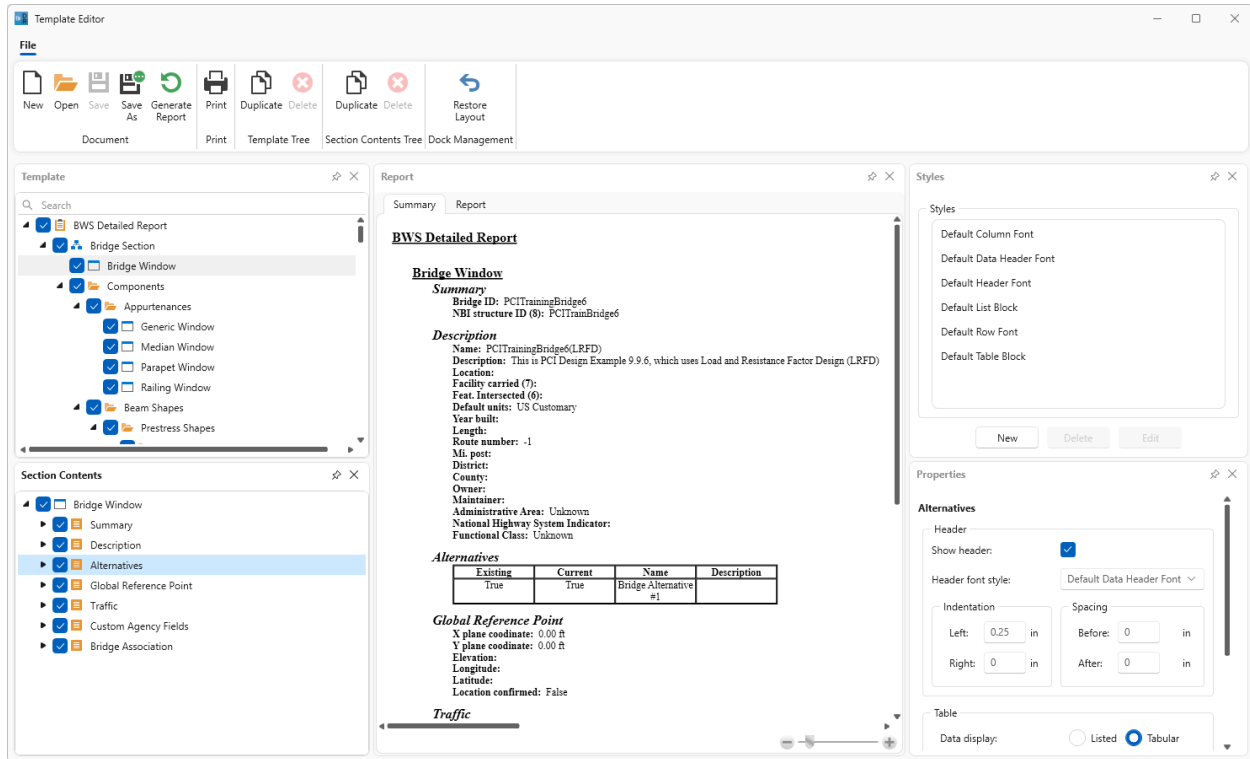
The **Detailed Report – G2** will be generated and will open as a new tab in the **Report** panel.

Detailed Reports will include data from the window associated with the selected **Bridge Workspace** tree node item and all data from child nodes of that tree item. Only **Bridge Workspace** tree nodes that have child nodes will have the **Detailed Report** option enabled.

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Template Editor Window Overview

The Report Tool 2.0 also includes a **Template Editor** that allows for creating templates that can be used to customize **Bridge Workspace** reports. The templates can be used to customize styling, content, and the order of items in the report. Below is a brief overview of the window's functionality.



Template Editor Ribbon

Document

New button

Creates a new template and populates the Template Editor with the default selections.

Open button

Opens a File Dialog that can be used to open an existing template (.rttx) file. Once a template is selected, the Template Editor will be populated with the contents of the template.

Save button

Saves a previously opened or saved template.

Save as button

Opens a File Dialog that can be used to save the current template.

Generate Report button

Generates a complete report using the current template and displays the contents in the Report tab of the Report panel.

Print

Print button

Prints the contents of the selected tab in the Report panel.

Template Tree

Duplicate button

Duplicates the selected item in the Template Tree panel. The root node of the tree cannot be duplicated.

Delete button

Deletes the selected item in the Template Tree panel. Only duplicate tree items can be deleted.

Section Contents Tree

Duplicate button

Duplicates the selected item in the Section Contents Tree panel. The root node of the tree cannot be duplicated.

Delete button

Deletes the selected item in the Section Contents Tree panel. Only duplicate tree items can be deleted.

Dock Management

Restore Layout button

Restores each dock size to its default setting.

Template Tree Panel

The **Template** tree roughly coincides with the **Bridge Workspace** tree. Check an item in the Template tree to include the contents of the associated **Bridge Workspace** window in the report.

Section Contents Tree

The **Section Contents** tree includes data from the **Bridge Workspace** window associated with the selected **Template** tree item. If no **Template** tree items are selected, the **Section Contents** tree will be empty. Check items in the **Section Contents** tree to include them in the report.

Report Panel

Summary tab

The Summary tab displays the report contents associated with the selected Template tree item only. Any customizations made to the associated Section Contents item and styles will be reflected in the Summary Report instantaneously.

Report tab

The Report tab displays the contents of the entire report generated with the current template. Click **Generate Report** in the ribbon to update the contents of this tab.

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Styles Panel

Displays a list of current styles available for use throughout the report.

New button

Opens a window that can be used to create a new style.

Delete button

Deletes the selected style. A style cannot be deleted if it is in use in the report.

Edit button

Opens a window that can be used to edit the selected style.

Properties Panel

Displays the style and formatting properties of the selected item in the Section Contents tree.

Creating Custom BWS Report Tool Templates Using the Template Editor

The following section provides step-by-step instructions for creating custom templates within the Template Editor.

The templates can be used to customize styling, content, and the order of items in the report.

Customize Report Content

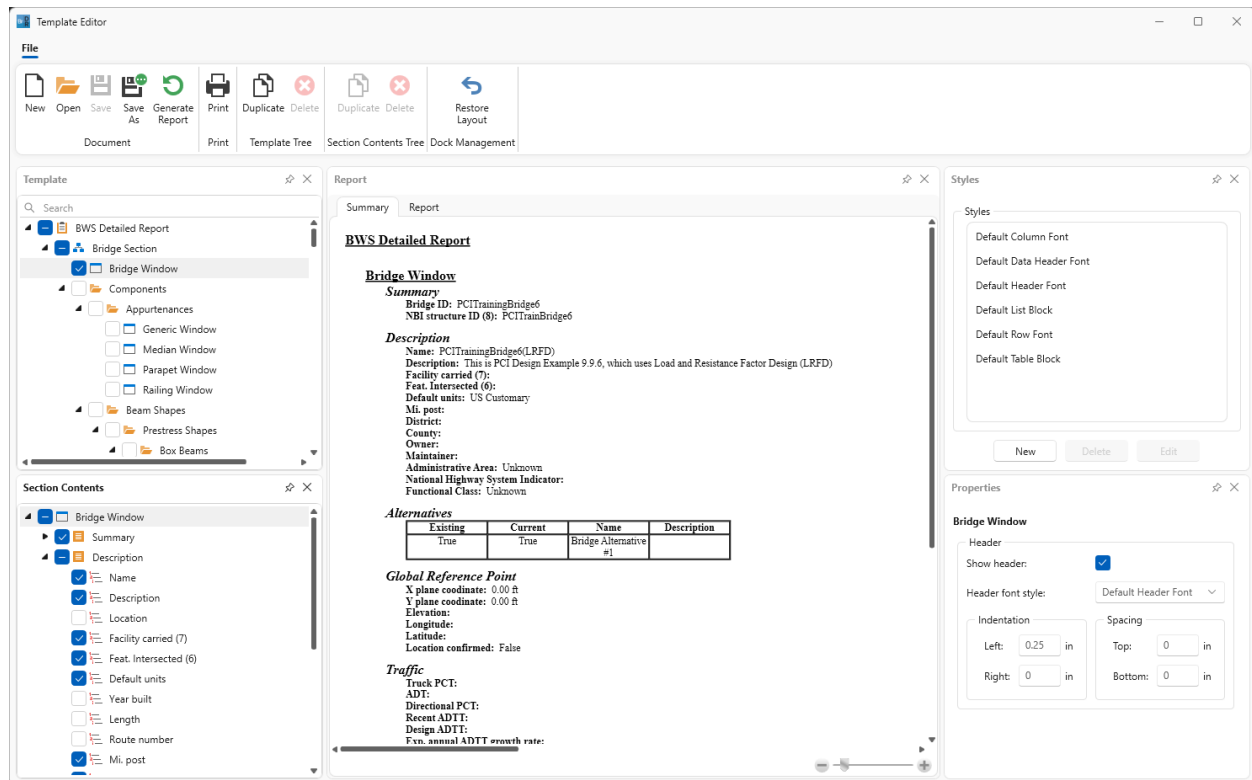
Click on **Editor** in the **Bridge Workspace** ribbon - **REPORTING** tab to open the **Template Editor**.

