Customization of Footing Templates and Custom Abutments

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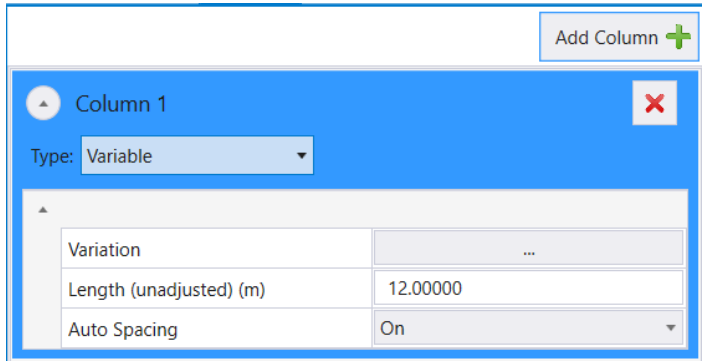
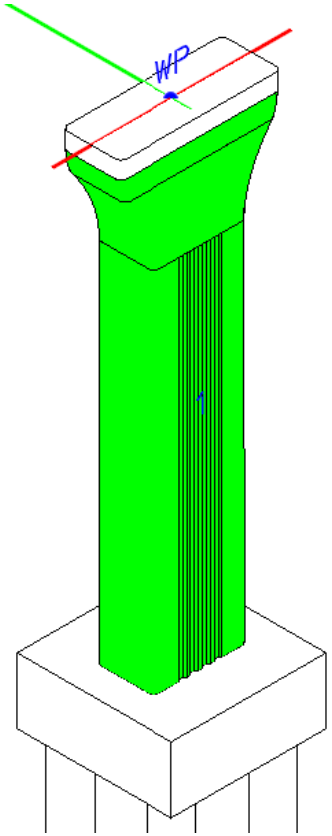
OBM Pier Column Definition

- Variable: Multiple cross sections, several fixed length, one adjustable length





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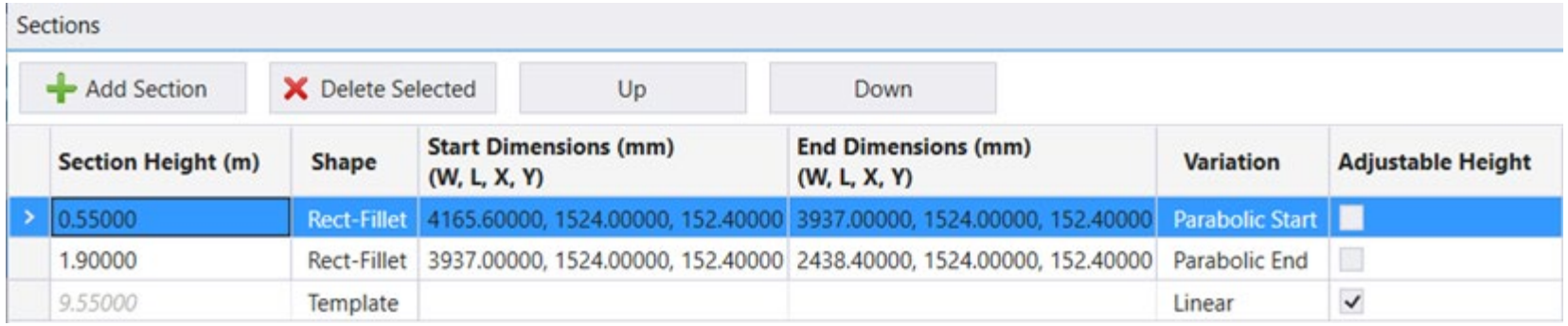
OBM Variable Column Definition

- For each section :
- Height
- Shape
- Start Dimension
- End Dimension
- Variation Type
- Adjustable Height (Yes-No)



- Hint: Definition starts at the top of the column

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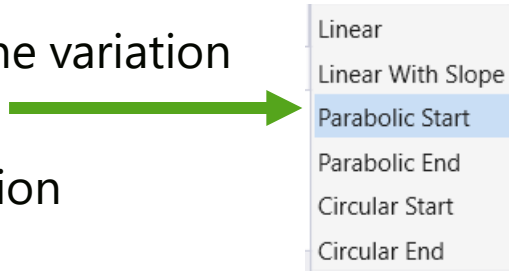
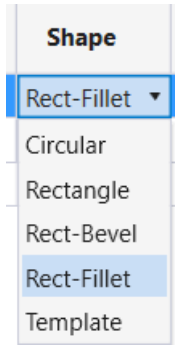
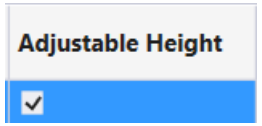
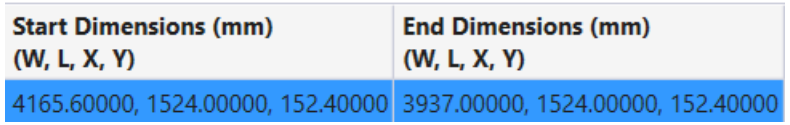
OBM Variable Column Definition

