OpenBridge Designer/Modeler – Understanding Workspace Files and Configuration

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Agenda

OpenBridge Designer/Modeler –
Understanding Workspace Files and Configuration

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Combining an OBM WS into an ORD WS

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OpenBridge Designer/Modeler – Understanding Workspace Files and Configuration

Where to Find/Set Variables

- ***Application Level:***
  - ***OpenBridgeModeler.cfg***
    - Path:
      - *OBM: C:\Program Files\Bentley\OpenBridge Modeler CE xx.xx\OpenBridgeModeler\config\appl*
      - *OBD: C:\Program Files\Bentley\OpenBridge Designer CE xx.xx.xx\OpenBridgeModeler\config\appl*

- ***Workspace Level:***
  - ***_Bridge Default Standards - Imperial.cfg***
  - ***_Bridge Default Standards - Metric.cfg***
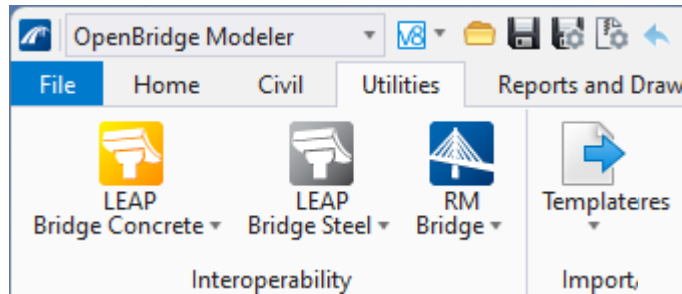   - Path:
      - *OBM: C:\ProgramData\Bentley\OpenBridge Modeler CONNECT Edition xx.xx\Configuration\Organization-Civil*
      - *OBD: C:\ProgramData\Bentley\OpenBridge Designer CONNECT Edition xx.xx.xx\OpenBridgeModeler\Configuration\Organization-Civil*

- ***Workset Level***

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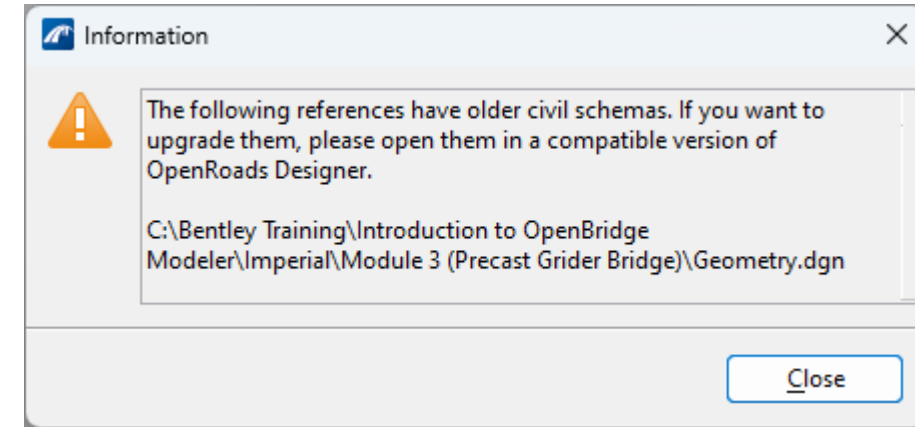# New Variables in the *OpenBridgeModeler.cfg* file v10.10.20

- OBM_DISABLE_PROSTRUCTURES = 1 **
- PS_ACCESSPSBUTTON=1

*** Commented out by default*

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New Variables in the *OpenBridgeModeler.cfg* file v10.11

- OBM_SKIP_REFERENCE_SCHEMA_CHECK = TRUE
- OBM_BEARINGLINE_TO_SUPPORTLINE_RATIO=0.7
- CIVIL_TOOL_SETTINGS_OMIT_ITEMTYPES = TRUE
- CIVIL_QUICK_PROPERTIES_OMIT_ITEMTYPES = TRUE
- OBM_SPC_HPILE_FILTER=(\-HP$)
- OBM_SPC_CONNECTOR_FILTER=(\-L$|\-WT$)

All are commented out by default

Information

The following references have older civil schemas. If you want to upgrade them, please open them in a compatible version of OpenRoads Designer.

C:\Bentley Training\Introduction to OpenBridge Modeler\Imperial\Module 3 (Precast Grider Bridge)\Geometry.dgn

Close

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New Variables in the *OpenBridgeModeler.cfg* file v10.12

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Features and Element Templates

- ***Bridge_Features_Levels_Elem Temp Imperial.dgnlib***
- ***Bridge_Features_Levels_Elem Temp Metric.dgnlib***

- Contains Features, Levels and Element Templates
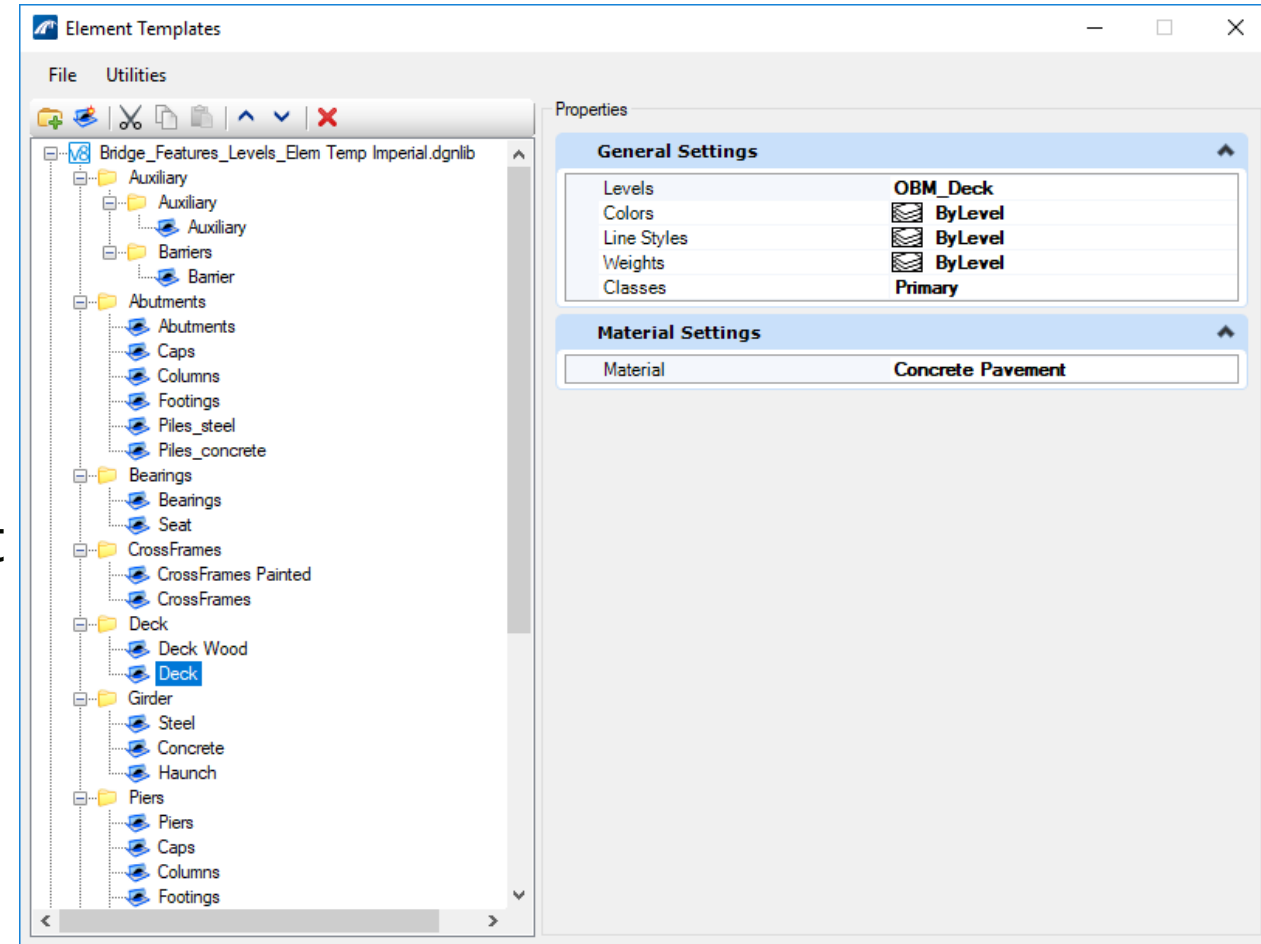
Path = *C:\ProgramData\Bentley\OpenBridge Designer CONNECT Edition\OpenBridgeModeler\ Configuration\Organization-Civil_Bridge Default Standards - Imperial\OpenBridge Modeler\Dgnlib\Feature Definitions*

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What are Features ?

