TROPICAL FOREST PRODUCTS DECK AND ATRINGER MATERIAL SPANS STRUCTURAL REVIEW & CALCULATIONS

Scope:

Structural engineering calculations have been prepared which evaluate the performance of the product based on comparative and/or rational analysis to qualify the following design criteria:

- Maximum allowable stringer span and decking span.
- Maximum allowable beam spans based on various combinations of dead, live, wind / snow loads for decking applications
- Note: evaluation is for spans of product only. No connections or designs of any systems are included in this evaluation and shall be performed by others on a site-specific basis using these base criteria as a guide.

Material Sizes:

The TROPICAL FOREST PRODUCTS decking system is a variety of tropical hardwoods that can be used with the following sizes:

Deck Thickness:

- o 0.75"
- o 1"
- o 1.5"
- o **2.5**"
- o **3.5**"

Beam and Stinger Sizes (Actual):

- o 1.5" x 5.5", 1.5" x 7.25", 1.5" x 9.25", 1.5" x 11.15"
- o 2.5" x 5.5", 2.5" x 7.25", 2.5" x 9.25", 2.5" x 11.15"
- o 3.5" x 5.5", 3.5" x 7.25", 3.5" x 9.25", 3.5" x 11.15"
- o 5.5" x 5.5", 5.5" x 7.25", 5.5" x 9.25", 5.5" x 11.15"



General Notes:

- This system has been designed and shall be fabricated in accordance with the definitions and requirements
 of the 2015 International Residential Code and International Building Code including considerations
 pertaining to the use of Naturally Durable Wood.
- 2) This document has been developed specifically to address the technical performance of TROPICAL FOREST PRODUCTS brand products only and should not be relied on for products which cannot be verified as carrying the TROPICALFORESTPRODUCTS brand through confirming documentation.
- 3) Engineering express is not certifying any wood species parameters without applicable testing proof. The minimum required thresholds are shown below. These thresholds must be verified separately and are by others, and assuming all the parameters can be proven by the manufacturer, only then can we confirm these span charts valid for the intent of the Code.
- TROPICAL FOREST PRODUCTS Naturally Durable Hardwoods Species shall meet the following minimum technical standards.
 - a. Material shall be graded as per TROPICAL FOREST PRODUCTS Grading Standards defined as Premium Select, FEQ, COM SEL / FAS
 - b. Shall be tested to NFPA class B or better Fire Rating as per ASTM E84 testing standards
 - c. Shall be tested to US Forest Products Laboratory Class 2 or better durability rating
 - d. Shall be tested to meet or exceed minimum structural properties as per ASTM D245
 - e. Modules of elasticity shall be independently verified per code to be equal to or greater than the below
 - f. Shall be certified to meet or exceed minimum Allowable design values listed below:
 - A minimum Bending Strength (Fb) of 2100 psi
 - A minimum Modulus of Elasticity (E) of 2180 ksi
 - A minimum Compression Parallel to Grain of 1700 psi
 - A minimum Compression Perpendicular to Grain of 1030 psi
 - A minimum Shear parallel to Grain of 305 psi
 - A maximum Density of 70 lbs. / cu. Ft.
 - A minimum Specific Gravity of 0.67
- 5) These are a sample of the species list we used under our analysis, and their required properties (including but not limited to:
 - a. TROPICALFORESTPRODUCTS Ipe, Garapa, Cumaru, Tigerwood, Jatoba, Angelim Pedra, Purpleheart, Massaranduba, Balau, Ekki

IN ALL CONDITIONS IT IS THE RESPONSIBILITY OF THE PERMIT HOLDER TO ENSURE THE HOST STRUCTURE CAN WITHSTAND THE RATED FORCES BY A COMPLETE SITE-SPECIFIC DESIGN BY OTHERS.

THIS DOCUMENT IS NOT TO BE CONSIDERED A DESIGN APPROVAL AND IS INTENDED AS A DESIGN AID TO OTHERS ONLY.

NO WARRANTY OF ANY KIND, EXPRESSED OR IMPLIED, IS OFFERED BY THIS ENGINEER AS TO THE INTEGRITY OF THE HOST STRUCTURE TO CARRY DESIGN FORCE LOADS INCURRED BY THIS SYSTEM.



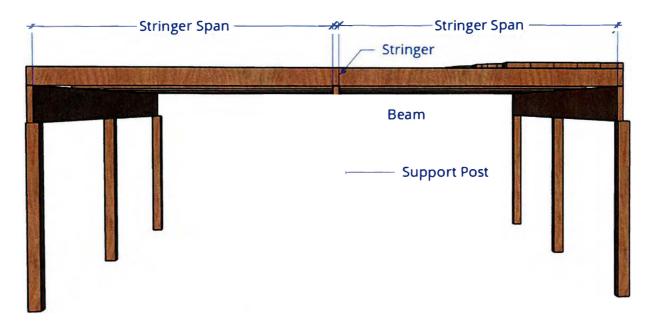


Figure 1: Stringer Span

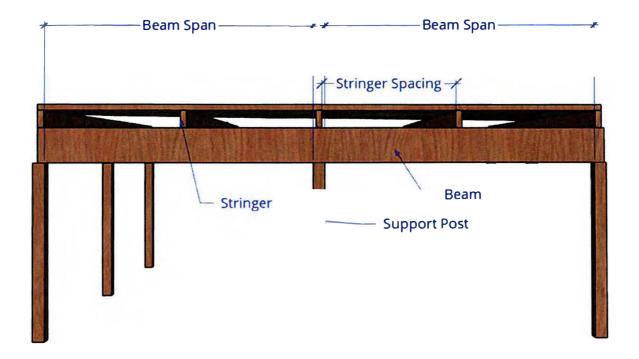


Figure 2: Beam Span



Decking Span:

Deck Max Span (Support to Support)

	- (-	
Deck		Live Load	
Thickness	60 psf	100 psf	500 psf
0. 7 5 in	27 in	24 in	12 in
1.00 in	39 in	33 in	18 in
1.50 in	57 in	48 in	27 in
2.50 in	96 in	81 in	48 in
3.50 in	135 in	114 in	66 in

GENERAL NOTES:

- 1. All loads and load combinations are determined using ASCE 7. DL = Dead Load, LL = Live Load, SL = Snow Load, WLg = Wind Load, & WLu = Uplift Wind Load.
- 2. Maximum total load (TL) determined from the governing case of the following:

TL = DL + LL

TL = DL + SL

TL = DL + 0.75*LL + 0.75*SL

 $TL = 0.6*DL + 0.6*WL_u$

- 3. Loads utilized for the above (3) tables are as follows: DL = (Max Density * Deck Thicknes) psf, LL = See Table, $SL+WL_g = 20$ psf, where absolute uplift wind load (WL_u) is not greater than WL_g .
- 4. Deflection limits for joists and beams are determined as follows:

Deck – Live load deflection is limited to L/360, total deflection is limited to L/240, where L is the span length.

- 5. Deck capacities are shall be independently verified to meet Allowable Design Values described on page 1.
- 6. Allowable deck bending stress utilized was 2,100 psi.
- 7. Dead Load Utilized = 20.42 psf or less
- 8. Required wind pressure shall be calculated and certified by others on a site-specific basis.

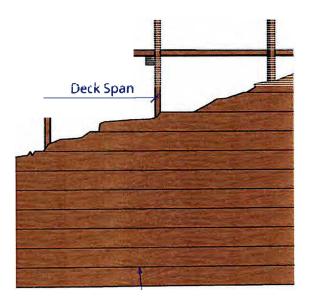




TABLE 1: BEAM & STRINGER SPANS WITH ≤ 1.5" DECK THICKNESS

														-				!			
		BEAM	SPAN (SINGLE	BEAM	BETWE	BEAM SPAN (SINGLE BEAM BETWEEN POSTS)	(SIS)					L						=	LL 100 PSF	SF
1.5" Deck	STR SIZES		STRING	STRINGER @ 1.5" X 5.5"	" X 5.5"			STRING	STRINGER @ 2.5" X 5.5"	5" X 5.5"			STRING	STRINGER @ 3.5" X 5.5"	"X 5.5"			STRING	STRINGER @ 5.5" X 5.5"	X 5.5"	
Thickness	STR SPANS	30	40	2.0	.09	.9-,9	40	2,-0	09	02	80.	2,-0,,	09	.02	8,-0,	.06	09	02	08	.06	10'-6"
1.1		7-7"	6'-10"	6-1"	2-7"	5'-4"	6'-10"	19	5-7"	5'-2"	4'-10"	6-1"	2'-6"	5'-1"	49"	4'-6"	2-2"	5'-1"	4'-9"	45"	4'-1"
2000	2.5" X 5.5"	.06	8'-2"	7-7	7-2"	6-11"	8'-2"	7-7	7-2"	.89	6'-3"	7-7	7-1"		6-2"	5'-10"	7-1"	.9-,9	6-1"	29"	5'-4"
_	3.5" X 5.5"	10'-1"	9'-2"	8'-6"	8,-0,,	7-10"	9'-2"	.9-,8	80"	7-7	7-3"	8'-6"	80.	.17	7:-3"	6-11"	8'-0"	7-7"	7'-3"	6'-10"	64"
Щ 	5.5" X 5.5"	119"	108"	9-11"	9'-4"	9'-1"	108"	9'-11"	9.4"	8'-10"	.98	9-11"	94"	8'-10"	.98	8'-2"	9'-4"	8'-10"	86"	8-2"	7-9"
A	1.5" X 7.25"	10'-1"	.0-,6	8'-1"	7.4"	7:-1"	.0-,6	8,-0,,	7.4"	.69	6'-4"	8'-0"	7-3"	6-,9	6.4"	5-11"	7:-2"	.89	6'-3"	5'-11"	5'-5"
M 2.5	2.5" X 7.25"	11'-11"	10'-10"	10'-1"	9-5"	92"	10'-10"	10'-1"	95"	8'-9"	8'-2"	10:-1"	9-5"	88	8-2"	7'-8"	9-3"	12-8	8'-1"	7-7"	1.02
3.5	3.5" X 7.25"	13'-4"	12'-1"	11'-3"	10-7"	10'-4"	12-1"	11'-3"	10,-7"	10'-1"		11'-3"	10-7"	10'-1"	9-7"	9'-1"	10-7"	10'-1"	9-,6	.06	8'-4"
5.5	5.5" X 7.25"	15'-6"	14'-1"	13-1"	12'-4"	12'-0"	14:-1"	13'-1"	12'-4"	11'-8"	11'-2"	13'-1"	12'-4"	11'-8"	112"	10'-9"	12'-4"	11'-8"	11'-2"	10,-9"	10'-2"
	1,5" X 9,25"	12'-10"	116"	104"	95"	.0-,6	11:-5"	10'-3"	9'4"	8-8"	8-1"	102"	94"	8'-7"	8-1"	7-7"	9'-2"	.9-,8	80.	.92	6'-11"
2.5	2.5" X 9.25"	15'-3"	13'-10"	12'-10"	12'-1"	118"	13'-10"	12'-10"	12'-0"	11'-2"	105"	12:-10"	120"	11'-1"	10'-5"	9'-10"	11'-10"	110	10'-3"	9-8-	.0-,6
, e.	3.5" X 9.25"	170"	15'-6"	14'-4"	13'-6"	13-2"	156"	14'-4"	136"	12'-10"	12'-3"	14.4"	13-6"	12'-10"	12'-3"	11:7"	13'-6"	12:-10"	12-1"	11:-5"	10-7"
Z 5.5	5.5" X 9.25"	19'-10"	18'-0"	16'-8"	15'-8"	15-3"	18'-0"	16'-8"	15'-8"	14'-11"	14'-3"	16'-8"	15-8"	14'-11"	14'-3"	13'-9"	15'-8"	14'-11"	14'-3"	13'-9"	13'-0"
1.5	1.5" X 11.25"	15:-7"	14'-0"	12'-6"	11'-5"	11,-0	13'-11"	12'-5"	11'-4"	106"	9'-10"	1,-4"	11'-4"	106"	9'-10"	9'-3"	11:-2"	10'-4"	.86	9-2"	8'-5"
	2.5" X 11.25"	18'-6"	16'-10"	15'-7"	14'-8"	14'-2"	16'-10"	15'-7"	14'-8"	13'-7"	12'-8"	15-7"	147"	13'-6"	12'-7"	11'-11"	14'-5"	13'-4"	12'-6"	11'-9"	10'-11"
	3.5" X 11.25"	20,-9"	18'-10"	176"	16'-5"	16'-0"	18-10"	17'-6"	16'-5"	15'-7"	14'-11"	176"	16'-5"	15.7"	14'-11"	14'-1"	16'-5"	15'-7"	14'-9"	13'-11"	12'-11"
5.5	5.5" X 11.25"	24-1"	21'-11"	20'-4"	19'-1"	18'-7"	21'-11"	20'-4"	19-1"	18'-2"	17'-4"	20'-4"	19'-1"	18'-2"	17.4"	16'-8"	19'-1"	18'-2"	17.4"	16'-8"	15'-10"

GENERAL NOTES:

- 1. Stringer Spacing for the table is at 24" on center (o.c.). To use larger stringer spacing, both the stringer and beam must be adjusted as follows:
 - a. New Stringer Length (in.) = Min of:

i.
$$\frac{3}{t_{os}} \frac{L_{os}^3 * t_1}{t_2}$$
 or $\frac{1}{t_2}$ b. New Beam Length (in):
i. $L_{ob} + \frac{(t_2 - t_1)}{12} * 6$

i.
$$L_{ob} + \frac{(t_2-t_1)}{12} * 6$$

c. Where

- Los = Original Stringer Length (in.)
- Lob = Original Beam Length (in.)
- t1 = Original Spacing (12 in.)
- t₂ = New Spacing (in.)
- All loads and load combinations are determined using ASCE 7. DL = Dead Load, LL = Live Load, SL = Snow Load, \widetilde{WL}_g = Wind Load, & WLu = Uplift Wind Load,
- Maximum total load (TL) determined from the governing case of the following:

$$TL = DL + SL$$

$$TL = DL + 0.75*LL+0.75*SL$$

$$TL = 0.6*DL + 0.6*WL_u$$

- Loads utilized for the table are as follows: DL = 21 psf or less, LL = 100 psf, SL+WLg = 20 psf, where absolute uplift wind load (WL_u) is not greater than WL_g.
- Deflection limits for stringer and beams are determined as follows:

- Stringer and beam capacities are shall be independently verified to meet Allowable Design Values described on page 2.
- If a beam is provided as an intermediate stringer support (Mid-Beam) then its span selected above, or modified by note 8, should be multiplied by 0.60 for a dropped beam and 0.70 for a flush beam.
- Required wind pressure shall be verified by others.

