TABLE OF DIMENSIONS

CULVERT HEIGHT	"J"	"LW1"	"LW2"	"N1"	"N2"	"P"	"R1"	"R2"	"R3"	"U"	"W"	"Z"
4'	3'-10"	11'-7 1/16"	16'-3 3/16"			1.155Q+1.14	2 3/8"	4 7/8"	1 1/16"	6"	Per Supplementary Drawing	11'-6"
5'	4'-6"	13'-7 9/16"	19'-1 3/8"			1.155Q+1.14	2 3/8"	4 7/8"	1 1/16"	6"		13'-6"
6'	5'-9"	17'-4 15/16"	24'-4 3/4"			1.155Q+1.32	2 13/16"	5 1/8"	1 1/8"	7"		17'-3"
8'	7'-4"	22'-2 7/16"	31'-1 3/4"			1.165Q+1.61	3 7/16"	6 15/16"	1 1/8"	8 1/2"		22'-0"
10'	8'-4"	25'-2 7/8"	35'-4 1/8"	2'-11"	6'-6"	1.155Q+1.89	4"	8 3/16"	1 3/8"	10"		25'-0"
12'	9'-7"	29'-0 3/8"	40'-7 3/8"	3'-3"	7'-0"	1.155Q+2.08	4 7/16"	9"	1 5/16"	11"		28'-9"

NOTE: Q For Single Cell Culvert = S(Clear Span).
Q For Double Cell Culvert = 2S + V.

TABLE OF V BARS ~ #4

CULVERT HEIGHT	BARS V1		BARS VL1-VLn		BARS VS1-VSn	
	NO.	DIM. X	NO.	DIM. X	NO.	DIM. X
4'	Same As Basic Culvert Drawing	12'-10"	3	8'-11" To 2'-7"	3	9'-0" To 2'-4"
5'		15'-2"	4	11'-3" To 1'-9"	3	11'-4" To 4'-8"
6'		19'-6"	5	15'-10" To 3'-3"	5	15'-11" To 2'-7"
8'		25'-0"	7	21'-9" To 2'-10"	7	21'-10" To 1'-11"
10'		28'-5"	8	25'-7" To 3'-6"	8	25'-8" To 2'-6"
12'		32'-9"	9	30'-2" To 4'-11"	9	30'-4" To 3'-8"

TABLE OF T BARS ~ #4

CULVERT HEIGHT	BAR	NO.	LENGTH
4'	T1 To T11	1 Ea.	P-4" To P+7'-10"
	T12	3	P+8'-8"
5'	T1 To T13	1 Ea.	P-4" To P+9'-6"
	T14	3	P+10'-4"
6'	T1 To T15	1 Ea.	P-4" To P+12'-10"
	T18	3	P+13'-7"
8'	T1 To T20	1 Ea.	P+1" To P+16'-6"
	T22	3	P+17'-3"
10'	T1 To T24	1 Ea.	P+1" To 19'-0"
	T25	3	P+19'-9"
12'	T1 To T27	1 Ea.	P To P+22'-2"
	T29	3	P+22'-11"

TABLE OF U BARS ~ #4

CULVERT HEIGHT	U1, NO. & LENGTH LONG WING	U2, NO. & LENGTH SHORT WING
4'	2 @ 15'-11"	2 @ 11'-3"
5'	2 @ 18'-9"	2 @ 13'-3"
6'	3 @ 24'-0"	3 @ 17'-0"
8'	3 @ 30'-9"	3 @ 21'-10"
10'	3 @ 35'-0"	3 @ 24'-10"
12'	3 @ 40'-3"	3 @ 28'-8"

TABLE OF Y BARS ~ #4

CULVERT HEIGHT	BAR	NO.	Y1-LENGTH LONG WING	Y2-LENGTH SHORT WING
4'	Y1 To Y3	1 Ea.	5'-1" To 13'-6"	3'-7" To 9'-7"
	Y4	1	15'-11"	11'-3"
5'	Y1 To Y3	1 Ea.	5'-5" To 14'-3"	4'-1" To 10'-1"
	Y4	2	18'-9"	13'-3"
6'	Y1 To Y5	1 Ea.	6'-6" To 23'-6"	4'-7" To 16'-8"
	Y6	1	24'-0"	17'-0"
8'	Y1 To Y6	2 Ea.	6'-6" To 27'-9"	4'-7" To 19'-9"
	Y7	4	30'-9"	21'-10"
10'	Y1 To Y6	2 Ea.	7'-2" To 33'-9"	5'-1" To 24'-0"
	Y7	4	35'-0"	24'-10"
12'	Y1 To Y7	2 Ea.	7'-7" To 39'-4"	5'-6" To 28'-1"
	Y8	6	40'-3"	28'-8"

