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Data from elevations taken at construction sites were reduced to camber information on over 4000 beams. Design information and some information on fabrication were obtained from SDHPT on those beams for purposes of isolating the causes of camber differences.

A statistical T test was used to identify those beams with unusual camber. A measure of the extent of unusual camber was developed in determining the amount of wasted concrete in using unusually cambered beams in a span. A regression analysis was made to determine the effect of span on the range of camber computed from elevation measurements.

Analytical studies were made to determine the effect of variations in tendon forces and positions, variations in concrete modulus in the overall beam, variations of concrete modulus in layers in the beam and in longitudinal sections of the beam, and of time. Camber measurements were made at release on a few beams, and modulus of elasticity measurements were made in the field in an effort to determine variations in the concretes used in beams of the types reported in field data.

Four prestressing plants were visited while they were in the process of producing highway bridge beams of the types studied. Procedures that were followed in producing beams to the SDHPT specifications were carefully observed.

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DIFFERENTIAL CAMBER IN PRESTRESSED CONCRETE BEAMS

by

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Research Report Number 193-1(F)

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State Department of Highways and Public Transportation
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SUMMARY

A study was made to determine the cause or causes of differences in cambers that occur in prestressed concrete beams of identical design for highway bridges. Beams of AASHTO Type IV, and State Department of Highways and Public Transportation of Texas Types C, 54, B, and A were studied.

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Site visits were made to four prestressing plants while they were in the process of producing highway bridge beams of the types studied. In those visits the procedures that were followed in producing beams to the SDHPT

specifications were carefully observed. A pachometer was used in an attempt to locate prestressing strands in the beams. It was found that tendon elongation, hence tendon forces, adhered closely to specifications, tendon positions were correct, and the overall fabrication procedures were found to comply to specifications. It was not possible to pinpoint locations of strands with the pachometer in the beams. Field measurements made to determine modulus values were considered to be of questionable reliability.

The T tests showed that there were beams with statistically unusual camber, but did not show that any particular beam type nor beam span was more susceptible to question than any other. The waste factor analysis showed that the SDHPT Type C beam waste factor increased with span length, as did the Type 54 beam but less markedly. The camber range versus span study showed that the range increases with span length, as did the Type 54 beam but less markedly. The camber range versus span study showed that the range increases with span in the Type C beam, it is essentially constant in the Type 54 beam, and it decreases with the Type IV beam. This analysis indicated that there are ranges of span over which one beam is preferable to another from the standpoint of camber differences.

Analytical studies showed that release cambers are amplified with time and indicated strongly that the condition at release is that which determines the condition at time of construction. The factors that appeared to be the most suspect in causing camber differences were modulus of elasticity, differences in time to release, and differences in time of storage. If concretes with different modulii are placed in different layers in the beam, there is chance of occurrences of excessive camber. If one beam stays in the form longer than another, or if it stays in storage longer than another, there will very likely be a difference in cambers.

Attempts were made to trace beams individually through the fabrication process, the curing and storage, and the erection upon the pier. It was impossible to do that because the present system of records does not mark an individual beam in such a way that it can be identified in time and place at all stages of its life.

The study did not pinpoint the cause or causes that are responsible for camber differences in identical prestressed concrete highway bridge beams. The field and analytical studies were able to point to the causes that appear to be the most likely the reasons for those differences. Additional field data are necessary to fix the causes.

KEY WORDS: Prestressed concrete, bridge beams, camber, differential camber, field inspection, modulus of elasticity, fabrication, field records, prestress force, prestress centroid, displaced strands.

RECOMMENDATIONS FOR IMPLEMENTATION

The exact cause or combination of causes for differential camber in prestressed concrete highway bridge beams was not established. Some practices and factors that carry strong implications were identified as being involved. One of those practices permits beams of different ages to be erected at the same time in the same bridge span. Such beams will have different cambers. Another practice involving time is that of permitting beams to stay in the line different lengths of time. Strand relaxation rate and modulus of elasticity growth rate are both high in the very early life of the beam. The beam that remains in the line over the weekend or longer will most likely have a different camber upon release than one which has a much shorter fabrication time. It is not known yet whether there is any appreciable variation in the modulus of elasticity of concrete placed in beams. If there is variation, differences in camber will be evident.

The recommendations here have to do more with locating causes of camber differences than in a definite alleviation of them. It is for that purpose then that the following recommendations are made:

1. Mark each beam so that its position in the prestressing line is recorded, its curing and storage history is known, and its place in the structure is marked. This will enable one to trace it through and have a much better chance of identifying causes of camber differences than under the present system of marking.

2. Measure and record midspan camber of each beam after release just prior to removal from the line. This is the only way that one can know if camber differences originate in the line or in handling.

3. Develop and maintain a record of modulus of elasticity of the beam concretes somewhat similar to the cylinder break records. Some experimentation would be necessary to develop a simple way to do this, but it would be most valuable to a designer in his work.

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I. Introduction

Camber in pretensioned, prestressed concrete bridge beams is beneficial to the extent that it can be confidently used to offset dead load deflection. If the actual camber in a bridge's beams differs from that assumed during design, the rideability of the roadway surface that the bridge supports can be reduced by annoying undulations. An additional ill-effect occurs when beams within the same span of a bridge have attained different cambers at the construction stage when the deck is cast. When this differential camber is sufficiently serious, one of two remedial actions must be taken. The first, intended to produce a uniform deck thickness, requires that the top of slab elevation be set by the highest (most upward) cambered beam and the slab "haunched" over beams of significantly less camber. This requires essentially the same amount of deck concrete as would all beams with the same camber, but additional costs are incurred from special formwork needed to produce the haunch. If differential camber among beams is ignored when setting deck undersurface formwork, the thickness of the slab will vary transversely across the bridge. The least thickness (the design thickness) of the deck occurs over the highest cambered beam and is greater over those beams with less camber. Either of these corrective actions adds cost to the bridge superstructure: forming cost when haunches are used, concrete cost when they are not.

Complaints about differential camber can probably be found in any SDHPT District and were voiced by construction engineers in Districts 2, 12, 17 and 18 when asked if such problems existed. Though the general feeling was that differential camber was "excessive" in some cases, there was no concensus on how much differential camber was necessary to produce a condition that would be termed "excessive".

1.1 WASTE FACTOR DESCRIPTION OF DIFFERENTIAL CAMBER

One approach to quantifying "excessive" differential camber among beams in a span is to estimate the amount of additional concrete required for the deck that results from differences in camber. This assumes, of course, that haunching over beams is not used. Such an estimator is developed in the form of a waste factor in what follows. The actual process of setting forms and casting the deck is more complex than the situation assumed in developing the waste factor and for that reason it should only be considered as an index to additional construction costs arising from differential beam cambers in a span.

Consider the transverse section of bridge superstructure shown in Figure 1. The span contains n beams with equal lateral spacing S. The top of the slab is assumed to be horizontal, the structure unskewed, and the slab overhangs the exterior beams by an amount $\beta \cdot S$. Associated with the n beams are a set of midspan cambers $\delta_1, \ldots, \delta_n$, the greatest of these being denoted by δ_{max}. For an arbitrary assignment of δ_i's to the n beams, one obtains the slab profile shown with slab thickness t set at the beam with δ_{max} and the thickness at other beam centerlines being greater than or equal to t. Neglecting the fact that slab thickness is actually constant across the width of the top flange of each beam, we can write the following expression for the wasted concrete, w, (the amount of additional concrete required because not all δ_i's are the same) at this cross section as

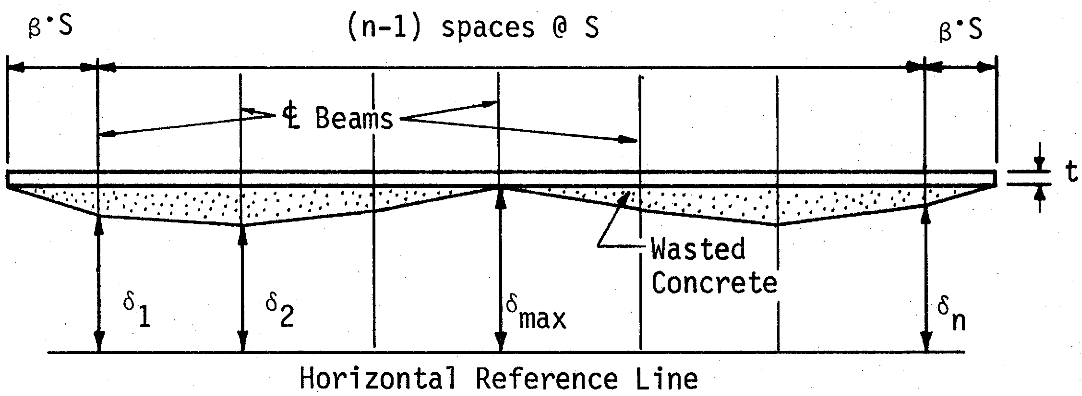

FIGURE 1. CROSS SECTION OF DECK WITH IDEALIZATION OF WASTED CONCRETE

$$W = S\left\{[n-1+\beta]\,\delta_{max} - \tfrac{1}{2}[1+\beta]\,[\delta_1 + \delta_n] - \sum_{i=2}^{n-1} \delta_i\right\} \qquad (1)$$

The camber of each beam δ_i can be written in terms of differential camber by substituting the expression

$$\Delta_i = \delta_{max} - \delta_i \qquad (2)$$

which is a positive number giving the difference between the camber in beam i and the greatest camber of all beams in the cross section. Substitution of this expression into Eq. (1) yields

$$W = S\left\{\tfrac{1}{2}[1+\beta]\,[\Delta_1 + \Delta_n] + \sum_{i=2}^{n-1} \Delta_i\right\} \qquad (3)$$

A review of Eqs. (1) and (3) reveals the following facts:

(i) The total wasted concrete at a cross section is relatively insensitive to the positions of the beams within the cross section. For reasonable slab overhangs ($\beta < 0.5$), a slight reduction of waste is achieved by placing the two beams with smallest cambers (δ_i) in the outside positions (beam lines 1 and n). The greatest savings under this condition occurs when there are no overhangs ($\beta = 0$).

(ii) Except for the two outside beams, the relative positions of interior beams has no effect on the total wasted concrete.

(iii) The total wasted concrete is linear in the differential cambers Δ_i.

Equations (1) and (3) apply at a specific location. To obtain an overall measure of wasted concrete for the span, an expression for camber variation with position along the span is required. Incorporating the reasonable approximation

$$\delta_i(x) = \delta_i \sin \pi x/L \qquad (4)$$

the total waste concrete can be computed substituting Eq. (4) into Eq. (1) and integrating over the span length L to obtain

$$W_T = \frac{2}{\pi} \; L \cdot S \; \left\{ [n-1 + \beta]\delta_{max} - \tfrac{1}{2}[1 + \beta][\delta_1 + \delta_n] - \sum_{i=2}^{n-1} \delta_i \right\} \qquad (5)$$

or in terms of Eq. (3)

$$W_T = \frac{2}{\pi} \cdot L \cdot S \; \left\{ \tfrac{1}{2}[1 + \beta][\Delta_1 + \Delta_n] + \sum_{i=2}^{n-1} \Delta_i \right\} \qquad (6)$$

The total waste W_T can be normalized to produce waste per square foot of deck area, w_T, by dividing through by the area of deck in the span.

$$W_T = \frac{2}{\pi} L \cdot S \left\{ \tfrac{1}{2}[1 + \beta][\Delta_1 + \Delta_n] + \sum_{i=2}^{n-1} \Delta_i \right\} \Big/ \left\{ L \cdot S \; [n-1 + 2\beta] \right\}$$

$$W_T = \frac{0.5[1 + \beta][\Delta_1 + \Delta_n] + \sum_{i=2}^{n-1} \Delta_i}{6\pi \cdot [n-1 + 2\beta]} \qquad (7)$$

where Δ_i are in inches and w_T in cubic feet per square foot of deck area.

1.2 DATA ON BEAM CAMBER

SDHPT construction practices require that beam elevation data be taken after all beams have been placed in a span in order to set the forms for casting the deck. A surveying instrument is used to measure, for each beam in the span, in-place elevations of the top flange at (as a minimum) the quarter points, ends and midspan. The latter sets of readings, usually reported to the nearest hundredth of a foot, allow the calculation of the midspan camber. Information was solicited from each District in the state the total waste concrete can be computed substituting Eq. (4) into Eq. (1) and integrating over the span length L to obtain

$$W_T = \frac{2}{\pi} L \cdot S \left\{ [n-1+\beta]\delta_{max} - \tfrac{1}{2}[1+\beta][\delta_1 + \delta_n] - \sum_{i=2}^{n-1} \delta_i \right\} \quad (5)$$

or in terms of Eq. (3)

$$W_T = \frac{2}{\pi} \cdot L \cdot S \left\{ \tfrac{1}{2}[1+\beta][\Delta_1 + \Delta_n] + \sum_{i=2}^{n-1} \Delta_i \right\} \quad (6)$$

The total waste W_T can be normalized to produce waste per square foot of deck area, w_T, by dividing through by the area of deck in the span.

$$w_T = \frac{2}{\pi} L \cdot S \left\{ \tfrac{1}{2}[1+\beta][\Delta_1+\Delta_n] + \sum_{i=2}^{n-1} \Delta_i \right\} / \left\{ L \cdot S \, [n-1+2\beta] \right\}$$

$$w_T = \frac{0.5[1+\beta][\Delta_1+\Delta_n] + \sum_{i=2}^{n-1} \Delta_i}{6\pi \cdot [n-1+2\beta]} \quad (7)$$

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The majority of data reported were for AASHTO IV and SDHPT types 54 and C beams. Span length ranges were 132 ft. to 40 ft. for AASHTO IV, 118 ft. to 40 ft. for type 54 and 88 ft. to 40 ft. for type C. A few SDHPT type A and B beams were also reported.

The data compiled in Appendix A was taken from construction plans and field logs (containing the beam elevation readings) supplied by the District's construction personnel. Information on each beam was transferred to a data card for computer processing. The data are grouped so that beams of identical design are shown together. Each grouping contains one or more spans from the same structure and is labeled with an identification number that is keyed in Appendix B to the project, the District and the manufacturer.

A brief summary of typical beam cambers is shown in Table 1. From that information one can determine the cambers of different beam types of various spans and the high and low cambers of beams within any one span listed in the table. It can be seen that maximum camber is sometimes more than two times the minimum camber.

1.3 WASTE FACTOR CALCULATION FOR AVAILABLE DATA

The waste factor developed in Section 1.1 is an approximate measure of the additional concrete needed to complete the deck because of differences in camber of beams in a span. As such, it serves as an index or indicator of additional expected deck cost arising from differential camber.

The waste factor for each span of every structure reported in Appendix A was computed by Eq. (7) and is presented in Appendix B. A typical slab

TYPE AASHTO IV				TYPE SDHPT 54				TYPE SDHPT C			
Span	......Camber.......			Span	......Camber.......			Span	......Camber.......		
Length (ft)	Range (in)	Mean (in)	Std. Dev.	Length (ft)	Range (in)	Mean (in)	Std. Dev.	Length (ft)	Range (in)	Mean (in)	Std. Dev.
132	1.38 0.78	1.16	.181	118	5.46 3.06	3.86	.692	88	3.78 1.92	2.67	.498
130	4.02 3.96	4.00	.031	116	4.38 1.86	3.19	.710	85	5.10 3.12	4.20	.675
125	1.44 0.96	1.14	.143	116	3.66 2.64	3.25	.332	80	2.28 1.62	2.00	.172
121	1.14 0.66	0.81	.162	105	4.68 2.34	2.99	.483	80	3.54 2.04	2.82	.468
120	2.76 1.98	2.23	.418	105	3.54 2.82	3.22	.200	75	2.10 1.68	1.90	.165
120	2.88 2.22	2.63	.263	100	3.90 3.00	3.53	.345	75	3.06 0.96	1.78	.510
117	3.06 2.40	2.79	.247	100	2.94 1.86	2.40	.287	70	2.10 1.32	1.69	.264
115	2.04 1.68	1.82	.145	96	3.00 2.16	2.64	.290	65	2.52 1.44	1.96	.193
115	2.46 1.98	2.29	.124	94	2.82 2.04	2.28	.225	65	1.56 0.72	1.15	.204
105	4.80 3.84	4.34	.317	90	1.86 3.12	2.53	.284	60	1.56 0.96	1.13	.137
105	3.36 2.28	2.70	.303	85	1.26 2.40	1.83	.342	60	1.50 0.48	0.84	.304
104	1.86 1.26	1.57	.253	80	0.06 3.30	0.69	.350	55	0.90 0.36	0.62	.116
103	2.04 1.20	1.63	.248	75	2.10 1.14	1.73	.265	55	1.32 0.66	0.97	.297
98	2.04 1.32	1.73	.218	70	1.32 0.54	0.92	.273	50	0.84 0.54	0.69	.121
66	0.96 0.06	.52	.337								

TABLE 1. TYPICAL CAMBER, RANGE AND STANDARD DEVIATION OF CAMBER (SELECTED FROM DATA IN APPENDIX A).

overhang of $\beta = 0.43$ was used in the calculations. A brief summary of the data of Appendix B is contained in Table 2.

It is clear from Figure 4 that waste factor for C-beams increases with span length. The trend is also seen in Figure 3 for Type 54 beams, but it is more variable than in the Type C beams. There are not enough Type IV beams of individual span lengths to establish a pattern in Figure 2. Waste factor can be thought of as an index which gives a measure of differential camber between beams of a given span. The greater the waste factor the greater will be the differential camber. By this association, it is seen that camber is more variable in beams within a long span than it is in shorter spans. In all cases, there is a pronounced scatter in the waste factor, indicating that differential camber can be expected to produce additional deck casting costs for any beam type or span length.

1.4 DATA ON MANUFACTURE OF BEAMS - PRESTRESSED CONCRETE WORKSHEETS

The Materials and Test Division of SDHPT conducts inspections and tests during the manufacture of all beams used for state highway work. Of particular interest to this study was the information collected routinely by prestressed concrete inspectors on every line of beams a manufacturer produces.

Figure 5 shows a completed prestressed concrete worksheet that is used to record data. The upper left corner of the sheet indicates that beams were cast on April 9, 1975 by McDonough Brothers, Inc. of San Antonio. The beams are type C and are destined for the specific structure identified by information in the upper right side of the form. Five beams, each 74.67 ft. long were cast in positions 1 through 5 in the "A" casting line. All beams carried the erection mark C-4L. Additional information on this casting operation

Producer Mark	TYPE AASHTO IV		TYPE SDHPT 54		TYPE SDHPT C	
	Waste Factor (ft^3/ft^2)	Number of Spans	Waste Factor (ft^3/ft^2)	Number of Spans	Waste Factor (ft^3/ft^2)	Number of Spans
1	.0144	18	.015	63	.0129	99
2			.0186	28		
3						
4						
5	.0094	3	.0100	17	.0097	46
6			.0162	13		
7	.0177	2	.0102	4	.0252	33
8			.0185	4	.0252	
9					.0162	12

TABLE 2. TYPICAL AVERAGE VALUES OF WASTE FACTORS FOR DIFFERENT PRODUCERS AND BEAM TYPES.

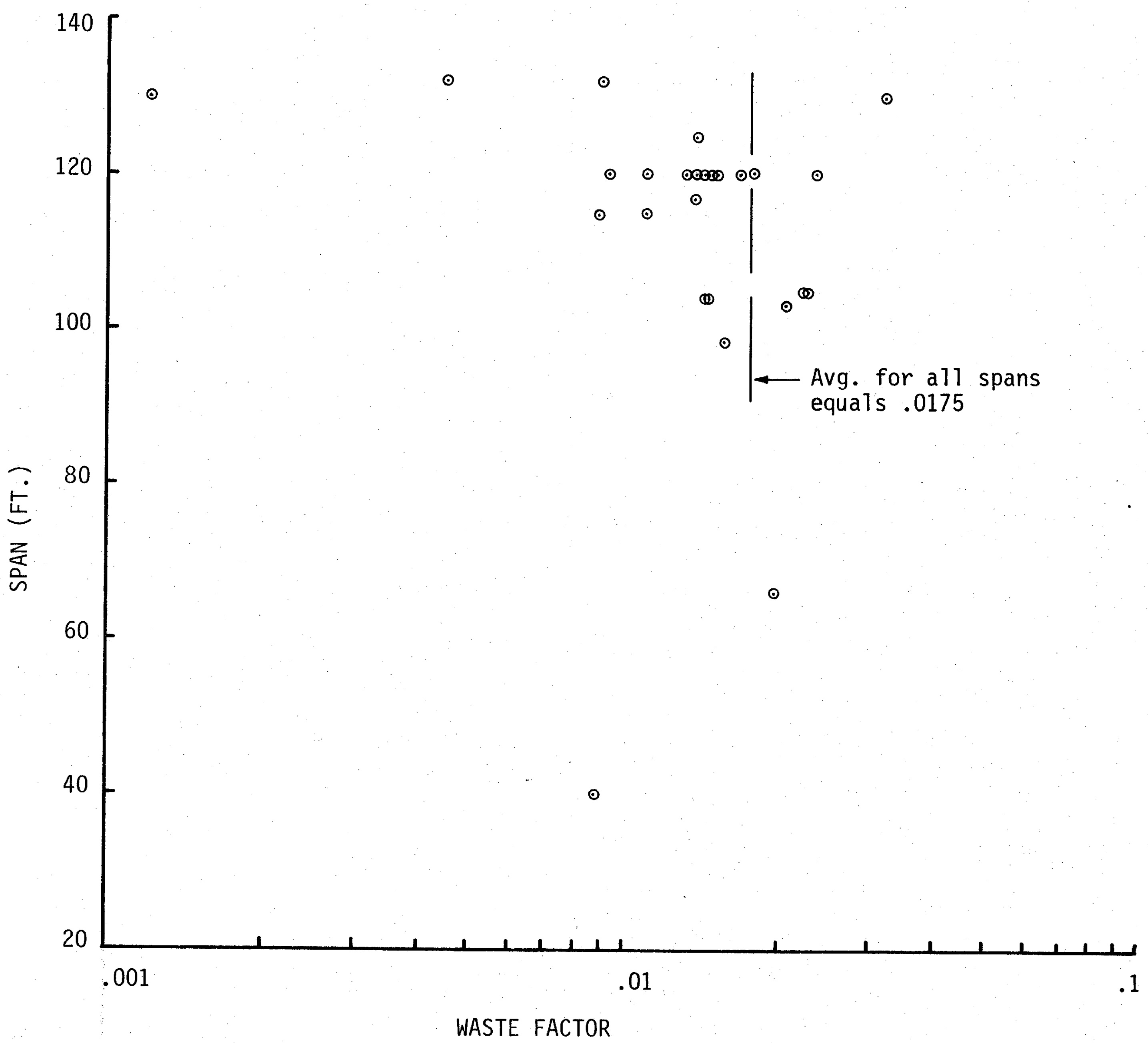

FIGURE 2. WASTE FACTOR VS. SPAN FOR AASHTO IV TYPE BEAMS

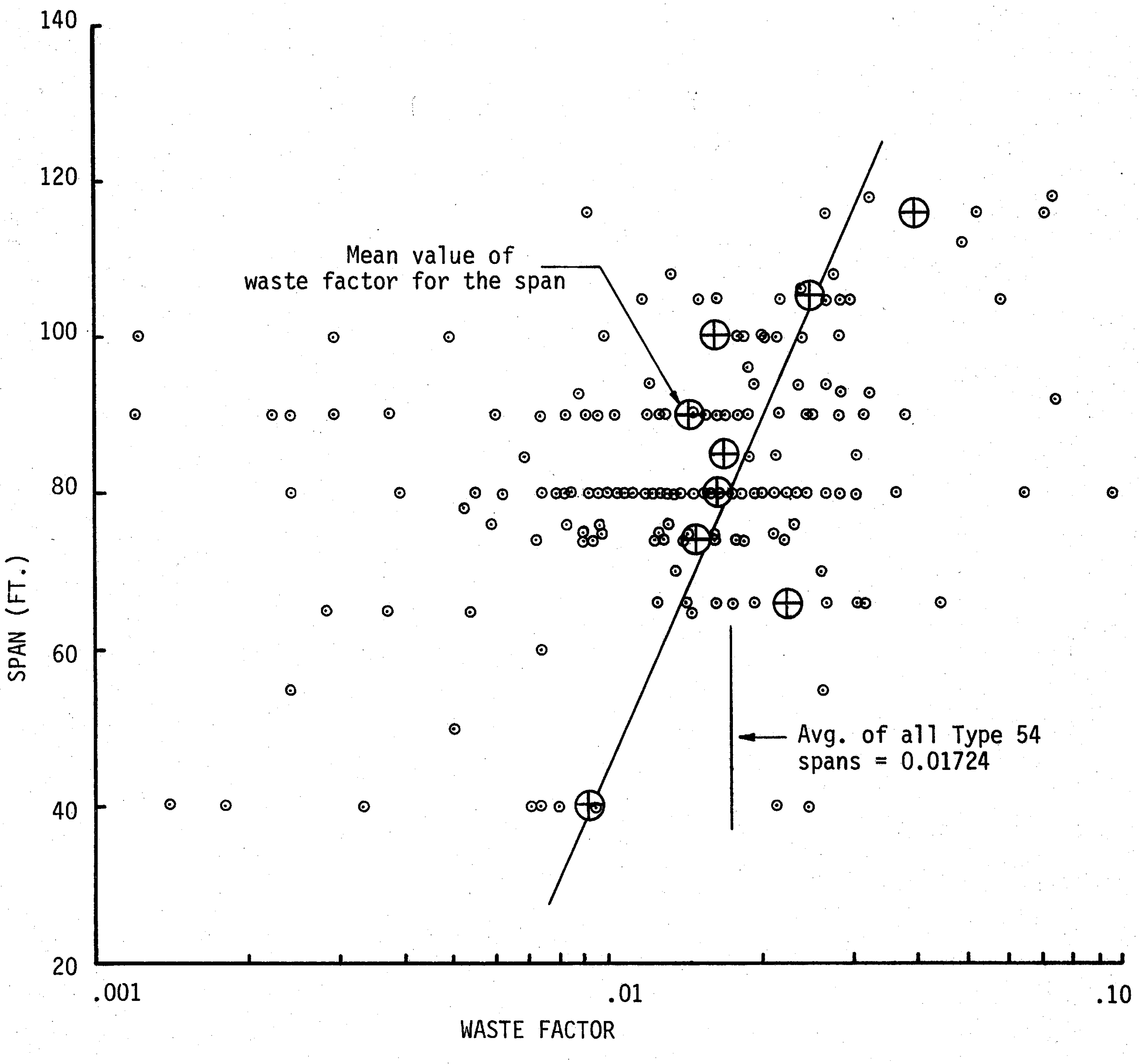

FIGURE 3. WASTE FACTOR VS. SPAN FOR SDHPT TYPE 54 BEAMS

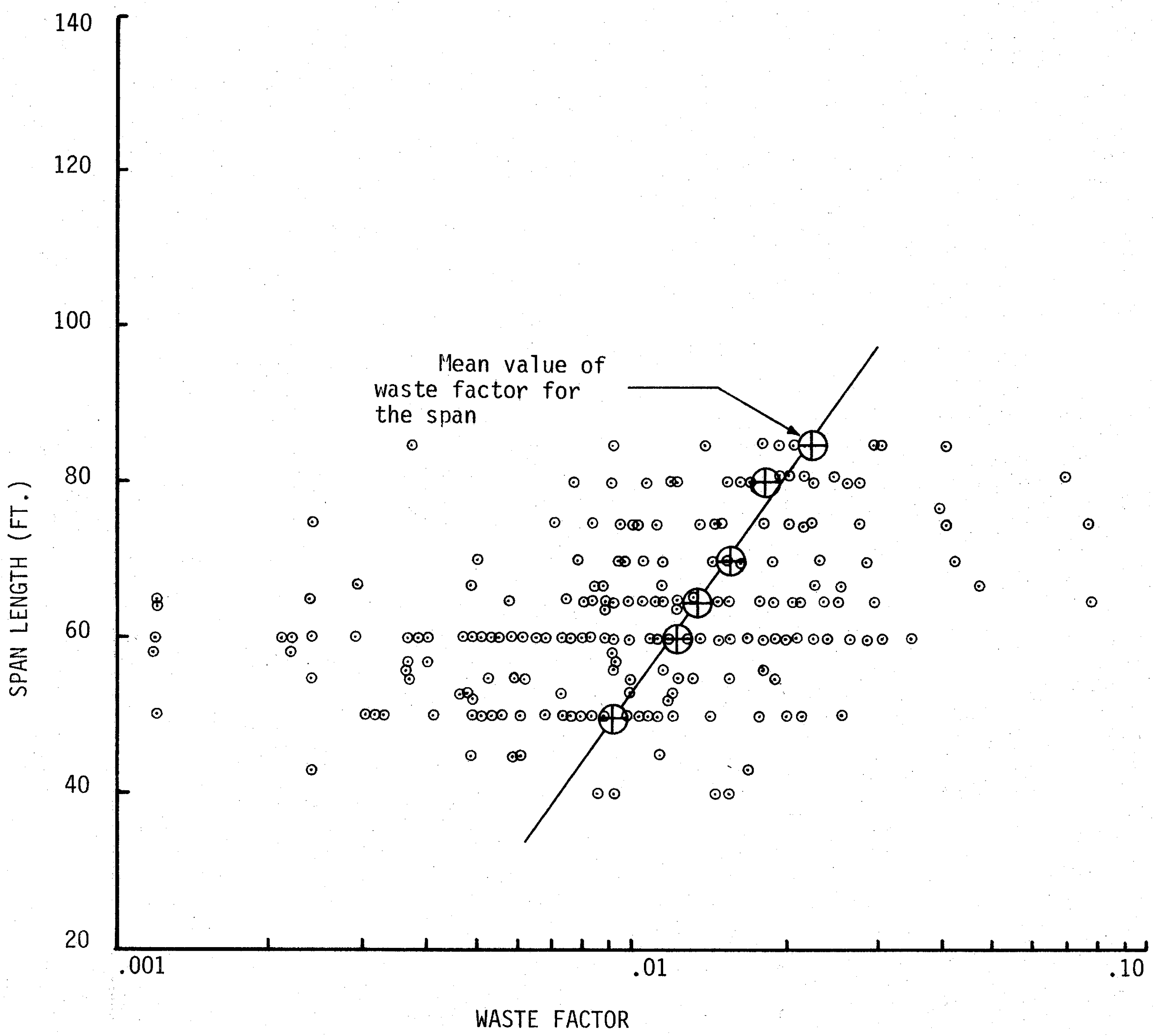

FIGURE 4. WASTE FACTOR VS. SPAN FOR SDHPT TYPE C BEAMS

Texas Highway Department
Form D9-PC-2R3
File 9.218

PRESTRESSED CONCRETE WORKSHEET

Casting Date 4-9-75
Type Material "C" BEAMS
Class of Concrete "H" (5210 DESIGN STRENGTH)
Contractor
Resident Engineer
Address
Producer McDONOUGH BROS
Address

C73-9-41 | HD0315 |
Control No. | Section No. | Job No.

BEXAR
County | Federal Project No.

15 | US 281
District No. | Highway No.

Specification Item No. 425-001, 2-74
421-002, 1-74

CASTING IDENTIFICATION	ERECTION MARK	LENGTH	QUANTITY	LINEAR FEET	DATE SHIPPED
A1 thru A5	C-4L	74.67'	5	373.35'	
			TOTAL LINEAR FEET	373.35'	

RELEASE OF TENSION CYLINDERS

Cylinder No.	Time Cast	Age	Stress (psi)
PC 26-A-R	2:00	49 hrs	4969
PC 26-A-R	"	49 hrs	5199
Strength Required 4900		Average	5084

DESIGN STRENGTH CYLINDERS

Cylinder No.	
PC 26-A-1	Tests desired at 7 days
PC 26-A-2	Date Received
PC 26-A-3	Condition Received
	Laboratory No.

MATERIAL USED

Give Reference Laboratory Numbers:
Aggregate: Fine 75-87-EA Coarse 75-86-EA
Cement MCB 10-75
Tensioning Steel 74-417-A, 74-195A (FOREIGN)
Reinforcing Steel 75RS-16.31

CONCRETE DESIGN DATA FOR ONE CUBIC YARD

CF 7.0 W/C 5.23 CAF .77
Fine Agg. 10.6 % SSD Wt. 294 x 1.1186 = 329 lbs
Coarse Agg. 0.5 % SSD Wt. 1889 x .995 = 1880 lbs
Total Free or Absorbed Water = 82 lbs
Total Water Used 223 lbs. x .12 = 26.9 gal
Admixture 20 oz POZZ 300R per cubic yard
(6.0%) ROCK SAND - 893 X 1.0633 = 939

STRESSING OPERATION

Str. Cable: Date 4-8-75 Time 9:00 Temp 59°
Cable Length 457'-0" Size 1/2 Number 22
Elongation: Calculated 34 9/16 Measured 34 9/16
Gauge Reading: Required 3170 Actual 3125
Diff. in Reading -45 Percent Error -1.4
Def. Cable: Date 4-8-75 Time 10:00 Temp 59°
Size 1/2" Number 6 Percent Error -0.2

CASTING OPERATION

Time: Began 1:00 Completed 2:30 Elapsed 1 1/2 hrs
Weather Conditions PARTLY CLOUDY Temp 76°
No. Batches 12 Total Cubic Yards Cast 46
Slumps 3", 3 3/4", 4", 4 1/4" Average 3 3/4"
No. Cylinders Cast: Release 6 Design 6
No. Release Cylinders Broken
Curing WATER Date Terminated

Remarks:

Area Supervisor
Inspector's Signature HENRY RICHARDSON

FIGURE 5. PRESTRESSED CONCRETE WORKSHEET

indicates it began 1:00 p.m. and was completed by 2:30 p.m. The weather conditions were partly cloudy with a temperature of 76°. Twelve batches, totaling 46 cubic yards were cast, with the resulting four slumps shown. The beam was wet mat cured. The release test cylinders were cast at 2:00 p.m. on April 9 and tested 49 hours after casting, yielding the release strength shown. Test results covering cement, aggregate and cable are referenced. When the beams are removed from the manufacturer's storage yard, the date is entered on the form as the shipping date. Summary information on the stressing operation is located at the lower left. The required gauge reading is the pressure reading on the gauge of the hydraulic jack used for stressing the strand that according to calibration tests corresponds to the desired force in the strand. The actual gauge reading is the average of readings taken over all straight strands. The difference in reading and percent error are computed from the required and actual gauge readings and applies to straight strands. A percent error is shown for deflected cables that is the average of errors in all elongation measurements made on draped strands. The pressure gauge readings and elongation measurements used in computing the percent error are recorded on separate forms.

1.5 IDENTIFICATION OF BEAMS WITH UNUSUAL CAMBER

The data in Appendix A on beam cambers were analyzed in an attempt to identify beams with "unusual" cambers in comparison with other beams of identical design. A statistical approach was used to characterize "unusual" camber variations. The objective was to identify a situation where something occurred during manufacture that made a beam different from other beams produced by the same process.

The process of manufacture itself, however, has some degree of variability associated with it. Thus, the question becomes one of deciding whether camber of a particular beam which differs strongly from that of other identically designed beams is a result of natural and therefore legitimate variations in the production process or whether something unusual happened which was directly responsible for the unusual value. That is, does the "outlier" (the beam with unusual camber under consideration) belong to the same population (the remaining beams produced by the same process) or is it from a different population (beams produced by a process with one or more factors substantially different from those of the process under consideration). To make such a determination, one would suspect intuitively that it is necessary to examine the variability among beams produced by the same process. This is in fact the basis of a method for spotting outliers arising from a different population and is based on reference (1). The method compares a point's deviation from a sample mean scaled by the sample's standard deviation. This statistic can be compared against computed values for different significance levels and sample size assuming the data are normally distributed. The significance level in this context is the risk one would be willing to take in reaching the conclusion that a beam camber was from the same population as others when in fact it was not. This T statistic has been computed for each beam and is listed in Appendix A. The sample of the population is taken to be all beams in a given span of a structure. The greater the T statistic for a camber (regardless of sign) the stronger the probability that something occurred during manufacture of the beam, or in the handling after manufacture, that distinguishes it from others in the span.

1.6 MATCHING BEAM CAMBER DATA AND WORKSHEETS

The original intent was to select structures from the listing in Appendix A which had large T-statistic values for some beams and to secure the worksheets covering their manufacture. This, however, was not entirely feasible. The worksheets are kept on file in the regional Materials and Tests office for about 5 years and then transferred to Austin and microfilmed. Construction plans and erection mark layouts also are eventually transferred to Austin for microfilming. Recovery of all desired records proved to be impractical, although worksheets for some of the projects contained in Appendix A were obtained. Since recovery of the worksheets was the more demanding task, the original plan was reversed by gathering data from worksheets available in the regional offices and then attempting to gather camber and erection plans for those projects. The principal disadvantage of this approach was that it could not be determined if unusual camber conditions were present until all data had been secured.

The results of the historical data gathering efforts were summarized on information sheets that are contained in Appendix C. A typical summary sheet is shown in Figure 6. The structure contained two 120 ft. spans with 5 AASHTO IV beams in each span. The strand pattern information is summarized at the top of the sheet and was taken from construction plans. The plan for beam arrangement indicated three erection marks were used. Mark W-20 was used for the beam 1 in span 2 and beam 5 in span 3, while W-22 was used for beam 5, span 2 and beam 1 in span 3. The remaining 6 interior beams (3 in each span) were all given the mark W-21.

This situation is typical of identical erection marks for beams in different positions and spans encountered in trying to match casting information with beam cambers. Information on the manufacture of 6 beams (mark W-21) is available, as well as 6 measured midspan cambers, but it is impossible to determine which of the 6 reported cambers go with which beam. There are a few exceptions, where an erection mark was unique to a single beam, but for the most part, one-to-one correspondence did not exist.

The second column in Figure 6 indicates the age at release for the 10 beams varied from 19 to 40 hours. Concrete strengths at release varied correspondingly (Column 3). The fourth column reports results of design cylinder breaks made in Austin 14 days after casting (the number in parenthesis indicates the number of days between casting and testing). The fifth column reports the number of hours between stressing of strands and casting of beams. The next column contains the temperature change between the time of stressing and the time of casting. The seventh column is the number of days after casting that the beams were shipped to the job site from the manufacturer's storage yard. The eighth column contains curing information. S115 indicates that the beams were steam cured at 115 degrees, following SDHPT specifications that control age of concrete when steam first applied and the rate of temperature increase and decrease at the beginning and end of the curing process. 8S110W indicates that the beams were steam cured for 8 hours at 110 degrees and water cured with wet mats for the remainder of the curing period.

Data from 16 projects, with varying number of spans, was matched in this fashion. The data covers three different manufacturers and the three principal beam types.

PROJECT No. 513 (25) DISTRICT 13 COUNTY Wharton

BEAM TYPE AASHO IV SPAN LENGTH 120.00 ft. MANUFACTURER 1

STRAND PATTERN

ROW No.:	A2	A4	A6	A8	A10	A12	A14	A16	A18	A20
No. STRANDS:	12	12	12	12	6					

DRAPING: RAISE 10 STRANDS TO ROW A52 HARPING DIST. 6.0 ft.

ECCENTRICITY ℄: 19.17 in. ECCENTRICITY END: 11.34 in.

CASTING INFORMATION

	ERECTION MARK	AGE AT RELEASE (hrs.)	RELEASE STRENGTH (psi)	SUBSEQUENT STRENGTH (psi)	TIME STRESSING CASTING (hrs.)	TEMP. DIFF. (°F)	AGE AT SHIPPING (days)	CURING	CAMBERS (in.)
1	W-20	19	5993	8763 (14)	95	+9	255	S115	3.12, 3.24
2		21	5624	8262 (14)	23	0	249	S115	
3	W-21	39	6663	8971 (14)	222	-10	266	8S110W	3.48, 3.78
4		16	5733	8677 (14)	220	-2	265	S115	
5		16	5733	8672 (14)	220	-2	265	S115	3.48, 3.42
6		40	6432	8869 (14)	98	-13	262	8S110W	3.48, 3.48
7		16	5960	8996 (14)	120	-8	261	S119	
8		16	5960	8996 (14)	120	-8	261	S119	
9	W-22	37	6903	8961 (14)	76	+2	256	11S114W	3.24, 3.60
10		37	6903	8961 (14)	76	+2	256	11S114W	
11									
12									
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FIGURE 6. TYPICAL SUMMARY OF DATA TAKEN FROM CONSTRUCTION RECORDS AND PRESTRESSED CONCRETE WORKSHEETS

II. Development of the Research Approach

Several conclusions can be drawn from the information presented in Chapter I. The camber data in Appendix A supports the view expressed by some District construction engineers that excessive differential camber among identical beams does occur. The reported cambers contain some inherent variability. They were computed from elevations read to 1/100th of a foot. Thus, without considering the possibility of other measurement errors, the cambers reported are only accurate to ± 0.12 in. The roughness of top surface of the flange where the rod is positioned undoubtedly contributes additional variability to the readings. Thus, differences in reported cambers of less than about 0.2 in. may reflect measurement error rather than real camber differences.

The additional cost associated with deck construction due to differential camber reflected in the waste factor calculation varies widely. The waste factor is indicative of a unit cost since it has units of cubic feet per square foot of deck area. For a specific value of waste factor, the total expected additional deck cost will increase as the size of the deck increases. Thus, longer spans will involve greater waste costs, even if the waste factor remains constant. There is a general trend of increase in waste factor with increase in span length for each of the three principal beam types (see Figures 2, 3, & 4). The waste factor data are quite scattered however, which makes it unlikely that the problem of differential camber is inherent in structures of a particular span range or which have a particular type of beam. There is no significant evidence that the problem is limited to a particular manufacturer (see Table 2). Thus, recommendations for changes in manufacturing or inspection procedures should be based on their impact on a range of spans and beam types.

Manufacturing data gathered from worksheets indicate variation in a number of factors that influence the camber of identically designed beams. These variations can be termed "legitimate" since they do not violate SDHPT specifications covering the manufacturer of beams. The possibility exists that an extraordinary condition may occur, one which is not apparent to the manufacturer or the inspectors, that produces substantially different cambers in identically designed beams.

The research approach followed in this study was directed toward determining whether unusual camber differences among identical beams could be largely accounted for by legitimate variations in the process of manufacture, storage, transport and taking of beam elevations. Or, if this proved unlikely, then identification of the probable source(s) of unexplained camber differences would be pursued.

The research approach was pursued in two concurrent efforts. The first was observation of the manufacturing activities of producers of highway beams to gather information not available from the data supplied by SDHPT sources. The second activity was the development of an analytical model suitable for prediction of the effect on camber of a variety of factors associated with production and utilization of highway beams.

2.1 PRELIMINARY LIST OF FACTORS CONTRIBUTING TO DIFFERENTIAL CAMBER

Numerous analytical methods for predicting camber change with time have been presented in the literature. The methods are generally structured on the same base of information describing the concrete beam - prestressing strand system. Included in the information describing prestress force is the location and initial tension in the strands and time-dependent loss of prestress force due to stress relaxation. The concrete is characterized by its instantaneous response when load is applied and its time dependent response under sustained load. The instantaneous response is described by the modulus of elasticity of the concrete. Time dependent response of concrete usually involves separate treatment of two phenomena. The first is shrinkage, which is the volume change that occurs as the concrete matures. The second is creep, which is the change in strain over time that occurs when the concrete is subjected to a constant stress. Of the two time dependent effects, creep has a far greater influence on beam camber (2).

A general review of the fabrication process followed by producers of highway beams was performed to develop a tentative list of factors for study during site visits. The review produced the following factors that could be expected to contribute to differences in camber of beams of identical design:

(i) variation in strand force

(ii) variation in position of strands in the beam

(iii) variation in creep and shrinkage properties of beam concrete

(iv) variation in age of beams when strands released and when placed on bent caps just prior to deck casting operations

(v) variations in modulus of elasticity of beam concrete.

2.2 RESULTS OF SITE VISITS

Site visits were conducted for six prestress yards to observe typical production cycles of highway beams and to gather information relating to the factors affecting camber developed above. The yards visited were those of Texas Concrete Company and Baass Brothers in Victoria, the Chalk Hill and Span plants of Texas Industries, Inc., in Dallas, McDonough Bros. in San Antonio, and Texas Concrete Company, Elm Mott Plant near Waco. An initial round of site visits was conducted during the spring of 1975 to observe fabrication operations, interview SDHPT Division of Materials and Tests personnel and gather other information which might prove useful. A second round of visits was conducted in the spring of 1976 to obtain modulus of elasticity data and to collect casting information from area offices of the Materials and Tests Division. The findings from these field studies are discussed below as they relate to the various factors affecting camber listed above.

2.2.1. Variation in Strand Force and Strand Position. The positioning of prestress strands and their stressing is covered by Specifications (3, 4) and by Inspection Bulletins issued by the Materials and Tests Division of the SDHPT. The tensioning force exerted on strands is monitored by elongation measurements and by pressure gage readings from the hydraulic jack used in the tensioning operation. This technique provides a dual check on the force induced in strands and if significantly different force readings are obtained from the two methods, the fabricator must repeat the stressing operation. Different initial tension forces are exerted on straight and draped strands. The straight strands are pulled to their prescribed final tension at the outset and checked by gage pressure reading and by measuring elongation of the strand at the jack. Draped strands are stressed to the same final tension as straight strands, but the operation is performed in two stages. The strand is first given an initial tension in the straight position. It is then moved into its final position by jacks which move it vertically, either by pushing down at the hold down points or pulling upward at the ends of the beams. The final force in each draped strand is checked by measuring elongation between pairs of reference points marked on the strand. One pair is located adjacent to the bulkhead where the jack is applied and the other pair near the opposite bulkhead. Elongation measurements made at both ends of the strand are intended to detect variation in prestress force along the strand due to friction losses at hold down points and the ends of the beams.

The pressure gage used to measure jacking force must be accurate to one percent of the force applied. Elongation measurements must be accurate to one percent of the theoretical elongation or 1/8 in., whichever is smaller. The force induced in either straight or draped strands, computed by gage pressure and by elongation (at the jacking end), must agree to within five percent or the stressing operation must be repeated. For measurements of elongation on draped strands at the "dead" end, the average overall draped strands must be within five percent of the computed elongation. No individual strand can vary from the calculated elongation by more than 10 percent at any location where elongation measurement is made (4).

Detailed observations of stressing operations were made at Victoria (Texas Concrete Co.), San Antonio and Dallas (Chalk Hill plant). Interpretation of the above specifications was uniform among the operations observed Straight strands pulled individually were checked by gage pressure and by elongation at the jack. Discrepancies between gage pressure and elongation indications of force could not exceed five percent. An average error in elongation of draped strands was computed by summing the difference between measured and computed elongation (expressed as a percentage of computed elongation) at each end of each draped strand and dividing by the total number of readings taken. This average was required to be less than five percent. The percent error in elongation for any single measurement on a draped strand could not exceed 10 percent.