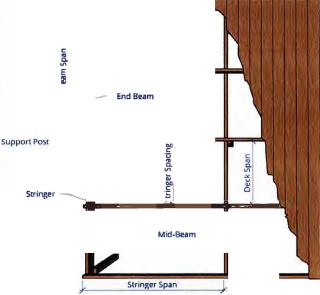




TABLE 2: BEAM & STRINGER SPANS WITH ≤ 1.5" DECK THICKNESS

		BEAM	SPAN (SINGLE	BEAN	BETWE	BEAM SPAN (SINGLE BEAN BETWEEN POSTS)	(SI			-	, A.L.	16E3 7	ָ בְּ	ָ ֡ ֡ ֡ ֡ ֡ ֡ ֡ ֡ ֡ ֡ ֡ ֡ ֡ ֡ ֡ ֡ ֡ ֡ ֡	2	ALL SIZES ANE ACTORE INOT INCIVITINAL	֖֖֭֭֭֭֭֡֡֝֝֝֡֟֝	1	LL 100 PSF	SF
.5" Deck	STR. SIZES		STRING	STRINGER @ 1.5" X 7.25"	" X 7.25			STRING	STRINGER @ 2.5" X 7.25"	X 7.25"			STRINGE	STRINGER @ 3.5" X 7.25	X 7.25			STRING	STRINGER @ 5.5" X 7.25"	X 7.25"	
hickness	SS STR. SPANS	40	2.0.	09	80.	06	40	09	08	06	106"	2.0	0-,9	08	10.01	1Z-0.	10-9	08	1001	120	140.
	1.5" X 5.5"	6'-10"	6-1"	5'-7"	410"	47"	.69	2,-6"	4'-9"	46"	42"	.09	26"	4'-9"	4'-3"	3'-10"	5-5	4'-8"	42"	3'-10"	3-6"
	2.5" X 5.5"	8'-2"	7-7	7:-2"	6-3"	5'-10"	8'-2"	72"	6'-2"	5'-10"	5-5	7-7"	7:-1"	6'-2"	5'-6"	5-0	7-0"	.0-,9	5-5"	4'-11"	47"
ם ו	3.5" X 5.5"	9'-2"	8'-6"	8'-0"	7-3"	6'-11"	9'-2"	8'-0"	7-3"	6-11"	6-5	.98	.0-,8	73"	.9-,9	2	8-0-	7-2"	6'-5"	5'-10"	5-5
ш	5.5" X 5.5"	10'-8"	9'-11"	9'-4"	8'-6"	8'-2"	10'-8"	9'-4"	.9-,8	8'-2"	19	9'-11"	9-4"	.9-,8	7:-10"	7-5"	9-4"	8'-6"	7'-10"	74"	.6-,9
V	1,5" X 7.25"	.0-,6	8'-1"	7-4"	6.4"	.0-,9	8'-11"	7:-3"	6.4"	5'-11"	26"	7:-11"	7'-3"	6'-3"	22"	2,	7-2"	62"	26"	2,-0	4'-8"
Σ	2.5" X 7.25"	10'-10"	10-1"	9-5"	8'-3"	7-9"	10'-10"	9'-5"	8'-2"	7-8"	7-1"	10,-1"	9'-4"	8'-1"	7:-3"	6-7-	9-2"	8'-0"	7-2"	.9-,9	.0-,9
	3.5" X 7.25"	12'-1"	11'-3"	10-7"		9'-2"	12'-1"	10,-7"		9'-1"	8'-5"	11'-3"	10'-7"	26	8'-7"	7:-10"	10:-7"	9'-5"	8'-5"	7'-8"	7-2
	5.5" X 7.25"	14:-1"	13'-1"	12'-4"	11'-2"	109"	14-1"	12'-4"	11'-2"	109"	10'-2"	13'-1"	12'-4"	11'-2"	10'4"	9-9	12'-4"	11'-2"	10'-4"	.86	8'-11"
	1.5" X 9.25"	116"	10'-3"	95"	8'-2"	7:-8"	11'-5"	9-4"	8-1"	7-7"	10	10,-1"	9'-3"	8'-0"	7-2"	.9-,9	66	7:-11"	7-1"	6'-5"	5-11"
n	2.5" X 9.25"	13'-10"	12'-10"	12'-1"	10'-6"	9'-11"	13'-10"	12:-0"	105"	9'-10"	91"	12'-10"	11'-11"	10'-4"	9'-3"	8'-5"	11'-9"	10'-2"	9'-1"	8'-4"	78"
	3.5" X 9.25"	15'-6"	14'-4"	13'-6"	12'-3"	11'-8"	15'-6"	13'-6"	12'-3"	11:-7"	109"	14'-4"	13'-6"	12'-2"	10'-11'	10'-0"	13'-6"	12'-0"	10,-9"	9'-10"	9'-1"
Z	5.5" X 9.25"	18'-0"	16'-8"	15'-8"	14'-3"	13'-9"	18'-0"	15'-8"	14'-3"	13'-9"	13'-0"	16'-8"	15'-8"	14'-3"	13'-3"	2'-5"	5-8	14'-3"	13'-3"	12'-3"	11'-5"
ш	1.5" X 11.25"	13'-11"	12'-6"	115"	9- 1	9.4"	13'-10"	11'-4"	9'-10"	9'-3"		12'-3"	113"	.66	88	7-1	11'-1"	9'-7"		7:-10"	7:-3"
	2.5" X 11.25"	16'-10"	15-7"	14'-8"	12'-9'	12'-0"	16'-10"	14'-7"	12'-8"	11'-11"	11'-1"	15:-7"	14'-5"	12'-6"	11'-3"	10'-3"	14-3"	12'-4"	11-1"	10-1"	9'-4"
	3.5" X 11.25"	18'-10"	17'-6"	16'-5"	14.	14'-2"	18'-10"	16'-5"	14'-11"	14'-1"	13'-1"	17'-6"	16'-5"	14'-10"	13'-3"	12'-1"	16-5"	147"	13:-1"	11:-11"	11-1"
	5.5" X 11.25"	21'-11"	204"	19'-1"	17.4"	16'-8"	21'-11"	19'-1"	17'-4"	16'-8"	15'-10"	20'-4"	19'-1"	17-4"	16'-1"	14'-6"	19:-1	174"	16'-1"	14.5"	12'-5"

GENERAL NOTES:

- 1. Stringer Spacing for the table is at 24" on center (o.c.). To use larger stringer spacing, both the stringer and beam must be adjusted as follows:
 - a. New Stringer Length (in.) = Min of:

i.
$$\frac{3}{t_0} \frac{L_{os}^3 * t_1}{t_2}$$
 or $\frac{L_{os}^2 * t_1}{t_2}$

b. New Beam Length (in):

i.
$$L_{ob} + \frac{(t_2 - t_1)}{12} * 6$$

c. Where

- Los = Original Stringer Length (in.)
- Lob = Original Beam Length (in.)
- t₁ = Original Spacing (12 in.)

• t2 = New Spacing (in.)

- 2. All loads and load combinations are determined using ASCE 7. DL = Dead Load, LL = Live Load, SL = Snow Load, $WL_g = Wind$ Load, & WLu = Uplift Wind Load.
- Maximum total load (TL) determined from the governing case of the following:

TL = DL + LL

TL = DL + SL

TL = DL + 0.75*LL+0.75*SL

 $TL = 0.6*DL + 0.6*WL_u$

- 4. Loads utilized for the table are as follows: DL = 23 psf or less, LL = 100 psf, $SL+WL_g = 20 \text{ psf}$, where absolute uplift wind load (WLu) is not greater than WLg.
- Deflection limits for stringer and beams are determined as follows:

- 6. Stringer and beam capacities are shall be independently
- verified to meet Allowable Design Values described on page 2. If a beam is provided as an intermediate stringer support (Mid-Beam) then its span selected above, or modified by note 8, should be multiplied by 0.60 for a dropped beam and 0.70 for a flush beam.
- Required wind pressure shall be verified by others.

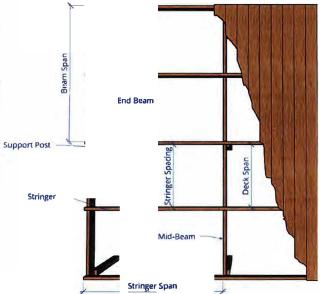




TABLE 3: BEAM & STRINGER SPANS WITH ≤ 1.5" DECK THICKNESS

13-3"

5-2" 6-8 7-11' 9-8" 6-4" 8-2" 5-3 7.-9" 4'-10" 6'-4" .9-.6 .6-,6 6-5 7-7 8-3" TUAL NOT NOMINAL 5-4" 6.4 10-4" 10-8" 4'-7" 4'-8" 6'-1" 7'-2' 5-5 6'-0"

1.5" Deck STR SPANS THE STR STR SPANS THE STR	4.0.			I Samuel Samuel									
LXXXXXXXXXXXX		STRING	STRINGER @ 1.5" X 9.25"	X 9.25"			STRING	STRINGER @ 2.5" X 9.25"	X 9.25"			STRINGER @ 3.5	R @ 3.
		.09	.0-,8	10.01	11.6"	09	.08	10.01	12.0"	136"	.08	1001	12:-0
	6'-10"	5-7"	4:-10"	4.4"	4'-0"	2'-6"	49"	4'-3"	ض.	3'-8"	49"	4'-3"	3'-10"
	8'-2"	7-2"	6-2"	2-7"	5-2"	7:-1"	62"	5-6"	50.	49	6-1"	5-5	2,-0"
	9-2"	8:-0"	7-3	9	6'-2"	8'-0"	73"	.99	5.	2-7"	7-2"	6'-5"	5-11"
	10'-8"	9-4"	86"	7-10"	.9-,2	9'-4"	.98	7-10"	75"	1.02	.9-,8	7-10"	7.4"
	9.0	7-4"	6.4"	5-8"	5'-3"	7'-3"	6'-3"	2-7"	5-5"	4'-10"	6-3"	2-7"	5-1"
	10,-10"	95	8'-2"	7.4"	6'-10"	9'-4"	8-1"	7:-3"	2.9	6'-3"	8'-0"	7'-2"	12-,9
	12'-1"	10-7"	9.7"	8-8	8'-1"	10-7"	12-6	8'-7"	7 0	75"	.9-6	.9-,8	7-9"
	14'-1"	12'-4"	11'-2"	10'4"	9'-11"	12'-4"	11'-2"	10'4"	6-6	9'-3"	11'-2"	104"	9'-9"
	11.5	9-4"	8'-1 "	7:-3"	.6-,9	9'-3"	8'-0"	7'-2"	67	6'-2"	7:-11"	7:-1"	.9-,9
6.5 A 9.25	13-10	12:0.	105"	9.4	.68	11-11"	10'-4"	9-3"	8-5	8,-0,	10'-3"	9-2"	8'4"
3.5" X 9.25"	15'-6"	13,6	12:-3	11:-1"	10'-4"	13'-6"	12'-3"	10'-11"	1001	9-5	12'-1"	10'-10"	9'-11"
S.5" x 9.25"	18'-0"	15-8"	14.3	13'-3"	12'-8"	15'-8"	14'-3"	13'-3"	12'-5"	119"	14'-3"	13'-3"	12'-5"
5 X 11.25"	13' 1'	4	9'-10"	8'-10"	8'-3"	113"	.6-6	8'-9"	8'-0"	16"	.8-6	8-8"	7:-11"
C 2.5" X 11,25"	16'-10	148	12'-8"	11.4"	107"	146"	12'-7"	11'-3"	10'-3"	.86	12'-5"	11:-2"	10'-2"
3.5" X 11,25"	18'-10"	16-5	14'-11"	13'-5"	12'-6"	16'-5"	14'-10"	13'-3"	12'-2"	11'-5"	14'-8"	13'-2"	12'-0"
	21-11"	19-1-	174"	16'-1"	15'-1"	19'-1"	17'-4"	16'-1"	14'-5"	12'-10"	17-4"	16'-1"	14'-4"

GENERAL NOTES:

- Stringer Spacing for the table is at 24" on center (o.c.). To use larger stringer spacing, both the stringer and beam must be adjusted as follows:
 - a. New Stringer Length (in.) = Min of:

i.
$$\frac{L_{os}^3 * t_1}{t_2}$$
 or $\frac{L_{os}^2 * t_1}{t_2}$

New Beam Length (in):

i.
$$L_{ob} + \frac{(t_2 - t_1)}{12} * 6$$

- Where
 - Los = Original Stringer Length (in.)
 - Lob = Original Beam Length (in.)
 - t₁ = Original Spacing (12 in.)
 - t₂ = New Spacing (in.)
- 2. All loads and load combinations are determined using ASCE 7. DL = Dead Load, LL = Live Load, SL = Snow Load, WLg = Wind Load, & WLu = Uplift Wind Load.
- Maximum total load (TL) determined from the governing case of the following:

$$TL = 0.6*DL + 0.6*WL_{\odot}$$

- 4. Loads utilized for the table are as follows: DL = 24 psf or less, LL = 100 psf, SL+WL_g = 20 psf, where absolute uplift wind load
- (WLu) is not greater than WL_g.

 Deflection limits for stringer and beams are determined as

- 6. Stringer and beam capacities are shall be independently verified to meet Allowable Design Values described on page 2.
- If a beam is provided as an intermediate stringer support (Mid-Beam) then its span selected above, or modified by note 8, should be multiplied by 0.60 for a dropped beam and 0.70 for
- Required wind pressure shall be verified by others.