TABLE OF WL BARS

CULVERT HEIGHT	BAR	NO.	SIZE	LONG WING DIM. X	LONG WING DIM. X1
4'	W1 To W10	1 Ea.	#4	2'-6" To 1'-7"	K+3'-5" To K
5'	W1 To W24	1 Ea.	#4	3'-0" To 1'-9"	K+4'-4" To K
6'	W1 To W31	1 Ea.	#4	4'-0" To 2'-0"	K+5'-7" To K
8'	W1 To W10	1 Ea.	#5	4'-6" To 3'-4"	K+7'-1" To K+4'-0"
	W20 To W36	1 Ea.	#4	3'-3" To 2'-0"	K+3'-9" To K
10'	W1 To W13	1 Ea.	#6	5'-10" To 5'-3"	K+8'-2" To K+6'-0"
	W14 To W28	1 Ea.	#5	5'-2" To 4'-4"	K+6'-4" To K+4'-8"
	W29 To W40	1 Ea.	#4	4'-3" To 2'-8"	K+4'-0" To K
12'	W1 To W21	1 Ea.	#7	6'-5" To 5'-3"	K+9'-4" To K+6'-8"
	W22 To W29	1 Ea.	#6	5'-2" To 4'-7"	K+6'-0" To K+4'-5"
	W30 To W37	1 Ea.	#5	4'-6" To 3'-11"	K+4'-2" To K+2'-7"
	W38 To W48	1 Ea.	#4	3'-10" To 3'-0"	K+2'-4" To K

TABLE OF WS BARS

CULVERT HEIGHT	BAR	NO.	SIZE	SHORT WING DIM. X	SHORT WING DIM. X1
4'	W1 To W13	1 Ea.	#4	2'-6" To 1'-7"	K+3'-7" To K
5'	W1 To W17	1 Ea.	#4	3'-0" To 1'-9"	K+4'-3" To K
6'	W1 To W22	1 Ea.	#4	4'-0" To 2'-0"	K+5'-6" To K
8'	W1 To W14	1 Ea.	#5	4'-6" To 3'-4"	K+7'-1" To K+3'-11"
	W15 To W26	1 Ea.	#4	3'-3" To 2'-0"	K+3'-7" To K
10'	W1 To W10	1 Ea.	#6	5'-10" To 5'-1"	K+8'-2" To K+6'-4"
	W11 To W20	1 Ea.	#5	5'-0" To 4'-3"	K+6'-2" To K+4'-2"
	W21 To W34	1 Ea.	#4	4'-2" To 2'-8"	K+3'-11" To K
12'	W1 To W15	1 Ea.	#7	6'-5" To 5'-2"	K+9'-4" To K+6'-8"
	W16 To W21	1 Ea.	#6	5'-11" To 4'-6"	K+5'-11" To K+4'-4"
	W22 To W27	1 Ea.	#5	4'-5" To 3'-10"	K+4'-0" To K+2'-4"
	W28 To W34	1 Ea.	#4	3'-8" To 3'-0"	K+2'-0" To K

TABLE OF L & M BARS

CULVERT HEIGHT	BARS L NO.	BARS L SIZE	BARS L LENGTH	BARS M NO.	BARS M SIZE	BARS M LENGTH
4'-6'	4	#7	P-4"			NONE
8'-12'	4	#8	P-4"	2	#4	1.155(Q+2V)+10"

TABLE OF FL, FS, QS, ZL & ZS BARS

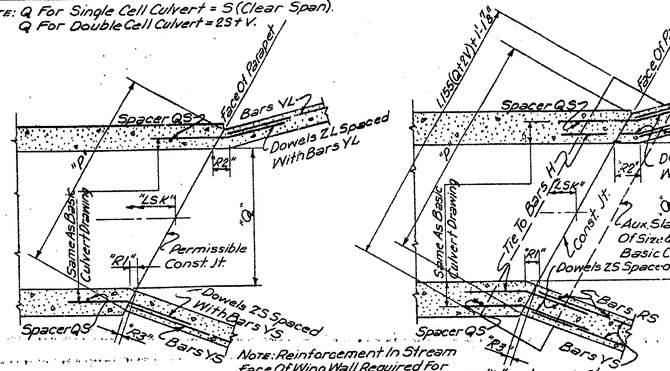
CULVERT HEIGHT	BARS FL ~ #4 NO.	BARS FL ~ #4 LGTH	BARS FS ~ #4 NO.	BARS FS ~ #4 LGTH	SPACERS QS ~ #4 NO.	SPACERS QS ~ #4 LGTH.	DOWELS ZL ~ #5 NO.	DOWELS ZL ~ #5 LGTH.	DOWELS ZS ~ #5 NO.	DOWELS ZS ~ #5 LGTH.
4'	2	16'-4"	2	11'-10"	2	3'-7"	5	4'-0"	5	3'-9"
5'	2	19'-3"	2	13'-11"	2	4'-7"	6	4'-0"	6	3'-9"
6'	2	24'-8"	2	17'-11"	2	5'-7"	7	4'-0"	7	3'-9"
8'	2	31'-7"	2	23'-0"	2	7'-7"	18	4'-0"	18	3'-9"
10'	2	35'-11"	2	26'-2"	2	9'-7"	18	4'-0"	18	3'-9"
12'	2	41'-4"	2	30'-2"	2	11'-7"	22	4'-0"	22	3'-9"

