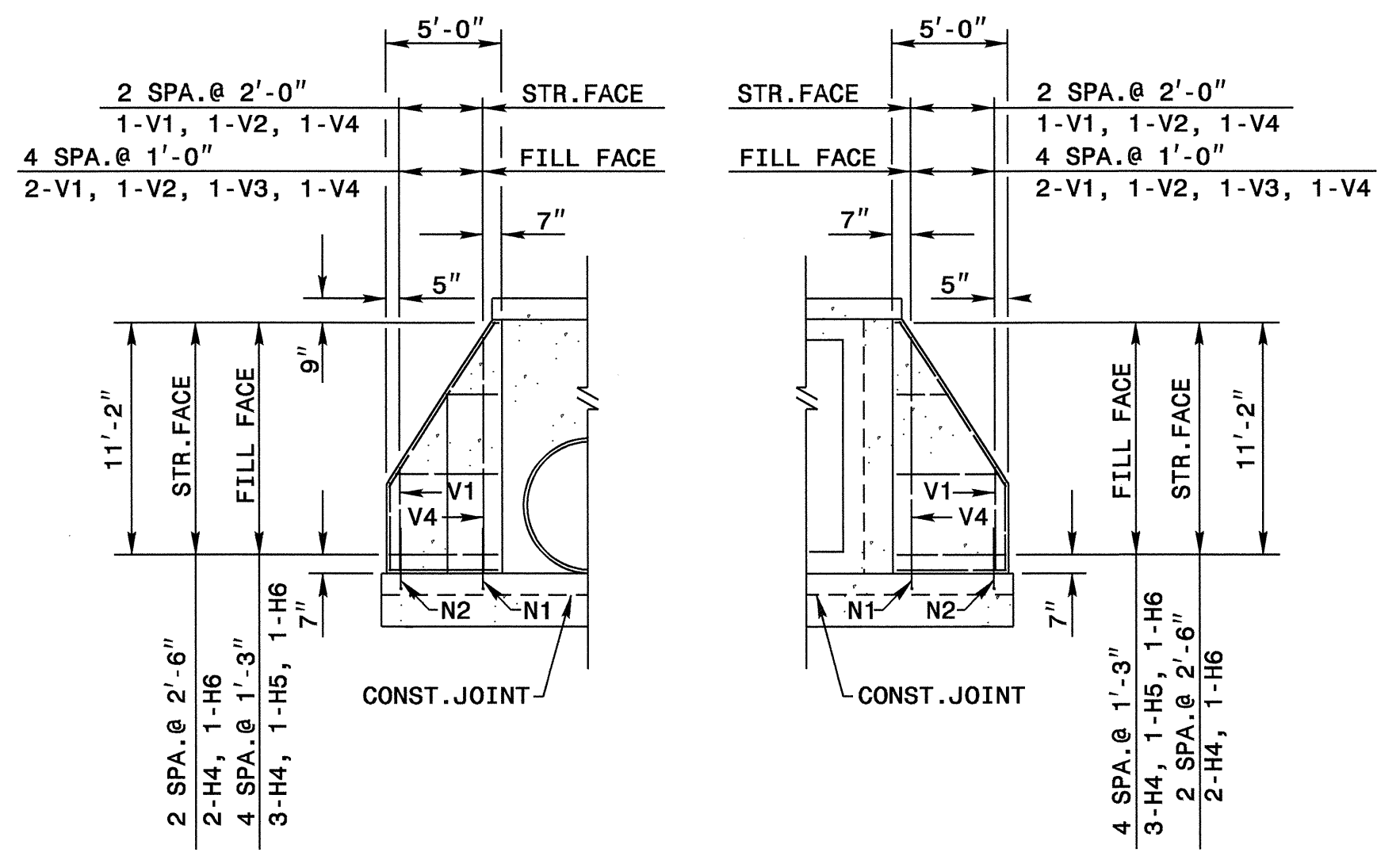