Uncheck **BWS Detailed Report** in the **Template** tree. This will cascade down to the child tree nodes and uncheck them.

Check **Bridge Window** in the **Template** tree then select it. The **Section Contents** tree below will now be populated with the different sections of the **Bridge Window**.

Expand **Description** in the **Section Contents** tree. Uncheck **Location**, **Year built**, **Length**, and **Route number**.

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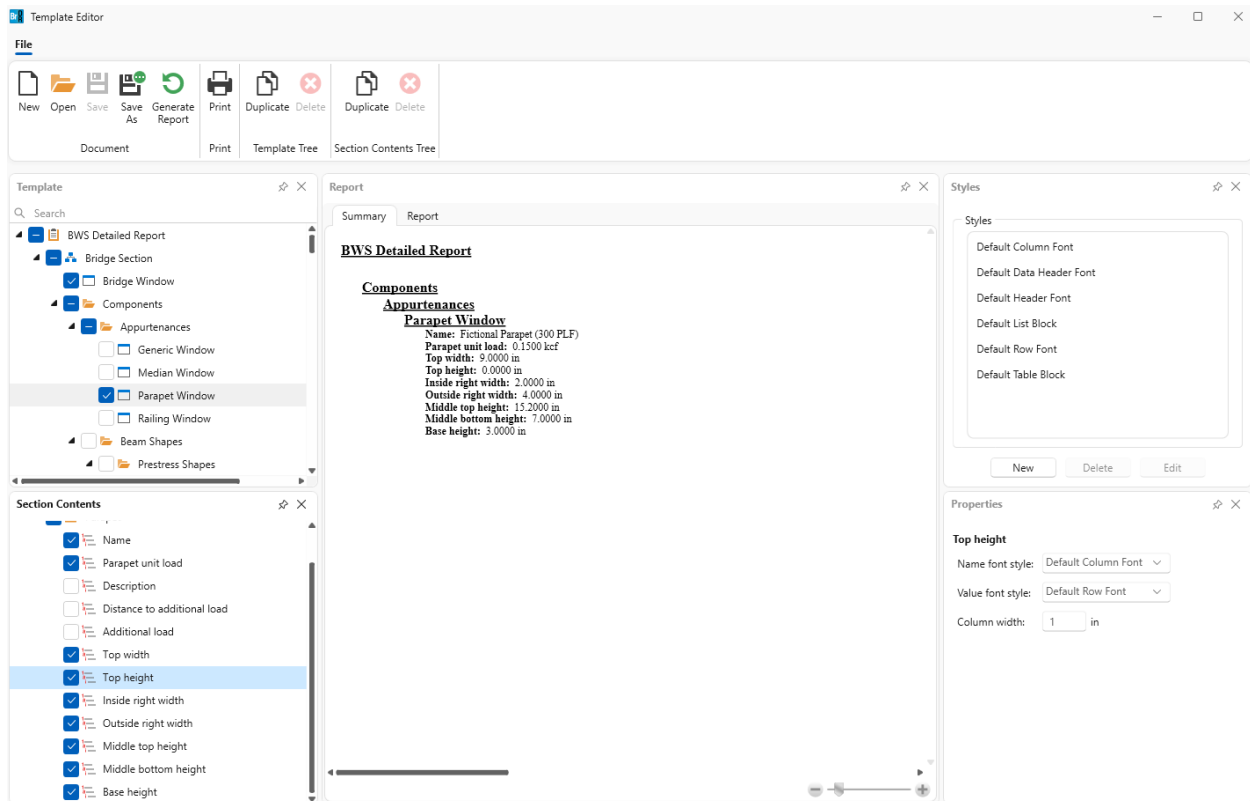


The **Summary** tab in the **Report** panel will update instantaneously, removing these items from the report.

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Check the **Parapet Window** in the **Template** tree and select the item to load the **Section Contents** tree. Uncheck **Description**, **Distance to additional load**, and **Additional load** in the **Section Contents** tree.

Drag the **Parapet unit load** item in the **Section Contents** tree and drop it after **Name**. Drag the **Top height** item in the **Section Contents** tree and drop it after **Top width**.



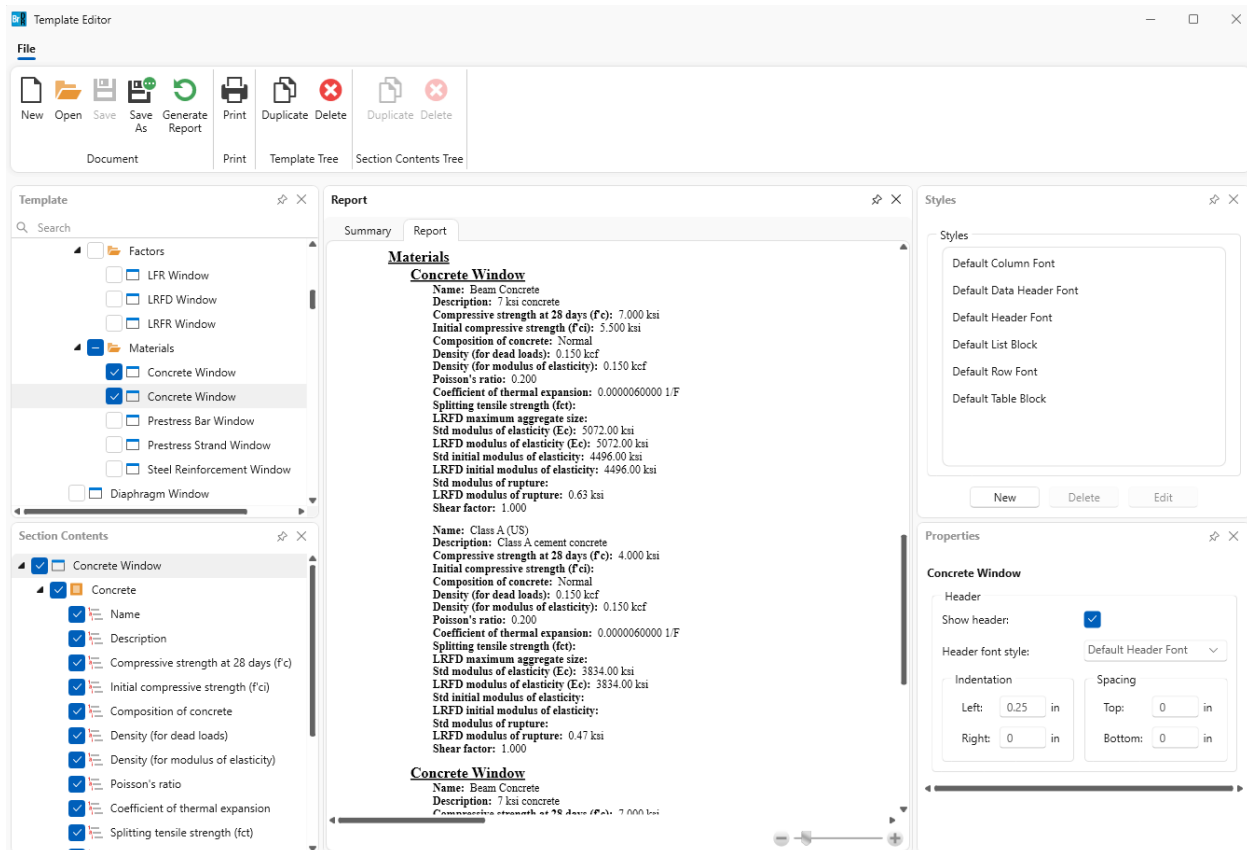
The ordering of the items in **Summary** tab report will update instantaneously to match the ordering in the **Section Contents** tree.

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In the **Template** tree, scroll down to **Materials**. Check the **Concrete Window** item. Select the **Concrete Window** item then click **Duplicate** in the **Template** tree section of the **Ribbon**.

