Precast Slab Bridge Channels

- Precast Flats 17” x 3’6” x 27’11.5” 60 degree right

  Quantity: 3

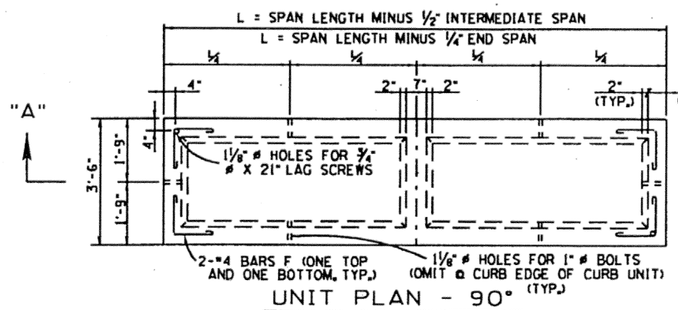
- Precast Curbs 17” x 3’9” x 27’11.5” 60 degree right

  Quantity: 3

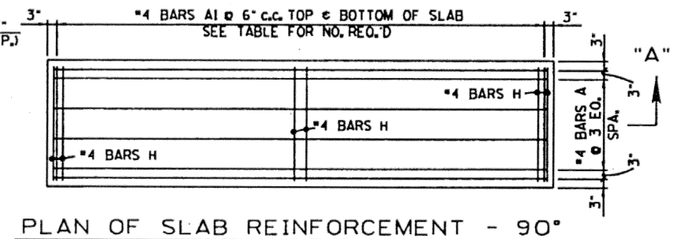
- Precast Flats 17” x 3’6” x 18’11.5” 90 degree

  Quantity: 10

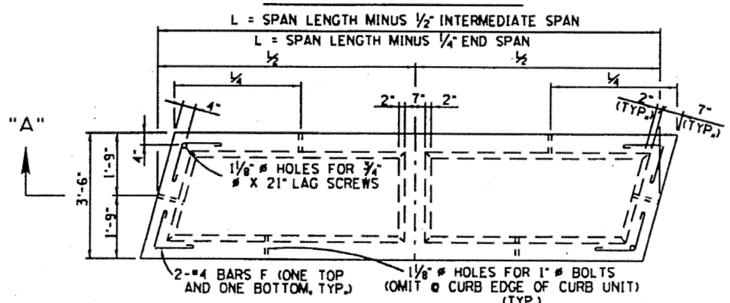
Please see the attached generic drawings. Use the exact dimensions listed above.



UNIT PLAN - 90°

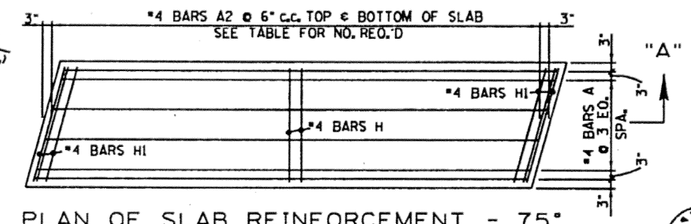


PLAN OF SLAB REINFORCEMENT - 90°

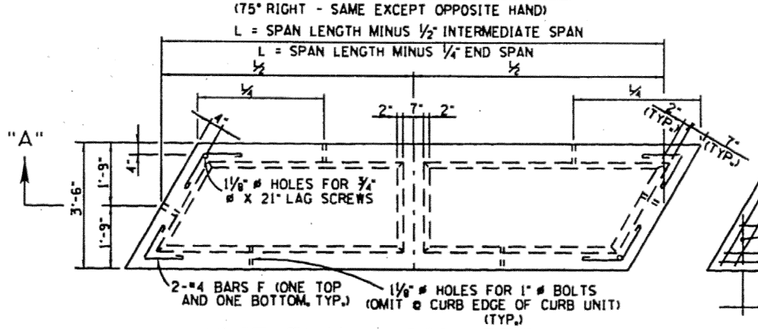


UNIT PLAN - 75° (LEFT)

(75° RIGHT - SAME EXCEPT OPPOSITE HAND)