NOTE: The Number Of Bars Shown In The Tables Is The Number Required For One Complete Headwall Assembly At One End Of Culvert.

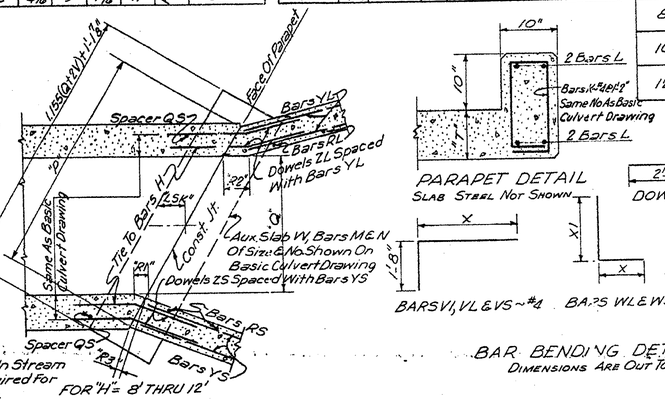
TABLE OF R BARS ~ #4

CULVERT HEIGHT	BAR	NO.	LENGTH
8'	RS1 To RS13	1 Ea.	W+6'-7" To W+7"
	RL1 To RL19	1 Ea.	W+6'-7" To W+3"
10'	RS1 To RS15	1 Ea.	W+7'-6" To W+7"
	RL1 To RL22	1 Ea.	W+7'-6" To W+1"
12'	RS1 To RS18	1 Ea.	W+8'-10" To W+5"
	RL1 To RL25	1 Ea.	W+8'-10" To W+4"

K = W+4" For H = 4' & 5'
K = W+5" For H = 6'
K = W+6" For H = 8'
K = W+8" For H = 10'
K = W+9" For H = 12'



FOR "H" = 4' THRU 6'

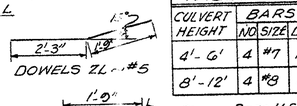


FOR "H" = 8' THRU 12'

NOTE: Reinforcement In Stream Face Of Wing Wall Required For "H" = 8, 10 & 12 Ft. Only.

