Guidelines for Creating New PGSuper™ Templates

The PGSuper™ software does not have any built-in default values. A PGSuper™ template establishes the default parameters for a new PGSuper™ project. The goal is to be able to create a new PGSuper™ project and, without editing any parameters, obtain a successful design and load rating.

The following is a general list of requirements for new PGSuper™ templates. Use existing templates as a guide for creating new templates.

1. Create one PGSuper™ project file for each of the WFxxTDG and WFxxDG girders. Using this project file, perform the steps that follow.
2. Create a specific WFxxTDG or WFxxDG girder in the Girder Library. Fully define the girder library entry with strand locations for both permanent and temporary strands in the proper order, debond criteria, harping point locations, default values for longitudinal and transverse reinforcement, diaphragm layout rules, and shear design criteria. This information should accurately reflect WSDOT standard of practice as defined in the standard girder drawings, Bridge Design Manual, and Standard Specifications.
3. Create a single span girder model. The number of girders, girder spacing, and span length should represent a reasonable two lane bridge.
   1. Alignment should be due East, straight, and flat
   2. The roadway profile should have a 2% crown at the centerline of the bridge. The bridge line offset should be 0.0 ft.
   3. Abutment 1 should be at station 0+00
   4. Connection geometry should be for End Type A.
   5. If possible, use 5 girders at 6 ft spacing to be consistent with W-series deck bulb tee templates
   6. Span length should be at or near its maximum length and should be a multiple of 5 ft (i.e. span length should be 135 ft not 137.25ft).
   7. Use 43” Single Slope traffic barriers.
   8. Use the typical deck and deck protection systems
   9. The project criteria should be set to “WSDOT LRFD – US Units” for girders less than 100” deep and “WSDOT LRFD for WF100G – US Units” for girders that are 100” deep or deeper.
   10. The load rating criteria should be set to ”WSDOT”
4. Design a typical interior and exterior girder.
   1. Before designing, make sure the girder is in its default configuration. Edit the girder, go to the Long. Reinforcement tab and the Trans. Reinforcement tab and press the “Restore to Library Defaults” buttons. Go to the Lifting and Shipping tab and set the lift loop location to 1.75ft and the transportation support locations to 5.0ft.
   2. Design the girder. Design for Flexure allowing the program to change the “A” dimension as needed. Also, Design for Shear, starting with the current stirrup layout. If the design is not successful, change the bridge configuration (typically, the span length is reduced if flexure is the issue. Stirrups configurations may need to be changed if shear is the issue).
5. Perform a load rating.
   1. Review the load rating report.
   2. Create a WSDOT Load Rating Summary Report and ensure that all of the load rating options are set to satisfy WSDOT requirements.
6. Set the input parameters to the following values.
   1. Edit the bridge model
      1. Set “A” dimension to 11”
      2. Set deck f’c = 4 ksi
      3. Set overlay to Future
   2. Edit span 1, girder A.
      1. Set f’ci to 5 ksi
      2. Set f’c to 6 ksi
      3. Set number of straight, harped, and temporary strands to 0
      4. Set vertical location of harped strands such that at the ends of the girder the top most strand is measured from the top of the girder and at the harping points, the bottom most strand is measured from the bottom of the girder. Set the strand locations to their minimum values.
      5. Clear all strand extensions
      6. Reset longitudinal and transverse reinforcement to library values.
      7. Reset the lifting and hauling support locations (1.75 ft and 5 ft, respectively)
      8. Copy Span 1 Girder A to all other girders.
7. Use the File > Save As Template… command to save the file as a new template
8. Create and test a new project based on the template
   1. Open the template file (**make sure it has a \*.pgt extension, not a \*.pgs extension**). You’ll know you’ve created a new project from the template if the file is marked as modified (see the status bar) and the name is PGSuper1 (or some other number following PGSuper… see the main window top border)
   2. Run the designer for Girder A and Girder B (designs should succeed). Accept the designs
   3. Create a Spec Check Report. All spec checks should pass. There should not be any warnings or status center messages.
   4. Create a Load Rating. All ratings should be successful
   5. Create a WSDOT Load Rating Summary. This report should create successfully.
   6. If the template satisfies all these requirements, it is complete.