Click **Generate Report** in the **Ribbon**.

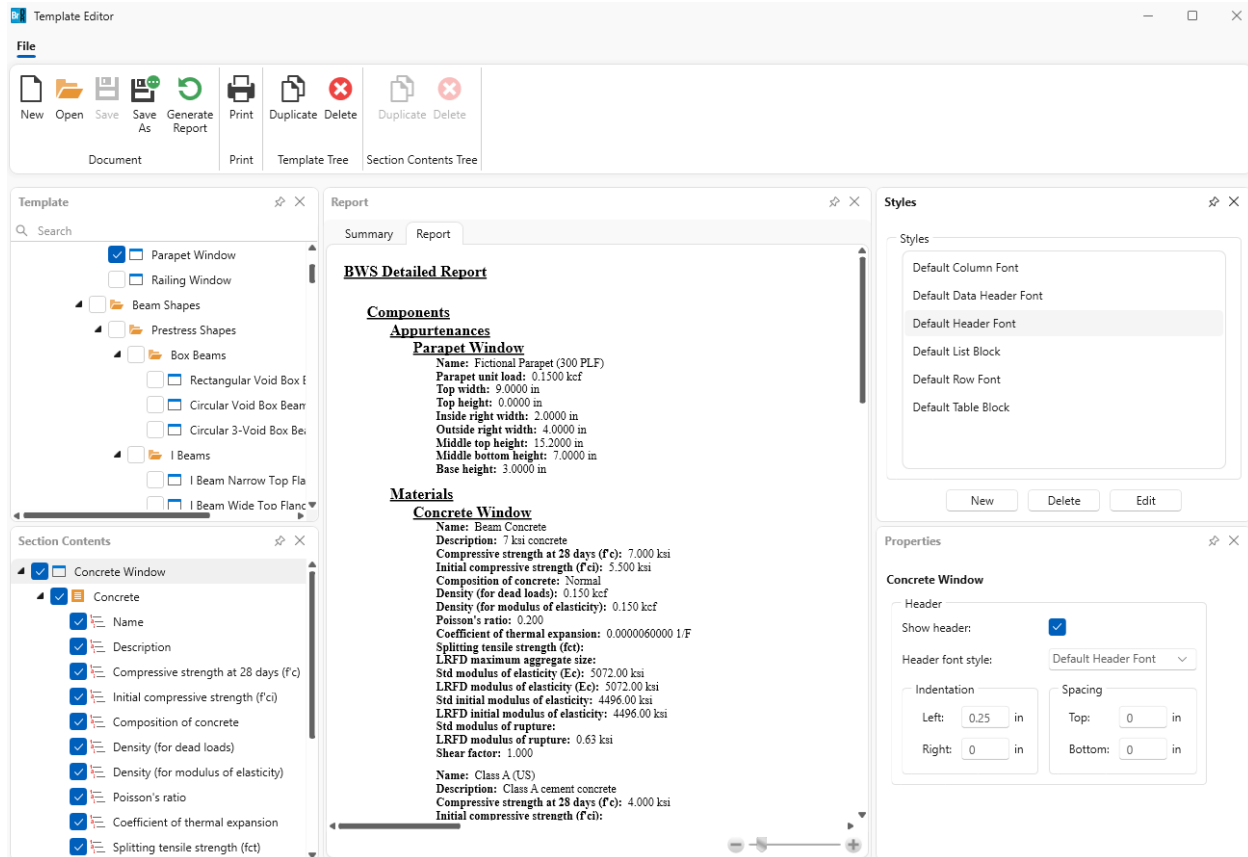
A complete report with all the selected items will be generated and displayed in the **Report** tab of the **Report** panel. Scroll towards the bottom the report and notice that the **Concrete Window** item appears in the report twice since it was duplicated.



Drag the **Components** folder item in the **Template** tree and drop it after **Bridge Section**.

Click **Generate Report** in the **Ribbon**.

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The ordering of the items in report generated in the **Report** tab will update to match the ordering in the **Template** tree.

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Styles

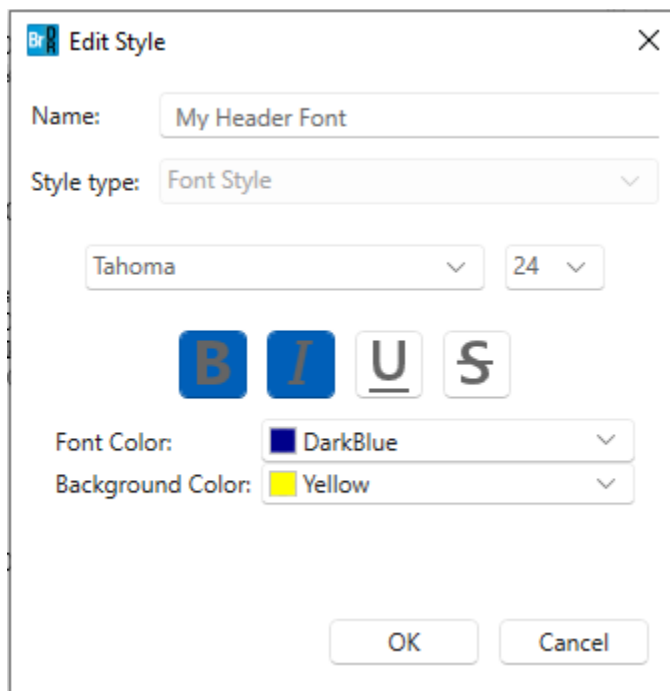
There are two types of styles that can be used throughout a report, **Block Styles** and **Font Styles**. A **Block Style** can be used to create and customize borders for **Data Block** sections throughout a report. A **Font Style** can be used to create and customize fonts throughout the report.

Styles can be created, updated, and deleted using the **Styles Panel** in the **Template Editor**.

Customize Styles

Select **Default Header Font** from the list of styles in the **Styles** panel and click **Edit**. The **Edit Style** window will open populated with the current style's fields.

Change the fields in the window to match the options below.



Edit Style

Name:

Style type:

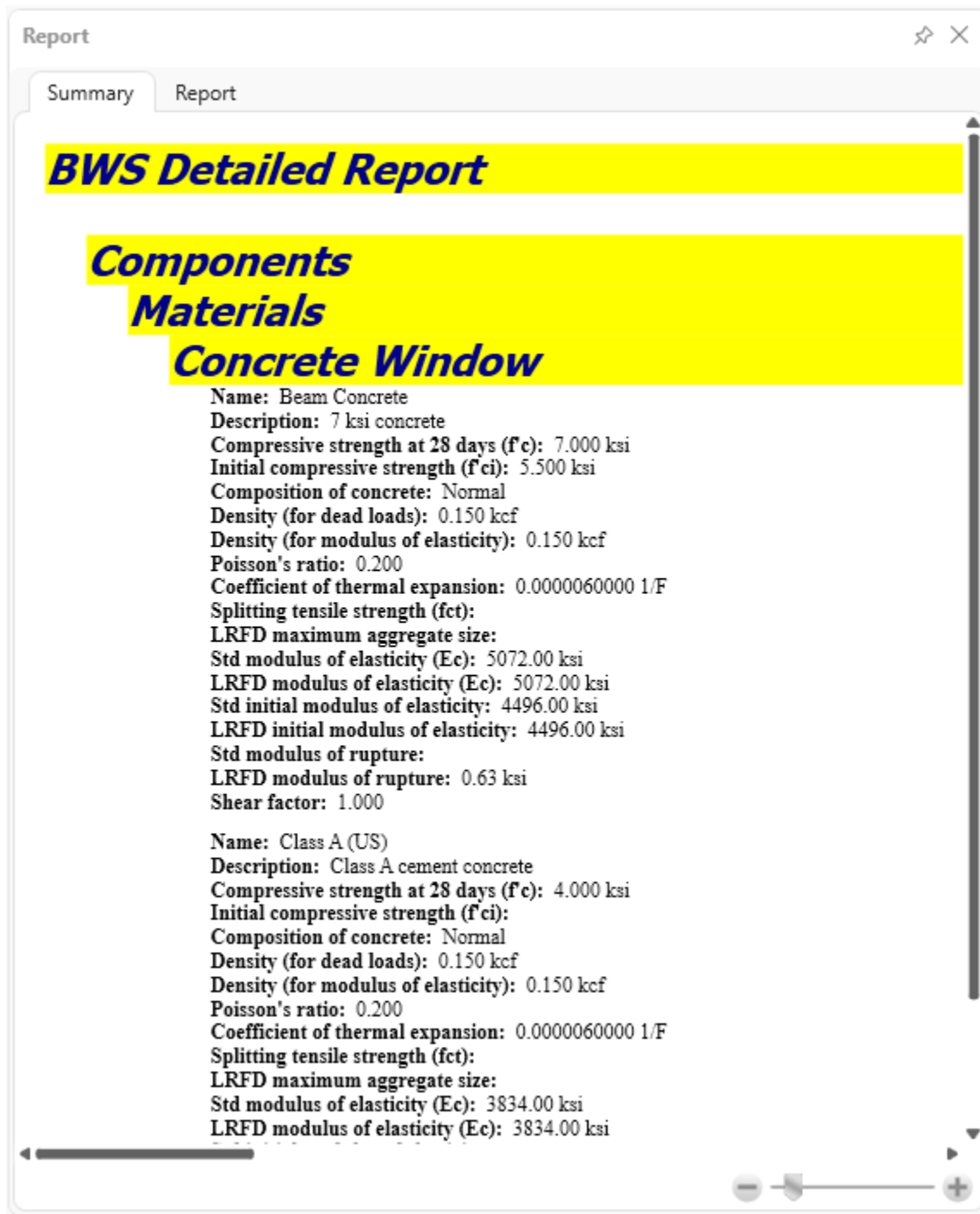
B **I** U ~~S~~

Font Color:

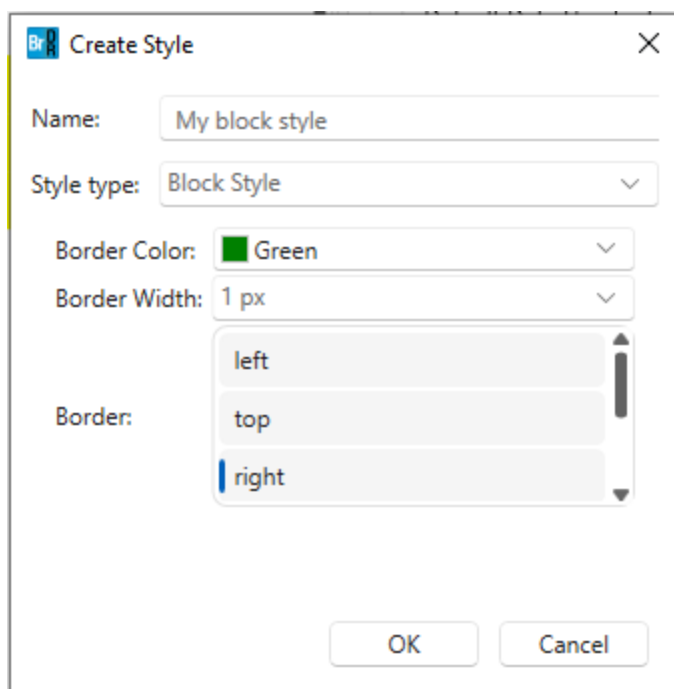
Background Color:

Click **OK**.

The style for the header fields will now be updated in the **Summary Tab** report.



Click **New** in the **Styles** panel and enter the information below.



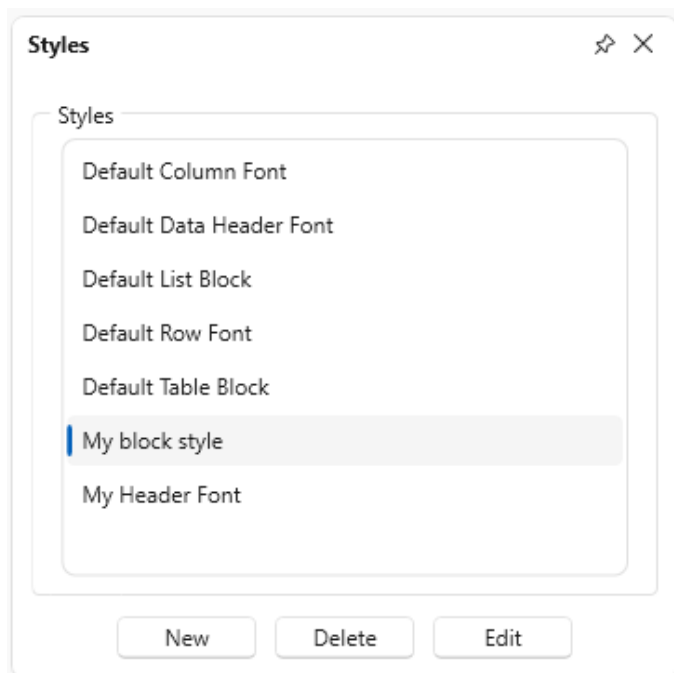
The 'Create Style' dialog box is shown with the following settings:

- Name:** My block style
- Style type:** Block Style
- Border Color:** Green
- Border Width:** 1 px
- Border:** A list containing 'left', 'top', and 'right', with 'right' selected.

At the bottom are 'OK' and 'Cancel' buttons.

Click **OK**.

The new style should now appear in the list of styles in the **Styles** panel.



The 'Styles' panel displays a list of styles:

- Default Column Font
- Default Data Header Font
- Default List Block
- Default Row Font
- Default Table Block
- My block style** (highlighted with a blue bar)
- My Header Font

At the bottom are 'New', 'Delete', and 'Edit' buttons.

The new style will not result in any changes to the report in the **Summary** tab report since it is not currently assigned to any sections of the report.

Select **My block style** in the list of styles and click **Delete**. When prompted, 'Are you sure you want to delete style My block style?', click **Yes**. The style will now be removed from the list of styles.

Styles can only be deleted if they are not in use anywhere throughout the report.

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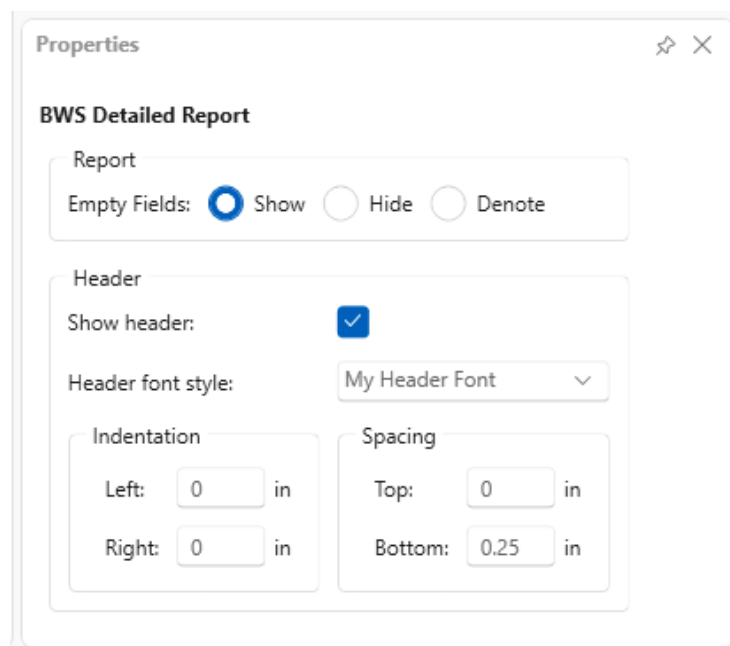
Properties

Each section in a report has properties associated with it that can be modified to customize the report style and formatting. To view properties for a particular report item, select the item in the **Template** tree then select the desired item in the **Section Contents** tree. The **Properties** panel will update instantaneously to display that item's properties.

The different types of properties are as follows:

Root properties

Root properties are associated with the root node of the **Template** tree, **BWS Detailed Report**, and there is only one of these per report. The **Root** properties can be updated to change the way that empty sections are displayed throughout the report. The **BWS Detailed Report** header style and formatting can also be customized by updating the **Root** properties.



The screenshot shows a 'Properties' window titled 'BWS Detailed Report'. It contains several settings:

- Report**
 - Empty Fields: ☒ Show ☐ Hide ☐ Denote
- Header**
 - Show header: ☒
 - Header font style: My Header Font (dropdown menu)
- Indentation**
 - Left: 0 in
 - Right: 0 in
- Spacing**
 - Top: 0 in
 - Bottom: 0.25 in

Section properties

A **Section** is an item in the report that only has a header associated with it such as **Bridge Section**, **Bridge Window**, or **Components**. The header style and formatting for each of these items can be customized by updating the section properties.