- Column Section Height:
  - Fixed section for all except one which adjustable height
  - The section can have different dimensions at start and end
  - If dimensions are different, the variation type can be chosen among:
  - One and only shape per section
  - Shapes among:









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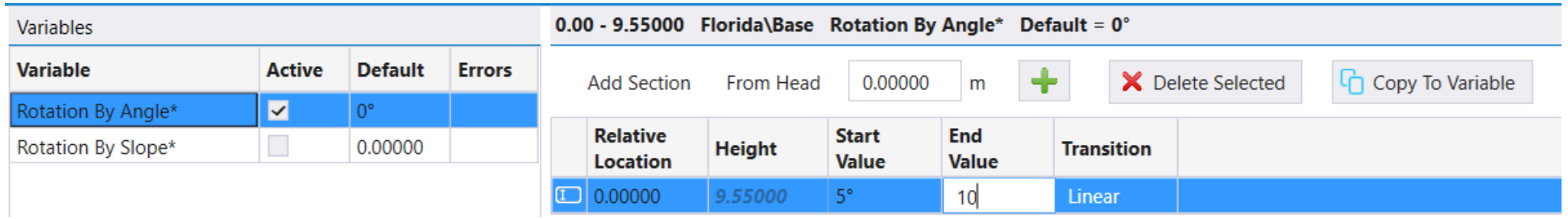
OBM Variable Column Definition

- Template:
  - Pick a template from library stored in Templates.xml
  - The template can be controlled by variables



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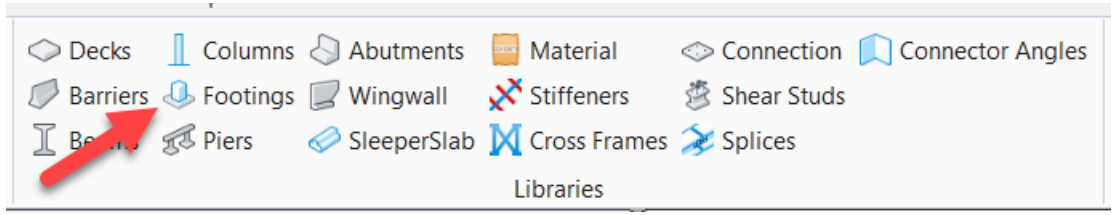
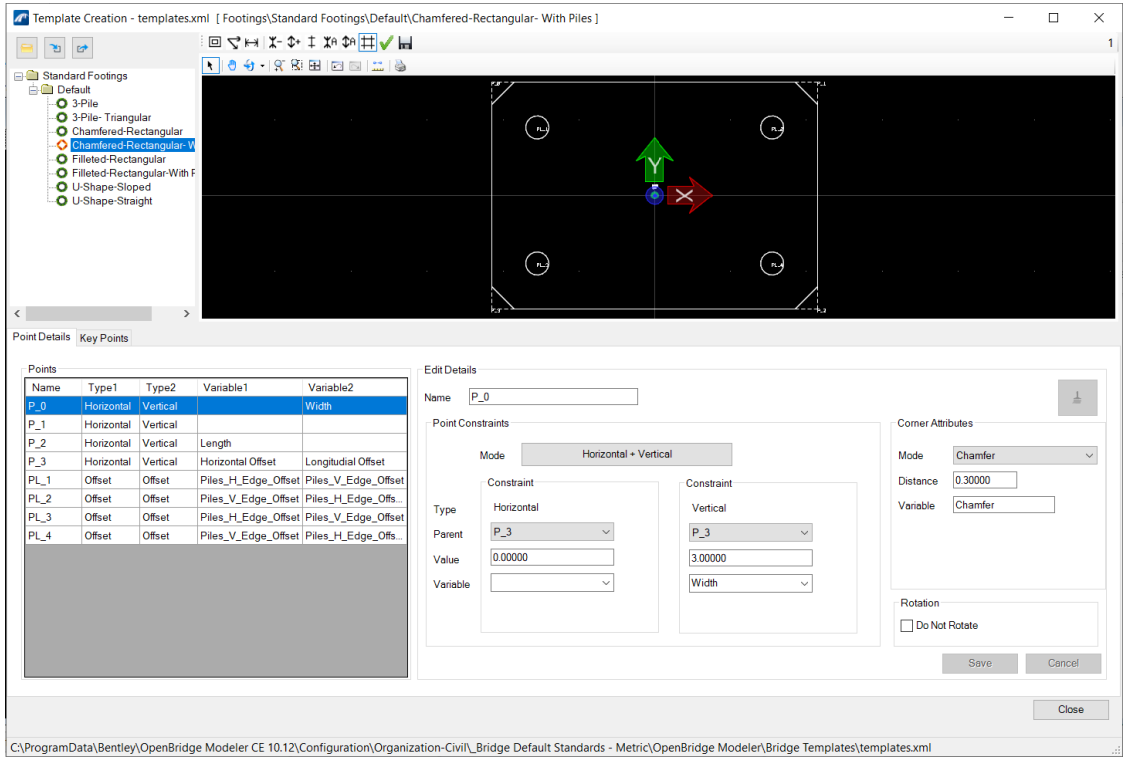
OBM Custom Footing

