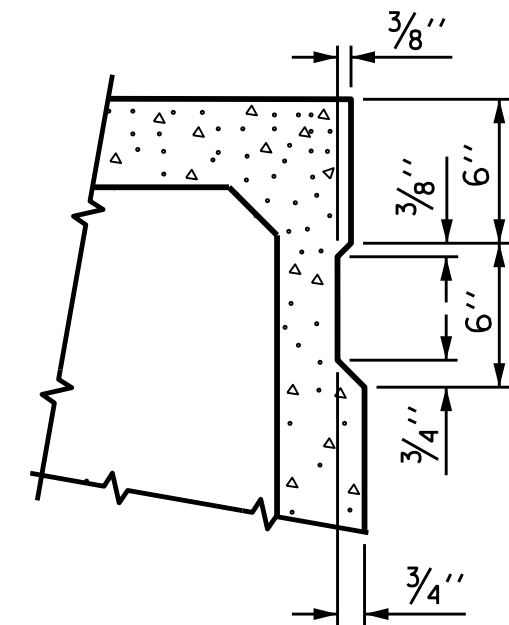


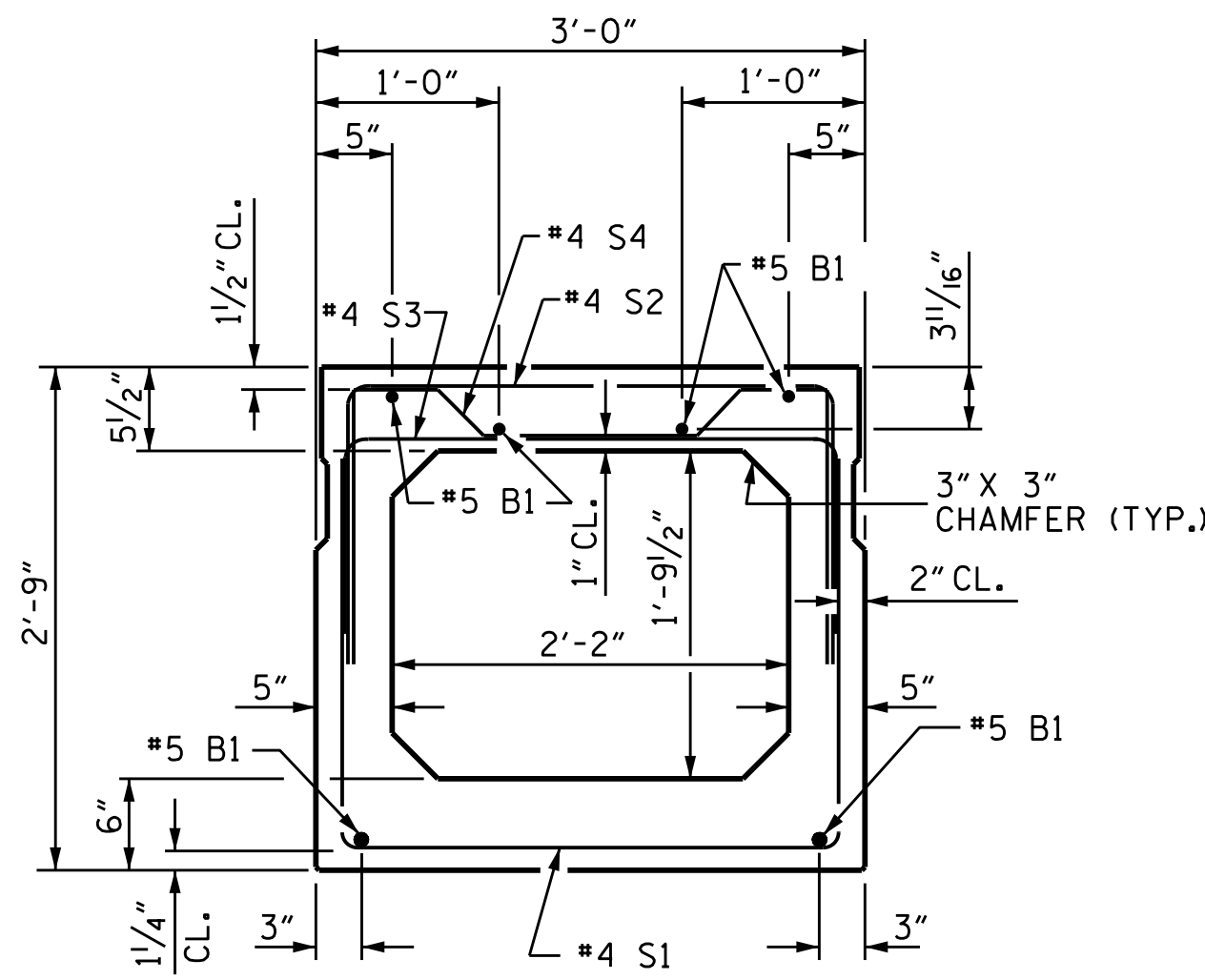
END ELEVATION

SHOWING PLACEMENT OF #5 & #4 "A" BARS AND LOCATION OF DOWEL HOLES. (INTERIOR BOX BEAM SECTION SHOWN-EXTERIOR