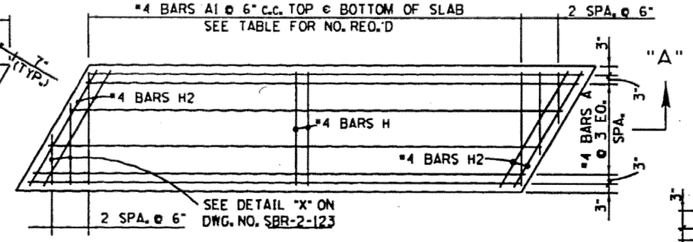


PLAN OF SLAB REINFORCEMENT - 75°

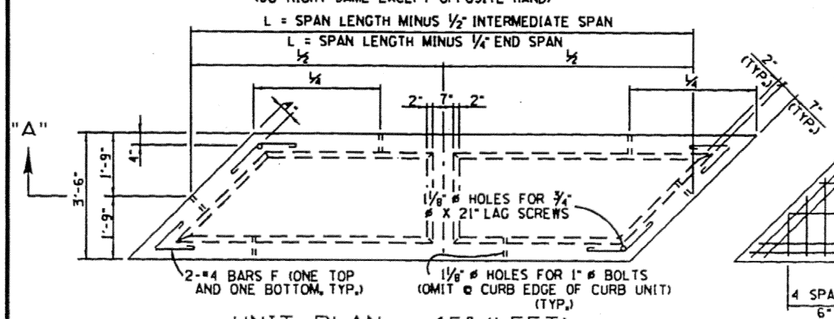


UNIT PLAN - 60° (LEFT)

(60° RIGHT-SAME EXCEPT OPPOSITE HAND)

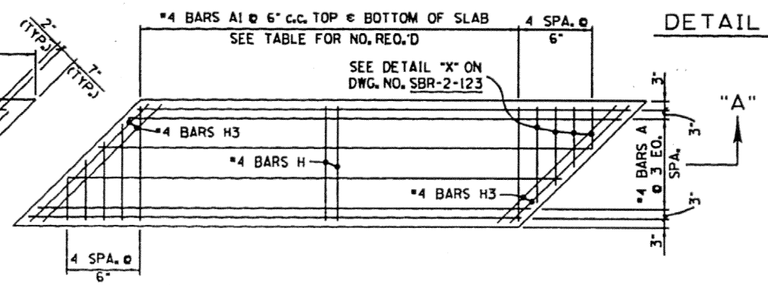


PLAN OF SLAB REINFORCEMENT - 60°



UNIT PLAN - 45° (LEFT)

(45° RIGHT-SAME EXCEPT OPPOSITE HAND)



PLAN OF SLAB REINFORCEMENT - 45°

SPECIAL NOTE: ALL 1⅛" ø HOLES FOR ¾" ø X 21" LAG SCREWS WITH SQUARE HEAD TO BE CORED 2¼" ø FOR A DEPTH OF 1¼" FOR COUNTERSINKING. COUNTERSUNK HOLES TO BE SEALED OVER. ALL HARDWARE, EXCEPT LAG SCREWS TO BE GALVINIZED.

GENERAL NOTES

SPECIFICATIONS: STANDARD ROAD AND BRIDGE SPECIFICATIONS OF THE TENNESSEE DEPARTMENT OF TRANSPORTATION. (CURRENT EDITION)

DESIGN SPECIFICATIONS: AASHTO 1992 EDITION WITH ADDENDA.

REINFORCING STEEL: SEE THE STANDARD SPECIFICATIONS.

STRUCTURAL STEEL: SHALL CONFORM TO AASHTO M270 GRADE 36 (ASTM A709 GRADE 36) UNLESS OTHERWISE NOTED.

SHOP DRAWINGS: SHALL BE SUBMITTED ACCORDING TO SPECIAL PROVISION NO. 105A, EXCEPT SHOP DRAWINGS SHALL BE SUBMITTED TO THE HEADQUARTERS BRIDGE INSPECTION AND REPAIR OFFICE IN LIEU OF THE DIVISION OF STRUCTURES.