Properties

Bridge Window

Header

Show header: ☒

Header font style:

My Header Font

Indentation

Left:

0.25

 in

Right:

0

 in

Spacing

Top:

0

 in

Bottom:

0

 in

Data Block properties

A Data Block is an item in the report that contains both a header and a block of data such as the **Summary** item nested within the **Bridge Window**. The Font Style and formatting for each Data Block's header can be customized by updating in the **Properties** panel. The Block Style and formatting for the Data Block's table can also be customized here.

Properties

☆

✕

Summary

Header

Show header:

☒

Header font style:

Default Data Header Font ▾

Indentation

Left:

in

Right:

in

Spacing

Before:

in

After:

in

Table

Data display:

☒ Listed ☐ Tabular

Table style:

Default List Block ▾

Indentation

Left:

in

Right:

in

Spacing

Before:

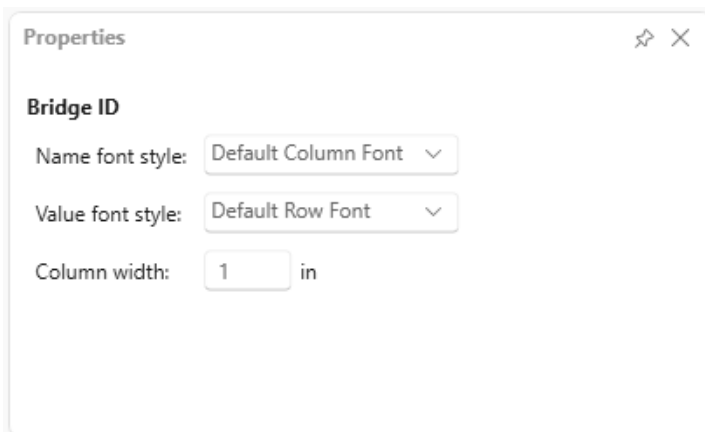
in

After:

in

Column Properties

Column properties in a report are the name/value pairs that contain the actual report data such as the **Bridge ID** nested within the **Bridge Window**, **Summary** item. The Font Styles can be updated for a Column Property's name/label and its data value. The Column Width can also be adjusted for items displayed in Tabular form.



The Properties dialog box for the Bridge ID column shows the following settings:

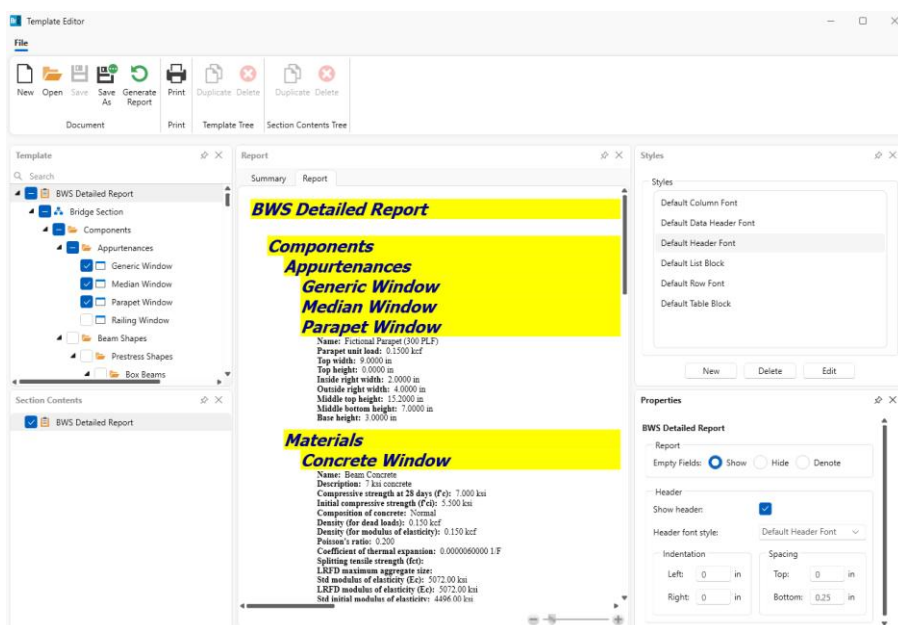
- Bridge ID** (Section Header)
- Name font style:** Default Column Font (dropdown menu)
- Value font style:** Default Row Font (dropdown menu)
- Column width:** 1 in (input field)

Customize Root Properties

Check the **Generic** window and **Median** window boxes in the **Template** tree.

Click **Generate Report** in the **Ribbon**.

Notice in the **Report** tab report that headers for these items are displayed even though there is no data associated with them.



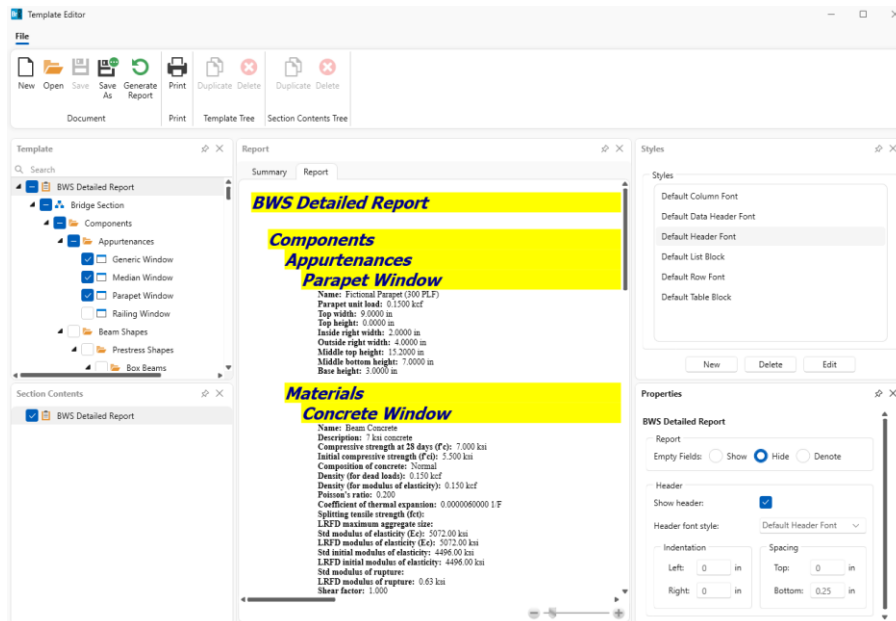
The screenshot shows the Report Tool 2.0 interface with the following components:

- Template Editor:** Contains a ribbon with options like New, Open, Save, Save As, Generate Report, Print, Duplicate, and Delete. Below the ribbon is a tree view showing the template structure.
- Report:** Displays the generated report content. The report includes sections for **Components** (Appurtenances, Generic Window, Median Window, Parapet Window) and **Materials** (Concrete Window). The report content is highlighted in yellow.
- Styles:** A panel on the right showing a list of styles (Default Column Font, Default Data Header Font, Default Header Font, Default List Block, Default Row Font, Default Table Block) with buttons for New, Delete, and Edit.
- Properties:** A panel on the right showing the properties for the selected report item (BWS Detailed Report). It includes options for Empty Fields (Show, Hide, Denote), Header (Show header), Header font style (Default Header Font), and Indentation/Spacing settings.

Select the **BWS Detailed Report** item in the **Template** tree then select the **BWS Detailed Report** item in the **Section Contents** tree below.

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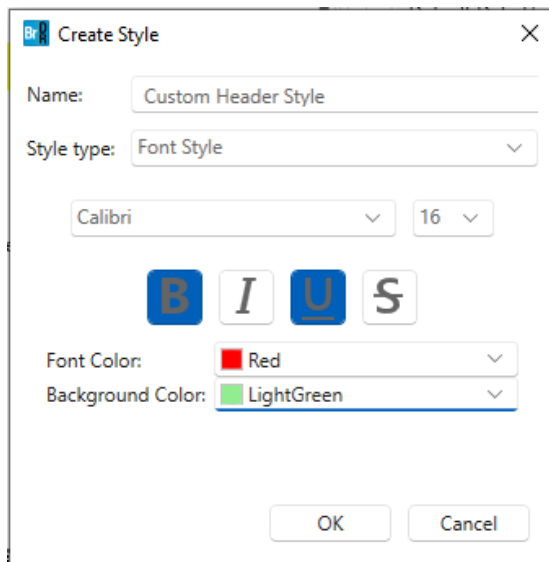
In the **Properties** panel, toggle **Empty Fields** to **Hide** then click **Generate Report** again in the **Ribbon**.



The **Report** tab report will now hide all items in the report that do not have data associated with them. The **Denote** option can also be used to denote a section as empty rather than hiding it completely.

