Effective width = 12t for composite section

1. Remove AC (if any) from deck.

2. Saw cut concrete removal perimeter and remove concrete to top of flange. Check slab to ensure the load carrying capacity when the concrete is removed. It might be necessary to do the work in stages, i.e., specifying that uncompleted holes be at least a minimum distance apart.

3. Weld new shear connector to top flange.

4. Fill hole with fast setting concrete.

5. Place new AC overlay if required.

Figure 1. Strengthening by Adding Shear Connectors
Note: It may be advantageous, or necessary for design purposes, to shore the bridge during the cover plate installation. Shoring can reduce traffic deflections and or reduce dead load stresses and allow plates to be more effective.

Figure 2. Strengthening by Cover Plates
Figure 3. Strengthening by Post-Tensioning
Figure 4. Strengthening by Post-Tensioning Using King Post
Note: Anchor brackets should always be used in pairs to balance forces about centerline of girder. Stressing should be done simultaneously on both brackets.

Figure 5. Girder Web Anchorage Bracket
Figure 6. Girder Flange Anchorage Bracket (Side Flange Mount)

Note: Details are symmetrical about centerline of girder.
Figure 7. Girder Flange Anchorage Bracket (Bottom of Flange Mount)