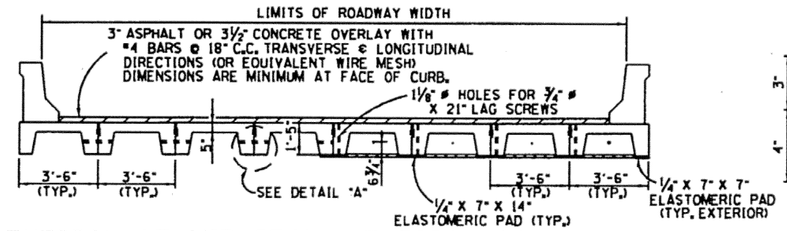
CONCRETE: TO BE CLASS "A" (CAST-IN-PLACE). * f'c=3,000 P.S.I. MIN. CONCRETE SHALL BE PLACED IN ACCORDANCE WITH SECTION 604-CONCRETE STRUCTURES OF THE STANDARD SPECIFICATIONS.

* NOTE: SEE STRENGTH OF CONCRETE TABLES ON DWG. NO. SBR-2-123.

PROJECT NO.	YEAR	SHEET NO.
	1992	

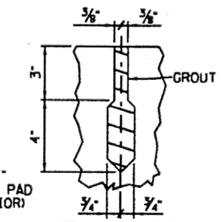
REVISIONS

	NO.	DATE	BY	BRIEF DESCRIPTION
B/R	1	2-23-95	TO	REVISED GENERAL NOTES & REMOVED SIGNATURES
B/R	2	1-4-96	TO	REVISED BR DRAWING NO. TO SBR DRAWING NO. AND REVISED STD-2-1 TO STD-1-1

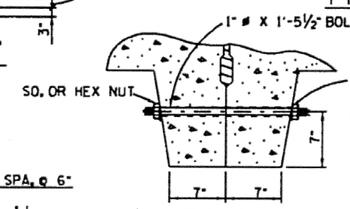


TYPICAL AT MID-SPAN TYPICAL AT SUPPORTS

TYPICAL CROSS-SECTION

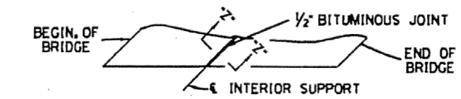


KEY DETAIL



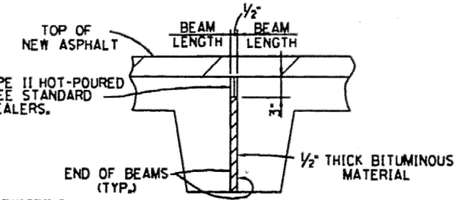
NOTE: IF RECESSED SLOT IS USED, EITHER SQUARE WASHERS 2" X 2" X 5/16" OR STD. STEEL ROUND PLATE WASHER 2½" O.D. X 1/64" MAY BE USED.

DETAIL "A"



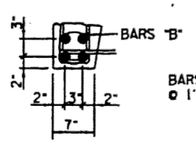
PLAN SHOWING BITUMINOUS JOINTS AT BEAM ENDS

(SHOWING LT. SKEW, RT. SKEW SIMILAR)

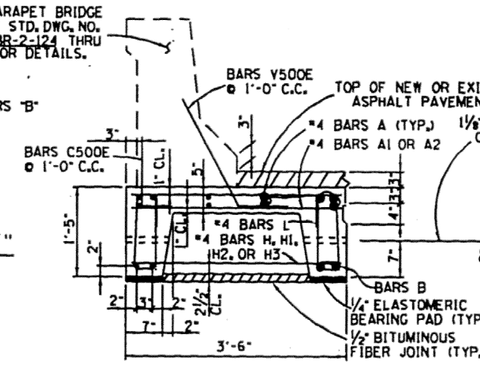


SECTION "Z-Z"

CONCRETE PARAPET BRIDGE RAILING. SEE STD. DWG. NO. STD-1-1 & SBR-2-124 THRU SBR-2-126 FOR DETAILS.

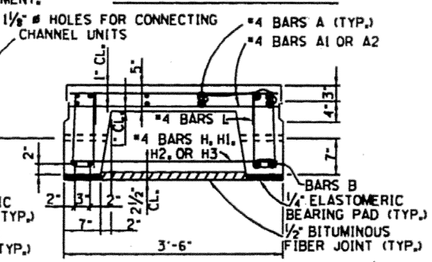


DETAIL "Y"

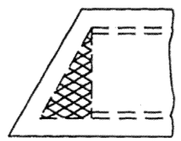


TYPICAL FACIA UNIT

NOTE: SEE DETAIL "Y" WHEN (4) FOUR BARS "B" ARE REQUIRED PER STEM OF CHANNEL UNIT.