- Features are used for every step of the modeling process

What are Feature Definitions and where do I find them ?

- Features Definitions are used to set a Feature Symbology for a part of the model
- Stored in a DGNLIB
- Can be viewed using the Explorer tool

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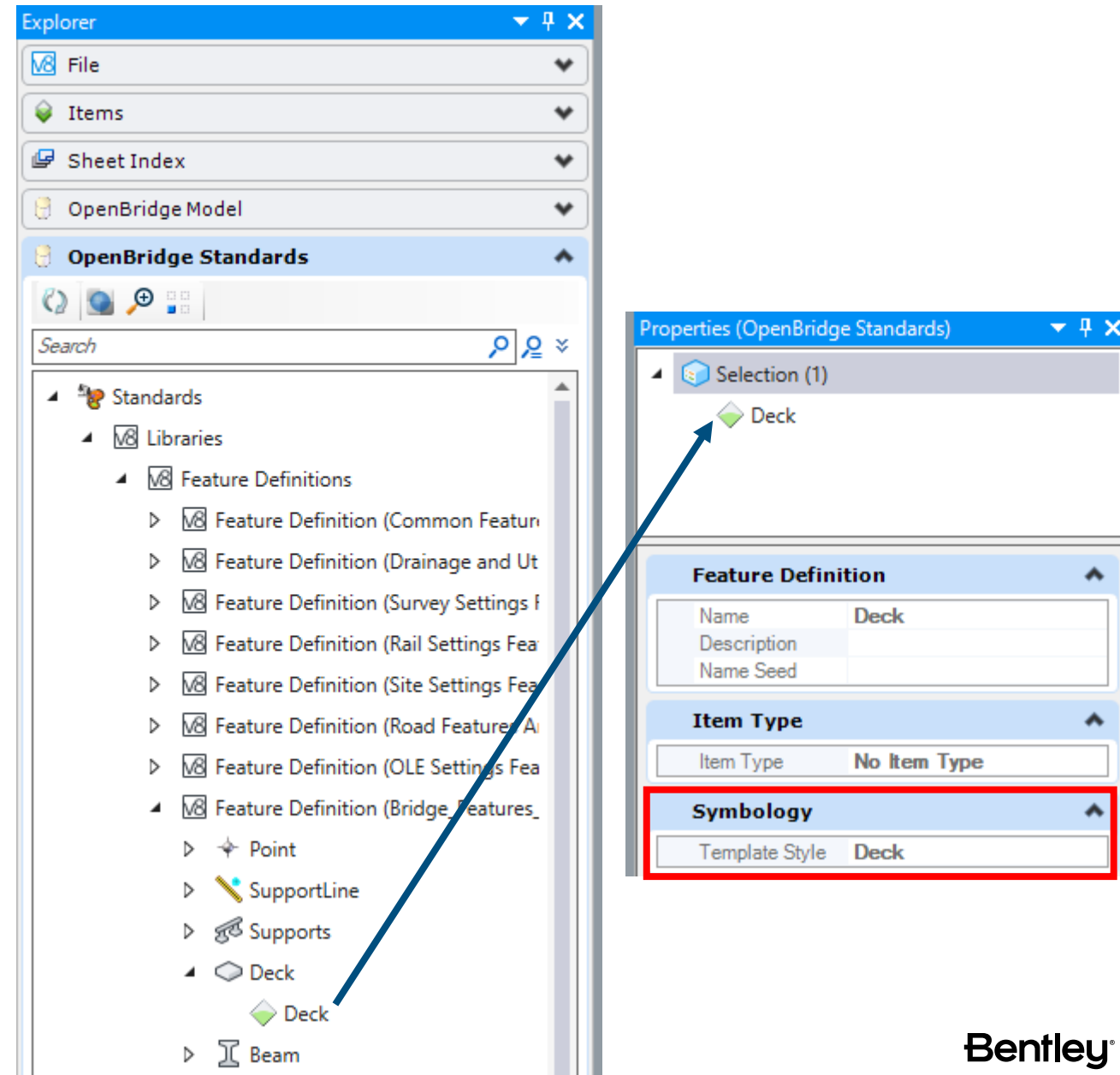
What are Feature Symbologies ?

- Features Symbologies are used to specify the Element Template(s) used to draw a feature.
- Stored in a DGNLIB
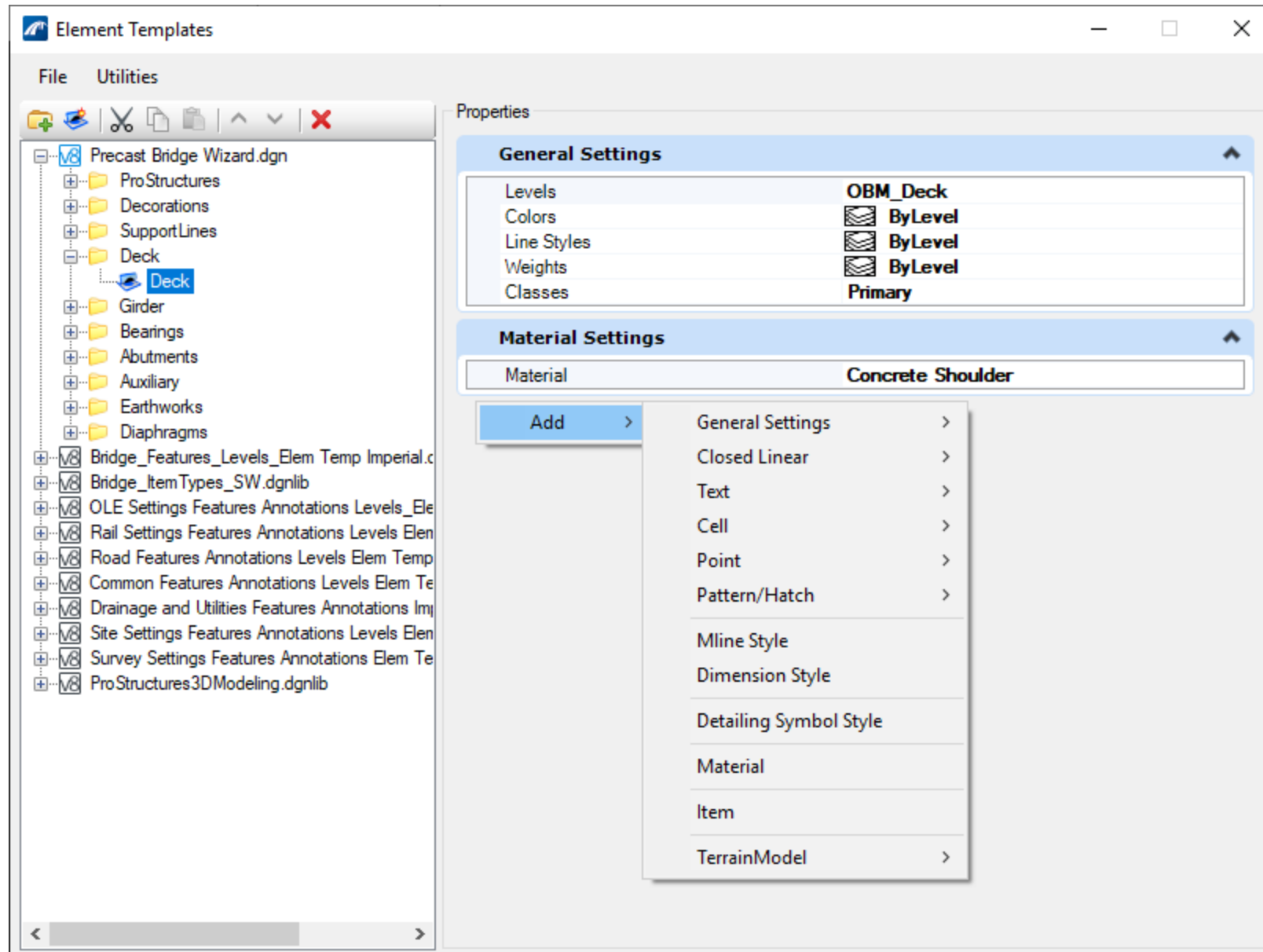- Can be viewed using the Explorer tool