- Template shape:
  - In utilities, open Footing library
  - We access a usual template editor





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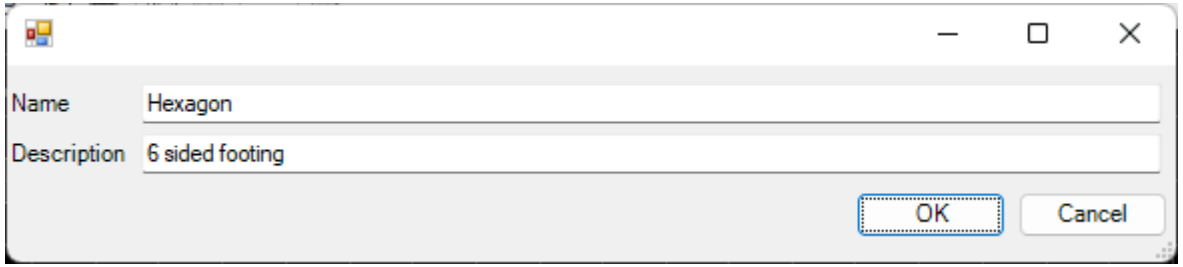
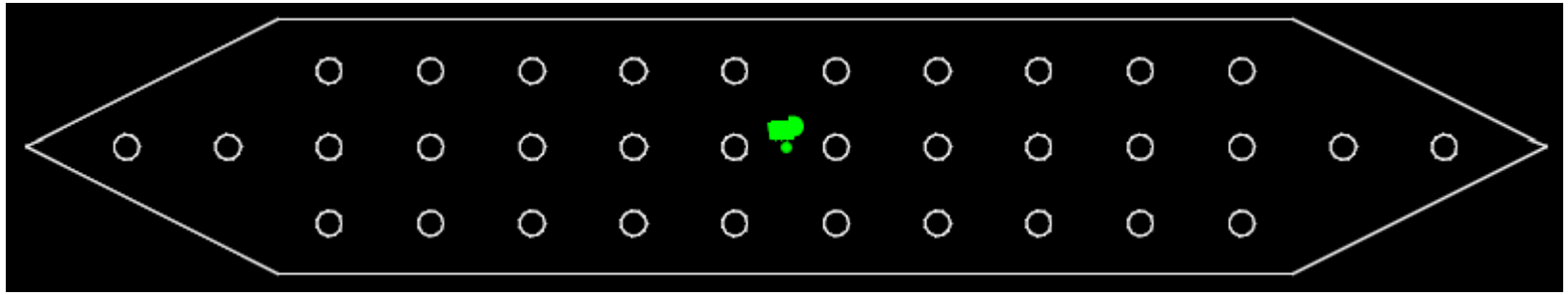
OBM Custom Footing

- Add a new template by drawing exterior definition of the footing
- Add Pile Locations by adding Circles





