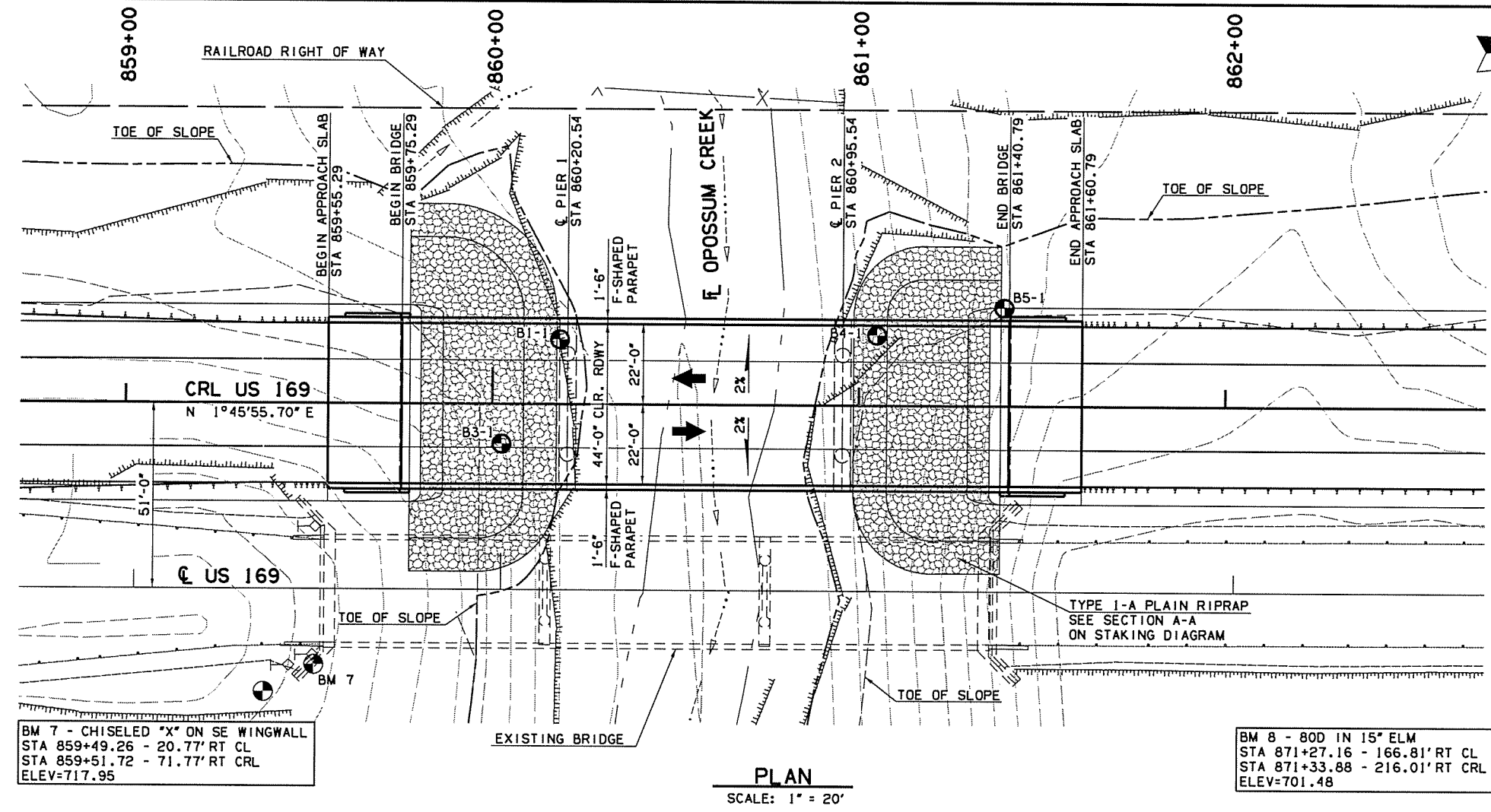


NO.	DIVISION	STATE	J/P PROJ NO	FISCAL YEAR	SHEET NO	TOTAL SHEETS
8	OKLA	27092(04)			50	143



DESIGN DATA

LOADING
HL-93, OKLAHOMA OVERLOAD TRUCK OR 315 OVERLOAD TRUCK
20 PSF FUTURE WEARING SURFACE.
LRFR OPERATING RATING = 2.09

DESIGN
AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS, 6TH EDITION,
EXCEPT FOR PILES WHICH SATISFY AASHTO STANDARD
SPECIFICATIONS FOR HIGHWAY BRIDGES, 16TH EDITION WITH NO
INTERIMS.
ANSI/AASHTO/AWS D1.5 BRIDGE WELDING CODE
ANSI/AWS D1.6 STRUCTURAL WELDING CODE - STAINLESS STEEL

MATERIAL
CONCRETE:
CLASS AA f'c = 4,000 PSI
CLASS A f'c = 3,000 PSI
REINFORCING STEEL: Fy = 60,000 PSI
STRUCTURAL STEEL M270 (GRADE 50W) Fy = 50,000 PSI
STAINLESS STEEL A240 (TYPE 316) Fy = 30,000 PSI
STAINLESS STEEL A320, CLASS 2, (GRADE B8M) Fy = 58,000 PSI

FOUNDATION DESIGN
ABUTMENTS (HP 10X42 PILING)
FACTORED PILE REACTION = 57.62 TONS/PILE

PIER 1 AND 2 (48" DIA. DRILLED SHAFTS)
MAX. FACTORED REACTION = 445.28 T/SHAFT
FACTORED FRICTION RESISTANCE (9 TSF) = 357.20 T/SHAFT
FACTORED BEARING RESISTANCE (160 TSF) = 529.20 T/SHAFT
TOTAL FACTORED RESISTANCE = 886.40 T/SHAFT
BEARING RESISTANCE FACTOR = 0.7
FRICTION RESISTANCE FACTOR = 0.45
FRICTION DEPTH OF ROCK NEGLECTED (FEET) = 5

HYDRAULIC DATA

TOTAL DA = 36.02 SQ MI (1) Q50 = 7230 cfs
CONTROLLED DA = 0 SQ MI V50 = 1.27 fps
EFFECTIVE DA = 36.02 SQ MI CHW50 = 703.44
Q2 = 1950 cfs Q100 = 8445 cfs
V2 = 6.06 fps V100 = 1.26 fps
CHW2 = 693.25 CHW100 = 704.45
Q5 = 3345 cfs *100yr PIER SCOUR = 7.17'
V5 = 6.56 fps 100yr CONTRACTION SCOUR = 20.17'
CHW5 = 696.46 *100yr TOTAL SCOUR = 27.34'
Q10 = 4310 cfs QOT > Q500 = 12645 cfs
V10 = 2.63 fps V500 = 1.33 fps
CHW10 = 699.14 CHW500 = 706.69
Q25 = 5815 cfs *500yr PIER SCOUR = 7.10'
V25 = 1.36 fps 500yr CONTRACTION SCOUR = 29.88'
CHW25 = 702.09 *500yr TOTAL SCOUR = 36.98'
BRIDGE LENGTH = 165.50'

* NOT APPLICABLE DUE TO ROCK ELEVATION

NOTE:
(1) FLOWS WERE TAKEN FROM HEC-RAS FLOW DISTRIBUTION
FOR MULTIPLE BRIDGE OPENING ROUTINE MODELING
THE MAIN CHANNEL AND OVERFLOW CHANNEL