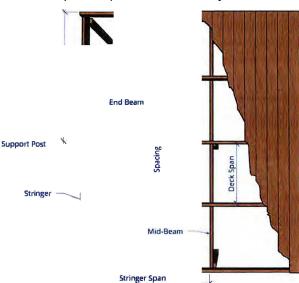




TABLE 4: BEAM & STRINGER SPANS WITH < 1.5" DECK THICKNESS

7	-								1										١	2001 11	
.s Deck	STR SIZES		STRINGE	STRINGER @ 1.5" X 11.25"	X 11.25"			STRING	STRINGER @ 2.5" X 11.25"	X 11.25"			STRING	ER @ 3.5	STRINGER @ 3.5" X 11.25"			STRING	ER @ 5.5	STRINGER @ 5.5" X 11.25"	
hickness s	STR. SPANS	09	80	10.01	12.0	14.0	80	100	120	140	16'-6"	10,-0	120	140	160	186"	120	140	160.	18.0.	200.
		2,-6"	4'-9"	4'-3"	3'-11"	3-7"	4'-9"	4.3	3*-10"	3-7"	3'-3"	4:-2"	3'-10"	3'-6"	3.4"	3'-1"	3'-9"	3-5"	3-3"	3:-0"	2'-11"
2.5" X 5.5"	5.5"	7-2"	6'-2"	26"	5-1"	4'-8"	6'-1"	5'-6"	2-0.	47"	4'-3"	5-5	4'-11"	4'-7"	4:-3"	4'-0"	4'-10"	46"	4'-2"	3-11"	39"
3.5" X 5.5"	5.5"	80"	7:-3"	9	.09	26"	7-3"	.99	5-11"	5-6"	2:-0"	6'-5"	5'-10"	55"	5-1"	48"	5'-8"	5'-3"	4'-11"	48	4'-5"
5.5" X 5.5"	5.5"	9.4"	.9-,8	7:-10"	75"	6'-11"	.9-,8	7-10"	7:-5"	6'-10"	6'-4"	7:-10"	7'-4"	.69	6.4"	5-11"	7:-2"	9	6-2"	5-10"	5-7"
1.5" X 7.25	7.25	7.4"	6'-4"	5'-8"	5'-2"	4'-9"	6-3"	2-7"	5-1"	49"	4-4"	5-6"	5.0.	48"	4.4"	4-1"	4'-11"	47"	4'-3"	40.	3'-10"
2.5 X 7.25"	7.25"	95"	8'-2"	7-4"	89	6-2"	8'-1"	7:-3"	9	6-1"	57"	7-2"	.9-,9	.09	2'-8"	5-3"	6.4"	5-11"	5-6	5-5	4'-11"
3.5" X 7.25"	7.25"	107"	97"	8-8"	7:-11"	7.4"	.9-,6	8-6	7-9"	7-3"	.89	8-5	7-8"	7:-2"	.89	6-2"	16"	1.0.1	9-9	6-2	5'-10"
		124"	11'-2"	10'-4"	9'-9"	9'-2"	11:-2"	10.4"	9'-9"	90.	8'-4"	104"	.8-,6	8-11	8'4"	79"	95"	8-9-	8-2"	7-8"	7-4"
		9.4"	8'-1"	7:-3"	9	6-1"	8:-0.	7:-2"	.99	.09	27"	7-1"	6.5	.09	5-7"	5-2"	6.4"	5'-10"	5-5	5-2"	4:-10"
2,5" X 9,25"	25	120	10'-5"	9'-4"	.98	7-11"	103"	9'-2"	8'-5"	79"	7:-2"	9'-1"	84"	7'-8"	7-2	.89	8-2"	16"	70	.89	6.4"
3.5" X 9.25"	9.25"	13'-6"	12'-3"	11'-0"	10-1"	94"	12'-2"	10'-11"	9'-11"	9-2"	8'-6"	109"	9'-10"	9-1"	8'-6"	7:-11"	9-7"	8'-11"	8'-4"	7'-10"	75"
5.5" X 9.25"		15'-8"	14'-3"	13'-3"	12'-5"	11'-8"	14'-3"	13'-3"	12'-5"	11.6"	10,-6"	13-3"	12'-3"	115"	10,-8"	9-5	12:-0"	11'-2"	10'-5"	9-8	88
1.5" X 11.25"		11'-4"	9'-10"	8'-9"	8'-0"	75"	9-8	8-8	7:-11"	7-4"	,,6-,9	8'-7"	7:-10"	7:-3"	.69	6'-4"	7:-8"	7-1"	.89	6-3"	5-11"
2.5" X 11.25"	n.c.	14'-7"	12'-8"	11'-4"	10'-4"	97"	12'-6"	11'-2"	10'-3"	.9-6	8'-9"	11-1"	10,-1	9-4"	8-9"	8'-2"	9'-11"	9'-2"	8'-7"	8'-1"	7-8"
	10	16'-5"	14'-11"	13'-5"	12'-3"	11'4"	14'-9"	13-3"	12'-1"	11'-2"	10'-4"	13:-1"	11-11"	11:1	10'4"	6,-5	11'-8"	10:-10"	10-2	9-7"	8-9
		19-1"	174"	16'-1"	14'-5"	12'-5"	17-4"	16'-1"	14.4"	12.4"	10,-6"	16-1"	14'-3"	12'-3"	10-10	9'-4"	14-1"	12'-3"	109"	97.	8-8

GENERAL NOTES:

- 1. Stringer Spacing for the table is at 24" on center (o.c.). To use larger stringer spacing, both the stringer and beam must be
 - a. New Stringer Length (in.) = Min of:

i.
$$\frac{\sqrt[3]{L_{os}^3 * t_1}}{\sqrt[3]{t_2}}$$
 or $\frac{L_{os}^2 * t_1}{t_2}$

b. New Beam Length (in):

i.
$$L_{ob} + \frac{(t_2 - t_1)}{12} * 6$$

c. Where

- Los = Original Stringer Length (in.)
- Lob = Original Beam Length (in.)
- t₁ = Original Spacing (12 in.)
- t₂ = New Spacing (in.)
- 2. All loads and load combinations are determined using ASCE 7. DL = Dead Load, LL = Live Load, SL = Snow Load, WLg = Wind Load, & WLu = Uplift Wind Load.
- Maximum total load (TL) determined from the governing case of the following:

$$TL = 0.6*DL + 0.6*WLu$$

- 4. Loads utilized for the table are as follows: DL = 26 psf or less, LL = 100 psf, $SL+WL_g = 20 \text{ psf}$, where absolute uplift wind load (WLu) is not greater than WLg.
- Deflection limits for stringer and beams are determined as

Stringer - Live load deflection is limited to L/360, total deflection is limited to L/240, where L is the span length. Beams - Live load deflection is limited to L/360, total

- deflection is limited to L/240, where L is the span length.

 6. Stringer and beam capacities are shall be independently verified to meet Allowable Design Values described on page 2.
- If a beam is provided as an intermediate stringer support (Mid-Beam) then its span selected above, or modified by note 8, should be multiplied by 0.60 for a dropped beam and 0.70 for
- Required wind pressure shall be verified by others.

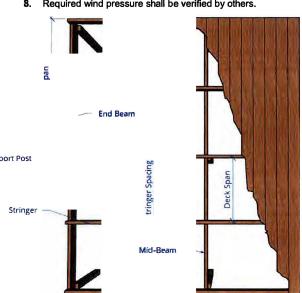




TABLE 5: BEAM & STRINGER SPANS WITH ≤ 3.5" DECK THICKNESS

	STRING	STRIN GER @ 1.5" X 5.5"	"X 5.5"			STRING	STRINGER @ Z. 5"X 5.5.	"X 5.5"			STRING	STRINGER @ 3.5" X 5.5	X 5.5.			STRING	STRINGER @ 5.5" X 5.5"	X 5.5
3.0.	4.0.	2.0.,	.0-,9	.99	4.0.	20.	.09	70.	.0-,9	2.0.	.09	.02	80.	.06	.09	70"	80.	.06
16	.99	5.40.	5.4"	5:-1"	.99	5-9"	5-3"	411	4.7	2-6	5-3	4-10	4-7	4-3	2-5	4-10"	4-6"	4-3"
.0-,6	8-2"	16"	.0 ¹ 9	9	8-2"	76"	6. 10"	6.4"	5'-1 1"	7-5"	6-,9	6'-3"	5'-11"	2-8	.6-9.	.6-3"	5.40"	2,-6"
10,-1	9-2"	.9- .8	8'-0"	7:-10"	9'-2"	.98	80.	7-6"	1.0.	8-6	8'-0"	75"	6'-11"	9	7-11"	7.4"	6-11"	.99
1,1-9"	10'-8"	9-11"	9.4"	9'-1"	10,-8"	9-11"	9.4"	8'-10"	8,-6	9.11	9'-4"	8-10"	8-6"	8-2"	9-4"	8. 40"	.9-,8	8.1
9-11"	8-7"	7-8"	7:-0"	.69	8-6	7-8"	10"	.59	*0-,9	7-7	6-11	6'-5"	.09	2-8"	.0 ¹ -9	6'-4"	5-11"	2:-1"
17-11"	10'- 10"	9'-11"	.0-,6	8-8	1010"	9'-10"	.06	8'-4"	7-10"	9-9"	8'-11	8'-3"	79"	7-4"	8. 10.	8-2"	7-8"	7-3
13.4"	12-1"	11.3.	107"	103"	12'-+"	12'-1" 11-3"	10'-7"	910	9-3"	1 -3	"7-'0t	9'-9"	9'-2"	88	105"	9-8	9-1	8-7"
15'-6"	14-1	13'-1"	42.4"	12'-0"	14,-1:	13,-1"	12'-4"	11'-8"	11-2"	13-11	12.4"	11-8"	11'-2"	10'-9"	12.4"	1,1-8"	11'-2"	108"
12:-7"	10-11"	9'-10"	8'-11"	8'-7"	10'-11"	99"	8'-11"	8'-3"	7:-9"	9-8	8'-10"	8-2"	7'-8"	7:-3"	.6-,8 8	8'-1"	77"	7:-2"
15-3"	13'- ₁ 0"	12'-7"	11.6"	11-1"	13 10"	12-7"	11-6"	107"	911"	12'-6"	11-5"	10-7 a	9-11"	9'-4"	1,1-3"	10'-5"	9-9	9-3
17:-0.	15'-6"	144"	-3e.	13,-1	15'-6"	14.4"	13'-6"	12:-7"	119"	144"	13'-6"	156"	118"	110	13'-4"	12.4"	11'-7"	10'-11"
.0t - 6t	18:-0"	16'-8"	₁ 5'-8 ₊	15'-3'.	-18 ¹	16'-8"	-128 ₋₁	14'-11"	43"	16-8"	15'-8"	14'-11"	14'-3"	,3'-9"	15'-8"	14'-11"	14'-3'	13'-8"
15'4"	13-4"	11'-11"	10'-11"	.g0 ¹	43'-3"	11-10"	.0 ¹⁻ .0 ¹	,0-,0 ¹	95.	1,9"	.6-,0 ^t	10-0"	94"	8'-10"	10'-8"	9. 40"	9'-3"	188
18'-6"	16'- 40"	15'-4"	14'-0"	13'-6"	16'-10"	123"	13'-11"	12-11"	12.1"	15'-2"	+3'- 40"	42'- 10"	₊ 2'-0"	11-4"	13°-9"	₁ 2'-9"	11-11	11-3"
209"	18'- 10"	176"	16'-5"	15.11	18'-10"	176"	16'-5"	15'-3"	4'-3"	17'-6"	16.4"	15-2"		13'-5'	16'-2"	₁ 5'-0"	14'-1"	13'-3"
24' 4"	24' 4" 21-11" 20'-4"	20-4"	6		.8-7" 21 20'-4"	20'-4"		.9' 8'-2" 14" 20'-4"	1-4"	204"	-6-	.8-2"	.74"	.6-8	19'	18'-2"	"P7.	16' 14'

GENERAL NOTES:

- Stringer Spacing for the table is at 24" on center (o.c.). To use larger stringer spacing, both the stringer and beam must be adjusted as follows:
 - a. New Stringer Length (in.) = Min of:

i.
$$\sqrt[3]{\frac{\cos^3 * t_1}{t_2}} \cdot or \sqrt[2]{\frac{L_{os}^2 * t_1}{t_2}}$$

b. New Beam Length (in):

i.
$$L_{ob} + \frac{(t_2 - t_1)}{12} * 6$$

- c. Where
 - Los = Original Stringer Length (in.)
 - Lob = Original Beam Length (in.)
 - t₁ = Original Spacing (12 in.)
 - t₂ = New Spacing (in.)
- All loads and load combinations are determined using ASCE 7.
 DL = Dead Load, LL = Live Load, SL = Snow Load, WL_g = Wind Load, & WL_u = Uplift Wind Load.
- Maximum total load (TL) determined from the governing case of the following:

$$TL = 0.6*DL + 0.6*WL_u$$

- Loads utilized for the table are as follows: DL = 33 psf or less, LL = 100 psf, SL+WL_g = 20 psf, where absolute uplift wind load (WL_u) is not greater than WL_g.
- Deflection limits for stringer and beams are determined as follows:

- Stringer and beam capacities are shall be independently verified to meet Allowable Design Values described on page 2.
- If a beam is provided as an intermediate stringer support (Mid-Beam) then its span selected above, or modified by note 8, should be multiplied by 0.60 for a dropped beam and 0.70 for a flush beam.
- 8. Required wind pressure shall be verified by others.

