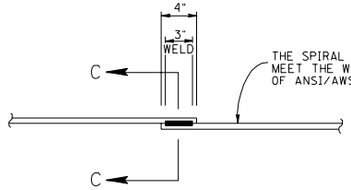
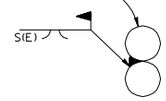
Ao = LAP SPLICE + HOOK EXTENSION
BSd = BOTTOM SPIRAL BAR DIAMETER
BP = PITCH OF BOTTOM SPIRAL
CSd = CAP SPIRAL BAR DIAMETER
CS = LARGER OF Dc/2 OR 15 in.
CCD = CAP STEEL CLEAR DISTANCE
CP = PITCH OF CAP SPIRAL
Dc = MAXIMUM COLUMN DIMENSION
Ds = COLUMN DIAMETER - (VERTICAL BAR COVER)(2)
FSd = FOOTING SPIRAL BAR DIAMETER
FP = PITCH OF FOOTING SPIRAL
FS = LARGER OF Dc/2 OR 15 in.
FCD = FOOTING STEEL CLEAR DISTANCE
H OR H (MAX.) = COLUMN HEIGHT (Inches)
MSd = MIDDLE SPIRAL BAR DIAMETER
MP = PITCH OF MIDDLE SPIRAL
TSd = TOP SPIRAL BAR DIAMETER
TP = PITCH OF TOP SPIRAL

4 5 6 NOTE: FOR SPC B, C & D, LAP SPLICE OF SPIRAL REINFORCEMENT IS ONLY ALLOWED IN THE MIDDLE HALF OF THE COLUMN HEIGHT. OUTSIDE THIS AREA, CONNECTIONS OF SPIRAL REINFORCEMENT MUST BE FULL STRENGTH LAP WELDS OR APPROVED MECHANICAL SPLICES. WHERE WELDS ARE USED, SPIRAL REINFORCEMENT MUST BE A WELDABLE GRADE OF ASTM A706 OR ASTM A615 OR A616 MEETING THE WELDABILITY REQUIREMENTS OF ANSI/AWS D1.4-79.

5 NOTE: CLOSED SPIRAL REINFORCEMENT SHALL END WITH A FULL STRENGTH LAP WELD OR AN APPROVED MECHANICAL SPLICE.



5 WELDED SPLICE OF SPIRAL REINFORCEMENT



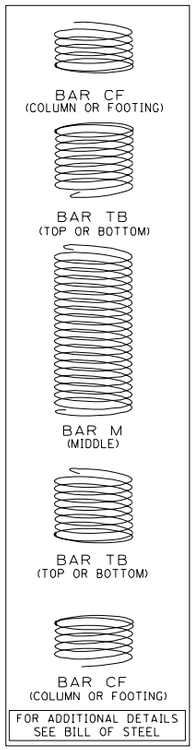
SECTION C-C

d = BAR DIAMETER (in.)
S = d/2
E = 0.6S

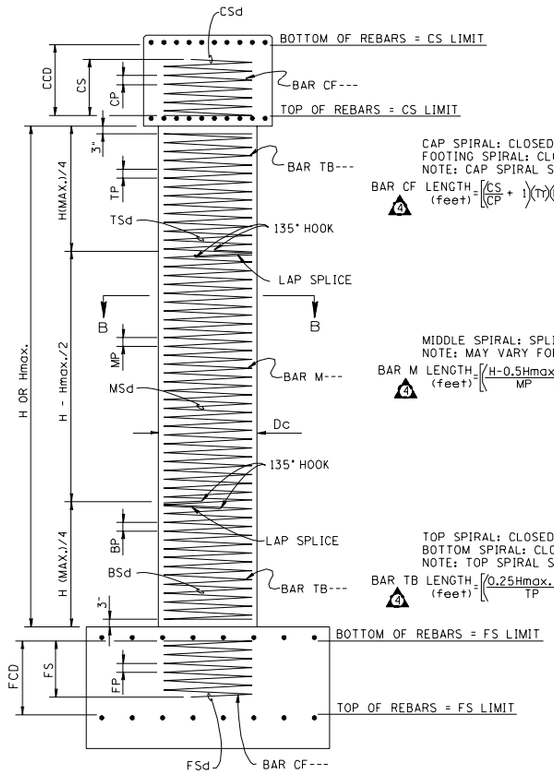
PROJECT NO.		YEAR	SHEET NO.
		1992	

REVISIONS

	NO.	DATE	BY	BRIEF DESCRIPTION
M/R	1	10-26-92	MAH	NEW DRAWING
M/R	2	3-28-94	MAH	DELETED 1½ FULL TURNS WITH LAP WELD
M/R	3	9-19-94	MAH	REVISED SPIRAL DETAIL, ADDED METHOD FOR SPIRAL CALCULATIONS
M/R	4	11-7-94	MAH	REV. METHOD FOR SPIRAL CALCULATIONS, LAP SPLICES AND NOTE.