Customizing Section Properties

In the **Styles Panel**, click **New** and enter the information below into the **Create Style Window**.

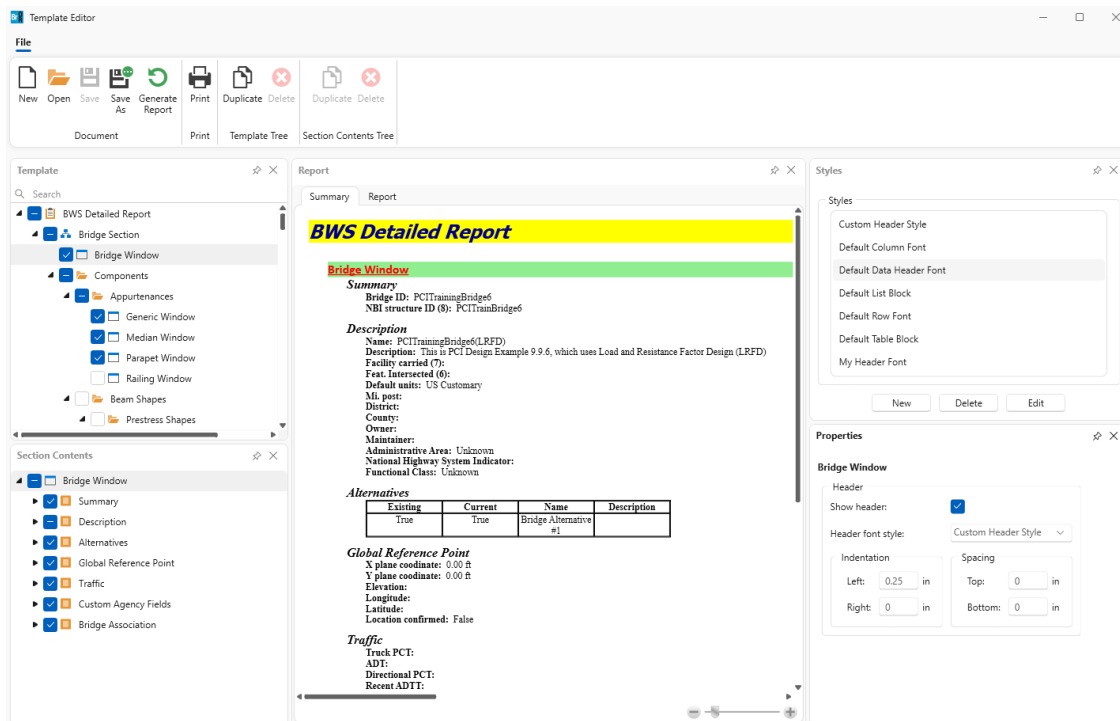


Click **OK**.

Now select **Bridge** window in the **Template** tree then select **Bridge** window in the **Section Contents** tree. The **Properties** panel should now be populated with the current **Bridge Window**'s properties.

Expand the **Header font style** dropdown and select **Custom Header Style**.

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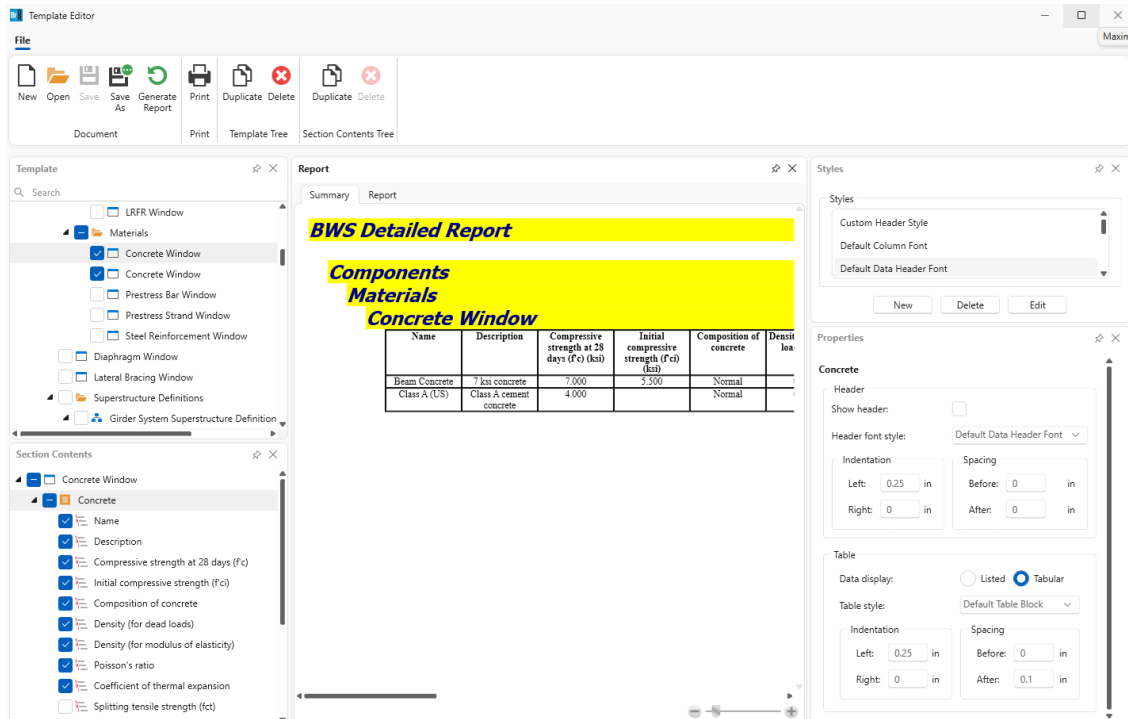


The header's style will now be updated in the **Summary** tab.

Customizing Data Block Properties

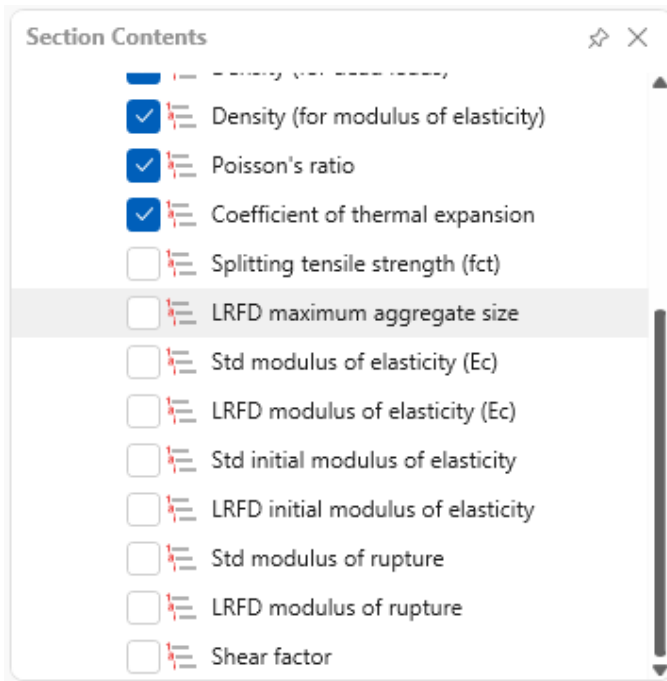
In the **Template** tree select the first **Concrete Window** item then select **Concrete** in the **Section Contents** tree.

In the **Properties** Panel, toggle **Data display** to **Tabular** and select **Default Table Block** from the **Table** style dropdown.

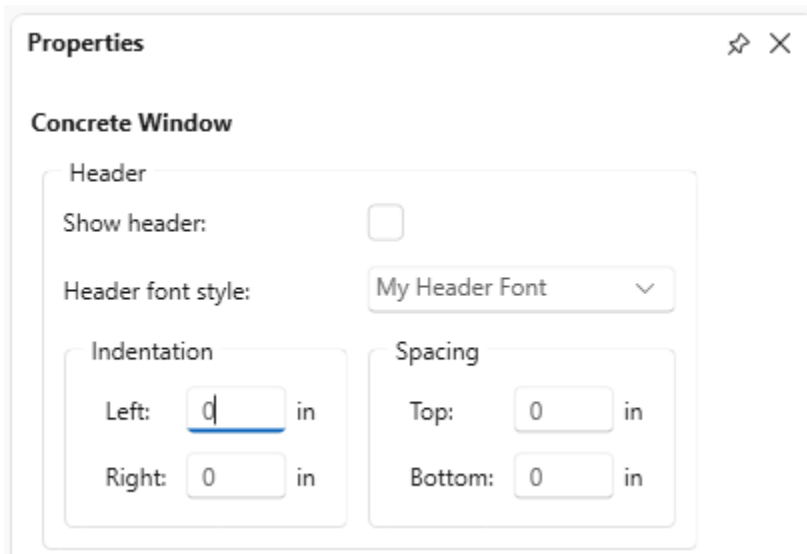


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In the **Section Contents** tree, uncheck the second half of the items below **Concrete** starting with **Splitting tensile strength (fct)**.