SECTION SIMILAR EXCEPT SHEAR KEY LOCATION. STRAND LAYOUT NOT SHOWN.)



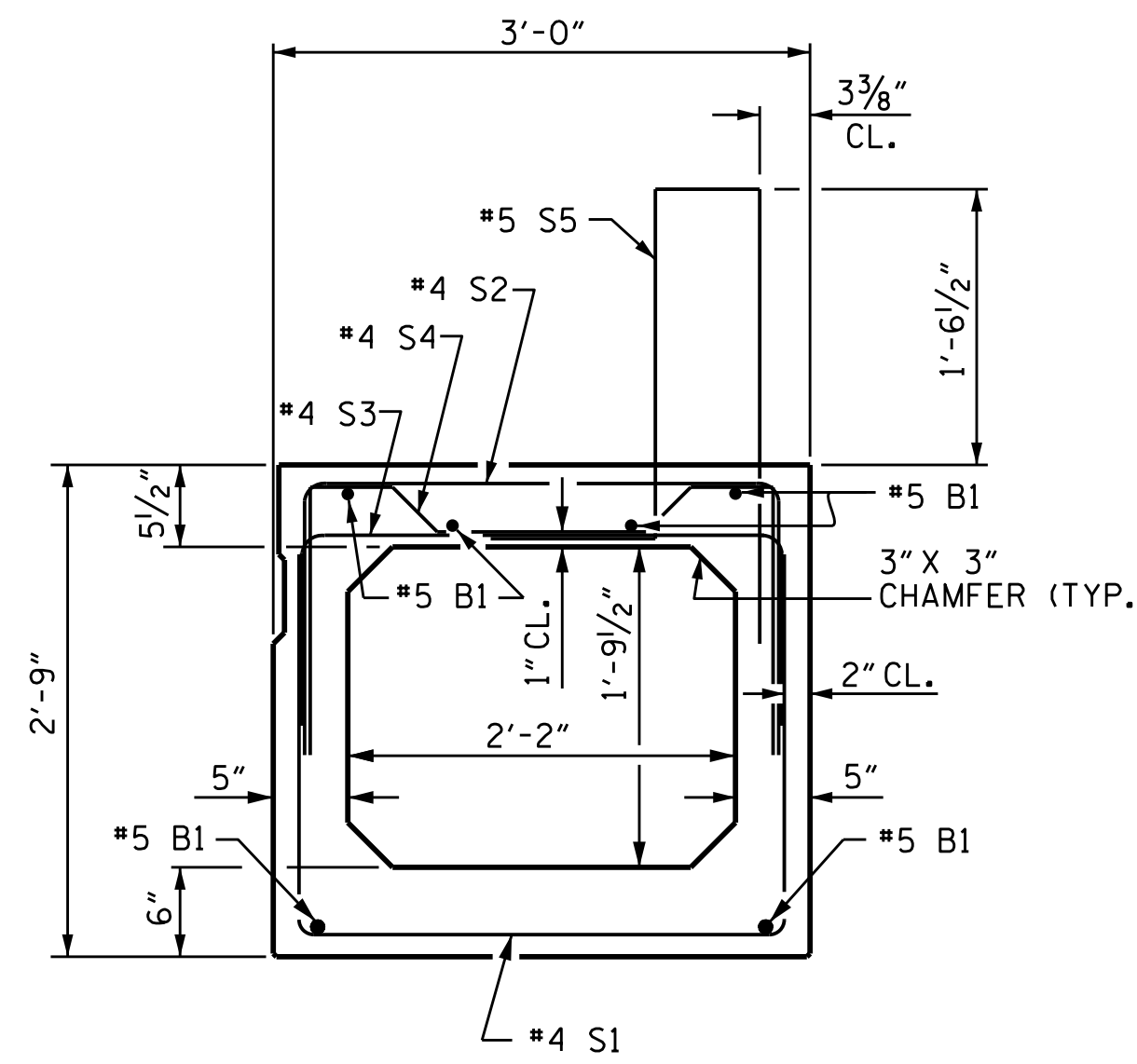
SHEAR KEY DETAIL

NOTE: OMIT SHEAR KEY ON OUTSIDE FACE OF EXTERIOR BOX BEAMS.