Bentley
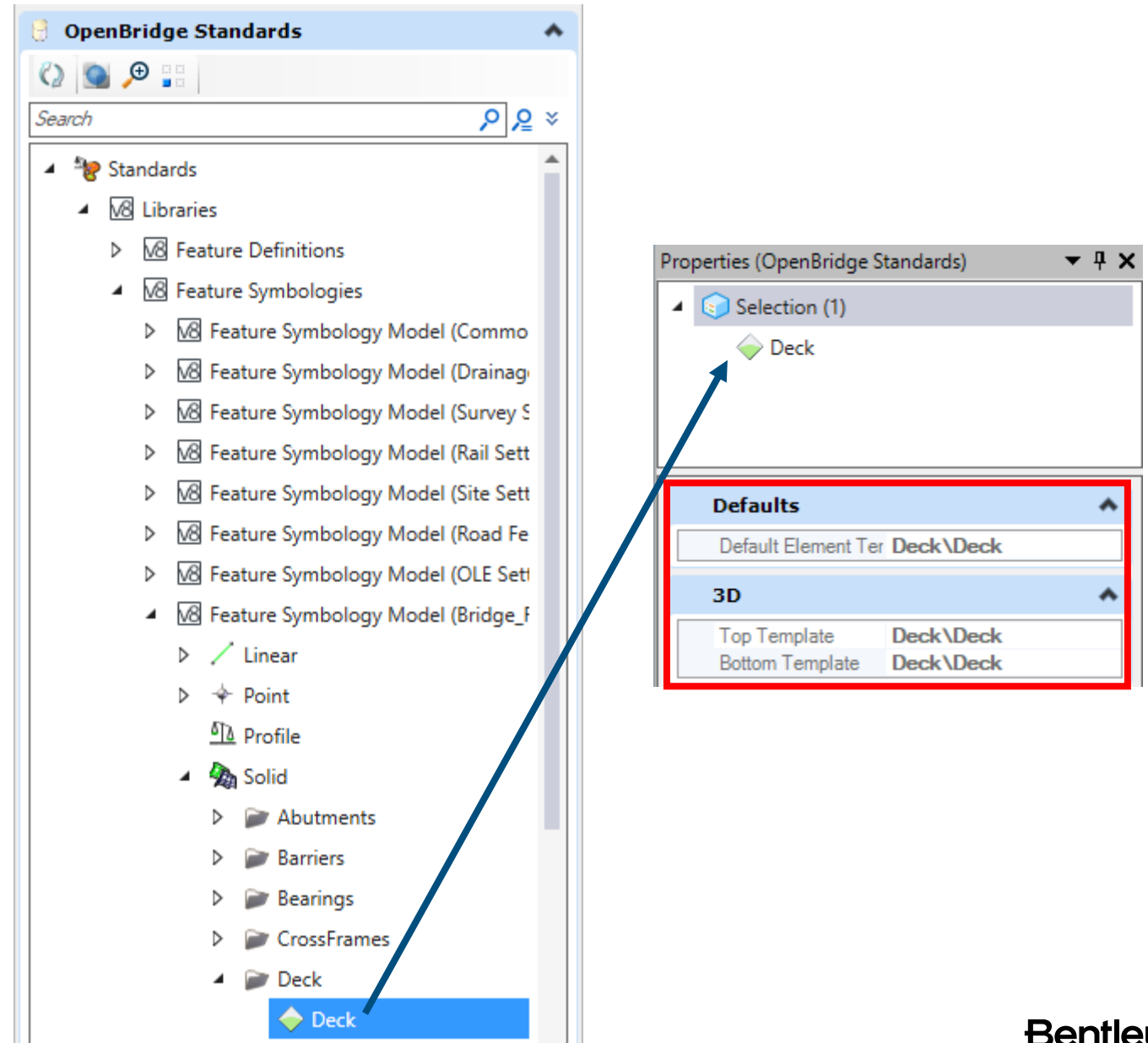
Element Templates

- Element templates define properties of elements
- Configured in a DGNLIB
- General Settings:
  - Level
  - Color
  - Style
  - Weight
  - Class
  - Transparency
  - Priority
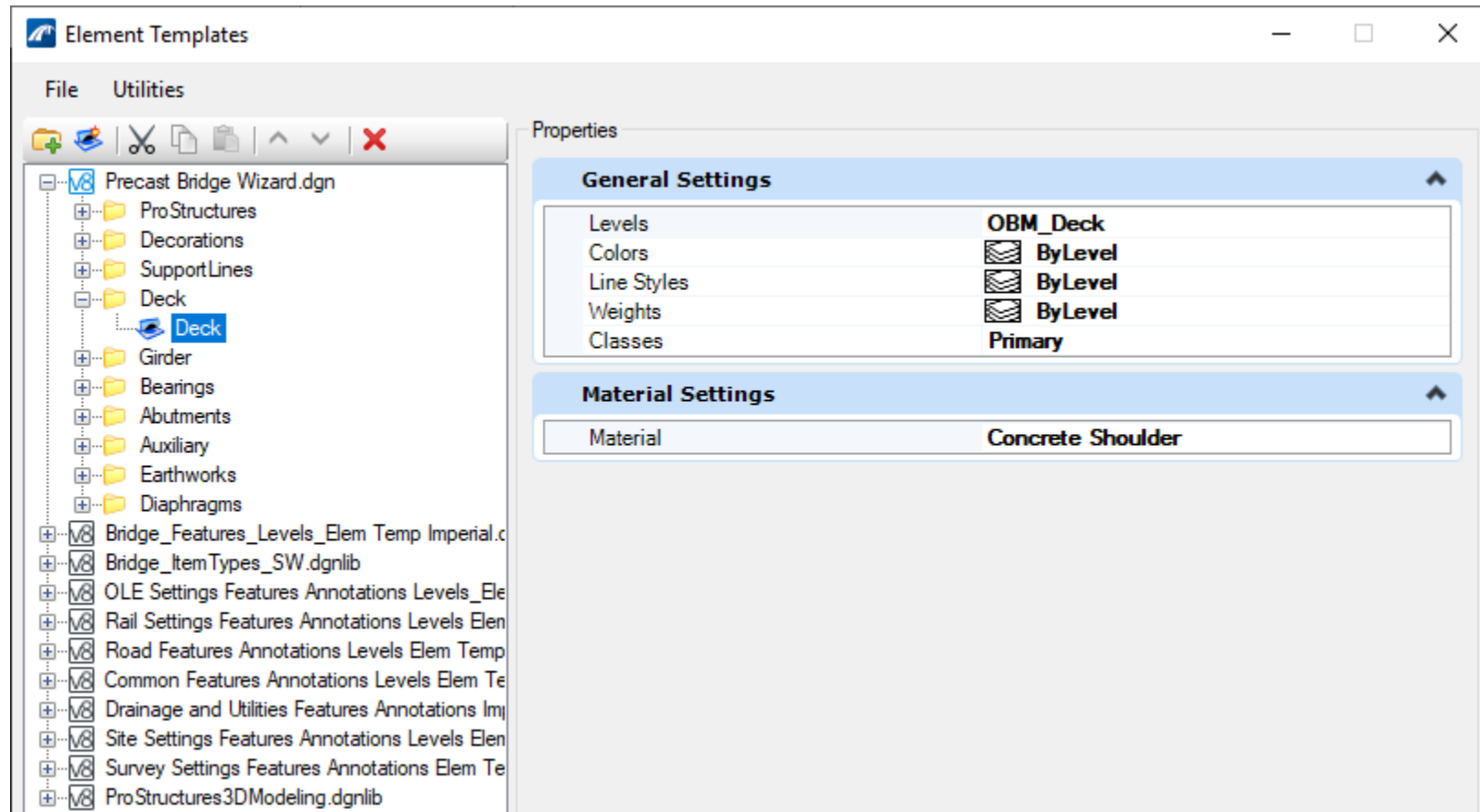
Element Templates

