1. Work this Index with the Florida-I Beam Standard Details (Index 450-036 thru 450-096) and the Table of Beam Variables in Structures Plans.
2. All bar bend dimensions are out-to-out.
3. Concrete cover: 2 inches minimum.
4. Strands N: \( \frac{3}{4} \) \( \times \) \( \bar{b} \) minimum, stressed to \( 10,000 \) lbs. each.
5. Place one (1) Bar 3K or 3Z at each location. Alterate the direction of the ends for each bar (see "ELEVATION AT END OF BEAM" in Standard Details).
6. Tie Bars 5K and 5Z to the fully bonded strands in the bottom or center row (see "STRAND PATTERN" on the Table of Beam Variables sheet in Structures Plans).
7. Place Bars 3C1, 3C2, and 3M1 in beam END 1, and Bars 3C2, 3D2, and 3M2 in beam END 2. END 1 and END 2 are shown on the Standard Details "ELEVATION".
8. For Beams with vertically beveled end conditions: Place first row of Bars 3C1, 3C2, 3D1, 3D2, 5K, and 5Z parallel to the end of the beam. Progressively rotate remaining bars within the limits of Bars 5Z until vertical by adjusting the spacing at the top of beam up to a maximum of 1". For deformed WWR, cut top cross wire and rotate bars as required.
9. For beams with skewed end conditions:
   A. Place end reinforcement parallel to the skewed end of the beam. End reinforcement is defined as Bars 3C1, 3C2, 3D1, 3D2, 5K, and 5Z placed within the limits of the spacing for Bars 3C in "ELEVATION AT END OF BEAM".
   B. Beyond the limits of the spacing for Bars 3C, place Bars 3D1, 5K, and 5Z perpendicular to the longitudinal axis of the beam. Fan Bars as needed to avoid overlapping bars at the transition to Bars 3D2 and 5M, and field cut to maintain minimum cover. Provide additional Bars 1K, 1M, 3C1, and 3D2 as required; additional bars are not included in the "BILL OF REINFORCING STEEL" for placement locations see Skewed Beam End Details for Widening Existing Bridges.
   C. Adjust the dimensions of Bars 3C1, 3C2, 3D1, 3D2, 5K, and 5Z as shown on the Bending Diagram.
   D. WWR is not permitted for end reinforcement Bars 3D1, 3D2, and 4M2; use bar reinforcement.
10. Contractor Options:
    A. Deformed WWR may be used in lieu of Bars 3K and 3Z as shown on the Standard Details; except at skewed ends (see Note 9).
    B. Bars 3C1, 3C2, 3D1, and 3M2 may be fabricated as a single bar with a 1'-0" minimum lap splice of the top legs, or the length of the bottom legs may be extended to facilitate tying to the exterior strands.
11. Embedment of Safety Line Anchorage Devices are permitted in the top flange to accommodate fall protection systems. See shop drawings for details and spacing of any required anchorage devices.
12. For beams with ends that will not be permanently encased in concrete diaphragms, cut wedges and recess Prestressing strands at the end of the beam without damaging the surrounding concrete. See "STRAND CUTTING AND PROTECTING DETAIL" on Sheet 2. Protect end of wedged recessed strands in accordance with Specification Section 450.
13. Bars 3C1, 3C2, 3D1, 3D2, 5K, and 5Z placed within the limits of Bars 5Z until vertical by adjusting the spacing at the top of beam up to a maximum of 1". For deformed WWR, cut top cross wire and rotate bars as required.
14. Embedment of Safety Line Anchorage Devices are permitted in the top flange to accommodate fall protection systems. See shop drawings for details and spacing of any required anchorage devices.
15. For beams with vertically beveled end conditions: Place first row of Bars 3C1, 3C2, 3D1, 3D2, 5K, and 5Z parallel to the end of the beam. Progressively rotate remaining bars within the limits of Bars 5Z until vertical by adjusting the spacing at the top of beam up to a maximum of 1". For deformed WWR, cut top cross wire and rotate bars as required.
16. Contractor Options:
    A. Deformed WWR may be used in lieu of Bars 3K and 3Z as shown on the Standard Details; except at skewed ends (see Note 9).
    B. Bars 3C1, 3C2, 3D1, and 3M2 may be fabricated as a single bar with a 1'-0" minimum lap splice of the top legs, or the length of the bottom legs may be extended to facilitate tying to the exterior strands.
    C. Adjust the dimensions of Bars 3C1, 3C2, 3D1, 3D2, 5K, and 5Z as shown on the Bending Diagram.
    D. WWR is not permitted for end reinforcement Bars 3D1, 3D2, and 4M2; use bar reinforcement.
17. Contractor Options:
    A. Deformed WWR may be used in lieu of Bars 3K and 3Z as shown on the Standard Details; except at skewed ends (see Note 9).
    B. Bars 3C1, 3C2, 3D1, and 3M2 may be fabricated as a single bar with a 1'-0" minimum lap splice of the top legs, or the length of the bottom legs may be extended to facilitate tying to the exterior strands.
    C. Adjust the dimensions of Bars 3C1, 3C2, 3D1, 3D2, 5K, and 5Z as shown on the Bending Diagram.
    D. WWR is not permitted for end reinforcement Bars 3D1, 3D2, and 4M2; use bar reinforcement.
When Intermediate Diaphragms are Required by Design