SECTION A~A

PARAPET DETAIL
SLAB STEEL NOT SHOWN



DOWELS ZL ~ #5

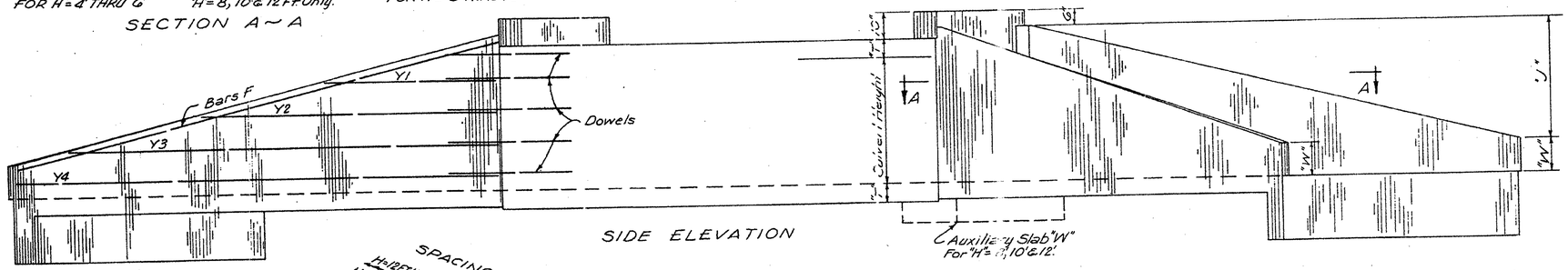
DOWELS ZS ~ #5

BARS VI, VL & VS ~ #4 BARS WL & WS

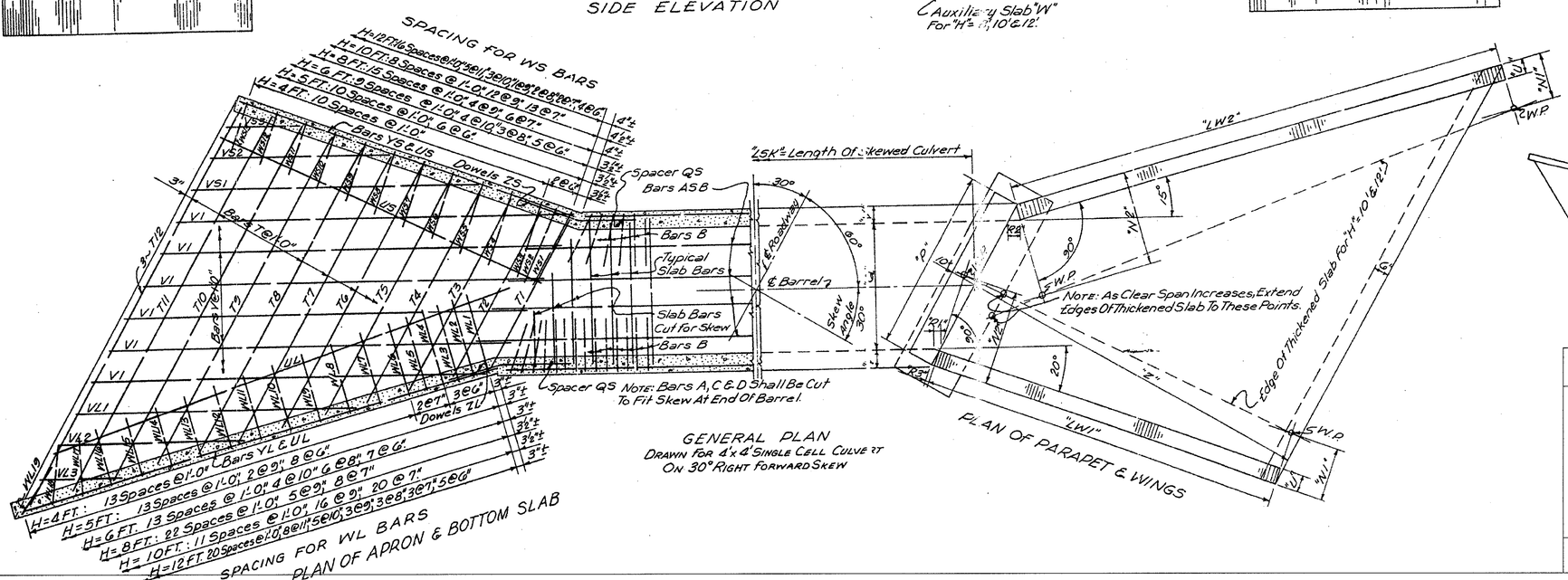
Note: Vertical Spacers QS And Dowels ZL And ZS Located Per Section A~A.

Bars K & N Per Basic Culvert Drawing Except Spacing Shall Be 1'-2"

BAR BENDING DETAILS
DIMENSIONS ARE OUT TO OUT



SIDE ELEVATION



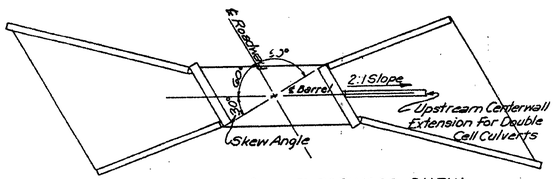
GENERAL PLAN
DRAWN FOR 4'x4' SINGLE CELL CULVERT ON 30° RIGHT FORWARD SKEW

GENERAL NOTES:

This Drawing Shows The General Details Necessary To Modify A Single Or Double Cell Culvert With Wings With 3:1 Slope For A 30° Skew.

All Governing Dimensions, Reinforcement Details And General Requirements Of Basic Culvert Drawings, Drawings 1WS-3 And 1WD-3 And Or Drawings 1BSM-3W And 1BDM-3W Shall Apply Except As Specifically Modified Hereon.

A Complete Placing Plan Showing All Governing Dimensions, Bar List And Bending Details Shall Be Submitted To The Project Engineer For Approval Prior To Fabrication Of The Reinforcing Steel.



PLAN OF 30° LEFT FORWARD SKEW

MISSISSIPPI DEPARTMENT OF TRANSPORTATION
BOX CULVERT DRAWING
30° SKEW DETAILS
WINGS WITH 3:1 SLOPE
SINGLE & DOUBLE CELL CULVERTS

DATE	REVISION	BY

FILENAME:
DESIGN TEAM CHECKED DATE

WORKING NUMBER
SD-1SK-30-3W
SHEET NUMBER

COUNTY:
DESIGN TEAM:
PROJECT NO.:
FILENAME: