

QUANTITY CALCULATION EXAMPLE

GIVEN:
 28'-0" SLAB WIDTH
 TWO SPANS 40'-0" LONG 30° SKEW
 TYPE C DOUBLE TEE SECTION

CLASS AA CONCRETE

SLAB.....(2 x 40' + 0.5') x .546 = 43.95 C.Y.
 ABUTMENT DIAPHRAGM2 x 4.33 = 8.66 C.Y.
 PIER DIAPHRAGM.....1 x 6.29 = 6.29 C.Y.
 TOTAL..... = 58.90 C.Y.

REINFORCING STEEL:

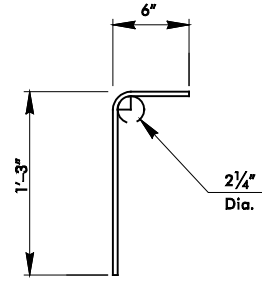
SLAB.....(2 x 40' + 0.5') x 77.4 = 6,231 #
 ADDITIONAL SLAB REINFORCING AT PIER.....1 x 841 = 841 #
 ABUTMENT DIAPHRAGM.....2 x 371 = 742 #
 PIER DIAPHRAGM.....1 x 421 = 421 #
 TOTAL..... = 8,235 #

PRESTRESSED CONCRETE DOUBLE TEE:

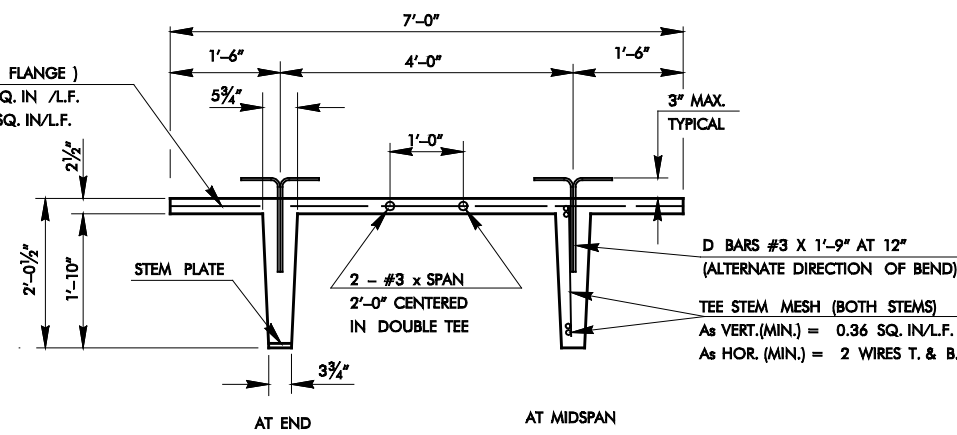
LENGTH = 2 x (40' - .5') x 4 = 316 L.F.

NOTE:

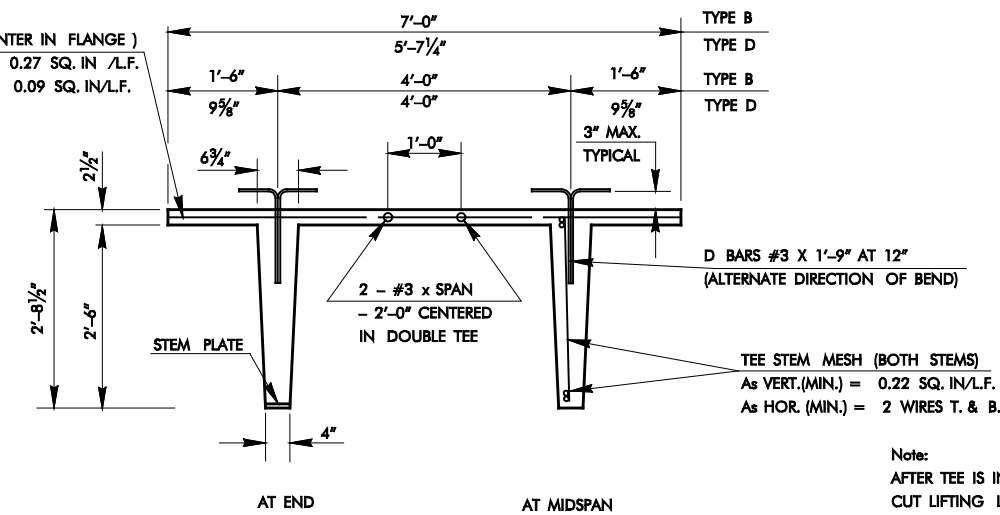
ALL OR PART OF THE SPECIFIED AREA OF THE FLANGE OF STEM MESH MAY BE REINFORCING BARS SUBJECT TO THE APPROVAL OF THE ENGINEER.