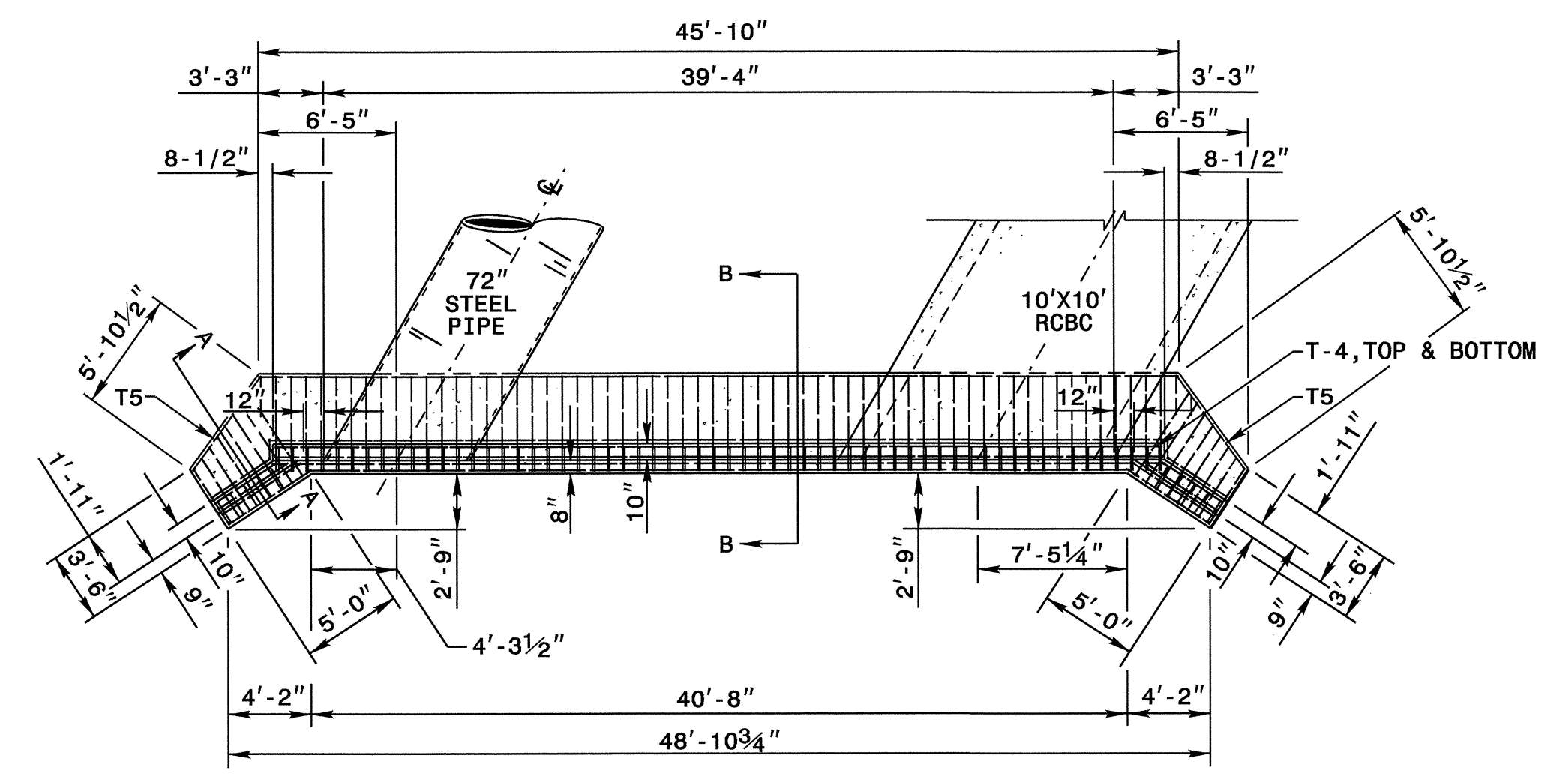