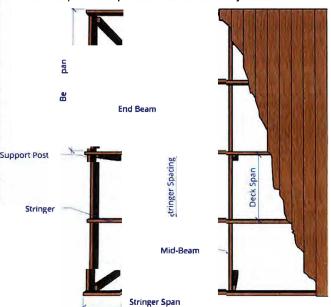




TABLE 6: BEAM & STRINGER SPANS WITH ≤ 3.5" DECK THICKNESS

	BEAM CDAN /CINCLE	ZIVIO	REAM	RETWE	RETWEEN POSTS	(S)					*	ALL SI	ZES AF	RE ACT	*ALL SIZES ARE ACTUAL NOT NOMINAI	OT NC	MINC	Ļ	,		ļ
]													1	LL 100 PSF	ı,
3.5" Dec	3.5" Deck strs strs		STRING	STRINGER @ 1.5" X 7.25"	.X 7.25"			STRINGE	STRINGER @ 2.5" X 7.25"	X 7.25"			STRINGE	STRINGER @ 3.5" X 7.25	X 7.25"			STRINGE	STRINGER @ 5.5" X 7.25"	X 7.25"	
Thicknes	Thickness STR SPANS	4.0	2.0.5	.09	8,0,	. 0-,6	4.0.	.09	 80.	.O6	10-6"	2.0.	.09	8.0	10-01	12:-0,	.0.9	8G	10.0.	120_	140"
-	1.5" X 5.5"	. 9-,9	5'-10"	5-4"	4'-7"	4'-4"	6'-5"	5-3	4'-7"	4 .4	4-0	5-9"	5.3"	4-6"	4:-1	3. 9.	5-2"	4'-6"	4.0.	3,-8	3'-4"
	2.5" X 5.5"	8-2"	7-6	6-10	5-11"	2-2	8'-2"	6'-10"	5'-11"	2-7	5-2"	75"	.6- <u>.</u> 9	5:-10"	5-3	4;-9 ₋	.e9	5-9	5-2	4-8"	4.4
	3.5" X 5.5"	9-2	 8-9	8O	70"	!! -!9	9-2"	8 -0	<u>"0-"</u>	·. <i>L</i> 9	6-1	 86.	8-O <u>.</u>	6-11	6-2	5-8	7:-10"	6:-10"	6-1	2-7	5'-2"
	5.5" X 5.5"	10'-8"	9'-11"	9-4"	86	8-2	10'-8"	9'-4"	.98	8'-2"	7-7	9-11"	9'-4"	8'-6"	7:-9"	7:-1"	9'-4"	 8	7:-8"	.0 <u>.'</u>	.99
	1.5" X 7.25"	8'-7"	7-8	7-0	6'-1"	5-9"	8-6"	6-11	.0-,9	5'-8"	5-3	7-7	6'-11"	0-,9	5-4"	4'-10"	6'-10"	5-11	5-3	4:-10"	45"
" ∑	2.5" X 7.25"	10'-10"	9'-10"	9,-0	7-10"	7-4"	10'-10"	8-11"	7:-9"	7.4"	6-9	9-9	8'-11"	7-8"	6'-11"	6.4"	8-9	7-7	6'-10"	6-2"	5'-9"
•	3.5" X 7.25"	12'-1"	11'-3"	10-7	9'-3"	.6 - 8	12'-1"	10'-7"	9-2"	 8-	8'-0"	11:3"	10'-6"	9-1	8-2"	7-5"	10-4"	9'-0"	8-1	7.4	6-10"
	5.5" X 7.25"	14'-1"	13'-1"	12'-4"	112"	10'-9"	14'-1"	12'-4"	11'-2"	10'-9"	10-0"	13'-1"	12:-4"	11'-2"	10:-2"	9'-4"	12-4"	11'-2"	10-1"	9-2	8'-6"
•	1.5" X 9.25"	10-11	.6- ₆	8-11	.62	7-3	10'-10"	8'-10"	7-8	7-3"	6-8	9-8	8'-10"	7:-7	6'-10"	6-3	9-	76	.6-9	9	5'-8"
n	2.5" X 9.25"	13'-10"	12-7"	11'-6"	10-0	9'-5"	13'-10"	11:-5"	9-11"	9-4"	8-8 8-8	12'-5"	11.4"	9'-10"	8'-10"	80.	11:-2"	9- 8-	- -8 -8	7-11"	7.4"
_	3.5" X 9.25"	15'-6"	14'-4"	13'-6"	11'-9"	11-1"	15'-6"	13'-6"	118"	110.	10'-3"	14'-4"	13'-5"	11:-7"	10:-5"	.9-6	13'-2"	11:-6"	10-3"	94"	8-9 .
N	5.5" X 9.25"	18:-0	16'-8"	15'-8"	14"-3"	13-9	18'-0"	15'-8"	14'-3"	13'-9"	12'-9"	16-8	15'-8"	14'-3"	13'-0"	11-11	15'-8"	14'-3"	12'-10	119"	10'-10"
Ш	1.5" X 11.25"	13'-3"	11-11	10'-10"	9-5	8-10"	13:-2"	10'-9"	94"	8'-10"	8:-2	11'-9"	10-8"	9'-3	8'-4"	7-7	10-7"	9-2	8-2"	.92	6-11"
	2.5" X 11,25"	16'-10"	15-3"	14'-0"	12'-1"	11'-5"	16'-10"	13'-10"	12:-0"	11.4"	10'-6"	15-1"	13'-9"	11:-11"	10'-8"	.6 - ,6	13:-7"	11:-9:	10:-7:	 86	8-11"
	3.5" X 11,25"	18:-10"	17'-6"	16'-5"	14.4"	13'-6"	18'-10"	16-4"	14'-3"	135"	12:-5"	17'-6"	16'-3"	14:-1"	12-8"	11:-7"	16'-0"	13'-11"	12-6"	11'-5"	10-7"
	5.5" X 11.25"	21:-11"	20'-4"	19'-1"	17.4"	16-8"	21:-11	19'-1"	17'-4"	16-8"	150.	20'-4"	19'-1"	17-4"	15'-9"	13-2"	19'-1"	17.4"	15-7	13'-1"	11:3"

GENERAL NOTES:

- 1. Stringer Spacing for the table is at 24" on center (o.c.) To use larger stringer spacing, both the stringer and beam must be adjusted as follows:
 - a. New Stringer Length (in.) = Min of:

j.
$$\sqrt[3]{\frac{L_{os}^3*t_1}{t_2}}$$
 or $\sqrt[2]{\frac{L_{os}^2*t_1}{t_2}}$
New Beam Length (in):

j.
$$L_{ob} + \frac{(t_2 - t_1)}{12} * 6$$

- Where
 - Los = Original Stringer Length (in.)
 - Lob = Original Beam Length (in.)
 - t₁ = Original Spacing (12 in.)
 - t₂ = New Spacing (in.)
- All loads and load combinations are determined using ASCE 7. DL = Dead Load, LL = Live Load, SL = Snow Load, WLg = Wind Load, & WLu = Uplift Wind Load.
- 3. Maximum total load (TL) determined from the governing case of the following:

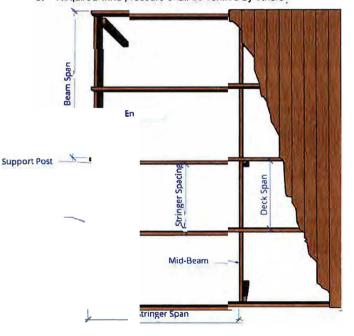
$$TL = DL + SL$$

$$TL = DL + 0.75*LL + 0.75*SL$$

$$TL = 0.6*DL + 0.6*WL_u$$

- Loads utilized for the table are as follows: DL = 35 psf or less, LL = 100 psf, SL+WL_g = 20 psf, where absolute uplift wind load (WLu) is not greater than WLg.
- Deflection limits for stringer and beams are determined as

- Stringer and beam capacities are shall be independently verified to meet Allowable Design Values described on page 2.
- If a beam is provided as an intermediate stringer support (Mid-Beam) then its span selected above, or modified by note 8, should be multiplied by 0.60 for a dropped beam and 0.70 for a flush beam.
- Required wind pressure shall be verified by others





		BEAM		(STNGL	SPAN (SINGI E BFAM BETWEEN POSTS)	BETWE	EN POS	(513	8		*ALI	*ALL SIZES ARE A	AREA	- 1	LNOT	UAL NOT NOM NAL	MAL		7	100 PSF	SF
3.5" Deck	STR SIZES		STRING	STRINGER @ 1.5" X 9.25"	. X 9.25"			STRINGE	STRINGER @ 2.5" X 9.25"	X 9.25"			STRING	STRINGER @ 3.5" X 9.25"	X 9.25"			STRINGER	R @ 5.5"	@ 5.5" X 9.25"	
Phickness	S STR. SPANS	40	09	80"	10.01	116"	.09	80.	10.01	120	136"	.08	100	12:-0	140	15'-6"	1001	12.0	14.0.	160	180.
.1.	1.5" X 5.5"	.99	5'-3"	47"	4-1"	3'-10"	5-3"	4-6"	4-1"	3-8"	3'-6"	4'-6"	4'-0"	3'-8"	3'-5"	3'-3"	3'-11"	3-7	3.4"	3-1"	2'-11"
2.	2.5" X 5.5"	8'-2"	6'-10"	5'-11"	5-3"	4'-11"	69	5'-10"	5-3"	49"	4-6"	5'-10"	5'-2"	4'-9"	4'-5"	4'-2"	5-1"	18-18	4'4"	40"	3-10"
	3.5" X 5.5"	9'-2"	8'-0"	1.02	6'-3"	5'-10"	80"	6-11"	6-2"	5-8"	5.4"	6'-10"	6'-2"	2-5	5'-2"	4'-11"	.09	5-6"	5-1	49"	4'-6"
	5.5" X 5.5"	10'-8"	9-4"	8'-6"	7:-10"	7-4"	9'-4"	86"	79"	7-1"	.89	8'-6"	7:-8"	10	.9-,9	6'-2"	7-7"	·	6-5	.09	5-8
	1.5" X 7.25"	86"	10	.09	22	2,-0	6'-11"	.09	5.4"	411"	47"	5-11"	5'-4"	4'-10"	46"	43"	5'-3"	49.	4-5	4'-1"	3'-11"
Z. 2.	2.5" X 7.25"	10'-10"	.0-,6	7:-10"	10	9-,9	8'-11"	79"	6-11"	6.4"	5-11"	7:-8"	6-10"	6'-3"	5'-9"	2-6"	.6-,9	6'-2"	58"	5-4"	20.
ei	3.5" X 7.25"	12'-1"	10,-7"	9'-3"	8'-3"	7-8"	10,-6"	9-2"	8'-2"	7.6"	70"	9'-1"	8'-1"	7'-5"	6'-10"	.9-,9	8'-0"	7-3"	6-9	6'-4"	5-11"
'n	5.5" X 7.25"	14'-1"	12'-4"	11'-2"	10'-4"	.86	12'-4"	112"	10'-3"	9.4"	8-10"	11'-2"	10'-2"	9'-3"		8'-2"	1001	-6	8'-5"	7-11"	75"
	1.5" X 9.25"	10-11"	8'-11"	7:-9"	6'-11"	6'-5"	8'-10"	7:-8"	6'-10"	6-3"	5-11"	7-7"	.69	6'-2"	29"	2-2"	.89	<u>.</u>	5-7"	5-3	4'-11"
2	2.5" X 9.25"	13'-10"	116"	9'-11"	8'-11"	8'4"	11-4"	9'-10"	8'-10"	8'-1"	7-7"	99"	8'-9"	8'-0"	7-5"	10.	8'-7"	7 0"	7-3"	6-10"	65"
e,	3.5" X 9.25"	15'-6"	13'-6"	11'-9"	10,-6"	9'-10"	13'-5"	118"	10'-5"	.9-,6	90.	11'-6"	104"	9'-5"	8'-9"	8'-4"	10'-2"	9-3	8'-7"	8-0"	7-7
2 5.	5.5" X 9.25"	18'-0"	15'-8"	14'-3"	13'-2"	12'-3"	15'-8"	14'-3"	13'-0"	11-11"	11'-3"	14'-3"	12'-11"	11'-10"	10'-11"	10'-2"	12'-8"	11'-7"	.60	9.0	8-9
<u>.</u>	1.5" X 11.25"	13'-3"	10'-10"	9'-5"	8'-5"	7'-10"	109"	9-4"	8'-4"	7-7"	7-2"	93"	8'-3"	.9-,2	7:-0"	9	8'-1"	7.5"	6'-10"	6-5	.0-,9
	2.5" X 11.25"	16-10"	13'-11"	12'-1"	10,-10"	10,-1"	13-10"	12:-0	10,-9,	9'-10"	93"	11:-10"	10'-8"	.6-6	90"	12-8	10,-2,,	9-7	8'-10"	8'-3"	7'-10"
31.5	3.5" X 11.25"	1810"	16'-5"	14'-3"	12'-9"	11'-11"	16'-3"	14'-2"	128"	117"	10-11"	14'-0"	12:-7"	11'-6"	10'-8"	10-1"	12'-4"	1-3	10'-5"	9'-9"	8'-10"
ιń	5.5" X 11.25"	21-11"	19-1"	17-4"	15'-9"	13'-9"	19-1"	174"	15'-8"	13-1"	11'-8"	17-4"	15'-6"	130"	11'-3"	102"	15.2"	2-11"	1.5	9'-10"	8.0

TABLE 7: BEAM & STRINGER SPANS

GENERAL NOTES:

- 1. Stringer Spacing for the table is at 24" on center (o.c.). To use larger stringer spacing, both the stringer and beam must be adjusted as follows:
 - a. New Stringer Length (in.) = Min of:

i.
$$\frac{1}{t_0s^3 * t_1} or^2$$
 b. New Beam Length (in):

i.
$$L_{ob} + \frac{(t_2 - t_1)}{12} * 6$$

- c. Where
 - Los = Original Stringer Length (in.)
 - Lob = Original Beam Length (in.)
 - t₁ = Original Spacing (12 in.)
 - t2 = New Spacing (in.)
- 2. All loads and load combinations are determined using ASCE 7. DL = Dead Load, LL = Live Load, SL = Snow Load, WLg = Wind Load, & WLu = Uplift Wind Load.
- Maximum total load (TL) determined from the governing case of the following:

$$TL = DL + LL$$

$$TL = 0.6*DL + 0.6*WL_u$$

- Loads utilized for the table are as follows: DL = 36 psf or less, LL = 100 psf, $SL+WL_g = 20 \text{ psf}$, where absolute uplift wind load (WLu) is not greater than WLg.
- Deflection limits for stringer and beams are determined as follows:

- Stringer and beam capacities are shall be independently verified to meet Allowable Design Values described on page 2.
- If a beam is provided as an intermediate stringer support (Mid-Beam) then its span selected above, or modified by note 8, should be multiplied by 0.60 for a dropped beam and 0.70 for
- Required wind pressure shall be verified by others.

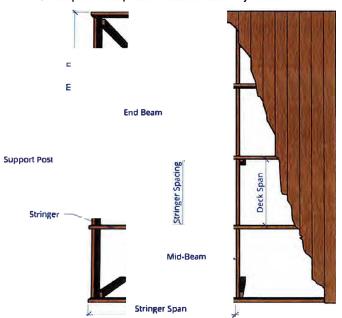




TABLE 8: BEAM & STRINGER SPANS WITH ≤ 3.5" DECK THICKNESS

		BEAM	SPAN (SINGLE	EAM SPAN (SINGLE BEAM BETWEEN POSTS)	BETWE	EN POS	ŢS)			[125		<u> </u>	2	ארב פולבים שוני שכן סשר ואסן ואסואוואשי	וו	7	11	11 100 PSF	F.S.
" Deck	3.5" Deck str sizes		STRINGE	STRINGER @ 1.5" X 11.25"	X 11.25"			STRINGE	STRINGER @ 2.5" X 11.25"	X 11.25"			STRINGE	STRINISER @ 3.5" X 11.25"	X 11.25"			STRINGE	STRINGER @ 5.5" X 11.25"	X 11.25"	
Thickness	STR. SPANS	.09	.08	10.01	120	140	8.0.	10.01	120	14.0.	.9-,91	10.01	150	14:-0	.091	18.6"	120	14:-0	16.0.	180	500.
<u> </u>		5-3"	4'-7"	4:-1"	3,-9	3-5"	46"	40.	3-8"	3'-5"	3-2"	4:-0	3′-8"	3'-4"	3-2"	2-11"	37"	3'4"	3-1-	2'-11"	2'-9"
2	2.5" X 5.5"	6'-10"	5-11"	5-3"	4'-10"	4'-5"	5-10"	5-3"	49"	4'-5"	4:-1"	5-2"	48"	4.4"	41	39	4:-7"	4'-3"	40.	39"	3'-7"
	3.5" X 5.5"	80.	7:-0"	6-3"	5'-8"	5-3"	6-11"	62"	2-8	5-3"	4'-10"	6-1"	2-2.	5-2"	4'-10"	4'-6"	5-5	5-1"	49"	45"	4'-3"
	5.5" X 5.5"	9-4"	8-6"	7:-10"	7:-2"	9	8'-6"	7-9"	7-1"	.9-,9	.09	7:-8"	10.	.99	#19	5'-7"	6'-10"	6.4	5-11"	2-5	5.4"
•	1.5"	6-11"	.0-,9	5-5	4:-11"	47	5-11"	5-4"	410"	46"	42	5'-3"	4'-10"	4'-5"	42"	3'-10"	4-8"	4'4"	4'-1"	3'-10"	3'-8"
2	į,	.0-,6	7:-9"	6'-11"	6.4"	5'-10"	7-8"	6-11"	6-3"	5'-10"	5.4"	6'-10"	6-3"	5-9"	5-5	20.	-1-9	5-8	5-3"	2,-0,,	4'-8"
		107"	92"	8-3"	16"	6'-11"	9'-1"	8'-2"	75"	6'-11"	.p9	8'-1"	7.4"	6-10"	6.4"	5-11"	7:-2"	.8-9	6-3"	5-11"	5'-7"
		12'4"	11'-2"	10'-3"	95"	88	11'-2"	10'-2"	9.4"	8'-7"	7-11"	10-1"	9-2"	.9- _{.8}	8'-0"	7:-5"	.0-,6	8.4"	7:-10"	7-4"	10.
		8'-10"	7:-8"	6-11"	6'-3"	5'-10"	7:-7"	6'-10"	62"	5'-9"	5-3"	.6-,9	.Z9	5'-8"	5.4"	4-11"	09	5-7"	5-2"	4-11"	4'-8"
7	.5" X 9.25"	115"	9'-11"	8'-10"	8'-1"	16"	9-10"	.68	80.	75"	6'-10"	8-8	7.	7.4"	6'-10"	6-5"	79"	7-2"	.69	6-4"	.09
က်	.5" X 9.25"	13'-6"	11'-9"	10,-6"	9'-7"	8'-10"	11:-7"	10'-4"	.96	8-9"	8-1-	10'-3"	g. 52	88	8'-1"	7-7"	9-2"	.9-,8	80.	1.9-,2	7:-1"
7	.5" X 9.25"	15'-8"	14'-3"	13'-1"	12'-0"	11'-1"	14'-3"	13'-0"	11-10"	110.	97"	12'-10"	11,-9"	10'-10"	9'-10"	8'-6"	11'-6"	10'-8"	9'-10"	89"	7-11"
-	.5" X 11.25"	109"	9.4"	8-4"	7'-8"	7:-1"	9'-3"	8'-3"	7-7"	10	6-5"	8'-2"	26"	6'-11"	9-,9	09	7-4"	.6-9	6'4"	.09	5-8
7	.5" X 11.25"	13-11"	12'-1"	10'-9"	9'-10"	9-2"	11-11"	108"	.6-,6	.0-,6	8'-4"	10,-7"	9,	8-11"	8'-4"	7:-9"	9-5"	8'-9"	8'-2"	79"	7-4"
		16'-5"	14'-3"	12'-9"	11'-8"	10,-9"	141"	12-7"	116"	108"	9-7"	126"	11"-5"	10'-7"	9'-10"	12-,8	11'-2"	10.4"	98	8-9"	7-11
		19-1"	17.4"	15'-8"	13'-1"	11'-3"	17.4"	15-7"	13'-0"	11'-2"	.96	15-5"	12-11	11:-2"	9'-10"	.9-,8	12'-10"	11:4"	.6-,6	88	7-10"

GENERAL NOTES:

- 1. Stringer Spacing for the table is at 24" on center (o.c.). To use larger stringer spacing, both the stringer and beam must be adjusted as follows:
 - a. New Stringer Length (in.) = Min of;

i.
$$\frac{3}{t_{os}} \frac{L_{os}^3 * t_1}{t_2} or^2$$

b. New Beam Length (in):
i. $L_{ob} + \frac{(t_2 - t_1)}{12} * 6$

i.
$$L_{ob} + \frac{(t_2 - t_1)}{12} * 6$$

- c. Where
 - Los = Original Stringer Length (in.)
 - Lob = Original Beam Length (in.)
 - t₁ = Original Spacing (12 in.)
 - t₂ = New Spacing (in.)
- 2. All loads and load combinations are determined using ASCE 7. DL = Dead Load, LL = Live Load, SL = Snow Load, WLg = Wind Load, & WLu = Uplift Wind Load.
- 3. Maximum total load (TL) determined from the governing case of the following:

TL = DL + LL

TL = DL + SL

TL = DL + 0.75*LL+0.75*SL

 $TL = 0.6*DL + 0.6*WL_u$

- 4. Loads utilized for the table are as follows: DL = 38 psf or less, LL = 100 psf, SL+WL_g = 20 psf, where absolute uplift wind load (WLu) is not greater than WLg.
- Deflection limits for stringer and beams are determined as

- 6. Stringer and beam capacities are shall be independently verified to meet Allowable Design Values described on page 2.
- If a beam is provided as an intermediate stringer support (Mid-Beam) then its span selected above, or modified by note 8, should be multiplied by 0.60 for a dropped beam and 0.70 for a flush beam.
- Required wind pressure shall be verified by others.

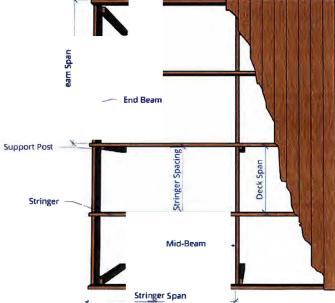




TABLE 9: BEAM & STRINGER SPANS

		V	,,,,,	11.2	1.	,	UL	CK	10	ICI	VI VI						
SF	.0-,9	2:-7"	3.4	3'-11"	4-11	3-5	4-5	5-3"	6-5	4.4	5-8	6'-5"	6-5	5.4"	6-5	6-5	6-4"
LL 500 PSF STRINGER @ 5.5" X 5.5"	56"	2-8"		4:-1-	5-5"	3:-7"	4-7	5-5	6'-10"	4'-7"	5-11	6-11	6-11	5'-6"	7:-0:	7.0	6'-11"
LL ER@ 5.5	20.	2'-10"	3 9	4.4	5-5	3-9	4'-10"	5-9	7:-2"	49"	6-2	7-4	7-7	5-10"	7-6"	7-8	7-7
STRING	.9-4	3-0.	3'-10"	4:-7"	5-9	3'-11"	5-1	. 09	7-7	5-0"	.99	7-8"	8'-5	6-1"	7-11"	8-5	% 4

5.0" 4.0" 4 2.-10" 3.-2" 3 3.-8" 4.1" 3 4.4" 4.10" 4 5.5" 6.-1" 5 3.-9" 6.-1" 5 7.-2" 8.0" 7 7.-2" 8.0" 7 7.-4" 8.-2" 7 7.-4" 8.-2" 7 7.-8" 9.-4" 8 5.-10" 6.-6" 6 7.-6" 8.-5" 7 7.-8" 9.-4" 8 7.-8" 9.-4" 8 7.-8" 9.-4" 8 7.-9" 9.-5" 8

NGER @ 35° X 5.5° 4.6° 3'-0° 4'-0° 4'-1° 4'-1° 4'-1° 4'-1° 4'-1° 5'-9° 5'-1° 5'-9° 5'-1° 6

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GENERAL NOTES:

- Stringer Spacing for the table is at 24" on center (o.c.). To use larger stringer spacing, both the stringer and beam must be adjusted as follows:
 - a. New Stringer Length (in.) = Min of:

i.
$$\frac{L_{os}^3 * t_1}{t_2}$$
 or $\sqrt[2]{\frac{L_{os}^2 * t_1}{t_2}}$

b. New Beam Length (in):

$$L_{ob} + \frac{(t_2 - t_1)}{12} * 6$$

c. Where

- Los = Original Stringer Length (in.)
- Lob = Original Beam Length (in.)
- t₁ = Original Spacing (12 in.)
- t₂ = New Spacing (in.)
- All loads and load combinations are determined using ASCE 7.
 DL = Dead Load, LL = Live Load, SL = Snow Load, WLg = Wind Load, & WLu = Uplift Wind Load.
- Maximum total load (TL) determined from the governing case of the following:

TL = DL + LL

TL = DL + SL

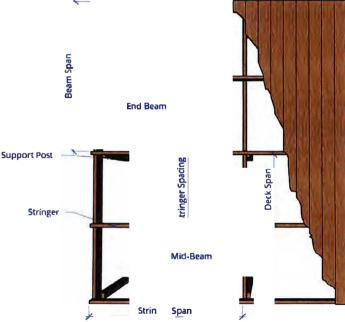
TL = DL + 0.75*LL+0.75*SL

 $TL = 0.6*DL + 0.6*WL_u$

- Loads utilized for the table are as follows: DL = 41 psf or less, LL = 500 psf, SL+WL_g = 20 psf, where absolute uplift wind load (WL_u) is not greater than WL_g.
- Deflection limits for stringer and beams are determined as follows.

Stringer – Live load deflection is limited to L/360, total deflection is limited to L/240, where L is the span length. Beams – Live load deflection is limited to L/360, total deflection is limited to L/240, where L is the span length.

- Stringer and beam capacities are shall be independently verified to meet Allowable Design Values described on page 2.
- 7. If a beam is provided as an intermediate stringer support (Mid-Beam) then its span selected above, or modified by note 8, should be multiplied by 0.60 for a dropped beam and 0.70 for a flush beam.





N QQI - REAM SPAN (SINGIE BEAM BETWEEN POSTS)