Face of Beam Web

Bars 3D1 or 3D2 (Pairs) Bars 3C1 or 3C2

2

6" Chamfer

Bars 5K (Typ.)

Bars 5Z (shown dotted, Typ.)

Bars 5K spaced perpendicular to end of beam @ 3\(\frac{3}{8}\)"

Skewed Bars 3Z, 4M1 or 4M2 placed with Bars 5K *

Bars 3D1 or 3D2 (Pairs) Bars 3C1 or 3C2

Bars 5K spaced along \(\&\) Beam @ 3". Bars 4M1 or 4M2 placed with alternate Bars 5K *

1 – Additional Bar 4M1 or 4M2 (shown dashed)

Begin WWR Option when applicable, Pieces H-3 & S-1, see Sheet 2 of Index 450-036 thru 450-096

WWR not permitted for Bars 4M1 or 4M2

Bars 5A, 5Y & Strands N not shown for clarity

Bars 5K spaced perpendicular to end of beam @ 3\(\frac{3}{8}\)"

Skewed Bars 3Z, 301 or 302, 3C1 or 3C2 placed with Bars 5K *

Bars 3C1 or 3C2

PARTIAL PLAN VIEW (SHOWING TOP FLANGE)
(End 1 Shown, End 2 Similar)
(Bars 5A, 5Y & Strands N not shown for clarity)

Bars 5K (Typ.)

Bars 3D1 or 3D2 (Pairs)

Bars 5K spaced along \(\&\) Beam @ 3". Bars 301 or 302, 3C1 or 3C2 placed with alternate Bars 5K *

1 – Additional Bar 3D1 or 3D2 for Skews \(\leq 10^\circ\)
2 – Additional Bars 3D1 or 3D2 for Skews \(> 10^\circ\)

(Epoxy Coating
(\(\frac{1}{2}\)" minimum thickness)
(See Note 12, Sheet 2)

Strand Cutting and Protecting Detail

STRAND CUTTING AND PROTECTING DETAIL

TYPICAL SECTION SHOWING CUT STRAND RECESS LIMITS

TYPICAL SECTION AFTER PROTECTING

Insert for Diaphragm Reinforcing

Insert Detail for Diaphragm Reinforcing

(Epoxys Coating
(\(\frac{1}{2}\)" minimum thickness)
(See Note 12, Sheet 1)

Strand Recess
(formed by cutting or grinding)

Precast Strand

End of Beam

FIB

End of Beam

FIB

Epoxy Coating
(\(\frac{1}{2}\)" minimum thickness)
(See Note 12, Sheet 1)

Strand Recess
(formed by cutting or grinding)

Precast Strand

End of Beam

FIB

End of Beam

FIB

1. Provide 1\(\frac{1}{2}\)" zinc-electroplated, ferrule wing nut or coil inserts, UNC threads, 1/0 minimum gage wire, not more than 4" in depth with a minimum ultimate tensile strength of 11,400 lbs in 4,000 psi concrete.
2. If inserts are needed on both sides (faces) of beam webs, an assembly as long as the thickness of the beam web, consisting of two (2) ferrule or coil inserts attached by two (2) or more struts may be utilized. The connecting struts shall have a minimum ultimate tensile strength of 11,400 lbs.
3. Inserts for diaphragm reinforcing are required at each end of each intermediate diaphragm shown on the Beam Framing Plan and may be required at the end of the beams when end diaphragms are shown. See Superstructure and Beam Framing Plans for longitudinal location of inserts for each face of beam.

Insert Notes

* For number of Bars, spacing and placement details see Index 450-036 thru 450-096. See Sheet 1 for Conventional Reinforcement, Sheet 2 for WWR.

For number of Bars, spacing and placement details see Index 450-036 thru 450-096. See Sheet 1 for Conventional Reinforcement, Sheet 2 for WWR.