INTERIOR BOX BEAM SECTION

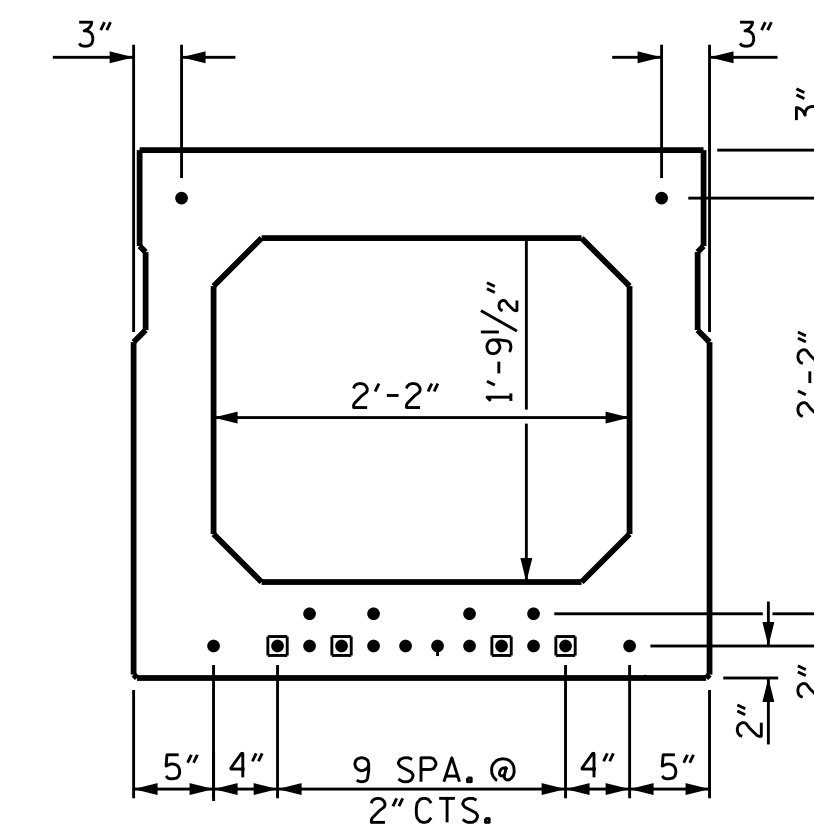
(STRAND LAYOUT NOT SHOWN)



EXTERIOR BOX BEAM SECTION

(STRAND LAYOUT NOT SHOWN)

0.6" Ø LOW RELAXATION STRAND LAYOUT



TYPICAL STRAND LOCATION

(18 STRANDS REQUIRED)