Typically, errors in the stressing operations were well within the specified limits. In general, control over this phase of the production process was quite good.

Time lapses between stressing of strands and casting operations were extensive in a few instances. Identical beams were observed with more than 8 days difference in the time between stressing and casting. Such practices result in stress losses due to relaxation that will be different.

When concrete is poured into beam forms and vibrated to obtain compaction, forces are exerted which tend to displace the strands from the positions they occupy after stressing. Discussions with Bridge Division and Materials and Tests Division personnel indicated some concern about the extent and effect of this phenomenon. Thus, an effort was made to measure the location of strands in a finished beam. The device used was a Pachometer, originally developed to locate conventional reinforcing bars in concrete structures. The device measures the strength of the magnetic field set up between it and a reinforcing bar and is calibrated to indicate the size of bar and its distance from the surface of a member. It was found that the instrument responded erratically when several reinforcing bars were in close proximity. Attempts to calibrate it against a group of prestress strands situated on a 2-inch grid proved to be totally unsuccessful.

The only direct evidence that strands are displaced by the casting operation was found in a beam produced at McDonough Bros. in San Antonio that was rejected due to "honeycombing" along the bottom flange near mid-span. The beam was a 102 ft. long SDHPT 54" beam and the voids were extensive enough to expose the bottom four rows of strands (each containing 2 draped and 4 straight strands) approximately 7 ft. outside the harping point. Photographs of the area are shown in Figure 7. The degree of strand displacement is rather severe.

2.2.2. <u>Age Differences of Identical Beams.</u> It is not unusual for a large construction project to extend over a period of several years. If many of the bridge structures in the project happen to contain beams of identical design, it is possible that the production of beams may likewise extend over several years. The production yards visited all had extensive storage facilities, permitting the stockpiling of large numbers of beams. As beams are removed from the production line, the date of manufacture, erection mark and project number are marked on them and they are placed on blocks in an upright position in closely spaced rows. As bridge construction progresses, beams with the required erection mark are selected from those available in the storage yard and are delivered to the job site. The selection process involves no explicit consideration of date of manufacture and is probably based on accessibility of beams as they are found in storage. Inspection of beams in storage in the plants visited frequently produced cases of identical beams with age differences of six months or more.

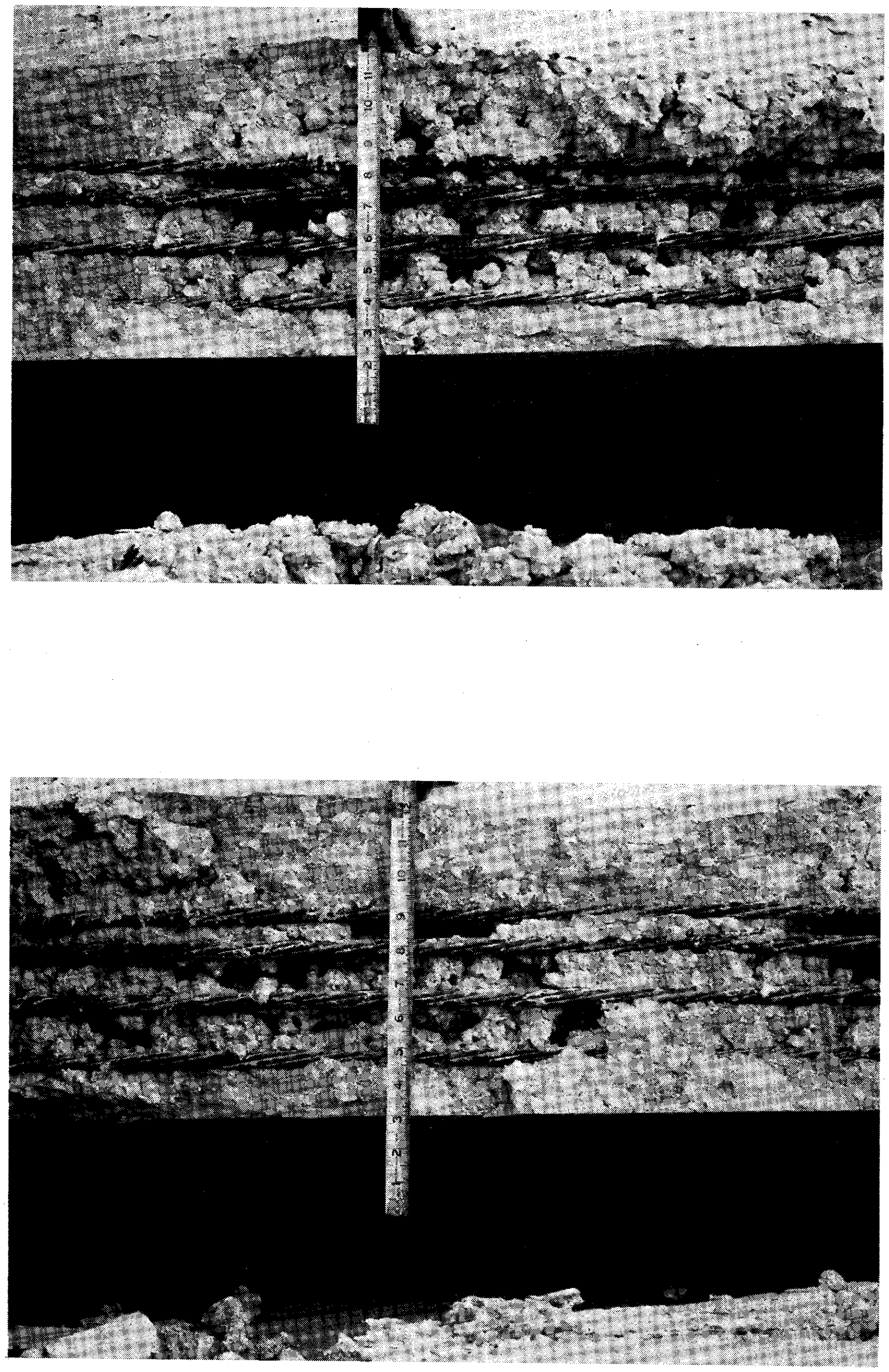


FIGURE 7. TYPE 54 BEAM WITH EXPOSED STRANDS

FIGURE 7 (CONTINUED). TYPE 54 BEAM WITH EXPOSED STRANDS

Camber growth continues with time at a decreasing rate. Thus, even though two beams may be identical in all respects, a significant difference in their age (measured from date of casting) would result in different cambers when they are placed in the structure. The difference could be aggravated by the fact that the conditions under which they are produced will not be identical. If one beam is produced during the winter months while the other is manufactured in the summer, the two will be subjected to extremes in curing conditions, which is known to influence the amount of camber which occurs. Other variations, related to the different times of manufacture, are possible and undoubtedly do occur.

2.2.3. Differences in Age at Release and Curing Practices. A prestressed concrete beam attains a large percentage of its final camber during the first few months after release of strands. The final camber value it attains (the value which is approached asymptotically) is known to be sensitive to compressive strength of the beam concrete when the strands are released and to the curing conditions to which it is subjected. These two effects are obviously interrelated. The principal factor affecting the production schedule of beams is the required minimum strength of beam concrete that must be obtained before the prestress force may be released. The determination of release strength is made on the basis of the average compressive strength of two cylinders cast and cured with the last beam in the production line. If the average exceeds the specified release strength, the producer may release the line, although he is not required to do so. If the average strength of the two cylinders is low, the producer may continue the curing process* and try again later to obtain the required strength on the two release breaks. All producers tend to work to a cyclic production schedule. The cycle time depends on many factors, but is usually constant for specific beam design. That is, the age at release of beams of identical design normally varies by only a few hours. The break strengths obtained among beams of identical design and age at release show some variability, as can be seen from the data in Appendix C and Table 3.

The data in Appendix C show deviation from an established production cycle for a particular design occurs with some frequency. This can result in beams of identical design with drastically different ages at release and hence different concrete strengths at release. There are apparently a number of different production factors which can lead to this situation. The one leading to the greatest difference in age is what has been termed the "weekend" beam. Typically, a line of beams may be cast on Thursday and scheduled for release on Friday. However, for whatever reason, the line is not released by the end of the working day. The beams then remain in the line , unstressed, until they can be worked into the production cycle at the beginning of the next week. This may be Monday or in some instances Tuesday or even later. Thus, these beams may be 48, 72 or more hours older when released than beams produced under the normal production cycle.

*With the exception of McDonough Bros. in San Antonio, all producers used steam curing. SDHPT specifications require a gradual "cool down" process in which the beams are allowed to return to ambient temperature over a period of several hours. Release breaks are normally made early in the morning so that the cool down process may be initiated and completed by the time the production crew reports to work. If the first release breaks are low, but close to the required strength, the producer may begin the cool down process and gamble that he will obtain the required strength on the next tests without additional steam curing.

SAN ANTONIO (McDonough Bros.)		
Mark	f'_c (psi)	E (ksi)
S1-1	5380	4310
S1-2	6050	4110
S2-1	5640	4590
S2-2	5570	4590
S3-1	5520	4370
S3-2	6010	4480
S3-3	6050	4760
S4-1	5020	4430
S4-2	6010	4430
S4-3	6000	4430
S5-1	5940	4200
S5-2	5850	4200
S6-1	6230	4960
S6-2	6160	4820

VICTORIA (Texas Concrete Co.)		
Mark	f'_c (psi)	E (ksi)
V1-1	7040	4932
V1-2	7290	5100
V2-1	6690	4930
V2-2	6900	5400
V3-1	6540	5000
V3-2	6760	5640
V4-1	7300	4930
V4-2	7220	5370
V5-1	7130	4800
V5-2	7220	5600
V5-3	6970	5260

DALLAS (TXI) (Chalk Hill Plant)		
Mark	f'_c (psi)	E (ksi)
D1-1	6740	6020
D1-2	6670	5870
D1-3*	7890	6130
D2-1	5840	4520
D2-2	6000	4850
D2-3*	6800	5270
D3-1	5610	4910
D3-2	5980	6360
D3-3*	6770	5570
D4-1	5800	4915
D4-2	6000	5172
D4-3*	6780	5860
D5-1	6540	4950
D5-2	6760	4970
D5-3*	7270	5760

*Tested at A&M lab 24 hours later

TABLE 3. MODULUS OF ELASTICITY OF CONCRETES TAKEN AT THREE LOCALITIES IN THE STATE.

Additional variations in production activities are usually associated with the weekend beam. Producers normally will not maintain steam curing through the weekend and convert instead to wet mat cure at the end of the work day on Friday. It is well known that the curing conditions to which a member is exposed influences its final camber. There is not, however, general agreement on which mechanism(s) produce the effect, nor how significant the conditions of cure prior to release in comparison to the much longer exposure after release.

2.2.4. Variability of Concrete Modulus of Elasticity. As part of the site investigations, data was collected on the modulus of elasticity of concrete being produced at the time of the site visit for three plants. The purpose of the data collection was to examine the variability in the modulus of elasticity of concrete cylinders taken from the casting operation on a single line of beams of identical design. Typically, four to six beams were on a production line, and two to three cylinders were cast with each beam. In some cases, all cylinders cast with a beam came from the same batch of concrete. In other cases, cylinders came from different batches. They were cured under the same conditions as the corresponding beam by placing them beside it on the line during the curing process. An extensometer with four mechanical displacement gages was used in the modulus test. The extensometer device, shown in Figure 8, has an upper and lower yoke which encircles the cylinder and positions each pair of dial gages at opposite ends of two lines which intersect at right angles. The point of intersection is referred to as the gage center. Each yoke is attached to the cylinder by four set screws which are tightened to embed their ends into the face of the cylinder.

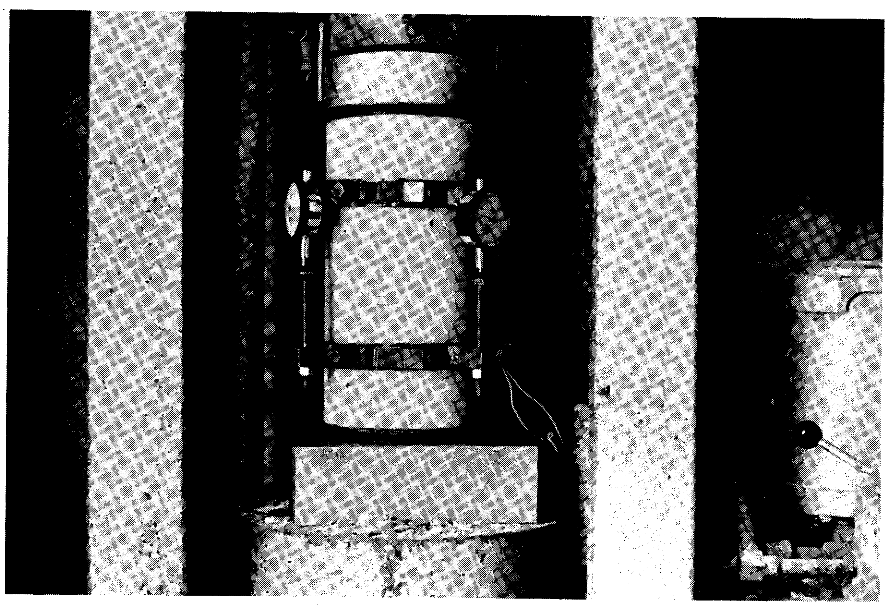


FIGURE 8. CYLINDER WITH EXTENSOMETER IN PLACE

The change in the original distance between the upper and lower yokes (6 inches) as the cylinder is compressed is recorded to an accuracy of 1×10^{-4} in. by the dial gages. The strain at the four locations around the perimeter of the cylinder can then be computed from the dial gage readings.

The use of the mechanical extensometer was dictated by test conditions. Tests were run in the fabrication yard using SDHPT testing machines and personnel. Thus, the tests were conducted quickly and with less control than that possible in a laboratory. Analysis of the test data gathered indicated the presence of experimental error, which tends to make modulus of elasticity appear somewhat more variable than is actually the case. Explanation of the experimental error is given below.

It is virtually impossible to maintain a truly concentric load with conventional strength testing machines. It is also difficult to insure that the gage center coincides exactly with the geometrical center of the cylinder. Figure 9 depicts the situation which exists when both the center of load and gage center do not coincide with the center of the cylinder. An x-y coordinate system has been constructed through the center of the cylinder and parallel to the arms of the extensometer. The center of load is specified by an eccentricity e and the angle ψ. The gage center is offset from the center of the cylinder an amount e_x in the x-direction and e_y in the y-direction. H_1, L_1, H_2, and L_2 denote the gage readings observed for a particular load P. The stress which exists at each of the gage points is the sum of the axial compression and bending stress contributions. It can be shown that the observed gage point readings and the quantities defined above are related by the expressions given below.

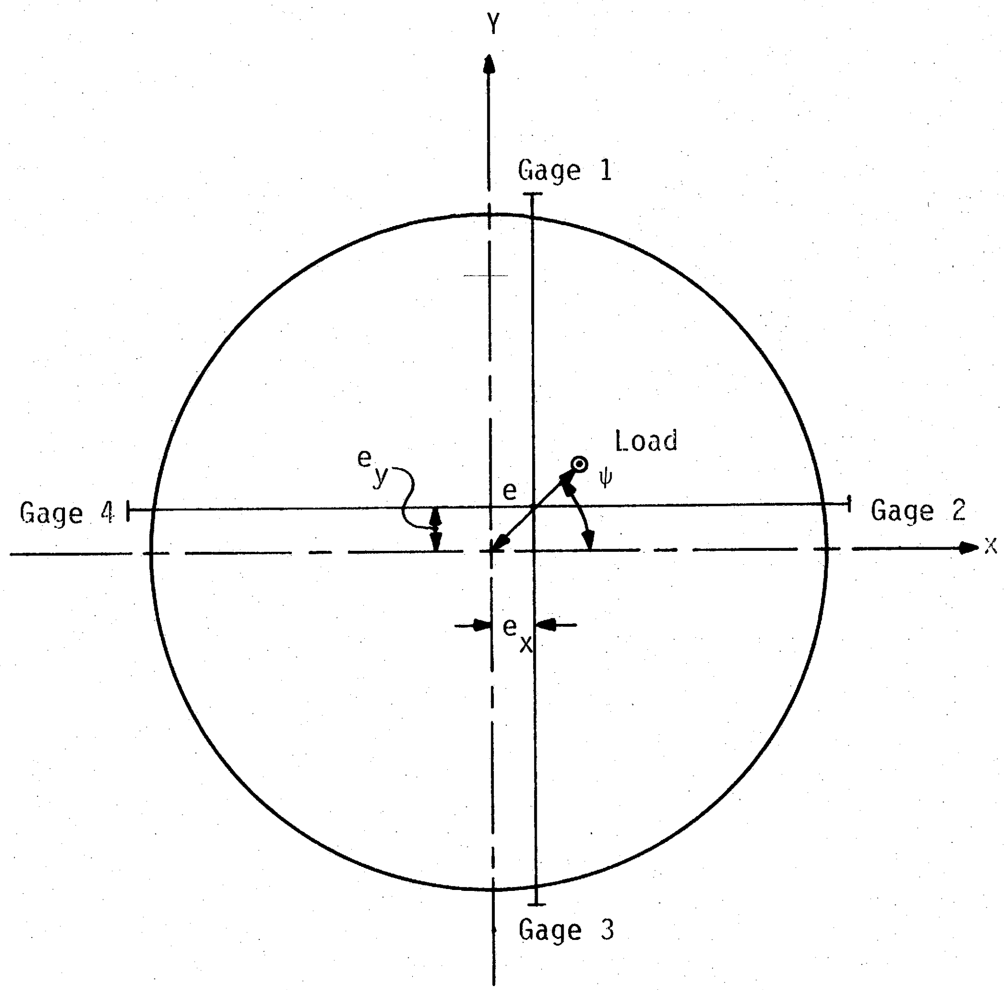


FIGURE 9. IDEALIZATION OF EXTENSOMETER ATTACHMENT TO CYLINDER

$$H_1 = \frac{GL}{E} \{ \frac{P}{A} + \frac{Pe}{I} [\sin\psi \sqrt{r^2 - e_x^2} + e_x \cos\psi]\} \quad (8)$$

$$L_1 = \frac{GL}{E} \{ \frac{P}{A} + \frac{Pe}{I} [-\sin\psi \sqrt{r^2 - e_x^2} + e_x \cos\psi]\}$$

$$H_2 = \frac{GL}{E} \{ \frac{P}{A} + \frac{Pe}{I} [\cos\psi \sqrt{r^2 - e_y^2} + e_y \sin\psi]\}$$

$$L_2 = \frac{GL}{E} \{ \frac{P}{A} + \frac{Pe}{I} [-\cos\psi \sqrt{r^2 - e_y^2} + e_y \sin\psi]\}$$

In Eq. (8), the following additional terms are used:

GL = gage length (6 in.)

E = modulus of elasticity of the concrete

P = applied load

A = area of the cylinder (28.274 $in.^2$)

I = moment of inertia of cylinder area about diameter line (63.617 $in.^4$)

The usual method of data reduction for extensometer tests is to average the four gage readings (i.e., $\frac{1}{4}[H_1+L_1+H_2+L_2]$) and divide by the gauge length to obtain the average strain corresponding to an average stress of P/A. Dividing the stress P/A by the strain computed in this fashion yields the modulus E. The conditions under which this procedure is theoretically correct can be derived from Eqs. (8). If either the load eccentricity e or the gage center eccentricities e_x and e_y are zero, then the above procedure is correct. However, if both e and one or both of the quantities e_x and e_y are nonzero, the above procedure does not yield the proper value of modulus E. The error in the latter case is a function of e, e_x, e_y and ψ, which are unknown. The eccentricities e_x and e_y are dependent upon the way in which the yokes are attached at the outset of the test and remain unchanged as load is applied.

The quantities e and ψ, however, can be reasonably expected to change somewhat under each additional increment of load due to deformations in the cylinder and cylinder capping material relative to the essentially undeforming steel loading plates of the testing machine. When a load is applied eccentrically ($e \neq 0$), the average stress P/A is not the highest stress on the cylinder. It occurs at the point where the line defining ψ in Figure 9 intersects the edge of the cylinder. Thus, associating an observed modulus value with the average (P/A) compressive stress on the cylinder at failure, can be misleading since the stress which precipitates failure is higher than the average stress due to the eccentricity of load.

The preceding comments are made in preface to a discussion of the modulus data taken in the course of this investigation. Tests were run on cylinders at McDonough Bros. in San Antonio, Texas Concrete Company in Victoria and TXI's Chalk Hill plant in Dallas. Basically the same test procedure was followed at each location. The test cylinders were made from concrete being poured on a production line of beams, were cured with those beams, and were tested shortly after the release cylinders for the line were broken early in the morning. The extensometer was placed on a cylinder and positioned in the testing machine. An initial load of 10 kips was applied and the dial gages zeroed prior to the beginning of the test. Loading was in 10-kip increments, with gage readings taken at each load increment. When the terminal load was reached, the yokes were released and the extensometer removed. The loading was then taken to failure to obtain the compressive strength of the cylinder. The only exception to this procedure occurred at San Antonio. There the testing machine arrangement was such that the cylinder had to be unloaded and removed from the machine before the extensometer could be removed safely. The cylinder was then returned to the machine and tested to failure.

The data taken are contained in Appendix D. The cylinders are identified with the notation S1-1, D4-2, etc. The letters S, D and V indicate tests conducted at San Antonio, Dallas and Victoria, respectively. The first digit indicates the beam number in the production line from which the cylinder was cast and the second digit denotes the cylinder number for that beam (1, 2, or 3). Gages 1 & 3 and gages 2 & 4 were paired on opposite sides of the extensometer. An inspection of the readings in Appendix D indicates that significant eccentricities were present in some tests. No satisfactory technique was found for preventing this. Early in the testing program attempts were made at unloading the cylinder and repositioning it in the testing machine. This procedure for eliminating eccentricities did not prove satisfactory for several reasons. First, significant improvement could not be consistently obtained, and when initial improvement was obtained, eccentricity of load tended to creep back into the test at higher loadings. Adjustments to the position of the extensometer proved to be even more frustrating. Minor adjustment, which could only be made on the basis of intuition as often as not made the situation worse. A measure of the eccentricities in the extensometer (e_x and e_y in Eqs. (8) can be obtained by averaging readings for gages 1 & 3 and 2 & 4. If e_x=e_y=0, Eqs.(8) indicate that the two averages should be equal. In a number of cases, this is obviously not true. In a number of instances, one gage remained essentially stationary as the load increased. When this occurred early in the load history, the specimen was unloaded and the gage was adjusted and rezeroed to insure that it was not sticking or had "bottomed out". Very seldom did this improve the situation. In a few instances, this erratic behavior included a gage "going negative" at lower loads, indicating that the concrete at that point was under slight tension. This is possible only under rather significant load eccentricities (e in Eqs. (8)). Modulus of elasticity values for each cylinder tested were obtained by plotting average stress (P/A) against average strain (sum of the gage readings divided by 4 times the gage length) and graphically fitting the best straight line to the points up to one half f'c. The results are summarized in Table 3 where the modulus of elasticity and compressive strength for each cylinder are listed. Figure 10 shows a plot of modulus vs. the square root of compressive strength for all tests. It is generally accepted (5) that modulus of elasticity is approximately proprotional to the square root of compressive strength for concretes with similar aggregate. The course aggregate used at all three plants was crushed limestone. As can be seen in Figure 10, there is considerable scatter in the data. Part of the variation can be accounted for on the basis that proportionality is only approximate. The data from which the proportionality relationship was derived (6) displayed comparable scatter, although the variety of mix designs and aggregates considered was much greater. The other source of variation could be one or more of the factors discussed above. The range of variation in measured modulus values (largest minus smallest divided by average) was 16% for Victoria, 34% for Dallas, and 19% at San Antonio.

2.2.5. Variability of Measured Release Cambers. In addition to basic data on concrete modulus variability, measurements of camber immediately after release of strands were made on beams of identical design cast in the same line. The measurements were made on the first site visits to the plants at Victoria, Dallas and San Antonio. The beams observed at Victoria were

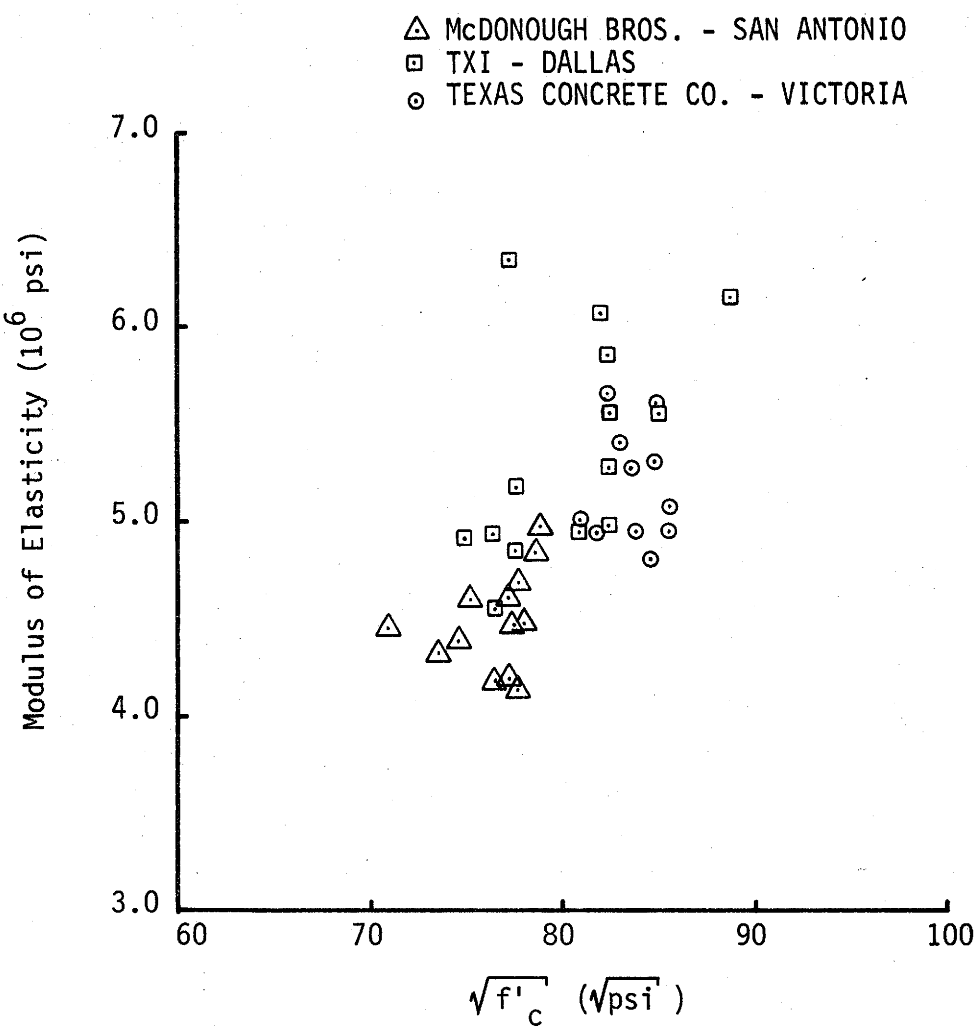


FIGURE 10. MODULUS OF ELASTICITY VS. CONCRETE STRENGTH FOR 3 PRODUCERS

100 ft. SDHPT 54 in. beams and 79 ft. type C beams at Dallas. At San Antonio, 74.7 ft. type C beams were observed. Centerline camber was measured with an accuracy of 1/16 in. The measurement was made between the soffet of the beam form and the bottom face of the beam.

Camber measurements are given in Table 4. Camber of a beam upon release results in heavy bearing between the ends of the beam and the supporting form. Shortening of the beam occurs at the same time that the camber is being developed, and the result is friction at the ends which resists shortening. That friction also reduces release camber. The friction is probably about the same from beam to beam and its influence on camber in any one line of bemas would be about the same. In theory camber varies inversely as modulus of elasticity, but the tabulated cambers do not reflect the variability seen in modulus shown in Fig. 10. The more stable camber can be rationalized in several ways.

One explanation is that the test procedure for modulus values is more susceptible to variability than the "true" modulus values - that is, the scatter in modulus values is due largely to experimental error. Unfortunately, there are no data available with which to explore this possibility. Another explanation is connected with the accuracy of measurement of release cambers. How sensitive is release camber to concrete modulus? That is, how much variation in modulus could occur without being detected by a measurement accurate to 1/16 in.? This aspect was explored using the beams observed at San Antonio and the camber model developed in the next chapter. The observed camber at release for four of the five beams (see Table 4) was 1¼ in. Using the properties of the beam and its strand pattern, it was found that a modulus of 4850 ksi produced a release camber of 1.25 in. Holding all other parameters in the model constant, the modulus at release was varied, and it was found for this particular beam that slightly less than a 5%

variation in modulus about the value of 4850 ksi was necessary to produce a release camber which was 1/16 in. greater or less than the observed value of 1.25 in. The general sensitivity of beam camber to modulus at release is, of course, dependent on the properties of the particular beam under consideration. However, to expect that variations in modulus of the size found in the testing program reported in Table 3 to not be reflected in measurable differences in release camber does not seem plausible.

2.3 SUMMARY OF SITE VISIT FINDINGS

Observations of the fabrication of highway beams at six prestress plants were made and follow-up studies were conducted at three of these locations. The procedure used by SDHPT inspectors in monitoring the tension induced in the prestress strands during the stressing operation provides good control over strand force. The variability in prestress force can be expected to be well within the limits permitted by SDHPT specifications. No quantitative statement concerning the displacement of strands from their designated positions caused by casting operations could be made, although evidence was found in one instance that some straight strands were displaced almost 2 in. below their designated positions. If no support or spacers are provided between these points, the amount of strand displacement can be expected to increase with increase in beam length and with increase in beam depth because of greater weight of concrete above the strand. Time lags between stressing of strands and the beginning of casting operations were observed to vary considerably in some instances, allowing greater stress relaxation losses to occur in the strands.

Potential sources of variation in camber of identical beams were found that stem from differences in age of beams and in differences in casting operations. Beams that are identical in other respects will attain different cambers at the time of deck casting if their age differences are substantial. The amount of camber a beam attains is influenced by the age of the concrete when strands are released. Cases were found where there was more than 3 days difference in ages of identical beams at the time strands were released. In most of these instances, a change from steam to wet mat curing introduced additional variations that would affect final camber.

An extensive sampling of modulus of elasticity values of concrete poured on the same production operation were taken. The results of the test program were somewhat inconclusive. They indicated a range of variation that does not seem to be consistent with variations in observed camber of beams at release. There is ample evidence indicating the variability in modulus values was in part associated with experimental error in the testing procedure.

2.4 DESCRIPTION OF THE ANALYTICAL MODEL

The analytical model used in this study was an adaptation of that developed by Sinno and Furr (7) who used it to predict the cambers of prestressed concrete highway beams. The mathematical basis of their model is contained in the work of Sinno (2). Refinements in their basic model were developed in this study to accommodate the various factors identified earlier as affecting camber. An explanation of these refinements is presented below.

2.4.1. Assumptions Underlying the Sinno and Furr Model. The model presented by Sinno and Furr for predicting time-dependent deflection of prestressed beams was based on the following assumptions:

(i) beam cross sections remain uncracked, and under both initial elastic and long term inelastic behavior, plane sections remain plane,

(ii) the stress level in prestress strands is sufficiently low that the stress-strain relationship for the strand material is linearly elastic and time-dependent stress losses in the strands (strand relaxation) can be neglected,

(iii) a suitable modulus of elasticity value for the concrete at release of strands is available,

(iv) a shrinkage function, suitable for the beam concrete under consideration is available, which gives shrinkage strains as a function of time in the form of a hyperbolic function,

(v) concrete displays the superposition characteristic under creep loadings, i.e., the creep strains occurring at any time after loading are directly proportional to the stress initially applied,

(vi) the creep behavior of concrete can be characterized by a unit creep function of hyperbolic form,

(vii) concrete throughout a beam has the same properties.

2.4.2. Generalized Unit Creep Function. The strain which occurs in concrete under a constant applied unit stress is called creep strain and the function ε_c giving its value is referred to as the unit creep function. It has been observed by many researchers that this function depends both on length of time the unit stress has acted as well as the age of the concrete when the stress is first applied.

Sinno and Furr used a special form of the unit creep function

$$\varepsilon_c(t,a) = \frac{A(t-a)}{B+(t-a)} \qquad (9)$$

to predict the creep strain occurring under a 1 ksi stress at time t when the stress was applied at time a=0. They obtained good agreement between predicted camber and measured camber for a number of highway beams. The constants A and B were determined by conducting creep tests on samples of concrete taken from the beams whose behavior was studied. Creep specimens were cast with the beams and subjected to the same curing conditions as the beams. The specimens were loaded with 1 ksi stress at the same time the strands were released. Thus, the unit creep curve obtained was "matched" with the conditions of the curing and age at loading of the particular beam. Ingram and Furr (8) later obtained values of the constants A and B for concrete produced in several localities in Texas. Creep tests were run on concrete produced by manufactures in Dallas, San Antonio, Odessa and Lufkin, Texas. Test specimens produced at each site were cured under the same conditions as typical beams produced there. At San Antonio, curing consisted of 24 hours of water curing prior to application of load. At Dallas, steam curing was used for 15 hours prior to loading at 18 hours. Mix designs at each locality used Type III Portland cement and either crushed limestone or limestone gravel course aggregate. Table 5 lists the constants A and B obtained from the test specimens while Table 6 contains strength and modulus data for these concretes. No data was taken on concretes produced in Victoria, where many of the beams investigated in this study were produced.

The unit creep function defined by Eq. (9) and the constants in Table 5 apply for concrete loaded at specific ages. There is ample evidence in the literature to indicate that initial loadings at different times would produce

	Midspan Camber (In.)				
Location	Beam 1	Beam 2	Beam 3	Beam 4	Beam 5
Victoria	1 1/16	1¼	1¼	1 1/8	
Dallas	1 3/8	1¼	1 3/8	1¼	1¼
San Antonio	1 3/8	1¼	1¼	1¼	1¼

TABLE 4. MEASURED RELEASE CAMBERS

Concrete Producer Location	Constant A (μ-in/in/ksi)	Constant B (days)	f'_c* (psi)
Dallas	440	60	7,080
San Antonio	400	50	5,250

*Compressive strength of concrete at time of loading.

TABLE 5. UNIT CREEP FUNCTION CONSTANTS FROM REFERENCE (8).

Concrete Producer Location	Age (days)	Strength f'_c (psi)	Modulus E_c (ksi)
Dallas	0.75	7,080	5,200
	7	7,400	5,710
	28	8,490	5,270
	90	8,970	5,430
	180	8,800	5,310
San Antonio	1.0	5,250	4,220
	7	7,560	5,370
	28	8,710	5,400
	90	9,270	5,250
	180	8,710	5,850

TABLE 6. STRENGTH AND MODULUS DATA FROM REFERENCE (8).

different constants. Neville (5) has presented data to support his hypothesis that the ultimate unit creep strain (the constant A), is roughly inversely proportional to the stress-strength ratio. That is, to the ratio of the compressive strength of the concrete when first loaded to the compressive strength of the concrete at $t=\infty$. Under this assumption, if the constant A has the value $\bar{A}$ for a concrete whose strength is $\bar{f}'_c$ when first loaded, the A for concrete loaded at a different time is given by

$$A(a) = \frac{\bar{f}'c}{f'c(a)} \cdot \bar{A} \tag{10}$$

where

$\bar{A}$ = unit creep strain at $t=\infty$ for concrete whose strength was $\bar{f}'_c$ at time of loading.

The form of Eq. (10) proved workable because data on concrete strength gain versus time was reasonably easy to gather and by nature should reflect variations in curing conditions. Preliminary data indicated the relationship between age and strength could be approximated by

$$f'_c(a) = \frac{f'_{c\infty}[a+t_{cr}]}{b + [a+t_{cr}]} \tag{11}$$

where

$f'_c(a)$ = compressive strength of concrete at time $(a+t_{cr})$ since casting

$f'_{c\infty}$ = compressive strength of the concrete at $t=\infty$

t_{cr} = time between casting of concrete and application of stress

a = time measured from application of stress

b = a constant depending on curing conditions.

A plot of $f'c(a)/f'c\infty$ vs. time is shown in Figure 11.

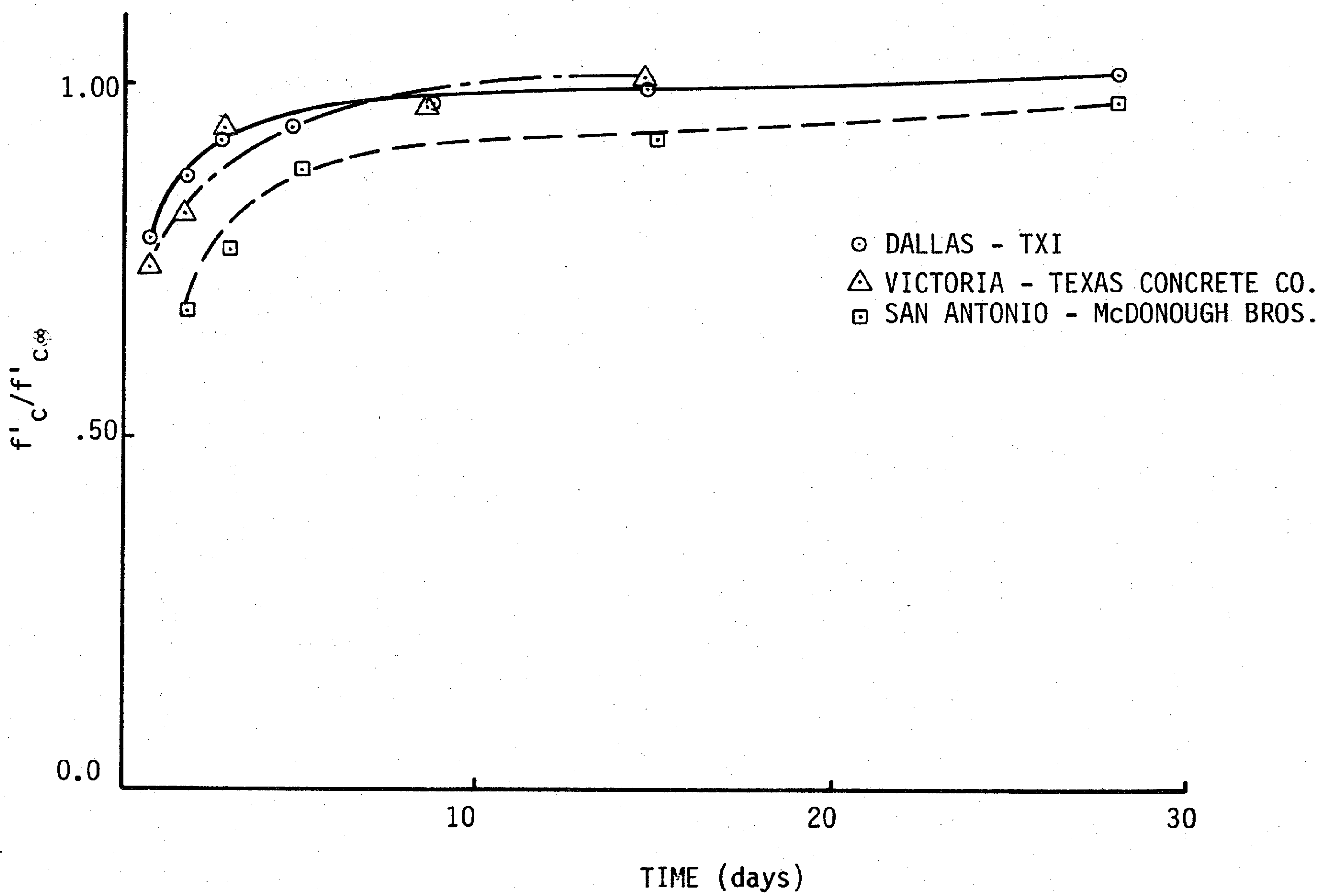


FIGURE 11. $f'_c/f'_{c\infty}$ VS. TIME FOR 3 PRODUCERS

The constants $f'_{c\infty}$ and b were determined for typical concretes produced at San Antonio, Dallas and Victoria. SDHPT personnel at each of the plants cast cylinders from a single batch of concrete used in production, cured them in the same manner as beams produced there and then ran strength tests over a 28-day period. The data obtained are listed in Table 7. A least squares fitting technique was used to compute the constants $f'_{c\infty}$ and b for the data at each location and the results are given in Table 8. It is interesting to note the effect of curing technique on the shape of the curve defined by Eq. (11). Concrete from Dallas and Victoria was steam cured for approximately 15 hours and then placed in storage beside beams being produced at that time. The cylinders at San Antonio were moist cured using wet mats for approximately 48 hours and then moved to storage in the yard. The constant b is time required for the concrete to obtain one half of its final ($t=\infty$) compressive strength. For steam curing, this requires 5 to 6 hours, while for moist curing, more than 20 hours are required. Substituting Eqs (10) and (11) into (9) produces the following final expression for unit creep strain:

$$\varepsilon_c(t,a) = \frac{\bar{f}'_c}{f'_{c\infty}} \cdot \bar{A} \cdot \frac{\{b+[a+t_{cr}]\}}{\{a+t_{cr}\}} \cdot \frac{\{t-a\}}{\{B+[t-a]\}} \qquad (12)$$

The relationship contains five constants which must be evaluated.

2.4.3. Shrinkage Function. Sinno and Furr and Ingram and Furr approximated the time dependent drying shrinkage strains occurring in concrete by a hyperbolic function. They used the expression

$$\varepsilon_s(t) = \frac{Ct}{D+t} \qquad (13)$$

DALLAS		SAN ANTONIO		VICTORIA	
Age (days)	f'_c* (psi)	Age (days)	f'_c* (psi)	Age (days)	f'_c* (psi)
0.75	6340	1.8	5570	0.68	5910
1.75	7050	3.0	6300	1.68	6530
2.75	7500	5.0	7240	2.84	7520
4.75	7610	15.0	7600	4.69	7400
8.75	7900	28.0	8050	8.69	7770
14.75	8100			14.69	8100
28.75	8330				

*Average of 2 cylinders

TABLE 7. CONCRETE STRENGTH VS. TIME FOR 3 LOCATIONS

	DALLAS	SAN ANTONIO	VICTORIA
f'_{∞} (psi)	8140	8240	8010
b (days)	0.22	0.86	0.26

TABLE 8. CONSTANTS FOR EQUATION (11) RELATING CONCRETE STRENGTH TO TIME.

Concrete Producer Location	Constant C (μ-in/in)	Constant D (days)
Dallas	315	20
San Antonio	380	25

TABLE 9. SHRINKAGE FUNCTION CONSTANTS FROM REFERENCE (8).

Table 3 lists values for the constants C and D from reference (8). The values were obtained from specimens vastly different than full beam cross sections. The principal factors affecting the constants are curing conditions and volume/surface ratio of the member (9). The shrinkage strains appear to have little influence on final cambers according to Sinno (2).

2.4.4. Modulus of Elasticity Function. The initial camber on release of strands is influenced primarily by modulus of elasticity. Modulus is known to increase approximately with the square root of compressive strength (6). Thus, the following expression was used to express the time dependence of the modulus of elasticity:

$$E_{(t)} = G \cdot \sqrt{f'_c(a)} + H \tag{14}$$

where $f'_c(a)$ is given by Eq. (10). The constants G and H were evaluated for the modulus data taken at San Antonio, Dallas and Victoria (see Table 3 and Figure 10) using least squares fitting to obtain the constants shown in Table 10. The data available is not particularly well suited for characterizing the relationship between modulus and strength because the strength values tend to be clustered about a central value. This is especially true of the data taken at Victoria and is reflected in the value of G which is nearly zero, indicating that the modulus is essentially independent of concrete strength. Where wider variation in strengths occurred (Dallas and San Antonio), the effect of concrete strength is more pronounced and yields non-zero values for the constant G. Values of the constants were also computed for combined data from all locations for comparison purposes.

Origin of Test Data	Constant G ($psi^{-\frac{1}{2}}$)	Constant H (ksi)	Average Root - Mean-Square Error[1] (ksi)
San Antonio	37.04	1646	842
Dallas	81.30	-1130	1831
Victoria	-0.012	5180	922
All	89.13	-2103	2852

[1]Difference between observed modulus and that predicted by equation; squared, summed over all data points, square root taken, and results divided by number of data points.

$$E_{(t)} = G \sqrt{f'_c(a)} + H$$

TABLE 10. CONSTANTS FOR EQUATION RELATING MODULUS OF ELASTICITY TO CONCRETE STRENGTH.

San Antonio: $E = 37,040 \sqrt{f'_c} + 164,000$ (psi)

Dallas : $E = 81,300 \sqrt{f'_c} - 1,130,000$

Victoria : $E = - 12 \sqrt{f'_c} + 5,180,000$

All : $E = 89,130 \sqrt{f'_c} - 2,103,000$

2.4.5. Strand Relaxation Stress Loss. The work of Magwra, Sozen and Siess (10) forms the basis of the present AASHTO expression for relaxation loss of prestress. Their expression was incorporated, giving

$$f_s(t) = f_{si} \{1-0.1 \log T[fsi/fy - .55]\} \tag{14}$$

where

$f_s(t)$ = stress in strand at time t

f_{si} = initial stress in strand

f_y = .1% offset stress (assumed to be 85% of f'_s, the ultimate strength of the strand)

2.4.6 Strand Force and Position Variability. In order to accommodate studies of the effect of variations in strand force and strand position, the model was generalized to treat each row of strands individually. Each row was assumed to consist of straight and draped strands. The draped strands were characterized by their deviation from the position occupied by the straight strands in that row. Figure 12 shows the five eccentricity values used to define the position of draped strands in a row. This scheme permits the approximate modeling of strands displaced by the placement of concrete. The assumed position of draped strands in a row (for design calculations) is obtained by setting $e_{HL} = e_C = e_{HR} = 0$. If a row of straight strands is displaced downward by the weight of concrete, this situation can be modeled by treating the straight strands as draped and assigning non-zero values to e_{HL}, e_C and e_{HR}. Model parameters permit the specification of different pre-release forces for draped and straight strand force for each strand row. This generality affords adequate flexibility for modeling variations in the force and position of strands in a beam.