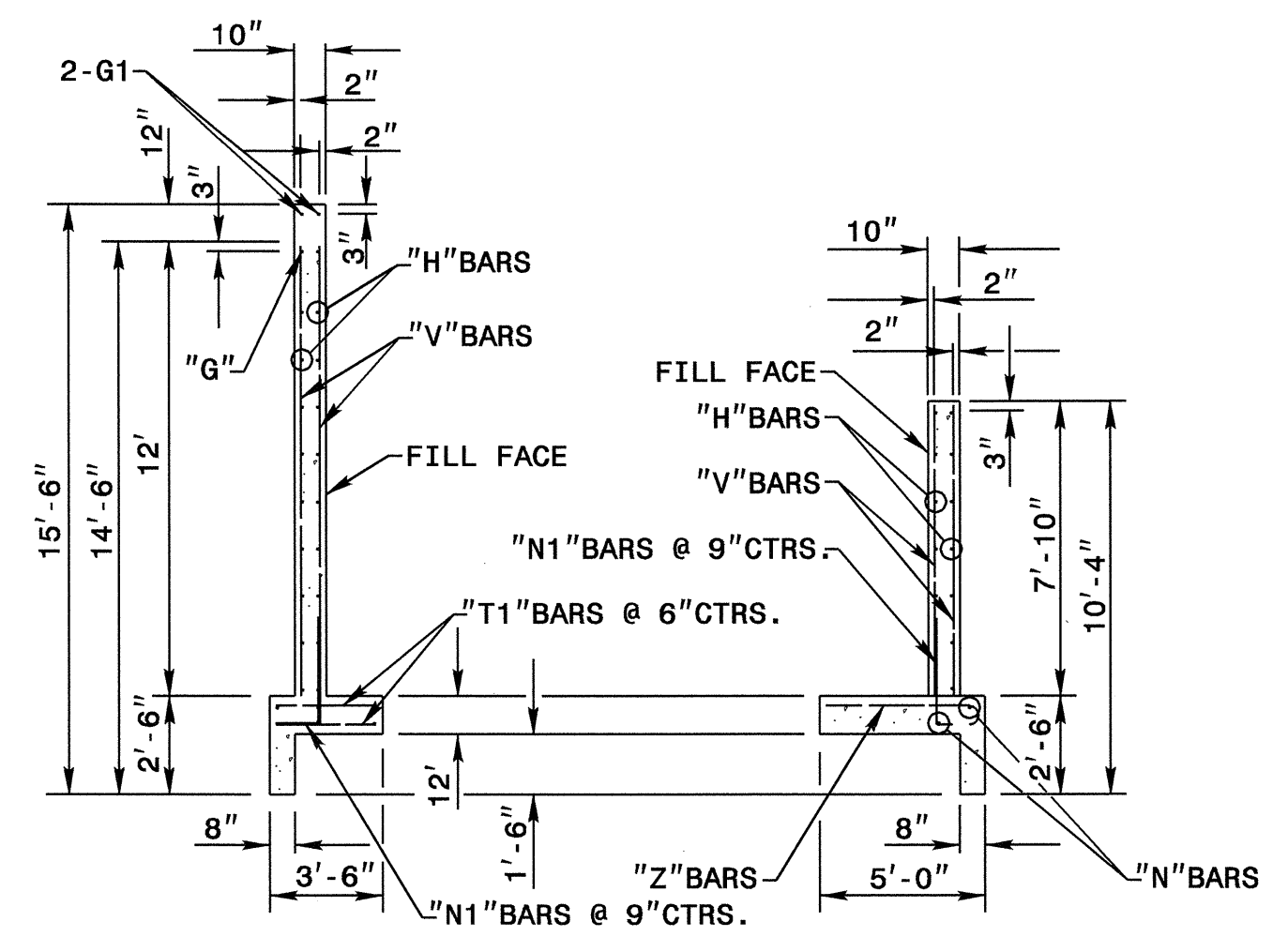
**ELEVATION**



**WING ELEVATION**

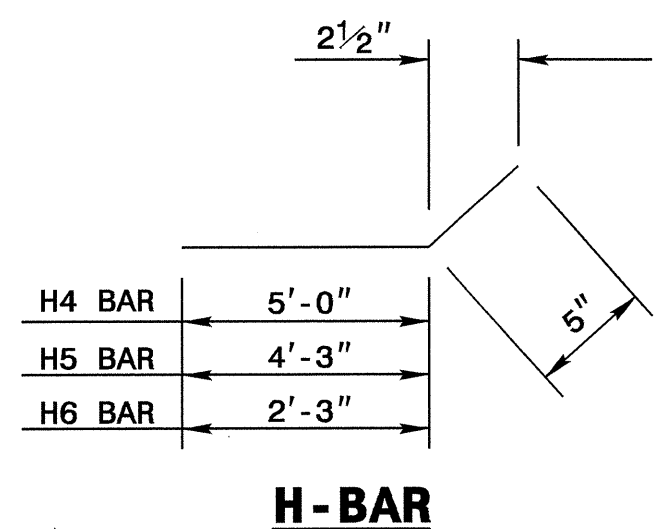


**PLAN**

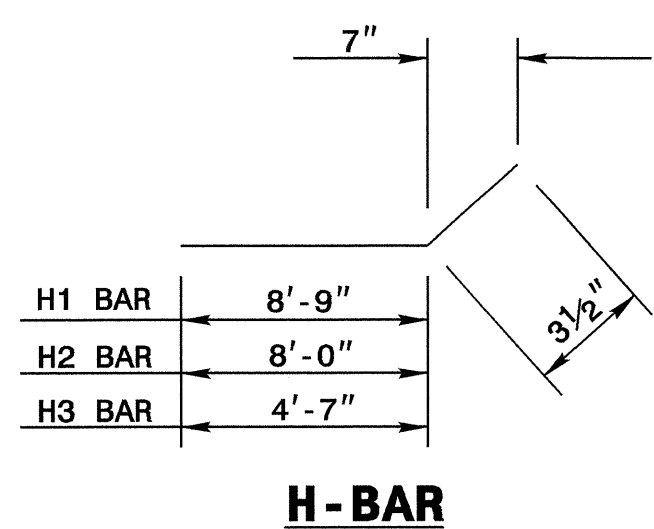


**SECTION B-B**

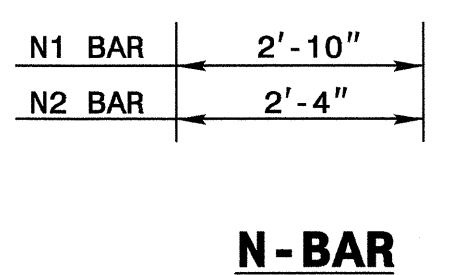
**SECTION A-A**



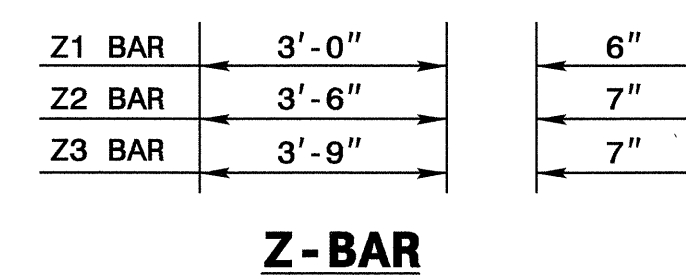
**H-BAR**



**H-BAR**



**N-BAR**

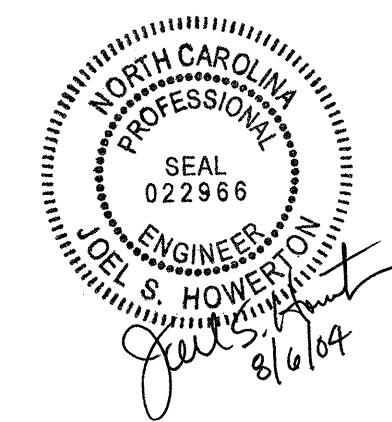


**Z-BAR**

BILL OF MATERIALS					
BAR	NO.	SIZE	LENGTH	TOTAL LENGTH	WEIGHT
B1	2	#4	6'-6"	13	9
B2	4	#4	8'-0"	32	22
G1	2	#7	42'-8"	86	175
H1	10	#4	5'-5"	55	37
H2	2	#4	4'-8"	10	7
H3	4	#4	2'-8"	8	8
N1	56	#5	3'-11"	220	230
N2	10	#4	3'-5"	35	23
T1	48	#4	2'-10"	136	91
T4	6	#4	45'-10"	275	184
T5	6	#4	5'-10"	35	24
V1	16	#4	5'-0"	80	54
V2	32	#4	8'-1"	259	173
V3	8	#4	9'-6"	76	51
V4	10	#4	11'-2"	112	75
V5	18	#4	12'-10"	231	155