- ## Additional Properties
  - Right Click to Add other properties

In Summary ... All of this is in one DGNLIB

Bridge_Features_Levels_Elem Temp Imperial.dgnlib
Bridge_Features_Levels_Elem Temp Metric.dgnlib
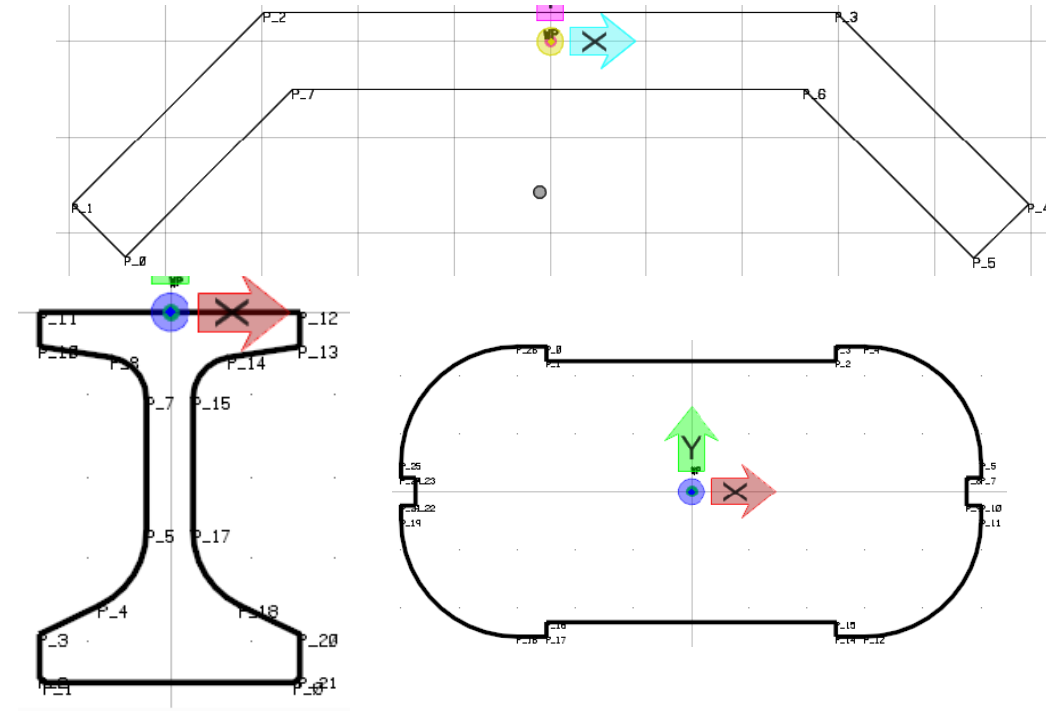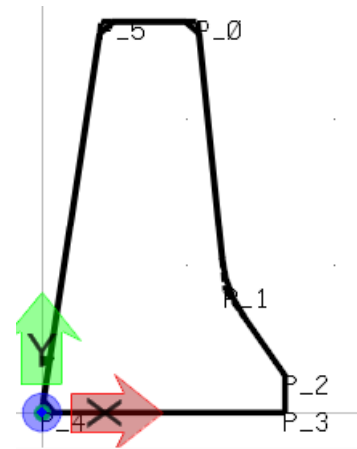
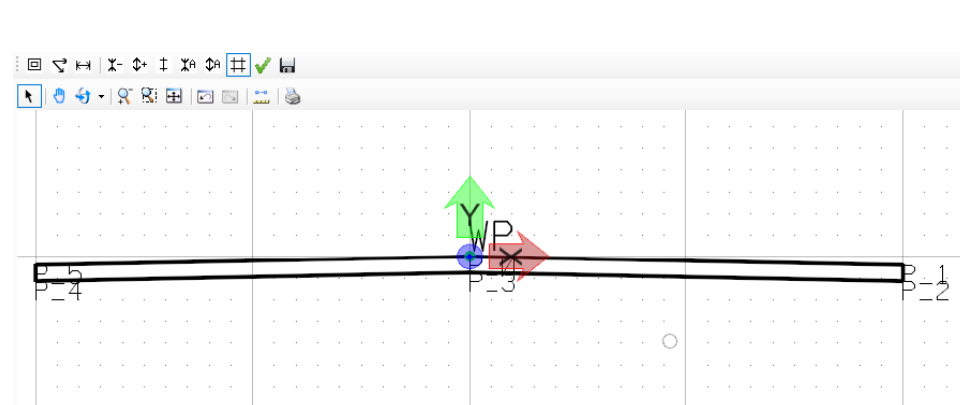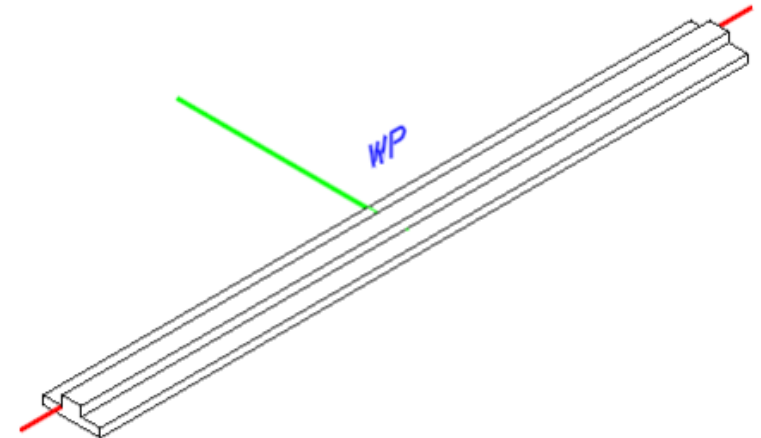| Feature Definition | Feature Symbology | Element Templates | Levels |

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Templates

- ## OBM_TEMPLATE_FILE = *Bridge Templates/templates.xml*

    - All 2D templates
    - Deck, Barrier, Precast Beam, Column and Footing Templates

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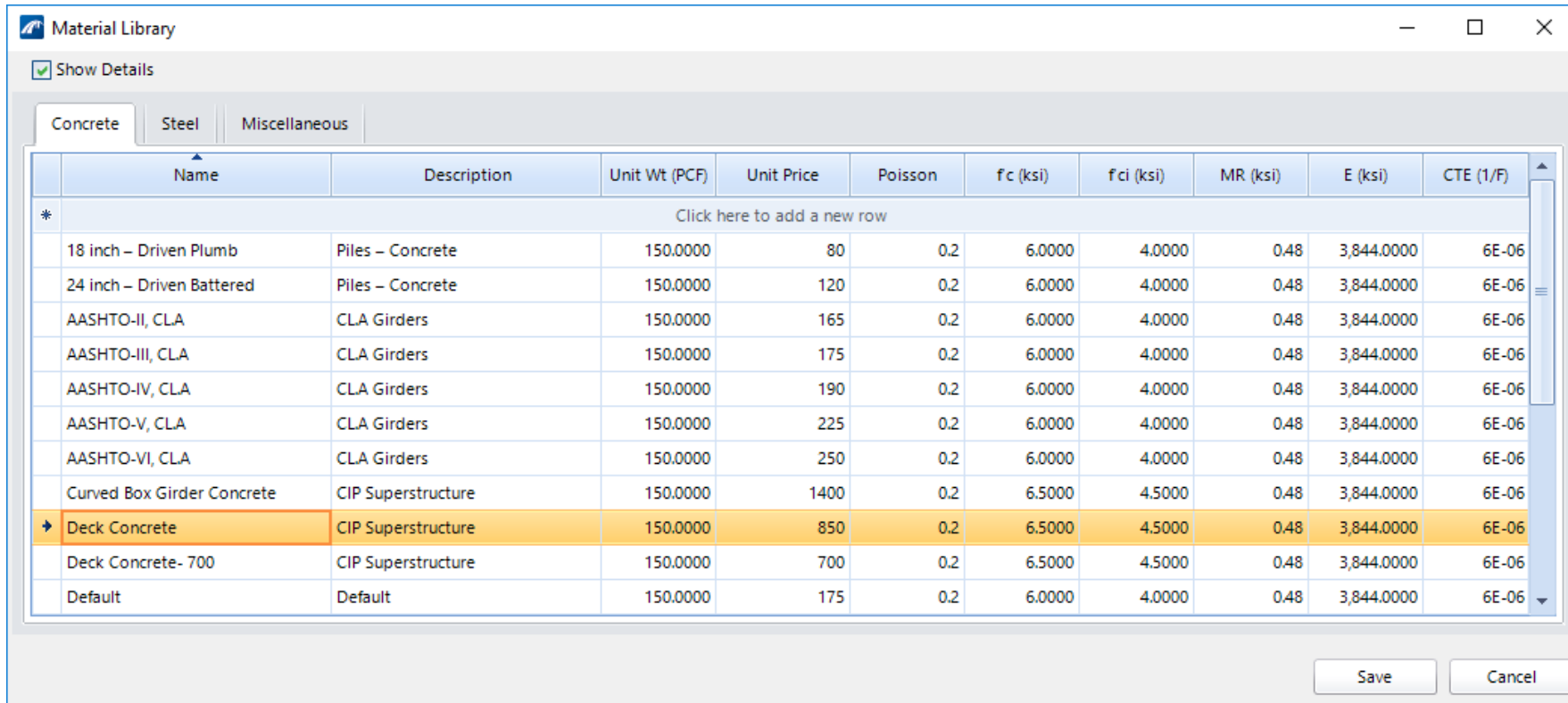
Templates