TYPICAL INTERIOR UNIT



ALTERNATE DETAIL

(FOR ENDS OF SKEWED BEAMS)

NOTE: THE FABRICATOR MAY POUR THE ADDITIONAL SECTION OF CONCRETE SHOWN CROSSHATCHED BUT NO ADDITIONAL PAYMENT WILL BE MADE.

B/R MINOR REVISION - FHWA APPROVAL NOT REQUIRED

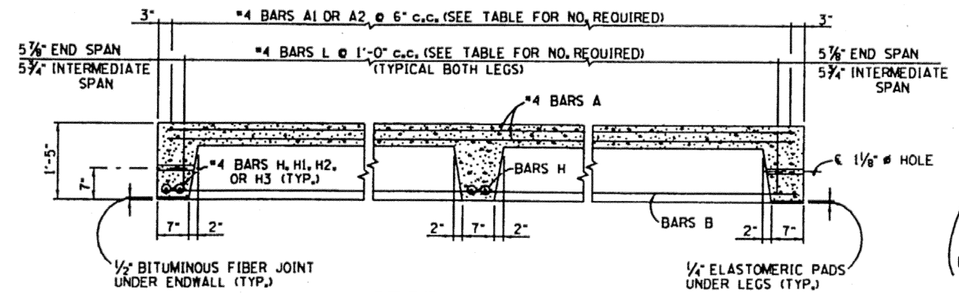
STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION
BUREAU OF HIGHWAYS

DETAILS FOR PRECAST SLAB BRIDGE CHANNELS
SPANS 16'-0" THRU 34'-0"
SKEWS 90°-75°-60°-45°
1992

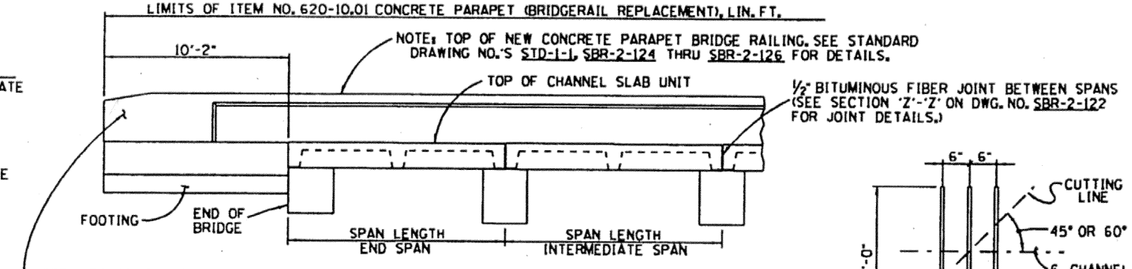
SBR-2-122

WITH DWG. NO. SBR-2-123

DESIGNED BY	M.B.O. & W.M.M.	DATE 11-91
DRAWN BY	GEORGE KORNINGSKI	DATE 12-91
SUPERVISED BY	M.B.O.	DATE 12-91
CHECKED BY	McINTURFF	DATE 2-92



SECTION 'A'-'A'



NOTE: NEW 10'-2" CONCRETE PARAPET RAIL ENDPOST TO BE CAST AT THE END OF BRIDGE ON THE ROADWAY SHOULDER AREA. FOR DETAILS AND NOTES PERTAINING TO THE NEW 10'-2" ENDPOST SEE STANDARD DRAWING NO.'S SBR-2-124, SBR-2-125, AND SBR-2-126.

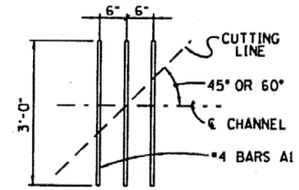
SIDE ELEVATION - 90° SKEW

NOTE: OTHER SKEWS SIMILAR.