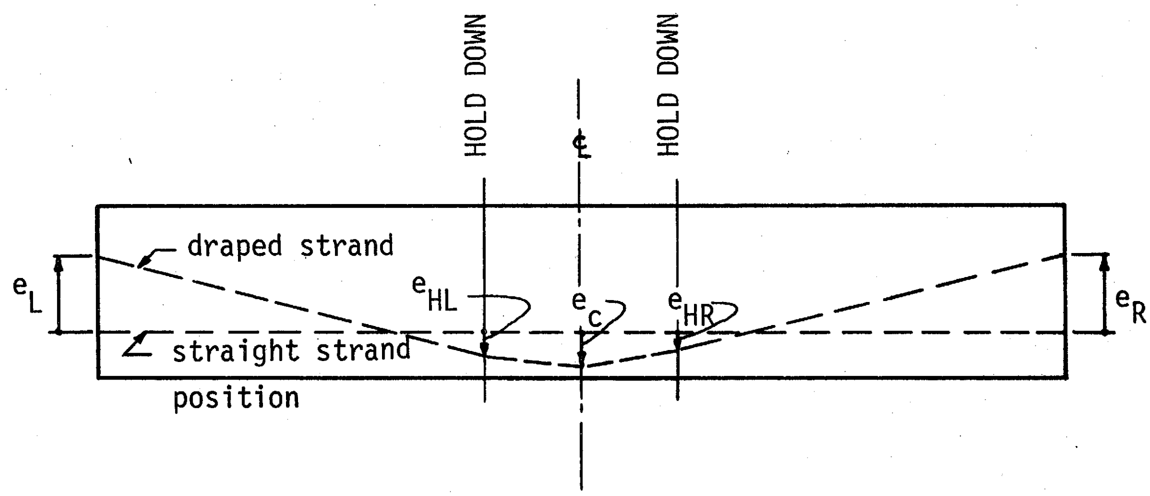


FIGURE 12. ECCENTRICITIES OF DRAPED STRAND

2.5 THE RESEARCH APPROACH

The data on beam cambers in Appendix A provided an indication of the extent of the differential camber problem. Information from site visits and manufacturing records identified variable conditions that could be expected to influence the camber of identically designed beams. An analytical model was developed to predict the effect on camber of variable conditions, such as strength and modulus of concrete at release, differences in creep and shrinkage properties of concrete, age differences of beams, and other factors discussed earlier. The research approach incorporated the analytical model to assess the likely load that observed camber variations could be accounted for by the conditions of variability known to exist.

Good agreement of predicted camber with observed cambers of experimental beams was obtained using the basic analytical model with creep and shrinkage properties taken from tests of samples of concrete used in the beams. Because of the number of different producers and the time and expense involved in obtaining test data on creep and shrinkage properties, no testing program could be undertaken to generate this information. Thus, it was necessary to develop estimates of these parameters. The remaining model parameters could be reasonably estimated from manufacturing information in the case of those beams listed in Appendix C. For the beams in Appendix A, however, virtually no information for parameter estimation was available. This presented a difficult dilemma. Those beams displaying the most erratic cambers and therefore of greatest interest could be analyzed only by estimating a number of parameters with virtually no supporting information. The beams with manufacturing information in Appendix C showed less camber variability than desired.

A review of the beams available in Appendix C indicated that they covered reasonably well the range of spans and beam types used in the State. Conclusions drawn collectively from studies of their behavior should therefore be generally applicable. Thus, those beams were used to examine the sensitivity of camber to various factors.

III. Model Validation and Parameter Estimation

Appendix C contains information on 16 different beams, of type C, 54 and AASHTO IV, with spans from 50 ft. to 124 ft. Typically, several different sets of manufacturing conditions existed for each beam. Table 11 contains a summary of information for selected conditions with each beam. Also shown with each condition is an average camber value used for parameter estimation. In most cases, this is the average of cambers of all beams known to have been produced under the condition. As an example, lines 1, 2 and 3 of Table 11 refer to data in Table C1. Line 1 pertains to the manufacturing condition where release occurred at 63 hours. The average camber listed for this condition is 1.74 in., the camber of the only beam known to have been produced under that condition. Two other beams were produced under the condition (lines 5 and 6, Table C1), but the reported cambers are mixed with those from another condition of manufacture and thus could not be used in computing the average. Line 3 of Table 11 was obtained by averaging the cambers from lines 2 and 7 of Table C1.

In some cases, the nature of the data required other approaches for determining an average camber for a particular beam. Table C5 contains no grouping of beams produced under identical conditions. The closest approximation to this condition is found in lines 1 through 6 where 5 of the 6 beams were produced from a single casting operation. The measured camber values are consistent, with the exception of 1.02 in. This value was deleted as being abnormally low and the remaining 5 values averaged to produce the number shown on line 12 of Table 11. Nearly the same situation exists in Table C7.

PROJECT No.________________ DISTRICT________________ COUNTY________________

BEAM TYPE________________ SPAN LENGTH______ft. MANUFACTURER________________

STRAND PATTERN

ROW No.: A2 A4 A6 A8 A10 A12 A14 A16 A18 A20

No. STRANDS:

DRAPING: RAISE________ STRANDS TO ROW________ HARPING DIST.________ft.

ECCENTRICITY ℄: in. ECCENTRICITY END: in.

CASTING INFORMATION

	DESCRIPTION	AGE AT RELEASE (hrs.)	RELEASE STRENGTH (psi)	SUBSEQUENT STRENGTH (psi)	TIME STRESSING CASTING (hrs.)	TEMP. DIFF. (°F)	AGE AT SHIPPING (days)	CURING	AVERAGE CAMBERS (in.)
1	124 ft.	63	6897	7506 (7)	47	−13	227	W	1.74
2	AASHTO IV	65	5959	7409 (7)	24	−1	220	W	2.64
3		92	6684	7418 (28)	27	−7	214	W	1.83
4	102 ft.	27	5730	7856 (7)	45	+3	184	W	3.15
5	Type 54	47	5641	7066 (7)	23	+1	181	W	3.21
6		66	5995	6777 (7)	6	−3	150	W	3.06
7	100 ft.	43.5	5535	6515 (7)	29	−3	86	W	3.32
8	Type 54	45	5995	7603 (8)	22	+1	80	W	3.24
9	90 ft.	25	4633	7939 (7)	29	−1	78	W	2.21
10	Type 54	67	5252	6853 (7)	48	−10	97	W	2.22
11		69	5942	7326 (7)	25	−5	85	W	2.18
12	85 ft. Type 54	21	4828	7612 (7)	45	+6	185	W	2.18
13	75 ft.	22	4969	7169 (7)	26	−3	92	W	1.64
14	Type 54	114	6207	7453 (9)	26	+1	133	W	1.36
15	120 ft	19	5988	8763 (14)	95	+9	255	S115	3.18
16	AASHTO IV	37	6803	8961 (14)	76	+2	256	115 114 W	3.42
17	85 ft.	20	6216	8193 (14)	20	+2	118	S129	2.50
18	Type 54	21	6454	8503 (14)	22	0	120	S120	2.40
19	85 ft. Type C	17	5824	7525 (14)	24	−21	181	S120	2.26
20	80 ft. Type C	19	5897	8216 (14)	27	+5	41	S123	2.37
21	50 ft. Type C	22	5588	7639 (14)	21	+10	154	S123	0.29
22	132 ft.	19	6646	8633 (14)	21	+11	162	S138	1.08
23		22	6188	8692 (15)	44	−7	216	S139	1.38
24	AASHTO IV	22	6459	8308 (14)	92	+14	177	S138	1.20
25		28	6171	8959 (14)	45	+3	182	S139	1.14
26	108 ft. Type 54	20	6069	7927 (14)	18	0	89	S135	2.91
27	80 ft. Type 54	19	6120	8413 (14)	20	−7	145	S132	0.87
28									

TABLE 11. SUMMARY OF SELECTED CASES FOR MODEL CALIBRATION.

In order to get 2 conditions, the two beams with erection mark W-20 were assumed to be produced under the conditions of line 1, and the average of the two reported cambers entered on line 15 of Table 11. The conditions in Table C8 were so mixed that no single condition could be isolated.

These occasional manipulations of the average camber value were justified by the need to estimate a set of parameters to describe the behavior of a particular beam in the sensitivity analysis. The double lines in Table 11 separate the beams produced by different manufacturers.

Values of the model parameters were determined by the method outlined below, which yielded predicted cambers in reasonable agreement with the average cambers listed in Table 11. The estimated parameters were then used as the base condition for sensitivity evaluations described in the next chapter.

Because several different manufacturing conditions accompanied each of the beams listed in Table 11, it was possible to validate the model to some degree. To accomplish this, the assumption was made that all concrete used in beams in a particular table in Appendix C could be characterized by the same creep, shrinkage and modulus parameters. If this assumption was strictly correct, then the different average cambers associated with different conditions of manufacture should be predicted by the model. Precise agreement could not be expected, however, for several reasons. The assumption that the concrete in all beams could be described by the same parameters is contradicted by the variability of modulus values (Table 3), for example. Parameters describing creep and shrinkage properties are known to be influenced by environmental conditions which have seasonal fluctuations.

3.1 PROCEDURE FOR PARAMETER ESTIMATION

Possible variations in strand force and strand position were not considered in estimating model parameters describing concrete properties. The strand stress immediately after stressing was taken as 70% of ultimate and strand locations were taken from Appendix C.

Nine parameters are required to characterize concrete behavior. These are summarized in Table 12. Table 13 contains a brief description of the method used for parameter estimation. The method seeks to adjust the parameters to obtain agreement between the average measured cambers in Table 11 and those predicted by the model.

Some uncertainty was associated with the selection of the time at which to compare measured and predicted camber. The Districts did not supply the date when camber measurements were made. Thus, the exact age of the beam at that time could only be estimated. When all beams were used in a single span, (Table C1, for example), the beam age for all beams could be estimated by adding the same time increment to each age at shipping listed in Column 7.

When more than one structure was involved (e.g., Table C4), additional uncertainty was introduced, as well as variabilities in measured cambers not reflected in the average camber listed in Table 11 that was being matched. There is no assurance that the beams produced first for a project were also the first to be erected and measured. Table C14 describes beams used in a two span structure with five beams per span. The erection marks suggest that the two beams F1D1 were exterior beams, possibly destined for the same position in different spans. If beams were stored after production and all transported to the construction site and both spans erected at approximately the same time, then the ages at shipping would be good estimates of their age when

Parameter	Definition	Applicable Equation
	........................Unit Creep Function........................	
$\bar{f}'_c$	Concrete strength when first subjected to stress	(10), (12)
$\bar{A}$	Creep strain at $t = \infty$ for concrete with strength $\bar{f}'_c$ when subjected to constant 1 ksi stress	(10), (12)
B	Time required for creep strain to reach $\frac{1}{2}\bar{A}$	(9), (12)
	......................Strength Gain Vs. Time......................	
$f'_{c\infty}$	Concrete strength at $t = \infty$	(11), (12)
b	Time required for concrete strength to reach $\frac{1}{2} f'_{c\infty}$	(11), (12)
	........................Shrinkage Function........................	
C	Shrinkage strain at $t = \infty$	(13)
D	Time required for shrinkage strain to reach $\frac{1}{2}$ C	(13)
	.................Modulus of Elasticity Function.................	
G	Slope of linear function relating square root of concrete strength to modulus of elasticity	(14)
H	Intercept of linear function relating square root of concrete strength to modulus of elasticity	(14)

TABLE 12. MODEL PARAMETERS DESCRIBING CONCRETE PROPERTIES

Parameters	Method of Estimation
$\bar{f}'_c$, $\bar{A}$	Adjusted to obtain agreement between predicted and measured cambers. For beams produced by McDonough Bros. in San Antonio, initial estimates taken from Table 5.
B	Value taken from Table 5 for beams produced by McDonough Bros. in San Antonio. Value listed for Dallas used for beams produced in Victoria.
$f'_{c\infty}$, b	Computed by fitting hyperbolic function (Eq. 11) to two data points taken from columns 2, 3 and 4 in Appendix C. Adjustments made if constant b deviated significantly from value listed in Table 8.
C, D	Values from Table 9 used for beams produced by McDonough Bros. in San Antonio. Values in Table 9 listed for Dallas used with beams produced in Victoria.
G, H	Adjusted to obtain agreement between predicted and measured cambers when reasonable adjustments to $\bar{f}'_c$ and $\bar{A}$ failed to produce satisfactory agreement. Initial values taken from Table 10.

TABLE 13. METHOD OF MODEL PARAMETER ESTIMATION

camber measurements were made. Other construction sequences are possible, however, involving delays between erection of the first and second spans, in which the age at shipping would considerably differ from the age when camber measurements were made. These types of uncertainties become more pronounced as the number of structures in a project become greater.

Computational experience indicated that the rate of camber growth predicted by the model became rather small after about 1.5·B days, where B is the constant appearing in the unit creep function given by Eq. (12). Thus, when age at shipping exceeded 100 to 120 days, the error expected from an incorrect estimate of age at camber measurement would be no more than a few tenths of an inch. For most cases listed in Appendix C, this situation prevailed. Noted exceptions, however, were the beams in Tables C4, 11, 12 and 15.

The parameters $\bar{f}'_c$ and $\bar{A}$ were adjusted first in attempting to obtain the average camber at the age at shipping given in Table 11. The unit creep function is proportional to the product of these parameters, so they were varied to obtain specific values of their product. The constants $f'_{c\infty}$ and b, which describe the rate of concrete strength increase, were computed by forcing Eq. (11) to pass through the release strength and subsequent strength values listed in Table 11 for each beam. The age corresponding to release appears in column 2 of Table 11 and the time corresponding to the subsequent strength values are from tests conducted on cylinders that were stored under water prior to testing. Thus, their curing conditions were different from the concrete in the beams. In most cases, however, it was found that better agreement was obtained between measured and computed cambers when $f'_{c\infty}$ and b were determined in this manner rather than being computed from Figure 11. This method of determination of $f'_{c\infty}$ and b made their values dependent on known properties of the concrete and thus eliminated them from the list of parameters requiring estimation.

The values of the parameters $\bar{f}'_c$, B, C, D, G and H were held constant for a particular producer (see Table 14). The values of B, C, and D were based on the data of Ingram and Furr (8). The parameters G and H, which relate modulus to compressive strength, were adjusted until reasonable agreement for all cases for a particular producer was obtained. The final parameter variation involved only $\bar{A}$.

3.2 MEASURED CAMBERS VS. PREDICTED CAMBERS

The results of parameter estimation and predicted cambers are summarized in Tables 14 and 15. In most cases, reasonable agreement was obtained between measured and predicted cambers. For beams where more than one condition of manufacture were involved, the model usually indicated the correct sense of the differential between cambers. For example, the 102 ft. type 54 beam (lines 4, 5, and 6 in Table 15) had one measured camber (line 6) lower than the other two (lines 4 and 5). The same pattern was displayed by the predicted cambers. This was accomplished while holding all estimated parameters constant and varying only the known differences in manufacturing conditions. This tends to substantiate the theoretical basis of the model developed in Section 2.4.

Several exceptional situations were encountered in attempting to match measured and predicted cambers. The 85 ft. type C beam (line 19 of Table 15) camber could not be matched by any reasonable perturbations of the parameters which produced good comparisons for other cases. It was suspected that an error might be present in the strand pattern description, although no proof of this could be obtained.

Beam Description	Line	$\bar{f}'_c$ (psi)	$\bar{A}$ (μ-in/ksi)	B (days)	$f'_{c\infty}$* (psi)	b* (days)	C (μ-in)	D (days)	G (ksi/ psi)	H (ksi)
124' AASHTO IV	1	5250	300	50	7927	.39	380	25	37	2430
	2		300		8754	1.27				
	3		300		7549	.50				
102' Type 54	4		340		8460	.54				
	5		340		7836	.76				
	6		340		7402	.65				
100' Type 54	7		500		6944	.46				
	8		500		8286	.72				
90' Type 54	9		360		9068	1.00				
	10		360		8588	1.77				
	11		360		8751	1.36				
85' Type 54	12		300		8300	.63				
75' Type 54	13		400		7684	.50				
	14		400		9610	2.60				
120' AASHTO IV	15	5000	300	60	9013	.40	315	20	80	-1105
	16		300		9326	.57				
85' Type 54	17		330		8350	.29				
	18		330		8688	.31				
85' Type C	19									
80' Type C	20		260		8414	.34				
50' Type C	21		200		7841	.37				

* Values computed from release and subsequent concrete strengths.

TABLE 14. VALUES OF MODEL PARAMETERS FOR BEAMS IN APPENDIX C.

Beam Description	Line	$\bar{f}'_c$ (psi)	$\bar{A}$ (μ-in/ksi)	B (days)	$f'_{c\infty}$* (psi)	b* (days)	C (μ-in)	D (days)	G (ksi/ psi)	H (ksi)
132' AASHTO IV	22	5000	280	60	7212	.39	315	20	80	-1105
	23	↓	280	↓	7410	.31	↓	↓	↓	↓
	24	↓	280	↓	7218	.41	↓	↓	↓	↓
	25	↓	280	↓	7680	.33	↓	↓	↓	↓
108' Type 54	26	↓	220	↓	8080	.28	↓	↓	↓	↓
80' Type 54	27	↓	340	↓	8605	.32	↓	↓	↓	↓

* Values computed from release and subsequent concrete strengths.

TABLE 14 CONTINUED. VALUES OF MODEL PARAMETERS FOR BEAMS IN APPENDIX C.

Beam Description	Line Reference Table 11	Average Measured Camber (in)	Predicted Camber (in)
124 ft. AASHTO IV	1 2 3	1.74 2.64 1.83	1.86 2.03 1.88
102 ft. Type 154	4 5 6	3.15 3.21 3.06	3.12 3.12 2.96
100 ft. Type 54	7 8	3.32 3.24	3.25 3.08
90 ft. Type 54	9 10 11	2.21 2.22 2.18	2.33 2.23 2.04
85 ft. Type 54	12	2.18	2.06
75 ft. Type 54	13 14	1.64 1.36	1.65 1.52
120 ft. AASHTO IV	15 16	3.18 3.42	3.17 2.93
85 ft. Type 54	17 18	2.50 2.40	2.55 2.49
85 ft. Type C	19	2.26	(not determined)
80 ft. Type C	20	2.37	2.48
50 ft. Type C	21	0.29	0.55
132 ft. AASHTO IV	22 23 24 25	1.08 1.38 1.20 1.14	1.17 1.28 1.09 1.18
108 ft. Type 54	26	2.91	2.93
80 ft. Type 54	27	0.87	0.84

TABLE 15. AVERAGE MEASURED VS. PREDICTED CAMBERS USING PARAMETER VALUES FROM TABLE 14

IV. Analytical Study of Differential Camber

The analytical model was used initially to study the extent of differential camber that could occur due to observed variations in the factors known to affect it. Results of this effort are described in the next section. It soon became apparent that in most cases where significant differences in camber of beams at ages of 100 days or more occurred, there was also a significant difference in camber at release. In effect, time dependent camber changes tended to amplify any initial release camber differences which existed. Thus, additional effort was devoted to characterizing the effect of variable factors on camber at release. These are described in subsequent sections.

4.1 TIME DEPENDENT CAMBER DIFFERENCES

Three typical beams were used in this study: a 120 ft. AASHTO IV beam, 100 ft. Type 54 beam and an 80 ft. Type C beam. The value of model parameters used for these sections is listed in Table 14. Three conditions were varied for each beam: the modulus of elasticity at release, the age of the beam at release and the displacement of strands from their position in the section prior to casting of the concrete.

Figures 13, 14, and 15 show the camber growth through 500 days for variations in modulus at release and time between casting and release of strands. The base condition shown in each figure are those listed in Table 11, lines 15, 7, and 20, respectively. The base condition modulus of elasticity at release were determined from the release strengths listed in

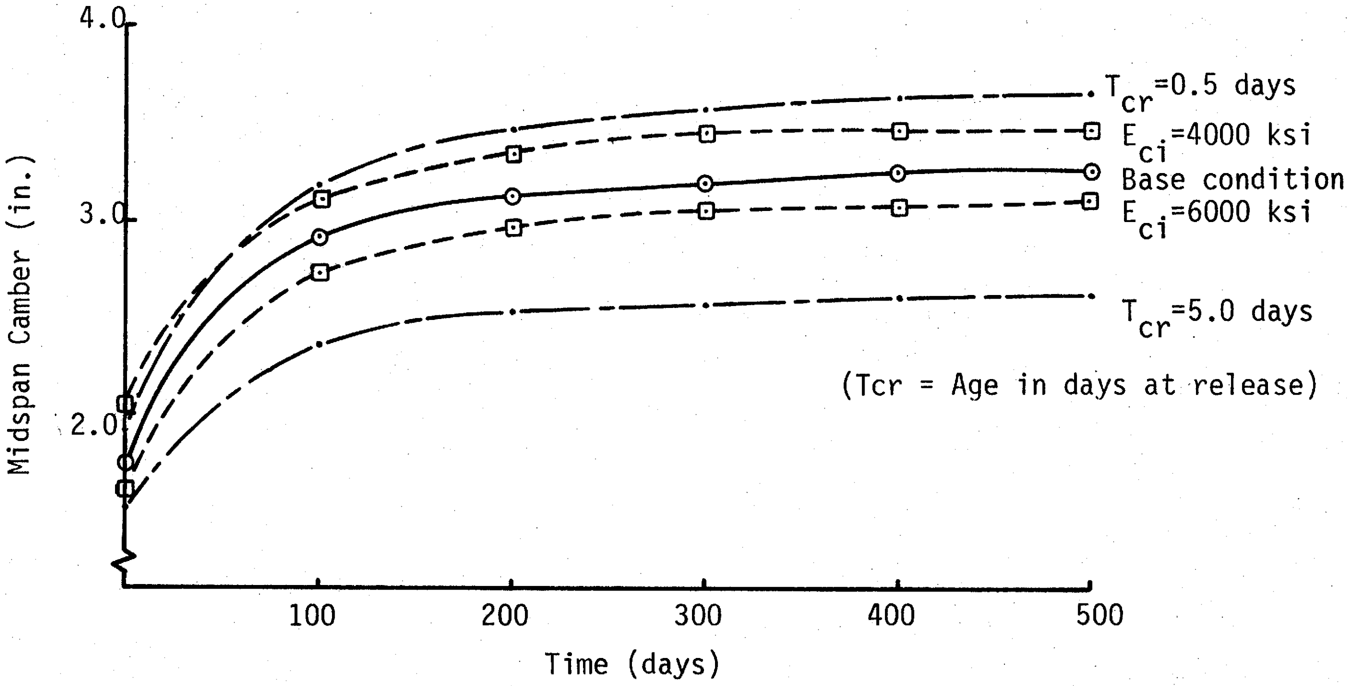


FIGURE 13. EFFECT OF RELEASE MODULUS AND AGE AT RELEASE ON CAMBER OF 120 FT. AASHTO IV BEAM

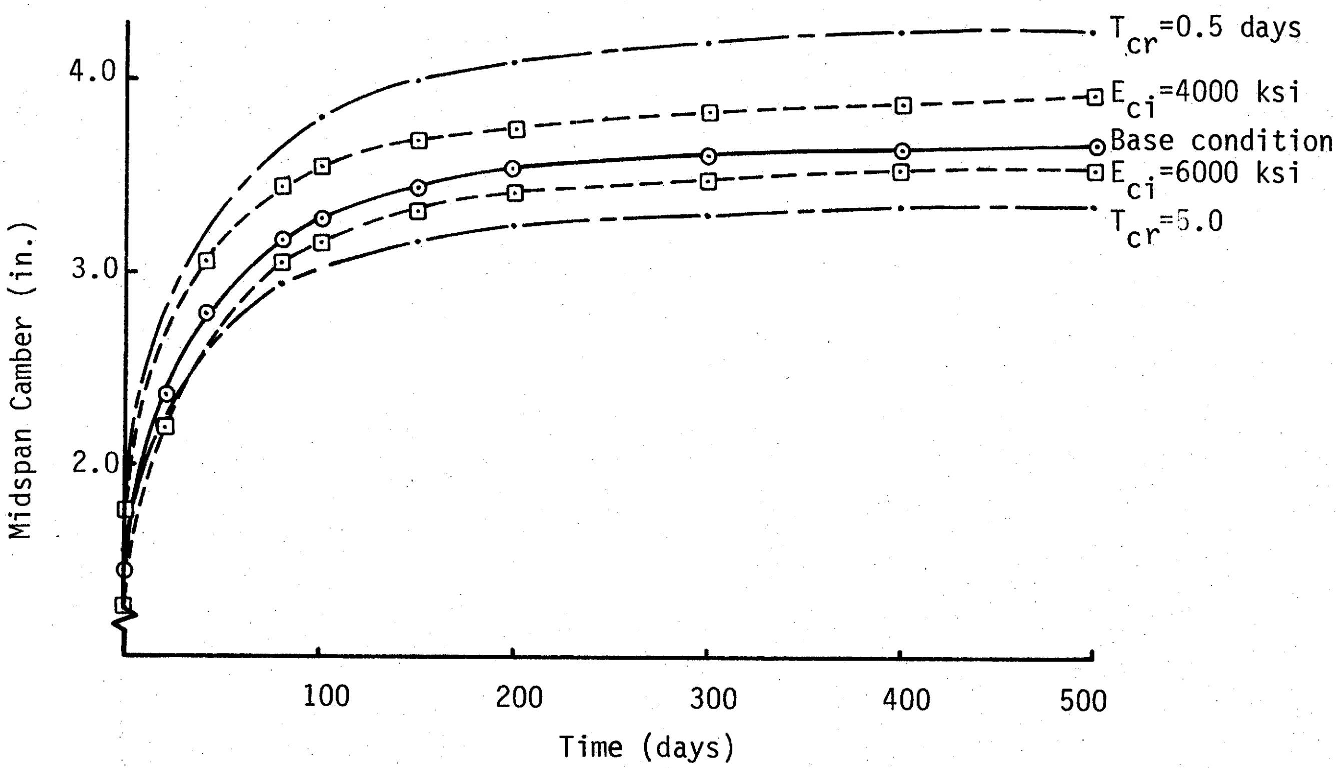


FIGURE 14. EFFECT OF RELEASE MODULUS AND AGE AT RELEASE ON CAMBER OF 100 FT. TYPE 54 BEAM

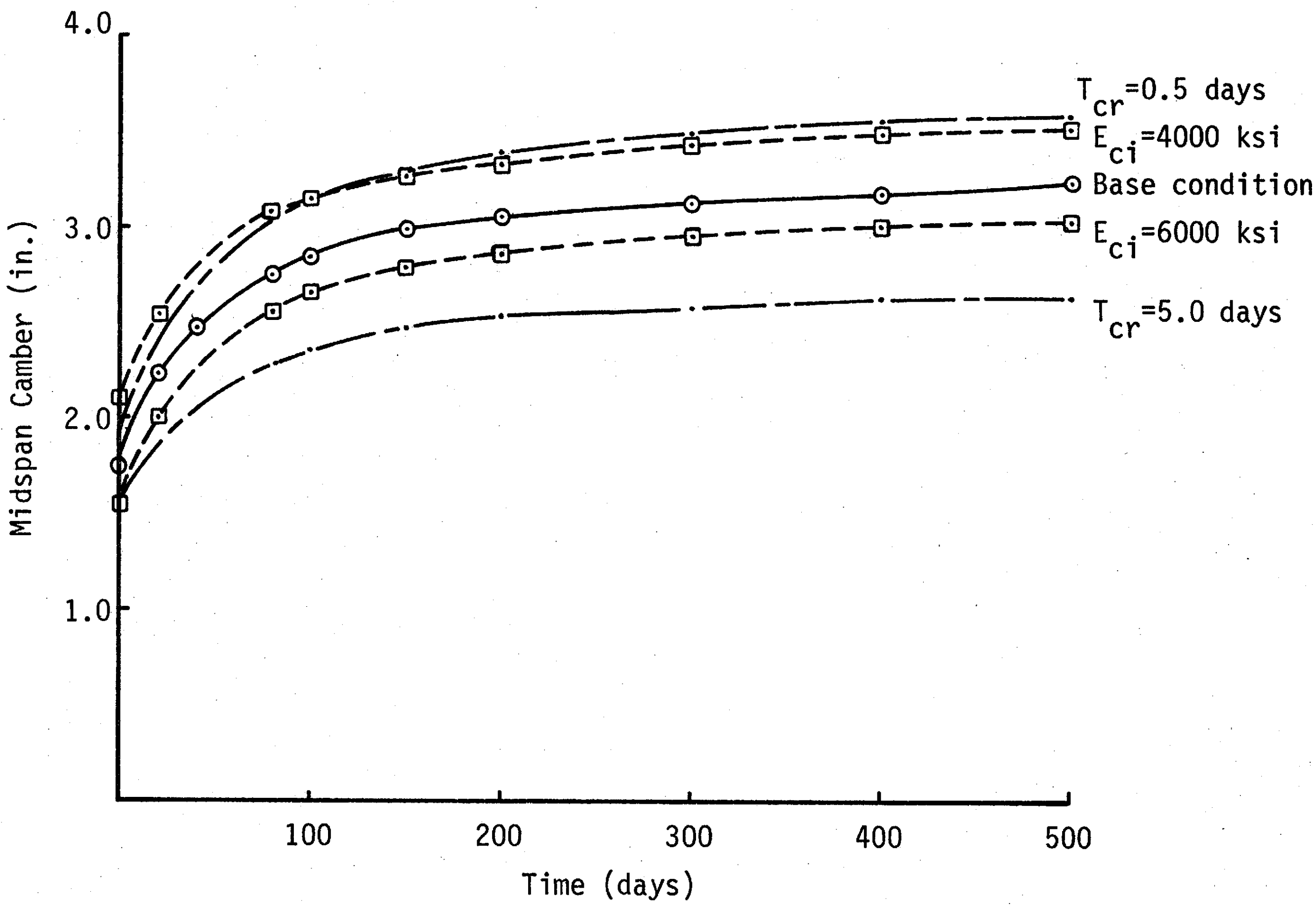


FIGURE 15. EFFECT OF RELEASE MODULUS AND AGE AT RELEASE ON CAMBER OF 80 FT. TYPE C BEAM

Table II using Eq. (14) and the applicable constants in Table 14.

The plots indicate the interactive nature of the age at release and the modulus of elasticity at release. At releaseage, modulus in the model is functionally related to the concrete strength at that age, which is computed from Eqs. (11) and (14). For early release times (T_{cr}=0.5 days), the lower release strengths produce lower release modulus values as well as larger unit creep constants values, giving larger overall camber values. The camber shown for release modulus values of 4000 ksi and 6000 ksi were obtained by overriding the computed value of E_{ci} based on concrete strength at release.

Figures 16, 17, and 18 were prepared based on the assumption that strands were displaced downward by the weight of the concrete during casting. The displaced pattern was fashioned from that observed in the beam found in the McDonough Bros. Yard in San Antonio (Figure 7). The pattern of strands at the beam centerline was assumed to be depressed such that the rows of strands were spaced 3/4 in. (clear spacing) apart, and the bottom row was 1 in. above the bottom face of the beam. The midspan pattern spacing was held constant between the holddown points and varied linearly to the prescribed 2 in. grid spacing at each end of the beam where the proper strand positions were assured by the presence of the plywood bulkheads. The figures indicate that each of the beams displayed considerably greater camber with time as a result of the displacement of strands.

For each of the cases shown in Figures 13 through 18, camber differences at release became greater with age due to time dependent camber growth. Thus, if camber differences that exist at release are significant, they can be

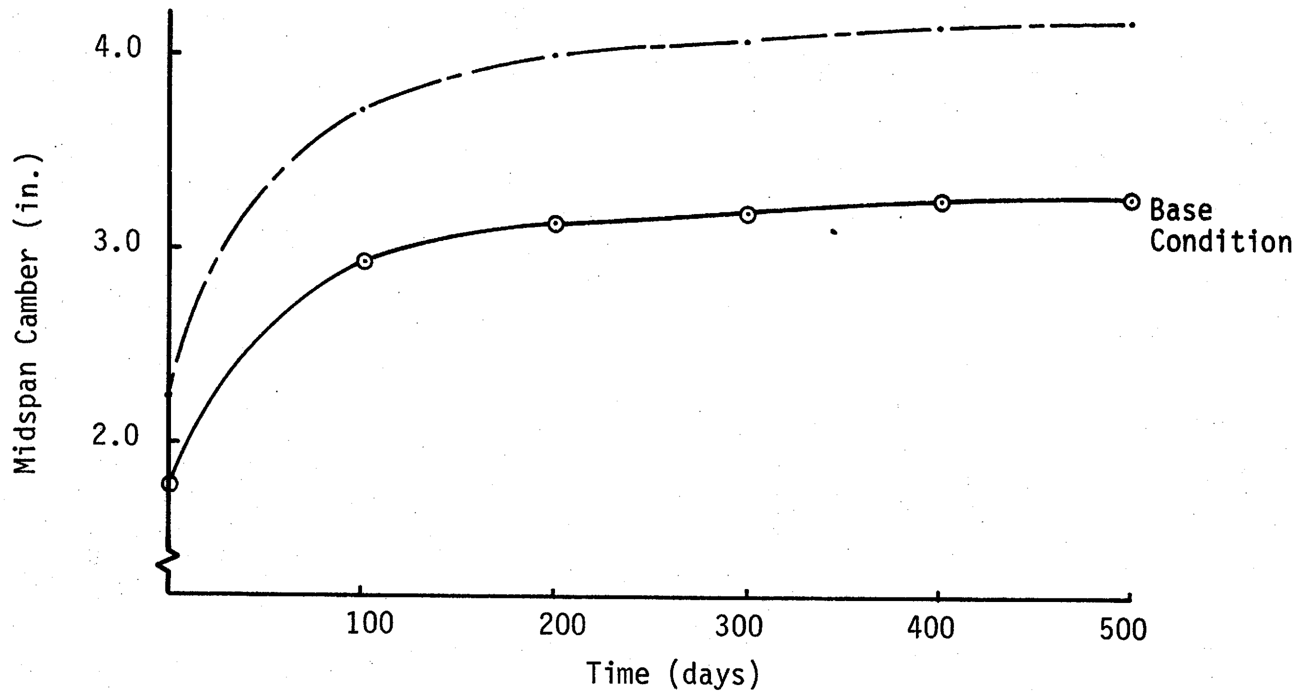


FIGURE 16. EFFECT ON CAMBER OF STRAND DISPLACEMENT IN 120 FT. AASHTO IV BEAM

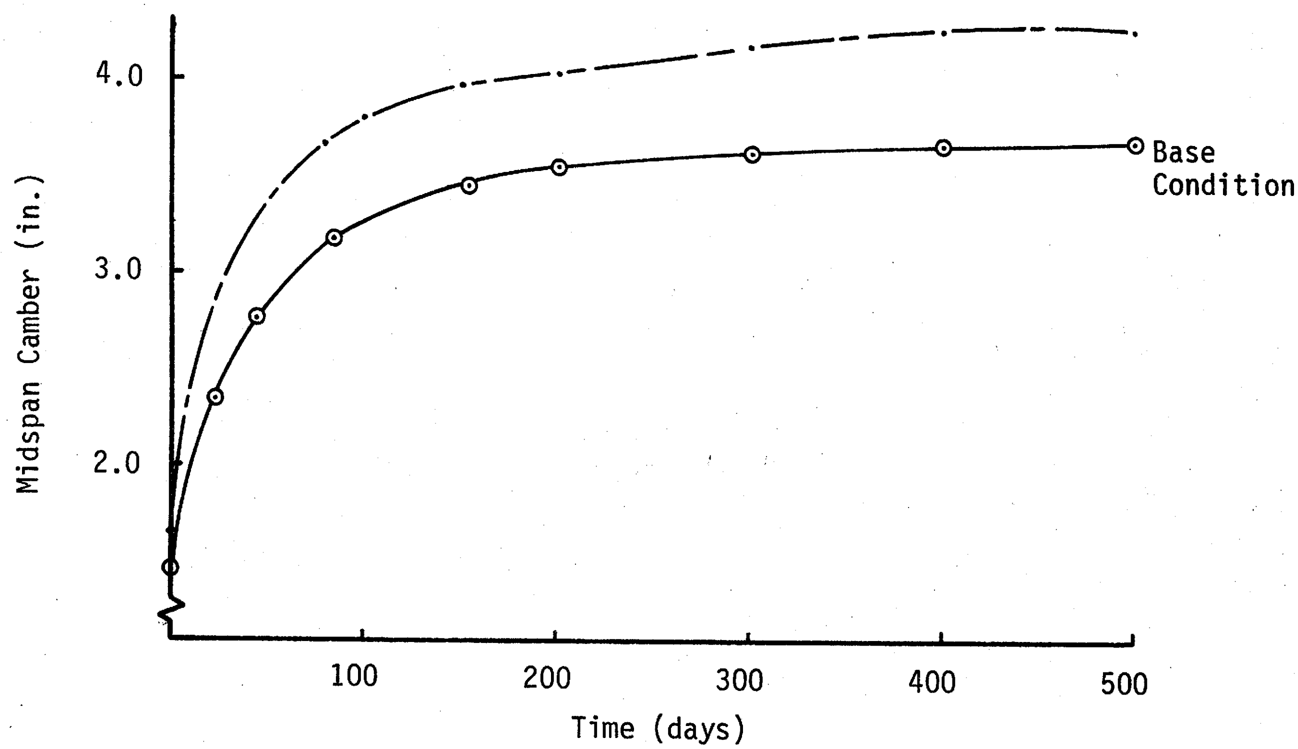


FIGURE 17. EFFECT ON CAMBER OF STRAND DISPLACEMENT IN 100 FT. TYPE 54 BEAM

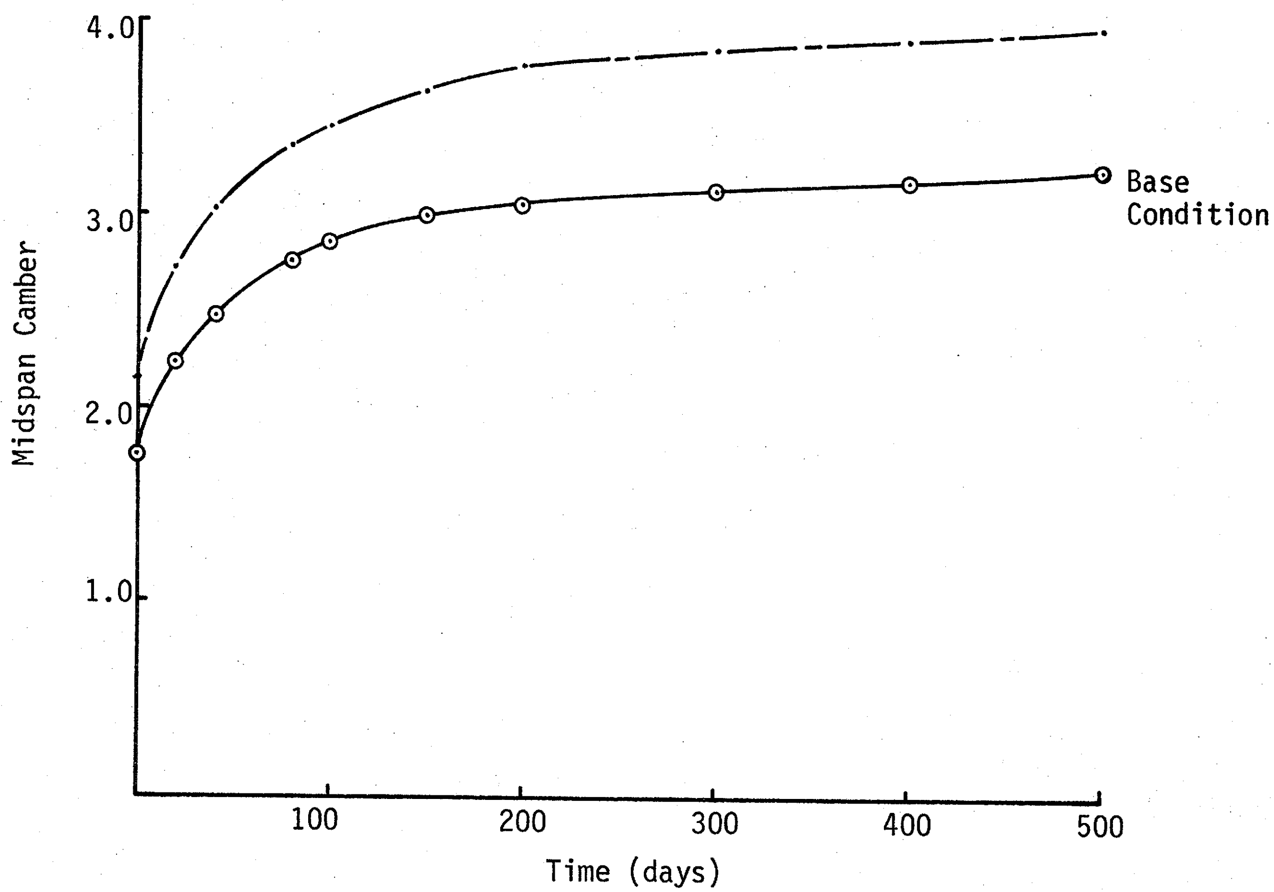


FIGURE 18. EFFECT ON CAMBER OF STRAND DISPLACEMENT IN 80 FT. TYPE C BEAM

expected to become even larger with the passage of time. Based on this characteristic behavior, additional attention was devoted to the study of the effect of factors that influence release camber.

4.2 A STUDY OF FACTORS THAT INFLUENCE CAMBER AT RELEASE

Factors that could be expected to be involved in differential camber in beams have been named and discussed in Chapter 2. The influence of time was studied, and it was seen that initial camber differences must exist prior to the involvement of time effects to realize the effects found in the study. In this section the camber that develops at release is studied, and time is not entered as a variable. Three factors that have a pronounced influence on camber and which, too, might vary in magnitude for one reason or another are of interest here. It is the purpose of this section to give quantitative information on camber differences that might be brought about by controlled changes in the following:

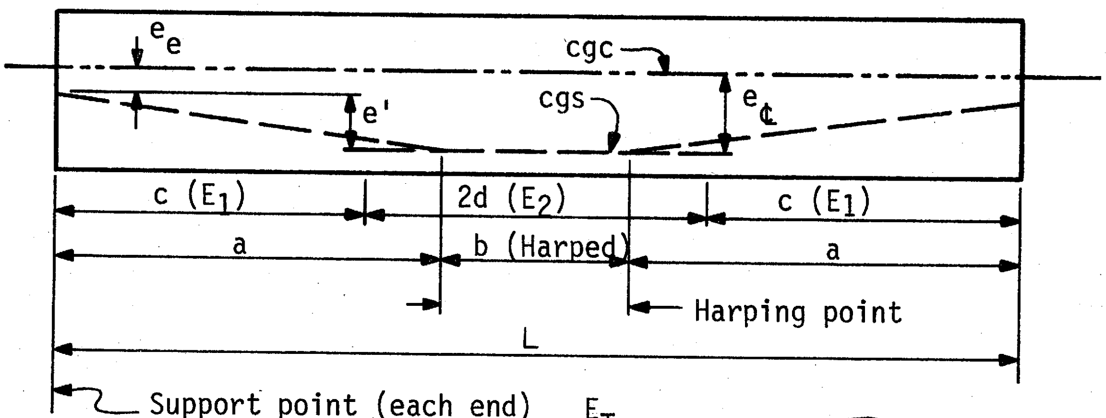
(a) Position of prestressing steel

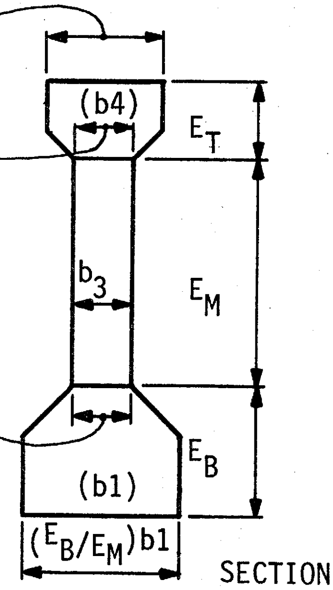
(b) Magnitude of prestressing force

(c) Modulus of elasticity of concrete.

The beam model for this part of the study is shown in Figure 19. The prestressing tendons are ½ in. diameter, 7-wire, 270 ksi steel with 28.9 kips per tendon immediately after release. The design values for steel, concrete, and position of the centroid of the prestressing steel, cgs, are taken as the standards from which variations occur.

The beam model permits the displacement of the cgs between harping points, and the magnitude of the prestressing force can be changed without changing





E (with subscript) = Modulus of elasticity of concrete

I = Moment of Inertia of beam section

W = Total wgt. of beam = w x L

P = Prestress force

Δ = Midspan camber = $\Delta_{PR} + \Delta_{DL}$

Δ_{PR} = Midspan camber from prestress at release

Δ_{DL} = Midspan deflection from beam wgt.

$$\Delta_{PR} = \frac{P}{IE_1}\left[\frac{e_e c^2}{2} + \frac{e'c^3}{3a}\right] + \frac{P}{IE_2}\left[d(e_e+e')(c+\frac{d}{2}) - \frac{e'}{24a}(a-c)(2d-b)(6c+2d-b)\right]$$

$$\Delta_{DL} = \frac{WL}{I}\left[\frac{5L^3}{384E_2} + (\frac{1}{E_1} - \frac{1}{E_2})(\frac{c^3}{6} - \frac{c^4}{8L})\right]$$

FIGURE 19. BEAM MODEL

other factors. The model permits modulus of elasticity changes in layers or in sectional lengths of the beam.

The concretes in the layered system bottom flange, web, and top flange can all be different. The section is transformed to the material in the web area which has a modulus as shown in Figure 19. The section properties and cgs (centroids of prestressing steel) are all referred to the transformed section by computer calculations for camber.

The sectional system divides the beam into three equal lengths. The concrete in the two end sections is the same and that in the central section may be different. The different concrete modulii are used directly in the deflection equations in Figure 19; no transformation is necessary.

The ranges of the values of each variable studied cannot be strictly supported by measured data in this study. No measurements of the cgs of prestressing steel could be made, although considerable effort was made with the pachometer for that purpose. Earlier reference to displaced strands seen in a discarded beam shown in Figure 7 gives support to the possibility of the cgs being displaced downward, presumably by the weight of plastic concrete.

The elongation of strands during tensioning is carefully controlled and it is checked by SDHPT inspecting personnel. There was not a single instance where strand tensioning was found to be improper in the field trips made to the yards. The force in the steel has a very important role in camber, however, and it is included with an almost arbitrary range of values.

The modulus of elasticity of concrete was measured with variable results as brought out earlier. There is a certain tolerable variation in concrete strength which is closely related to modulus of elasticity. Of all of the three variables studied here, it is felt that a variation in modulus of elasticity has the strongest support although the range selected for study might be questioned.

The ranges in values of the three variables are set as follows for the study:

(a) The position of prestressing steel is not changed at the end of the beam, and is allowed to vary from one inch higher to one inch lower than the standard -- the design position -- at harping points.

(b) The magnitude of the prestressing force is allowed to vary ±10% of the design value from the standard.

(c) The modulus of elasticity of the concrete is allowed to vary ±20% of the design value from the standard.

The beams selected for this portion of the study are among those reported in the survey. They are now serving in structures in the SDHPT system of highways and are representative of their class of beams. Table 16 gives properties of the three beams studied.

4.2.1 The Effect of Displaced Prestressing Strands

The central region of prestressing steel, that within the harped length, has more strands concentrated in an area than at any other section of the beam. Because of their concentration and their depth in the beam they probably stand a greater chance of overall displacement than those at any other section. The changes in camber brought about by displacing the strands in this region are given in Table 17.