- OBM_PIER_TEMPLATE_FILE = *Bridge Templates/PierLib.xml*

  – Piers, Abutments, Wingwall and Sleeper Slab Templates

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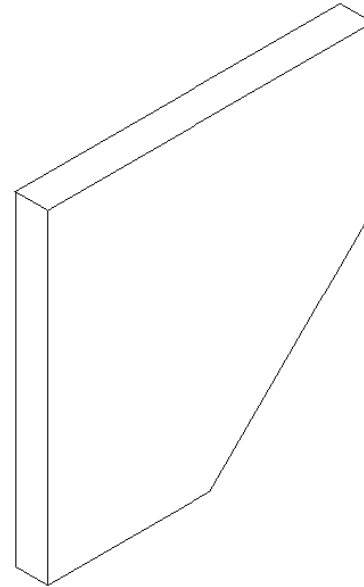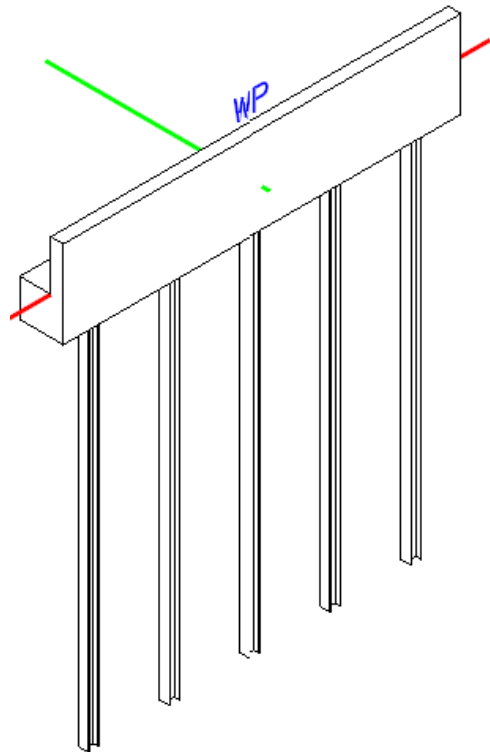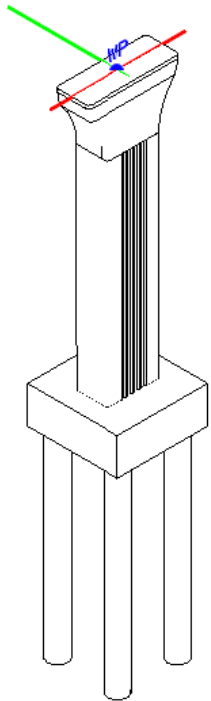
Materials

- OBM_MATERIAL_FILE =*Bridge Templates/MaterialLibrary.xml*
- Can copy/paste to and from Excel to modify/update

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Steel Girder Superstructure Specific Libraries

- OBM_STIFFENER_FILE =

Bridge Templates/StiffenerLibrary.xml

- OBM_CROSSFRAME_FILE =

Bridge Templates /CrossFrameLibrary.xml

- OBM_CONNECTIONPLATE_FILE =

Bridge Templates/ConnectionPlateLibrary.xml

- OBM_FIELDSPLICE_FILE =

Bridge Templates/FieldSpliceLibrary.xml

- OBM_SHEARCONNECTOR_FILE =

Bridge Templates/ShearConnectorLibrary.xml
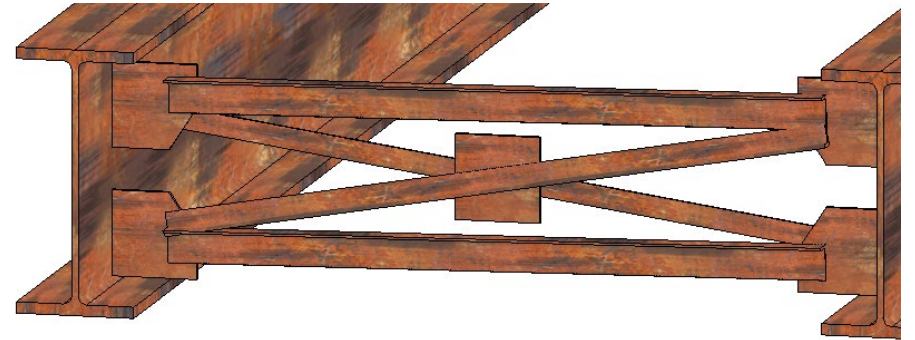
Connector Angles

- OBM_CONNECTORANGLE_FILE=
  Bridge Templates/ConnectorAngleLibrary.xml
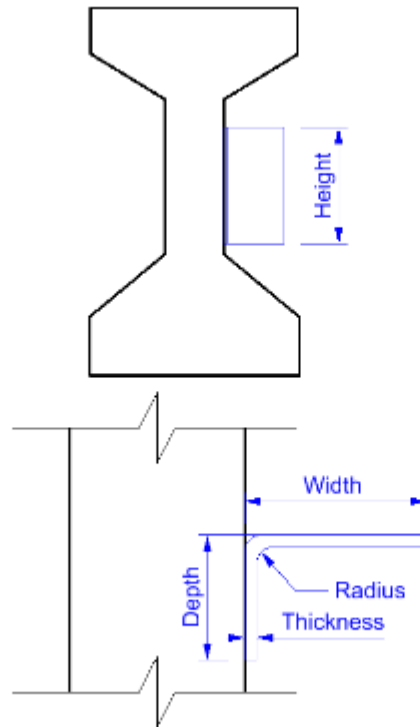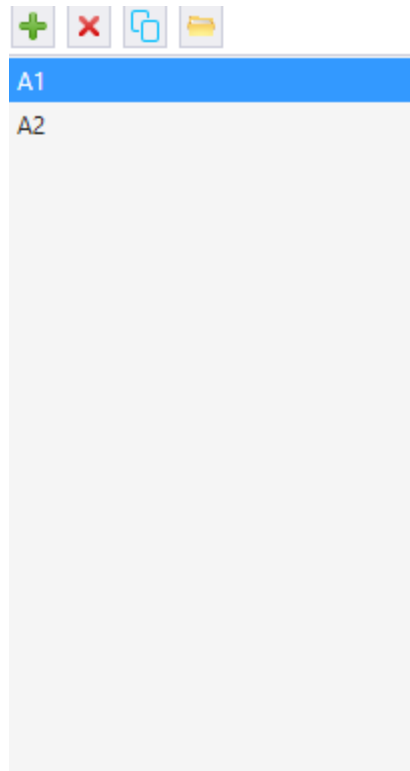
Cross Frame 2D Lines

- OBM_CROSSFRAME_2D_LINES_OFFSET_IMPERIAL = 0.50
- OBM_CROSSFRAME_2D_LINES_OFFSET_METRIC = 0.15

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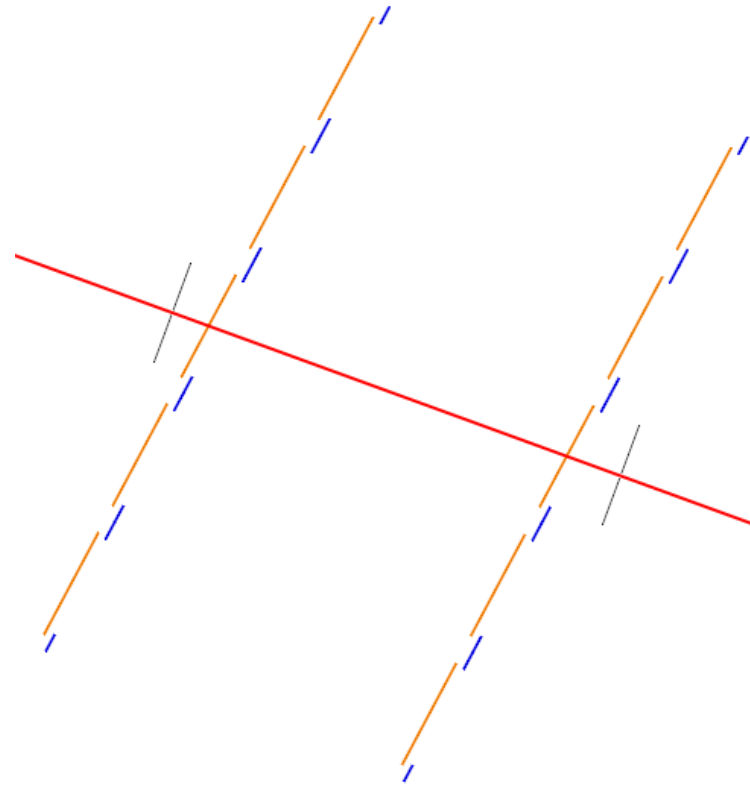
CONSPAN Beam Section Library