STR SIZES

*ALL SIZES ARE ACTUAL NOT NOMINAL

TABLE 10: BEAM & STRINGER SPANS WITH ≤ 1.5" DECK THICKNESS

*ALL SIZES ARE A UAL NOT NOMINAL

Thickness STRRINGER @ 1.5 x 7.25 Strain STRRINGER @ 2.5 x 7.25 Strain STRRINGER @ 2.5 x 7.25 Strain Stra			BEAM	SPAN	SINGL	BEAM	BETWE	BEAM SPAN (SINGLE BEAM BETWEEN POSTS)	(SIS)			4	*ALL SIZES ARE A	SARE		AL NC	S N N	UAL NOT NOMINAL	_	1 PC	5
TATES 5-0. 3-0. 3-0. 4-0. <t< th=""><th>1.5"</th><th>3807</th><th></th><th>STRING</th><th>ER @ 1.5</th><th>" X 7.25"</th><th></th><th></th><th>STRING</th><th>ER @ 2.5</th><th>X 7.25"</th><th></th><th></th><th>STRINGE</th><th>R @ 3.5"</th><th>X 7.25"</th><th></th><th></th><th>STRINGE</th><th>R @ 5.5</th><th>×</th></t<>	1.5"	3807		STRING	ER @ 1.5	" X 7.25"			STRING	ER @ 2.5	X 7.25"			STRINGE	R @ 3.5"	X 7.25"			STRINGE	R @ 5.5	×
4.5. 5.5. 4.0. 3.6. 4.0. 3.6. 4.0. 3.6. 3.0. 2.10 2.9. 3.2. 3.0. 2.10 2.9. 3.2. 3.0. 2.10 2.9. 3.2. 3.0. 2.10 2.9. 3.2. 3.0. 2.10 3.6. 4.1 3.1 4.1 4.1 4.1 4.1 4.1 4.1 4.1 <	Thick		26"	3,-0	36	4.0.	46"	36.	4.0.	4.6"	260	26"	40"	4.6"	2.09	.09	.99	4.0.	20	09	7
25 x 5.5 T 6.2 T 4.4 T 3-10 T 4.4 T 3-10 T		1.5" X 5.5"	4,-0"	3'-8"	3,-2,,	3'-2"	3,-0,,	3'-5"	3-2"	3,-0.	2'-10"	2'-8"	3'-2"	30.	2'-10"	2-7"	2'-6"	3'-2"	2'-10"	2'-7"	2
3.5° X 5.5° 6-2° 6-2° 6-2° 6-2° 6-2° 6-1° 6-1° 6-2° 6-1° 6-2° 6-1° 6-2° 6-1° 6-2° 6-1° 6-2° 6-1° 6-2° 6-1°	٥	2.5" X 5.5"	5'-2"	4'-9"	4'-5"	4'-1"	3'-10"	4'-5"	4:-1"	3'-10"	3'-8"	3-6"	41"	3-10"	3-8"	3'4"	3'-2"	4'-1"	3'-8"	3'-4"	e
4.5. % 5.7 7.3 6.1 6.9 6.1 6.9 6.1 6.9 6.1 6.1 6.9 6.1 6.9 6.1 6.9 6.1 6.1 6.9 6.1 6.1 6.9 6.1 6.1 6.1 6.1 6.1 6.1 6.1 6.1 6.1 6.1 6.1 6.1 6.1 6.1 6.2 6.1 4.2 3.1 3.9 6.1 4.2 6.1 4.2 3.1 3.9 6.1 4.1 4.1 4.2 6.1 4.2 6.1 4.2 6.1 4.2 6.1 4.2 6.1 4.1 4.1 4.2 6.1 4.2 6.1 4.2 6.1 4.2 6.1 4.1 4.1 4.2 6.1 4.2 6.1 4.1 4.1 4.1 4.2 6.2 6.2 6.2 6.2 6.2 6.2 6.2 6.2 6.2 6.2 6.2 6.2 6.2 6.2 6.2 6.2 6.2	0	3.5" X 5.5"	6'-2"	5'-7"	5'-2"	4'-10"	4'-7"	5'-2"	4'-10"	47"	4'-4"	4'-2"	4'-10"	4'-7"	4'-4"	3-11"	3'-10"	4'-10"	4'-4"	3'-11"	8
1.5 x 7.25 5-4" 4-10" 4-2" 3-11" 3-2" 3-7" 4-2" 3-11" 3-2" 3-11" 3-2" 3-11" 3-2" 3-11" 3-2" 3-11" 3-2" 3-11" 3-2" 3-11" 3-2" 3-11" 3-2" 3-11" 3-2" 3-11" 3-2" 3-1" 3-2" 3-1" 3-2" 3-1" 3-2	ш	5.5" X 5.5"	7:-3"	6'-10"		.19	29"	.99	6-1"	5-9"	5'-5"	5-2"	6-1"	29"	5-5"	20	49"	6'-1"	2-5"	4'-11"	in the
2.5° x 7.28* 6·10* 6·2* 6·10* 4·10*	4	1.5" X 7.25"	5'-4"	4'-10"		4'-2"	3'-11"	4'-6"	4'-2"	3'-11"	3,-9	3:-7"	42"	3-11"	3-9"	3'-5"	3'-3"	4-2"	39"	3,-5"	<u>۳</u>
3.5° X 7.25° 8.1° 7.5° 6.1° 6.2° 6.1° 6.1° 6.2° 6.1° 6.2° 6.1° 7.2° 6.1°	Σ	2.5" X 7.25"	6'-10"	6-3"	5'-10"		5'-1"	29"	5-5	5-1"	4'-10"	4'-7"	2-5	5-1	4'-10"	45"	4'-3"	5-2	4'-10"	45"	
5.5° X 7.25° 9-7° 9-7° 8-7° 8-7° 7-2° 6-10° 8-0° 7-7° 7-7° 7-2° 6-10° 8-0° 7-7° 6-5° 6-10° 8-0° 7-7° 6-5° 6-10° 8-0° 7-7° 6-10° 8-0° 7-7° 6-11° 6-5° 6-11° 6-6° 6-2° 6-11° <th></th> <td>3.5" X 7.25"</td> <td>8-1"</td> <td>7:-5"</td> <td>6'-10"</td> <td></td> <td>6'-1"</td> <td>6'-10"</td> <td>6'-5"</td> <td>.09</td> <td>29"</td> <td>5'-6"</td> <td>6-5"</td> <td>.09</td> <td>5'-9"</td> <td>5-3"</td> <td>2,-0</td> <td>6'-4"</td> <td>5'-8"</td> <td>5'-2"</td> <td>4</td>		3.5" X 7.25"	8-1"	7:-5"	6'-10"		6'-1"	6'-10"	6'-5"	.09	29"	5'-6"	6-5"	.09	5'-9"	5-3"	2,-0	6'-4"	5'-8"	5'-2"	4
1.5. X 9.25 6-9° 6-9° 6-9° 6-9° 6-4° 6-1 6-9° 6-4° 6-1 6-9° 6-4° 6-9° 6-1 6-9° 6-1 6-9° 6-1 6-9° 6-9° 6-1 6-9° 6-9° 6-1 6-9° 6-9° 6-1 6-9° 6-1 6-9° 6-9° 6-1 6-9° 6-9° 6-1 6-9° 6-9° 6-1 6-9° 6-9° 6-1 6-9°<		5.5" X 7.25"	97"	9'-1"	8'-7"	8'-0"	7-7"		8'-0"	7-7	7'-2"	6'-10"	0-,8	7-7"	7-2"	6'-5"	5'-11"	8'-0"	7:-2"	6'-5"	2
2.5. x 9.25° 8-9° 8-9° 7-5° 6-11° 6-6° 6-2° 5-10° 6-61° 6-6° 6-2° 5-10° 6-67° 6-11° 6-67° 6-11° 6-67° 6-11° 6-67° 6-11° 6-67° 6-11° 6-67° 6-7° 6-11° 6-67° 6-7°	•	1.5" X 9.25"	.6-9	6'-2"	5'-9"	5.4"	5'-1"	5'-9"	5'-4"	5'-1"	49	4:-7"	5-4"	2-0	49"	4.4"	4'-2"	5'-4"	49"	4.4"	ì
3.5. x 9.25° 10-4" 9-5" 8-9" 8-2" 7-9" 7-4" 7-6" 7-8" 6-5" 7-8" 6-5" 7-1" 8-5" 7-1" 8-5" 7-1" 8-5" 7-1" 8-5" 7-1" 8-5" 7-1" 8-5" 7-1" 8-5" 7-1" 8-5" 7-1" 8-5" 7-1" 8-5" 7-1" 8-5" 7-1" 8-5" 7-1" 8-5" 7-1" 8-5" 7-1" 8-5" 7-1" 8-5"	'n	2.5" X 9.25"	16-18	8'-0"	7'-5"	6'-11"	.99	75"	6'-11"	.9-,9		ري ا	6-11"	.9-9	6-2"	5,-8	5'-5"	6-11"	6'-2"	2-7"	ŭ
5.5° x 9.26° 12.2° x 11.25° 11-7 11-7 11-7 11-0° 9-7 8-6° 7-8 7-0° 9-7 8-6° 9-7 8-6° 9-7 8-6° 8-5° 7-0° 9-7 8-6° 9-7 8-6° 8-5° 7-0° 8-6° 8-6° 8-6° 8-6° 8-6° 8-6° 8-6° 8-6° 8-6° 8-6° 8-6° 8-6° 8-6° 8-6° 8-6° 8-6° 8-7° 8-6° 8-8° 8-8°	_	3.5" X 9.25"	10'-4"	9'-5"	8'-9"	8'-2"	79"	8'-9"	8'-2"	79"	7.4"	7-0	8'-2"	18"	74	6-5"	5-11"	8'-2"	7-3"	6'-5"	
1.5° X 11.26" 8°-3" 7°-0" 6°-6" 6°-2" 5°-0" 6°-6"	7	5.5" X 9.25"	12'-3"	11:-7"		9-7		10'-11"		86"	78	7-0"	9'-7"	.98	78"	6'-5"	5'-11"	9'-7"	7'-8"	6'-5"	2
2.5° X 11.25" 10-8" 9-9" 8-6" 7-11" 9-0" 8-5" 7-11" 7-6" 8-5" 7-11" 7-6" 8-5" 7-11" 7-6" 8-5" 7-11" 7-8" 7-6" 8-5" 7-11" 7-8" 7-8" 7-9" 8-7" 7-8" 7-8" 7-8" 7-8" 7-8" 7-8" 7-8" 7-8" 7-8" 7-8" 7-8" 8-7" 7-8" 8-5" 7-11" 9-7" 7-8" 8-5" 7-8" 8-6" 8-6" 8-6" 8-6" 8-6" 8-6" 8-6" 8-6" 8-8" 8-8" 8-8" 8-8" <t< td=""><th>ш</th><td>1.5" X 11.25"</td><td>8'-3"</td><td>9-,2</td><td>7:-0"</td><td>.,9-,9</td><td>6'-2"</td><td>7:-0"</td><td>.9-,9</td><td>9</td><td>5- 0"</td><td>2-7</td><td>.9-,9</td><td>6'-2"</td><td>5'-10"</td><td>5'-4"</td><td>5'-1"</td><td>.99</td><td>5'-10"</td><td>5-3"</td><td>4</td></t<>	ш	1.5" X 11.25"	8'-3"	9-,2	7:-0"	.,9-,9	6'-2"	7:-0"	.9-,9	9	5- 0"	2-7	.9-,9	6'-2"	5'-10"	5'-4"	5'-1"	.99	5'-10"	5-3"	4
3.5° x 11.25° 12-7° 11-6° 10-8° 9-8° 8'-7° 10-11° 9-7° 8'-7° 8'-7° 8'-8° 7'-0° 9'-7° 8'-6° 8'-6° 8'-8° 6'-5° 5'-11° 9'-7° 8'-8° 6'-5° 8'-8° 6'-5° 5'-11° 9'-6° 8'-8° 6'-8° 8'-	U	2.5" X 11.25"	10'-8"	.6-,6	.0-,6	8'-5"	7-11"	.0-,6	8'-5"	7-11"	7:-6	7:-0"	8'-5"	7-11"	16"	6'-5"	5-11"	8'-4"	1.92	6'-5	2
14'-11" 12'-9" 10'-11" 9'-7" 8'-6" 10'-11" 9'-7" 8'-6" 7'-8" 7'-0" 9'-6" 8'-6" 7'-8" 6'-5" 5'-11" 9'-6" 7'-8" 6'-4")	3.5" X 11.25"	12'-7"	116"	_		8-7"	108"	12-6	8'-7"	7-8"	7:-0	97"	8-7	7-8"	6-5	5'-11"	7-6	78"	6'-5"	2
		5.5" X 11.25"	14'-11"		_		.9-,8	10'-11"		8'-6"	7:-8"	7:-0"	.9-,6	86"	7'-8"	6'-5"	5'-11"	.9-,6	7:-8"	6'-4"	2

GENERAL NOTES:

- 1. Stringer Spacing for the table is at 24" on center (o.c.). To use larger stringer spacing, both the stringer and beam must be adjusted as follows:
 - a. New Stringer Length (in.) = Min of:

i.
$$\frac{L_{os}^3 * t_1}{t_2}$$
 or $\frac{2}{\sqrt{t_{os}^2 * t_1}}$

New Beam Length (in):
i.
$$L_{ob} + \frac{(t_2 - t_1)}{12} * 6$$

- c. Where
 - Los = Original Stringer Length (in.)
 - Lob = Original Beam Length (in.)
 - t₁ = Original Spacing (12 in.)
 - t₂ = New Spacing (in.)
- All loads and load combinations are determined using ASCE 7. DL = Dead Load, LL = Live Load, SL = Snow Load, WLg = Wind Load, & WLu = Uplift Wind Load.
- 3. Maximum total load (TL) determined from the governing case of the following:

$$TL = DL + LL$$

$$TL = 0.6*DL + 0.6*WL_u$$

- Loads utilized for the table are as follows: DL = 26 psf or less, LL = 500 psf, $SL+WL_g = 20 \text{ psf}$, where absolute uplift wind load (WLu) is not greater than WLg.
- Deflection limits for stringer and beams are determined as follows:

- Stringer and beam capacities are shall be independently verified to meet Allowable Design Values described on page 2.
- If a beam is provided as an intermediate stringer support (Mid-Beam) then its span selected above, or modified by note 8, should be multiplied by 0.60 for a dropped beam and 0.70 for a flush beam.
- Required wind pressure shall be verified by others.

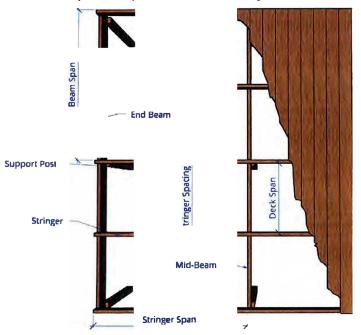




TABLE 11: BEAM & STRINGER SPANS WITH ≤ 1.5" DECK THICKNESS

	L	٧.		1.3		,	DL.	CK		ICI	Z I W E	.33			
106"	1:1	2'-6"	3-0,	3,-8	2-7	3-4"	3-8	3-8	3:-3	3-8	3-8	3-8	3-8	3-8	3-8

SF		5	÷	2.	က်	ņ	2	ည်	'n	^ب	'n	က်	<u>د</u> ,	က်	က်	က်	က်	<u>ښ</u>	
L 500 PS	X 9.25"	.0-,6	2'-1"	28	3-5"	40	2-9"	3.7	4-3"	4-3"	3-6	43"	4.3	4'-3"	4-3	4-3"	4-3	4-3	
글	ER @ 5.5"	.0-8	2-3"	2-10	3-5	4-3	2-11"	3-9	46	4'-10"	3-9	4'-10"	4'-10"	4-9	4-7	4'-10"	4:-10"	4-9	
_	STRING	6.0"	2'-7"	3'-4"	3'-11"	4'-11"	3,5	4-5	5'-2"	6.5	4'-4"	5'-7"	6-5	6-5	5'-3"	6'-5"	6-5	4	
Ž		ģ	-5	<u>+</u>	<u>.</u>	þ	-2	4	4	þ	4	10	<u>-</u> -	<u>.</u> -	<u>ٿ</u>	4	<u>.</u>	Ļ	

	.g8	2-2"	2'-9"	3.4	42	2-10"	3. 3.	4-4"	4-6	 	4.6	4'-6"	4-6	4.5	4-6	4-6	5
X 9.25"	, P	2'-5"	3-1	3-8°	4:-7"	3:-2:	4-1	4'-10"	5-6	40 <u>.</u>	5'-2"	5'-6"	5.6	4'-11"	5-6"	5-6	10

ER (0)	9	2-1	34	بار 1-	4-1	÷	4	5	9	4	Š	9,	9,	5.	9	9.6	9	
STRING	20.	2'-10"	9	4	5-5	3-9	4'-10"	5'-9"	7:-2	4.9	6-2	7-3	7-8	5'-10"	16	78"	7.8	
		Ξ.		į.							<u>.</u>							

3.5° 3.2° 4'-1° 5'-2° 4'-1° 6'-6° 6'-1° 6'-1° 6'-5° 6'-1° 6'-5° 6'-1° 6'-5° 6'-1° 6'-5° 6'-1° 6'-5° 6'-1° 6'

2.5 x 5.5 3.5 x 5.5 3.5 x 5.5 3.5 x 5.5 3.5 x 7.25 3.5

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GENERAL NOTES:

- Stringer Spacing for the table is at 24" on center (o.c.). To use larger stringer spacing, both the stringer and beam must be adjusted as follows:
 - a. New Stringer Length (in.) = Min of:

i.
$$\sqrt[3]{\frac{L_{os}^3 * t_1}{t_2}} or \sqrt[2]{\frac{L_{os}^2 * t_1}{t_2}}$$

b. New Beam Length (in):

i.
$$L_{ob} + \frac{(t_2-t_1)}{12} * 6$$

- c. Where
 - Los = Original Stringer Length (in.)
 - Lob = Original Beam Length (in.)
 - t₁ = Original Spacing (12 in.)
 - t₂ = New Spacing (in.)
- All loads and load combinations are determined using ASCE 7.
 DL = Dead Load, LL = Live Load, SL = Snow Load, WL_g = Wind Load, & WL_u = Uplift Wind Load.
- Maximum total load (TL) determined from the governing case of the following:

TL = DL + LL

TL = DL + SL

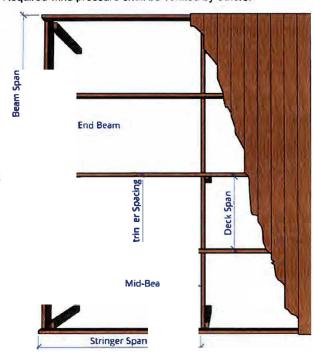
TL = DL + 0.75*LL+0.75*SL

TL = 0.6*DL + 0.6*WL

- Loads utilized for the table are as follows: DL = 29 psf or less, LL = 500 psf, SL+WL_g = 20 psf, where absolute uplift wind load (WL_u) is not greater than WL_g.
- Deflection limits for stringer and beams are determined as follows:

Stringer – Live load deflection is limited to L/360, total deflection is limited to L/240, where L is the span length. Beams – Live load deflection is limited to L/360, total deflection is limited to L/240, where L is the span length.

- Stringer and beam capacities are shall be independently verified to meet Allowable Design Values described on page 2.
- 7. If a beam is provided as an intermediate stringer support (Mid-Beam) then its span selected above, or modified by note 8, should be multiplied by 0.60 for a dropped beam and 0.70 for a flush beam.
- 8. Required wind pressure shall be verified by others.