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OBM Custom Footing

- Tag circles representing Pile locations

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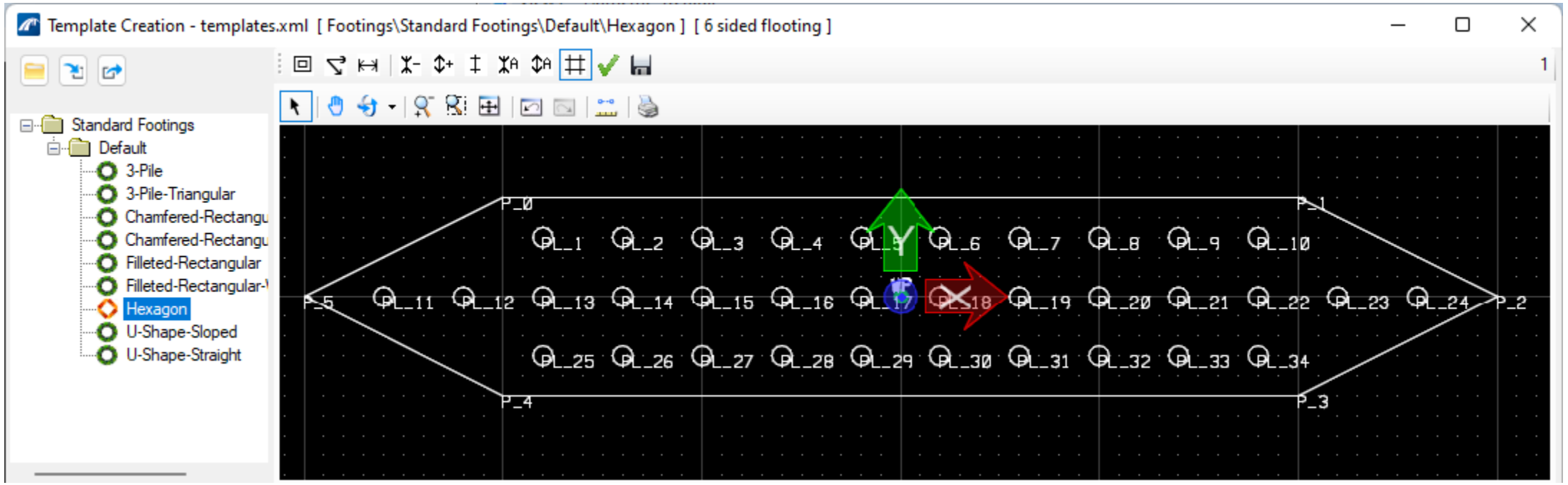
OBM Custom Footing