CLOSURE ADD ON = 4" FOR WELD OR MECHANICAL



CAP SPIRAL: CLOSED BOTTOM AND OPEN TOP
FOOTING SPIRAL: CLOSED TOP AND OPEN BOTTOM
NOTE: CAP SPIRAL SAME AS FOOTING SPIRAL

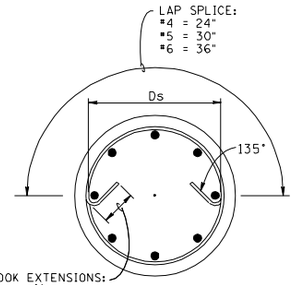
4 BAR CF LENGTH (feet) = $\left[\left(\frac{CS}{CP} + 1\right)(\pi)(Ds + \frac{1}{8}" + CSd) + 4\right] / 12$

MIDDLE SPIRAL: SPLICE TOP AND BOTTOM
NOTE: MAY VARY FOR MULTIPLE POST BENT.

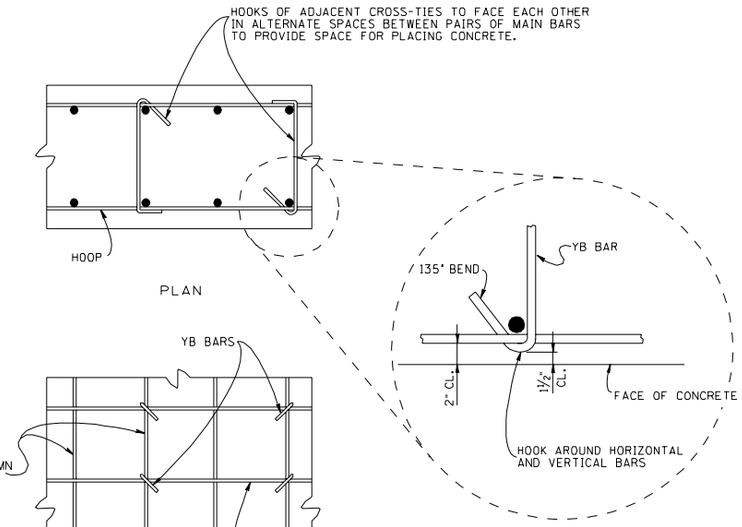
4 BAR M LENGTH (feet) = $\left[\left(\frac{H-0.5Hmax}{MP}\right)(\pi)(Ds + \frac{1}{8}" + MSd) + 2(Ao)\right] / 12$

TOP SPIRAL: CLOSED TOP AND SPLICE BOTTOM
BOTTOM SPIRAL: CLOSED BOTTOM AND SPLICE TOP
NOTE: TOP SPIRAL SAME AS BOTTOM SPIRAL

4 BAR TB LENGTH (feet) = $\left[\left(\frac{0.25Hmax. - 3}{TP} + 1\right)(\pi)(Ds + \frac{1}{8}" + TSd) + Ao + 4\right] / 12$

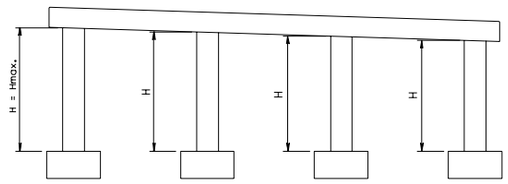


SECTION B-B
DETAIL FOR
SPIRAL REINFORCEMENT
4 3 2 (SHOWING MINIMUM DIMENSIONS OF LAP SPLICE WHERE ALLOWED.)



SUPPLEMENTARY TIES FOR COLUMN STEEL:
SUPPLEMENTARY TIES (YB BARS) MUST ENGAGE HOOP (OUTSIDE HORIZONTAL BAR) AND BE TIED SECURELY TO LONGITUDINAL REINFORCEMENT.

SUPPLEMENTARY TIES FOR COLUMNS
REQUIRED FOR SPC A, B, C AND D



3 ELEVATION
(SHOWING MULTIPLE POST BENT)

3 NOTE: CALCULATE CAP AND FOOTING SPIRAL LENGTHS AS SHOWN ABOVE AND COMPRESS IF CS < CCD OR FS < FCD. DO NOT ADJUST CLEAR DISTANCES TO ACCOMMODATE SPIRALS.

3 2 CIRCULAR COLUMNS
(SHOWING SPIRAL REINFORCEMENT)

M/R MINOR REVISION - FHWA APPROVAL NOT REQUIRED

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

STANDARD SEISMIC DETAILS 1992

1

DESIGNED BY M.A.H. DATE 9-92
DRAWN BY K.L. FRANKENFIELD DATE 9-92
SUPERVISED BY HOLLORAN & PATE DATE 9-92
CHECKED BY _____ DATE _____

CORRECT. Edward P. Wasserman
ENGINEER OF STRUCTURES

STD-6-2