Type	Span (ft)	Weight (lb/ft)	Design fci (psi)	E* (ksi)	Strands (Number)	Icg ($in.^4$)	e (in.)	$e_{℄}$ (in.)
IV	120	820	5800	4340	52	260,400	11.29	19.36
54	90	515	5300	4200	28	164,020	11.96	19.82
C	80	515	6000	4500	32	82,760	7.54	12.84

*The standard value based on design release strength, f_{ci}

$$E = 57000\sqrt{f'_c}\ \text{(psi)}$$

TABLE 16. BEAM PROPERTIES

Beam Type	Span (ft)	Distance Between Harping Points of Displacement (ft)		e_e (in.)	e_{CL} (in.)	Δ_{PR} (in.)	Change in Δ_{PR} (in.)	Δ_{DL} (in.)	Δ_{Net} (in.)	$\frac{\Delta Net}{\Delta std*}$	$\frac{Max \Delta net}{Min \Delta net}$
IV	120	12		11.29	18.36	5.72	-.25	-3.42	2.05	0.81	
IV	120	12	*	11.29	19.36	5.97	0	-3.42	2.52	1.00	1.49
IV	120	12		11.29	20.36	6.22	+.25	-3.42	3.05	1.21	
54	90	12		11.96	18.82	2.93	-.12	-1.10	1.70	0.87	
54	90	12	*	11.96	19.82	3.05	0	-1.10	1.95	1.00	1.31
54	90	12		11.96	20.82	3.19	+.14	-1.10	2.23	1.14	
C	80	10		7.54	11.84	3.10	-.20	-1.27	1.63	0.80	
C	80	10	*	7.54	12.84	3.30	0	-1.27	2.03	1.00	1.49
C	80	10		7.54	13.84	3.50	+.20	-1.27	2.43	1.20	

*Standard (unchanged) set, as designed.

TABLE 17. CAMBER CHANGES CAUSED BY DISPLACED STRANDS

(See Table 16 for beam properties)

The changes in camber brought about by displaced strands alone are small -- never exceeding ¼ inch, and amounts to some 4% to 6% of the prestressed camber. This measure can be deceptive, though, because the net camber is what one sees in the field, and the differences in cambers are the major concern. These differences, the range between the high and low values of net camber, are more outstanding. The ratios of the maximum to minimum net cambers vary from 1.31 to 1.49 for the cases studied in Table 17. In order of magnitude, the same differences could be obtained between the standard design case and a high or low camber caused by a two-inch displacement of the strands.

If any strands are displaced it is probably more likely that downward rather than upward displacement would occur. A two-inch downward displacement of the cgs in the central 10 to 12 ft. of the beam would cause a camber of 1½ times the design camber of some beams.

4.2.2 The Effect of Varying the Prestressing Force

The camber equations given in Figure 19 can be put in a different form to see the effect of changing the prestressing force. If E is constant, $E_1 = E_2 = E$, then the equations in Figure 19 reduce to the following:

$$\Delta_{PR} = \frac{PL^2}{8EI} [e_e + (e_{\text{℄}} - e_e) (1 - \frac{4}{3} (\frac{a}{L})^2)]$$

$$\Delta_{DL} = \frac{5WL^3}{384EI}$$

The equation above for camber due to prestress shows that camber varies directly with the prestress force so that $\frac{d(\Delta pr)}{dP}$ is constant. Thus a 10% decrease in P results in a 10% decrease in prestress camber and a 10% increase in P results in a 10% increase in the camber. Table 18 shows the changes in prestressed camber and in net camber when the prestress force is changed 10%. Here, as in the case of displaced strands, the net camber is of concern. The 10% change in prestress force causes approximately 33% change in the design net camber. The net camber with 110% of design force varies from 1.62 to 1.96 times the net camber with 90% of design force. If perchance the prestress level were raised 20% of design, the resulting net camber would be almost twice the design camber in some beams.

4.2.3 The Effect of Differences in the Modulus of Elasticity of Concrete at Release

Release camber varies inversely as the modulus of elasticity of the concrete, Ec, at release. This section presents the results of analysis for release camber of the three beams described in Table 16. The modulus of elasticity is based on the design strength at release, fci, and the value is calculated to be $57000\sqrt{fci}$ (11). The range of Ec used in this analysis varies from the 80% to 120% of value at release. Two ways of varying E_c are used. The first uses different concretes in three layers shown in Figure 19 and Table 18 and described in Section 4.2. The second method uses different concretes in full depth sections of the beam. Each of the sections is one-third of the beam length as shown in Figure 19 and described in Section 4.2.

Beam Type	Span (ft)	Prestressed Force (kips)	Δ_{PR} (in.)	Change in Δ_{PR} (in.)	ΔDL (in.)	ΔNet (in.)	$\frac{\Delta Net}{\Delta Std^*}$	$\frac{Max\Delta Net}{Min\Delta Net}$
IV	120	1353	5.37	-.60	-3.42	1.95	0.76	
IV	120	1503	5.97	0	-3.42	2.55	1.00	1.62
IV	120	1653	6.57	+.60	-3.42	3.15	1.24	
54	90	728	2.75	-.30	-1.10	1.35	0.69	
54	90	809	3.05	0	-1.10	1.95	1.00	1.90
54	90	890	3.36	+.31	-1.10	2.57	1.32	
C	80	833	2.97	-.33	-1.27	1.37	0.67	
C	80	925	3.30	0	-1.27	2.03	1.00	1.96
C	80	1018	3.63	+.33	-1.27	2.69	1.33	

*Std. is the camber from standard (unchanged) prestress force.

TABLE 18. CHANGES IN CAMBER CAUSED BY CHANGES IN PRESTRESSING FORCE

Table 19 shows midspan net camber, camber from prestress force combined with camber from beam weight, for the 27 cases studied for each beam. The E_c computed from the design strength at release is used as the standard. The high and low cambers are referred to the camber with standard E_c, the design value, by the ratios shown in the table. In each of the three cases the lowest camber occurs in beams with low E_c in the bottom flange and high E_c in the top. The lowest camber occurs in beams with high E_c in the bottom flange and either low or design E_c in the top flange.

The ratios of high and low cambers to standard are approximately the same for Types C and 54 beams, whereas those ratios for the Type IV beam are far different than the other two. The distribution of the concrete in the section is important in this regard because of the change in properties with transformation of the section. The ratios are lowest in Type 54 beams which has the least difference in the top and bottom flange.

The variation in cambers for the beams in concrete was placed in three length segments and is shown in Table 20. Camber variation occurs, as would be expected, when the concretes vary. The deviation of high camber is not as great as it is in the layered beams, but the opposite is seen for the low camber. There is a wider range here between low and high cambers than in the layered system.

The two Tables, 19 and 20, show that there can be a considerable range of cambers in beams if the concrete is of non-uniform quality and is placed in layers or in sections. One would expect a more random distribution of the concretes in fabrication than was used in these models.

TABLE 19. CAMBERS IN LAYERED BEAMS

Modulus of El. Bot.	Mid.	Top	C	54	IV
L	L	L*	2.50	2.43	3.18
L	L	M	2.57	2.47	3.49
L	L	H	2.62	2.50(H)	3.70
L	M	L	2.56	2.43	4.82
L	M	M	2.61	2.45	4.92
L	M	H	2.65	2.46	4.99(H)
L	H	L	2.61	2.42	4.85
L	H	M	2.64	2.42	4.92
L	H	H	2.66(H)	2.43	4.70
M	M	L	1.93	1.91	2.66
M	M	M(Design)	2.00	1.95	2.55
M	M	H	2.04	1.97	2.74
M	L	L	1.87	1.89	3.41
M	L	M	1.95	1.94	3.79
M	L	H	2.01	1.98	3.90
M	H	L	1.99	1.93	3.75
M	H	M	2.04	1.95	3.85
M	H	H	2.07	1.96	3.92
H	H	L	1.56	1.57	1.67(L)
H	H	M	1.62	1.60	1.93
H	H	H	1.66	1.62	2.12
H	M	L	1.51	1.54	2.92
H	M	M	1.58	1.58	3.06
H	M	H	1.64	1.62	3.17
H	L	L	1.44(L)	1.50(L)	2.84
H	L	M	1.53	1.56	3.02
H	L	H	--	1.61	3.14

Camber Ratios

C-Beam

$\frac{\text{High}}{\text{Design}} = 1.33$

$\frac{\text{Low}}{\text{Design}} = 0.72$

54 Bm

$\frac{\text{High}}{\text{Design}} = 1.28$

$\frac{\text{Low}}{\text{Design}} = 0.77$

Type IV Bm

$\frac{\text{High}}{\text{Design}} = 1.96$

$\frac{\text{Low}}{\text{Design}} = 0.65$

*Modulii of Elasticity;
M = design value; H = 120% M;
L = 80% M

	H	M	L
C bm	5400 ksi	4500 ksi	3600 ksi
54 bm	5040 ksi	4200 ksi	3360 ksi
IV bm	5160 ksi	4300 ksi	3440 ksi

TABLE 20. CAMBER IN SECTIONED BEAM

MODULUS OF ELASTICITY			NET CAMBER (INCHES)		
Center	Ends		Type C	Type 54	Type IV
L	L*		2.51 (High)	2.23 (High)	3.20 (High)
L	M		2.30	1.46	1.35
L	H		0.89 (Low)	1.32	-0.48 (Low)
M	L		1.16	1.54	1.59
M	M	Design	2.01	1.99	2.56
M	H		1.18	1.01 (Low)	1.12
H	L		1.46	1.45	1.16
H	M		1.25	1.25	1.28
H	H		1.10	1.66	2.13
Ratio	High Camber / Design Camber		1.25	1.12	1.25
Ratio	Low Camber / Design Camber		0.44	0.51	-0.19
Ratio	High Camber / Low Camber		2.82	2.19	-6.66

*Modulii of Elasticity: M = Design Value; H = 120% M; L = 80% M

	H	M	L
C bm	5400 ksi	4500 ksi	3600 ksi
54 bm	5040 ksi	4200 ksi	3360 ksi
IV bm	5160 ksi	4300 ksi	3440 ksi

V. Discussion of Findings and Recommendations

This study set out to determine the reason or reasons that differential camber develops in beams of identical design. It failed to do that. It did find some practices that without question contribute to differential camber, but all of these practices introduced time which influences time dependent properties of materials. No study whatsoever was made of the handling and hauling of the beams and the discussion cannot provide any information on the effects of these. From the information gathered on design and fabrication practices it is necessary to look to the fabrication process and materials. Faults in these would be reflected in release camber which is only magnified with time.

Field measurements were made to determine the modulus of elasticity of concrete, but the control necessary for consistent results was not possible in the field laboratory. This report has shown that the scatter was so wide in the three sets of field tests for modulus that the values cannot be used in calculations with confidence.

A pachometer was calibrated on prestressing strand groups and tested in the field to try to locate the strands in concrete. Precise measurements were impossible but a displacement of about ½ inch of the bottom layer inside harping points could probably be detected. No such displacements were found in the tests at Victoria and Elm Mott.

A few scattered measurements were made on beams at release but no formal activity was carried out in this area. The few readings that were taken revealed nothing unusual in camber.

Theoretical studies were made to determine the effects of strand displacement, tendon force variation, and modulus of elasticity variation. It was found that tendons displaced one inch in the central region could produce about 20% change in the camber of the model, and variations of 10% in tendon force could cause from 24 to 33% variation in camber. Variation of modulus of $\pm$ 20% in either layer or section, could cause camber varying from about 2/3 to 2 times design value. The ratio of high to low cambers under these variations of modulus could reach a value of about 3. The model beams were typical of Types C, 54 and IV that are used throughout the state. But it is not known nor suspected that the variations that were used in the models were typical, rare, or non-existent.

It is possible that events and circumstances, if they exist at all, can occur or exist simultaneously under some situations. If two or three of the variables -- force, tendon displacement, and modulus of elasticity -- changed together, the effect is not known. It could be a magnification of the effects shown in Tables 17, 18, and 19, or it could be a damping of those effects. The probability of such an occurrence is probably very low and it is not considered here to be the cause of excessive differential camber.

A portion of the difference in camber at casting of the deck for beams or identical design can be attributed to time differences that would produce camber differences if beams were identical in all respects. The first time difference which can occur is difference in age when strands are released. Data gathered on the manufacture of beams indicated that in some instances as much as two to four days additional time elapsed before a line of beams was released. Figure 13 through 15 show the extent of camber differences for three typical beams that such practice may produce. Conversations with field personnel indicated this practice occurred most frequently when beams cast on Friday had not gained sufficient strength for release by the end of the working day, and were left in the casting bed, unstressed, until the following week. The effect on camber should be more pronounced for beams that are not steam cured because of their slower strength gain rate. Any practice that results in substantially different concrete strength at release for identical beams should be discouraged.

A second time difference often arises when beams are selected from storage for delivery to the construction site. Current practice incorporates the same erection mark for beams identical in design as well as detail. The number of beams with the same erection mark may be substantial on a project with a large number of identical spans. Depending on the casting sequence used by the manufacturer, there may exist considerable differences in age among beams with the same erection mark. If "young" and "old" beams are mixed in the same span, camber differences will occur. Figures 13 through 15 are typical of camber growth vs. time for beams used in the model calibration studies described in Chapter 3. The figures indicate that camber growth is rapid for approximately the first 100 days and proceeds at a decreasing rate thereafter. For the beams in Figure 13 and 14, a beam erected at an age of 30 days with a beam 150 days old would produce over an inch of camber difference. There was no evidence that construction practices now used would prevent the occurrence of such a situation.

A reduction in camber differences among beams in a particular span of a structure containing a number of identical beams could be achieved by making camber measurements on beams available in storage and selecting those with more nearly equal cambers for use in the same span. Cambers could be obtained from elevation measurements at each end and midspan made with a transit and level rod or by means of a taut line stretched along the side of the top flange.

Beams of identical design which display significant camber differences at release will attain even greater differences by the time they are transported to the construction site for erection. Camber measurements made at release therefore could be used as an indicator of probable later camber differentials. It was found in this study that such measurements could be obtained quickly and without interruptions of the production process by measuring the distance between the edge of the chamfer on the bottom flange of a beam and the form. This measurement should not be taken until the strands have been cut between each beam and any shims placed under the ends of the beam prior to release have been removed. A permanent record of release camber could be maintained by entering this measurement on the prestressed concrete worksheet used by inspectors.

Evidence was found indicating that strands are displaced from their designated position in a beam during casting operations. A system of spacers which maintain inter-row separation and clear distance between bottom of beam and first row strands needs to be developed. Calculations made in Chapter 4 suggest that displaced strands can contribute significantly to variation in camber.

In some design situations a choice between beam types may be possible. Figure 20 shows how the ratio of differential camber to span length varies with span length for the beams listed in Appendix A. The ratio, designated as R in the figure, is the ratio, expressed as a percentage, of maximum camber minus minimum camber to span length of all beams in a span. The linear curves were fit to the data by regression, and they provide a measure of differential camber somewhat like that of the waste factor discussed earlier. An increasing R value indicates an increasing waste factor and a decreasing R indicates a decreasing waste factor.

The R value increases with span for the Type C beam; it is almost constant for the Type 54 beam; and it decreases for the Type IV beam. At a span length of approximately 60 ft. the ratio is the same, approximately 1.2, for all three beams. This means that on the average there will be $\frac{1.2}{100} \times (60) = 0.72$ in. difference between the low camber and the high camber for each beam type when used in a 60 ft. span. For spans shorter than 60 ft., R is smaller for the Type C beam and greater for the Type IV beam. Spans greater than about 60 ft. will have smaller R values for the Type IV, greater for the Type C, and essentially unchanged for the Type 54. With respect to differential camber, there would be an advantage in the long run to use Type 54 beams instead of Type C for the larger spans. The Type IV has the lower R value of all the beams in the larger spans, but it is a much heavier beam than either of the others.

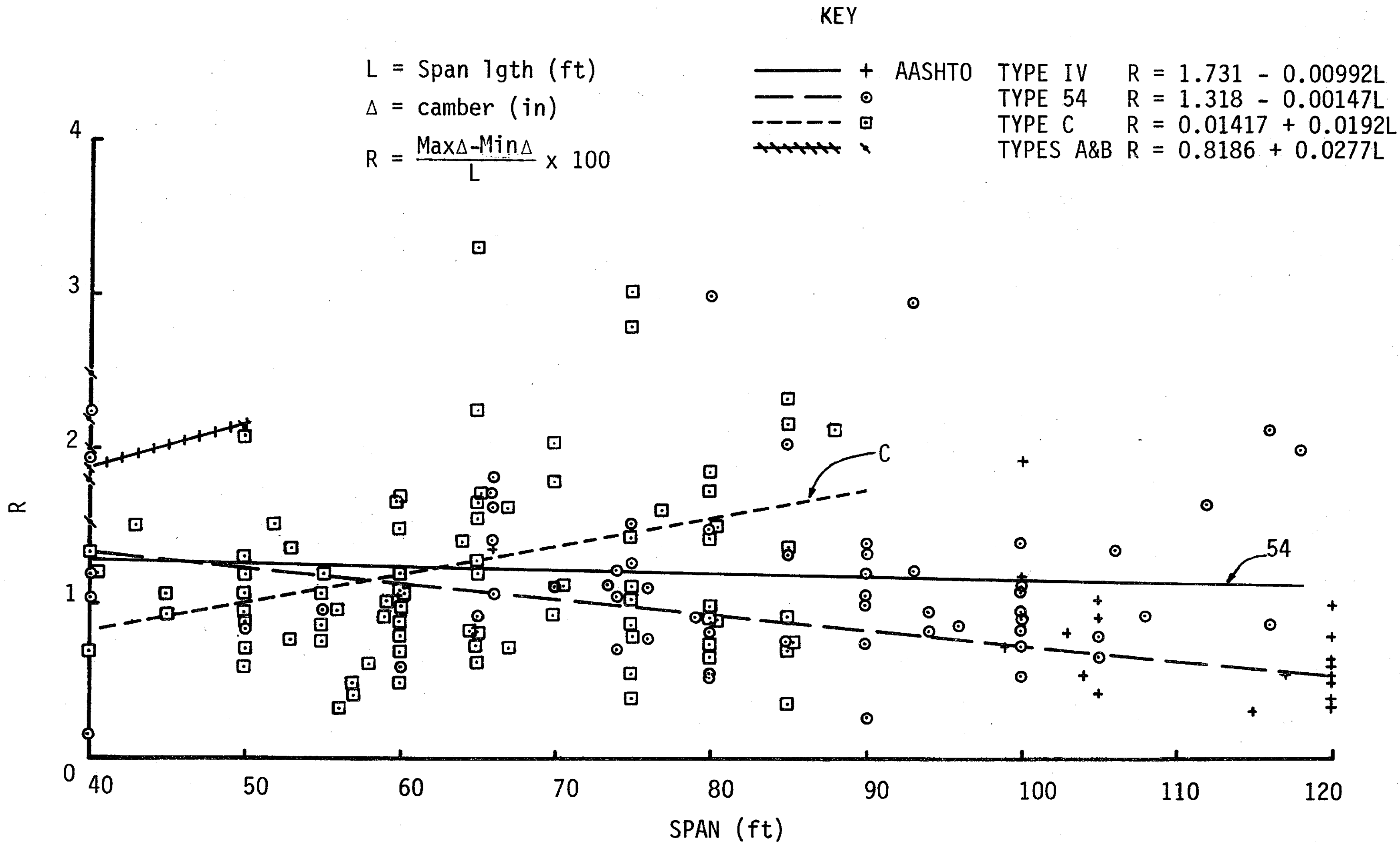


FIGURE 20. VARIATION OF SPAN WITH RATIO OF CAMBER RANGE TO SPAN

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APPENDIX A

DATA ON SDHPT BEAM CAMBER

IDENT	SPAN NMBR	BEAM NMBR	BEAM TYPE	SPAN LGTH (FT)	STRANDS (NMBR)	ECCENTRICITY END (INCHES)	ECCENTRICITY MIDDLE (INCHES)	DESIGN FPCI (KSI)	DESIGN FPC (KSI)	**CAMBER STATISTICS** ACTL.	MEAN	STD. DEV.	T-VAL
1	2	1	IV	132.00	54	11.40	19.17			1.20	1.16	0.181	0.232
1	2	2	IV	132.00	54	11.40	19.17			0.78	1.16	0.181	-2.086
1	2	3	IV	132.00	54	11.40	19.17			1.08	1.16	0.181	-0.430
1	2	4	IV	132.00	54	11.40	19.17			1.02	1.16	0.181	-0.762
1	2	5	IV	132.00	54	11.40	19.17			1.08	1.16	0.181	-0.431
1	3	1	IV	132.00	54	11.40	19.17			1.38	1.16	0.181	1.225
1	3	2	IV	132.00	54	11.40	19.17			1.26	1.16	0.181	0.563
1	3	3	IV	132.00	54	11.40	19.17			1.26	1.16	0.181	0.562
1	3	4	IV	132.00	54	11.40	19.17			1.38	1.16	0.181	1.225
1	3	5	IV	132.00	54	11.40	19.17			1.14	1.16	0.181	-0.099
2	2	1	IV	130.00	48	11.21	19.21	5.8	7.5	4.02	4.00	0.031	0.726
2	2	2	IV	130.00	48	11.21	19.21	5.8	7.5	4.02	4.00	0.031	0.726
2	2	3	IV	130.00	48	11.21	19.21	5.8	7.5	3.96	4.00	0.031	-1.208
2	2	4	IV	130.00	48	11.21	19.21	5.8	7.5	4.02	4.00	0.031	0.720
2	2	5	IV	130.00	48	11.21	19.21	5.8	7.5	3.96	4.00	0.031	-1.208
2	2	6	IV	130.00	48	11.21	19.21	5.8	7.5	4.02	4.00	0.031	0.726
2	2	7	IV	130.00	48	11.21	19.21	5.8	7.5	3.96	4.00	0.031	-1.208
2	2	8	IV	130.00	48	11.21	19.21	5.8	7.5	4.02	4.00	0.031	0.726
3	2	1	IV	130.00	48	11.21	19.21	5.8	7.6	4.02	4.18	0.307	-0.512
3	2	2	IV	130.00	48	11.21	19.21	5.8	7.6	4.02	4.18	0.307	-0.512
3	2	3	IV	130.00	48	11.21	19.21	5.8	7.6	4.86	4.18	0.307	2.219
3	2	4	IV	130.00	48	11.21	19.21	5.8	7.6	4.02	4.18	0.307	-0.513
3	2	5	IV	130.00	48	11.21	19.21	5.8	7.6	3.96	4.18	0.307	-0.707
3	2	6	IV	130.00	48	11.21	19.21	5.8	7.6	4.26	4.18	0.307	0.268
3	2	7	IV	130.00	48	11.21	19.21	5.8	7.6	3.96	4.18	0.307	-0.707
3	2	8	IV	130.00	48	11.21	19.21	5.8	7.6	4.32	4.18	0.307	0.463
4	5	1	IV	125.00	52	6.63	18.94	4.7	7.6	1.02	1.14	0.143	-0.837
4	5	2	IV	125.00	52	6.63	18.94	4.7	7.6	1.08	1.14	0.143	-0.418
4	5	3	IV	125.00	52	6.63	18.94	4.7	7.6	1.14	1.14	0.143	-0.001
4	5	4	IV	125.00	52	6.63	18.94	4.7	7.6	0.96	1.14	0.143	-1.255
4	5	5	IV	125.00	52	6.63	18.94	4.7	7.6	1.14	1.14	0.143	0.001
4	5	6	IV	125.00	52	6.63	18.94	4.7	7.6	1.44	1.14	0.143	2.091
4	5	7	IV	125.00	52	6.63	18.94	4.7	7.6	1.20	1.14	0.143	0.418
4	5	8	IV	125.00	52	6.63	18.94	4.7	7.6	1.14	1.14	0.143	0.001
5	4	1	IV	120.57	52	11.21	19.29	5.9	7.0	0.72	0.81	0.162	-0.529
5	4	2	IV	120.57	52	11.21	19.29	5.9	7.0	0.84	0.81	0.162	0.212
5	4	3	IV	120.57	52	11.21	19.29	5.9	7.0	1.14	0.81	0.162	2.064

IDENT	SPAN NMBR	BEAM NMBR	TYPE	SPAN LGTH (FT)	STRANDS (NMBR)	ECCENTRICITY END (INCHES)	ECCENTRICITY MIDDLE (INCHES)	DESIGN FPCI (KSI)	DESIGN FPC (KSI)	**CAMBER STATISTICS** ACTL.	MEAN	STD. DEV.	T-VAL
5	4	4	IV	120.57	52	11.21	19.29	5.9	7.0	0.72	0.81	0.162	-0.529
5	4	5	IV	120.57	52	11.21	19.29	5.9	7.0	0.84	0.81	0.162	0.212
5	4	6	IV	120.57	52	11.21	19.29	5.9	7.0	0.66	0.81	0.162	-0.900
5	4	7	IV	120.57	52	11.21	19.29	5.9	7.0	0.72	0.81	0.162	-0.529
6	2	1	IV	120.00	48	12.33	19.19	5.7	6.0	1.98	2.23	0.418	-0.598
6	2	2	IV	120.00	48	12.33	19.19	5.7	6.0	2.46	2.23	0.418	0.550
6	2	3	IV	120.00	48	12.33	19.19	5.7	6.0	2.76	2.23	0.418	1.267
6	2	4	IV	120.00	48	12.33	19.19	5.7	6.0	2.40	2.23	0.418	0.407
6	2	5	IV	120.00	48	12.33	19.19	5.7	6.0	2.22	2.23	0.418	-0.024
6	2	6	IV	120.00	48	12.33	19.19	5.7	6.0	1.56	2.23	0.418	-1.602
7	2	1	IV	120.00	52	11.29	19.36	5.8	7.0	2.76	2.63	0.239	0.538
7	2	2	IV	120.00	52	11.29	19.36	5.8	7.0	2.88	2.63	0.239	1.042
7	2	3	IV	120.00	52	11.29	19.36	5.8	7.0	2.52	2.63	0.239	-0.467
7	2	4	IV	120.00	52	11.29	19.36	5.8	7.0	2.76	2.63	0.239	0.539
7	2	5	IV	120.00	52	11.29	19.36	5.8	7.0	2.46	2.63	0.239	-0.718
7	2	6	IV	120.00	52	11.29	19.36	5.8	7.0	2.22	2.63	0.239	-1.725
7	2	7	IV	120.00	52	11.29	19.36	5.8	7.0	2.82	2.63	0.239	0.791
8	2	1	IV	120.00	52	11.29	19.36	5.8	7.0	2.88	2.65	0.228	1.014
8	2	2	IV	120.00	52	11.29	19.36	5.8	7.0	2.40	2.65	0.228	-1.089
8	2	3	IV	120.00	52	11.29	19.36	5.8	7.0	2.64	2.65	0.228	-0.038
8	2	4	IV	120.00	52	11.29	19.36	5.8	7.0	2.58	2.65	0.228	-0.300
8	2	5	IV	120.00	52	11.29	19.36	5.8	7.0	2.94	2.65	0.228	1.276
8	2	6	IV	120.00	52	11.29	19.36	5.8	7.0	2.76	2.65	0.228	0.488
8	2	7	IV	120.00	52	11.29	19.36	5.8	7.0	2.34	2.65	0.228	-1.352
9	2	1	IV	120.00	52	11.29	19.36	5.8	7.0	3.36	3.01	0.280	1.254
9	2	2	IV	120.00	52	11.29	19.36	5.8	7.0	3.24	3.01	0.280	0.826
9	2	3	IV	120.00	52	11.29	19.36	5.8	7.0	2.88	3.01	0.280	-0.459
9	2	4	IV	120.00	52	11.29	19.36	5.8	7.0	2.94	3.01	0.280	-0.244
9	2	5	IV	120.00	52	11.29	19.36	5.8	7.0	3.24	3.01	0.280	0.826
9	2	6	IV	120.00	52	11.29	19.36	5.8	7.0	2.58	3.01	0.280	-1.530
9	2	7	IV	120.00	52	11.29	19.36	5.8	7.0	2.82	3.01	0.280	-0.673
10	2	1	IV	120.00	52	11.29	19.36	5.8	7.0	2.88	2.81	0.212	0.324
10	2	2	IV	120.00	52	11.29	19.36	5.8	7.0	2.88	2.81	0.212	0.324
10	2	3	IV	120.00	52	11.29	19.36	5.8	7.0	2.58	2.81	0.212	-1.092
10	2	4	IV	120.00	52	11.29	19.36	5.8	7.0	2.46	2.81	0.212	-1.658

IDENT	SPAN NMBR	BEAM NMBR	BEAM TYPE	SPAN LGTH (FT)	STRANDS (NMBR)	ECCENTRICITY END (INCHES)	ECCENTRICITY MIDDLE (INCHES)	DESIGN FPCI (KSI)	DESIGN FPC (KSI)	**CAMBER STATISTICS** ACTL.	MEAN	STD. DEV.	T-VAL
10	2	5	IV	120.00	52	11.29	19.36	5.8	7.0	2.94	2.81	0.212	0.606
10	2	6	IV	120.00	52	11.29	19.36	5.8	7.0	2.88	2.81	0.212	0.324
10	2	7	IV	120.00	52	11.29	19.36	5.8	7.0	3.06	2.81	0.212	1.173
11	2	1	IV	120.00	58	10.40	18.34	6.3	7.6	1.92	1.62	0.331	0.907
11	2	2	IV	120.00	58	10.40	18.34	6.3	7.6	1.80	1.62	0.331	0.544
11	2	3	IV	120.00	58	10.40	18.34	6.3	7.6	1.86	1.62	0.331	0.726
11	2	4	IV	120.00	58	10.40	18.34	6.3	7.6	1.20	1.62	0.331	-1.270
11	2	5	IV	120.00	58	10.40	18.34	6.3	7.6	1.20	1.62	0.331	-1.270
11	2	6	IV	120.00	58	10.40	18.34	6.3	7.6	1.74	1.62	0.331	0.363
12	2	1	IV	120.00	58	10.40	18.34	6.3	7.6	0.96	0.99	0.155	-0.193
12	2	2	IV	120.00	58	10.40	18.34	6.3	7.6	0.78	0.99	0.155	-1.352
12	2	3	IV	120.00	58	10.40	18.34	6.3	7.6	0.96	0.99	0.155	-0.194
12	2	4	IV	120.00	58	10.40	18.34	6.3	7.6	0.96	0.99	0.155	-0.194
12	2	5	IV	120.00	58	10.40	18.34	6.3	7.6	1.02	0.99	0.155	0.193
12	2	6	IV	120.00	58	10.40	18.34	6.3	7.6	1.26	0.99	0.155	1.739
13	2	1	IV	120.00	58	10.40	18.34	6.3	7.6	2.76	2.72	0.173	0.232
13	2	2	IV	120.00	58	10.40	18.34	6.3	7.6	2.82	2.72	0.173	0.580
13	2	3	IV	120.00	58	10.40	18.34	6.3	7.6	2.58	2.72	0.173	-0.812
13	2	4	IV	120.00	58	10.40	18.34	6.3	7.6	2.58	2.72	0.173	-0.812
13	2	5	IV	120.00	58	10.40	18.34	6.3	7.6	3.00	2.72	0.173	1.623
13	2	6	IV	120.00	58	10.40	18.34	6.3	7.6	2.58	2.72	0.173	-0.811
14	2	1	IV	120.00	58	10.40	18.34	6.3	7.6	3.00	3.00	0.147	-0.000
14	2	2	IV	120.00	58	10.40	18.34	6.3	7.6	2.94	3.00	0.147	-0.408
14	2	3	IV	120.00	58	10.40	18.34	6.3	7.6	2.76	3.00	0.147	-1.633
14	2	4	IV	120.00	58	10.40	18.34	6.3	7.6	3.00	3.00	0.147	-0.000
14	2	5	IV	120.00	58	10.40	18.34	6.3	7.6	3.12	3.00	0.147	0.816
14	2	6	IV	120.00	58	10.40	18.34	6.3	7.6	3.18	3.00	0.147	1.225
15	2	1	IV	120.00	54	7.93	19.17	5.3	6.8	3.12	3.37	0.272	-0.925
15	2	2	IV	120.00	54	7.93	19.17	5.3	6.8	3.48	3.37	0.272	0.397
15	2	3	IV	120.00	54	7.93	19.17	5.3	6.8	3.78	3.37	0.272	1.497
15	2	4	IV	120.00	54	7.93	19.17	5.3	6.8	3.48	3.37	0.272	0.396
15	2	5	IV	120.00	54	7.93	19.17	5.3	6.8	3.60	3.37	0.272	0.837
15	3	1	IV	120.00	54	7.93	19.17	5.3	6.8	3.24	3.37	0.272	-0.484
15	3	2	IV	120.00	54	7.93	19.17	5.3	6.8	2.82	3.37	0.272	-2.026
15	3	3	IV	120.00	54	7.93	19.17	5.3	6.8	3.48	3.37	0.272	0.397

IDENT	SPAN NMBR	BEAM NMBR	BEAM TYPE	SPAN LGTH (FT)	STRANDS (NMBR)	ECCENTRICITY END (INCHES)	ECCENTRICITY MIDDLE (INCHES)	DESIGN FPCI (KSI)	DESIGN FPC (KSI)	**CAMBER ACTL.	MEAN	STATISTICS** STD. DEV.	T-VAL
15	3	4	IV	120.00	54	7.93	19.17	5.3	6.8	3.48	3.37	0.272	0.397
15	3	5	IV	120.00	54	7.93	19.17	5.3	6.8	3.24	3.37	0.272	-0.484
16	7	1	IV	117.00	54	11.34	19.12	6.1	7.3	2.58	2.79	0.247	-0.833
16	7	2	IV	117.00	54	11.34	19.12	6.1	7.3	2.88	2.79	0.247	0.382
16	7	3	IV	117.00	54	11.34	19.12	6.1	7.3	2.40	2.79	0.247	-1.561
16	7	4	IV	117.00	54	11.34	19.12	6.1	7.3	3.06	2.79	0.247	1.110
16	7	5	IV	117.00	54	11.34	19.12	6.1	7.3	2.64	2.79	0.247	-0.590
16	7	6	IV	117.00	54	11.34	19.12	6.1	7.3	2.94	2.79	0.247	0.624
16	7	7	IV	117.00	54	11.34	19.12	6.1	7.3	3.00	2.79	0.247	0.867
17	3	1	IV	115.32	54	9.79	19.71	5.7	6.9	2.04	1.82	0.145	1.514
17	3	2	IV	115.32	54	9.79	19.71	5.7	6.9	1.92	1.82	0.145	0.688
17	3	3	IV	115.32	54	9.79	19.71	5.7	6.9	1.86	1.82	0.145	0.275
17	3	4	IV	115.32	54	9.79	19.71	5.7	6.9	1.68	1.82	0.145	-0.963
17	3	5	IV	115.32	54	9.79	19.71	5.7	6.9	1.74	1.82	0.145	-0.550
17	3	6	IV	115.32	54	9.79	19.71	5.7	6.9	1.68	1.82	0.145	-0.963
18	2	1	IV	115.00	54	12.82	19.12	6.0	7.3	2.34	2.29	0.124	0.444
18	2	2	IV	115.00	54	12.82	19.12	6.0	7.3	2.40	2.29	0.124	0.929
18	2	3	IV	115.00	54	12.82	19.12	6.0	7.3	2.28	2.29	0.124	-0.041
18	2	4	IV	115.00	54	12.82	19.12	6.0	7.3	2.34	2.29	0.124	0.444
18	2	5	IV	115.00	54	12.82	19.12	6.0	7.3	2.28	2.29	0.124	-0.041
18	2	6	IV	115.00	54	12.82	19.12	6.0	7.3	2.34	2.29	0.124	0.444
18	2	1	IV	115.00	54	12.82	19.12	6.0	7.3	2.34	2.29	0.124	0.444
18	2	2	IV	115.00	54	12.82	19.12	6.0	7.3	2.28	2.29	0.124	-0.041
18	2	3	IV	115.00	54	12.82	19.12	6.0	7.3	2.46	2.29	0.124	1.412
18	2	4	IV	115.00	54	12.82	19.12	6.0	7.3	1.98	2.29	0.124	-2.461
18	2	5	IV	115.00	54	12.82	19.12	6.0	7.3	2.16	2.29	0.124	-1.010
18	2	6	IV	115.00	54	12.82	19.12	6.0	7.3	2.22	2.29	0.124	-0.525
19	1	1	IV	105.00	54	10.16	19.05	5.9	7.2	4.80	4.34	0.317	1.452
19	1	2	IV	105.00	54	10.16	19.05	5.9	7.2	4.26	4.34	0.317	-0.253
19	1	3	IV	105.00	54	10.16	19.05	5.9	7.2	4.26	4.34	0.317	-0.253
19	1	4	IV	105.00	54	10.16	19.05	5.9	7.2	4.50	4.34	0.317	0.505
19	1	5	IV	105.00	54	10.16	19.05	5.9	7.2	4.38	4.34	0.317	0.126
19	1	6	IV	105.00	54	10.16	19.05	5.9	7.2	3.84	4.34	0.317	-1.579
20	3	1	IV	105.00	46	12.23	19.88			3.06	2.70	0.303	1.204
20	3	2	IV	105.00	46	12.23	19.88			2.28	2.70	0.303	-1.369

IDENT	SPAN NMBR	BEAM NMBR	BEAM TYPE	SPAN LGTH (FT)	STRANDS (NMBR)	ECCENTRICITY END (INCHES)	ECCENTRICITY MIDDLE (INCHES)	DESIGN FPCI (KSI)	DESIGN FPC (KSI)	**CAMBER STATISTICS** ACTL.	MEAN	STD. DEV.	T-VAL
20	3	3	IV	105.00	46	12.23	19.88			2.52	2.70	0.303	-0.577
20	3	4	IV	105.00	46	12.23	19.88			2.52	2.70	0.303	-0.577
20	3	5	IV	105.00	46	12.23	19.88			2.70	2.70	0.303	0.017
20	3	6	IV	105.00	46	12.23	19.88			2.28	2.70	0.303	-1.368
20	4	1	IV	105.00	46	12.23	19.88			2.76	2.70	0.303	0.214
20	4	2	IV	105.00	46	12.23	19.88			2.76	2.70	0.303	0.214
20	4	3	IV	105.00	46	12.23	19.88			2.76	2.70	0.303	0.215
20	4	4	IV	105.00	46	12.23	19.88			2.58	2.70	0.303	-0.379
20	4	5	IV	105.00	46	12.23	19.88			3.36	2.70	0.303	2.193
20	4	6	IV	105.00	46	12.23	19.88			2.76	2.70	0.303	0.214
21	2	1	IV	104.00	42	9.04	19.89	4.4	5.4	1.62	1.57	0.253	0.197
21	2	4	IV	104.00	42	9.04	19.89	4.4	5.4	1.26	1.57	0.253	-1.226
21	2	7	IV	104.00	42	9.04	19.89	4.4	5.4	1.86	1.57	0.253	1.147
21	3	1	IV	104.00	42	9.04	19.89	4.4	5.4	1.44	1.57	0.253	-0.514
21	3	4	IV	104.00	42	9.04	19.89	4.4	5.4	1.38	1.57	0.253	-0.751
21	3	7	IV	104.00	42	9.04	19.89	4.4	5.4	1.86	1.57	0.253	1.147
22	3	1	IV	103.00	42	9.04	19.89	4.4	5.4	1.50	1.63	0.248	-0.544
22	3	2	IV	103.00	42	9.04	19.89	4.4	5.4	1.32	1.63	0.248	-1.269
22	3	3	IV	103.00	42	9.04	19.89	4.4	5.4	1.68	1.63	0.248	0.181
22	3	4	IV	103.00	42	9.04	19.89	4.4	5.4	1.20	1.63	0.248	-1.753
22	3	5	IV	103.00	42	9.04	19.89	4.4	5.4	1.68	1.63	0.248	0.181
22	3	6	IV	103.00	42	9.04	19.89	4.4	5.4	1.68	1.63	0.248	0.181
22	3	1	IV	103.00	42	9.04	19.89	4.4	5.4	1.86	1.63	0.248	0.906
22	3	2	IV	103.00	42	9.04	19.89	4.4	5.4	1.68	1.63	0.248	0.181
22	3	3	IV	103.00	42	9.04	19.89	4.4	5.4	2.04	1.63	0.248	1.632
22	3	4	IV	103.00	42	9.04	19.89	4.4	5.4	1.38	1.63	0.248	-1.027
22	3	5	IV	103.00	42	9.04	19.89	4.4	5.4	1.92	1.63	0.248	1.148
22	3	6	IV	103.00	42	9.04	19.89	4.4	5.4	1.68	1.63	0.248	0.181
23	2	1	IV	98.00	38	9.49	20.22	4.1	5.0	1.68	1.73	0.218	-0.229
23	2	2	IV	98.00	38	9.49	20.22	4.1	5.0	1.98	1.73	0.218	1.145
23	2	3	IV	98.00	38	9.49	20.22	4.1	5.0	1.62	1.73	0.218	-0.504
23	2	4	IV	98.00	38	9.49	20.22	4.1	5.0	1.56	1.73	0.218	-0.779
23	2	5	IV	98.00	38	9.49	20.22	4.1	5.0	1.68	1.73	0.218	-0.229
23	2	6	IV	98.00	38	9.49	20.22	4.1	5.0	1.32	1.73	0.218	-1.878
23	2	1	IV	98.00	38	9.49	20.22	4.1	5.0	1.98	1.73	0.218	1.145
23	2	2	IV	98.00	38	9.49	20.22	4.1	5.0	1.62	1.73	0.218	-0.504
23	2	3	IV	98.00	38	9.49	20.22	4.1	5.0	1.62	1.73	0.218	-0.504
23	2	4	IV	98.00	38	9.49	20.22	4.1	5.0	2.04	1.73	0.218	1.420
23	2	5	IV	98.00	38	9.49	20.22	4.1	5.0	1.98	1.73	0.218	1.145

IDENT	SPAN NMBR	BEAM NMBR	BEAM TYPE	SPAN LGTH (FT)	STRANDS (NMBR)	ECCENTRICITY END (INCHES)	ECCENTRICITY MIDDLE (INCHES)	DESIGN FPCI (KSI)	DESIGN FPC (KSI)	**CAMBER STATISTICS** ACTL.	MEAN	STD. DEV.	T-VAL
23	2	6	IV	98.00	38	9.49	20.22	4.1	5.0	1.68	1.73	0.218	-0.229
24	1	1	IV	66.00	18	18.06	18.06	4.0	5.0	0.06	0.52	0.337	-1.367
24	1	2	IV	66.00	18	18.06	18.06	4.0	5.0	0.96	0.52	0.337	1.307
24	1	3	IV	66.00	18	18.06	18.06	4.0	5.0	0.60	0.52	0.337	0.238
24	1	4	IV	66.00	18	18.06	18.06	4.0	5.0	0.66	0.52	0.337	0.416
24	1	5	IV	66.00	18	18.06	18.06	4.0	5.0	0.66	0.52	0.337	0.416
24	1	6	IV	66.00	18	18.06	18.06	4.0	5.0	0.18	0.52	0.337	-1.010
25	3	1	IV	40.00	18	18.06	18.06	4.0	5.0	0.48	0.48	0.137	0.000
25	3	2	IV	40.00	18	18.06	18.06	4.0	5.0	0.24	0.48	0.137	-1.754
25	3	3	IV	40.00	18	18.06	18.06	4.0	5.0	0.66	0.48	0.137	1.316
25	3	4	IV	40.00	18	18.06	18.06	4.0	5.0	0.54	0.48	0.137	0.439
25	3	5	IV	40.00	18	18.06	18.06	4.0	5.0	0.48	0.48	0.137	0.000
25	3	6	IV	40.00	18	18.06	18.06	4.0	5.0	0.48	0.48	0.137	-0.001
26	2	1	54	118.00	36	8.75	17.75	5.3	7.0	3.06	3.86	0.692	-1.155
26	2	2	54	118.00	36	8.75	17.75	5.3	7.0	4.44	3.86	0.692	0.838
26	2	3	54	118.00	36	8.75	17.75	5.3	7.0	4.02	3.86	0.692	0.231
26	2	4	54	118.00	36	8.75	17.75	5.3	7.0	3.96	3.86	0.692	0.144
26	2	5	54	118.00	36	8.75	17.75	5.3	7.0	3.48	3.86	0.692	-0.549
26	2	6	54	118.00	36	8.75	17.75	5.3	7.0	3.42	3.86	0.692	-0.636
26	4	1	54	118.00	36	8.75	17.75	5.3	7.0	3.12	3.86	0.692	-1.069
26	4	2	54	118.00	36	8.75	17.75	5.3	7.0	3.90	3.86	0.692	0.058
26	4	3	54	118.00	36	8.75	17.75	5.3	7.0	3.72	3.86	0.692	-0.202
26	4	4	54	118.00	36	8.75	17.75	5.3	7.0	3.24	3.86	0.692	-0.895
26	4	5	54	118.00	36	8.75	17.75	5.3	7.0	4.50	3.86	0.692	0.924
26	4	6	54	118.00	36	8.75	17.75	5.3	7.0	5.46	3.86	0.692	2.311
27	2	1	54	116.30	36	8.75	17.75	5.3	7.0	4.38	3.19	0.710	1.676
27	2	2	54	116.30	36	8.75	17.75	5.3	7.0	2.94	3.19	0.710	-0.352
27	2	3	54	116.30	36	8.75	17.75	5.3	7.0	3.36	3.19	0.710	0.239
27	2	4	54	116.30	36	8.75	17.75	5.3	7.0	3.06	3.19	0.710	-0.183
27	2	5	54	116.30	36	8.75	17.75	5.3	7.0	3.30	3.19	0.710	0.155
27	2	6	54	116.30	36	8.75	17.75	5.3	7.0	3.12	3.19	0.710	-0.099
27	4	1	54	116.30	36	8.75	17.75	5.3	7.0	4.38	3.19	0.710	1.676
27	4	2	54	116.30	36	8.75	17.75	5.3	7.0	1.86	3.19	0.710	-1.874
27	4	3	54	116.30	36	8.75	17.75	5.3	7.0	2.64	3.19	0.710	-0.775
27	4	4	54	116.30	36	8.75	17.75	5.3	7.0	3.30	3.19	0.710	0.155
27	4	5	54	116.30	36	8.75	17.75	5.3	7.0	2.52	3.19	0.710	-0.944
27	4	6	54	116.30	36	8.75	17.75	5.3	7.0	3.42	3.19	0.710	0.324