PROJECT NO.	YEAR	SHEET NO.
	1992	

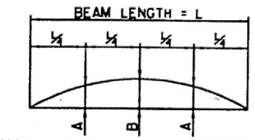
REVISIONS

	NO.	DATE	BY	BRIEF DESCRIPTION
B/R	1	2-24-95	TO	REMOVED SIGNATURES
B/R	2	1-4-96	TO	REVISED BR DRAWING NO. TO SBR DRAWING NO. AND REVISED STD-2-1 TO STD-1-1



DETAIL 'X'

SHOWING TRANSVERSE STEEL IN SKEWED ENDS OF CHANNEL SLAB.



NOTE: CHANNEL UNITS SHALL BE CAMBERED TO COMPENSATE FOR DEAD LOAD DEFLECTION. THIS CURVE IS FOR DEAD LOAD BEAM AND ALL DEAD LOADS APPLIED AFTER CHANNEL UNITS ARE IN PLACE. IN LIEU OF CAMBERING THE CHANNEL UNITS, THE CAMBER MAY BE PROVIDED BY VARYING THE DEPTH OF ASPHALT OR CONCRETE OVERLAY.

SPAN LENGTH	DIMENSION A	DIMENSION B
16	1/16"	⅛"
18	⅛"	⅛"
20	⅛"	¼"
22	3/16"	½"
24	3/16"	½"
26	½"	5/16"
28	5/16"	⅞"
30	⅞"	1¼"
32	1⅛"	1½"
34	1½"	2"

DEAD LOAD CORRECTION CURVE

BILL OF STEEL

LOADING HI5-44-90°, 75°, 60° AND 45° SKEW (SEE NOTE BELOW)

SPAN LENGTH (FT)	BAR #4A NO.	#4A LGTH.	#4A1 ① NO.	#4A1 ① LGTH.	#4A2 ② NO.	#4A2 ② LGTH.	B SIZE	B NO.	B LGTH.	#4F NO.	#4F LGTH.	#4H NO.	#4H LGTH.	#4H1 NO.	#4H1 LGTH.	#4H2 NO.	#4H2 LGTH.	#4H3 NO.	#4H3 LGTH.	#4L NO.	#4L LGTH.
16	10	15'-6"	62	3'-0"	62	3'-2"	8	4	15'-8"	8	3'-0"	SEE NOTE ③	4'-4"	SEE NOTE ③	4'-6"	SEE NOTE ③	4'-10"	SEE NOTE ③	5'-8"	32	3'-8"
18	10	17'-6"	70	3'-0"	70	3'-2"	8	4	17'-8"	8	3'-0"		4'-4"		4'-6"		4'-10"		5'-8"	36	3'-8"
20	10	19'-6"	78	3'-0"	78	3'-2"	9	4	19'-8"	8	3'-0"		4'-4"		4'-6"		4'-10"		5'-8"	40	3'-8"
22	10	21'-6"	86	3'-0"	86	3'-2"	9	4	21'-8"	8	3'-0"		4'-4"		4'-6"		4'-10"		5'-8"	44	3'-8"
24	10	23'-6"	94	3'-0"	94	3'-2"	10	4	23'-8"	8	3'-0"		4'-4"		4'-6"		4'-10"		5'-8"	48	3'-8"
26	10	25'-6"	102	3'-0"	102	3'-2"	10	4	25'-8"	8	3'-0"		4'-4"		4'-6"		4'-10"		5'-8"	52	3'-8"
28	10	27'-6"	110	3'-0"	110	3'-2"	9	8	27'-8"	8	3'-0"		4'-4"		4'-6"		4'-10"		5'-8"	56	3'-8"
30	10	29'-6"	118	3'-0"	118	3'-2"	11	8	29'-8"	8	3'-0"		4'-4"		4'-6"		4'-10"		5'-8"	60	3'-8"
32	10	31'-6"	126	3'-0"	126	3'-2"	11	8	31'-8"	8	3'-0"		4'-4"		4'-6"		4'-10"		5'-8"	64	3'-8"
34	10	33'-6"	134	3'-0"	134	3'-2"	11	8	33'-8"	8	3'-0"		4'-4"		4'-6"		4'-10"		5'-8"	68	3'-8"

NOTE: BARS LISTED IN BILL OF STEEL ARE FOR ALL SKEWS (90°, 75°, 60° & 45°) UNLESS NOTED OTHERWISE.
① BARS A1 ARE FOR 90°, 60° & 45° SKEWS.
② BARS A2 ARE FOR 75° SKEW ONLY.
③ 90° SKEW REQUIRES 6-#4 BARS H.
75° SKEW REQUIRES 2-#4 BARS H AND 4-#4 BARS H1.
60° SKEW REQUIRES 2-#4 BARS H AND 4-#4 BARS H2.
45° SKEW REQUIRES 2-#4 BARS H AND 4-#4 BARS H3.