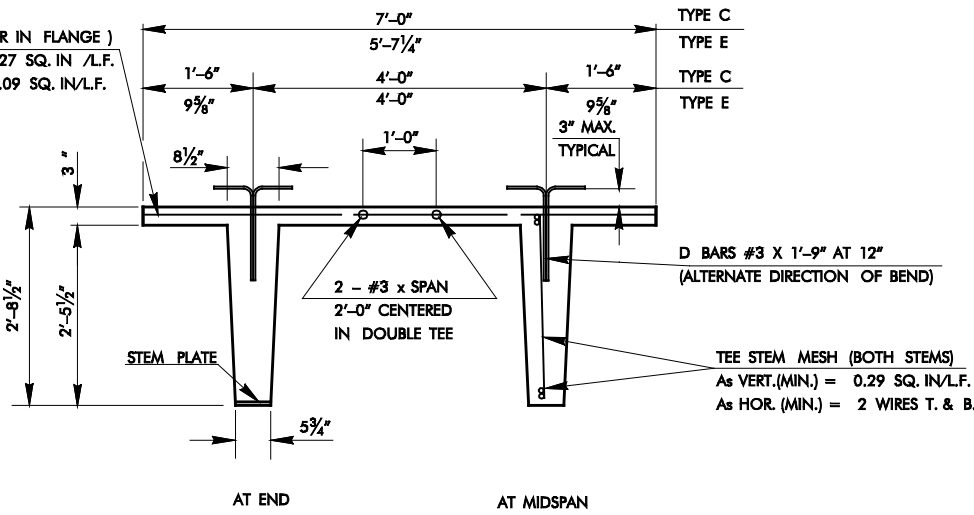
D BAR #3 X 1'-9"