- Save the template
- Edit constraints and variables



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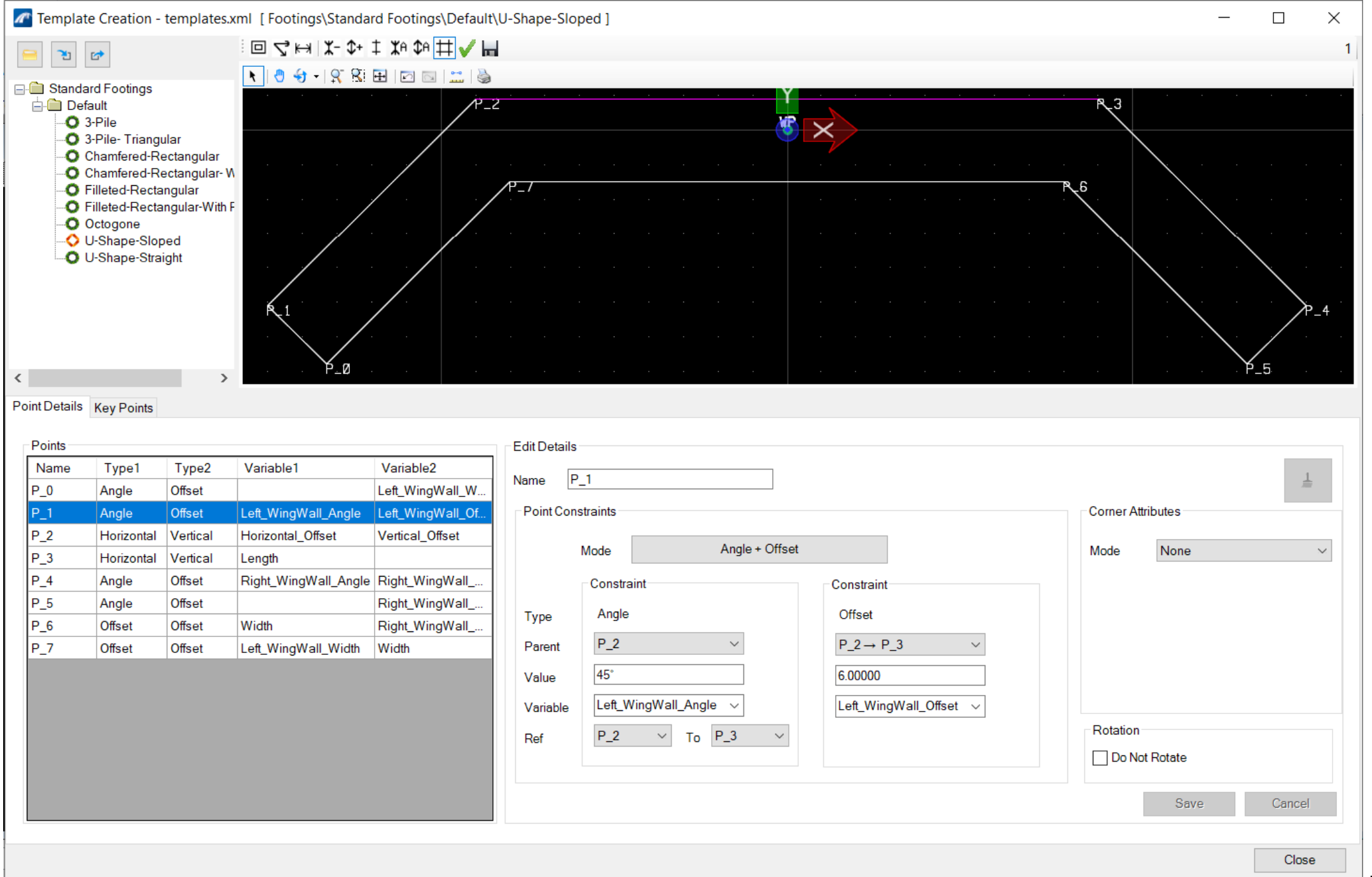
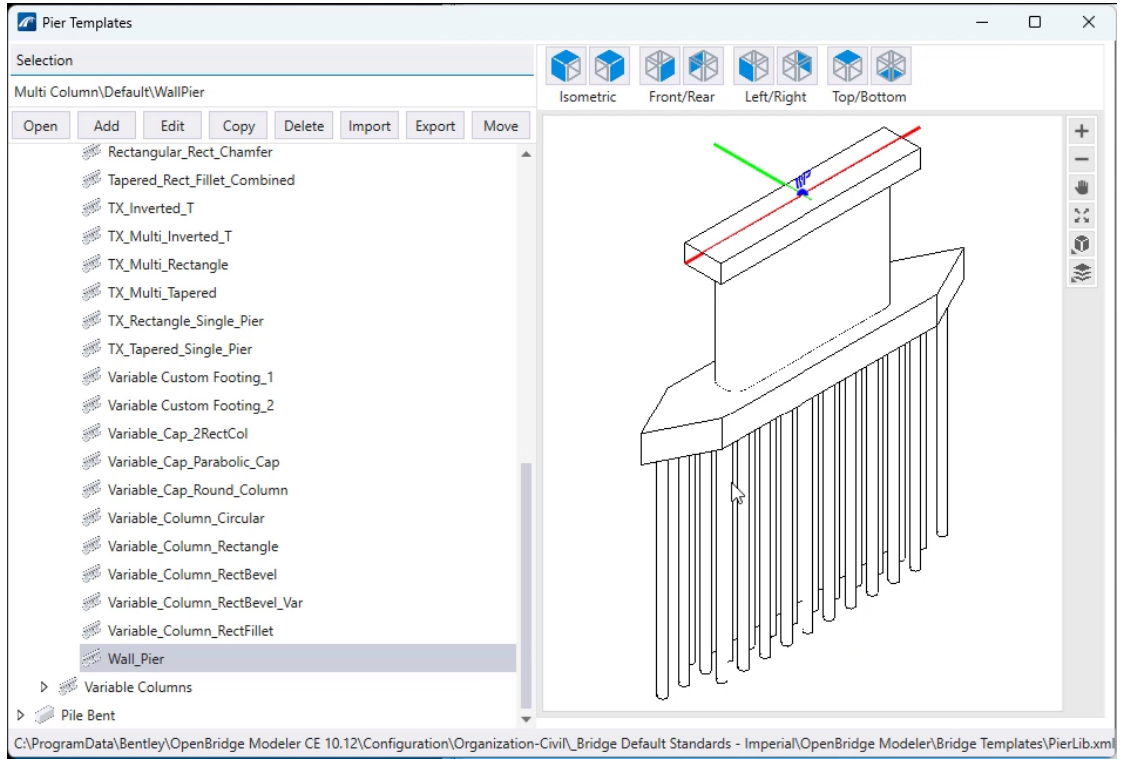