Now navigate back to the **Template** tree and select the second **Concrete Window** item. Select **Concrete Window** in the **Section Contents** tree then in the **Properties** panel uncheck **Show header**.



Select **Concrete** in the **Section Contents** tree. Toggle **Data display** to **Tabular** and select **Default Table Block** from the **Table style** dropdown menu. Also, adjust the **Table Left Indentation** to **0.5 in**.

Properties

Concrete

Header

Show header:

☐

Header font style:

Default Data Header Font

Indentation

Left:

0.25

in

Right:

0

in

Spacing

Before:

0

in

After:

0

in

Table

Data display:

☐ Listed☒ Tabular

Table style:

Default Table Block

Indentation

Left:

0.5

in

Right:

0

in

Spacing

Before:

0

in

After:

0.1

in

In the **Section Contents** tree, uncheck the first half of the items below **Concrete** ending with **Coefficient of thermal expansion**.

Section Contents

- Concrete Window
 - Concrete
 - Name
 - Description
 - Compressive strength at 28 days (f'_c)
 - Initial compressive strength (f'_{ci})
 - Composition of concrete
 - Density (for dead loads)
 - Density (for modulus of elasticity)
 - Poisson's ratio
 - Coefficient of thermal expansion
 - Splitting tensile strength (f_{ct})

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Click **Generate Report** in the **Ribbon**.

The screenshot shows the 'Report' window with a 'Summary' tab selected. The report is titled 'BWS Detailed Report' and contains the following sections:

- Components**
 - Appurtenances**
 - Parapet Window**
 - Name: Fictional Parapet (300 PLF)
 - Parapet unit load: 0.1500 kcf
 - Top width: 9.0000 in
 - Top height: 0.0000 in
 - Inside right width: 2.0000 in
 - Outside right width: 4.0000 in
 - Middle top height: 15.2000 in
 - Middle bottom height: 7.0000 in
 - Base height: 3.0000 in
- Materials**
 - Concrete Window**

Name	Description	Compressive strength at 28 days (F _c) (ksi)	Initial compressive strength (F _{ci}) (ksi)	Composition of concrete	Density (for dead loads) (kcf)	Density (for modulus of elasticity) (kcf)	Poisson's ratio	Coefficient of thermal expansion (1/F)
Beam Concrete	7 ksi concrete	7.000	5.500	Normal	0.150	0.150	0.200	0.0000060000
Class A (US)	Class A cement concrete	4.000		Normal	0.150	0.150	0.200	0.0000060000

Splitting tensile strength (ft) (ksi)	LRFD maximum aggregate size (in)	Std modulus of elasticity (E _c) (ksi)	LRFD modulus of elasticity (E _c) (ksi)	Std initial modulus of elasticity (ksi)	LRFD initial modulus of elasticity (ksi)	Std modulus of rupture (ksi)	LRFD modulus of rupture (ksi)	Shear factor
		5072.00	5072.00	4496.00	4496.00		0.63	1.000
		3834.00	3834.00				0.47	1.000
- Bridge Window**
 - Summary**
 - Bridge ID: PCITrainingBridge6
 - NBI structure ID (8): PCITrainingBridge6

Notice the data is now displayed in table form in the report and by duplicating the item the table columns can be wrapped to fit the desired width.

Customizing Column Properties

Select **Parapet** window in the **Template** tree and select **Name** in the **Section Contents** tree.

Click **New** in the **Style** panel and create the new **Font Style** below.

The 'Create Style' dialog box is shown with the following settings:

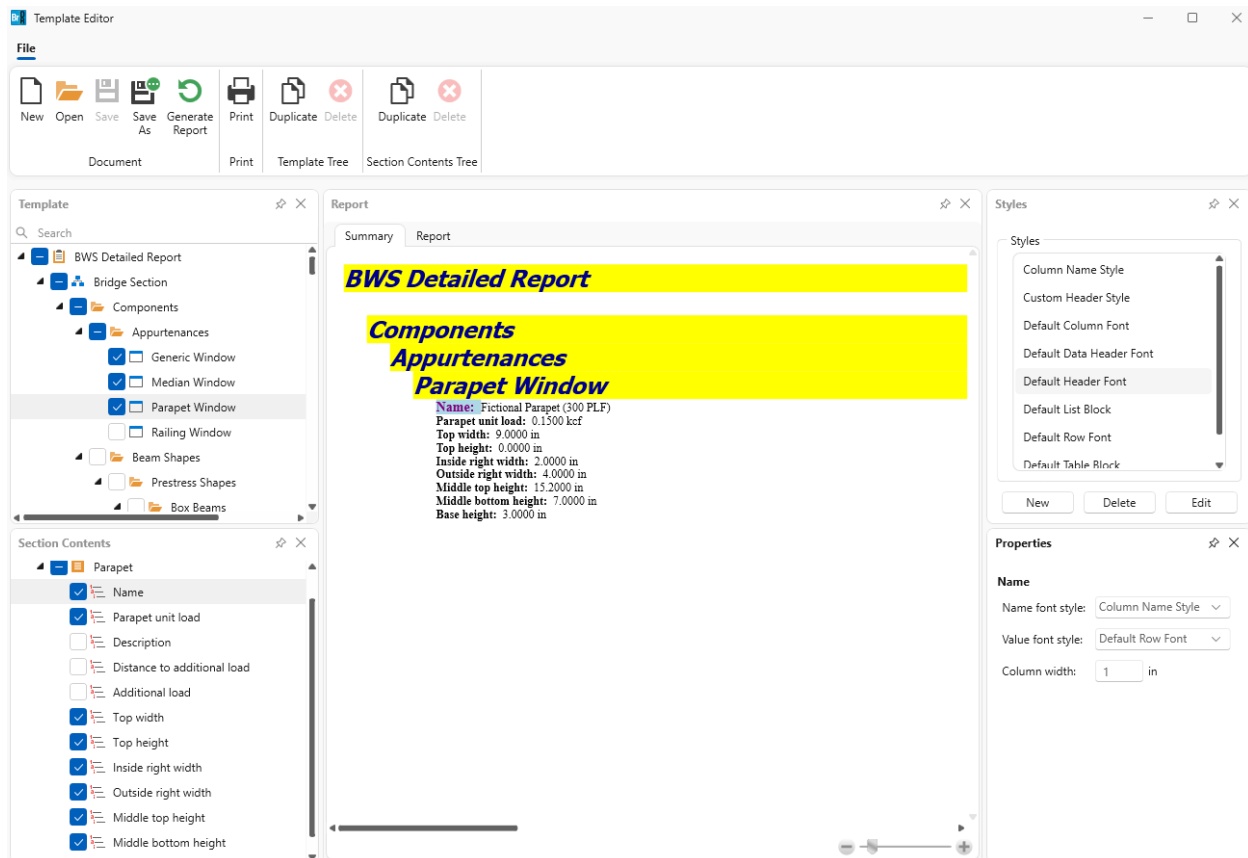
- Name: Column Name Style
- Style type: Font Style
- Font: Times New Roman
- Size: 14
- Font Color: Purple
- Background Color: LightBlue

Buttons: OK, Cancel

Click **OK**.

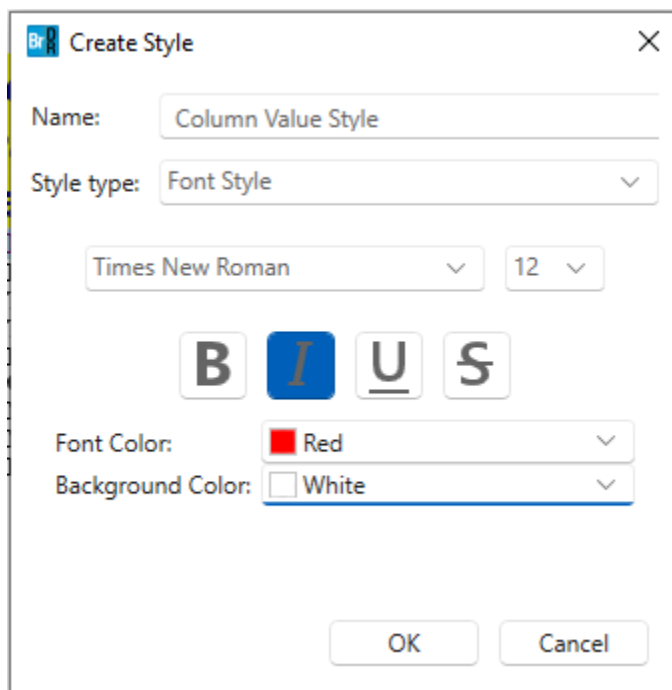
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In the **Properties** panel, expand the **Name font style** dropdown and select the new **Column Name Style Font**.