- OBM_LEAP_BEAMS_TEMPLATE_FILE =
Bridge Templates/default.lbclib
- Latest LBC lib is delivered with each release

Cell Libraries

- OBM_AUX_CELLLIST = *Bridge Templates/Auxiliaries/AuxLib.cel*
  - 3D Cells to enhance model – light poles, signs, scuppers, etc
- OBM_COMPONENTSCENTER_IMPORTED_AUXCELLS_PATH =

[your writable path here]
  - Folder used when importing cells from the Component Center
  - Default location if not defined:
    C:\Users\user.name\AppData\Local\Temp\Bentley\OpenBridgeModeler\10.0.0\ComponentsCenterImportedCells\Auxiliaries

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Cell Libraries

- OBM_BEARING_CELLLIST =

Bridge Templates/Bearings/BearingLib.cel
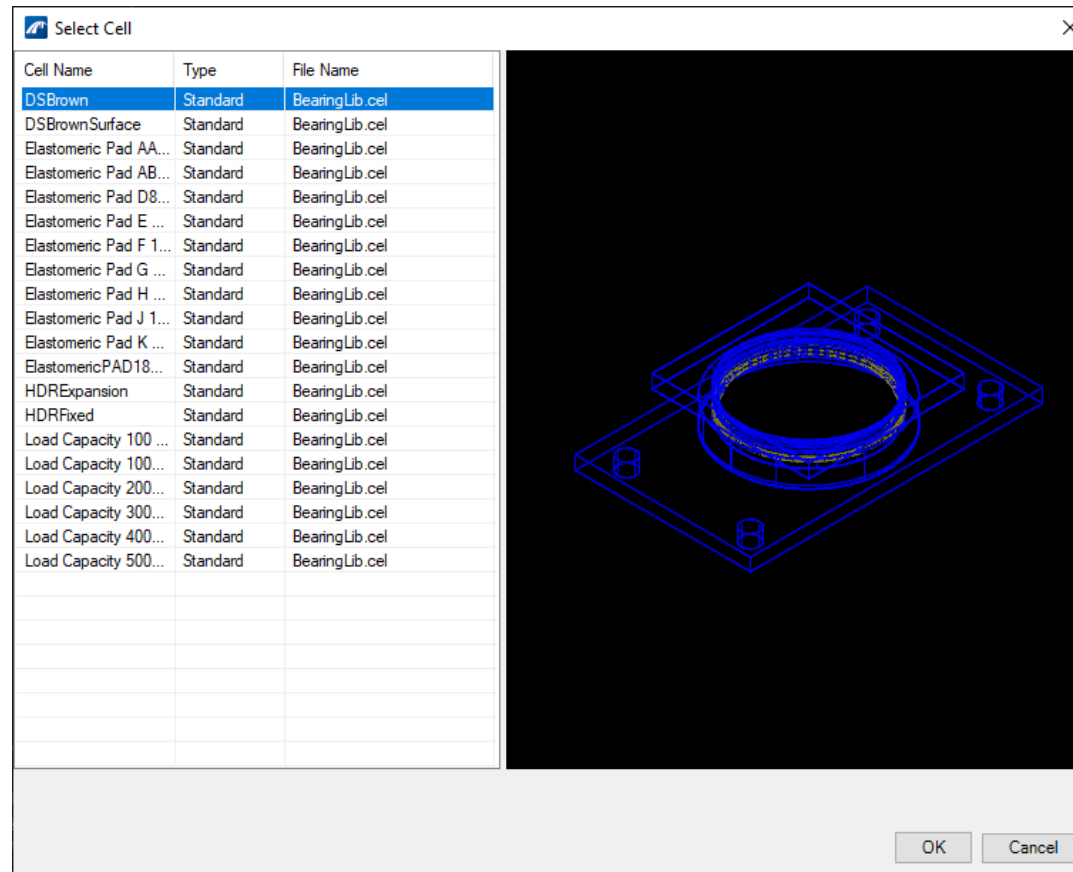
Cell Libraries

- ## OBM_PIER_CELLLIST =

Bridge Templates/Functional Components/PierLib.cel

  - Piers and abutments that OBM can not model today
  - Can be solids models or functional components or generative components
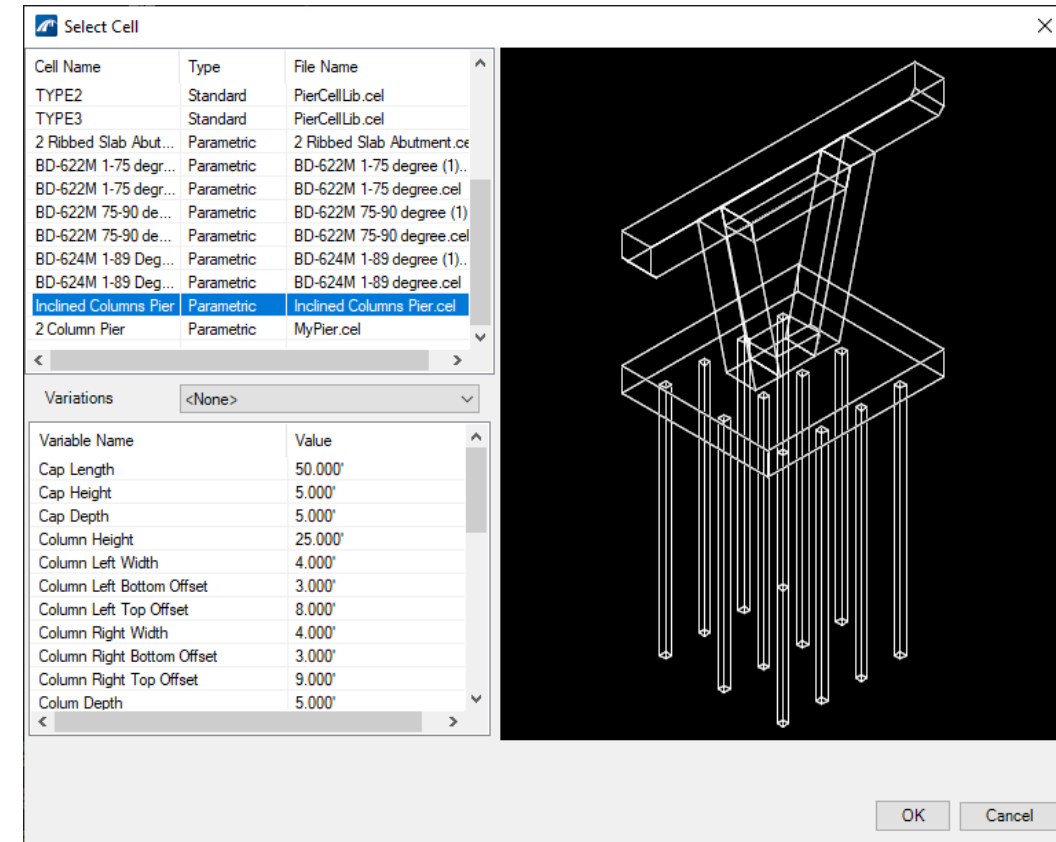
NBI Element Numbers

OBM_ELEMENTNUMBERS_NBI_FILE =
Bridge Templates/ElementNumbers_NBI.xml

OBM_ELEMENTNUMBERS_STATE_FILE =
Bridge Templates/ElementNumbers_State.xml

SPC Filters

- Defined in the **OpenBridgeModeler.cfg** *file*

  ```
  # United States - AISC, US units
  OBM_SPC_ORGANIZATION=AISC
  OBM_SPC_VERSION=14
  OBM_SPC_FILTER=(\-W$|\-S$)
  OBM_SPC_CROSSFRAME_FILTER=(\-L$|\-C$|\-MC$|\-W$|\-S$|\-WT$)
  OBM_SPC_HPILE_FILTER=(\-HP$)
  OBM_SPC_CONNECTOR_FILTER=(\-L$|\-WT$)

  # United Kingdom - BSI
  #OBM_SPC_ORGANIZATION=BSI
  #OBM_SPC_VERSION=4-1:2005
  #OBM_SPC_FILTER=(\-UB$|\-UC$|\-UBP$)
  #OBM_SPC_CROSSFRAME_FILTER=(\-UB$|\-UC$|\-UBP$|\-EA$|\-UA$|\-PFC$)
  #OBM_SPC_HPILE_FILTER=(\-UB$|\-UC$|\-UBP$)
  #OBM_SPC_CONNECTOR_FILTER=(\-L$|\-WT$)
  ```
  Multiple country codes (maximum 9) by adding an index (like _1, _2) after the variable name. Different codes for the same country can't be loaded.