TYPE A

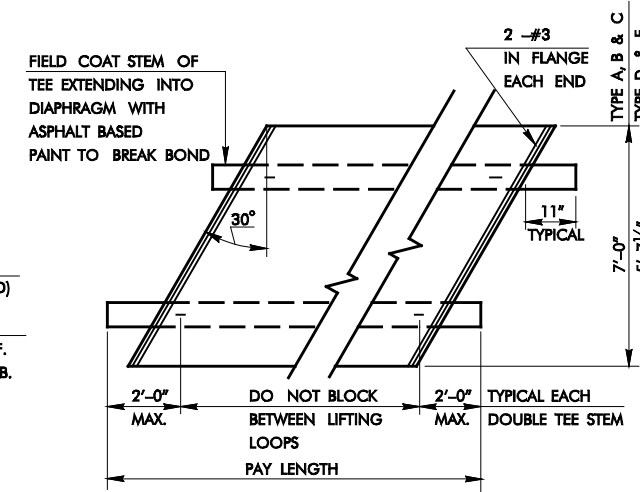


TYPE B & D



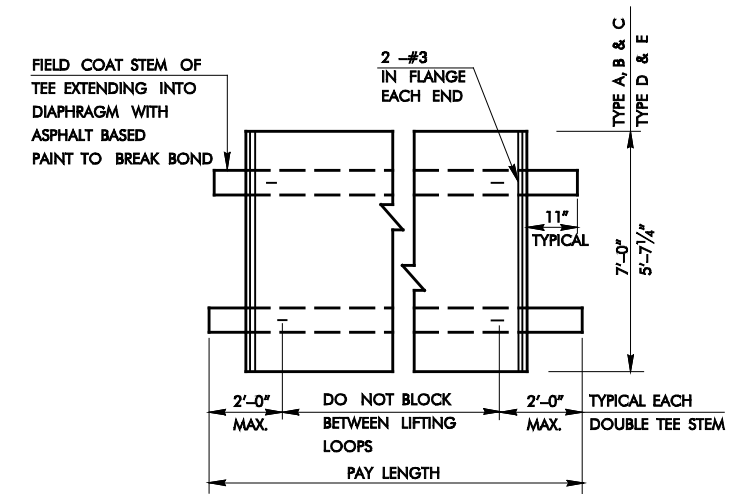
TYPE C & E

TYPICAL CROSS SECTIONS OF DOUBLE TEES



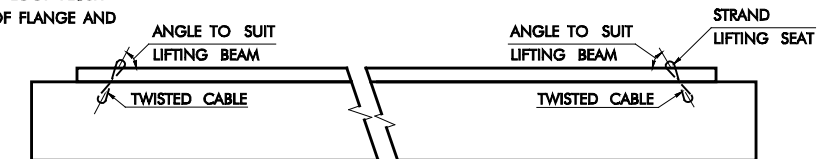
30° SKEW PLAN

LEFT FORWARD SKEW SHOWN, RIGHT FORWARD SKEW OPPOSITE HAND

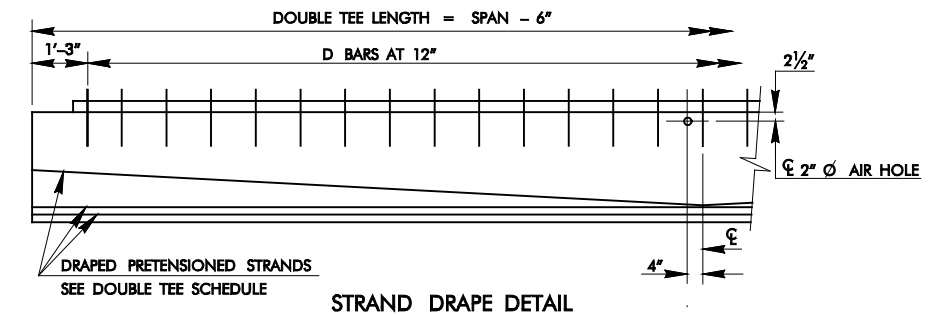


0° SKEW PLAN

Note:
 AFTER TEE IS IN PLACE CUT LIFTING LOOP FLUSH WITH TOP OF FLANGE AND REMOVE.



ELEVATION LIFTING LOOP DETAILS



STRAND DRAPE DETAIL

DOUBLE TEE SECTION PROPERTIES					
TYPE	A	B	C	D	E
AREA	419 IN ²	533 IN ²	672 IN ²	490 IN ²	622 IN ²
I	22,213 IN ⁴	52,274 IN ⁴	67,183 IN ⁴	48,517 IN ⁴	62,176 IN ⁴
Y _t	6.97 IN	10.32 IN	11.07 IN	11.11 IN	11.85 IN
Y _b	17.53 IN	22.18 IN	21.43 IN	21.39 IN	20.65 IN
S _t	3,186.9 IN ³	5,065.3 IN ³	6,068.9 IN ³	4,374.5 IN ³	5,251.7 IN ³
S _b	1,267.1 IN ³	2,356.8 IN ³	3,134.9 IN ³	2,266.2 IN ³	3,009.3 IN ³

NOTE: DEAD LOAD REACTIONS INCLUDE DIAPHRAGM WEIGHTS BUT NOT SUBSTRUCTURE WEIGHTS. LIVE LOAD AND IMPACT REACTIONS ARE BASED UPON TWO LANES AND THE ABUTMENT REACTIONS ARE SIMPLE SPAN REACTIONS. WHEREAS THE PIER REACTIONS ARE THE CENTER SUPPORT REACTIONS OF A TWO SPAN CONTINUOUS CONDITION.

SCHEDULE OF REACTIONS								
SPAN	REACTION (IN KIPS)	TYPE A B & C				TYPE D & E		
		28'-0" SLAB WIDTH		35'-0" SLAB WIDTH		28'-0" SLAB WIDTH		33'-7 1/2" SLAB WIDTH
		PIER	ABUT.	PIER	ABUT.	PIER	ABUT.	PIER
20'	DEAD LOAD	106.3	56.8	134.2	71.3			
	LIVE LOAD	98.9	83.2	98.9	83.2			
	IMPACT	29.7	25.0	29.7	25.0			
25'	DEAD LOAD	128.0	67.6	161.5	85.0			
	LIVE LOAD	113.4	92.2	113.4	92.2			
	IMPACT	34.0	27.7	34.0	27.7			
30'	DEAD LOAD	187.2	98.4	236.0	123.6			
	LIVE LOAD	121.9	99.2	121.9	99.2			
	IMPACT	36.6	29.8	36.6	29.8			
35'	DEAD LOAD	214.1	111.9	269.9	140.6			
	LIVE LOAD	127.4	105.6	127.4	105.6			
	IMPACT	38.2	31.7	38.2	31.7			
40'	DEAD LOAD	241.1	125.3	303.8	157.5			
	LIVE LOAD	131.0	110.4	131.0	110.4			
	IMPACT	39.3	33.1	39.3	33.1			
45'	DEAD LOAD	268.0	138.8	337.7	174.5			
	LIVE LOAD	133.6	114.0	133.6	114.0			
	IMPACT	40.1	34.2	40.1	34.2			
50'	DEAD LOAD	295.0	152.3	371.6	191.4	283.5	145.7	342.5
	LIVE LOAD	135.5	117.0	135.5	117.0	135.5	117.0	135.5
	IMPACT	40.6	35.1	40.6	35.1	40.6	35.1	40.6
55'	DEAD LOAD					346.6	177.3	418.0
	LIVE LOAD					140.0	119.6	140.0
	IMPACT					42.0	35.9	42.0

APPROVED BY BRIDGE ENGINEER: _____ DATE: _____

OKLAHOMA DEPT. OF TRANSPORTATION
 COUNTY BRIDGE STANDARD (ENGLISH)
 DOUBLE TEE DETAILS