

# PENNDOT e-Notification



Bureau of Design  
Bridge Quality Assurance Division

## PSLRFD

No. 003  
December 2, 2002

### Consideration of Beam Notch for Draped Strand Designs

A problem has been identified recently that some designers are failing to consider the beam notch area when designing prestressed concrete beams with draped strand configurations. Due to fabrication difficulties, strands are not permitted within the depth of the beam notch.

The PSLRFD program has the capability to produce acceptable designs automatically so long as the correct value for Parameter 7 of the SCD command ("Minimum Distance to Top") is specified. The input parameter is used within the program to specifically limit the height at which draped strands can be placed at the end of the beam. It appears some designers are simply using the default value of 2 inches without consideration of the beam notch.

To avoid unconstructable draped strand designs due to strands being located within the beam notch zone, enter the following value for Parameter 7 of the SCD command:

Minimum Distance to Top = standard beam notch depth + 2 inches clear + 1/2 the strand diameter

Below is a tabulation of the standard beam notch depths for the various beam types and sizes:

All I-beams (from BD-662M):	= total top flange thickness (to top of web)
	= 12" for all AASHTO Type V and VI beams
	= varies from 6" min. to 18" max. for PA I-beams
Spread box beams (from BC-775M)	= 3 1/2" for all beam depths
Adjacent box beams (from BC-775M)	= 4 1/2" for 17" deep beam with composite concrete deck
	= 6" for > 17" deep beams with composite concrete deck
	= 8 1/2" for non-composite decks

Refer to the sketch on the next page for details.

Note that except for interior spans of multi-span continuous bridges, beam notches will be required on at least one end of the beam because of the paving notch requirement even if approach slabs are not provided.

For analysis runs, it is the designer's responsibility to enter an "End CGS of Draped Strands" value (Parameter 4 of the SCA command) that reflects not having strands within the beam notch zone.

Direct any questions concerning the above issues to:

**Ralph J. DeStefano, P.E.**

*PENNDOT Bureau of Design  
Bridge Quality Assurance Division  
Phone: (814)696-7181  
Fax: (814)696-7203  
e-mail: destefa@dot.state.pa.us*

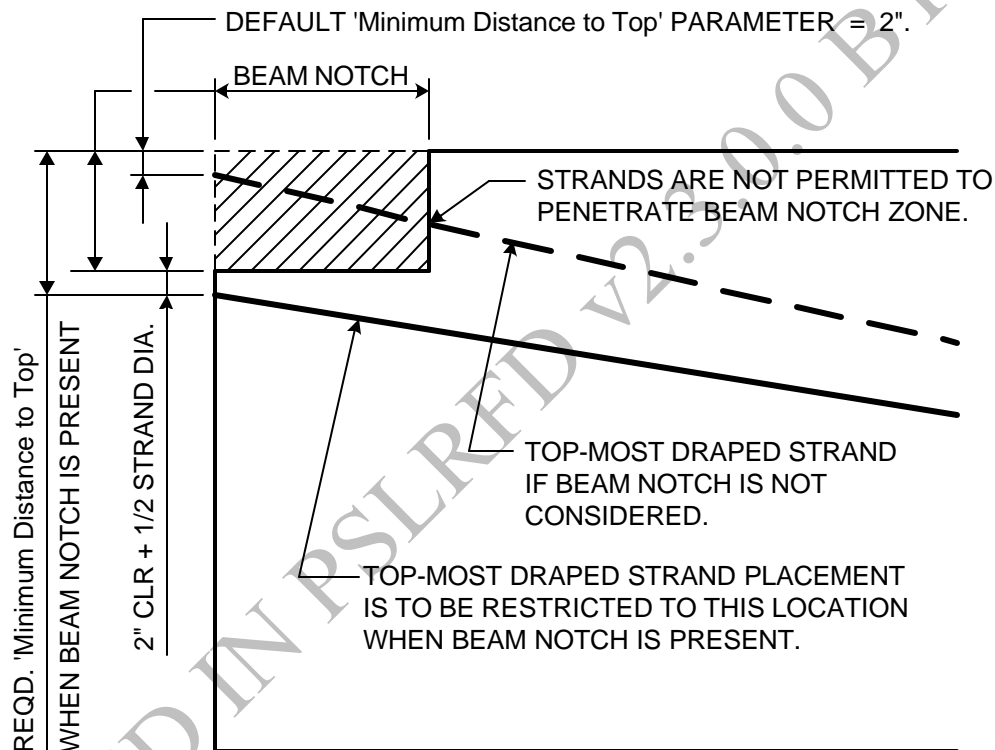
Archived copies of all previously distributed e-Notifications can be obtained from the PENNDOT LRFD and Engineering Programs website at: <http://penndot.engrprograms.com/home> and clicking on "e-Notification" and then "Mailing List Archives."



## PSLRFD

No. 003  
December 2, 2002

### Consideration of Beam Notch for Draped Strand Designs



**END OF BEAM ELEVATION VIEW**

ADDRESSED IN PSLRFD V2.3.00 BY REV 360