Template Creation - templates.xml [Footings\Standard Footings\Default\U-Shape-Sloped]
Standard Footings
Default
3-Pile
3-Pile- Triangular
Chamfered-Rectangular
Chamfered-Rectangular- W
Filleted-Rectangular
Filleted-Rectangular-With F
Octogone
U-Shape-Sloped
U-Shape-Straight
P_0
P_1
P_2
P_3
P_4
P_5
P_6
P_7
Point Details
Key Points
Points
Name Type1 Type2 Variable1 Variable2
P_0 Angle Offset Left_WingWall_W...
P_1 Angle Offset Left_WingWall_Angle Left_WingWall_Of...
P_2 Horizontal Vertical Horizontal_Offset Vertical_Offset
P_3 Horizontal Vertical Length
P_4 Angle Offset Right_WingWall_Angle Right_WingWall_...
P_5 Angle Offset Right_WingWall_...
P_6 Offset Offset Width Right_WingWall_...
P_7 Offset Offset Left_WingWall_Width Width
Edit Details
Name P_1
Point Constraints
Mode Angle + Offset
Constraint
Type Angle
Parent P_2
Value 45°
Variable Left_WingWall_Angle
Ref P_2 To P_3
Constraint
Offset
P_2 → P_3
6.00000
Left_WingWall_Offset
Corner Attributes
Mode None
Rotation
Do Not Rotate
Save
Cancel
Close
C:\ProgramData\Bentley\OpenBridge Modeler CE 10.12\Configuration\Organization-Civil_Bridge Default Standards - Metric\OpenBridge Modeler\Bridge Templates\templates.xml

OBM Custom Footing

- In the Pier or Abutment definition menu, choose Custom footing
- Modify Footing parameters
  - Height
  - Rotation Angle
  - Transverse and Longitudinal Offsets
- Adjust the Pile parameters
  - Pile Shape and Dimensions
  - Embed Length
  - Batter and Length of the Pile