BEAM SPAN (SING) E. BEAM BETWEEN POSTS)

*ALL SIZES ARE ACTUAL NOT NOMINAL



TABLE 12: BEAM & STRINGER SPANS WITH ≤ 1.5" DECK THICKNESS

	OOD	OODS BEAM SPAN (SINGLE BEAM BE	SPAN (STNGLE	BEAM	BE					*	LL SIZE	SARE	*ALL SIZES ARE ACTUAL NOT NOM NAL	AL NC	NON L	M NAL	7	=	11 500 005	Ц
1.5" Deck	Deck STR SIZES	_	STRINGE	RINGER @ 1.5" X 11.25"	"X 11.25"			STRING	 STRING ER @ 2.5" X 11.25"	X 11.25"			STRING	STRINGER @ 3.5" X 11.25	X 11.25			STRINGER	(0)	X 11.25"	5
Thickness		4.0.	20	09	99	02	40	.09	7.0.	8.0.	06	40	0-,9	08	.,0-,6	10'-6"	4'-0"	0-,9	80	10.01	126.
	1.5" X 5.5"	3-2"	2'-10"	2'-7"	2'-6"	2'-5"	3'-2"	2:-7	2-5"	2:-3"	2'-1"	3'-2"	2'-7"	2'-3"	2'-1"	1'-11"	3-2"	2'-7"	2:-2"	2'-0"	19"
٥	2.5" X 5.5"	4	3'-8"	3'-4"	3'-3"	3'-1"	4'-1"	3'4"	ъ	2-11	2'-9"	4'-1"	3'-4"	2'-10"	2'-8"	2'-6"	4.	3'-4"	2'-10"	2-7"	2-3"
۱ ۵	3.5" X 5.5"	4:-10	4'-4"	4'-0"	3'-10"	3'-8"	4'-10"	3: 1"	3-8	3-5"	3'-3"	4'-10"	3'-11"	3'-5"	3'-3"	3,-0,,	4'-10"	3'-11"	3'-5"	30.	2'-8"
ш	5.5" X 5.5"	ío	2,-2,	2,-0.	4'-9"	4'-7"	6-1"	4'-11"	4'-7"	4'-3"	4'-1"	6'-1"	4'-11"	4'-3"	40.	3-8	.0.9	4'-11"	4'-3"	3' 10"	. .
4	1.5" X 7.25"	42,,	3'-9"	3-2.	3'-3"	3'-2"	4:-2"	3-5"	3-2"	2	29"	4'-2"	3'-5"	2-11"	2'-9"	2:-7	4'-2"	35.	2'-11"	2.7"	2'-4"
Σ	2.5" X 7.25"	5-5	4'-10"	4'-5"	4'-3"	4'-1"	5'-5"	4-5	-	3. 0.	3-7"	5-5"	4'-5"	3'-10"	3-7"	3-4"	5-4	44"	3'-9"	3-5"	30.
		65	5'-9"	5-3"	2-0,	4'-10"	6-5"	5-3	4:-10"	46"	4'-3"	6'-4"	5-2"	4'-6"	4'-3"	3-8"	6-4"	5-2"	4'-6"	3'-10"	÷.
		80.	7:-2"	19-9	5'-11"	26"	8'-0"	6-5	56.	4: 0"	4'-3"	8'-0"	9	4'-10"	4'-3"	3-8	7-11"	6'-5"	4'-10"	3'-10"	'n
C		5.4"	49"	4-4"	4'-2"	40"	5'-4"	4.4	4'-0"	3'-9"	3:-7"	5'-4"	4'-4"	3,-9"	36"	3-3	5.4	4'-4"	3'-9"	3.4	3:-0.
n ·	2.5' X 9.25"	6'-11"	6'-2"	5-8	5-5"	5'-3"	6'-11"	5-8	5-3	4'-10"	4'-3"	6'-11"	2-7"	4'-10"	4'-3"	3-8	6:-10"	2:-2	4'-10"	3-10"	ы
_	3,5 X 9.25	8'-2"	7-4"	6'-5"	5-11"	56"	8'-2"	6-5	26"	4 0"	4'-3"	8-2"	9	4'-10"	4'-3"	3-8	ão	.59	4'-10"	3'-10'	જ
7	5.5' X 9.25	6-7"	7'-8"	9	5'-11"	2,-6"	97"	6-5"	5-6"	4 0"	4'-3"	9-7"	6'-5"	4'-10"	4'-3"	3-8	97"	.59	410"	3-10"	3.
ш	1.5' X 1.25	.9-,9	5'-10"	54"	5-1"	4'-11"	9-,9	5,4	4'-11"	4'-7"	4'-3"	.99	5-3"	47"	4'-3"	3-8"	6-5	5'-3"	4'-7"	3'-10"	÷.
U.	2.5 X 11.25"	8'-5"	16"	6-5	5'-1	2,-6"	8,-2	6-5	26"	4:- 0"	4'-3"	8'-4"	9	4'-10"	4'-3"	3-8	8'-4"	6-5	4'-10"	3'-10"	3.
)		9'-7"	7-8"	6-5	5'-1	5-6"	9.7	6.5"	5'-6"	4 0"	4'-3"	97"	6'-5"	4'-10"	4'-3"	3-8	9-7"	6-5	4'-10"	3'-10"	3.
		9'-7"	7-8"	6'-5"	5-1	5-6"		65"	26"	4'-9	4'-3"	6	6'-5"	49"	4'-3"	3-8	9'-7"	6'-5"	4'-9"	3'-10"	. ,

GENERAL NOTES:

- 1. Stringer Spacing for the table is at 24" on center (o.c.), To use larger stringer spacing, both the stringer and beam must be adjusted as follows:
 - a. New Stringer Length (in.) = Min of:

i.
$$\frac{L_{os}^3 + L_1}{t_2}$$
 or $\frac{L_{os}^3 + L_1}{t_2}$ b. New Beam Length (in):

i.
$$L_{ob} + \frac{(t_2 - t_1)}{12} * 6$$

- Where C
 - Los = Original Stringer Length (in.)
 - Lob = Original Beam Length (in.)
 - t₁ = Original Spacing (12 in.)
 - t₂ = New Spacing (in.)
- 2. All loads and load combinations are determined using ASCE 7. DL = Dead Load, LL = Live Load, SL = Snow Load, WL_q = Wind Load, & WLu = Uplift Wind Load.
- Maximum total load (TL) determined from the governing case of the following:

TL = DL + LL

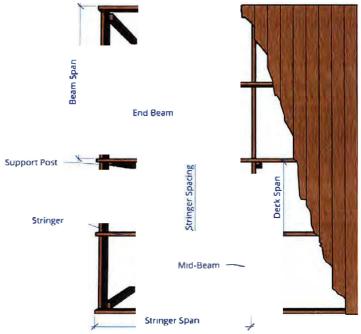
TL = DL + SL

TL = DL + 0.75*LL + 0.75*SL

 $TL = 0.6*DL + 0.6*WL_u$

- 4. Loads utilized for the table are as follows: DL = 31 psf or less, LL = 500 psf, SL+WL₉ = 20 psf, where absolute uplift wind load (WLu) is not greater than WLg.
- Deflection limits for stringer and beams are determined as follows:

- Stringer and beam capacities are shall be independently verified to meet Allowable Design Values described on page 2.
- If a beam is provided as an intermediate stringer support (Mid-Beam) then its span selected above, or modified by note 8, should be multiplied by 0.60 for a dropped beam and 0.70 for a flush beam.
- Required wind pressure shall be verified by others.





16'-1"

M	3ETWE	AM BETWEEN POSTS)	(SIS)			*ALL	SIZES	*ALL SIZES ARE ACTUAL NOT NOM NAL	CTUA	NOT	NOM	NAL	_		11 500 PSF	LL C
15			STRING	STRINGER @ 2.5" X 5.5"	" X 5.5"			STRING	STRINGER @ 3.5" X 5.5"	" X 5.5"			STRING	STRINGER @ 5.5" X 5.5"	5" X 5.5"	5
	30	20	56"	3,-0.	3,-6,,	40	30	36	40	4.6"	20	40	46"	5.0.	26"	09
.0	3'-8"	4'-5"	40	37"	3'-4"	3'-2"	3-7.	3.4"	3-2"	2'-11"	2'-10"	3'-1"	2'-11"	29"	2'-8"	27"
5	4'-8"	29	5'-2"	4'-8"	4'4"	4'-1"	4'-8"	4.4"	4'-1"	3'-10"	3'-7"	40"	3'-10"	37"	35.	3-4"
+	5'-7"	69	61"	2-7"	5-2"	4'-10"	5-7"	5-2"	4'-10"	4'-6"	4'-3"	4'-9"	4'-6"	4.3	4'-1"	3'-11"
3"	6'-10"	7:-10"	7'-3"	6'-10"	6'-5"	.09	6'-10"	6'-5"	.09	2-8	5'-5"	.09	58"	5.4"	5'-1"	4'-11"
3.	4'-10"	5'-10"	5'-3"	49"	45"	4'-2"	4'-9"	4'-5"	4:-2"	3'-11"	3'-8"	4'-2"	3'-11"	3,48	3,-6"	3'-4"
.6	6'-2"	7-7"	.69	6'-2"	2,-9"	5'-4"	6'-2"	2'-9"	5'-4"	5'-1"	4'-9"	5'-4"	20"	49"	47"	4-4"
.0	7-4"	8'-11"	80"	7-4"	.6-,9	64"	7-4"	.6-,9	6'-4"	.0-,9	2'-8"	6'-4"	5'-11"	ရီဝ လေ	5-2	5-2"
1	9'-1"	10'-4"	1.2-,6	9'-1"	8'-6"	7'-11"	9'-1"	.9-,8	7-11"	16"	7-1"	7:-11"	16"	7-1"	.69	6-3
b	6'-2"	.9-,2	89	6'-1"	2,-8	5.4"	6'-1"	2,-8,,	5-3"	2,-0,,	4'-9"	5-3"	20	49"	46"	4-4"
	7-11"	.86	88	7-11"	7.4"	6'-10"	7:-11"	7.4"	6'-10"	6-5"	6-1"	6'-10"	6'-5"	6-1"	5-10"	5-7"
.5	9'-4"	11'-5"	10'-3"	94"	88"	8-1"	94"	.88	8-1"	7-7	7'-3"	8'-1"	7-7"	73"	6-10"	6-3"
3"	11:-7"	13'-3"	12'-3"	11:-7"	10'-8"	9'-5"	11:-7"	10:-7"	94"	8'-4"	.9-,2	9'-1"	8'-2"	7.5"	.6-9	6-3
z.	7:-5"	9'-1"	8'-2"	75"	6'-11"	6'-5"	7:-5"	6'-11"	.6-5"	6'-1"	5'-9"		6'-1"	5,-6"	2-6"	5'-3"
	9:-7"	11'-9"	10,-6"		8'-11"	8-4	9-7	8'-11"	8'-4"	7'-10"	7'-5"	8'-4"	7'-10"	75"	6'-10"	6-3
15	11.4"	13'-10"	12'-5"	11'4"	10,-6"	9-5	11'-4"	10'-6"	9'-4"	8'-4"	.92	9'-2"	8'-3"	1.6"	6'-10"	6-3
11"	12'-6"	16'-1"	14'-8"	12.4"	10'-8"	9'-4"	12'-0"	10'-6"	93"	8'-3"	.92	.06	8-2"	7.5"	.6-9	6-3

9'-10"

3.5" X 7.25"

5.5" X 7.25" 1.5" X 9.25"

13-1" 10.-7"

10-1"

B III ▼ **E**

11'-2" 8'-8"

12:-10"

2.5" X 9.25"

12'-6"

14.4"

3.5" X 9.25" 5.5" X 9.25" 1.5" X 11.25"

S-NHS

3.5" X 11.25"

GENERAL NOTES:

- 1. Stringer Spacing for the table is at 24" on center (o.c.). To use larger stringer spacing, both the stringer and beam must be adjusted as follows:
 - a. New Stringer Length (in.) = Min of:

i.
$$\frac{3}{t_2} \frac{L_{os}^3 * t_1}{t_2} \text{ or } \sqrt[2]{\frac{L_{os}^2 * t_1}{t_2}}$$
New Beam Length (in):
i. $L_{ob} + \frac{(t_2 - t_1)}{12} * 6$

i.
$$L_{ob} + \frac{(t_2-t_1)}{1.2} *6$$

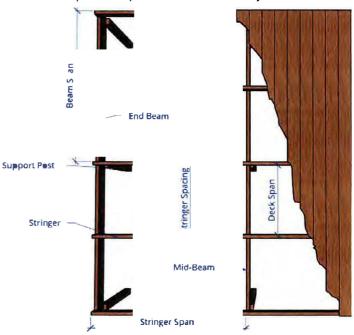
- - Los = Original Stringer Length (in.)
 - Lob = Original Beam Length (in.)
 - t1 = Original Spacing (12 in.)
 - t₂ = New Spacing (in.)
- 2. All loads and load combinations are determined using ASCE 7. DL = Dead Load, LL = Live Load, SL = Snow Load, WLg = Wind Load, & WLu = Uplift Wind Load.
- Maximum total load (TL) determined from the governing case of the following:

$$TL = 0.6*DL + 0.6*WL_u$$

- Loads utilized for the table are as follows: DL = 52.5 psf or less, LL = 500 psf, SL+WLg = 20 psf, where absolute uplift wind load (WLu) is not greater than WLg.
- Deflection limits for stringer and beams are determined as follows:

Stringer - Live load deflection is limited to L/360, total deflection is limited to L/240, where L is the span length. Beams - Live load deflection is limited to L/360, total deflection is limited to L/240, where L is the span length.

- Stringer and beam capacities are shall be independently verified to meet Allowable Design Values described on page 2.
- If a beam is provided as an intermediate stringer support (Mid-Beam) then its span selected above, or modified by note 8, should be multiplied by 0.60 for a dropped beam and 0.70 for a flush beam.
- Required wind pressure shall be verified by others.





IRONWOODS BEAM SPAN (SINGLE BEA

STRINGER @ 1.5" X 5.

STR. SIZES STR. SPANS

1.5" X 5.5"

Thickness 3.5" Deck

TABLE 14: BEAM & STRINGER SPANS WITH ≤ 3.5" DECK THICKNESS 4.4 4.-9 5'-3" SIZES ARE ACTUAL NOT NOM NAI 6-1" 7-3" .9-1 *ALL 6'-10" IRONWOODS BEAM SPAN (SINGLE BEAM BETWEEN POSTS) 8-8 10'-8" 9.-5" 8-8" 6'-1" 12'-6" 9'-4" 9'-1" 10'-4" .8-6 9-2" 1.5" X 11.25" 5.5" X 9.25 1.5" X 7.25 2.5" X 7.25 5.5" X 7.25 3.5" X 9.25° 四三人內 S-NES

GENERAL NOTES:

- Stringer Spacing for the table is at 24" on center (o.c.). To use larger stringer spacing, both the stringer and beam must be adjusted as follows:
 - a. New Stringer Length (in.) = Min of:

i.
$$\frac{L_{os}^3 * t_1}{t_2}$$
 or $\frac{L_{os}^2 * t_1}{t_2}$

New Beam Length (in):

i.
$$L_{ob} + \frac{(t_2 - t_1)}{12} * 6$$

- c. Where
 - Los = Original Stringer Length (in.)
 - Lob = Original Beam Length (in.)
 - t₁ = Original Spacing (12 in.)
 - t₂ = New Spacing (in.)
- All loads and load combinations are determined using ASCE 7. DL = Dead Load, LL = Live Load, SL = Snow Load, WLg = Wind Load, & WLu = Uplift Wind Load.
- 3. Maximum total load (TL) determined from the governing case of the following:

$$TL = DL + SL$$

$$TL = 0.6*DL + 0.6*WL_u$$

- Loads utilized for the table are as follows: DL = 38 psf or less, LL = 500 psf, SL+WLg = 20 psf, where absolute uplift wind load (WLu) is not greater than WLg.
- Deflection limits for stringer and beams are determined as

- Stringer and beam capacities are shall be independently verified to meet Allowable Design Values described on page 2.
- If a beam is provided as an intermediate stringer support (Mid-Beam) then its span selected above, or modified by note 8, should be multiplied by 0.60 for a dropped beam and 0.70 for a flush beam.
- Required wind pressure shall be verified by others.