Z1	28	#4	3'-6"	98	66
Z2	28	#4	4'-1"	115	77
Z3	56	#5	4'-4"	243	254
REINF. STEEL LBS.				2119	1715
CONC. CU. YDS. (GROSS)					31
PIPE & CULVERT DEDUCTION CU. YDS.					-6
TOTAL CONC. CU. YDS.					25

**GENERAL NOTES:**

- \* USE CLASS "A" CONCRETE THROUGHOUT
- \* CHAMFER ALL EXPOSED CORNERS 1"
- \* ALL DIMENSIONS RELATIVE TO PLACEMENT OF REINFORCING STEEL ARE TO CENTERS OF BAR.
- \* PLACE A STONE DRAIN CONSISTING OF ONE (1) CUBIC FOOT OF NUMBER 78m STONE CONTAINED IN A POROUS FABRIC AT EACH WEEP HOLE. PLACE SUBDRAIN FINE AGGREGATE BENEATH, AROUND AND OVER THE STONE DRAIN SO THE STONE DRAIN IS COMPLETELY COVERED BY A LAYER OF SUBDRAIN FINE AGGREGATE AT LEAST ONE (1) FOOT THICK. WHERE THERE IS MORE THAN ONE WEEP HOLE IN A WING WALL, PLACE A HORIZONTAL DRAIN OF SUBDRAIN FINE AGGREGATE AT LEAST ONE (1) FOOT