**DESIGNER NOTES**

1. For girder with 4" elastomeric bearing pads, additional provisions shall be made to ensure full bearing of the pads. Refer to Standard 12.01 for additional requirements.

2. When a cap is used for concrete slab superstructures, the top of the cap shall be parallel to grade. See Standard 13.06 for minimum offsets from bearings to sides of the cap.

3. Footing dowels shall be placed at not more than 1'-0" and at not more than 4'-0" intervals in both directions, unless otherwise shown.

4. All bar splices to be based on "class C" tension lap splice unless otherwise provided. See Standard 13.05 for additional requirements.

5. Optional keyed construction joints shall be formed by beveled keyway between 4" deep x 1/3 thickness of shaft. See Standard 13.06 for minimum offsets from beams to sides of the cap.


7. For hammerhead length greater than 45'-0", consider a two shaft pier. See Standard 13.06 for additional requirements.

8. Optional keyed construction joints in shaft should be provided so that the maximum height of pour need not exceed 25'-0". Detail bar splices at optional joints if the bar splices exceed 20'-0".

9. Head seats may be angled to match skew at the design location. See Standard 13.06 for additional requirements.

10. Whenever possible, vertical reinforcement is 1% or more of the gross concrete area. See Standard 13.06 for additional requirements.

11. Minimum vertical bar spacing applies only when the vertical reinforcement is on 4" of the gross concrete area. See Standard 13.06 for additional requirements.

12. Section P2

13. Plan of Pier Cap

14. Make top of cap parallel to grade for concrete slab superstructure. See Standard 13.06 for additional requirements.

15. Lower layer of construction steel shall be #4 bars spaced 1'-0" vertically. See Standard 13.06 for additional requirements.

16. Upper layer of construction steel shall be #4 bars spaced 1'-0" vertically. See Standard 13.06 for additional requirements.

17. See Standard 13.06 for additional requirements.

18. Elevation

19. Leveling of station.

20. Detail A

21. Two shaft pier.