MS_DGNLIBLIST

MS_DGNLIBLIST	DGN Library List	List of DGN library files that are used to find Levels, Line Styles, Text Styles, Dimension Styles, Multiline Styles, Element Templates, Text Favorites, Table Styles, Report Definitions, Drawing Seeds, Drawing Boundaries, Display Styles, Display Rules, Page Layouts, Saved Views, and Item Types for your current session.
MS_DGNLIBLIST_ITEMTYPES	DGN Library Itemtypes List	List of DGN library files that are used to find available ItemTypes for your current session.
MS_DGNLIBLIST_DETAILINGSYMBOLSTYLES	Process the DGNLIBs for available Detailing Symbol Styles	List of DGN library files that are used to find detailing symbol styles. If this configuration variable is not defined, then the DGN library files will be taken from the MS_DGNLIBLIST_DRAWINGSEEDS configuration variable. If MS_DGNLIBLIST_DRAWINGSEEDS is also not defined, then the DGN Llibrary files will be taken from the MS_DGNLIBLIST configuration variable.
MS_DGNLIBLIST_DIMENSIONSTYLES	Process the DGNLIBs for available Dimension Styles	List of DGN library files that are used to find dimension styles. If this configuration variable is not defined, then the DGN library files will be taken from the MS_DGNLIBLIST configuration variable.
MS_DGNLIBLIST_DISPLAYSTYLES	Process the DGNLIBs for available Display Styles	List of DGN library files that are used to find display styles. If this configuration variable is not defined, then the DGN library files will be taken from the MS_DGNLIBLIST configuration variable.
MS_DGNLIBLIST_DRAWINGSEEDS	Process the DGNLIBs for available Drawing Seeds	List of DGN library files that are used to find drawing seeds. If this configuration variable is not defined, then the DGN library files will be taken from the MS_DGNLIBLIST configuration variable.
MS_DGNLIBLIST_LINESTYLES	Process the DGNLIBs for available Line Styles	List of DGN library files that are used to find line styles. If this configuration variable is not defined, then the DGN library files will be taken from the MS_DGNLIBLIST configuration variable.
MS_DGNLIBLIST_LINKS	DGN Library List for Link Set files	List of DGN library files that are used to find Sheet Indexes and Link Sets for your current session.
MS_DGNLIBLIST_PRINTING	DGN Library List for Print Styles	List of DGN library files that are used to find Print Styles for your current session.
MS_DGNLIBLIST_RENDER	DGN Library List for Rentering tasks	List of DGN library files that are used to find Rendering Setups, Materials, and Lights for your current session.
MS_DGNLIBLIST_TEXTFAVORITES	Process the DGNLIBs for available Text Favorites	List of DGN library files that are used to find text favorites. If this configuration variable is not defined, then the DGN library files will be taken from the MS_DGNLIBLIST configuration variable.
MS_DGNLIBLIST_TEXTSTYLES	Process the DGNLIBs for available Text Styles	List of DGN library files that are used to find text styles. If this configuration variable is not defined, then the DGN linrary files will be taken from the MS_DGNLIBLIST configuration variable.

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Combining an OBM WS into an ORD WS

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Considerations …

- Default OBM/OBD Workspace is a copy of most recent ORD workspace with OBM specific files and variables added.
- Where will the Workspace be located?
  - Local
  - Server
  - PW Managed WS
  - Other ?
- Bridge templates at Workspace vs Workset level
- Will Bridge colleagues be using ProConcrete functionality?

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Steps to Combine ORD/OBD Workspace

Note: These notes are for OBD. OBM has a slightly different but very similar folder structure so keep this in mind.

1. Locate ORD Config Files
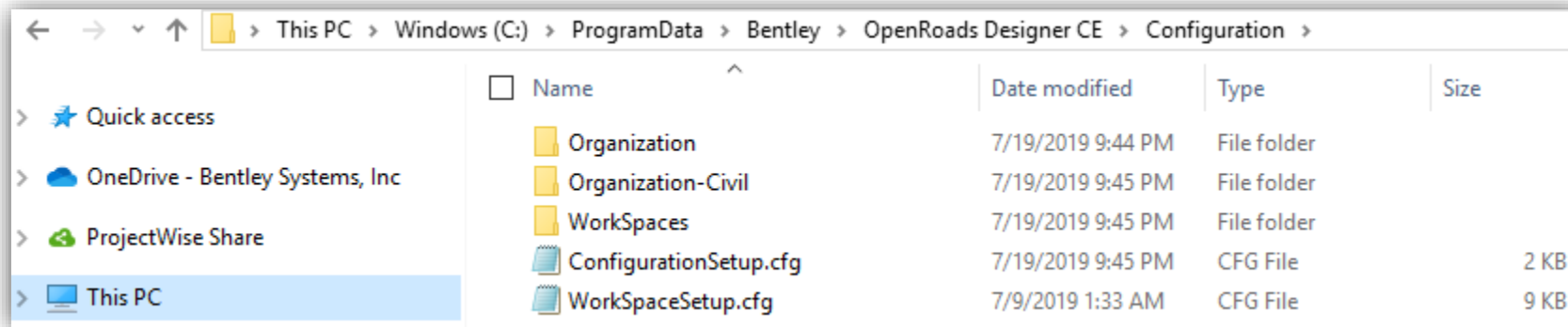
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Steps to Combine ORD/OBD Workspace

2. Review ConfigurationSetup.cfg and WorkSpaceSetup.cfg

```
[General]
_USTN_CUSTOM_CONFIGURATION=C:/Bentley/XDOT/Configuration

[SetConfiguration]
%if !defined (_USTN_USER_CONFIGURATION)
%if defined (_USTN_CUSTOM_CONFIGURATION) && ($(_USTN_CUSTOM_CONFIGURATION) != "") && exists ($(_USTN_CUSTOM_CONFIGURATION))
_USTN_CONFIGURATION = $(_USTN_CUSTOM_CONFIGURATION)
%endif
%endif
```

Determine location of Workspace and Workset folders

3. Set OBM cfg files to point to same folder structure as ORD
C:\ProgramData\Bentley\OpenBridge Designer CONNECT Edition\OpenBridgeModeler\Configuration

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Steps to Combine ORD/OBD Workspace

4. Copy *_Bridge Default Standards* folder and .cfg file to equivalent ORD location

C:\ProgramData\Bentley\OpenBridge Designer CE xx.xx\OpenBridgeModeler \Configuration\Organization-Civil

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Steps to Combine ORD/OBD Workspace

