$f'_{ci\text{-}beam}$ is the initial specified compressive strength for the beam, in kips per square inch. It is used to calculate the initial beam modulus of elasticity and can be found on the prestressed beam plan sheets. The minimum recommended value of 4 ksi comes from the early days of prestressed concrete.

The **Modulus of rupture factor, fr/root(f'c)**, is a factor used to calculate cracking stress found in AASHTO 9.15.2.3. This value is typically 7.5 but has been assumed to be as high as 12.0. This decision must be made with sound engineering judgement.

Loss Calc Method (LS or CALC) refers to the method used to analyze prestressing losses. According to AASHTO, a beam can be designed for 45,000 psi loss; this is considered the Lump Sum (LS) method. The spreadsheet can now calculate the estimated losses on the prestressing strands, using CALC. If there are few strands in the beam, the calculated losses should be less than the assumed 45,000 psi loss, so using CALC aids in giving a higher rating for the beam. However, if there are a large number of strands in the beam, the assumed losses should be less than the calculated losses and using LS will raise the rating. Inputting LS or CALC will only affect the rating if it is controlled by the cracking moment.

The Prestressed Beam bridge rating sheet informs the user that the shape of the composite section is flanged or rectangular and whether or not the section is **Over-Reinforced** or **Under-Reinforced**. If it is Over-Reinforced, the concrete will crush before the steel yields. Under-Reinforced beams will have a more ductile failure mode, allowing the steel to yield before the concrete crushes. The AASHTO specifications allow either case for prestressed concrete members only.

Where calculated losses are considered, press the "Click to Converge Calculated Losses" button after all values have been input to converge rating. If any input is changed after pressing the button, it should be pressed again to converge calculations. This only applies when the rating is controlled by the cracking moment.

Table A. Prestressed Beam Dimensions.

Beam Type	Width – Top Flange, in	Width – Bottom Flange, in	Beam Depth, in	Y_t, in	Y_b, in
A	12	16	28	15.39	12.61
B	12	18	34	19.07	14.93
C	14	22	40	22.91	17.09
48	14	14	48	25.13	22.87
54	16	16	54	28.47	25.53
60	18	18	60	31.59	28.41
66	20	20	66	34.93	31.07
72	22	22	72	38.27	33.73
IV	20	26	54	29.25	24.75