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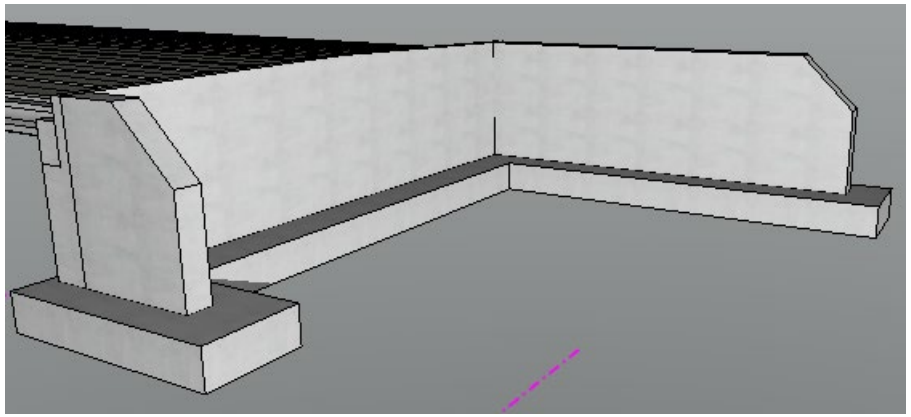
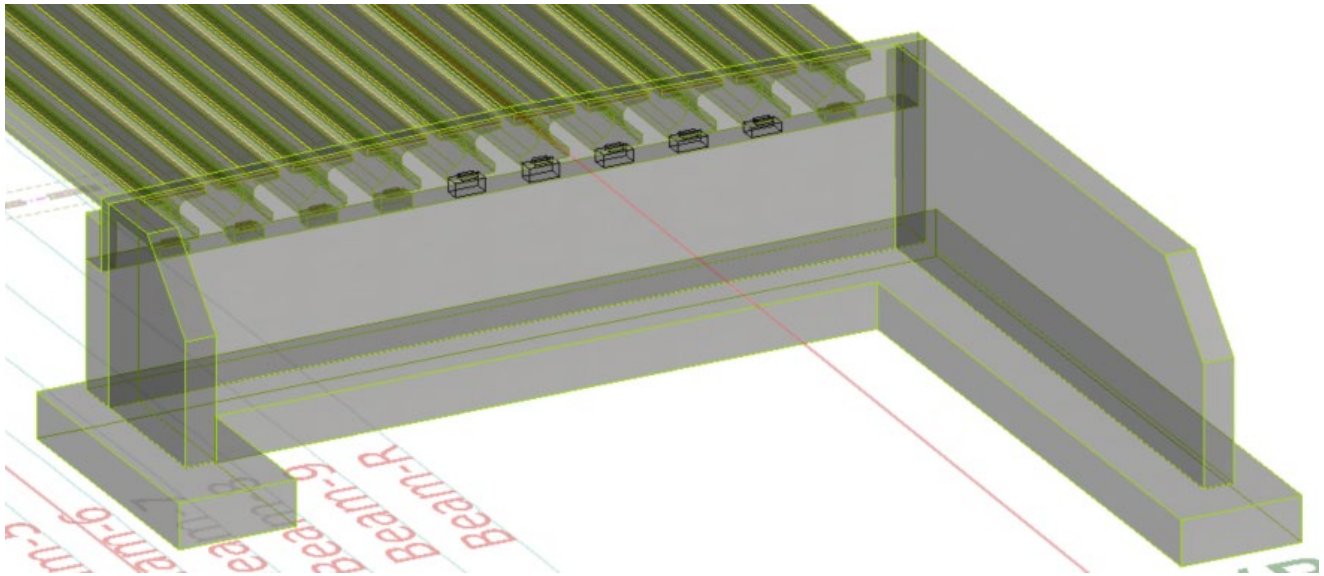
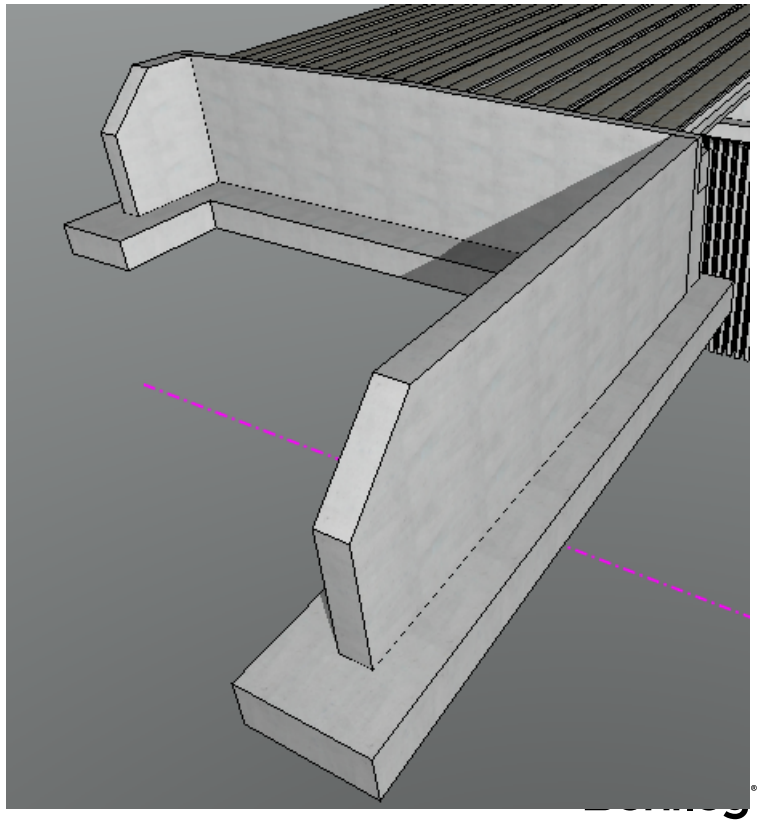
Limitations

- Limited transfer to LBS/LBC assuming bounding box
- No transfer to RM at this time
- No transfer via dgn file. Need to Import/Export Template