IDENT	SPAN NMBR	BEAM NMBR	BEAM TYPE	SPAN LGTH (FT)	STRANDS (NMBR)	ECCENTRICITY END (INCHES)	ECCENTRICITY MIDDLE (INCHES)	DESIGN FPCI (KSI)	DESIGN FPC (KSI)	**CAMBER STATISTICS** ACTL.	MEAN	STD. DEV.	T-VAL
28	2	1	54	116.33	36	8.75	17.75	5.7	7.0	3.36	3.25	0.332	0.325
28	2	2	54	116.33	36	8.75	17.75	5.7	7.0	2.70	3.25	0.332	-1.663
28	2	3	54	116.33	36	8.75	17.75	5.7	7.0	3.42	3.25	0.332	0.506
28	2	4	54	116.33	36	8.75	17.75	5.7	7.0	2.64	3.25	0.332	-1.843
28	2	5	54	116.33	36	8.75	17.75	5.7	7.0	3.66	3.25	0.332	1.229
28	4	1	54	116.33	36	8.75	17.75	5.7	7.0	3.36	3.25	0.332	0.325
28	4	2	54	116.33	36	8.75	17.75	5.7	7.0	3.54	3.25	0.332	0.867
28	4	3	54	116.33	36	8.75	17.75	5.7	7.0	3.36	3.25	0.332	0.325
28	4	4	54	116.33	36	8.75	17.75	5.7	7.0	3.24	3.25	0.332	-0.036
28	4	5	54	116.33	36	8.75	17.75	5.7	7.0	3.24	3.25	0.332	-0.036
29	2	1	54	112.00	36	8.75	17.75	5.9	7.1	4.32	4.39	0.484	-0.153
29	2	2	54	112.00	36	8.75	17.75	5.9	7.1	4.80	4.39	0.484	0.837
29	2	3	54	112.00	36	8.75	17.75	5.9	7.1	4.86	4.39	0.484	0.961
29	2	4	54	112.00	36	8.75	17.75	5.9	7.1	4.56	4.39	0.484	0.342
29	2	5	54	112.00	36	8.75	17.75	5.9	7.1	4.98	4.39	0.484	1.209
29	2	6	54	112.00	36	8.75	17.75	5.9	7.1	4.74	4.39	0.484	0.714
29	2	7	54	112.00	36	8.75	17.75	5.9	7.1	4.38	4.39	0.484	-0.030
29	2	8	54	112.00	36	8.75	17.75	5.9	7.1	3.78	4.39	0.484	-1.268
29	2	9	54	112.00	36	8.75	17.75	5.9	7.1	3.84	4.39	0.484	-1.144
29	2	10	54	112.00	36	8.75	17.75	5.9	7.1	4.86	4.39	0.484	0.961
29	2	11	54	112.00	36	8.75	17.75	5.9	7.1	4.38	4.39	0.484	-0.029
29	2	12	54	112.00	36	8.75	17.75	5.9	7.1	5.34	4.39	0.484	1.952
29	2	13	54	112.00	36	8.75	17.75	5.9	7.1	4.86	4.39	0.484	0.961
29	2	14	54	112.00	36	8.75	17.75	5.9	7.1	3.96	4.39	0.484	-0.896
29	2	15	54	112.00	36	8.75	17.75	5.9	7.1	3.84	4.39	0.484	-1.144
29	2	16	54	112.00	36	8.75	17.75	5.9	7.1	3.72	4.39	0.484	-1.392
29	2	17	54	112.00	36	8.75	17.75	5.9	7.1	4.38	4.39	0.484	-0.029
29	2	18	54	112.00	36	8.75	17.75	5.9	7.1	4.38	4.39	0.484	-0.029
29	2	19	54	112.00	36	8.75	17.75	5.9	7.1	4.50	4.39	0.484	0.219
29	2	20	54	112.00	36	8.75	17.75	5.9	7.1	3.48	4.39	0.484	-1.887
29	2	21	54	112.00	36	8.75	17.75	5.9	7.1	4.32	4.39	0.484	-0.153
30	2	1	54	108.00	36	8.75	17.75			2.88	2.70	0.319	0.564
30	2	2	54	108.00	36	8.75	17.75			2.22	2.70	0.319	-1.504
30	2	3	54	108.00	36	8.75	17.75			2.52	2.70	0.319	-0.564
30	2	4	54	108.00	36	8.75	17.75			3.24	2.70	0.319	1.692
30	3	1	54	108.00	36	8.75	17.75			2.94	2.70	0.319	0.752
30	3	2	54	108.00	36	8.75	17.75			2.52	2.70	0.319	-0.564
30	3	3	54	108.00	36	8.75	17.75			2.52	2.70	0.319	-0.564
30	3	4	54	108.00	36	8.75	17.75			2.76	2.70	0.319	0.188

IDENT	SPAN NMBR	BEAM NMBR	BEAM TYPE	SPAN LGTH (FT)	STRANDS (NMBR)	ECCENTRICITY END (INCHES)	ECCENTRICITY MIDDLE (INCHES)	DESIGN FPCI (KSI)	DESIGN FPC (KSI)	**CAMBER ACTL.	MEAN	STD. DEV.	T-VAL STATISTICS**
31	2	1	54	106.00	44	6.71	14.99	5.9	7.3	3.00	2.61	0.378	1.037
31	2	2	54	106.00	44	6.71	14.99	5.9	7.3	2.70	2.61	0.378	0.244
31	2	3	54	106.00	44	6.71	14.99	5.9	7.3	3.06	2.61	0.378	1.195
31	2	4	54	106.00	44	6.71	14.99	5.9	7.3	2.94	2.61	0.378	0.878
31	2	5	54	106.00	44	6.71	14.99	5.9	7.3	2.52	2.61	0.378	-0.232
31	2	6	54	106.00	44	6.71	14.99	5.9	7.3	2.70	2.61	0.378	0.244
31	2	7	54	106.00	44	6.71	14.99	5.9	7.3	2.58	2.61	0.378	-0.073
31	2	1	54	106.00	44	6.71	14.99	5.9	7.3	2.46	2.61	0.378	-0.390
31	2	2	54	106.00	44	6.71	14.99	5.9	7.3	2.82	2.61	0.378	0.561
31	2	3	54	106.00	44	6.71	14.99	5.9	7.3	2.76	2.61	0.378	0.403
31	2	4	54	106.00	44	6.71	14.99	5.9	7.3	1.62	2.61	0.378	-2.610
31	2	5	54	106.00	44	6.71	14.99	5.9	7.3	2.22	2.61	0.378	-1.025
31	2	6	54	106.00	44	6.71	14.99	5.9	7.3	2.52	2.61	0.378	-0.232
32	2	1	54	105.33	32	9.80	19.10	5.6	6.6	3.24	3.12	0.280	0.429
32	2	2	54	105.33	32	9.80	19.10	5.6	6.6	3.48	3.12	0.280	1.288
32	2	3	54	105.33	32	9.80	19.10	5.6	6.6	2.82	3.12	0.280	-1.073
32	2	4	54	105.33	32	9.80	19.10	5.6	6.6	3.12	3.12	0.280	-0.000
32	4	1	54	105.33	32	9.80	19.10	5.6	6.6	2.94	3.12	0.280	-0.644
32	4	2	54	105.33	32	9.80	19.10	5.6	6.6	3.00	3.12	0.280	-0.429
32	4	3	54	105.33	32	9.80	19.10	5.6	6.6	2.82	3.12	0.280	-1.073
32	4	4	54	105.33	32	9.80	19.10	5.6	6.6	3.54	3.12	0.280	1.502
33	2	1	54	105.00	32	9.80	19.10	5.6	6.6	3.30	2.99	0.483	0.636
33	2	2	54	105.00	32	9.80	19.10	5.6	6.6	2.94	2.99	0.483	-0.109
33	2	3	54	105.00	32	9.80	19.10	5.6	6.6	3.30	2.99	0.483	0.636
33	2	4	54	105.00	32	9.80	19.10	5.6	6.6	2.76	2.99	0.483	-0.481
33	2	5	54	105.00	32	9.80	19.10	5.6	6.6	3.06	2.99	0.483	0.140
33	4	1	54	105.00	32	9.80	19.10	5.6	6.6	3.36	2.99	0.483	0.760
33	4	2	54	105.00	32	9.80	19.10	5.6	6.6	2.40	2.99	0.483	-1.226
33	4	3	54	105.00	32	9.80	19.10	5.6	6.6	2.70	2.99	0.483	-0.605
33	4	4	54	105.00	32	9.80	19.10	5.6	6.6	3.00	2.99	0.483	0.016
33	4	5	54	105.00	32	9.80	19.10	5.6	6.6	2.52	2.99	0.483	-0.977
33	2	1	54	105.33	36	7.73	17.70	5.6	6.6	2.34	2.99	0.483	-1.350
33	2	2	54	105.33	36	7.73	17.70	5.6	6.6	2.76	2.99	0.483	-0.481
33	2	3	54	105.33	36	7.73	17.70	5.6	6.6	2.64	2.99	0.483	-0.729
33	2	4	54	105.33	36	7.73	17.70	5.6	6.6	2.76	2.99	0.483	-0.481
33	2	5	54	105.33	36	7.73	17.70	5.6	6.6	3.00	2.99	0.483	0.016
33	2	6	54	105.33	36	7.73	17.70	5.6	6.6	2.34	2.99	0.483	-1.350
33	2	7	54	105.33	36	7.73	17.70	5.6	6.6	3.24	2.99	0.483	0.512
33	2	8	54	105.33	36	7.73	17.70	5.6	6.6	2.40	2.99	0.483	-1.226
33	4	1	54	105.33	36	7.73	17.70	5.6	6.6	3.24	2.99	0.483	0.512
33	4	2	54	105.33	36	7.73	17.70	5.6	6.6	3.24	2.99	0.483	0.512

IDENT	SPAN NMBR	BEAM NMBR	BEAM TYPE	SPAN LGTH (FT)	STRANDS (NMBR)	ECCENTRICITY END (INCHES)	ECCENTRICITY MIDDLE (INCHES)	DESIGN FPCI (KSI)	DESIGN FPC (KSI)	**CAMBER ACTL.	MEAN	STD. DEV.	T-VAL STATISTICS**
33	4	3	54	105.33	36	7.73	17.70	5.6	6.6	3.78	2.99	0.483	1.629
33	4	4	54	105.33	36	7.73	17.70	5.6	6.6	3.00	2.99	0.483	0.016
33	4	5	54	105.33	36	7.73	17.70	5.6	6.6	2.88	2.99	0.483	-0.233
33	4	6	54	105.33	36	7.73	17.70	5.6	6.6	3.12	2.99	0.483	0.264
33	4	7	54	105.33	36	7.73	17.70	5.6	6.6	4.44	2.99	0.483	2.994
33	4	8	54	105.33	36	7.73	17.70	5.6	6.6	4.68	2.99	0.483	3.490
33	3	1	54	105.00	34	9.88	18.35	5.6	6.6	2.64	2.99	0.483	-0.729
33	3	2	54	105.00	34	9.88	18.35	5.6	6.6	2.94	2.99	0.483	-0.109
33	3	3	54	105.00	34	9.88	18.35	5.6	6.6	2.82	2.99	0.483	-0.357
33	3	4	54	105.00	34	9.88	18.35	5.6	6.6	2.88	2.99	0.483	-0.233
33	3	5	54	105.00	34	9.88	18.35	5.6	6.6	2.94	2.99	0.483	-0.108
33	3	6	54	105.00	34	9.88	18.35	5.6	6.6	3.18	2.99	0.483	0.388
33	3	7	54	105.00	34	9.88	18.35	5.6	6.6	2.94	2.99	0.483	-0.109
33	3	1	54	105.00	34	9.88	18.35	5.6	6.6	3.18	2.99	0.483	0.388
33	3	2	54	105.00	34	9.88	18.35	5.6	6.6	2.52	2.99	0.483	-0.977
33	3	3	54	105.00	34	9.88	18.35	5.6	6.6	2.46	2.99	0.483	-1.101
33	3	4	54	105.00	34	9.88	18.35	5.6	6.6	2.94	2.99	0.483	-0.108
33	3	5	54	105.00	34	9.88	18.35	5.6	6.6	3.12	2.99	0.483	0.264
33	3	6	54	105.00	34	9.88	18.35	5.6	6.6	2.76	2.99	0.483	-0.481
33	3	7	54	105.00	34	9.88	18.35	5.6	6.6	3.18	2.99	0.483	0.388
34	2	1	54	105.00	34	9.88	18.35	5.9	7.1	3.24	3.22	0.200	0.086
34	2	2	54	105.00	34	9.88	18.35	5.9	7.1	3.18	3.22	0.200	-0.214
34	2	3	54	105.00	34	9.88	18.35	5.9	7.1	3.36	3.22	0.200	0.685
34	2	4	54	105.00	34	9.88	18.35	5.9	7.1	3.00	3.22	0.200	-1.113
34	2	5	54	105.00	34	9.88	18.35	5.9	7.1	2.82	3.22	0.200	-2.012
34	2	6	54	105.00	34	9.88	18.35	5.9	7.1	3.00	3.22	0.200	-1.113
34	2	7	54	105.00	34	9.88	18.35	5.9	7.1	3.12	3.22	0.200	-0.513
34	2	1	54	105.00	34	9.88	18.35	5.9	7.1	3.24	3.22	0.200	0.086
34	2	2	54	105.00	34	9.88	18.35	5.9	7.1	3.54	3.22	0.200	1.583
34	2	3	54	105.00	34	9.88	18.35	5.9	7.1	3.54	3.22	0.200	1.583
34	2	4	54	105.00	34	9.88	18.35	5.9	7.1	3.30	3.22	0.200	0.386
34	2	5	54	105.00	34	9.88	18.35	5.9	7.1	3.24	3.22	0.200	0.086
34	2	6	54	105.00	34	9.88	18.36	5.9	7.1	3.36	3.22	0.200	0.685
34	2	7	54	105.00	34	9.88	18.35	5.9	7.1	3.18	3.22	0.200	-0.214
35	2	1	54	105.00	34	9.88	18.35			3.12	3.32	0.242	-0.816
35	2	2	54	105.00	34	9.88	18.35			3.90	3.32	0.242	2.412
35	2	3	54	105.00	34	9.88	18.35			3.66	3.32	0.242	1.419
35	2	4	54	105.00	34	9.88	18.35			3.12	3.32	0.242	-0.816
35	2	5	54	105.00	34	9.88	18.35			3.24	3.32	0.242	-0.319
35	2	6	54	105.00	34	9.88	18.35			3.36	3.32	0.242	0.177
35	2	7	54	105.00	34	9.88	18.35			3.12	3.32	0.242	-0.816

IDENT	SPAN NMBR	BEAM NMBR	BEAM TYPE	SPAN LGTH (FT)	STRANDS (NMBR)	ECCENTRICITY END (INCHES)	ECCENTRICITY MIDDLE (INCHES)	DESIGN FPCI (KSI)	DESIGN FPC (KSI)	**CAMBER STATISTICS** ACTL.	MEAN	STD. DEV.	T-VAL
35	2	1R	54	105.00	34	9.88	18.35			3.36	3.32	0.242	0.177
35	2	2R	54	105.00	34	9.88	18.35			3.18	3.32	0.242	-0.568
35	2	3R	54	105.00	34	9.88	18.35			3.48	3.32	0.242	0.674
35	2	4R	54	105.00	34	9.88	18.35			3.18	3.32	0.242	-0.568
35	2	5R	54	105.00	34	9.88	18.35			3.06	3.32	0.242	-1.064
35	2	6R	54	105.00	34	9.88	18.35			3.18	3.32	0.242	-0.567
35	2	7R	54	105.00	34	9.88	18.35			3.48	3.32	0.242	0.674
36	2	1	54	100.00	30	10.60	19.40	5.4	6.4	3.96	3.53	0.345	1.246
36	2	2	54	100.00	30	10.60	19.40	5.4	6.4	3.00	3.53	0.345	-1.536
36	2	3	54	100.00	30	10.60	19.40	5.4	6.4	3.42	3.53	0.345	-0.319
36	2	4	54	100.00	30	10.60	19.40	5.4	6.4	3.78	3.53	0.345	0.725
36	2	5	54	100.00	30	10.60	19.40	5.4	6.4	3.90	3.53	0.345	1.073
36	2	6	54	100.00	30	10.60	19.40	5.4	6.4	3.60	3.53	0.345	0.203
36	3	1	54	100.00	30	10.60	19.40	5.4	6.4	3.84	3.53	0.345	0.899
36	3	2	54	100.00	30	10.60	19.40	5.4	6.4	3.18	3.53	0.345	-1.015
36	3	3	54	100.00	30	10.60	19.40	5.4	6.4	3.00	3.53	0.345	-1.536
36	3	4	54	100.00	30	10.60	19.40	5.4	6.4	3.48	3.53	0.345	-0.145
36	3	5	54	100.00	30	10.60	19.40	5.4	6.4	3.36	3.53	0.345	-0.492
36	3	6	54	100.00	30	10.60	19.40	5.4	6.4	3.84	3.53	0.345	0.899
37	2	1	54	100.00	32	10.15	18.90			2.76	2.40	0.287	1.241
37	2	2	54	100.00	32	10.15	18.90			2.46	2.40	0.287	0.194
37	2	3	54	100.00	32	10.15	18.90			2.40	2.40	0.287	-0.015
37	2	4	54	100.00	32	10.15	18.90			2.34	2.40	0.287	-0.224
37	2	5	54	100.00	32	10.15	18.90			2.46	2.40	0.287	0.194
37	2	6	54	100.00	32	10.15	18.90			2.10	2.40	0.287	-1.061
37	2	7	54	100.00	32	10.15	18.90			2.34	2.40	0.287	-0.224
37	2	8	54	100.00	32	10.15	18.90			2.64	2.40	0.287	0.822
37	2	9	54	100.00	32	10.15	18.90			2.28	2.40	0.287	-0.433
37	2	10	54	100.00	32	10.15	18.90			2.16	2.40	0.287	-0.852
37	2	11	54	100.00	32	10.15	18.90			1.86	2.40	0.287	-1.898
37	2	12	54	100.00	32	10.15	18.90			2.22	2.40	0.287	-0.643
37	2	13	54	100.00	32	10.15	18.90			2.94	2.40	0.287	1.868
37	2	14	54	100.00	32	10.15	18.90			2.70	2.40	0.287	1.031
38	8	1	54	100.00	32	0.16	8.90	5.5	6.9	2.46	2.45	0.205	0.073
38	8	7	54	100.00	32	0.16	8.90	5.5	6.9	2.70	2.45	0.205	1.246
38	9	1	54	100.00	32	0.16	8.90	5.5	6.9	2.28	2.45	0.205	-0.806
38	9	7	54	100.00	32	0.16	8.90	5.5	6.9	2.34	2.45	0.205	-0.513
38	8	1	54	100.00	32	0.16	8.90	5.5	6.9	2.34	2.45	0.205	-0.513
38	8	7	54	100.00	32	0.16	8.90	5.5	6.9	2.28	2.45	0.205	-0.806

IDENT	SPAN NMBR	BEAM NMBR	BEAM TYPE	SPAN LGTH (FT)	STRANDS (NMBR)	ECCENTRICITY END (INCHES)	ECCENTRICITY MIDDLE (INCHES)	DESIGN FPCI (KSI)	DESIGN FPC (KSI)	**CAMBER STATISTICS** ACTL.	MEAN	STD. DEV.	T-VAL
38	9	1	54	100.00	32	0.16	8.90	5.5	6.9	2.34	2.45	0.205	-0.513
38	9	7	54	100.00	32	0.16	8.90	5.5	6.9	2.82	2.45	0.205	1.832
39	2	1	54	100.00	36	9.75	17.75	6.4	7.7	3.06	2.97	0.221	0.424
39	2	2	54	100.00	36	9.75	17.75	6.4	7.7	3.00	2.97	0.221	0.152
39	2	3	54	100.00	36	9.75	17.75	6.4	7.7	3.06	2.97	0.221	0.423
39	2	4	54	100.00	36	9.75	17.75	6.4	7.7	3.12	2.97	0.221	0.695
39	2	5	54	100.00	36	9.75	17.75	6.4	7.7	2.94	2.97	0.221	-0.119
39	2	6	54	100.00	36	9.75	17.75	6.4	7.7	2.82	2.97	0.221	-0.661
39	2	7	54	100.00	36	9.75	17.75	6.4	7.7	2.46	2.97	0.221	-2.288
39	2	8	54	100.00	36	9.75	17.75	6.4	7.7	2.88	2.97	0.221	-0.390
39	2	9	54	100.00	36	9.75	17.75	6.4	7.7	3.06	2.97	0.221	0.424
39	2	10	54	100.00	36	9.75	17.75	6.4	7.7	2.76	2.97	0.221	-0.932
39	2	11	54	100.00	36	9.75	17.75	6.4	7.7	3.36	2.97	0.221	1.780
39	2	12	54	100.00	36	9.75	17.75	6.4	7.7	3.18	2.97	0.221	0.966
39	2	13	54	100.00	36	9.75	17.75	6.4	7.7	3.00	2.97	0.221	0.153
39	2	14	54	100.00	36	9.75	17.75	6.4	7.7	2.94	2.97	0.221	-0.119
39	2	15	54	100.00	36	9.75	17.75	6.4	7.7	3.18	2.97	0.221	0.966
39	2	16	54	100.00	36	9.75	17.75	6.4	7.7	2.64	2.97	0.221	-1.475
40	2	1	54	100.00	36	9.75	17.75	6.4	7.7	3.18	3.32	0.309	-0.437
40	2	2	54	100.00	36	9.75	17.75	6.4	7.7	2.76	3.32	0.309	-1.796
40	2	3	54	100.00	36	9.75	17.75	6.4	7.7	3.78	3.32	0.309	1.506
40	2	4	54	100.00	36	9.75	17.75	6.4	7.7	3.24	3.32	0.309	-0.243
40	2	5	54	100.00	36	9.75	17.75	6.4	7.7	3.36	3.32	0.309	0.146
40	2	6	54	100.00	36	9.75	17.75	6.4	7.7	3.42	3.32	0.309	0.340
40	2	7	54	100.00	36	9.75	17.75	6.4	7.7	3.60	3.32	0.309	0.923
40	2	8	54	100.00	36	9.75	17.75	6.4	7.7	3.24	3.32	0.309	-0.243
40	2	9	54	100.00	36	9.75	17.75	6.4	7.7	3.24	3.32	0.309	-0.243
40	2	10	54	100.00	36	9.75	17.75	6.4	7.7	3.54	3.32	0.309	0.729
40	2	11	54	100.00	36	9.75	17.75	6.4	7.7	3.66	3.32	0.309	1.118
40	2	12	54	100.00	36	9.75	17.75	6.4	7.7	3.24	3.32	0.309	-0.243
40	2	13	54	100.00	36	9.75	17.75	6.4	7.7	3.48	3.32	0.309	0.534
40	2	14	54	100.00	36	9.75	17.75	6.4	7.7	2.58	3.32	0.309	-2.381
40	2	15	54	100.00	36	9.75	17.75	6.4	7.7	3.24	3.32	0.309	-0.243
40	2	16	54	100.00	36	9.75	17.75	6.4	7.7	3.48	3.32	0.309	0.535
41	2	1	54	100.00	36	9.75	15.75	6.4	7.7	3.66	3.32	0.208	1.645
41	2	2	54	100.00	36	9.75	15.75	6.4	7.7	3.48	3.32	0.208	0.777
41	2	3	54	100.00	36	9.75	15.75	6.4	7.7	3.48	3.32	0.208	0.776
41	2	4	54	100.00	36	9.75	15.75	6.4	7.7	3.54	3.32	0.208	1.066
41	2	5	54	100.00	36	9.75	15.75	6.4	7.7	3.06	3.32	0.208	-1.247

IDENT	SPAN NMBR	BEAM NMBR	BEAM TYPE	SPAN LGTH (FT)	STRANDS (NMBR)	ECCENTRICITY END (INCHES)	ECCENTRICITY MIDDLE (INCHES)	DESIGN FPCI (KSI)	DESIGN FPC (KSI)	**CAMBER STATISTICS** ACTL.	MEAN	STD. DEV.	T-VAL
41	2	6	54	100.00	36	9.75	15.75	6.4	7.7	3.48	3.32	0.208	0.777
41	2	7	54	100.00	36	9.75	15.75	6.4	7.7	3.24	3.32	0.208	-0.379
41	2	8	54	100.00	36	9.75	15.75	6.4	7.7	3.24	3.32	0.208	-0.379
41	2	9	54	100.00	36	9.75	15.75	6.4	7.7	3.48	3.32	0.208	0.777
41	2	10	54	100.00	36	9.75	15.75	6.4	7.7	3.06	3.32	0.208	-1.247
41	2	11	54	100.00	36	9.75	15.75	6.4	7.7	3.36	3.32	0.208	0.199
41	2	12	54	100.00	36	9.75	15.75	6.4	7.7	3.30	3.32	0.208	-0.090
41	2	13	54	100.00	36	9.75	15.75	6.4	7.7	3.12	3.32	0.208	-0.958
41	2	14	54	100.00	36	9.75	15.75	6.4	7.7	3.48	3.32	0.208	0.776
41	2	15	54	100.00	36	9.75	15.75	6.4	7.7	2.94	3.32	0.208	-1.825
41	2	16	54	100.00	36	9.75	15.75	6.4	7.7	3.18	3.32	0.208	-0.669
42	2	1	54	100.00	36	9.75	17.75	6.4	7.7	3.90	3.62	0.244	1.155
42	2	2	54	100.00	36	9.75	17.75	6.4	7.7	4.08	3.62	0.244	1.891
42	2	3	54	100.00	36	9.75	17.75	6.4	7.7	3.54	3.62	0.244	-0.318
42	2	4	54	100.00	36	9.75	17.75	6.4	7.7	3.72	3.62	0.244	0.419
42	2	5	54	100.00	36	9.75	17.75	6.4	7.7	3.54	3.62	0.244	-0.318
42	2	6	54	100.00	36	9.75	17.75	6.4	7.7	3.48	3.62	0.244	-0.563
42	2	7	54	100.00	36	9.75	17.75	6.4	7.7	3.36	3.62	0.244	-1.054
42	2	8	54	100.00	36	9.75	17.75	6.4	7.7	3.18	3.62	0.244	-1.791
42	2	9	54	100.00	36	9.75	17.75	6.4	7.7	3.78	3.62	0.244	0.664
42	2	10	54	100.00	36	9.75	17.75	6.4	7.7	3.60	3.62	0.244	-0.072
42	2	11	54	100.00	36	9.75	17.75	6.4	7.7	3.84	3.62	0.244	0.910
42	2	12	54	100.00	36	9.75	17.75	6.4	7.7	3.90	3.62	0.244	1.155
42	2	13	54	100.00	36	9.75	17.75	6.4	7.7	3.66	3.62	0.244	0.174
42	2	14	54	100.00	36	9.75	17.75	6.4	7.7	3.54	3.62	0.244	-0.318
42	2	15	54	100.00	36	9.75	17.75	6.4	7.7	3.54	3.62	0.244	-0.318
42	2	16	54	100.00	36	9.75	17.75	6.4	7.7	3.66	3.62	0.244	0.174
42	2	17	54	100.00	36	9.75	17.75	6.4	7.7	3.18	3.62	0.244	-1.791
43	2	1	54	100.00	36	9.75	17.75	6.4	7.7	3.90	3.64	0.254	1.017
43	2	2	54	100.00	36	9.75	17.75	6.4	7.7	3.48	3.64	0.254	-0.634
43	2	3	54	100.00	36	9.75	17.75	6.4	7.7	3.18	3.64	0.254	-1.814
43	2	4	54	100.00	36	9.75	17.75	6.4	7.7	3.42	3.64	0.254	-0.870
43	2	5	54	100.00	36	9.75	17.75	6.4	7.7	3.30	3.64	0.254	-1.342
43	2	6	54	100.00	36	9.75	17.75	6.4	7.7	3.48	3.64	0.254	-0.634
43	2	7	54	100.00	36	9.75	17.75	6.4	7.7	3.54	3.64	0.254	-0.398
43	2	8	54	100.00	36	9.75	17.75	6.4	7.7	4.02	3.64	0.254	1.490
43	2	9	54	100.00	36	9.75	17.75	6.4	7.7	3.72	3.64	0.254	0.310
43	2	10	54	100.00	36	9.75	17.75	6.4	7.7	4.02	3.64	0.254	1.489
43	2	11	54	100.00	36	9.75	17.75	6.4	7.7	3.78	3.64	0.254	0.546
43	2	12	54	100.00	36	9.75	17.75	6.4	7.7	3.48	3.64	0.254	-0.635
43	2	13	54	100.00	36	9.75	17.75	6.4	7.7	3.48	3.64	0.254	-0.635

IDENT	SPAN NMBR	BEAM NMBR	BEAM TYPE	SPAN LGTH (FT)	STRANDS (NMBR)	ECCENTRICITY END (INCHES)	ECCENTRICITY MIDDLE (INCHES)	DESIGN FPCI (KSI)	DESIGN FPC (KSI)	**CAMBER STATISTICS** ACTL.	MEAN	STD. DEV.	T-VAL
43	2	14	54	100.00	36	9.75	17.75	6.4	7.7	3.78	3.64	0.254	0.546
43	2	15	54	100.00	36	9.75	17.75	6.4	7.7	3.84	3.64	0.254	0.782
43	2	16	54	100.00	36	9.75	17.75	6.4	7.7	3.84	3.64	0.254	0.782
44	7	1	54	96.00	32	9.28	18.91	5.9	5.9	2.70	2.64	0.290	0.207
44	7	2	54	96.00	32	9.28	18.91	5.9	5.9	2.16	2.64	0.290	-1.656
44	7	3	54	96.00	32	9.28	18.91	5.9	5.9	2.70	2.64	0.290	0.207
44	7	4	54	96.00	32	9.28	18.91	5.9	5.9	2.82	2.64	0.290	0.621
44	7	5	54	96.00	32	9.28	18.91	5.9	5.9	2.76	2.64	0.290	0.414
44	7	6	54	96.00	32	9.28	18.91	5.9	5.9	2.34	2.64	0.290	-1.035
44	7	7	54	96.00	32	9.28	18.91	5.9	5.9	3.00	2.64	0.290	1.242
45	2	1	54	94.00	34	10.82	18.35	6.3	6.3	2.82	2.28	0.234	2.285
45	2	2	54	94.00	34	10.82	18.35	6.3	6.3	2.46	2.28	0.234	0.749
45	2	3	54	94.00	34	10.82	18.35	6.3	6.3	2.16	2.28	0.234	-0.532
45	2	4	54	94.00	34	10.82	18.35	6.3	6.3	2.40	2.28	0.234	0.493
45	2	5	54	94.00	34	10.82	18.35	6.3	6.3	2.34	2.28	0.234	0.236
45	2	6	54	94.00	34	10.82	18.35	6.3	6.3	2.10	2.28	0.234	-0.788
45	3	1	54	94.00	34	10.82	18.35	6.3	6.3	2.58	2.28	0.234	1.261
45	3	2	54	94.00	34	10.82	18.35	6.3	6.3	2.04	2.28	0.234	-1.044
45	3	3	54	94.00	34	10.82	18.35	6.3	6.3	2.28	2.28	0.234	-0.020
45	3	4	54	94.00	34	10.82	18.35	6.3	6.3	2.04	2.28	0.234	-1.044
45	3	5	54	94.00	34	10.82	18.35	6.3	6.3	2.22	2.28	0.234	-0.276
45	3	6	54	94.00	34	10.82	18.35	6.3	6.3	2.22	2.28	0.234	-0.276
45	3	7	54	94.00	34	10.82	18.35	6.3	6.3	2.04	2.28	0.234	-1.044
46	2	1	54	94.00	26	13.99	20.15			1.68	1.63	0.284	0.185
46	2	2	54	94.00	26	13.99	20.15			1.32	1.63	0.284	-1.083
46	2	3	54	94.00	26	13.99	20.15			1.56	1.63	0.284	-0.238
46	2	4	54	94.00	26	13.99	20.15			2.22	1.63	0.284	2.086
46	3	1	54	94.00	26	13.99	20.15			1.80	1.63	0.284	0.608
46	3	2	54	94.00	26	13.99	20.15			1.56	1.63	0.284	-0.238
46	3	3	54	94.00	26	13.99	20.15			1.38	1.63	0.284	-0.871
46	3	4	54	94.00	26	13.99	20.15			1.50	1.63	0.284	-0.448
47	1	1	54	93.00	26	10.91	20.15	4.8	5.0	1.44	2.06	0.372	-1.674
47	1	3	54	93.00	26	10.91	20.15	4.8	5.0	1.92	2.06	0.372	-0.384
47	1	5	54	93.00	26	10.91	20.15	4.8	5.0	1.56	2.06	0.372	-1.352
47	1	7	54	93.00	26	10.91	20.15	4.8	5.0	1.86	2.06	0.372	-0.545
47	1	9	54	93.00	26	10.91	20.15	4.8	5.0	2.04	2.06	0.372	-0.061
47	1	11	54	93.00	26	10.91	20.15	4.8	5.0	2.34	2.06	0.372	0.745

IDENT	SPAN NMBR	BEAM NMBR	BEAM TYPE	SPAN LGTH (FT)	STRANDS (NMBR)	ECCENTRICITY END (INCHES)	ECCENTRICITY MIDDLE (INCHES)	DESIGN FPCI (KSI)	DESIGN FPC (KSI)	**CAMBER ACTL.	MEAN	STD. DEV.	STATISTICS** T-VAL
47	1	13	54	93.00	26	10.91	20.15	4.8	5.0	2.52	2.06	0.372	1.229
47	2	1	54	93.00	26	10.91	20.15	4.8	5.0	2.46	2.06	0.372	1.067
47	2	3	54	93.00	26	10.91	20.15	4.8	5.0	2.16	2.06	0.372	0.261
47	2	5	54	93.00	26	10.91	20.15	4.8	5.0	2.28	2.06	0.372	0.584
47	2	7	54	93.00	26	10.91	20.15	4.8	5.0	2.46	2.06	0.372	1.067
47	2	9	54	93.00	26	10.91	20.15	4.8	5.0	2.04	2.06	0.372	-0.062
47	2	11	54	93.00	26	10.91	20.15	4.8	5.0	2.28	2.06	0.372	0.584
47	2	13	54	93.00	26	10.91	20.15	4.8	5.0	2.40	2.06	0.372	0.906
47	3	1	54	93.00	26	10.91	20.15	4.8	5.0	2.28	2.06	0.372	0.584
47	3	3	54	93.00	26	10.91	20.15	4.8	5.0	2.28	2.06	0.372	0.584
47	3	5	54	93.00	26	10.91	20.15	4.8	5.0	1.74	2.06	0.372	-0.868
47	3	7	54	93.00	26	10.91	20.15	4.8	5.0	1.62	2.06	0.372	-1.190
47	3	9	54	93.00	26	10.91	20.15	4.8	5.0	1.62	2.06	0.372	-1.190
47	3	11	54	93.00	26	10.91	20.15	4.8	5.0	1.44	2.06	0.372	-1.674
47	3	13	54	93.00	26	10.91	20.15	4.8	5.0	2.58	2.06	0.372	1.390
48	11	4	54	92.20	26	10.91	20.15	4.8	5.0	1.80	2.55	0.964	-0.778
48	11	6	54	92.37	26	10.91	20.15	4.8	5.0	2.58	2.55	0.964	0.031
48	11	7	54	92.46	26	10.91	20.15	4.8	5.0	3.06	2.55	0.964	0.529
48	11	8	54	92.46	26	10.91	20.15	4.8	5.0	1.26	2.55	0.964	-1.338
48	11	10	54	92.47	26	10.91	20.15	4.8	5.0	2.58	2.55	0.964	0.031
48	11	11	54	92.48	26	10.91	20.15	4.8	5.0	4.02	2.55	0.964	1.524
49	3	1	54	90.00	32	11.56	18.88			2.04	2.29	0.327	-0.764
49	3	2	54	90.00	32	11.56	18.88			2.88	2.29	0.327	1.802
49	3	3	54	90.00	32	11.56	18.88			2.28	2.29	0.327	-0.031
49	3	4	54	90.00	32	11.56	18.88			2.40	2.29	0.327	0.336
49	3	5	54	90.00	32	11.56	18.88			1.98	2.29	0.327	-0.947
49	3	6	54	90.00	32	11.56	18.88			2.16	2.29	0.327	-0.397
50	3	1	54	90.00	32	11.56	18.88			2.34	2.45	0.103	-1.064
50	3	2	54	90.00	32	11.56	18.88			2.52	2.45	0.103	0.677
50	3	3	54	90.00	32	11.56	18.88			2.58	2.45	0.103	1.258
50	3	4	54	90.00	32	11.56	18.88			2.34	2.45	0.103	-1.064
50	3	5	54	90.00	32	11.56	18.88			2.52	2.45	0.103	0.677
50	3	6	54	90.00	32	11.56	18.88			2.40	2.45	0.103	-0.484
51	2	1	54	90.00	26	11.65	20.12	4.5	5.6	2.58	2.41	0.242	0.689
51	2	2	54	90.00	26	11.65	20.12	4.5	5.6	2.22	2.41	0.242	-0.795
51	2	3	54	90.00	26	11.65	20.12	4.5	5.6	2.58	2.41	0.242	0.690
51	2	4	54	90.00	26	11.65	20.12	4.5	5.6	2.82	2.41	0.242	1.679

IDENT	SPAN NMBR	BEAM NMBR	BEAM TYPE	SPAN LGTH (FT)	STRANDS (NMBR)	ECCENTRICITY END (INCHES)	ECCENTRICITY MIDDLE (INCHES)	DESIGN FPCI (KSI)	DESIGN FPC (KSI)	**CAMBER STATISTICS** ACTL.	MEAN	STD. DEV.	T-VAL
51	2	5	54	90.00	26	11.65	20.12	4.5	5.6	2.58	2.41	0.242	0.689
51	2	6	54	90.00	26	11.65	20.12	4.5	5.6	2.34	2.41	0.242	-0.301
51	2	7	54	90.00	26	11.65	20.12	4.5	5.6	2.16	2.41	0.242	-1.043
51	2	1	54	90.00	26	11.65	20.12	4.5	5.6	2.64	2.41	0.242	0.937
51	2	2	54	90.00	26	11.65	20.12	4.5	5.6	1.98	2.41	0.242	-1.785
51	2	3	54	90.00	26	11.65	20.12	4.5	5.6	2.40	2.41	0.242	-0.053
51	2	4	54	90.00	26	11.65	20.12	4.5	5.6	2.16	2.41	0.242	-1.042
51	2	5	54	90.00	26	11.65	20.12	4.5	5.6	2.34	2.41	0.242	-0.300
51	2	6	54	90.00	26	11.65	20.12	4.5	5.6	2.28	2.41	0.242	-0.548
51	2	7	54	90.00	26	11.65	20.12	4.5	5.6	2.70	2.41	0.242	1.184
52	2	1	54	90.00	26	11.68	20.15	4.9	5.9	2.94	2.47	0.294	1.610
52	2	2	54	90.00	26	11.68	20.15	4.9	5.9	2.76	2.47	0.294	1.000
52	2	3	54	90.00	26	11.68	20.15	4.9	5.9	2.64	2.47	0.294	0.592
52	2	4	54	90.00	26	11.68	20.15	4.9	5.9	2.46	2.47	0.294	-0.020
52	2	5	54	90.00	26	11.68	20.15	4.9	5.9	3.00	2.47	0.294	1.814
52	2	6	54	90.00	26	11.68	20.15	4.9	5.9	2.34	2.47	0.294	-0.427
52	2	7	54	90.00	26	11.68	20.15	4.9	5.9	2.22	2.47	0.294	-0.835
52	2	1	54	90.00	26	11.68	20.15	4.9	5.9	2.16	2.47	0.294	-1.038
52	2	2	54	90.00	26	11.68	20.15	4.9	5.9	3.06	2.47	0.294	2.018
52	2	3	54	90.00	26	11.68	20.15	4.9	5.9	2.58	2.47	0.294	0.388
52	2	4	54	90.00	26	11.68	20.15	4.9	5.9	2.28	2.47	0.294	-0.631
52	2	5	54	90.00	26	11.68	20.15	4.9	5.9	2.16	2.47	0.294	-1.038
52	2	6	54	90.00	26	11.68	20.15	4.9	5.9	2.40	2.47	0.294	-0.223
52	2	7	54	90.00	26	11.68	20.15	4.9	5.9	2.34	2.47	0.294	-0.427
52	2	1	54	90.00	26	11.68	20.15	4.9	5.9	2.58	2.47	0.294	0.388
52	2	2	54	90.00	26	11.68	20.15	4.9	5.9	2.64	2.47	0.294	0.592
52	2	3	54	90.00	26	11.68	20.15	4.9	5.9	2.46	2.47	0.294	-0.020
52	2	4	54	90.00	26	11.68	20.15	4.9	5.9	2.34	2.47	0.294	-0.427
52	2	5	54	90.00	26	11.68	20.15	4.9	5.9	1.98	2.47	0.294	-1.649
52	2	6	54	90.00	26	11.68	20.15	4.9	5.9	2.16	2.47	0.294	-1.038
52	2	7	54	90.00	26	11.68	20.15	4.9	5.9	2.28	2.47	0.294	-0.630
53	1	1	54	90.00	26	11.68	20.15	4.9	5.0	1.98	2.17	0.216	-0.876
53	1	7	54	90.00	26	11.68	20.15	4.9	5.0	2.10	2.17	0.216	-0.320
53	2	1	54	90.00	26	11.68	20.15	4.9	5.0	1.98	2.17	0.216	-0.876
53	2	7	54	90.00	26	11.68	20.15	4.9	5.0	2.16	2.17	0.216	-0.041
53	3	1	54	90.00	26	11.68	20.15	4.9	5.0	2.22	2.17	0.216	0.237
53	3	7	54	90.00	26	11.68	20.15	4.9	5.0	2.16	2.17	0.216	-0.041
53	1	1	54	90.00	26	11.68	20.15	4.9	5.0	2.16	2.17	0.216	-0.041
53	1	2	54	90.00	26	11.68	20.15	4.9	5.0	2.04	2.17	0.216	-0.598
53	1	3	54	90.00	26	11.68	20.15	4.9	5.0	1.86	2.17	0.216	-1.433
53	1	4	54	90.00	26	11.68	20.15	4.9	5.0	1.98	2.17	0.216	-0.877

IDENT	SPAN NMBR	BEAM NMBR	BEAM TYPE	SPAN LGTH (FT)	STRANDS (NMBR)	ECCENTRICITY END (INCHES)	ECCENTRICITY MIDDLE (INCHES)	DESIGN FPCI (KSI)	DESIGN FPC (KSI)	**CAMBER STATISTICS** ACTL.	MEAN	STD. DEV.	T-VAL
53	1	5	54	90.00	26	11.68	20.15	4.9	5.0	2.34	2.17	0.216	0.794
53	1	6	54	90.00	26	11.68	20.15	4.9	5.0	2.16	2.17	0.216	-0.041
53	1	7	54	90.00	26	11.68	20.15	4.9	5.0	2.22	2.17	0.216	0.237
53	2	1	54	90.00	26	11.68	20.15	4.9	5.0	2.22	2.17	0.216	0.237
53	2	2	54	90.00	26	11.68	20.15	4.9	5.0	2.04	2.17	0.216	-0.598
53	2	3	54	90.00	26	11.68	20.15	4.9	5.0	2.16	2.17	0.216	-0.041
53	2	4	54	90.00	26	11.68	20.15	4.9	5.0	2.40	2.17	0.216	1.072
53	2	5	54	90.00	26	11.68	20.15	4.9	5.0	2.04	2.17	0.216	-0.598
53	2	6	54	90.00	26	11.68	20.15	4.9	5.0	1.74	2.17	0.216	-1.990
53	2	7	54	90.00	26	11.68	20.15	4.9	5.0	1.80	2.17	0.216	-1.712
53	3	1	54	90.00	26	11.68	20.15	4.9	5.0	2.70	2.17	0.216	2.465
53	3	2	54	90.00	26	11.68	20.15	4.9	5.0	2.52	2.17	0.216	1.629
53	3	3	54	90.00	26	11.68	20.15	4.9	5.0	2.46	2.17	0.216	1.351
53	3	4	54	90.00	26	11.68	20.15	4.9	5.0	2.28	2.17	0.216	0.516
53	3	5	54	90.00	26	11.68	20.15	4.9	5.0	2.28	2.17	0.216	0.516
53	3	6	54	90.00	26	11.68	20.15	4.9	5.0	2.28	2.17	0.216	0.516
53	3	7	54	90.00	26	11.68	20.15	4.9	5.0	2.28	2.17	0.216	0.516
54	4	1	54	89.62	28	11.96	19.82	5.3	5.3	2.64	2.53	0.284	0.398
54	4	2	54	89.80	28	11.96	19.82	5.3	5.3	2.58	2.53	0.284	0.187
54	4	3	54	89.97	28	11.96	19.82	5.3	5.3	2.34	2.53	0.284	-0.658
54	4	4	54	90.15	28	11.96	19.82	5.3	5.3	2.64	2.53	0.284	0.398
54	4	5	54	90.33	28	11.96	19.82	5.3	5.3	2.46	2.53	0.284	-0.236
54	4	6	54	90.51	28	11.96	19.82	5.3	5.3	2.70	2.53	0.284	0.609
54	4	7	54	90.68	24	11.20	20.53	5.3	5.3	1.98	2.53	0.284	-1.925
54	5	1	54	89.62	28	11.96	19.82	5.3	5.3	2.28	2.53	0.284	-0.869
54	5	2	54	89.80	28	11.96	19.82	5.3	5.3	2.52	2.53	0.284	-0.025
54	5	3	54	89.97	28	11.96	19.82	5.3	5.3	2.58	2.53	0.284	0.187
54	5	4	54	90.15	28	11.96	19.82	5.3	5.3	2.52	2.53	0.284	-0.025
54	5	5	54	90.33	28	11.96	19.82	5.3	5.3	2.46	2.53	0.284	-0.236
54	5	6	54	90.51	28	11.96	19.82	5.3	5.3	2.46	2.53	0.284	-0.236
54	5	7	54	90.68	24	11.20	20.53	5.3	5.3	1.92	2.53	0.284	-2.137
54	6	1	54	89.62	28	11.96	19.82	5.3	5.3	2.76	2.53	0.284	0.820
54	6	2	54	89.80	28	11.96	19.82	5.3	5.3	2.88	2.53	0.284	1.243
54	6	3	54	89.97	28	11.96	19.82	5.3	5.3	2.70	2.53	0.284	0.609
54	6	4	54	90.15	28	11.96	19.82	5.3	5.3	2.64	2.53	0.284	0.398
54	6	5	54	90.33	28	11.96	19.82	5.3	5.3	2.64	2.53	0.284	0.398
54	6	6	54	90.51	28	11.96	19.82	5.3	5.3	2.34	2.53	0.284	-0.658
54	6	7	54	90.68	24	11.20	20.53	5.3	5.3	2.34	2.53	0.284	-0.658
54	7	1	54	89.62	28	11.96	19.82	5.3	5.3	2.64	2.53	0.284	0.398
54	7	2	54	89.80	28	11.96	19.82	5.3	5.3	2.64	2.53	0.284	0.398
54	7	3	54	89.97	28	11.96	19.82	5.3	5.3	2.76	2.53	0.284	0.820
54	7	4	54	90.15	28	11.96	19.82	5.3	5.3	2.46	2.53	0.284	-0.236
54	7	5	54	90.33	28	11.96	19.82	5.3	5.3	2.40	2.53	0.284	-0.447