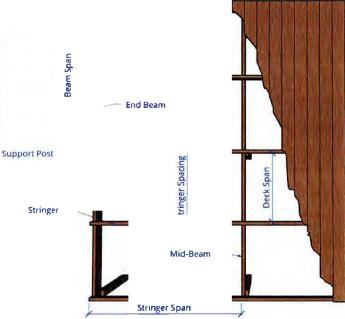




TABLE 15: BEAM & STRINGER SPANS WITH ≤ 3.5" DECK THICKNESS

23-7-1 23

	IRONWOODS BFAM SPAN (SINGLE BFAM BETWEEN POSTS)	S BFAM	SPAN [SINGLE	BFAM	BETWE	EN POS	Ø		_	ALL	ALL SIZES ARE AU! UA	ANE A		2	NOT NOW IN	, K		7	LL 500 P	ш
3.5" Deck	eck str. sizes		S RING	RINGER @ 1.5" X 9 25	X 9 25			STRINGE	STRINGER @ 2.5" X 9.25"	X 9.25"			STRINGER @ 3.5		X 9.25	Г		STRINGE	STRINGER @ 5.5" X 9.25"	X 9.25"	
Thickness	ESS STR. SPANS	36"	40.	46"	20.	2,-6"	40	2:0	5.6"	.0.9	1.0.	4.0.	20.	.O.	7.0.	.9.8	4.0.	.0.9	.0.9	.06	무
		3.4"	3-2"	2-	2-10"	18-5	3-2"	2'-10"	2-8"	2:-7"	2.4"	3-	2-9"	26"	2.4"	22"	က်	2'-6"	2-5	2,	÷ <u>'</u>
0	2.5 X 5.5	4.4	÷	3*-10"	3-7"	35"	-;-	3:-7"	3.5	3.4"	3.	40"	3'-7"	3'-3"	3	29.	4:-0"	3-3	2'-10"	2'-8"	Š
ם ו	3.5" X 5.5	5-5"	4'-10"	46"	4-4"	4.	4'- 0"	4'-3"	4-	3'-11	3'-7"	4 -9	4'-3"	3'-11"	3-7"	3-3	49"	3-1	3'4"	3-5"	2
ш	5.5" X 5.5	6'-5"	.09	5-8"	5-5	5-2"	.0-,9	5-5	5-5"	4- 1"	4'-6"	.0-,9	5-4"	4:-11	4-6	4'-1"	.09	41	4'-3"	4:-0	'n
✓	1.5" X 7.25"	4'-5"	4'-2"	3- 1"	3-8	36"	4.5"	3-8"	3-8	3.4"	έ'n	4-2"	3-8-	3.4"	^{بې}	2, 0,	.4	3'-4"	2-11"	2:-9"	N
Σ	2,5" X 7,25'	5-6	5-4"	2,	4'-9"	4-7	5'-4"	.6 j	4-7	4.4	4-0"	5.4"	4'-9"	4.4	4,-0.	3-8"	5'-4"	4.4	3'-9"	3'-6"	ы
	3,5" X 7,25'	6-9	6.4.	.09	5-8	5-5	6.4"	5-8	5-5	2-5	4'-9"	6-4	5-8	5-5"	4-9"	4:	6'-3"	5-2"	4-5	4'-2"	'n
	5,5" X 7,25	8'-6"	<u>'</u> ,	16"	7	69	7-11"	7-1	6-9	6'-3"	5-2	7-11	7:1	6-3"	5.4"	4.5"	7-11"	6'-3"	48	4:-2	Ē
	1.5" X 9.25	5-8"	5-4"	2,-0,	4'-9"	4,-6"	5-3"	49"	4'-6"	4'-4"	40.	5-3"	4.9	44"	4.0.	3-7"	5-3"	4,-3	3,-8	36"	'n
n -	2.5 X 9.25"	7.4"	.0 .9	6-5	وز	5'-10"	6'-10"	6:	5'-10"	22.	5-5"	.0 .9	.9	2-1	2-5"	4-5"	.6-9	5-6"	4'-9"	4'-2"	'n
_	3.5 X 9.25"	8, -8	%;	7-8"	7-3"	6'-10"	.,	7:-3"	6'-10"	6'-3"	5-2	&	7-3"	6-3	5-5	4-5"	8,-0	6'-3"	48	4'-2	'n
Z	5.5" X 9.25"	0'-9'	9'-5"	6.4"	7:-6"	6'-10"	9-5"	.92	6'-10"	6'-3"	5.4"	95"	.9/	6-3"	5.4"	4-5"	95"	6-3	.84	4:-2"	
ш	1.5" X 11.25"	6- 1	.9-2"	-9	5'-9"	2,-6"	6'-5"	5'-9"	5'-6"	5'-3"	4. 0."	6.5"	.69	5-3	.01	4-5"	.59	5-3	4,-6"	4'-2"	μ
U	2.5" X 11,25"	-;- -;-	8'-4"	7-10"	75"	6'-10"	8-4	7.5	610"	63	5'-5"	8-3"	75"	6-3"	5-5"	4-5	8-3"	6-3"	48"	4'-2"	'n
	3,5" X 11,25"	0,-6"	9'-5"	8'-5"	7:-6"	6'-10"	9'-5"	.92	6'-10"	6'-3"	5-2	9-5	76"	6-3	5.4"	4-5"	9,-5	6-3"	48"	4:-2"	'n
		0'-8"	9'-4"	8'-4"	7:-6"	6'-10"	9-	7:-6"	6'-10"	6'-3"	5'-4"	6.4	.92	6'-3"	5.4"	45"	9'-4"	6-3"	4.8"	4:-2	'n

GENERAL NOTES:

- 1. Stringer Spacing for the table is at 24" on center (o.c.). To use larger stringer spacing, both the stringer and beam must be adjusted as follows:
 - a. New Stringer Length (in.) = Min of;

i.
$$\frac{L_{0s}^{3}*t_{1}}{t_{2}}$$
 or t_{1}^{2}

b. New Beam Length (in):

i.
$$L_{ob} + \frac{(t_2-t_1)}{12} * 6$$

- Where
 - Los = Original Stringer Length (in.)
 - Lob = Original Beam Length (in.)
 - t₁ = Original Spacing (12 in.)
 - t₂ = New Spacing (in.)
- 2. All loads and load combinations are determined using ASCE 7. DL = Dead Load, LL = Live Load, SL = Snow Load, WLg = Wind Load, & WLu = Uplift Wind Load.
- Maximum total load (TL) determined from the governing case of the following:

TL = DL + LL

TL = DL + SL

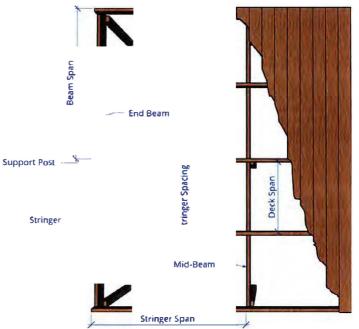
TL = DL + 0.75*LL + 0.75*SL

 $TL = 0.6*DL + 0.6*WL_u$

- 4. Loads utilized for the table are as follows: DL = 40 psf or less, LL = 500 psf, $SL+WL_g = 20 \text{ psf}$, where absolute uplift wind load (WLu) is not greater than WLg.
- Deflection limits for stringer and beams are determined as

Stringer - Live load deflection is limited to L/360, total deflection is limited to L/240, where L is the span length. Beams - Live load deflection is limited to L/360, total deflection is limited to L/240, where L is the span length.

- Stringer and beam capacities are shall be independently verified to meet Allowable Design Values described on page 2.
- If a beam is provided as an intermediate stringer support (Mid-Beam) then its span selected above, or modified by note 8, should be multiplied by 0.60 for a dropped beam and 0.70 for a flush beam.
- Required wind pressure shall be verified by others.





RONWOODS BFAM SPAN (SINGLE BFAM BETWEEN POSTS)

*ALL SIZES ARE ACTUA NOT NOM NAL

TABLE 16: BEAM & STRINGER SPANS WITH ≤ 3.5" DECK THICKNESS

												-I∇*	SIZES	ARF A	*A11 SIZES ARE ACTUAL NOT NOMINAL	LON	MON	ΔV				
	IRO	IRONWOODS BEAM SPAN (SING)	BEAM	SPAN (SING	BEAM BE		POSTS	ជ		_	į	3		5			!	_	4	LL 500 P	ш
3.5"	3.5" Deck T	STR SIZES		STRINGE	STRINGER @ 1.5" X 11.25"	X 11.25"			STRINGE	@ 2.5" X	X 25			STRINGER @ 3.5		X 11.25"		"	STRINGE	STRINGER @ 5.5" X 11.25"	(11.25"	
Thi K	Thi kness	R. SPANS	4.0.	.09	26"	.09	.9.9	4:-0	2.0.	.0.9	.09	9.9	20.	.09	.08	9.0	106"	.09	.0 .0 .0	10.01	110	12.6"
	1.5" X 5,5"	- to	3-2	2'-10"	2-8"	27"	2'-5"	÷,	29"	2-7	2-5"	22.	2'-9"	5-6"	22"	2'-1"	;-	5-6"	22"	1-1:	1:-10"	19.
٥	2.5" X 5.5"	5.5	4	3-7	3'-5"	3'4"	3'-2"	. 4	3'-7"	3,4	2'-10"	2-9"	3'-7"	ري ايا	2'-10"	2'-8"	2-6"	3-3	2 0"	2-6	2-5"	2'-3"
ום	3.5" X 5.5	5.5	410"	43"	4	3.1	3-8	4'-9"	4-3"	3-14	3-5	3-3"	£-3	3-11	3.4	3-2	2-11"	3-10"	% 4	3-0	2-10"	2'-8"
ш	5.5" X 5.	uri uri	.D9	5'-5"	5-2"	;- ;-	4'-9"	.09	5-4	4:-11:	4-3	4 -	5,4	4'-11"	4-3"	40.	3-7"	4-10"	£-'4	3-6	3-5	3-0.
	1.5" X 7.25"	7.25"	42"	3,	36"	3.4"	3'-3"	4:-2"	3-8	3.4"	2- 1"	2'-10"	3'-8"	3.4"	2'-11"	2'-9"	26"	3'-4	2. :	2:-7	2.5"	2-4"
Σ	2.5" X 7.25"	7.25"	5'-4"	4'-9"	4'-7"	4'-4"	4-2"	5-4"	4'-9"	4'4"	3-9"	3'-8"	.6 <u>-</u> .9	4'-4"	3.9	3'-6"	3,-3	4-4	3-6ª	34	3-2"	3-0
			6'-4"	5'-8"	5-5	2-5	50	6.4	5-8	5-2	4'-6"	4'-4"	5'-8"	5-2"	4'-5"	4-2"	3-7	5.	4'-5	3-9"	3.5	3.0.
			7:-	7-1"	6'-9"	6'-3"	5'-9"	7-11"	7:-1"	6'-3"	4.8	45"	<u>۲</u>	6-3	48"	4'-2"	3-7	6-3	4'-8"	3.9	3-5	3-0.
•			5-4"	6-,7	4'-6"	4'4"	42"	5-3"	49"	4,4"	36.	3-7"	4.8	44"	39.	36"	3:-3"	4-3	38"	3.4"	3.2"	5:-
n .	2.5" X 9.25"	9.25"	6'-10"	1-9	5'-10"	5-7"	5 <u>1</u> .4	6'-10"	ō.	5,-1	4.8 _"	45"	6. 1	5-7"	48	42	3, -,	2,-6"	4'-8"	3-9	3-5"	3-0.
_	3.5" X 9.25"	9.25"	-	7:-3"	6'-10"	6'-3"	5-10"	-	7:-3"	6'-3	4'-8"	45"	7-2"	6-3"	48	42	3-7"	6-3"	4 -8	3-9	3-5"	3'-0"
N	5.5" X 9.25"	9.25"	9'-5"	7-6"	6'-10"	6'-3"	5'-9"	9-5"	.9/	6'-3"	4'-8"	45"	.g-,¿	6'-3"	4'-8"	4'-2"	3-7"	6-3"	4-8	3,-9	3'-5"	3-0
Ш	1.5" X	1.5" X 11.25"	6-5	5:-9"	5-6"	5-3	ŗ,	6'-5"	2.6.	53"	46	4'-5"	59"	5'-3"	46"	4'-2'	3-7"	5-5"	46"	3'-9"	3'-5"	3-0.
G.	2.5" X	2.5" X 11.25"	84"	7:-5"	6'-10"	6'-3"	5'-10"	8'-4"	7-5"	6-3"	46	45"	7-5	6-3	4'-8"	4:-2"	3-7"	6-3"	*9-	9- 6-	3-5	3-0
_	3.5" X	3.5" X 11.25"	9'-5"	76"	6'-10"	6'-3"	2- 0"	9.5.	7-6"	6'-3"	4'-8"	4'-5"	7-6"	6'-3"	46"	42	3-7"	6-3"	4'-8"	3-9	3-5	3-0.
	5.5 X 11 25	11 25	9'-4"	7-6"	6'-10"	6'-3"	5-9"	94"	že.,	6'-3"	48"	45"	7:-6"	6'-3"	4'-8"	4'-2"	3-7"	6'-3"	4'-8	3-9	3-5	3:-0"

GENERAL NOTES:

- 1. Stringer Spacing for the table is at 24" on center (o.c.). To use larger stringer spacing, both the stringer and beam must be adjusted as follows:
 - a. New Stringer Length (in.) = Min of:

i.
$$\frac{3}{t_{os}} \frac{L_{os}^{3} * t_{1}}{t_{2}} \ or \sqrt[2]{\frac{L_{os}^{2} * t_{1}}{t_{2}}}$$
New Beam Length (in):
i. $L_{ob} + \frac{(t_{2} - t_{1})}{12} * 6$

$$L_{ob} + \frac{(t_2 - t_1)}{12} *6$$

- Where
 - Los = Original Stringer Length (in.)
 - Lob = Original Beam Length (in.)
 - t₁ = Original Spacing (12 in.)
 - t₂ = New Spacing (in.)
- 2. All loads and load combinations are determined using ASCE 7. DL = Dead Load, LL = Live Load, SL = Snow Load, WLg = Wind Load, & WLu = Uplift Wind Load.
- Maximum total load (TL) determined from the governing case of the following:

$$TL = DL + LL$$

$$TL = DL + 0.75*LL + 0.75*SL$$

$$TL = 0.6*DL + 0.6*WL_u$$

- Loads utilized for the table are as follows: DL = 40 psf or less, LL = 500 psf, SL+WLg = 20 psf, where absolute uplift wind load (WLu) is not greater than WLg.
- Deflection limits for stringer and beams are determined as follows:

- Stringer and beam capacities are shall be independently verified to meet Allowable Design Values described on page 2.
- If a beam is provided as an intermediate stringer support (Mid-Beam) then its span selected above, or modified by note 8, should be multiplied by 0.60 for a dropped beam and 0.70 for a flush beam.
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