DEBONDING LEGEND

- FULLY BONDED STRANDS
- STRANDS DEBONDED FOR 4'-0" FROM END OF GIRDER

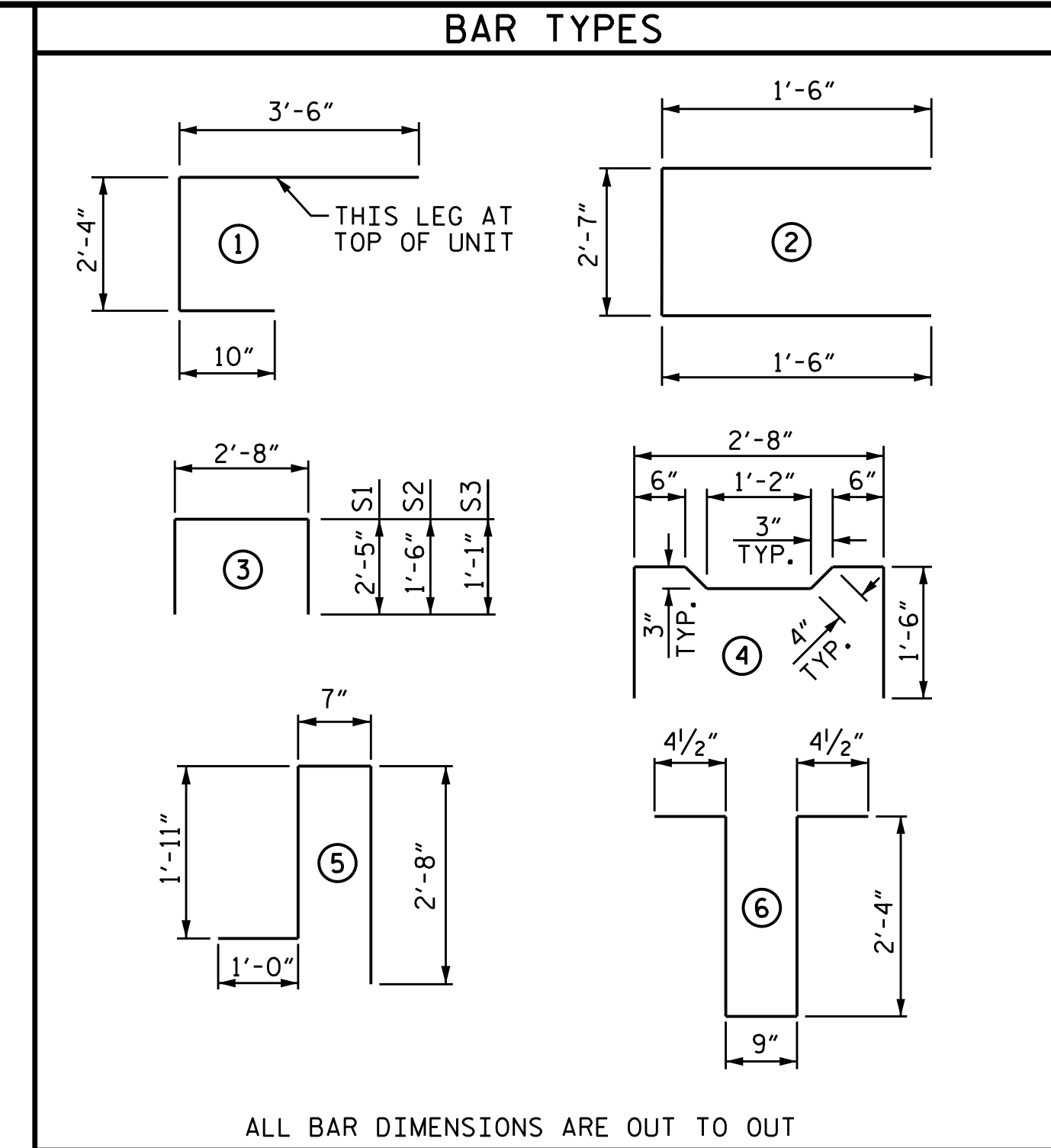
BOND SHALL BE BROKEN ON STRANDS AS SHOWN FOR THE SPECIFIED LENGTH FROM EACH END OF THE BOX BEAM. SEE STANDARD SPECIFICATIONS ARTICLE 1078-7.

BOX BEAM UNITS REQUIRED			
SPAN A			
	NUMBER	LENGTH	TOTAL LENGTH
EXTERIOR B.B.	2	70'-0"	140'-0"
INTERIOR B.B.	9	70'-0"	630'-0"
TOTAL	11		770'-0"
SPAN C			
	NUMBER	LENGTH	TOTAL LENGTH
EXTERIOR B.B.	2	70'-0"	140'-0"
INTERIOR B.B.	9	70'-0"	630'-0"
TOTAL	11		770'-0"

GRADE 270 STRANDS	
	0.6" Ø L.R.
AREA (SQUARE INCHES)	0.217
ULTIMATE STRENGTH (LBS. PER STRAND)	58,600
APPLIED PRESTRESS (LBS. PER STRAND)	43,950