IDENT	SPAN NMBR	BEAM NMBR	BEAM TYPE	SPAN LGTH (FT)	STRANDS (NMBR)	ECCENTRICITY END (INCHES)	ECCENTRICITY MIDDLE (INCHES)	DESIGN FPCI (KSI)	DESIGN FPC (KSI)	**CAMBER ACTL.	MEAN	STD. DEV.	T-VAL STATISTICS**
54	7	6	54	90.51	28	11.96	19.82	5.3	5.3	2.94	2.53	0.284	1.454
54	7	7	54	90.68	24	11.20	20.53	5.3	5.3	1.98	2.53	0.284	-1.925
54	8	1	54	89.78	28	11.96	19.82	5.3	5.3	2.58	2.53	0.284	0.187
54	8	2	54	89.88	28	11.96	19.82	5.3	5.3	2.52	2.53	0.284	-0.025
54	8	3	54	89.98	28	11.96	19.82	5.3	5.3	2.58	2.53	0.284	0.187
54	8	4	54	90.09	28	11.96	19.82	5.3	5.3	2.64	2.53	0.284	0.398
54	8	5	54	90.19	28	11.96	19.82	5.3	5.3	2.52	2.53	0.284	-0.025
54	8	6	54	90.29	28	11.96	19.82	5.3	5.3	2.10	2.53	0.284	-1.503
54	8	7	54	90.40	28	11.96	19.82	5.3	5.3	2.16	2.53	0.284	-1.292
54	9	1	54	90.00	28	11.96	19.82	5.3	5.3	2.40	2.53	0.284	-0.447
54	9	2	54	90.00	28	11.96	19.82	5.3	5.3	2.70	2.53	0.284	0.609
54	9	3	54	90.00	28	11.96	19.82	5.3	5.3	2.52	2.53	0.284	-0.025
54	9	4	54	90.00	28	11.96	19.82	5.3	5.3	2.76	2.53	0.284	0.820
54	9	5	54	90.00	28	11.96	19.82	5.3	5.3	2.58	2.53	0.284	0.187
54	9	6	54	90.00	28	11.96	19.82	5.3	5.3	2.88	2.53	0.284	1.242
54	9	7	54	90.00	24	11.20	20.53	5.3	5.3	1.98	2.53	0.284	-1.925
54	10	1	54	90.00	28	11.96	19.82	5.3	5.3	2.10	2.53	0.284	-1.503
54	10	2	54	90.00	28	11.96	19.82	5.3	5.3	2.76	2.53	0.284	0.820
54	10	3	54	90.00	28	11.96	19.82	5.3	5.3	2.94	2.53	0.284	1.454
54	10	4	54	90.00	28	11.96	19.82	5.3	5.3	2.46	2.53	0.284	-0.236
54	10	5	54	90.00	28	11.96	19.82	5.3	5.3	2.52	2.53	0.284	-0.025
54	10	6	54	90.00	28	11.96	19.82	5.3	5.3	2.16	2.53	0.284	-1.292
54	10	7	54	90.00	24	11.20	20.53	5.3	5.3	1.86	2.53	0.284	-2.348
54	15	1	54	90.00	28	11.96	19.82	5.3	5.3	2.82	2.53	0.284	1.031
54	15	2	54	90.00	28	11.96	19.82	5.3	5.3	2.76	2.53	0.284	0.820
54	15	3	54	90.00	28	11.96	19.82	5.3	5.3	2.40	2.53	0.284	-0.447
54	15	4	54	90.00	28	11.96	19.82	5.3	5.3	2.52	2.53	0.284	-0.025
54	15	5	54	90.00	28	11.96	19.82	5.3	5.3	2.58	2.53	0.284	0.187
54	15	6	54	90.00	28	11.96	19.82	5.3	5.3	2.76	2.53	0.284	0.820
54	15	7	54	90.00	24	11.20	20.53	5.3	5.3	2.04	2.53	0.284	-1.714
54	16	1	54	90.00	28	11.96	19.82	5.3	5.3	2.52	2.53	0.284	-0.025
54	16	2	54	90.00	28	11.96	19.82	5.3	5.3	2.40	2.53	0.284	-0.447
54	16	3	54	90.00	28	11.96	19.82	5.3	5.3	2.34	2.53	0.284	-0.658
54	16	4	54	90.00	28	11.96	19.82	5.3	5.3	2.70	2.53	0.284	0.609
54	16	5	54	90.00	28	11.96	19.82	5.3	5.3	3.00	2.53	0.284	1.665
54	16	6	54	90.00	28	11.96	19.82	5.3	5.3	2.46	2.53	0.284	-0.236
54	16	7	54	90.00	24	11.20	20.53	5.3	5.3	2.04	2.53	0.284	-1.714
54	17	1	54	90.00	28	11.96	19.82	5.3	5.3	2.70	2.53	0.284	0.609
54	17	2	54	90.00	28	11.96	19.82	5.3	5.3	2.64	2.53	0.284	0.398
54	17	3	54	90.00	28	11.96	19.82	5.3	5.3	2.52	2.53	0.284	-0.025
54	17	4	54	90.00	28	11.96	19.82	5.3	5.3	2.52	2.53	0.284	-0.025
54	17	5	54	90.00	28	11.96	19.82	5.3	5.3	2.64	2.53	0.284	0.398
54	17	6	54	90.00	28	11.96	19.82	5.3	5.3	2.94	2.53	0.284	1.454
54	17	7	54	90.00	24	11.20	20.53	5.3	5.3	1.98	2.53	0.284	-1.925
54	20	1	54	90.00	28	11.96	19.82	5.3	5.3	2.76	2.53	0.284	0.820

IDENT	SPAN NMBR	BEAM NMBR	BEAM TYPE	SPAN LGTH (FT)	STRANDS (NMBR)	ECCENTRICITY END (INCHES)	ECCENTRICITY MIDDLE (INCHES)	DESIGN FPCI (KSI)	DESIGN FPC (KSI)	**CAMBER STATISTICS** ACTL.	MEAN	STD. DEV.	T-VAL
54	20	2	54	90.00	28	11.96	19.82	5.3	5.3	3.12	2.53	0.284	2.087
54	20	3	54	90.00	28	11.96	19.82	5.3	5.3	2.64	2.53	0.284	0.398
54	20	4	54	90.00	28	11.96	19.82	5.3	5.3	3.12	2.53	0.284	2.087
54	20	5	54	90.00	28	11.96	19.82	5.3	5.3	2.76	2.53	0.284	0.820
54	20	6	54	90.00	28	11.96	19.82	5.3	5.3	2.82	2.53	0.284	1.031
54	20	7	54	90.00	28	11.96	19.82	5.3	5.3	2.16	2.53	0.284	-1.292
55	7	2	54	89.67	26	11.68	20.13	4.9	5.3	1.86	1.68	0.345	0.533
55	7	3	54	89.67	26	11.68	20.13	4.9	5.3	1.98	1.68	0.345	0.881
55	8	1	54	89.67	26	11.68	20.13	4.9	5.3	1.50	1.68	0.345	-0.511
55	8	2	54	89.67	26	11.68	20.13	4.9	5.3	1.68	1.68	0.345	0.011
55	8	3	54	89.67	26	11.68	20.13	4.9	5.3	1.74	1.68	0.345	0.185
55	8	4	54	89.67	26	11.68	20.13	4.9	5.3	1.44	1.68	0.345	-0.685
55	8	5	54	89.67	26	11.68	20.13	4.9	5.3	1.62	1.68	0.345	-0.163
55	8	6	54	89.67	26	11.68	20.13	4.9	5.3	1.44	1.68	0.345	-0.686
55	8	7	54	89.67	26	11.68	20.13	4.9	5.3	1.44	1.68	0.345	-0.686
55	9	1	54	89.67	26	11.68	20.13	4.9	5.3	1.74	1.68	0.345	0.185
55	9	2	54	89.67	26	11.68	20.13	4.9	5.3	1.26	1.68	0.345	-1.208
55	9	3	54	89.67	26	11.68	20.13	4.9	5.3	2.34	1.68	0.345	1.926
55	9	4	54	89.67	26	11.68	20.13	4.9	5.3	1.62	1.68	0.345	-0.163
55	9	5	54	89.67	26	11.68	20.13	4.9	5.3	1.38	1.68	0.345	-0.860
55	9	6	54	89.67	26	11.68	20.13	4.9	5.3	1.32	1.68	0.345	-1.034
55	9	7	54	89.67	26	11.68	20.13	4.9	5.3	2.46	1.68	0.345	2.274
56	7	2	54	89.67	26	11.68	20.13	4.9	5.3	2.16	1.63	0.261	2.024
56	7	3	54	89.67	26	11.68	20.13	4.9	5.3	2.22	1.63	0.261	2.253
56	8	1	54	89.67	26	11.68	20.13	4.9	5.3	1.50	1.63	0.261	-0.502
56	8	2	54	89.67	26	11.68	20.13	4.9	5.3	1.56	1.63	0.261	-0.273
56	8	3	54	89.67	26	11.68	20.13	4.9	5.3	1.38	1.63	0.261	-0.962
56	8	4	54	89.67	26	11.68	20.13	4.9	5.3	1.44	1.63	0.261	-0.732
56	8	5	54	89.67	26	11.68	20.13	4.9	5.3	1.44	1.63	0.261	-0.732
56	8	6	54	89.67	26	11.68	20.13	4.9	5.3	1.80	1.63	0.261	0.646
56	8	7	54	89.67	26	11.68	20.13	4.9	5.3	1.38	1.63	0.261	-0.962
56	9	1	54	89.67	26	11.68	20.13	4.9	5.3	1.74	1.63	0.261	0.416
56	9	2	54	89.67	26	11.68	20.13	4.9	5.3	1.32	1.63	0.261	-1.191
56	9	3	54	89.67	26	11.68	20.13	4.9	5.3	1.68	1.63	0.261	0.187
56	9	4	54	89.67	26	11.68	20.13	4.9	5.3	1.56	1.63	0.261	-0.273
56	9	5	54	89.67	26	11.68	20.13	4.9	5.3	1.50	1.63	0.261	-0.502
56	9	6	54	89.67	26	11.68	20.13	4.9	5.3	1.68	1.63	0.261	0.186
56	9	7	54	89.67	26	11.68	20.13	4.9	5.3	1.74	1.63	0.261	0.416
57	3	1	54	85.00	22	12.08	20.80			2.40	2.03	0.472	0.773

IDENT	SPAN NMBR	BEAM NMBR	BEAM TYPE	SPAN LGTH (FT)	STRANDS (NMBR)	ECCENTRICITY END (INCHES)	ECCENTRICITY MIDDLE (INCHES)	DESIGN FPCI (KSI)	DESIGN FPC (KSI)	**CAMBER STATISTICS** ACTL.	MEAN	STD. DEV.	T-VAL
57	3	2	54	85.00	22	12.08	20.80			2.28	2.03	0.472	0.519
57	3	3	54	85.00	22	12.08	20.80			2.28	2.03	0.472	0.519
57	3	4	54	85.00	22	12.08	20.80			2.28	2.03	0.472	0.519
57	3	5	54	85.00	22	12.08	20.80			2.34	2.03	0.472	0.646
57	3	6	54	85.00	22	12.08	20.80			2.28	2.03	0.472	0.519
57	3	7	54	85.00	22	12.08	20.80			1.98	2.03	0.472	-0.117
57	3	8	54	85.00	22	12.08	20.80			2.22	2.03	0.472	0.392
57	3	9	54	85.00	22	12.08	20.80			0.66	2.03	0.472	-2.913
57	3	11	54	85.00	22	12.08	20.80			1.92	2.03	0.472	-0.244
57	3	12	54	85.00	22	12.08	20.80			1.92	2.03	0.472	-0.244
57	3	14	54	85.00	22	12.08	20.80			1.86	2.03	0.472	-0.371
58	2	1	54	85.00	28	12.64	19.78	5.5	6.8	2.52	2.55	0.112	-0.267
58	2	2	54	85.00	28	12.64	19.78	5.5	6.8	2.58	2.55	0.112	0.268
58	2	3	54	85.00	28	12.64	19.78	5.5	6.8	2.46	2.55	0.112	-0.802
58	2	4	54	85.00	28	12.64	19.78	5.5	6.8	2.70	2.55	0.112	1.336
58	2	5	54	85.00	28	12.64	19.78	5.5	6.8	2.64	2.55	0.112	0.801
58	2	6	54	85.00	28	12.64	19.78	5.5	6.8	2.40	2.55	0.112	-1.337
59	2	1	54	85.00	28	12.64	19.78	5.5	6.8	2.40	2.41	0.232	-0.043
59	2	2	54	85.00	28	12.64	19.78	5.5	6.8	2.46	2.41	0.232	0.215
59	2	3	54	85.00	28	12.64	19.78	5.5	6.8	2.40	2.41	0.232	-0.043
59	2	4	54	85.00	28	12.64	19.78	5.5	6.8	2.22	2.41	0.232	-0.818
59	2	5	54	85.00	28	12.64	19.78	5.5	6.8	2.16	2.41	0.232	-1.077
59	2	6	54	85.00	28	12.64	19.78	5.5	6.8	2.82	2.41	0.232	1.766
60	1	1	54	85.00	22	12.08	20.80			2.40	1.83	0.342	1.677
60	1	2	54	85.00	22	12.08	20.80			1.68	1.83	0.342	-0.426
60	1	3	54	85.00	22	12.08	20.80			2.22	1.83	0.342	1.151
60	1	4	54	85.00	22	12.08	20.80			2.16	1.83	0.342	0.976
60	1	5	54	85.00	22	12.08	20.80			2.04	1.83	0.342	0.626
60	1	6	54	85.00	22	12.08	20.80			2.16	1.83	0.342	0.976
60	1	7	54	85.00	22	12.08	20.80			1.68	1.83	0.342	-0.426
60	1	8	54	85.00	22	12.08	20.80			1.26	1.83	0.342	-1.652
60	1	9	54	85.00	22	12.08	20.80			1.74	1.83	0.342	-0.250
60	1	10	54	85.00	22	12.08	20.80			1.44	1.83	0.342	-1.126
60	1	11	54	85.00	22	12.08	20.80			1.68	1.83	0.342	-0.426
60	1	12	54	85.00	22	12.08	20.80			1.74	1.83	0.342	-0.250
60	1	13	54	85.00	22	12.08	20.80			1.38	1.83	0.342	-1.302
60	1	14	54	85.00	22	12.08	20.80			1.98	1.83	0.342	0.451

IDENT	SPAN	BEAM		SPAN	STRANDS	ECCENTRICITY		DESIGN		**CAMBER	STATISTICS**		
	NMBR	NMBR	TYPE	LGTH (FT)	(NMBR)	END (INCHES)	MIDDLE	FPCI/FPC (KSI)		ACTL.	MEAN	STD. DEV.	T-VAL
61	1	1	54	80.00	20	12.33	21.13	4.0	5.0	0.78	0.69	0.350	0.262
61	1	2	54	80.00	20	12.33	21.13	4.0	5.0	0.72	0.69	0.350	0.091
61	1	3	54	80.00	20	12.33	21.13	4.0	5.0	0.06	0.69	0.350	-1.795
61	1	4	54	80.00	20	12.33	21.13	4.0	5.0	0.24	0.69	0.350	-1.280
61	1	5	54	80.00	20	12.33	21.13	4.0	5.0	0.00	0.69	0.350	-1.966
61	1	6	54	80.00	20	12.33	21.13	4.0	5.0	0.24	0.69	0.350	-1.281
61	1	7	54	80.00	20	12.33	21.13	4.0	5.0	0.84	0.69	0.350	0.433
61	2	1	54	80.00	20	12.33	21.13	4.0	5.0	0.66	0.69	0.350	-0.081
61	2	2	54	80.00	20	12.33	21.13	4.0	5.0	0.42	0.69	0.350	-0.766
61	2	3	54	80.00	20	12.33	21.13	4.0	5.0	0.78	0.69	0.350	0.262
61	2	4	54	80.00	20	12.33	21.13	4.0	5.0	0.66	0.69	0.350	-0.081
61	2	5	54	80.00	20	12.33	21.13	4.0	5.0	0.48	0.69	0.350	-0.595
61	2	6	54	80.00	20	12.33	21.13	4.0	5.0	1.08	0.69	0.350	1.119
61	2	7	54	80.00	20	12.33	21.13	4.0	5.0	0.66	0.69	0.350	-0.081
61	3	1	54	80.00	20	12.33	21.13	4.0	5.0	0.66	0.69	0.350	-0.081
61	3	2	54	80.00	20	12.33	21.13	4.0	5.0	1.68	0.69	0.350	2.833
61	3	3	54	80.00	20	12.33	21.13	4.0	5.0	0.90	0.69	0.350	0.605
61	3	4	54	80.00	20	12.33	21.13	4.0	5.0	1.26	0.69	0.350	1.633
61	3	5	54	80.00	20	12.33	21.13	4.0	5.0	0.78	0.69	0.350	0.262
61	3	6	54	80.00	20	12.33	21.13	4.0	5.0	0.66	0.69	0.350	-0.081
61	3	7	54	80.00	20	12.33	21.13	4.0	5.0	0.48	0.69	0.350	-0.595
61	4	1	54	80.00	20	12.33	21.13	4.0	5.0	0.18	0.69	0.350	-1.452
61	4	2	54	80.00	20	12.33	21.13	4.0	5.0	0.42	0.69	0.350	-0.766
61	4	3	54	80.00	20	12.33	21.13	4.0	5.0	1.14	0.69	0.350	1.290
61	4	4	54	80.00	20	12.33	21.13	4.0	5.0	0.96	0.69	0.350	0.776
61	4	5	54	80.00	20	12.33	21.13	4.0	5.0	0.60	0.69	0.350	-0.252
61	4	6	54	80.00	20	12.33	21.13	4.0	5.0	0.72	0.69	0.350	0.091
61	4	7	54	80.00	20	12.33	21.13	4.0	5.0	0.72	0.69	0.350	0.091
61	5	1	54	80.00	20	12.33	21.13	4.0	5.0	0.78	0.69	0.350	0.262
61	5	2	54	80.00	20	12.33	21.13	4.0	5.0	0.84	0.69	0.350	0.433
61	5	3	54	80.00	20	12.33	21.13	4.0	5.0	0.54	0.69	0.350	-0.423
61	5	4	54	80.00	20	12.33	21.13	4.0	5.0	0.90	0.69	0.350	0.605
61	5	5	54	80.00	20	12.33	21.13	4.0	5.0	0.60	0.69	0.350	-0.252
61	5	6	54	80.00	20	12.33	21.13	4.0	5.0	0.36	0.69	0.350	-0.938
61	5	7	54	80.00	20	12.33	21.13	4.0	5.0	0.60	0.69	0.350	-0.252
61	6	1	54	80.00	20	12.33	21.13	4.0	5.0	0.42	0.69	0.350	-0.766
61	6	2	54	80.00	20	12.33	21.13	4.0	5.0	0.36	0.69	0.350	-0.938
61	6	3	54	80.00	20	12.33	21.13	4.0	5.0	0.42	0.69	0.350	-0.766
61	6	4	54	80.00	20	12.33	21.13	4.0	5.0	0.90	0.69	0.350	0.605
61	6	5	54	80.00	20	12.33	21.13	4.0	5.0	0.72	0.69	0.350	0.091
61	6	6	54	80.00	20	12.33	21.13	4.0	5.0	0.60	0.69	0.350	-0.252
61	6	7	54	80.00	20	12.33	21.13	4.0	5.0	0.78	0.69	0.350	0.262
61	7	1	54	80.00	20	12.33	21.13	4.0	5.0	0.54	0.69	0.350	-0.423
61	7	2	54	80.00	20	12.33	21.13	4.0	5.0	0.96	0.69	0.350	0.776
61	7	3	54	80.00	20	12.33	21.13	4.0	5.0	0.60	0.69	0.350	-0.252

IDENT	SPAN NMBR	BEAM NMBR	BEAM TYPE	SPAN LGTH (FT)	STRANDS (NMBR)	ECCENTRICITY END (INCHES)	ECCENTRICITY MIDDLE (INCHES)	DESIGN FPCI (KSI)	DESIGN FPC (KSI)	**CAMBER STATISTICS** ACTL.	MEAN	STD. DEV.	T-VAL
61	7	4	54	80.00	20	12.33	21.13	4.0	5.0	0.36	0.69	0.350	-0.938
61	7	5	54	80.00	20	12.33	21.13	4.0	5.0	0.66	0.69	0.350	-0.081
61	7	6	54	80.00	20	12.33	21.13	4.0	5.0	0.72	0.69	0.350	0.091
61	7	7	54	80.00	20	12.33	21.13	4.0	5.0	0.36	0.69	0.350	-0.938
61	8	1	54	80.00	20	12.33	21.13	4.0	5.0	0.96	0.69	0.350	0.776
61	8	2	54	80.00	20	12.33	21.13	4.0	5.0	0.72	0.69	0.350	0.091
61	8	3	54	80.00	20	12.33	21.13	4.0	5.0	0.06	0.69	0.350	-1.794
61	8	4	54	80.00	20	12.33	21.13	4.0	5.0	0.18	0.69	0.350	-1.452
61	8	5	54	80.00	20	12.33	21.13	4.0	5.0	0.36	0.69	0.350	-0.938
61	8	6	54	80.00	20	12.33	21.13	4.0	5.0	0.48	0.69	0.350	-0.595
61	8	7	54	80.00	20	12.33	21.13	4.0	5.0	0.30	0.69	0.350	-1.109
61	12	1	54	80.00	20	12.33	21.13	4.0	5.0	0.60	0.69	0.350	-0.252
61	12	2	54	80.00	20	12.33	21.13	4.0	5.0	0.54	0.69	0.350	-0.423
61	12	3	54	80.00	20	12.33	21.13	4.0	5.0	1.14	0.69	0.350	1.290
61	12	4	54	80.00	20	12.33	21.13	4.0	5.0	1.08	0.69	0.350	1.119
61	12	5	54	80.00	20	12.33	21.13	4.0	5.0	1.08	0.69	0.350	1.119
61	12	6	54	80.00	20	12.33	21.13	4.0	5.0	0.84	0.69	0.350	0.433
61	12	7	54	80.00	20	12.33	21.13	4.0	5.0	0.54	0.69	0.350	-0.423
61	13	1	54	80.00	20	12.33	21.13	4.0	5.0	3.30	0.69	0.350	7.460
61	13	2	54	80.00	20	12.33	21.13	4.0	5.0	2.28	0.69	0.350	4.547
61	13	3	54	80.00	20	12.33	21.13	4.0	5.0	1.38	0.69	0.350	1.976
61	13	4	54	80.00	20	12.33	21.13	4.0	5.0	0.90	0.69	0.350	0.605
61	13	5	54	80.00	20	12.33	21.13	4.0	5.0	0.06	0.69	0.350	-1.794
61	13	6	54	80.00	20	12.33	21.13	4.0	5.0	0.78	0.69	0.350	0.262
61	13	7	54	80.00	20	12.33	21.13	4.0	5.0	1.44	0.69	0.350	2.147
61	14	1	54	80.00	20	12.33	21.13	4.0	5.0	0.60	0.69	0.350	-0.252
61	14	2	54	80.00	20	12.33	21.13	4.0	5.0	0.66	0.69	0.350	-0.081
61	14	3	54	80.00	20	12.33	21.13	4.0	5.0	0.84	0.69	0.350	0.433
61	14	4	54	80.00	20	12.33	21.13	4.0	5.0	0.84	0.69	0.350	0.433
61	14	5	54	80.00	20	12.33	21.13	4.0	5.0	0.84	0.69	0.350	0.433
61	14	6	54	80.00	20	12.33	21.13	4.0	5.0	0.96	0.69	0.350	0.776
61	14	7	54	80.00	20	12.33	21.13	4.0	5.0	0.72	0.69	0.350	0.091
61	15	1	54	80.00	20	12.33	21.13	4.0	5.0	0.66	0.69	0.350	-0.081
61	15	2	54	80.00	20	12.33	21.13	4.0	5.0	1.08	0.69	0.350	1.119
61	15	3	54	80.00	20	12.33	21.13	4.0	5.0	1.44	0.69	0.350	2.147
61	15	4	54	80.00	20	12.33	21.13	4.0	5.0	0.54	0.69	0.350	-0.423
61	15	5	54	80.00	20	12.33	21.13	4.0	5.0	0.66	0.69	0.350	-0.081
61	15	6	54	80.00	20	12.33	21.13	4.0	5.0	0.54	0.69	0.350	-0.423
61	15	7	54	80.00	20	12.33	21.13	4.0	5.0	0.84	0.69	0.350	0.433
61	16	1	54	80.00	20	12.33	21.13	4.0	5.0	0.90	0.69	0.350	0.605
61	16	2	54	80.00	20	12.33	21.13	4.0	5.0	1.08	0.69	0.350	1.119
61	16	3	54	80.00	20	12.33	21.13	4.0	5.0	0.48	0.69	0.350	-0.595
61	16	4	54	80.00	20	12.33	21.13	4.0	5.0	1.20	0.69	0.350	1.462
61	16	5	54	80.00	20	12.33	21.13	4.0	5.0	1.44	0.69	0.350	2.147
61	16	6	54	80.00	20	12.33	21.13	4.0	5.0	1.02	0.69	0.350	0.948

IDENT	SPAN NMBR	BEAM NMBR	BEAM TYPE	SPAN LGTH (FT)	STRANDS (NMBR)	ECCENTRICITY END (INCHES)	ECCENTRICITY MIDDLE (INCHES)	DESIGN FPCI (KSI)	DESIGN FPC (KSI)	**CAMBER STATISTICS** ACTL.	MEAN	STD. DEV.	T-VAL
61	16	7	54	80.00	20	12.33	21.13	4.0	5.0	0.96	0.69	0.350	0.776
61	17	1	54	80.00	20	12.33	21.13	4.0	5.0	1.02	0.69	0.350	0.948
61	17	2	54	80.00	20	12.33	21.13	4.0	5.0	0.90	0.69	0.350	0.605
61	17	3	54	80.00	20	12.33	21.13	4.0	5.0	0.54	0.69	0.350	-0.423
61	17	4	54	80.00	20	12.33	21.13	4.0	5.0	1.02	0.69	0.350	0.948
61	17	5	54	80.00	20	12.33	21.13	4.0	5.0	1.20	0.69	0.350	1.462
61	17	6	54	80.00	20	12.33	21.13	4.0	5.0	0.78	0.69	0.350	0.262
61	17	7	54	80.00	20	12.33	21.13	4.0	5.0	0.54	0.69	0.350	-0.423
61	18	1	54	80.00	20	12.33	21.13	4.0	5.0	0.54	0.69	0.350	-0.423
61	18	2	54	80.00	20	12.33	21.13	4.0	5.0	0.96	0.69	0.350	0.776
61	18	3	54	80.00	20	12.33	21.13	4.0	5.0	0.66	0.69	0.350	-0.081
61	18	4	54	80.00	20	12.33	21.13	4.0	5.0	0.60	0.69	0.350	-0.252
61	18	5	54	80.00	20	12.33	21.13	4.0	5.0	0.78	0.69	0.350	0.262
61	18	6	54	80.00	20	12.33	21.13	4.0	5.0	0.66	0.69	0.350	-0.081
61	18	7	54	80.00	20	12.33	21.13	4.0	5.0	0.48	0.69	0.350	-0.595
61	19	1	54	80.00	20	12.33	21.13	4.0	5.0	0.54	0.69	0.350	-0.423
61	19	2	54	80.00	20	12.33	21.13	4.0	5.0	0.54	0.69	0.350	-0.423
61	19	3	54	80.00	20	12.33	21.13	4.0	5.0	1.02	0.69	0.350	0.948
61	19	4	54	80.00	20	12.33	21.13	4.0	5.0	0.78	0.69	0.350	0.262
61	19	5	54	80.00	20	12.33	21.13	4.0	5.0	0.36	0.69	0.350	-0.938
61	19	6	54	80.00	20	12.33	21.13	4.0	5.0	1.02	0.69	0.350	0.948
61	19	7	54	80.00	20	12.33	21.13	4.0	5.0	0.24	0.69	0.350	-1.280
61	20	1	54	80.00	20	12.33	21.13	4.0	5.0	0.66	0.69	0.350	-0.081
61	20	2	54	80.00	20	12.33	21.13	4.0	5.0	1.32	0.69	0.350	1.804
61	20	3	54	80.00	20	12.33	21.13	4.0	5.0	1.20	0.69	0.350	1.462
61	20	4	54	80.00	20	12.33	21.13	4.0	5.0	1.32	0.69	0.350	1.804
61	20	5	54	80.00	20	12.33	21.13	4.0	5.0	0.84	0.69	0.350	0.433
61	20	6	54	80.00	20	12.33	21.13	4.0	5.0	0.96	0.69	0.350	0.776
61	20	7	54	80.00	20	12.33	21.13	4.0	5.0	0.54	0.69	0.350	-0.423
61	21	1	54	80.00	20	12.33	21.13	4.0	5.0	0.36	0.69	0.350	-0.938
61	21	2	54	80.00	20	12.33	21.13	4.0	5.0	1.08	0.69	0.350	1.119
61	21	3	54	80.00	20	12.33	21.13	4.0	5.0	1.02	0.69	0.350	0.948
61	21	4	54	80.00	20	12.33	21.13	4.0	5.0	0.78	0.69	0.350	0.262
61	21	5	54	80.00	20	12.33	21.13	4.0	5.0	0.96	0.69	0.350	0.776
61	21	6	54	80.00	20	12.33	21.13	4.0	5.0	0.90	0.69	0.350	0.605
61	21	7	54	80.00	20	12.33	21.13	4.0	5.0	0.72	0.69	0.350	0.091
61	22	1	54	80.00	20	12.33	21.13	4.0	5.0	0.54	0.69	0.350	-0.423
61	22	2	54	80.00	20	12.33	21.13	4.0	5.0	0.54	0.69	0.350	-0.423
61	22	3	54	80.00	20	12.33	21.13	4.0	5.0	0.72	0.69	0.350	0.091
61	22	4	54	80.00	20	12.33	21.13	4.0	5.0	1.08	0.69	0.350	1.119
61	22	5	54	80.00	20	12.33	21.13	4.0	5.0	0.84	0.69	0.350	0.433
61	22	6	54	80.00	20	12.33	21.13	4.0	5.0	0.66	0.69	0.350	-0.081
61	22	7	54	80.00	20	12.33	21.13	4.0	5.0	0.96	0.69	0.350	0.776
61	23	1	54	80.00	20	12.33	21.13	4.0	5.0	0.42	0.69	0.350	-0.766
61	23	2	54	80.00	20	12.33	21.13	4.0	5.0	0.90	0.69	0.350	0.605

IDENT	SPAN NMBR	BEAM NMBR	BEAM TYPE	SPAN LGTH (FT)	STRANDS (NMBR)	ECCENTRICITY END (INCHES)	ECCENTRICITY MIDDLE (INCHES)	DESIGN FPCI (KSI)	DESIGN FPC (KSI)	**CAMBER STATISTICS** ACTL.	MEAN	STD. DEV.	T-VAL
61	23	3	54	80.00	20	12.33	21.13	4.0	5.0	1.02	0.69	0.350	0.948
61	23	4	54	80.00	20	12.33	21.12	4.0	5.0	0.54	0.69	0.350	-0.423
61	23	5	54	80.00	20	12.33	21.13	4.0	5.0	0.96	0.69	0.350	0.776
61	23	6	54	80.00	20	12.33	21.13	4.0	5.0	0.72	0.69	0.350	0.091
61	23	7	54	80.00	20	12.33	21.13	4.0	5.0	0.54	0.69	0.350	-0.423
61	24	1	54	80.00	20	12.33	21.13	4.0	5.0	0.54	0.69	0.350	-0.423
61	24	2	54	80.00	20	12.33	21.13	4.0	5.0	1.20	0.69	0.350	1.462
61	24	3	54	80.00	20	12.33	21.13	4.0	5.0	0.36	0.69	0.350	-0.938
61	24	4	54	80.00	20	12.33	21.13	4.0	5.0	0.30	0.69	0.350	-1.109
61	24	5	54	80.00	20	12.33	21.13	4.0	5.0	0.12	0.69	0.350	-1.623
61	24	6	54	80.00	20	12.33	21.13	4.0	5.0	1.14	0.69	0.350	1.290
61	24	7	54	80.00	20	12.33	21.13	4.0	5.0	0.78	0.69	0.350	0.262
61	25	1	54	80.00	20	12.33	21.13	4.0	5.0	0.78	0.69	0.350	0.262
61	25	2	54	80.00	20	12.33	21.13	4.0	5.0	0.96	0.69	0.350	0.776
61	25	3	54	80.00	20	12.33	21.13	4.0	5.0	1.08	0.69	0.350	1.119
61	25	4	54	80.00	20	12.33	21.13	4.0	5.0	0.96	0.69	0.350	0.776
61	25	5	54	80.00	20	12.33	21.13	4.0	5.0	1.02	0.69	0.350	0.948
61	25	6	54	80.00	20	12.33	21.13	4.0	5.0	0.72	0.69	0.350	0.091
61	25	7	54	80.00	20	12.33	21.13	4.0	5.0	0.42	0.69	0.350	-0.766
61	26	1	54	80.00	20	12.33	21.13	4.0	5.0	0.30	0.69	0.350	-1.109
61	26	2	54	80.00	20	12.33	21.13	4.0	5.0	0.84	0.69	0.350	0.433
61	26	3	54	80.00	20	12.33	21.13	4.0	5.0	0.84	0.69	0.350	0.433
61	26	4	54	80.00	20	12.33	21.13	4.0	5.0	0.96	0.69	0.350	0.776
61	26	5	54	80.00	20	12.33	21.13	4.0	5.0	0.84	0.69	0.350	0.433
61	26	6	54	80.00	20	12.33	21.13	4.0	5.0	0.90	0.69	0.350	0.605
61	26	7	54	80.00	20	12.33	21.13	4.0	5.0	0.78	0.69	0.350	0.262
61	27	1	54	80.00	20	12.33	21.13	4.0	5.0	0.30	0.69	0.350	-1.109
61	27	2	54	80.00	20	12.33	21.13	4.0	5.0	0.90	0.69	0.350	0.605
61	27	3	54	80.00	20	12.33	21.13	4.0	5.0	1.14	0.69	0.350	1.290
61	27	4	54	80.00	20	12.33	21.13	4.0	5.0	0.48	0.69	0.350	-0.595
61	27	5	54	80.00	20	12.33	21.13	4.0	5.0	1.02	0.69	0.350	0.948
61	27	6	54	80.00	20	12.33	21.13	4.0	5.0	0.72	0.69	0.350	0.091
61	27	7	54	80.00	20	12.33	21.13	4.0	5.0	0.84	0.69	0.350	0.433
61	28	1	54	80.00	20	12.33	21.13	4.0	5.0	0.60	0.69	0.350	-0.252
61	28	2	54	80.00	20	12.33	21.13	4.0	5.0	0.12	0.69	0.350	-1.623
61	28	3	54	80.00	20	12.33	21.13	4.0	5.0	0.54	0.69	0.350	-0.424
61	28	4	54	80.00	20	12.33	21.13	4.0	5.0	0.00	0.69	0.350	-1.966
61	28	5	54	80.00	20	12.33	21.13	4.0	5.0	0.36	0.69	0.350	-0.938
61	28	6	54	80.00	20	12.33	21.13	4.0	5.0	0.54	0.69	0.350	-0.424
61	28	7	54	80.00	20	12.33	21.13	4.0	5.0	0.42	0.69	0.350	-0.766
61	29	1	54	80.00	20	12.33	21.13	4.0	5.0	0.84	0.69	0.350	0.433
61	29	2	54	80.00	20	12.33	21.13	4.0	5.0	0.78	0.69	0.350	0.262
61	29	3	54	80.00	20	12.33	21.13	4.0	5.0	0.42	0.69	0.350	-0.766
61	29	4	54	80.00	20	12.33	21.13	4.0	5.0	0.54	0.69	0.350	-0.423
61	29	5	54	80.00	20	12.33	21.13	4.0	5.0	0.78	0.69	0.350	0.262

IDENT	SPAN NMBR	BEAM NMBR	BEAM TYPE	SPAN LGTH (FT)	STRANDS (NMBR)	ECCENTRICITY END (INCHES)	ECCENTRICITY MIDDLE (INCHES)	DESIGN FPCI (KSI)	DESIGN FPC (KSI)	**CAMBER STATISTICS** ACTL.	MEAN	STD. DEV.	T-VAL
61	29	6	54	80.00	20	12.33	21.13	4.0	5.0	1.14	0.69	0.350	1.290
61	29	7	54	80.00	20	12.33	21.13	4.0	5.0	0.60	0.69	0.350	-0.252
61	30	1	54	80.00	20	12.33	21.13	4.0	5.0	0.78	0.69	0.350	0.262
61	30	2	54	80.00	20	12.33	21.13	4.0	5.0	0.36	0.69	0.350	-0.938
61	30	3	54	80.00	20	12.33	21.13	4.0	5.0	0.60	0.69	0.350	-0.252
61	30	4	54	80.00	20	12.33	21.13	4.0	5.0	0.60	0.69	0.350	-0.252
61	30	5	54	80.00	20	12.33	21.13	4.0	5.0	0.66	0.69	0.350	-0.081
61	30	6	54	80.00	20	12.33	21.13	4.0	5.0	0.90	0.69	0.350	0.605
61	30	7	54	80.00	20	12.33	21.13	4.0	5.0	0.72	0.69	0.350	0.091
61	31	1	54	80.00	20	12.33	21.13	4.0	5.0	0.90	0.69	0.350	0.605
61	31	2	54	80.00	20	12.33	21.13	4.0	5.0	0.42	0.69	0.350	-0.766
61	31	3	54	80.00	20	12.33	21.13	4.0	5.0	0.42	0.69	0.350	-0.766
61	31	4	54	80.00	20	12.33	21.13	4.0	5.0	0.42	0.69	0.350	-0.766
61	31	5	54	80.00	20	12.33	21.13	4.0	5.0	0.66	0.69	0.350	-0.081
61	31	6	54	80.00	20	12.33	21.13	4.0	5.0	0.60	0.69	0.350	-0.252
61	31	7	54	80.00	20	12.33	21.13	4.0	5.0	0.54	0.69	0.350	-0.423
61	32	1	54	80.00	20	12.33	21.13	4.0	5.0	0.42	0.69	0.350	-0.766
61	32	2	54	80.00	20	12.33	21.13	4.0	5.0	0.36	0.69	0.350	-0.938
61	32	3	54	80.00	20	12.33	21.13	4.0	5.0	0.36	0.69	0.350	-0.938
61	32	4	54	80.00	20	12.33	21.13	4.0	5.0	0.66	0.69	0.350	-0.081
61	32	5	54	80.00	20	12.33	21.13	4.0	5.0	0.84	0.69	0.350	0.433
61	32	6	54	80.00	20	12.33	21.13	4.0	5.0	0.96	0.69	0.350	0.776
61	32	7	54	80.00	20	12.33	21.13	4.0	5.0	0.90	0.69	0.350	0.605
61	33	1	54	80.00	20	12.33	21.13	4.0	5.0	0.12	0.69	0.350	-1.623
61	33	2	54	80.00	20	12.33	21.13	4.0	5.0	0.36	0.69	0.350	-0.938
61	33	3	54	80.00	20	12.33	21.13	4.0	5.0	0.30	0.69	0.350	-1.109
61	33	4	54	80.00	20	12.33	21.13	4.0	5.0	0.66	0.69	0.350	-0.081
61	33	5	54	80.00	20	12.33	21.13	4.0	5.0	0.78	0.69	0.350	0.262
61	33	6	54	80.00	20	12.33	21.13	4.0	5.0	0.84	0.69	0.350	0.433
61	33	7	54	80.00	20	12.33	21.13	4.0	5.0	0.48	0.69	0.350	-0.595
61	34	1	54	80.00	20	12.33	21.13	4.0	5.0	0.72	0.69	0.350	0.091
61	34	2	54	80.00	20	12.33	21.13	4.0	5.0	0.66	0.69	0.350	-0.081
61	34	3	54	80.00	20	12.33	21.13	4.0	5.0	0.84	0.69	0.350	0.433
61	34	4	54	80.00	20	12.33	21.13	4.0	5.0	0.78	0.69	0.350	0.262
61	34	5	54	80.00	20	12.33	21.13	4.0	5.0	1.08	0.69	0.350	1.119
61	34	6	54	80.00	20	12.33	21.13	4.0	5.0	0.66	0.69	0.350	-0.081
61	34	7	54	80.00	20	12.33	21.13	4.0	5.0	0.90	0.69	0.350	0.605
61	35	1	54	80.00	20	12.33	21.13	4.0	5.0	0.60	0.69	0.350	-0.252
61	35	2	54	80.00	20	12.33	21.13	4.0	5.0	0.54	0.69	0.350	-0.423
61	35	3	54	80.00	20	12.33	21.13	4.0	5.0	0.66	0.69	0.350	-0.081
61	35	4	54	80.00	20	12.33	21.13	4.0	5.0	0.42	0.69	0.350	-0.766
61	35	5	54	80.00	20	12.33	21.13	4.0	5.0	0.60	0.69	0.350	-0.252
61	35	6	54	80.00	20	12.33	21.13	4.0	5.0	0.66	0.69	0.350	-0.081
61	35	7	54	80.00	20	12.33	21.13	4.0	5.0	0.60	0.69	0.350	-0.252
61	36	1	54	80.00	20	12.33	21.13	4.0	5.0	0.72	0.69	0.350	0.091

IDENT	SPAN NMBR	BEAM NMBR	BEAM TYPE	SPAN LGTH (FT)	STRANDS (NMBR)	ECCENTRICITY END (INCHES)	ECCENTRICITY MIDDLE (INCHES)	DESIGN FPCI (KSI)	DESIGN FPC (KSI)	**CAMBER STATISTICS** ACTL.	MEAN	STD. DEV.	T-VAL
61	36	2	54	80.00	20	12.33	21.13	4.0	5.0	0.60	0.69	0.350	-0.252
61	36	3	54	80.00	20	12.33	21.13	4.0	5.0	0.48	0.69	0.350	-0.595
61	36	4	54	80.00	20	12.33	21.13	4.0	5.0	0.24	0.69	0.350	-1.280
61	36	5	54	80.00	20	12.33	21.13	4.0	5.0	0.60	0.69	0.350	-0.252
61	36	6	54	80.00	20	12.33	21.13	4.0	5.0	0.54	0.69	0.350	-0.423
61	36	7	54	80.00	20	12.33	21.13	4.0	5.0	0.36	0.69	0.350	-0.938
61	37	1	54	80.00	20	12.33	21.13	4.0	5.0	0.36	0.69	0.350	-0.938
61	37	2	54	80.00	20	12.33	21.13	4.0	5.0	0.54	0.69	0.350	-0.423
61	37	3	54	80.00	20	12.33	21.13	4.0	5.0	0.06	0.69	0.350	-1.794
61	37	4	54	80.00	20	12.33	21.13	4.0	5.0	0.24	0.69	0.350	-1.280
61	37	5	54	80.00	20	12.33	21.13	4.0	5.0	0.30	0.69	0.350	-1.109
61	37	6	54	80.00	20	12.33	21.13	4.0	5.0	0.24	0.69	0.350	-1.280
61	37	7	54	80.00	20	12.33	21.13	4.0	5.0	0.60	0.69	0.350	-0.252
61	38	1	54	80.00	20	12.33	21.13	4.0	5.0	0.66	0.69	0.350	-0.081
61	38	2	54	80.00	20	12.33	21.13	4.0	5.0	0.66	0.69	0.350	-0.081
61	38	3	54	80.00	20	12.33	21.13	4.0	5.0	0.36	0.69	0.350	-0.938
61	38	4	54	80.00	20	12.33	21.13	4.0	5.0	0.54	0.69	0.350	-0.423
61	38	5	54	80.00	20	12.33	21.13	4.0	5.0	0.48	0.69	0.350	-0.595
61	38	6	54	80.00	20	12.33	21.13	4.0	5.0	0.54	0.69	0.350	-0.423
61	38	7	54	80.00	20	12.33	21.13	4.0	5.0	0.54	0.69	0.350	-0.423
61	39	1	54	80.00	20	12.33	21.13	4.0	5.0	0.60	0.69	0.350	-0.252
61	39	2	54	80.00	20	12.33	21.13	4.0	5.0	0.24	0.69	0.350	-1.280
61	39	3	54	80.00	20	12.33	21.13	4.0	5.0	0.54	0.69	0.350	-0.423
61	39	4	54	80.00	20	12.33	21.13	4.0	5.0	0.54	0.69	0.350	-0.423
61	39	5	54	80.00	20	12.33	21.13	4.0	5.0	0.30	0.69	0.350	-1.109
61	39	6	54	80.00	20	12.33	21.13	4.0	5.0	0.24	0.69	0.350	-1.280
61	39	7	54	80.00	20	12.33	21.13	4.0	5.0	0.48	0.69	0.350	-0.595
61	40	1	54	80.00	20	12.33	21.13	4.0	5.0	0.36	0.69	0.350	-0.938
61	40	2	54	80.00	20	12.33	21.13	4.0	5.0	0.42	0.69	0.350	-0.766
61	40	3	54	80.00	20	12.33	21.13	4.0	5.0	0.30	0.69	0.350	-1.109
61	40	4	54	80.00	20	12.33	21.13	4.0	5.0	0.90	0.69	0.350	0.605
61	40	5	54	80.00	20	12.33	21.13	4.0	5.0	0.30	0.69	0.350	-1.109
61	40	6	54	80.00	20	12.33	21.13	4.0	5.0	0.42	0.69	0.350	-0.766
61	40	7	54	80.00	20	12.33	21.13	4.0	5.0	0.30	0.69	0.350	-1.109
62	1	1	54	80.12	22	12.80	20.80	4.3	5.0	2.40	2.01	0.169	2.330
62	1	2	54	80.06	22	12.80	20.80	4.3	5.0	1.98	2.01	0.169	-0.152
62	1	3	54	80.01	22	12.80	20.80	4.3	5.0	1.92	2.01	0.169	-0.506
62	1	4	54	79.95	22	12.80	20.80	4.3	5.0	1.92	2.01	0.169	-0.506
62	1	5	54	79.89	22	12.80	20.80	4.3	5.0	1.74	2.01	0.169	-1.570
62	1	6	54	79.84	22	12.80	20.80	4.3	5.0	1.92	2.01	0.169	-0.506
62	1	7	54	79.78	22	12.80	20.80	4.3	5.0	2.04	2.01	0.169	0.203
62	18	1	54	80.00	22	12.80	20.80	4.3	5.0	1.86	2.01	0.169	-0.861
62	18	2	54	80.00	22	12.80	20.80	4.3	5.0	2.10	2.01	0.169	0.557