5. Check your workspace standards file.
    - Make sure it is calling the _Bridge Default Standards – (units).cfg
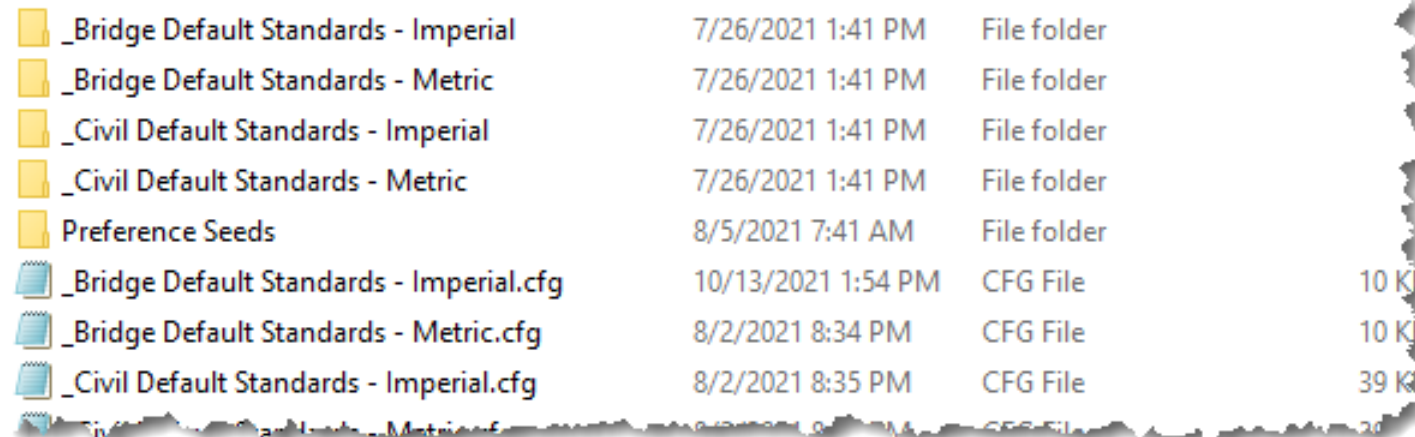
```
# If using OpenBridge Modeler, load Bridge Organization standards in this order:
#   1. Standard named specified in BRIDGE_ORGANIZATION_NAME
#   2. Metric example
#   3. Imperial example
BRIDGE_ORGANIZATION_NAME_DEFAULT_METRIC = _Bridge Default Standards - Metric
BRIDGE_ORGANIZATION_NAME_DEFAULT_IMPERIAL = _Bridge Default Standards - Imperial
%if $(_ENGINENAME) == "OpenBridgeModeler"
  %if exists ($(CIVIL_ORGANIZATION_ROOT)$(BRIDGE_ORGANIZATION_NAME).cfg)
    % include $(CIVIL_ORGANIZATION_ROOT)$(BRIDGE_ORGANIZATION_NAME).cfg
  %elif exists ($(CIVIL_ORGANIZATION_ROOT)$(BRIDGE_ORGANIZATION_NAME_DEFAULT_METRIC).cfg)
    BRIDGE_ORGANIZATION_NAME              = $(BRIDGE_ORGANIZATION_NAME_DEFAULT_METRIC)
    % include $(CIVIL_ORGANIZATION_ROOT)$(BRIDGE_ORGANIZATION_NAME).cfg
  %elif exists ($(CIVIL_ORGANIZATION_ROOT)$(BRIDGE_ORGANIZATION_NAME_DEFAULT_IMPERIAL).cfg)
    BRIDGE_ORGANIZATION_NAME              = $(BRIDGE_ORGANIZATION_NAME_DEFAULT_IMPERIAL)
    % include $(CIVIL_ORGANIZATION_ROOT)$(BRIDGE_ORGANIZATION_NAME).cfg
  %endif
%endif
#-----------------------------------------------------------------------
```

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Steps to Combine ORD/OBD Workspace

6. Check the <u>WorkSet.Template</u> file
   - Used when creating a workset without having a template workset folder structure
   - The one included with OpenBridge includes variables to check for template libraries at the workset level

```
######################################
# OpenBridge Modeler workset overrides
######################################
%if exists ($(_USTN_WORKSETSTANDARDS)Bridge Templates/AuxLib.cel)
  OBM_AUX_CELLLIST                  = $(_USTN_WORKSETSTANDARDS)Bridge Templates/AuxLib.cel
%endif
%if exists ($(_USTN_WORKSETSTANDARDS)Bridge Templates/BearingLib.cel)
  OBM_BEARING_CELLLIST              = $(_USTN_WORKSETSTANDARDS)Bridge Templates/BearingLib.cel
%endif
```

```
%endif
%if exists ($(_USTN_WORKSETSTANDARDS)Bridge Templates/FieldSpliceLibrary.xml)
  OBM_FIELDSPLICE_FILE              = $(_USTN_WORKSETSTANDARDS)Bridge Templates/FieldSpliceLibrary.xml
%endif
```

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Template Libraries – Workspace vs Workset

- Workspace
  - Could be Read-only locally as well
  - Most likely be Read-only for server, PW and other managed locations
- Workset level
  - Will allow OpenBridge user to create templates as needed to model structure

Decks   Columns   Wingwall   Cross Frames   Splices

Barriers   Piers   Material   Connection

Beams   Abutments   Stiffeners   Shear Studs

Libraries

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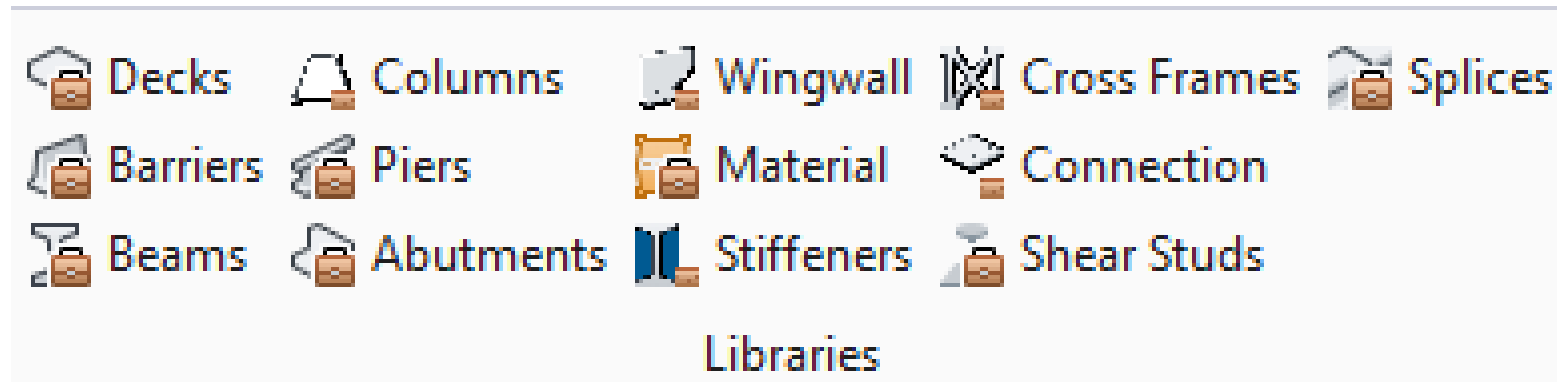
ProConcrete Considerations for ProjectWise

- If using PW, PC requires additional variables to be defined.
- REBAR_PROJDIR & REBAR_PROJECT variable is located in the application.cfg in the following folder:

C:\ProgramData\Bentley\OpenBridge Designer CONNECT Edition\OpenBridgeModeler\ Configuration\Organization-Civil_Bridge Default Standards - Imperial\Prostructures

```
# Where to find the 2D rebar detailing projects  [Directory]
#    The default location is <workSpaceName>/Standards/ProStructures/Rebar/Detailing/
#
# REBAR_PROJDIR


# Name of the pre-selected 2D rebar detailing project  [Keyword]
#
REBAR_PROJNAME = USA_Canada


# Where to find the 2D rebar detailing project files  [Directory]
#    No default location.
#    This variable is required in ProjectWise Managed WorkSpace setups.
#    When the variable is set, the user is limited to this one 2D rebar detailing project.
#
# REBAR_PROJECT = $(REBAR_PROJDIR)$(REBAR_PROJNAME)/
```

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ProConcrete Considerations for ProjectWise

- Typical application.cfg variables for PC:

```
#----------------------------------------------------------------------
#   Rebar application
#----------------------------------------------------------------------
REBAR                           = $(_PS_WORKSPACESTANDARDS)Rebar/
REBAR_LIBDIR                    = $(_PS_WORKSPACESTANDARDS)Rebar/library/
REBAR_PROJDIR                   = $(_PS_WORKSPACESTANDARDS)Rebar/Detailing/
REBAR_PROJNAME                  = USA_Canada                         # Should be overridden in workspace and/or workset.
REBAR_PROJECT                   = $(REBAR_PROJDIR)$(REBAR_PROJNAME)/  # No default. Needed by PW Managed Workspaces. Optional otherwise.
REBAR_SUPPDIR                   = $(_PS_SYSTEMROOT)Rebar/support/
REBAR_USERDIR                   = $(MS_SCR)
REBAR_AUTOLABEL_LIB             = $(REBAR_PROJECT)XXDOT_DefaultRebarLabels.dgnlib

%lock REBAR_PROJECT
```

OpenBridge Designer/Modeler – Understanding Workspace Files and Configuration

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