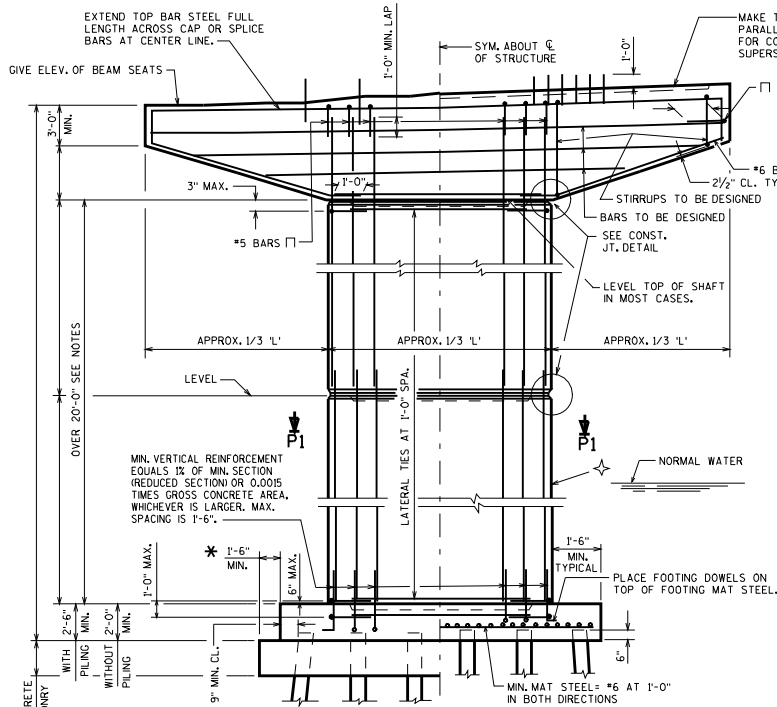
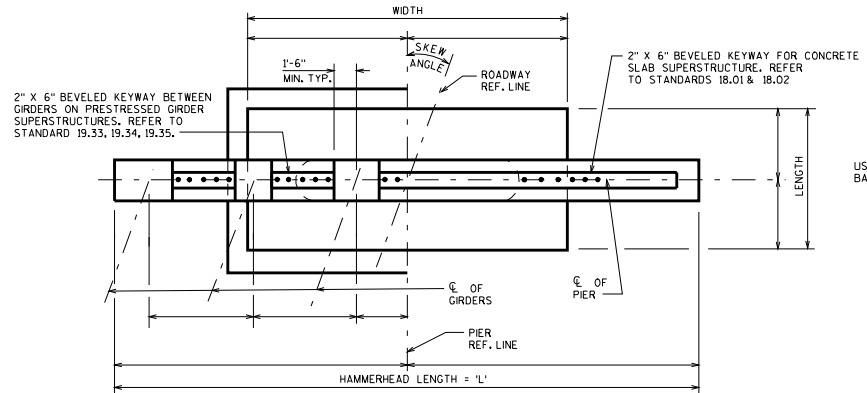