IDENT	SPAN NMBR	BEAM NMBR	BEAM TYPE	SPAN LGTH (FT)	STRANDS (NMBR)	ECCENTRICITY END (INCHES)	ECCENTRICITY MIDDLE (INCHES)	DESIGN FPCI (KSI)	DESIGN FPC (KSI)	**CAMBER STATISTICS** ACTL.	MEAN	STD. DEV.	T-VAL
62	18	3	54	80.00	22	12.80	20.80	4.3	5.0	2.16	2.01	0.169	0.912
62	18	4	54	80.00	22	12.80	20.80	4.3	5.0	1.98	2.01	0.169	-0.152
62	18	5	54	80.00	22	12.80	20.80	4.3	5.0	2.22	2.01	0.169	1.266
62	18	6	54	80.00	22	12.80	20.80	4.3	5.0	1.98	2.01	0.169	-0.152
62	18	7	54	80.00	22	12.80	20.80	4.3	5.0	1.86	2.01	0.169	-0.861
63	1	1	54	80.00	24	13.20	20.52	5.0	0.0	1.86	2.16	0.285	-1.058
63	1	2	54	80.00	24	13.20	20.52	5.0	0.0	2.28	2.16	0.285	0.415
63	1	3	54	80.00	24	13.20	20.52	5.0	0.0	2.28	2.16	0.285	0.415
63	1	4	54	80.00	24	13.20	20.52	5.0	0.0	2.10	2.16	0.285	-0.216
63	1	5	54	80.00	24	13.20	20.52	5.0	0.0	2.40	2.16	0.285	0.836
63	1	6	54	80.00	24	13.20	20.52	5.0	0.0	2.16	2.16	0.285	-0.006
63	2	1	54	80.00	24	13.20	20.52	5.0	0.0	1.80	2.16	0.285	-1.268
63	2	2	54	80.00	24	13.20	20.52	5.0	0.0	2.04	2.16	0.285	-0.427
63	2	3	54	80.00	24	13.20	20.52	5.0	0.0	2.28	2.16	0.285	0.415
63	2	4	54	80.00	24	13.20	20.52	5.0	0.0	2.04	2.16	0.285	-0.427
63	2	5	54	80.00	24	13.20	20.52	5.0	0.0	2.16	2.16	0.285	-0.006
63	2	6	54	80.00	24	13.20	20.52	5.0	0.0	2.04	2.16	0.285	-0.427
63	7	1	54	80.00	24	13.20	20.52	5.0	0.0	2.16	2.16	0.285	-0.006
63	7	2	54	80.00	24	13.20	20.52	5.0	0.0	2.40	2.16	0.285	0.836
63	7	3	54	80.00	24	13.20	20.52	5.0	0.0	2.10	2.16	0.285	-0.216
63	7	4	54	80.00	24	13.20	20.52	5.0	0.0	1.86	2.16	0.285	-1.058
63	7	5	54	80.00	24	13.20	20.52	5.0	0.0	2.16	2.16	0.285	-0.006
63	7	6	54	80.00	24	13.20	20.52	5.0	0.0	2.28	2.16	0.285	0.415
63	8	1	54	80.00	24	13.20	20.52	5.0	0.0	2.28	2.16	0.285	0.415
63	8	2	54	80.00	24	13.20	20.52	5.0	0.0	1.74	2.16	0.285	-1.478
63	8	3	54	80.00	24	13.20	20.52	5.0	0.0	1.92	2.16	0.285	-0.847
63	8	4	54	80.00	24	13.20	20.52	5.0	0.0	1.56	2.16	0.285	-2.109
63	8	5	54	80.00	24	13.20	20.52	5.0	0.0	1.62	2.16	0.285	-1.899
63	8	6	54	80.00	24	13.20	20.52	5.0	0.0	1.74	2.16	0.285	-1.478
63	9	1	54	80.00	24	13.20	20.52	5.0	0.0	2.04	2.16	0.285	-0.427
63	9	2	54	80.00	24	13.20	20.52	5.0	0.0	2.76	2.16	0.285	2.098
63	9	3	54	80.00	24	13.20	20.52	5.0	0.0	2.04	2.16	0.285	-0.427
63	9	4	54	80.00	24	13.20	20.52	5.0	0.0	2.16	2.16	0.285	-0.006
63	9	5	54	80.00	24	13.20	20.52	5.0	0.0	2.16	2.16	0.285	-0.006
63	9	6	54	80.00	24	13.20	20.52	5.0	0.0	2.58	2.16	0.285	1.467
63	10	1	54	80.00	24	13.20	20.52	5.0	0.0	2.40	2.16	0.285	0.836
63	10	2	54	80.00	24	13.20	20.52	5.0	0.0	2.52	2.16	0.285	1.256
63	10	3	54	80.00	24	13.20	20.52	5.0	0.0	2.58	2.16	0.285	1.467
63	10	4	54	80.00	24	13.20	20.52	5.0	0.0	2.22	2.16	0.285	0.205
63	10	5	54	80.00	24	13.20	20.52	5.0	0.0	2.52	2.16	0.285	1.256
63	10	6	54	80.00	24	13.20	20.52	5.0	0.0	2.58	2.16	0.285	1.467

IDENT	SPAN NMBR	BEAM NMBR	BEAM TYPE	SPAN LGTH (FT)	STRANDS (NMBR)	ECCENTRICITY END (INCHES)	ECCENTRICITY MIDDLE (INCHES)	DESIGN FPCI (KSI)	DESIGN FPC (KSI)	**CAMBER STATISTICS** ACTL.	MEAN	STD. DEV.	T-VAL
64	1	1	54	80.00	24	13.20	20.52	5.0	0.0	2.34	1.98	0.306	1.186
64	1	2	54	80.00	24	13.20	20.52	5.0	0.0	2.22	1.98	0.306	0.793
64	1	3	54	80.00	24	13.20	20.52	5.0	0.0	2.28	1.98	0.306	0.989
64	1	4	54	80.00	24	13.20	20.52	5.0	0.0	2.10	1.98	0.306	0.401
64	1	5	54	80.00	24	13.20	20.52	5.0	0.0	1.86	1.98	0.306	-0.384
64	1	6	54	80.00	24	13.20	20.52	5.0	0.0	1.74	1.98	0.306	-0.777
64	2	1	54	80.00	24	13.20	20.52	5.0	0.0	1.62	1.98	0.306	-1.169
64	2	2	54	80.00	24	13.20	20.52	5.0	0.0	2.22	1.98	0.306	0.793
64	2	3	54	80.00	24	13.20	20.52	5.0	0.0	1.98	1.98	0.306	0.008
64	2	4	54	80.00	24	13.20	20.52	5.0	0.0	1.56	1.98	0.306	-1.365
64	2	5	54	80.00	24	13.20	20.52	5.0	0.0	1.86	1.98	0.306	-0.384
64	2	6	54	80.00	24	13.20	20.52	5.0	0.0	1.80	1.98	0.306	-0.580
64	3	1	54	80.00	24	13.20	20.52	5.0	0.0	2.04	1.98	0.306	0.204
64	3	2	54	80.00	24	13.20	20.52	5.0	0.0	2.16	1.98	0.306	0.597
64	3	3	54	80.00	24	13.20	20.52	5.0	0.0	1.74	1.98	0.306	-0.777
64	3	4	54	80.00	24	13.20	20.52	5.0	0.0	1.98	1.98	0.306	0.008
64	3	5	54	80.00	24	13.20	20.52	5.0	0.0	1.50	1.98	0.306	-1.562
64	3	6	54	80.00	24	13.20	20.52	5.0	0.0	1.86	1.98	0.306	-0.384
64	4	1	54	80.00	24	13.20	20.52	5.0	0.0	1.86	1.98	0.306	-0.384
64	4	2	54	80.00	24	13.20	20.52	5.0	0.0	1.86	1.98	0.306	-0.384
64	4	3	54	80.00	24	13.20	20.52	5.0	0.0	1.74	1.98	0.306	-0.777
64	4	4	54	80.00	24	13.20	20.52	5.0	0.0	1.74	1.98	0.306	-0.777
64	4	5	54	80.00	24	13.20	20.52	5.0	0.0	1.26	1.98	0.306	-2.346
64	4	6	54	80.00	24	13.20	20.52	5.0	0.0	1.56	1.98	0.306	-1.365
64	5	1	54	80.00	24	13.20	20.52	5.0	0.0	1.98	1.98	0.306	0.008
64	5	2	54	80.00	24	13.20	20.52	5.0	0.0	1.98	1.98	0.306	0.008
64	5	3	54	80.00	24	13.20	20.52	5.0	0.0	1.92	1.98	0.306	-0.188
64	5	4	54	80.00	24	13.20	20.52	5.0	0.0	1.92	1.98	0.306	-0.188
64	5	5	54	80.00	24	13.20	20.52	5.0	0.0	1.92	1.98	0.306	-0.188
64	5	6	54	80.00	24	13.20	20.52	5.0	0.0	1.86	1.98	0.306	-0.384
64	6	1	54	80.00	24	13.20	20.52	5.0	0.0	1.50	1.98	0.306	-1.562
64	6	2	54	80.00	24	13.20	20.52	5.0	0.0	1.68	1.98	0.306	-0.973
64	6	3	54	80.00	24	13.20	20.52	5.0	0.0	1.68	1.98	0.306	-0.973
64	6	4	54	80.00	24	13.20	20.52	5.0	0.0	1.92	1.98	0.306	-0.188
64	6	5	54	80.00	24	13.20	20.52	5.0	0.0	1.86	1.98	0.306	-0.384
64	6	6	54	80.00	24	13.20	20.52	5.0	0.0	1.56	1.98	0.306	-1.365
64	7	1	54	80.00	24	13.20	20.52	5.0	0.0	2.16	1.98	0.306	0.597
64	7	2	54	80.00	24	13.20	20.52	5.0	0.0	1.92	1.98	0.306	-0.188
64	7	3	54	80.00	24	13.20	20.52	5.0	0.0	2.22	1.98	0.306	0.793
64	7	4	54	80.00	24	13.20	20.52	5.0	0.0	1.44	1.98	0.306	-1.758
64	7	5	54	80.00	24	13.20	20.52	5.0	0.0	1.56	1.98	0.306	-1.365
64	7	6	54	80.00	24	13.20	20.52	5.0	0.0	1.74	1.98	0.306	-0.777
64	8	1	54	80.00	24	13.20	20.52	5.0	0.0	1.74	1.98	0.306	-0.777
64	8	2	54	80.00	24	13.20	20.52	5.0	0.0	1.74	1.98	0.306	-0.777
64	8	3	54	80.00	24	13.20	20.52	5.0	0.0	2.10	1.98	0.306	0.401

IDENT	SPAN	BEAM		SPAN	STRANDS	ECCENTRICITY		DESIGN		**CAMBER	STATISTICS**		
	NMBR	NMBR	TYPE	LGTH (FT)	(NMBR)	END (INCHES)	MIDDLE	FPCI/FPC (KSI)		ACTL.	MEAN	STD. DEV.	T-VAL
64	8	4	54	80.00	24	13.20	20.52	5.0	0.0	1.74	1.98	0.306	-0.777
64	8	5	54	80.00	24	13.20	20.52	5.0	0.0	2.04	1.98	0.306	0.204
64	8	6	54	80.00	24	13.20	20.52	5.0	0.0	2.22	1.98	0.306	0.793
64	9	1	54	80.00	24	13.20	20.52	5.0	0.0	1.80	1.98	0.306	-0.580
64	9	2	54	80.00	24	13.20	20.52	5.0	0.0	2.16	1.98	0.306	0.597
64	9	3	54	80.00	24	13.20	20.52	5.0	0.0	2.40	1.98	0.306	1.382
64	9	4	54	80.00	24	13.20	20.52	5.0	0.0	2.34	1.98	0.306	1.186
64	9	5	54	80.00	24	13.20	20.52	5.0	0.0	2.04	1.98	0.306	0.204
64	9	6	54	80.00	24	13.20	20.52	5.0	0.0	1.62	1.98	0.306	-1.169
64	10	1	54	80.00	24	13.20	20.52	5.0	0.0	1.98	1.98	0.306	0.008
64	10	2	54	80.00	24	13.20	20.52	5.0	0.0	1.80	1.98	0.306	-0.580
64	10	3	54	80.00	24	13.20	20.52	5.0	0.0	1.80	1.98	0.306	-0.580
64	10	4	54	80.00	24	13.20	20.52	5.0	0.0	2.22	1.98	0.306	0.793
64	10	5	54	80.00	24	13.20	20.52	5.0	0.0	2.52	1.98	0.306	1.774
64	10	6	54	80.00	24	13.20	20.52	5.0	0.0	2.40	1.98	0.306	1.382
64	11	1	54	80.00	24	13.20	20.52	5.0	0.0	1.92	1.98	0.306	-0.188
64	11	2	54	80.00	24	13.20	20.52	5.0	0.0	1.80	1.98	0.306	-0.580
64	11	3	54	80.00	24	13.20	20.52	5.0	0.0	1.92	1.98	0.306	-0.188
64	11	4	54	80.00	24	13.20	20.52	5.0	0.0	1.74	1.98	0.306	-0.777
64	11	5	54	80.00	24	13.20	20.52	5.0	0.0	1.68	1.98	0.306	-0.973
64	11	6	54	80.00	24	13.20	20.52	5.0	0.0	1.38	1.98	0.306	-1.954
64	12	1	54	80.00	24	13.20	20.52	5.0	0.0	2.52	1.98	0.306	1.774
64	12	2	54	80.00	24	13.20	20.52	5.0	0.0	2.28	1.98	0.306	0.989
64	12	3	54	80.00	24	13.20	20.52	5.0	0.0	2.10	1.98	0.306	0.401
64	12	4	54	80.00	24	13.20	20.52	5.0	0.0	2.46	1.98	0.306	1.578
64	12	5	54	80.00	24	13.20	20.52	5.0	0.0	2.04	1.98	0.306	0.204
64	12	6	54	80.00	24	13.20	20.52	5.0	0.0	2.16	1.98	0.306	0.597
64	13	1	54	80.00	24	13.20	20.52	5.0	0.0	1.98	1.98	0.306	0.008
64	13	2	54	80.00	24	13.20	20.52	5.0	0.0	1.80	1.98	0.306	-0.580
64	13	3	54	80.00	24	13.20	20.52	5.0	0.0	2.70	1.98	0.306	2.363
64	13	4	54	80.00	24	13.20	20.52	5.0	0.0	2.28	1.98	0.306	0.989
64	13	5	54	80.00	24	13.20	20.52	5.0	0.0	2.28	1.98	0.306	0.989
64	13	6	54	80.00	24	13.20	20.52	5.0	0.0	2.28	1.98	0.306	0.989
64	14	1	54	80.00	24	13.20	20.52	5.0	0.0	1.62	1.98	0.306	-1.169
64	14	2	54	80.00	24	13.20	20.52	5.0	0.0	2.04	1.98	0.306	0.204
64	14	3	54	80.00	24	13.20	20.52	5.0	0.0	1.50	1.98	0.306	-1.562
64	14	4	54	80.00	24	13.20	20.52	5.0	0.0	1.80	1.98	0.306	-0.580
64	14	5	54	80.00	24	13.20	20.52	5.0	0.0	1.98	1.98	0.306	0.008
64	14	6	54	80.00	24	13.20	20.52	5.0	0.0	2.10	1.98	0.306	0.401
64	15	1	54	80.00	24	13.20	20.52	5.0	0.0	2.04	1.98	0.306	0.204
64	15	2	54	80.00	24	13.20	20.52	5.0	0.0	2.04	1.98	0.306	0.204
64	15	3	54	80.00	24	13.20	20.52	5.0	0.0	2.16	1.98	0.306	0.597
64	15	4	54	80.00	24	13.20	20.52	5.0	0.0	1.74	1.98	0.306	-0.777
64	15	5	54	80.00	24	13.20	20.52	5.0	0.0	1.80	1.98	0.306	-0.580
64	15	6	54	80.00	24	13.20	20.52	5.0	0.0	1.80	1.98	0.306	-0.580

IDENT	SPAN NMBR	BEAM NMBR	BEAM TYPE	SPAN LGTH (FT)	STRANDS (NMBR)	ECCENTRICITY END (INCHES)	ECCENTRICITY MIDDLE (INCHES)	DESIGN FPCI (KSI)	DESIGN FPC (KSI)	**CAMBER STATISTICS** ACTL.	MEAN	STD. DEV.	T-VAL
64	16	1	54	80.00	24	13.20	20.52	5.0	0.0	1.98	1.98	0.306	0.008
64	16	2	54	80.00	24	13.20	20.52	5.0	0.0	1.56	1.98	0.306	-1.365
64	16	3	54	80.00	24	13.20	20.52	5.0	0.0	1.98	1.98	0.306	0.008
64	16	4	54	80.00	24	13.20	20.52	5.0	0.0	2.10	1.98	0.306	0.401
64	16	5	54	80.00	24	13.20	20.52	5.0	0.0	2.28	1.98	0.306	0.989
64	16	6	54	80.00	24	13.20	20.52	5.0	0.0	1.86	1.98	0.306	-0.384
64	17	1	54	80.00	24	13.20	20.52	5.0	0.0	2.04	1.98	0.306	0.204
64	17	2	54	80.00	24	13.20	20.52	5.0	0.0	1.86	1.98	0.306	-0.384
64	17	3	54	80.00	24	13.20	20.52	5.0	0.0	1.98	1.98	0.306	0.008
64	17	4	54	80.00	24	13.20	20.52	5.0	0.0	1.92	1.98	0.306	-0.188
64	17	5	54	80.00	24	13.20	20.52	5.0	0.0	1.92	1.98	0.306	-0.188
64	17	6	54	80.00	24	13.20	20.52	5.0	0.0	2.16	1.98	0.306	0.597
64	18	1	54	80.00	24	13.20	20.52	5.0	0.0	1.92	1.98	0.306	-0.188
64	18	2	54	80.00	24	13.20	20.52	5.0	0.0	2.16	1.98	0.306	0.597
64	18	3	54	80.00	24	13.20	20.52	5.0	0.0	2.10	1.98	0.306	0.401
64	18	4	54	80.00	24	13.20	20.52	5.0	0.0	1.86	1.98	0.306	-0.384
64	18	5	54	80.00	24	13.20	20.52	5.0	0.0	1.92	1.98	0.306	-0.188
64	18	6	54	80.00	24	13.20	20.52	5.0	0.0	1.98	1.98	0.306	0.008
64	19	1	54	80.00	24	13.20	20.52	5.0	0.0	2.04	1.98	0.306	0.204
64	19	2	54	80.00	24	13.20	20.52	5.0	0.0	2.04	1.98	0.306	0.204
64	19	3	54	80.00	24	13.20	20.52	5.0	0.0	1.86	1.98	0.306	-0.384
64	19	4	54	80.00	24	13.20	20.52	5.0	0.0	2.34	1.98	0.306	1.186
64	19	5	54	80.00	24	13.20	20.52	5.0	0.0	3.66	1.98	0.306	5.502
64	19	6	54	80.00	24	13.20	20.52	5.0	0.0	1.92	1.98	0.306	-0.188
64	20	1	54	80.00	24	13.20	20.52	5.0	0.0	2.10	1.98	0.306	0.401
64	20	2	54	80.00	24	13.20	20.52	5.0	0.0	2.28	1.98	0.306	0.989
64	20	3	54	80.00	24	13.20	20.52	5.0	0.0	2.40	1.98	0.306	1.382
64	20	4	54	80.00	24	13.20	20.52	5.0	0.0	2.22	1.98	0.306	0.793
64	20	5	54	80.00	24	13.20	20.52	5.0	0.0	2.10	1.98	0.306	0.401
64	20	6	54	80.00	24	13.20	20.52	5.0	0.0	2.46	1.98	0.306	1.578
65	1	1	54	80.00	22	14.80	14.80			0.96	0.84	0.157	0.763
65	1	2	54	80.00	22	14.80	14.80			0.96	0.84	0.157	0.763
65	1	3	54	80.00	22	14.80	14.80			0.90	0.84	0.157	0.382
65	1	4	54	80.00	22	14.80	14.80			0.66	0.84	0.157	-1.145
65	4	1	54	80.00	22	14.80	14.80			0.72	0.84	0.157	-0.764
65	4	2	54	80.00	22	14.80	14.80			0.66	0.84	0.157	-1.146
65	4	3	54	80.00	22	14.80	14.80			1.08	0.84	0.157	1.526
65	4	4	54	80.00	22	14.80	14.80			0.78	0.84	0.157	-0.382
66	1	1	54	79.67	20	12.33	21.13	4.0	5.0	1.20	1.10	0.140	0.698
66	1	2	54	79.67	20	12.33	21.13	4.0	5.0	0.96	1.10	0.140	-1.013
66	1	3	54	79.67	20	12.33	21.13	4.0	5.0	1.02	1.10	0.140	-0.585

IDENT	SPAN NMBR	BEAM NMBR	BEAM TYPE	SPAN LGTH (FT)	STRANDS (NMBR)	ECCENTRICITY END (INCHES)	ECCENTRICITY MIDDLE (INCHES)	DESIGN FPCI (KSI)	DESIGN FPC (KSI)	**CAMBER STATISTICS** ACTL.	MEAN	STD. DEV.	T-VAL
66	1	4	54	79.67	20	12.33	21.13	4.0	5.0	1.08	1.10	0.140	-0.157
66	1	5	54	79.67	20	12.33	21.13	4.0	5.0	1.14	1.10	0.140	0.270
66	1	6	54	79.67	20	12.33	21.13	4.0	5.0	1.26	1.10	0.140	1.125
66	1	7	54	79.67	20	12.33	21.13	4.0	5.0	1.14	1.10	0.140	0.270
66	2	1	54	79.67	20	12.33	21.13	4.0	5.0	1.20	1.10	0.140	0.697
66	2	2	54	79.67	20	12.33	21.13	4.0	5.0	1.14	1.10	0.140	0.270
66	2	3	54	79.67	20	12.33	21.13	4.0	5.0	0.96	1.10	0.140	-1.013
66	2	4	54	79.67	20	12.33	21.13	4.0	5.0	1.26	1.10	0.140	1.125
66	2	5	54	79.67	20	12.33	21.13	4.0	5.0	1.14	1.10	0.140	0.270
66	2	6	54	79.67	20	12.33	21.13	4.0	5.0	0.84	1.10	0.140	-1.868
66	2	7	54	79.67	20	12.33	21.13	4.0	5.0	1.32	1.10	0.140	1.553
66	3	1	54	79.67	18	12.36	21.53	4.0	5.0	0.90	1.10	0.140	-1.440
66	3	2	54	79.67	18	12.36	21.53	4.0	5.0	1.02	1.10	0.140	-0.585
66	3	3	54	79.67	20	13.13	21.13	4.0	5.0	0.96	1.10	0.140	-1.013
66	3	4	54	79.67	20	13.13	21.13	4.0	5.0	1.08	1.10	0.140	-0.157
66	3	5	54	79.67	20	13.13	21.13	4.0	5.0	1.32	1.10	0.140	1.553
67	1	1	54	79.67	20	12.33	21.13	4.0	5.0	0.96	1.06	0.153	-0.679
67	1	2	54	79.67	20	12.33	21.13	4.0	5.0	1.14	1.06	0.153	0.494
67	1	3	54	79.67	20	12.33	21.13	4.0	5.0	1.14	1.06	0.153	0.494
67	1	4	54	79.67	20	12.33	21.13	4.0	5.0	1.44	1.06	0.153	2.450
67	1	5	54	79.67	20	12.33	21.13	4.0	5.0	1.02	1.06	0.153	-0.288
67	1	6	54	79.67	20	12.33	21.13	4.0	5.0	1.02	1.06	0.153	-0.288
67	1	7	54	79.67	20	12.33	21.13	4.0	5.0	1.08	1.06	0.153	0.103
67	2	1	54	79.67	20	12.33	21.13	4.0	5.0	0.96	1.06	0.153	-0.679
67	2	2	54	79.67	20	12.33	21.13	4.0	5.0	0.90	1.06	0.153	-1.070
67	2	3	54	79.67	20	12.33	21.13	4.0	5.0	1.14	1.06	0.153	0.494
67	2	4	54	79.67	20	12.33	21.13	4.0	5.0	1.20	1.06	0.153	0.885
67	2	5	54	79.67	20	12.33	21.13	4.0	5.0	1.02	1.06	0.153	-0.288
67	2	6	54	79.67	20	12.33	21.13	4.0	5.0	1.08	1.06	0.153	0.103
67	2	7	54	79.67	20	12.33	21.13	4.0	5.0	0.90	1.06	0.153	-1.070
67	3	1	54	79.67	18	12.36	21.53	4.0	5.0	0.72	1.06	0.153	-2.243
67	3	2	54	79.67	18	12.36	21.53	4.0	5.0	1.02	1.06	0.153	-0.288
67	3	3	54	79.67	20	12.33	21.13	4.0	5.0	1.26	1.06	0.153	1.276
67	3	4	54	79.67	20	12.33	21.13	4.0	5.0	1.08	1.06	0.153	0.103
67	3	5	54	79.67	20	12.33	21.13	4.0	5.0	1.14	1.06	0.153	0.494
68	1	1	54	78.25	24	13.20	20.53	4.9	5.7	0.84	0.87	0.189	-0.185
68	1	2	54	78.25	24	13.20	20.53	4.9	5.7	0.90	0.87	0.189	0.132
68	1	3	54	78.25	24	13.20	20.53	4.9	5.7	0.84	0.87	0.189	-0.185
68	1	4	54	78.25	24	13.20	20.53	4.9	5.7	0.96	0.87	0.189	0.450
68	1	5	54	78.25	24	13.20	20.53	4.9	5.7	1.02	0.87	0.189	0.766
68	1	6	54	78.25	24	13.20	20.53	4.9	5.7	0.90	0.87	0.189	0.132

IDENT	SPAN NMBR	BEAM NMBR	BEAM TYPE	SPAN LGTH (FT)	STRANDS (NMBR)	ECCENTRICITY END (INCHES)	ECCENTRICITY MIDDLE (INCHES)	DESIGN FPCI (KSI)	DESIGN FPC (KSI)	**CAMBER STATISTICS** ACTL.	MEAN	STD. DEV.	T-VAL
68	3	1	54	78.25	24	13.20	20.53	4.9	5.7	0.84	0.87	0.189	-0.185
68	3	2	54	78.25	24	13.20	20.53	4.9	5.7	1.08	0.87	0.189	1.086
68	3	3	54	78.25	24	13.20	20.53	4.9	5.7	1.20	0.87	0.189	1.721
68	3	4	54	78.25	24	13.20	20.53	4.9	5.7	0.48	0.87	0.189	-2.092
68	3	5	54	78.25	24	13.20	20.53	4.9	5.7	0.78	0.87	0.189	-0.503
68	3	6	54	78.25	24	13.20	20.53	4.9	5.7	0.66	0.87	0.189	-1.139
69	4	1	54	76.00	32	11.91	18.87	5.5	6.2	1.38	1.75	0.203	-1.804
69	4	2	54	76.00	32	11.91	18.87	5.5	6.2	1.68	1.75	0.203	-0.325
69	4	3	54	76.00	32	11.91	18.87	5.5	6.2	1.80	1.75	0.203	0.266
69	4	4	54	76.00	32	11.91	18.87	5.5	6.2	1.50	1.75	0.203	-1.213
69	4	5	54	76.00	32	11.91	18.87	5.5	6.2	1.74	1.75	0.203	-0.029
69	5	1	54	76.00	32	11.91	18.87	5.5	6.2	1.98	1.75	0.203	1.154
69	5	2	54	76.00	32	11.91	18.87	5.5	6.2	1.68	1.75	0.203	-0.325
69	5	3	54	76.00	32	11.91	18.87	5.5	6.2	1.74	1.75	0.203	-0.029
69	5	4	54	76.00	32	11.91	18.87	5.5	6.2	1.98	1.75	0.203	1.153
69	5	5	54	76.00	32	11.91	18.87	5.5	6.2	1.98	1.75	0.203	1.153
70	4	1	54	76.30	32	11.91	18.87	5.5	6.2	1.56	1.81	0.248	-0.999
70	4	2	54	76.30	32	11.91	18.87	5.5	6.2	1.74	1.81	0.248	-0.274
70	4	3	54	76.30	32	11.91	18.87	5.5	6.2	1.98	1.81	0.248	0.693
70	4	4	54	76.30	32	11.91	18.87	5.5	6.2	1.86	1.81	0.248	0.209
70	4	5	54	76.30	32	11.91	18.87	5.5	6.2	1.68	1.81	0.248	-0.516
70	5	1	54	76.20	32	11.91	18.87	5.5	6.2	1.50	1.81	0.248	-1.240
70	5	2	54	76.20	32	11.91	18.87	5.5	6.2	1.50	1.81	0.248	-1.241
70	5	3	54	76.20	32	11.91	18.87	5.5	6.2	2.04	1.81	0.248	0.934
70	5	4	54	76.20	32	11.91	18.87	5.5	6.2	1.98	1.81	0.248	0.693
70	5	5	54	76.20	32	11.91	18.87	5.5	6.2	2.10	1.81	0.248	1.176
70	11	1	54	76.00	32	11.91	18.87	5.5	6.2	1.74	1.81	0.248	-0.274
70	11	2	54	76.00	32	11.91	18.87	5.5	6.2	1.86	1.81	0.248	0.209
70	11	3	54	76.00	32	11.91	18.87	5.5	6.2	1.74	1.81	0.248	-0.274
70	11	4	54	76.00	32	11.91	18.87	5.5	6.2	2.34	1.81	0.248	2.143
70	11	5	54	76.00	32	11.91	18.87	5.5	6.2	1.50	1.81	0.248	-1.241
71	11	1	54	75.00	32	11.91	18.37	5.5	6.2	1.80	1.73	0.265	0.249
71	11	2	54	75.00	32	11.91	18.37	5.5	6.2	1.86	1.73	0.265	0.476
71	11	3	54	75.00	32	11.91	18.37	5.5	6.2	2.04	1.73	0.265	1.156
71	11	4	54	75.00	32	11.91	18.37	5.5	6.2	1.80	1.73	0.265	0.250
71	11	5	54	75.00	32	11.91	18.37	5.5	6.2	2.10	1.73	0.265	1.383
71	12	1	54	75.00	32	11.91	18.37	5.5	6.2	2.10	1.73	0.265	1.383
71	12	2	54	75.00	32	11.91	18.37	5.5	6.2	1.56	1.73	0.265	-0.657
71	12	3	54	75.00	32	11.91	18.37	5.5	6.2	1.98	1.73	0.265	0.930

IDENT	SPAN NMBR	BEAM NMBR	BEAM TYPE	SPAN LGTH (FT)	STRANDS (NMBR)	ECCENTRICITY END (INCHES)	ECCENTRICITY MIDDLE (INCHES)	DESIGN FPCI (KSI)	DESIGN FPC (KSI)	**CAMBER ACTL.	MEAN	STD. DEV.	T-VAL STATISTICS**
71	12	4	54	75.00	32	11.91	18.37	5.5	6.2	1.92	1.73	0.265	0.703
71	12	5	54	75.00	32	11.91	18.37	5.5	6.2	1.44	1.73	0.265	-1.111
71	10	1	54	75.00	32	11.91	18.37	5.5	6.2	1.80	1.73	0.265	0.250
71	10	2	54	75.00	32	11.91	18.37	5.5	6.2	1.50	1.73	0.265	-0.884
71	10	3	54	75.00	32	11.91	18.37	5.5	6.2	1.38	1.73	0.265	-1.337
71	10	4	54	75.00	32	11.91	18.37	5.5	6.2	1.50	1.73	0.265	-0.884
71	10	5	54	75.00	32	11.91	18.37	5.5	6.2	1.92	1.73	0.265	0.703
71	11	1	54	75.00	32	11.91	18.37	5.5	6.2	1.74	1.73	0.265	0.023
71	11	2	54	75.00	32	11.91	18.37	5.5	6.2	1.14	1.73	0.265	-2.244
71	11	3	54	75.00	32	11.91	18.37	5.5	6.2	1.86	1.73	0.265	0.476
71	11	4	54	75.00	32	11.91	18.37	5.5	6.2	1.80	1.73	0.265	0.249
71	11	5	54	75.00	32	11.91	18.37	5.5	6.2	1.44	1.73	0.265	-1.111
72	1	1	54	75.00	30	13.00	20.15	5.4	6.1	0.48	1.11	0.341	-1.848
72	1	2	54	75.00	30	13.00	20.15	5.4	6.1	1.08	1.11	0.341	-0.088
72	1	3	54	75.00	30	13.00	20.15	5.4	6.1	1.14	1.11	0.341	0.088
72	1	4	54	75.00	30	13.00	20.15	5.4	6.1	1.62	1.11	0.341	1.496
72	1	5	54	75.00	30	13.00	20.15	5.4	6.1	1.50	1.11	0.341	1.144
72	3	1	54	75.00	30	13.00	20.15	5.4	6.1	1.02	1.11	0.341	-0.264
72	3	2	54	75.00	30	13.00	20.15	5.4	6.1	0.84	1.11	0.341	-0.792
72	3	3	54	75.00	30	13.00	20.15	5.4	6.1	1.08	1.11	0.341	-0.088
72	3	4	54	75.00	30	13.00	20.15	5.4	6.1	0.90	1.11	0.341	-0.616
72	3	5	54	75.00	30	13.00	20.15	5.4	6.1	1.44	1.11	0.341	0.968
73	3	1	54	74.00	22	14.26	20.80	4.6	5.6	2.10	1.98	0.241	0.518
73	3	2	54	74.00	22	14.26	20.80	4.6	5.6	2.04	1.98	0.241	0.268
73	3	3	54	74.00	22	14.26	20.80	4.6	5.6	2.10	1.98	0.241	0.518
73	3	4	54	74.00	22	14.26	20.80	4.6	5.6	2.40	1.98	0.241	1.765
73	3	5	54	74.00	22	14.26	20.80	4.6	5.6	2.10	1.98	0.241	0.518
73	3	6	54	74.00	22	14.26	20.80	4.6	5.6	1.92	1.98	0.241	-0.230
73	3	7	54	74.00	22	14.26	20.80	4.6	5.6	1.74	1.98	0.241	-0.978
73	3	8	54	74.00	22	14.26	20.80	4.6	5.6	1.98	1.98	0.241	0.019
73	3	9	54	74.00	22	14.26	20.80	4.6	5.6	2.28	1.98	0.241	1.266
73	3	10	54	74.00	22	14.26	20.80	4.6	5.6	1.80	1.98	0.241	-0.729
73	3	11	54	74.00	22	14.26	20.80	4.6	5.6	1.50	1.98	0.241	-1.976
73	3	12	54	74.00	22	14.26	20.80	4.6	5.6	1.74	1.98	0.241	-0.978
73	3	13	54	74.00	22	14.26	20.80	4.6	5.6	1.98	1.98	0.241	0.019
74	1	1	54	74.00	20	13.93	21.13	4.1	5.0	0.96	1.08	0.202	-0.618
74	1	2	54	74.00	20	13.93	21.13	4.1	5.0	0.78	1.08	0.202	-1.508
74	1	3	54	74.00	20	13.93	21.13	4.1	5.0	1.32	1.08	0.202	1.162
74	1	4	54	74.00	20	13.93	21.13	4.1	5.0	0.96	1.08	0.202	-0.618

IDENT	SPAN NMBR	BEAM NMBR	BEAM TYPE	SPAN LGTH (FT)	STRANDS (NMBR)	ECCENTRICITY END (INCHES)	ECCENTRICITY MIDDLE (INCHES)	DESIGN FPCI (KSI)	DESIGN FPC (KSI)	**CAMBER STATISTICS** ACTL.	MEAN	STD. DEV.	T-VAL
74	1	5	54	74.00	20	13.93	21.13	4.1	5.0	1.32	1.08	0.202	1.162
74	1	6	54	74.00	20	13.93	21.13	4.1	5.0	0.78	1.08	0.202	-1.508
74	4	1	54	74.00	20	13.93	21.13	4.1	5.0	1.20	1.08	0.202	0.569
74	4	2	54	74.00	20	13.93	21.13	4.1	5.0	1.02	1.08	0.202	-0.321
74	4	3	54	74.00	20	13.93	21.13	4.1	5.0	0.96	1.08	0.202	-0.618
74	4	4	54	74.00	20	13.93	21.13	4.1	5.0	1.14	1.08	0.202	0.272
74	4	5	54	74.00	20	13.93	21.13	4.1	5.0	1.26	1.08	0.202	0.866
74	4	6	54	74.00	20	13.93	21.13	4.1	5.0	1.32	1.08	0.202	1.162
75	1	1	54	74.00	20	13.93	21.13	4.1	5.0	1.14	1.07	0.246	0.264
75	1	2	54	74.00	20	13.93	21.13	4.1	5.0	0.78	1.07	0.246	-1.199
75	1	3	54	74.00	20	13.93	21.13	4.1	5.0	0.96	1.07	0.246	-0.467
75	1	4	54	74.00	20	13.93	21.13	4.1	5.0	0.72	1.07	0.246	-1.443
75	1	5	54	74.00	20	13.93	21.13	4.1	5.0	1.26	1.07	0.246	0.752
75	1	6	54	74.00	20	13.93	21.13	4.1	5.0	1.38	1.07	0.246	1.240
75	4	1	54	74.00	20	13.93	21.13	4.1	5.0	0.90	1.07	0.246	-0.711
75	4	2	54	74.00	20	13.93	21.13	4.1	5.0	1.14	1.07	0.246	0.264
75	4	3	54	74.00	20	13.93	21.13	4.1	5.0	1.26	1.07	0.246	0.752
75	4	4	54	74.00	20	13.93	21.13	4.1	5.0	0.84	1.07	0.246	-0.955
75	4	5	54	74.00	20	13.93	21.13	4.1	5.0	1.50	1.07	0.246	1.728
75	4	6	54	74.00	20	13.93	21.13	4.1	5.0	1.02	1.07	0.246	-0.224
76	5	1	54	73.50	28	13.39	19.79	5.0	5.8	1.86	1.75	0.206	0.549
76	5	2	54	73.50	28	13.39	19.79	5.0	5.8	1.68	1.75	0.206	-0.327
76	5	3	54	73.50	28	13.39	19.79	5.0	5.8	1.68	1.75	0.206	-0.326
76	5	4	54	73.50	28	13.39	19.79	5.0	5.8	1.92	1.75	0.206	0.839
76	5	5	54	73.50	28	13.39	19.79	5.0	5.8	2.04	1.75	0.206	1.422
76	6	1	54	73.50	28	13.39	19.79	5.0	5.8	1.86	1.75	0.206	0.549
76	6	2	54	73.50	28	13.39	19.79	5.0	5.8	1.86	1.75	0.206	0.548
76	6	3	54	73.50	28	13.39	19.79	5.0	5.8	1.74	1.75	0.206	-0.035
76	6	4	54	73.50	28	13.39	19.79	5.0	5.8	1.98	1.75	0.206	1.131
76	6	5	54	73.50	28	13.39	19.79	5.0	5.8	1.68	1.75	0.206	-0.327
76	10	1	54	73.50	28	13.39	19.74	5.0	5.8	1.68	1.75	0.206	-0.327
76	10	2	54	73.50	28	13.39	19.74	5.0	5.8	1.62	1.75	0.206	-0.617
76	10	3	54	73.50	28	13.39	19.74	5.0	5.8	2.04	1.75	0.206	1.422
76	10	4	54	73.50	28	13.39	19.74	5.0	5.8	1.86	1.75	0.206	0.548
76	10	5	54	73.50	28	13.39	19.74	5.0	5.8	1.62	1.75	0.206	-0.618
76	11	1	54	73.50	28	13.39	19.79	5.0	5.8	1.26	1.75	0.206	-2.366
76	11	2	54	73.50	28	13.39	19.79	5.0	5.8	1.68	1.75	0.206	-0.327
76	11	3	54	73.50	28	13.39	19.79	5.0	5.8	1.50	1.75	0.206	-1.201
76	11	4	54	73.50	28	13.39	19.79	5.0	5.8	1.44	1.75	0.206	-1.492
76	11	5	54	73.50	28	13.39	19.79	5.0	5.8	1.50	1.75	0.206	-1.201
76	4	1	54	73.50	28	13.39	19.79	5.0	5.8	1.74	1.75	0.206	-0.035

IDENT	SPAN NMBR	BEAM NMBR	BEAM TYPE	SPAN LGTH (FT)	STRANDS (NMBR)	ECCENTRICITY END (INCHES)	ECCENTRICITY MIDDLE (INCHES)	DESIGN FPCI (KSI)	DESIGN FPC (KSI)	**CAMBER STATISTICS** ACTL.	MEAN	STD. DEV.	T-VAL
76	4	2	54	73.50	28	13.39	19.79	5.0	5.8	1.92	1.75	0.206	0.839
76	4	3	54	73.50	28	13.39	19.79	5.0	5.8	2.10	1.75	0.206	1.713
76	4	4	54	73.50	28	13.39	19.79	5.0	5.8	1.56	1.75	0.206	-0.909
76	4	5	54	73.50	28	13.39	19.79	5.0	5.8	1.86	1.75	0.206	0.548
77	1	1	54	70.00	18	16.20	21.53	4.0	5.0	1.14	0.92	0.273	0.817
77	1	2	54	70.00	18	16.20	21.53	4.0	5.0	1.20	0.92	0.273	1.037
77	1	3	54	70.00	18	16.20	21.53	4.0	5.0	1.14	0.92	0.273	0.817
77	1	4	54	70.00	18	16.20	21.53	4.0	5.0	0.54	0.92	0.273	-1.382
77	1	5	54	70.00	18	16.20	21.53	4.0	5.0	0.72	0.92	0.273	-0.723
77	1	6	54	70.00	18	16.20	21.53	4.0	5.0	1.08	0.92	0.273	0.597
77	1	7	54	70.00	18	16.20	21.53	4.0	5.0	0.66	0.92	0.273	-0.942
77	4	1	54	70.00	18	16.20	21.53	4.0	5.0	0.54	0.92	0.273	-1.382
77	4	2	54	70.00	18	16.20	21.53	4.0	5.0	1.20	0.92	0.273	1.037
77	4	3	54	70.00	18	16.20	21.53	4.0	5.0	0.60	0.92	0.273	-1.162
77	4	4	54	70.00	18	16.20	21.53	4.0	5.0	0.90	0.92	0.273	-0.063
77	4	5	54	70.00	18	16.20	21.53	4.0	5.0	1.02	0.92	0.273	0.377
77	4	6	54	70.00	18	16.20	21.53	4.0	5.0	0.78	0.92	0.273	-0.503
77	4	7	54	70.00	18	16.20	21.53	4.0	5.0	1.32	0.92	0.273	1.476
78	1	1	54	66.00	24	15.20	20.53	5.3	6.4	2.16	1.67	0.358	1.366
78	1	2	54	66.00	24	15.20	20.53	5.3	6.4	2.34	1.67	0.358	1.868
78	1	3	54	66.00	24	15.20	20.53	5.3	6.4	1.92	1.67	0.358	0.696
78	1	4	54	66.00	24	15.20	20.53	5.3	6.4	1.98	1.67	0.358	0.863
78	1	5	54	66.00	24	15.20	20.53	5.3	6.4	1.92	1.67	0.358	0.696
78	1	6	54	66.00	24	15.20	20.53	5.3	6.4	1.98	1.67	0.358	0.863
78	1	7	54	66.00	24	15.20	20.53	5.3	6.4	2.22	1.67	0.358	1.533
78	1	8	54	66.00	24	15.20	20.53	5.3	6.4	1.92	1.67	0.358	0.696
78	1	9	54	66.00	24	15.20	20.53	5.3	6.4	2.16	1.67	0.358	1.365
78	1	10	54	66.00	24	15.20	20.53	5.3	6.4	1.74	1.67	0.358	0.194
78	1	11	54	66.00	24	15.20	20.53	5.3	6.4	2.04	1.67	0.358	1.030
78	1	12	54	66.00	24	15.20	20.53	5.3	6.4	2.46	1.67	0.358	2.202
78	1	13	54	66.00	24	15.20	20.53	5.3	6.4	1.32	1.67	0.358	-0.978
78	1	14	54	66.00	24	15.20	20.53	5.3	6.4	1.56	1.67	0.358	-0.309
78	1	15	54	66.00	24	15.20	20.53	5.3	6.4	1.80	1.67	0.358	0.361
78	1	16	54	66.00	24	15.20	20.53	5.3	6.4	1.50	1.67	0.358	-0.476
78	3	1	54	66.00	24	15.20	20.53	5.3	6.4	1.26	1.67	0.358	-1.145
78	3	2	54	66.00	24	15.20	20.53	5.3	6.4	1.38	1.67	0.358	-0.811
78	3	3	54	66.00	24	15.20	20.53	5.3	6.4	1.32	1.67	0.358	-0.978
78	3	4	54	66.00	24	15.20	20.53	5.3	6.4	1.32	1.67	0.358	-0.978
78	3	5	54	66.00	24	15.20	20.53	5.3	6.4	1.50	1.67	0.358	-0.476
78	3	6	54	66.00	24	15.20	20.53	5.3	6.4	1.68	1.67	0.358	0.027
78	3	7	54	66.00	24	15.20	20.53	5.3	6.4	1.26	1.67	0.358	-1.146

