

Memorandum

TO: All Design Section Staff

FROM: Bijan Khaleghi

DATE: October 16, 2008

SUBJECT: Prestressed Girder Dimensions and Span capability

This design memorandum supersedes the memorandum issued on March 1, 2005. This memorandum incorporates the newly developed WF66G, WF66PTG, WF100G and WF100PTG girders to the list of wide flange prestressed girders in both pretensioned and post-tensioned spliced girder versions. The top and bottom flange dimensions remain unchanged and the depth of the girder matches the girder designation. The following Table and the attached details show the revised cross sectional dimensions for all wide flange prestressed girders.

Girder Types	Depth
WF42G	3'-6"
WF50G	4'-2"
WF58G	4'-10"
WF66G & WF66PTG	5'-6"
WF74G & WF74PTG	6'-2"
WF83G & WF83PTG	6'-10 5/8"
WF95G & WF95PTG	7'-10 1/2"
WF100G & WF100PTG	8'-4"

The PGSuper program, BDM span capability charts, and standard drawings are being modified to incorporate the newly developed WF66G, WF66PTG, WF100G, and WF100PTG girders. Span capabilities of WF100G and WF100PTG are attached for preliminary design purpose.

Background:

The wide flange prestressed girders apply to all designs and projects. However, the suitability of long span girders for shipping and handling should be evaluated on a job-by-job basis.

The addition of WF100G and WF100PTG girders increases the span capability of WSDOT precast concrete girders to beyond 200 ft range. The addition of WF66G girders provides a logical step between the WF58G & WF74G.

The following information on shipping weight is provided by the trucking company.

- 170 kip max girder weight for OLD equipment at leading end & OLD equipment at trailing end.
- 210 kip max girder weight for OLD equipment at leading end & NEW equipment at trailing end.
- 252 kip max girder weight for NEW equipment at leading end & NEW equipment at trailing end.

The shipping weight limits shown above are for a single girder segment and do not include the weight of the hauler. These limits are conservative and are set low to ensure that all girders can be trucked to all jobsites. Girders of 270+ kips could be shipped to some specific projects such as the Alaskan Way Viaduct or Puyallup River Bridge.

If you have any questions regarding these issues, please contact Brian Aldrich at 705-7224, Rick Brice at 705-7174, Anthony Mizumori at 705-7228 or Bijan Khaleghi at 705-7181.

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