SQUARE IN CROSS SECTION TO CONNECT ALL STONE DRAINS. PLACE A VERTICAL DRAIN OF SUBDRAIN FINE AGGREGATE AT LEAST ONE (1) FOOT SQUARE IN CROSS SECTION AT EACH WEEP HOLE TO AN ELEVATION OF TWO (2) FEET BELOW THE SURFACE OF THE EMBANKMENT.
- \* MAKE ALL ADJUSTMENTS AS DIRECTED BY THE ENGINEER.
- \* CONSTRUCT HEADWALL IN ACCORDANCE WITH SPECIAL PROVISIONS AND THIS DETAIL.



**DESIGN SERVICES UNIT  
STANDARDS AND SPECIAL DESIGN**  
Office 919-250-4128 FAX 919-250-4119

**DETAIL OF REINFORCED CONCRETE  
ENDWALL**

ORIGINAL BY: \_\_\_\_\_ DATE: \_\_\_\_\_  
 MODIFIED BY: rnbritt DATE: 6-25-04  
 CHECKED BY: J. S. Howery DATE: 7/8/04  
 FILE SPEC.: detg11s/rnbritt/english/bridge/b3157tbcbb.dgn

5/14/99  
25 JUN-2004 14:46  
C:\p1\projects\bridge\english\bridge\b3157tbcbb.dgn  
rnbritt  
05283035