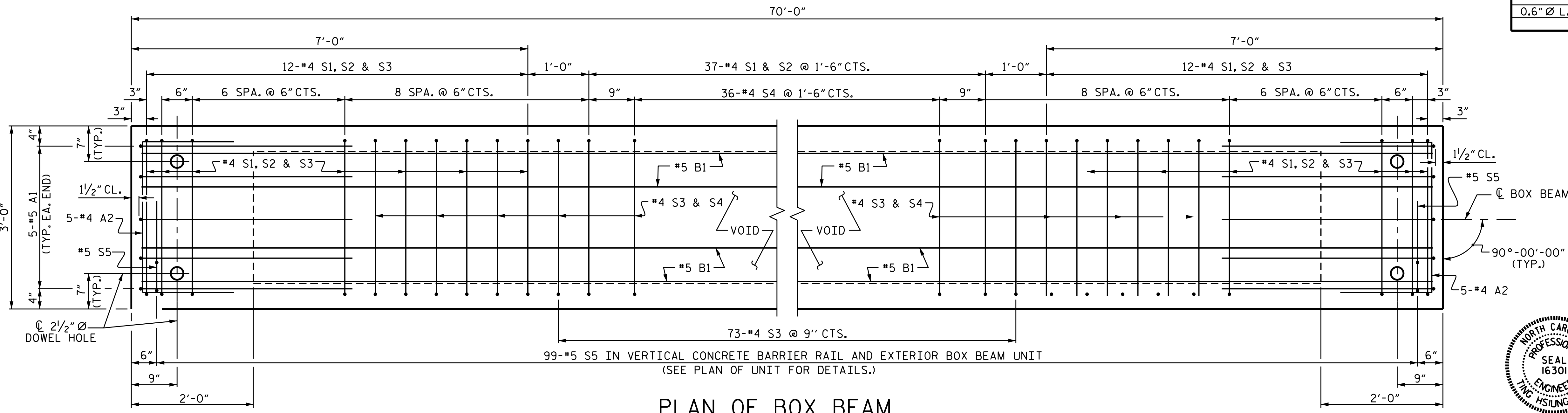
DEAD LOAD DEFLECTION AND CAMBER	
	3'-0" x 2'-9"
70' BOX BEAM UNIT (NC)	0.6" Ø L.R. STRAND
CAMBER (SLAB ALONE IN PLACE)	1 3/16" ↑
DEFLECTION DUE TO SUPERIMPOSED DEAD LOAD**	7/16" ↓
FINAL CAMBER	1 1/16" ↑

** INCLUDES FUTURE WEARING SURFACE



ALL BAR DIMENSIONS ARE OUT TO OUT

BILL OF MATERIAL FOR ONE BOX BEAM SECTION							
BAR	NUMBER	SIZE	TYPE	EXTERIOR UNIT		INTERIOR UNIT	
				LENGTH	WEIGHT	LENGTH	WEIGHT
A1	10	#5	1	6'-8"	70	6'-8"	70
A2	34	#4	2	5'-7"	127	5'-7"	127
B1	12	#5	STR	35'-11"	450	35'-11"	450
K1	12	#4	6	6'-2"	49	6'-2"	49
K2	8	#4	STR	2'-7"	14	2'-7"	14
S1	61	#4	3	7'-6"	306	7'-6"	306
S2	61	#4	3	5'-8"	231	5'-8"	231
S3	105	#4	3	4'-10"	339	4'-10"	339
S4	44	#4	4	5'-10"	171	5'-10"	171
* S5	93	#5	5	6'-2"	598	--	--
REINFORCING STEEL				1757	LBS.	1757	LBS.
* EPOXY COATED REINF. STEEL				598	LBS.		
5000 P.S.I. CONCRETE				12.6	CU. YDS.	12.5	CU. YDS.
0.6" Ø L.R. STRANDS				No. 18		No. 18	

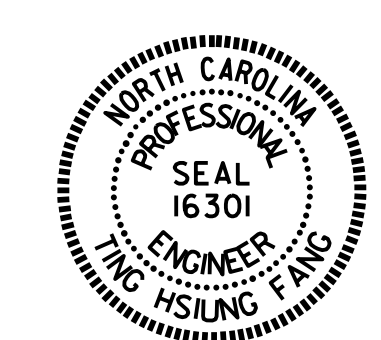


PLAN OF BOX BEAM

EXTERIOR UNIT SHOWN, INTERIOR UNIT SIMILAR EXCEPT OMIT #5 S5 BARS. FOR LOCATION OF DIAPHRAGMS, SEE "PLAN OF UNIT". FOR THREADED INSERTS, SEE "THREADED INSERT DETAIL". FOR REINFORCING STEEL IN DIAPHRAGMS, SEE "DOUBLE DIAPHRAGM DETAILS".

PROJECT NO. B-4967
 SCOTLAND & HOKE COUNTY
 STATION: 16+74.50 -L-

SHEET 4 OF 7



STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH
 STANDARD
 3'-0" X 2'-9"
 PRESTRESSED CONCRETE
 BOX BEAM UNIT
 SPAN A & C

DESIGN ENGINEER OF RECORD: P.K. NEWTON	DATE: 4/6/16
ASSEMBLED BY: E.I. OMILE	DATE: 02/23/15
CHECKED BY: D.J. POZOS	DATE: 08-25-15
DRAWN BY: DGE 10/11	REV. 9/14
CHECKED BY: TMG 11/11	MAA/TMG

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED	
NO. 1	DATE: 5/10/2016
NO. 2	

REVISIONS						SHEET NO. S-8
NO.	BY:	DATE:	NO.	BY:	DATE:	
1			3			TOTAL SHEETS 23
2			4			