The label for **Name** will be updated instantaneously in the **Summary** tab to use the new style.

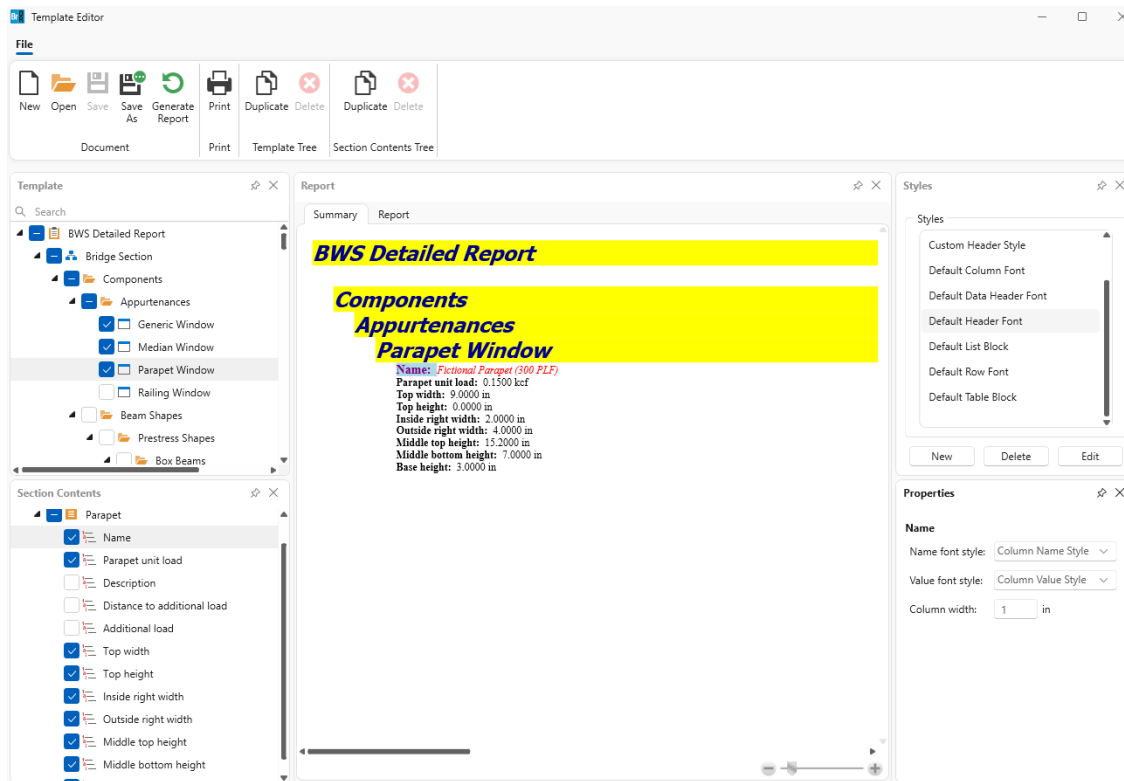
Click **New** in the **Style** panel and create the new **Font Style** below.



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Click **OK**.

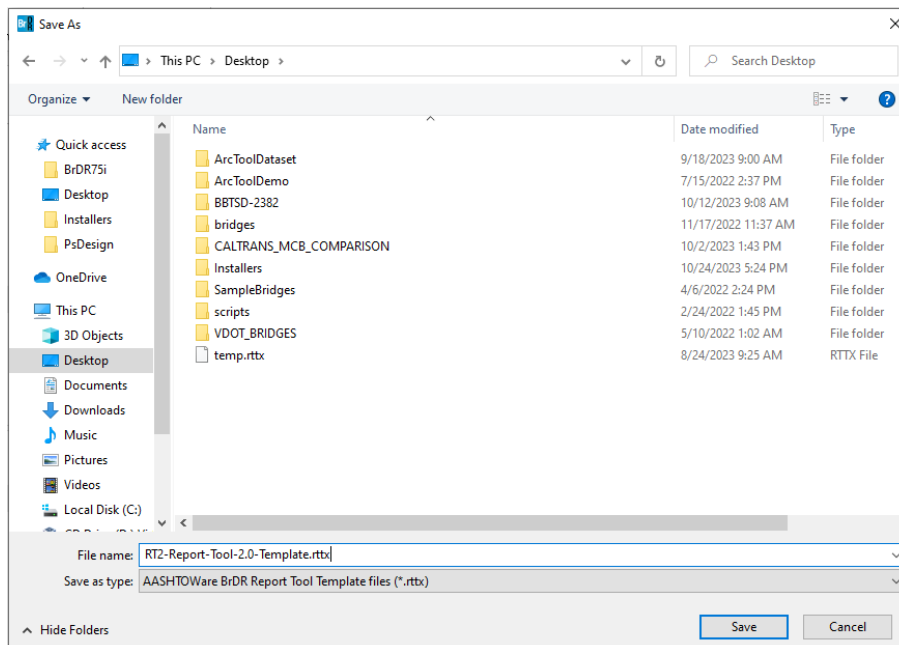
In the **Properties** panel, expand the **Value font style** dropdown and select the new **Column Value Style Font**.



The data value for **Name** will be updated instantaneously in the **Summary** tab to use the new style.

Saving Report Templates

Click **Save As** in the **Ribbon** and enter a name and save location for the template file.



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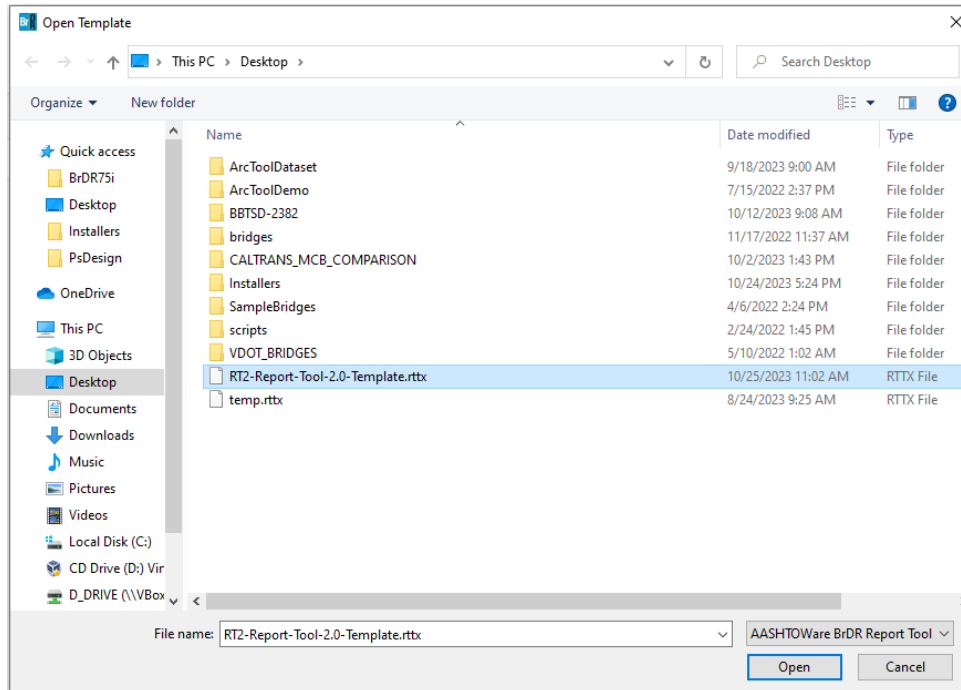
Click **Save** then exit out of the **Template Editor Window**.

Opening Custom Templates from the Bridge Workspace

In the **Bridge Workspace** for sample bridge **PCITrainingBridge6 (BID 9)**, navigate to the **REPORTING** tab.

Click **View BWS Report**.

Select the template created in the last section of the tutorial from the File Dialog.



Click **Open**.

A new Bridge Workspace report will be generated and opened in the **Report** panel using the selected template.