ESTIMATED QUANTITIES

HI5-44 LOADING

SPAN LENGTH (FT) ITEM	90° CONCRETE CLASS 'A' C.Y.	90° REINFORCING STEEL LB.	75° CONCRETE CLASS 'A' C.Y.	75° REINFORCING STEEL LB.	60° CONCRETE CLASS 'A' C.Y.	60° REINFORCING STEEL LB.	45° CONCRETE CLASS 'A' C.Y.	45° REINFORCING STEEL LB.
16	1.8	629	1.8	630	1.8	630	1.9	642
18	2.0	703	2.0	704	2.0	705	2.1	719
20	2.2	849	2.2	849	2.3	850	2.3	853
22	2.4	929	2.4	929	2.5	930	2.5	937
24	2.6	1108	2.7	1109	2.7	1110	2.7	1106
26	2.9	1196	2.9	1196	2.9	1197	2.9	1196
28	3.1	1577	3.1	1577	3.1	1578	3.1	1564
30	3.3	2202	3.3	2202	3.3	2203	3.3	2127
32	3.5	2340	3.5	2340	3.5	2341	3.5	2269
34	3.7	2477	3.7	2478	3.7	2479	3.7	2410

NOTE: COST OF BITUMINOUS FIBERBOARD, JOINT SEALER, ELASTOMERIC BEARING PADS, LAG SCREWS, BOLTS AND WASHERS (FOR JOINING PRECAST CHANNELS) TO BE INCLUDED IN COST OF PRECAST UNIT.

STRENGTH OF CONCRETE

HI5-44 LOADING

SPAN LENGTH (FT) ITEM	MINIMUM COMPRESSIVE STRENGTH @ 28 DAYS PSI
16	3000
18	3000
20	3000
22	3000
24	3000
26	3000
28	3000
30	3000
32	3500
34	4400

BILL OF STEEL

LOADING HS20-44-90°, 75°, 60° AND 45° SKEW (SEE NOTE BELOW)

SPAN LENGTH (FT)	BAR #4A NO.	#4A LGTH.	#4A1 ① NO.	#4A1 ① LGTH.	#4A2 ② NO.	#4A2 ② LGTH.	B SIZE	B NO.	B LGTH.	#4F NO.	#4F LGTH.	#4H NO.	#4H LGTH.	#4H1 NO.	#4H1 LGTH.	#4H2 NO.	#4H2 LGTH.	#4H3 NO.	#4H3 LGTH.	#4L NO.	#4L LGTH.
16	10	15'-6"	62	3'-0"	62	3'-2"	8	4	15'-8"	8	3'-0"	SEE NOTE ③	4'-4"	SEE NOTE ③	4'-6"	SEE NOTE ③	4'-10"	SEE NOTE ③	5'-8"	32	3'-8"
18	10	17'-6"	70	3'-0"	70	3'-2"	9	4	17'-8"	8	3'-0"		4'-4"		4'-6"		4'-10"		5'-8"	36	3'-8"
20	10	19'-6"	78	3'-0"	78	3'-2"	9	4	19'-8"	8	3'-0"		4'-4"		4'-6"		4'-10"		5'-8"	40	3'-8"
22	10	21'-6"	86	3'-0"	86	3'-2"	10	4	21'-8"	8	3'-0"		4'-4"		4'-6"		4'-10"		5'-8"	44	3'-8"
24	10	23'-6"	94	3'-0"	94	3'-2"	10	4	23'-8"	8	3'-0"		4'-4"		4'-6"		4'-10"		5'-8"	48	3'-8"
26	10	25'-6"	102	3'-0"	102	3'-2"	11	8	25'-8"	8	3'-0"		4'-4"		4'-6"		4'-10"		5'-8"	52	3'-8"
28	10	27'-6"	110	3'-0"	110	3'-2"	11	8	27'-8"	8	3'-0"		4'-4"		4'-6"		4'-10"		5'-8"	56	3'-8"
30	10	29'-6"	118	3'-0"	118	3'-2"	11	8	29'-8"	8	3'-0"		4'-4"		4'-6"		4'-10"		5'-8"	60	3'-8"
32	10	31'-6"	126	3'-0"	126	3'-2"	11	8	31'-8"	8	3'-0"		4'-4"		4'-6"		4'-10"		5'-8"	64	3'-8"