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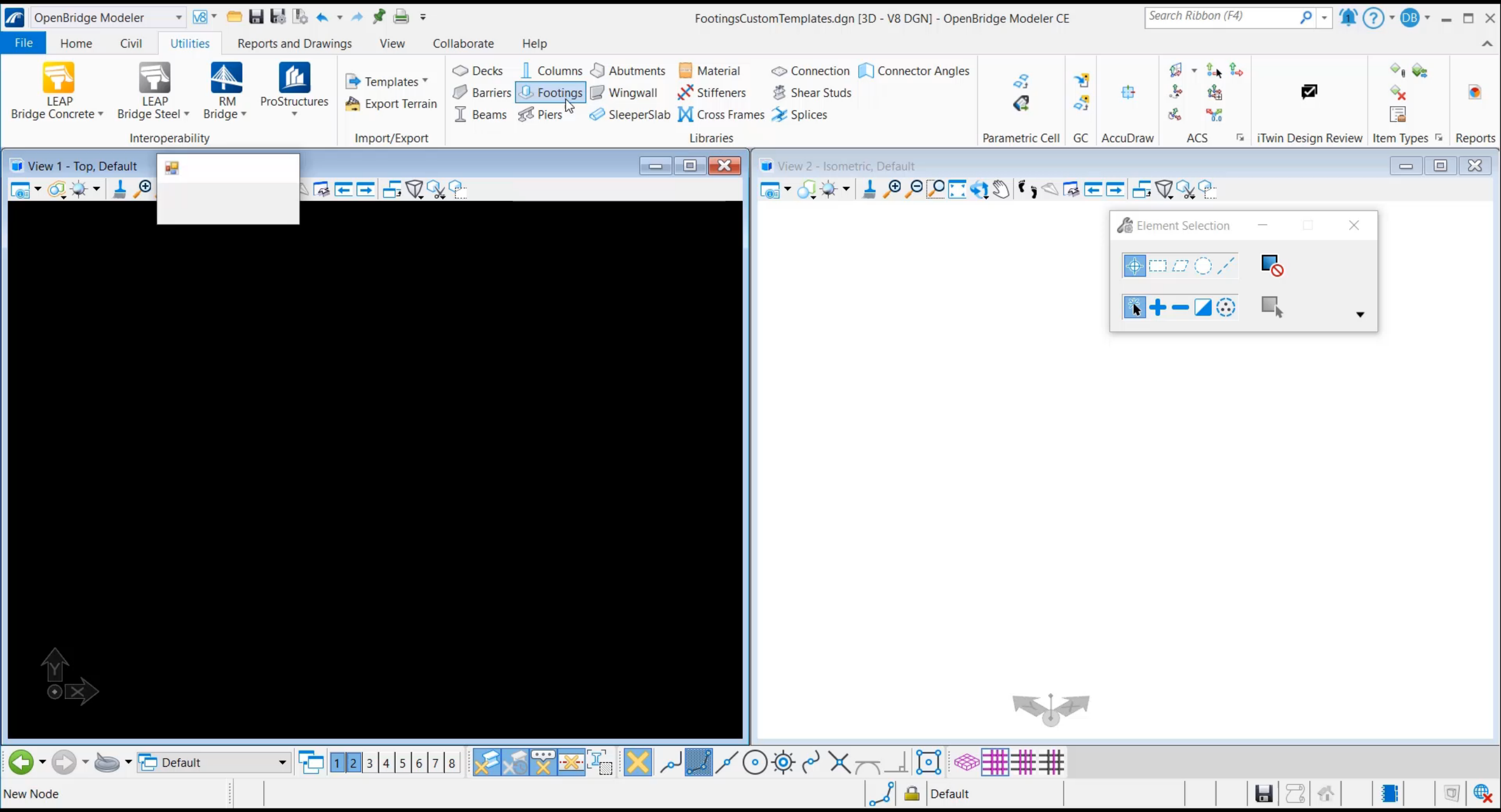
OpenBridge Modeler
FootingsCustomTemplates.dgn [3D - V8 DGN] - OpenBridge Modeler CE
Search Ribbon (F4)
File
Home
Civil
Utilities
Reports and Drawings
View
Collaborate
Help
LEAP Bridge Concrete
LEAP Bridge Steel
RM Bridge
ProStructures
Interoperability
Templates
Export Terrain
Import/Export
Decks
Columns
Abutments
Material
Connection
Connector Angles
Barriers
Footings
Wingwall
Stiffeners
Shear Studs
Beams
Piers
SleeperSlab
Cross Frames
Splices
Libraries
Parametric Cell
GC
AccuDraw
ACS
iTwin Design Review
Item Types
Reports
View 1 - Top, Default
View 2 - Isometric, Default
Element Selection
Default
1 2 3 4 5 6 7 8
New Node
Default