GIRDER STRUCTURES

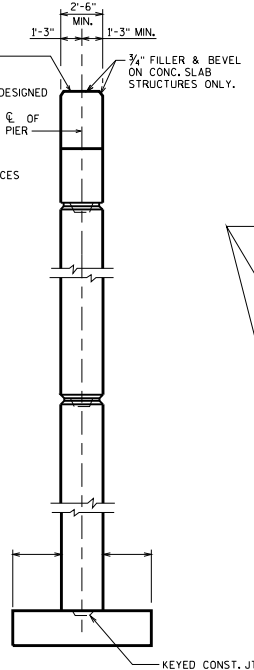
CONCRETE SLAB STRUCTURES



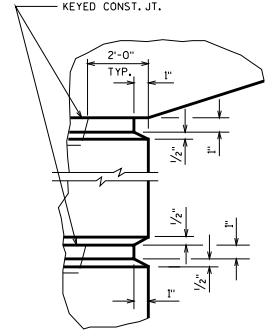
ELEVATION
LOOKING UP STATION



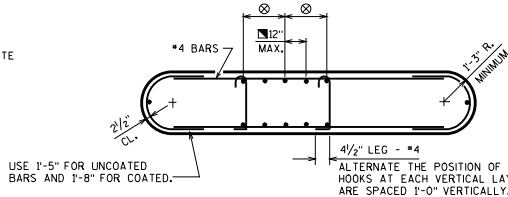
PLAN



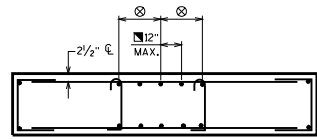
END VIEW



CONST. JT. DETAIL



SECTION P1



ALTERNATE SECTION P1

GENERAL NOTES

- ALL BAR SPLICES TO BE BASED ON "CLASS C" TENSION LAP SPLICE.
- OPTIONAL KEYED CONSTRUCTION JOINTS IN SHAFT SHALL BE PLACED APPROXIMATELY 2'-0" ABOVE NORMAL WATER ELEVATION. OPTIONAL KEYED CONSTRUCTION JOINT IN SHAFT SHALL BE USED IN ORDER THAT MAXIMUM HEIGHT OF POUR DOES NOT EXCEED 20 FEET. RUSTICATIONS SHOWN IN "CONST. JT. DETAIL" MAY BE OMITTED AT THE OPTION OF THE DESIGNER.
- KEYED CONSTRUCTION JOINTS SHALL BE FORMED BY BEVELED KEYWAY 4" DEEP X 1/3 THICKNESS OF SHAFT X 4'-0" LESS THAN LENGTH OF SHAFT.
- ★ A STANDARD SHAFT TAPER OF 10% MAY BE USED AT THE OPTION OF THE DESIGNER. (LATERAL DIRECTION ONLY)
- SHAFT MAY BE TAPERED IN ONE OR TWO DIRECTIONS WHEN REQUIRED FOR STRUCTURAL REASONS.
- A NON-STANDARD SHAFT CROSS-SECTION, SHAPE, OR TAPER, NOT REQUIRED FOR STRUCTURAL REASONS, MAY BE USED ONLY WITH THE APPROVAL OF THE STRUCTURES DESIGN SECTION.
- SEE STANDARD 12.01 FOR ADDITIONAL REINFORCING STEEL IN BEARING AREA FOR BEAM SEATS OF NON-SLOPED CAPS THAT ARE 4 INCHES OR MORE ABOVE THE LOWEST BEAM SEAT.
- THIS MAXIMUM VERT. BAR SPACING APPLIES ONLY WHEN THE VERTICAL REINFORCEMENT IS 1% OR MORE OF THE GROSS CONCRETE AREA.
- SEE STANDARD 13.01 FOR MINIMUM OFFSETS FROM BEARINGS TO SIDES OF CAP AND TO ADJACENT BEARING SEAT STEPS.
- EPOXY COAT BAR STEEL DOWN TO TOP OF FOOTINGS IN ALL PIERS UNDER EXPANSION JOINTS AND ON ALL PIERS AT GRADE SEPARATIONS.
- * INCREASE THIS DIMENSION IF NECESSARY TO PREVENT BATTERED PILES FROM DRIVING INTO SHEET PILING. ALSO INCREASE DIMENSION TO FACILITATE OVERHEAD SHEETING CLEARANCE IF THE TOP OF PIER IS BEYOND NORMAL SEAL SIZE AND NO CONSTRUCTION JOINT IS PROVIDED IN THE SHAFT/CAP REGION (E.G. TAPERED WALL PIERS OR SHORTER HAMMERHEADS WITH RADIUS TRANSITION FROM SHAFT TO CAP).
- ⊗ MAXIMUM SPACING BETWEEN UNRESTRAINED VERTICAL BAR AND RESTRAINED (TIED ACROSS MEMBER) VERTICAL BAR IS 24 INCHES

HAMMERHEAD PIER	
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION STRUCTURES DEVELOPMENT SECTION	
APPROVED: Scot Becker	DATE: 7-09