NOTE: BARS LISTED IN BILL OF STEEL ARE FOR ALL SKEWS (90°, 75°, 60° & 45°) UNLESS NOTED OTHERWISE.
① BARS A1 ARE FOR 90°, 60° & 45° SKEWS.
② BARS A2 ARE FOR 75° SKEW ONLY.
③ 90° SKEW REQUIRES 6-#4 BARS H.
75° SKEW REQUIRES 2-#4 BARS H AND 4-#4 BARS H1.
60° SKEW REQUIRES 2-#4 BARS H AND 4-#4 BARS H2.
45° SKEW REQUIRES 2-#4 BARS H AND 4-#4 BARS H3.

ESTIMATED QUANTITIES

HS20-44 LOADING

SPAN LENGTH (FT) ITEM	90° CONCRETE CLASS 'A' C.Y.	90° REINFORCING STEEL LB.	75° CONCRETE CLASS 'A' C.Y.	75° REINFORCING STEEL LB.	60° CONCRETE CLASS 'A' C.Y.	60° REINFORCING STEEL LB.	45° CONCRETE CLASS 'A' C.Y.	45° REINFORCING STEEL LB.
16	1.8	629	1.8	630	1.8	630	1.9	642
18	2.0	769	2.0	769	2.0	770	2.1	719
20	2.2	849	2.2	849	2.3	850	2.3	853
22	2.4	1021	2.4	1022	2.5	1022	2.5	937
24	2.6	1108	2.7	1109	2.7	1110	2.7	1106
26	2.9	1926	2.9	1927	2.9	1928	2.9	1196
28	3.1	2064	3.1	2065	3.1	2065	3.1	1564
30	3.3	2202	3.3	2202	3.3	2203	3.3	2127
32	3.5	2340	3.5	2340	3.5	2341	3.5	2269

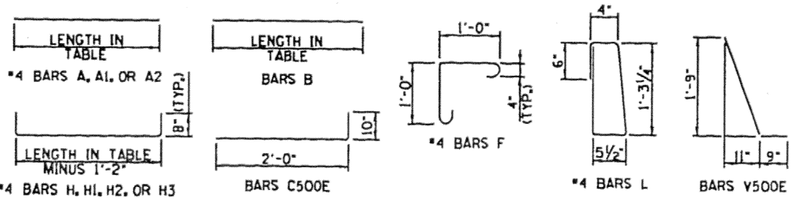
NOTE: COST OF BITUMINOUS FIBERBOARD, JOINT SEALER, ELASTOMERIC BEARING PADS, LAG SCREWS, BOLTS AND WASHERS (FOR JOINING PRECAST CHANNELS) TO BE INCLUDED IN COST OF PRECAST UNIT.

STRENGTH OF CONCRETE

HS20-44 LOADING

SPAN LENGTH (FT) ITEM	MINIMUM COMPRESSIVE STRENGTH @ 28 DAYS PSI
16	3000
18	3000
20	3000
22	3000
24	3000
26	3000
28	3500
30	4200
32	4500

B/R MINOR REVISION - FHWA APPROVAL NOT REQUIRED



DESIGNED BY P.B.O. = W.M.M. DATE 11-91
DRAWN BY DONNA DOUGLAS DATE 11-91
SUPERVISED BY P.B.O. DATE 11-91
CHECKED BY McINTURFF DATE 2-92

'E' DENOTES: BAR TO BE EPOXY COATED.

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION
BUREAU OF HIGHWAYS

DETAILS FOR PRECAST SLAB BRIDGE CHANNELS
SPANS 16'-0" THRU 34'-0"
SKEWS 90°-75°-60°-45°
1992

SBR-2-123

WITH DWG. NO. SBR-2-122