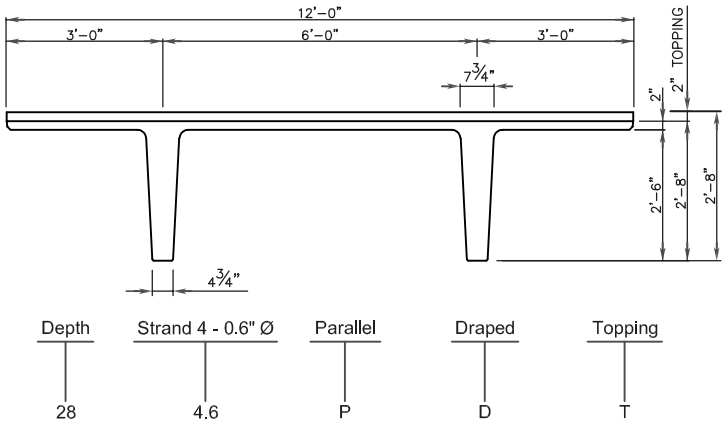
Prestressed Concrete
32" x 12' DOUBLE TEE
(2" TOPPING)

PHYSICAL PROPERTIES

$A = 663$ in.^{2}	$S_b = 2{,}800$ in.^{3}
$I = 63{,}362$ in.^{4}	$S_t = 6{,}761$ in.^{3}
$I' = 80{,}187$ in.^{4}	$S'_{tt} = 12{,}693$ in.^{3}
$Y_b = 22.63$ in.	Wt.= 691 PLF
$Y_t = 9.37$ in.	Wt.= 58 PSF
$Y'_{bb} = 25.07$ in.	Wt.'= 991 PLF
$Y'_{tt} = 8.93$ in.	Wt.'= 83 PSF



DESIGN DATA

1. Precast Strength @ release = 3,500 PSI.
2. Precast Strength @ release for draped tees = 4,500 PSI.
3. Precast Strength @ 28 days = 6,000 PSI.
4. Topping Strength @ 28 days = 3,000 PSI.
5. Precast / Topping Density = 150 PCF.
6. Strand = 0.6" Ø 270K Lo-Relaxation.
7. Maximum moment capacity is critical at midspan for parallel strands and is critical near 0.4 span for draped strands.
8. Maximum bottom tensile stress is $12\sqrt{f'c}$ = 930 PSI.
9. Flexural capacity is based on stress/strain strand relationships.
10. All superimposed load is treated as live load in the flexural strength analysis. To determine the allowable live load if the amount of superimposed dead load is known use the following conversion method...

$$\text{Allowable Live Load} = \frac{(1.6)(\text{Load Table Value}) - (1.2)(\text{Superimposed Dead Load})}{1.6}$$

11. If the above conversion is used then allowable stress limits must be checked so they are not exceeded.
12. Deflection limits were not considered when determining allowable loads in this table.

ALLOWABLE SUPERIMPOSED LIVE LOADS (psf)

Section	Ø Mn (in. Kips)	SPAN (FEET)																							
		40	42	44	46	48	50	52	54	56	58	60	62	64	66	68	70	72	74	76	78	80	82	84	86
32 - 4.6PT	6,471	78	65	54	44	35																			
32 - 6.6PT	9,340		121	105	91	78	67	57	49	41	34														
32 - 8.6PT	11,964					118	104	91	80	70	61	53	46	39											
32 - 10.6PT	14,344							122	108	96	86	76	67	59	52	45	39								
32 - 12.6PT	16,479									120	108	97	86	77	67	58	50	43	36						
32 - 14.6DT	21,470													114	103	92	82	73	65	58	51	44	38		
32 - 16.6DT	24,158															107	97	87	78	70	62	55	49	43	37
32 - 18.6DT	26,760																110	99	90	81	73	66	59	52	46

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11/2020

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