IDENT	SPAN NMBR	BEAM NMBR	BEAM TYPE	SPAN LGTH (FT)	STRANDS (NMBR)	ECCENTRICITY (INCHES) END	ECCENTRICITY (INCHES) MIDDLE	DESIGN FPCI (KSI)	DESIGN FPC (KSI)	**CAMBER ACTL.	MEAN	STATISTICS** STD. DEV.	T-VAL
78	3	8	54	66.00	24	15.20	20.53	5.3	6.4	1.26	1.67	0.358	-1.146
78	3	9	54	66.00	24	15.20	20.53	5.3	6.4	1.62	1.67	0.358	-0.141
78	3	10	54	66.00	24	15.20	20.53	5.3	6.4	1.44	1.67	0.358	-0.643
78	3	11	54	66.00	24	15.20	20.53	5.3	6.4	1.44	1.67	0.358	-0.644
78	3	12	54	66.00	24	15.20	20.53	5.3	6.4	1.38	1.67	0.358	-0.811
78	3	13	54	66.00	24	15.20	20.53	5.3	6.4	1.20	1.67	0.358	-1.313
78	3	14	54	66.00	24	15.20	20.53	5.3	6.4	1.38	1.67	0.358	-0.811
78	3	15	54	66.00	24	15.20	20.53	5.3	6.4	1.56	1.67	0.358	-0.309
78	3	16	54	66.00	24	15.20	20.53	5.3	6.4	1.44	1.67	0.358	-0.644
79	1	1	54	66.00	24	15.20	20.53	5.3	6.4	1.14	1.74	0.272	-2.196
79	1	2	54	66.00	24	15.20	20.53	5.3	6.4	1.26	1.74	0.272	-1.755
79	1	3	54	66.00	24	15.20	20.53	5.3	6.4	1.74	1.74	0.272	0.007
79	1	4	54	66.00	24	15.20	20.53	5.3	6.4	1.74	1.74	0.272	0.007
79	1	5	54	66.00	24	15.20	20.53	5.3	6.4	1.38	1.74	0.272	-1.315
79	1	6	54	66.00	24	15.20	20.53	5.3	6.4	1.80	1.74	0.272	0.227
79	1	7	54	66.00	24	15.20	20.53	5.3	6.4	1.56	1.74	0.272	-0.654
79	1	8	54	66.00	24	15.20	20.53	5.3	6.4	1.92	1.74	0.272	0.668
79	1	9	54	66.00	24	15.20	20.53	5.3	6.4	2.34	1.74	0.272	2.210
79	1	10	54	66.00	24	15.20	20.53	5.3	6.4	2.04	1.74	0.272	1.108
79	1	11	54	66.00	24	15.20	20.53	5.3	6.4	1.68	1.74	0.272	-0.213
79	1	12	54	66.00	24	15.20	20.53	5.3	6.4	1.86	1.74	0.272	0.447
79	1	13	54	66.00	24	15.20	20.53	5.3	6.4	2.10	1.74	0.272	1.329
79	1	14	54	66.00	24	15.20	20.53	5.3	6.4	1.56	1.74	0.272	-0.654
79	1	15	54	66.00	24	15.20	20.53	5.3	6.4	1.80	1.74	0.272	0.227
79	1	16	54	66.00	24	15.20	20.53	5.3	6.4	1.86	1.74	0.272	0.447
79	3	1	54	66.00	24	15.20	20.53	5.3	6.4	1.92	1.74	0.272	0.668
79	3	2	54	66.00	24	15.20	20.53	5.3	6.4	1.98	1.74	0.272	0.888
79	3	3	54	66.00	24	15.20	20.53	5.3	6.4	1.38	1.74	0.272	-1.315
79	3	4	54	66.00	24	15.20	20.53	5.3	6.4	1.56	1.74	0.272	-0.654
79	3	5	54	66.00	24	15.20	20.53	5.3	6.4	1.44	1.74	0.272	-1.095
79	3	6	54	66.00	24	15.20	20.53	5.3	6.4	1.86	1.74	0.272	0.447
79	3	7	54	66.00	24	15.20	20.53	5.3	6.4	1.44	1.74	0.272	-1.095
79	3	8	54	66.00	24	15.20	20.53	5.3	6.4	1.62	1.74	0.272	-0.434
79	3	9	54	66.00	24	15.20	20.53	5.3	6.4	1.98	1.74	0.272	0.888
79	3	10	54	66.00	24	15.20	20.53	5.3	6.4	1.92	1.74	0.272	0.667
79	3	11	54	66.00	24	15.20	20.53	5.3	6.4	1.86	1.74	0.272	0.447
79	3	12	54	66.00	24	15.20	20.53	5.3	6.4	1.56	1.74	0.272	-0.654
79	3	13	54	66.00	24	15.20	20.53	5.3	6.4	1.92	1.74	0.272	0.668
79	3	14	54	66.00	24	15.20	20.53	5.3	6.4	1.86	1.74	0.272	0.447
79	3	15	54	66.00	24	15.20	20.53	5.3	6.4	1.44	1.74	0.272	-1.094
79	3	16	54	66.00	24	15.20	20.53	5.3	6.4	2.10	1.74	0.272	1.329

IDENT	SPAN NMBR	BEAM NMBR	BEAM TYPE	SPAN LGTH (FT)	STRANDS (NMBR)	ECCENTRICITY END (INCHES)	ECCENTRICITY MIDDLE (INCHES)	DESIGN FPCI (KSI)	DESIGN FPC (KSI)	**CAMBER STATISTICS** ACTL.	MEAN	STD. DEV.	T-VAL
80	1	1	54	66.00	24	15.20	20.53	5.3	6.4	1.86	1.75	0.261	0.417
80	1	2	54	66.00	24	15.20	20.53	5.3	6.4	1.86	1.75	0.261	0.418
80	1	3	54	66.00	24	15.20	20.53	5.3	6.4	1.44	1.75	0.261	-1.194
80	1	4	54	66.00	24	15.20	20.53	5.3	6.4	1.80	1.75	0.261	0.187
80	1	5	54	66.00	24	15.20	20.53	5.3	6.4	1.50	1.75	0.261	-0.964
80	1	6	54	66.00	24	15.20	20.53	5.3	6.4	1.62	1.75	0.261	-0.503
80	1	7	54	66.00	24	15.20	20.53	5.3	6.4	1.62	1.75	0.261	-0.504
80	1	8	54	66.00	24	15.20	20.53	5.3	6.4	1.86	1.75	0.261	0.418
80	1	9	54	66.00	24	15.20	20.53	5.3	6.4	1.68	1.75	0.261	-0.273
80	1	10	54	66.00	24	15.20	20.53	5.3	6.4	1.38	1.75	0.261	-1.425
80	1	11	54	66.00	24	15.20	20.53	5.3	6.4	1.62	1.75	0.261	-0.503
80	1	12	54	66.00	24	15.20	20.53	5.3	6.4	1.26	1.75	0.261	-1.886
80	1	13	54	66.00	24	15.20	20.53	5.3	6.4	1.68	1.75	0.261	-0.274
80	1	14	54	66.00	24	15.20	20.53	5.3	6.4	1.80	1.75	0.261	0.187
80	1	15	54	66.00	24	15.20	20.53	5.3	6.4	2.58	1.75	0.261	3.180
80	1	16	54	66.00	24	15.20	20.53	5.3	6.4	1.92	1.75	0.261	0.647
80	3	1	54	66.00	24	15.20	20.53	5.3	6.4	1.62	1.75	0.261	-0.503
80	3	2	54	66.00	24	15.20	20.53	5.3	6.4	1.80	1.75	0.261	0.187
80	3	3	54	66.00	24	15.20	20.53	5.3	6.4	1.32	1.75	0.261	-1.655
80	3	4	54	66.00	24	15.20	20.53	5.3	6.4	2.04	1.75	0.261	1.108
80	3	5	54	66.00	24	15.20	20.53	5.3	6.4	1.50	1.75	0.261	-0.964
80	3	6	54	66.00	24	15.20	20.53	5.3	6.4	2.04	1.75	0.261	1.108
80	3	7	54	66.00	24	15.20	20.53	5.3	6.4	1.86	1.75	0.261	0.417
80	3	8	54	66.00	24	15.20	20.53	5.3	6.4	1.98	1.75	0.261	0.877
80	3	9	54	66.00	24	15.20	20.53	5.3	6.4	1.80	1.75	0.261	0.187
80	3	10	54	66.00	24	15.20	20.53	5.3	6.4	1.62	1.75	0.261	-0.503
80	3	11	54	66.00	24	15.20	20.53	5.3	6.4	1.92	1.75	0.261	0.647
80	3	12	54	66.00	24	15.20	20.53	5.3	6.4	1.80	1.75	0.261	0.187
80	3	13	54	66.00	24	15.20	20.53	5.3	6.4	1.80	1.75	0.261	0.187
80	3	14	54	66.00	24	15.20	20.53	5.3	6.4	1.50	1.75	0.261	-0.964
80	3	15	54	66.00	24	15.20	20.53	5.3	6.4	2.10	1.75	0.261	1.338
80	3	16	54	66.00	24	15.20	20.53	5.3	6.4	1.86	1.75	0.261	0.417
81	1	1	54	66.00	24	15.20	20.53	5.3	6.4	1.62	1.73	0.265	-0.398
81	1	2	54	66.00	24	15.20	20.53	5.3	6.4	1.92	1.73	0.265	0.733
81	1	3	54	66.00	24	15.20	20.53	5.3	6.4	1.98	1.73	0.265	0.959
81	1	4	54	66.00	24	15.20	20.53	5.3	6.4	1.92	1.73	0.265	0.733
81	1	5	54	66.00	24	15.20	20.53	5.3	6.4	1.74	1.73	0.265	0.055
81	1	6	54	66.00	24	15.20	20.53	5.3	6.4	2.10	1.73	0.265	1.411
81	1	7	54	66.00	24	15.20	20.53	5.3	6.4	1.92	1.73	0.265	0.733
81	1	8	54	66.00	24	15.20	20.53	5.3	6.4	1.38	1.73	0.265	-1.301
81	1	9	54	66.00	24	15.20	20.53	5.3	6.4	1.44	1.73	0.265	-1.076
81	1	10	54	66.00	24	15.20	20.53	5.3	6.4	2.10	1.73	0.265	1.411
81	1	11	54	66.00	24	15.20	20.53	5.3	6.4	2.10	1.73	0.265	1.411

IDENT	SPAN NMBR	BEAM NMBR	BEAM TYPE	SPAN LGTH (FT)	STRANDS (NMBR)	ECCENTRICITY END (INCHES)	ECCENTRICITY MIDDLE (INCHES)	DESIGN FPCI (KSI)	DESIGN FPC (KSI)	**CAMBER STATISTICS** ACTL.	MEAN	STD. DEV.	T-VAL
81	1	12	54	66.00	24	15.20	20.53	5.3	6.4	2.10	1.73	0.265	1.411
81	1	13	54	66.00	24	15.20	20.53	5.3	6.4	1.80	1.73	0.265	0.281
81	1	14	54	66.00	24	15.20	20.53	5.3	6.4	1.80	1.73	0.265	0.281
81	1	15	54	66.00	24	15.20	20.53	5.3	6.4	1.92	1.73	0.265	0.733
81	1	16	54	66.00	24	15.20	20.53	5.3	6.4	1.80	1.73	0.265	0.281
81	3	1	54	66.00	24	15.20	20.53	5.3	6.4	1.80	1.73	0.265	0.281
81	3	1	54	66.00	24	15.20	20.53	5.3	6.4	1.80	1.73	0.265	0.281
81	3	2	54	66.00	24	15.20	20.53	5.3	6.4	1.38	1.73	0.265	-1.301
81	3	3	54	66.00	24	15.20	20.53	5.3	6.4	2.22	1.73	0.265	1.863
81	3	4	54	66.00	24	15.20	20.53	5.3	6.4	1.68	1.73	0.265	-0.171
81	3	5	54	66.00	24	15.20	20.53	5.3	6.4	1.98	1.73	0.265	0.959
81	3	6	54	66.00	24	15.20	20.53	5.3	6.4	1.44	1.73	0.265	-1.076
81	3	7	54	66.00	24	15.20	20.53	5.3	6.4	1.62	1.73	0.265	-0.397
81	3	8	54	66.00	24	15.20	20.53	5.3	6.4	1.56	1.73	0.265	-0.623
81	3	9	54	66.00	24	15.20	20.53	5.3	6.4	1.68	1.73	0.265	-0.171
81	3	10	54	66.00	24	15.20	20.53	5.3	6.4	1.38	1.73	0.265	-1.302
81	3	11	54	66.00	24	15.20	20.53	5.3	6.4	1.68	1.73	0.265	-0.171
81	3	12	54	66.00	24	15.20	20.53	5.3	6.4	1.62	1.73	0.265	-0.398
81	3	13	54	66.00	24	15.20	20.53	5.3	6.4	1.26	1.73	0.265	-1.753
81	3	14	54	66.00	24	15.20	20.53	5.3	6.4	1.32	1.73	0.265	-1.528
81	3	15	54	66.00	24	15.20	20.53	5.3	6.4	1.38	1.73	0.265	-1.302
81	3	16	54	66.00	24	15.20	20.53	5.3	6.4	1.50	1.73	0.265	-0.850
82	1	1	54	66.00	24	15.20	20.53	5.3	6.4	1.80	1.47	0.182	1.818
82	1	2	54	66.00	24	15.20	20.53	5.3	6.4	1.68	1.47	0.182	1.156
82	1	3	54	66.00	24	15.20	20.53	5.3	6.4	1.50	1.47	0.182	0.166
82	1	4	54	66.00	24	15.20	20.53	5.3	6.4	1.44	1.47	0.182	-0.166
82	1	5	54	66.00	24	15.20	20.53	5.3	6.4	1.14	1.47	0.182	-1.817
82	1	6	54	66.00	24	15.20	20.53	5.3	6.4	1.50	1.47	0.182	0.165
82	1	7	54	66.00	24	15.20	20.53	5.3	6.4	1.56	1.47	0.182	0.496
82	1	8	54	66.00	24	15.20	20.53	5.3	6.4	1.38	1.47	0.182	-0.495
82	1	9	54	66.00	24	15.20	20.53	5.3	6.4	1.62	1.47	0.182	0.825
82	1	10	54	66.00	24	15.20	20.53	5.3	6.4	1.38	1.47	0.182	-0.495
82	1	11	54	66.00	24	15.20	20.53	5.3	6.4	1.56	1.47	0.182	0.496
82	1	12	54	66.00	24	15.20	20.53	5.3	6.4	1.56	1.47	0.182	0.496
82	1	13	54	66.00	24	15.20	20.53	5.3	6.4	1.44	1.47	0.182	-0.166
82	1	14	54	66.00	24	15.20	20.53	5.3	6.4	1.32	1.47	0.182	-0.826
82	1	15	54	66.00	24	15.20	20.53	5.3	6.4	1.26	1.47	0.182	-1.156
82	1	16	54	66.00	24	15.20	20.53	5.3	6.4	1.32	1.47	0.182	-0.826
82	3	1	54	66.00	24	15.20	20.53	5.3	6.4	1.68	1.47	0.182	1.156
82	3	2	54	66.00	24	15.20	20.53	5.3	6.4	1.38	1.47	0.182	-0.495
82	3	3	54	66.00	24	15.20	20.53	5.3	6.4	1.74	1.47	0.182	1.487
82	3	4	54	66.00	24	15.20	20.53	5.3	6.4	1.62	1.47	0.182	0.826
82	3	5	54	66.00	24	15.20	20.53	5.3	6.4	1.26	1.47	0.182	-1.157

IDENT	SPAN NMBR	BEAM NMBR	BEAM TYPE	SPAN LGTH (FT)	STRANDS (NMBR)	ECCENTRICITY END (INCHES)	ECCENTRICITY MIDDLE (INCHES)	DESIGN FPCI (KSI)	DESIGN FPC (KSI)	**CAMBER ACTL.	MEAN	STATISTICS** STD. DEV.	T-VAL
82	3	6	54	66.00	24	15.20	20.53	5.3	6.4	1.38	1.47	0.182	-0.496
82	3	7	54	66.00	24	15.20	20.53	5.3	6.4	1.32	1.47	0.182	-0.826
82	3	8	54	66.00	24	15.20	20.53	5.3	6.4	1.38	1.47	0.182	-0.495
82	3	9	54	66.00	24	15.20	20.53	5.3	6.4	1.68	1.47	0.182	1.156
82	3	10	54	66.00	24	15.20	20.53	5.3	6.4	1.56	1.47	0.182	0.496
82	3	11	54	66.00	24	15.20	20.53	5.3	6.4	1.08	1.47	0.182	-2.147
82	3	12	54	66.00	24	15.20	20.53	5.3	6.4	1.68	1.47	0.182	1.156
82	3	13	54	66.00	24	15.20	20.53	5.3	6.4	1.20	1.47	0.182	-1.487
82	3	14	54	66.00	24	15.20	20.53	5.3	6.4	1.62	1.47	0.182	0.826
82	3	15	54	66.00	24	15.20	20.53	5.3	6.4	1.38	1.47	0.182	-0.495
82	3	16	54	66.00	24	15.20	20.53	5.3	6.4	1.62	1.47	0.182	0.826
83	5	1	54	66.00	32	11.91	18.37	4.2	5.0	1.26	0.94	0.436	0.743
83	5	2	54	66.00	32	11.91	18.37	4.2	5.0	1.02	0.94	0.436	0.193
83	5	3	54	66.00	32	11.91	18.37	4.2	5.0	1.02	0.94	0.436	0.193
83	5	4	54	66.00	32	11.91	18.37	4.2	5.0	0.18	0.94	0.436	-1.734
83	5	5	54	66.00	32	11.91	18.37	4.2	5.0	1.20	0.94	0.436	0.606
84	1	1	54	65.00	16	15.53	15.53			0.30	0.36	0.142	-0.422
84	1	2	54	65.00	16	15.53	15.53			0.42	0.36	0.142	0.422
84	1	3	54	65.00	16	15.53	15.53			0.30	0.36	0.142	-0.422
84	1	4	54	65.00	16	15.53	15.53			0.42	0.36	0.142	0.422
84	4	1	54	65.00	16	15.53	15.53			0.24	0.36	0.142	-0.845
84	4	2	54	65.00	16	15.53	15.53			0.36	0.36	0.142	0.001
84	4	3	54	65.00	16	15.53	15.53			0.18	0.36	0.142	-1.268
84	4	4	54	65.00	16	15.53	15.53			0.36	0.36	0.142	0.001
84	1	1	54	65.00	16	15.53	15.53			0.24	0.36	0.142	-0.845
84	1	2	54	65.00	16	15.53	15.53			0.78	0.36	0.142	2.958
84	1	3	54	65.00	16	15.53	15.53			0.48	0.36	0.142	0.845
84	1	4	54	65.00	16	15.53	15.53			0.24	0.36	0.142	-0.845
84	4	1	54	65.00	16	15.53	15.53			0.36	0.36	0.142	-0.001
84	4	2	54	65.00	16	15.53	15.53			0.48	0.36	0.142	0.845
84	4	3	54	65.00	16	15.53	15.53			0.30	0.36	0.142	-0.422
84	4	4	54	65.00	16	15.53	15.53			0.30	0.36	0.142	-0.424
85	10	1	54	60.00	26	15.50	20.12	4.0	5.0	0.84	1.04	0.138	-1.477
85	10	2	54	60.00	26	15.50	20.12	4.0	5.0	1.02	1.04	0.138	-0.173
85	10	3	54	60.00	26	15.50	20.12	4.0	5.0	1.02	1.04	0.138	-0.175
85	10	4	54	60.00	26	15.50	20.12	4.0	5.0	1.14	1.04	0.138	0.695
85	10	5	54	60.00	26	15.50	20.12	4.0	5.0	1.20	1.04	0.138	1.130

IDENT	SPAN NMBR	BEAM NMBR	BEAM TYPE	SPAN LGTH (FT)	STRANDS (NMBR)	ECCENTRICITY END (INCHES)	ECCENTRICITY MIDDLE (INCHES)	DESIGN FPCI (KSI)	DESIGN FPC (KSI)	**CAMBER STATISTICS** ACTL.	MEAN	STD. DEV.	T-VAL
86	1	1	54	55.00	12	19.53	19.53	4.0	5.0	0.42	0.35	0.202	0.346
86	1	6	54	55.00	12	19.53	19.53	4.0	5.0	0.54	0.35	0.202	0.940
86	2	1	54	55.00	12	19.53	19.53	4.0	5.0	0.30	0.35	0.202	-0.247
86	2	6	54	55.00	12	19.53	19.53	4.0	5.0	0.30	0.35	0.202	-0.247
86	5	1	54	55.00	12	19.53	19.53	4.0	5.0	0.54	0.35	0.202	0.939
86	5	6	54	55.00	12	19.53	19.53	4.0	5.0	0.00	0.35	0.202	-1.730
87	1	1	54	50.00	12	19.20	22.53	4.0	5.0	0.60	0.68	0.150	-0.550
87	1	6	54	50.00	12	19.20	22.53	4.0	5.0	0.42	0.68	0.150	-1.747
87	3	1	54	50.00	12	19.20	22.53	4.0	5.0	0.78	0.68	0.150	0.649
87	3	2	54	50.00	12	19.20	22.53	4.0	5.0	0.54	0.68	0.150	-0.949
87	3	3	54	50.00	12	19.20	22.53	4.0	5.0	0.72	0.68	0.150	0.250
87	3	4	54	50.00	12	19.20	22.53	4.0	5.0	0.84	0.68	0.150	1.049
87	3	5	54	50.00	12	19.20	22.53	4.0	5.0	0.84	0.68	0.150	1.049
87	3	6	54	50.00	12	19.20	22.53	4.0	5.0	0.72	0.68	0.150	0.250
88	1	1	54	40.00	10	20.73	20.73	4.0	5.0	0.66	0.55	0.241	0.448
88	1	2	54	40.00	10	20.73	20.73	4.0	5.0	0.72	0.55	0.241	0.696
88	1	3	54	40.00	10	20.73	20.73	4.0	5.0	0.48	0.55	0.241	-0.299
88	1	4	54	40.00	10	20.73	20.73	4.0	5.0	0.48	0.55	0.241	-0.299
88	1	5	54	40.00	10	20.73	20.73	4.0	5.0	0.42	0.55	0.241	-0.547
88	3	1	54	40.00	10	20.73	20.73	4.0	5.0	0.12	0.55	0.241	-1.790
88	3	2	54	40.00	10	20.73	20.73	4.0	5.0	1.02	0.55	0.241	1.939
88	3	3	54	40.00	10	20.73	20.73	4.0	5.0	0.66	0.55	0.241	0.448
88	3	4	54	40.00	10	20.73	20.73	4.0	5.0	0.36	0.55	0.241	-0.796
88	3	5	54	40.00	10	20.73	20.73	4.0	5.0	0.60	0.55	0.241	0.199
89	1	1	54	40.00	10	20.73	20.73	4.0	5.0	0.30	0.46	0.234	-0.668
89	1	2	54	40.00	10	20.73	20.73	4.0	5.0	0.42	0.46	0.234	-0.154
89	1	3	54	40.00	10	20.73	20.73	4.0	5.0	1.02	0.46	0.234	2.414
89	1	4	54	40.00	10	20.73	20.73	4.0	5.0	0.42	0.46	0.234	-0.154
89	1	5	54	40.00	10	20.73	20.73	4.0	5.0	0.24	0.46	0.234	-0.925
89	3	1	54	40.00	10	20.73	20.73	4.0	5.0	0.30	0.46	0.234	-0.668
89	3	2	54	40.00	10	20.73	20.73	4.0	5.0	0.54	0.46	0.234	0.359
89	3	3	54	40.00	10	20.73	20.73	4.0	5.0	0.60	0.46	0.234	0.617
89	3	4	54	40.00	10	20.73	20.73	4.0	5.0	0.48	0.46	0.234	0.103
89	3	5	54	40.00	10	20.73	20.73	4.0	5.0	0.24	0.46	0.234	-0.925
90	1	1	54	40.00	10	20.73	20.73	4.0	5.0	0.36	0.35	0.115	0.052
90	1	2	54	40.00	10	20.73	20.73	4.0	5.0	0.36	0.35	0.115	0.052
90	1	3	54	40.00	10	20.73	20.73	4.0	5.0	0.54	0.35	0.115	1.621

IDENT	SPAN NMBR	BEAM NMBR	BEAM TYPE	SPAN LGTH (FT)	STRANDS (NMBR)	ECCENTRICITY END (INCHES)	ECCENTRICITY MIDDLE (INCHES)	DESIGN FPCI (KSI)	DESIGN FPC (KSI)	**CAMBER ACTL.	MEAN	STD. DEV.	T-VAL STATISTICS**
90	1	4	54	40.00	10	20.73	20.73	4.0	5.0	0.30	0.35	0.115	-0.470
90	1	5	54	40.00	10	20.73	20.73	4.0	5.0	0.36	0.35	0.115	0.052
90	3	1	54	40.00	10	20.73	20.73	4.0	5.0	0.24	0.35	0.115	-0.995
90	3	2	54	40.00	10	20.73	20.73	4.0	5.0	0.42	0.35	0.115	0.576
90	3	3	54	40.00	10	20.73	20.73	4.0	5.0	0.42	0.35	0.115	0.576
90	3	4	54	40.00	10	20.73	20.73	4.0	5.0	0.42	0.35	0.115	0.576
90	3	5	54	40.00	10	20.73	20.73	4.0	5.0	0.12	0.35	0.115	-2.040
91	1	1	54	40.00	10	20.73	20.73	4.0	5.0	0.42	0.40	0.170	0.141
91	1	2	54	40.00	10	20.73	20.73	4.0	5.0	0.54	0.40	0.170	0.846
91	1	3	54	40.00	10	20.73	20.73	4.0	5.0	0.66	0.40	0.170	1.551
91	1	4	54	40.00	10	20.73	20.73	4.0	5.0	0.18	0.40	0.170	-1.270
91	1	5	54	40.00	10	20.73	20.73	4.0	5.0	0.54	0.40	0.170	0.846
91	3	1	54	40.00	10	20.73	20.73	4.0	5.0	0.36	0.40	0.170	-0.212
91	3	2	54	40.00	10	20.73	20.73	4.0	5.0	0.42	0.40	0.170	0.141
91	3	3	54	40.00	10	20.73	20.73	4.0	5.0	0.18	0.40	0.170	-1.269
91	3	4	54	40.00	10	20.73	20.73	4.0	5.0	0.48	0.40	0.170	0.494
91	3	5	54	40.00	10	20.73	20.73	4.0	5.0	0.18	0.40	0.170	-1.270
92	1	1	54	40.00	12	19.53	19.53	4.0	5.0	0.36	0.33	0.032	1.054
92	1	2	54	40.00	12	19.53	19.53	4.0	5.0	0.30	0.33	0.032	-0.843
92	1	3	54	40.00	12	19.53	19.53	4.0	5.0	0.30	0.33	0.032	-0.843
92	1	4	54	40.00	12	19.53	19.53	4.0	5.0	0.36	0.33	0.032	1.054
92	1	5	54	40.00	12	19.53	19.53	4.0	5.0	0.30	0.33	0.032	-0.843
92	3	1	54	40.00	12	19.53	19.53	4.0	5.0	0.36	0.33	0.032	1.054
92	3	2	54	40.00	12	19.53	19.53	4.0	5.0	0.30	0.33	0.032	-0.843
92	3	3	54	40.00	12	19.53	19.53	4.0	5.0	0.36	0.33	0.032	1.054
92	3	4	54	40.00	12	19.53	19.53	4.0	5.0	0.30	0.33	0.032	-0.843
93	2	1	C	88.00	40	5.99	11.99	5.5	6.8	2.52	2.67	0.498	-0.293
93	2	2	C	88.00	40	5.99	11.99	5.5	6.8	2.82	2.67	0.498	0.310
93	2	3	C	88.00	40	5.99	11.99	5.5	6.8	2.58	2.67	0.498	-0.172
93	2	4	C	88.00	40	5.99	11.99	5.5	6.8	2.52	2.67	0.498	-0.293
93	2	5	C	88.00	40	5.99	11.99	5.5	6.8	2.28	2.67	0.498	-0.775
93	2	6	C	88.00	40	5.99	11.99	5.5	6.8	2.04	2.67	0.498	-1.257
93	2	7	C	88.00	40	5.99	11.99	5.5	6.8	3.54	2.67	0.498	1.756
93	2	1	C	88.00	40	5.99	11.99	5.5	6.8	2.64	2.67	0.498	-0.052
93	2	2	C	88.00	40	5.99	11.99	5.5	6.8	2.52	2.67	0.498	-0.293
93	2	3	C	88.00	40	5.99	11.99	5.5	6.8	2.70	2.67	0.498	0.069
93	2	4	C	88.00	40	5.99	11.99	5.5	6.8	2.82	2.67	0.498	0.310
93	2	5	C	88.00	40	5.99	11.99	5.5	6.8	2.64	2.67	0.498	-0.052
93	2	6	C	88.00	40	5.99	11.99	5.5	6.8	1.92	2.67	0.498	-1.498

IDENT	SPAN NMBR	BEAM NMBR	BEAM TYPE	SPAN LGTH (FT)	STRANDS (NMBR)	ECCENTRICITY END (INCHES)	ECCENTRICITY MIDDLE (INCHES)	DESIGN FPCI (KSI)	DESIGN FPC (KSI)	**CAMBER STATISTICS** ACTL.	MEAN	STD. DEV.	T-VAL
93	2	7	C	88.00	40	5.99	11.99	5.5	6.8	3.78	2.67	0.498	2.238
94	2	1	C	85.00	34	12.60	16.97	5.7	6.8	3.36	4.07	0.595	-1.188
94	2	2	C	85.00	34	12.60	16.97	5.7	6.8	3.54	4.07	0.595	-0.885
94	2	3	C	85.00	34	12.60	16.97	5.7	6.8	3.54	4.07	0.595	-0.885
94	2	4	C	85.00	34	12.60	16.97	[illegible]	6.8	4.14	4.07	0.595	0.122
94	2	5	C	85.00	34	12.60	16.97	5.7	6.8	3.60	4.07	0.595	-0.785
94	2	6	C	85.00	34	12.60	16.97	5.7	6.8	4.32	4.07	0.595	0.425
94	2	7	C	85.00	34	12.60	16.97	5.7	6.8	4.68	4.07	0.595	1.029
94	3	1	C	85.00	34	12.60	16.97	5.7	6.8	3.06	4.07	0.595	-1.691
94	3	2	C	85.00	34	12.60	16.97	5.7	6.8	4.56	4.07	0.595	0.828
94	3	3	C	85.00	34	12.60	16.97	5.7	6.8	4.92	4.07	0.595	1.432
94	3	4	C	85.00	34	12.60	16.97	5.7	6.8	4.62	4.07	0.595	0.928
94	3	5	C	85.00	34	12.60	16.97	5.7	6.8	4.56	4.07	0.595	0.828
94	3	6	C	85.00	34	12.60	16.97	5.7	6.8	3.60	4.07	0.595	-0.785
94	3	7	C	85.00	34	12.60	16.97	5.7	6.8	4.44	4.07	0.595	0.626
95	3	1	C	85.00	34	12.60	16.97	5.7	6.8	3.48	4.20	0.675	-1.061
95	3	2	C	85.00	34	12.60	16.97	5.7	6.8	3.90	4.20	0.675	-0.438
95	3	3	C	85.00	34	12.60	16.97	5.7	6.8	4.74	4.20	0.675	0.807
95	3	4	C	85.00	34	12.60	16.97	5.7	6.8	3.42	4.20	0.675	-1.150
95	3	5	C	85.00	34	12.60	16.97	5.7	6.8	4.38	4.20	0.675	0.273
95	3	6	C	85.00	34	12.60	16.97	5.7	6.8	3.30	4.20	0.675	-1.328
95	3	7	C	85.00	34	12.60	16.97	5.7	6.8	4.20	4.20	0.675	0.006
95	2	1	C	85.00	34	12.60	16.97	5.7	6.8	3.12	4.20	0.675	-1.595
95	2	2	C	85.00	34	12.60	16.97	5.7	6.8	4.44	4.20	0.675	0.362
95	2	3	C	85.00	34	12.60	16.97	5.7	6.8	3.96	4.20	0.675	-0.349
95	2	4	C	85.00	34	12.60	16.97	5.7	6.8	4.92	4.20	0.675	1.074
95	2	5	C	85.00	34	12.60	16.97	5.7	6.8	4.86	4.20	0.675	0.985
95	2	6	C	85.00	34	12.60	16.97	5.7	6.8	4.92	4.20	0.675	1.074
95	2	7	C	85.00	34	12.60	16.97	5.7	6.8	5.10	4.20	0.675	1.341
96	2	1	C	85.00	30	6.69	13.09	5.0	6.1	1.86	2.00	0.172	-0.827
96	2	2	C	85.00	30	6.69	13.09	5.0	6.1	1.62	2.00	0.172	-2.219
96	2	3	C	85.00	30	6.69	13.09	5.0	6.1	1.86	2.00	0.172	-0.827
96	2	4	C	85.00	30	6.69	13.09	5.0	6.1	2.04	2.00	0.172	0.218
96	2	5	C	85.00	30	6.69	13.09	5.0	6.1	1.80	2.00	0.172	-1.175
96	2	6	C	85.00	30	6.69	13.09	5.0	6.1	2.28	2.00	0.172	1.610
96	2	7	C	85.00	30	6.69	13.09	5.0	6.1	1.98	2.00	0.172	-0.131
96	2	8	C	85.00	30	6.69	13.09	5.0	6.1	1.92	2.00	0.172	-0.479
96	3	1	C	85.00	30	6.69	13.09	5.0	6.1	1.98	2.00	0.172	-0.131
96	3	2	C	85.00	30	6.69	13.09	5.0	6.1	1.98	2.00	0.172	-0.131

IDENT	SPAN NMBR	BEAM NMBR	TYPE	SPAN LGTH (FT)	STRANDS (NMBR)	ECCENTRICITY END (INCHES)	ECCENTRICITY MIDDLE (INCHES)	DESIGN FPCI (KSI)	DESIGN FPC (KSI)	**CAMBER ACTL.	MEAN	STD. DEV.	T-VAL STATISTICS**
96	3	3	C	85.00	30	6.69	13.09	5.0	6.1	2.16	2.00	0.172	0.914
96	3	4	C	85.00	30	6.69	13.09	5.0	6.1	1.92	2.00	0.172	-0.479
96	3	5	C	85.00	30	6.69	13.09	5.0	6.1	2.16	2.00	0.172	0.914
96	3	6	C	85.00	30	6.69	13.09	5.0	6.1	2.16	2.00	0.172	0.914
96	3	7	C	85.00	30	6.69	13.09	5.0	6.1	2.16	2.00	0.172	0.914
96	3	8	C	85.00	30	6.69	13.09	5.0	6.1	2.16	2.00	0.172	0.914
97	1	1	C	85.00	32	6.84	12.84	5.3	6.4	2.46	2.34	0.292	0.411
97	1	2	C	85.00	32	6.84	12.84	5.3	6.4	1.98	2.34	0.292	-1.233
97	1	3	C	85.00	32	6.84	12.84	5.3	6.4	2.22	2.34	0.292	-0.411
97	1	4	C	85.00	32	6.84	12.84	5.3	6.4	2.52	2.34	0.292	0.617
97	1	5	C	85.00	32	6.84	12.84	5.3	6.4	2.76	2.34	0.292	1.439
97	1	6	C	85.00	32	6.84	12.84	5.3	6.4	2.46	2.34	0.292	0.411
97	1	7	C	85.00	32	6.84	12.84	5.3	6.4	1.98	2.34	0.292	-1.233
98	2	1	C	85.00	38	5.93	12.52	5.4	6.2	2.16	2.12	0.278	0.144
98	2	2	C	85.00	38	5.93	12.52	5.4	6.2	2.40	2.12	0.278	1.006
98	2	3	C	85.00	38	5.93	12.52	5.4	6.2	2.16	2.12	0.278	0.143
98	2	4	C	85.00	38	5.93	12.52	5.4	6.2	2.46	2.12	0.278	1.221
98	2	5	C	85.00	38	5.93	12.52	5.4	6.2	2.10	2.12	0.278	-0.071
98	3	1	C	85.00	38	5.93	12.52	5.4	6.2	1.44	2.12	0.278	-2.443
98	3	2	C	85.00	38	5.93	12.52	5.4	6.2	2.16	2.12	0.278	0.144
98	3	3	C	85.00	38	5.93	12.52	5.4	6.2	1.86	2.12	0.278	-0.934
98	3	4	C	85.00	38	5.93	12.52	5.4	6.2	2.28	2.12	0.278	0.575
98	3	5	C	85.00	38	5.93	12.52	5.4	6.2	2.10	2.12	0.278	-0.072
98	4	1	C	85.00	38	5.93	12.52	5.4	6.2	1.92	2.12	0.278	-0.719
98	4	2	C	85.00	38	5.93	12.52	5.4	6.2	2.22	2.12	0.278	0.359
98	4	3	C	85.00	38	5.93	12.52	5.4	6.2	1.86	2.12	0.278	-0.934
98	4	4	C	85.00	38	5.93	12.52	5.4	6.2	2.58	2.12	0.278	1.652
98	4	5	C	85.00	38	5.93	12.52	5.4	6.2	2.10	2.12	0.278	-0.072
99	3	1	C	85.00	30	6.69	13.09	5.0	6.2	1.98	2.06	0.220	-0.364
99	3	2	C	85.00	30	6.69	13.09	5.0	6.2	2.46	2.06	0.220	1.817
99	3	3	C	85.00	30	6.69	13.09	5.0	6.2	1.86	2.06	0.220	-0.908
99	3	4	C	85.00	30	6.69	13.09	5.0	6.2	1.98	2.06	0.220	-0.363
99	3	5	C	85.00	30	6.69	13.09	5.0	6.2	2.16	2.06	0.220	0.454
99	3	6	C	85.00	30	6.69	13.09	5.0	6.2	1.92	2.06	0.220	-0.636
100	14	1	C	81.25	0	7.49	13.09			1.98	2.19	0.606	-0.341
100	14	2	C	81.25	0	7.49	13.09			2.16	2.19	0.606	-0.044
100	14	3	C	81.25	0	7.49	13.09			2.52	2.19	0.606	0.550

IDENT	SPAN NMBR	BEAM NMBR	BEAM TYPE	SPAN LGTH (FT)	STRANDS (NMBR)	ECCENTRICITY END (INCHES)	ECCENTRICITY MIDDLE (INCHES)	DESIGN FPCI (KSI)	DESIGN FPC (KSI)	**CAMBER STATISTICS** ACTL.	MEAN	STD. DEV.	T-VAL
100	14	4	C	81.25	0	7.49	13.09			2.04	2.19	0.606	-0.242
100	14	5	C	81.25	0	7.49	13.09			2.16	2.19	0.606	-0.044
100	14	6	C	81.25	0	7.49	13.09			2.64	2.19	0.606	0.748
100	14	7	C	81.25	0	7.49	13.09			1.44	2.19	0.606	-1.233
100	15	1	C	81.25	0	7.49	13.09			1.74	2.19	0.606	-0.738
100	15	2	C	81.25	0	7.49	13.09			2.52	2.19	0.606	0.550
100	15	3	C	81.25	0	7.49	13.09			1.08	2.19	0.606	-1.827
100	15	4	C	81.25	0	7.49	13.09			3.66	2.19	0.606	2.433
100	15	5	C	81.25	0	7.49	13.09			2.10	2.19	0.606	-0.143
100	15	6	C	81.25	0	7.49	13.09			2.34	2.19	0.606	0.253
100	15	7	C	81.25	0	7.49	13.09			2.22	2.19	0.606	0.055
100	16	1	C	81.25	0	7.49	13.09			2.28	2.19	0.606	0.154
100	16	2	C	81.25	0	7.49	13.09			2.22	2.19	0.606	0.055
100	16	3	C	81.25	0	7.49	13.09			2.52	2.19	0.606	0.550
100	16	4	C	81.25	0	7.49	13.09			2.46	2.19	0.606	0.451
100	16	5	C	81.25	0	7.49	13.09			2.10	2.19	0.606	-0.143
100	16	6	C	81.25	0	7.49	13.09			2.52	2.19	0.606	0.550
100	16	7	C	81.25	0	7.49	13.09			0.24	2.19	0.606	-3.215
100	17	2	C	81.25	0	7.49	13.09			2.10	2.19	0.606	-0.143
100	17	3	C	81.25	0	7.49	13.09			2.88	2.19	0.606	1.145
100	17	4	C	81.25	0	7.49	13.09			2.52	2.19	0.606	0.550
100	17	5	C	81.25	0	7.49	13.09			2.52	2.19	0.606	0.550
100	17	6	C	81.25	0	7.49	13.09			2.04	2.19	0.606	-0.242
100	17	7	C	81.25	0	7.49	13.09			2.04	2.19	0.606	-0.242
101	3	1	C	81.23	30	7.09	13.09			2.76	2.91	0.801	-0.192
101	3	2	C	81.23	30	7.09	13.09			3.12	2.91	0.801	0.257
101	3	3	C	81.23	30	7.09	13.09			3.12	2.91	0.801	0.257
101	3	4	C	81.23	30	7.09	13.09			3.42	2.91	0.801	0.631
101	3	5	C	81.23	30	7.09	13.09			3.30	2.91	0.801	0.482
101	3	6	C	81.23	30	7.09	13.09			3.12	2.91	0.801	0.257
101	3	7	C	81.23	30	7.09	13.09			2.04	2.91	0.801	-1.091
101	4	1	C	81.23	30	7.09	13.09			1.98	2.91	0.801	-1.166
101	4	2	C	81.23	30	7.09	13.09			2.70	2.91	0.801	-0.268
101	4	3	C	81.23	30	7.09	13.09			2.64	2.91	0.801	-0.342
101	4	4	C	81.23	30	7.09	13.09			2.22	2.91	0.801	-0.867
101	4	5	C	81.23	30	7.09	13.09			2.64	2.91	0.801	-0.342
101	4	6	C	81.23	30	7.09	13.09			5.22	2.91	0.801	2.878
101	4	7	C	81.23	30	7.09	13.09			2.52	2.91	0.801	-0.492
102	2	1	C	80.00	38	6.77	13.25	5.5	6.5	2.22	2.25	0.152	-0.196
102	2	2	C	80.00	38	6.77	13.25	5.5	6.5	2.28	2.25	0.152	0.198
102	2	3	C	80.00	38	6.77	13.25	5.5	6.5	2.28	2.25	0.152	0.197

IDENT	SPAN NMBR	BEAM NMBR	BEAM TYPE	SPAN LGTH (FT)	STRANDS (NMBR)	ECCENTRICITY END (INCHES)	ECCENTRICITY MIDDLE (INCHES)	DESIGN FPCI (KSI)	DESIGN FPC (KSI)	**CAMBER STATISTICS** ACTL.	MEAN	STD. DEV.	T-VAL
102	2	4	C	80.00	38	6.77	13.25	5.5	6.5	2.10	2.25	0.152	-0.984
102	2	5	C	80.00	38	6.77	13.25	5.5	6.5	2.22	2.25	0.152	-0.197
102	2	6	C	80.00	38	6.77	13.25	5.5	6.5	2.34	2.25	0.152	0.589
102	2	1	C	80.00	38	6.77	13.25	5.5	6.5	2.40	2.25	0.152	0.983
102	2	2	C	80.00	38	6.77	13.25	5.5	6.5	2.04	2.25	0.152	-1.377
102	2	3	C	80.00	38	6.77	13.25	5.5	6.5	2.58	2.25	0.152	2.165
102	2	4	C	80.00	38	6.77	13.25	5.5	6.5	2.04	2.25	0.152	-1.378
102	2	5	C	80.00	38	6.77	13.25	5.5	6.5	2.22	2.25	0.152	-0.196
102	2	6	C	80.00	38	6.77	13.25	5.5	6.5	2.28	2.25	0.152	0.197
103	2	1	C	80.00	32	7.34	12.84	5.6	5.9	2.64	2.59	0.148	0.318
103	2	2	C	80.00	32	7.34	12.84	5.6	5.9	2.94	2.59	0.148	2.342
103	2	3	C	80.00	32	7.34	12.84	5.6	5.9	2.64	2.59	0.148	0.318
103	2	4	C	80.00	32	7.34	12.84	5.6	5.9	2.70	2.59	0.148	0.723
103	2	5	C	80.00	32	7.34	12.84	5.6	5.9	2.64	2.59	0.148	0.318
103	2	6	C	80.00	32	7.34	12.84	5.6	5.9	2.64	2.59	0.148	0.318
103	2	7	C	80.00	32	7.34	12.84	5.6	5.9	2.70	2.59	0.148	0.723
103	3	1	C	80.00	32	7.34	12.84	5.6	5.9	2.46	2.59	0.148	-0.898
103	3	2	C	80.00	32	7.34	12.84	5.6	5.9	2.52	2.59	0.148	-0.492
103	3	3	C	80.00	32	7.34	12.84	5.6	5.9	2.70	2.59	0.148	0.723
103	3	4	C	80.00	32	7.34	12.84	5.6	5.9	2.82	2.59	0.148	1.533
103	3	5	C	80.00	32	7.34	12.84	5.6	5.9	2.64	2.59	0.148	0.319
103	3	6	C	80.00	32	7.34	12.84	5.6	5.9	2.52	2.59	0.148	-0.492
103	3	7	C	80.00	32	7.34	12.84	5.6	5.9	2.82	2.59	0.148	1.534
103	4	1	C	80.00	32	7.34	12.84	5.6	5.9	2.64	2.59	0.148	0.318
103	4	2	C	80.00	32	7.34	12.84	5.6	5.9	2.40	2.59	0.148	-1.301
103	4	3	C	80.00	32	7.34	12.84	5.6	5.9	2.52	2.59	0.148	-0.492
103	4	4	C	80.00	32	7.34	12.84	5.6	5.9	2.64	2.59	0.148	0.318
103	4	5	C	80.00	32	7.34	12.84	5.6	5.9	2.40	2.59	0.148	-1.301
103	4	6	C	80.00	32	7.34	12.84	5.6	5.9	2.76	2.59	0.148	1.127
103	4	7	C	80.00	32	7.34	12.84	5.6	5.9	2.46	2.59	0.148	-0.896
103	6	1	C	80.00	32	7.34	12.84	5.6	5.9	2.64	2.59	0.148	0.318
103	6	2	C	80.00	32	7.34	12.84	5.6	5.9	2.64	2.59	0.148	0.319
103	6	3	C	80.00	32	7.34	12.84	5.6	5.9	2.34	2.59	0.148	-1.706
103	6	4	C	80.00	32	7.34	12.84	5.6	5.9	2.46	2.59	0.148	-0.897
103	6	5	C	80.00	32	7.34	12.84	5.6	5.9	2.52	2.59	0.148	-0.492
103	6	6	C	80.00	32	7.34	12.84	5.6	5.9	2.40	2.59	0.148	-1.302
103	6	7	C	80.00	32	7.34	12.84	5.6	5.9	2.40	2.59	0.148	-1.301
104	4	1	C	80.16	34	7.44	12.62	6.0	6.1	3.12	2.84	0.293	0.955
104	4	2	C	80.16	34	7.44	12.62	6.0	6.1	2.76	2.84	0.293	-0.273
104	4	3	C	80.16	34	7.44	12.62	6.0	6.1	2.34	2.84	0.293	-1.706
104	4	4	C	80.16	34	7.44	12.62	6.0	6.1	2.94	2.84	0.293	0.341

IDENT	SPAN NMBR	BEAM NMBR	TYPE	SPAN LGTH (FT)	STRANDS (NMBR)	ECCENTRICITY END (INCHES)	ECCENTRICITY MIDDLE (INCHES)	DESIGN FPCI (KSI)	DESIGN FPC (KSI)	**CAMBER STATISTICS** ACTL.	MEAN	STD. DEV.	T-VAL
104	4	5	C	80.16	34	7.44	12.62	6.0	6.1	2.76	2.84	0.293	-0.273
104	4	6	C	80.16	34	7.44	12.62	6.0	6.1	3.12	2.84	0.293	0.955
105	2	1	C	80.00	32	7.34	12.84	5.6	6.9	3.12	2.53	0.335	1.763
105	2	2	C	80.00	32	7.34	12.84	5.6	6.9	3.06	2.53	0.335	1.584
105	2	3	C	80.00	32	7.34	12.84	5.6	6.9	2.88	2.53	0.335	1.046
105	2	4	C	80.00	32	7.34	12.84	5.6	6.9	2.16	2.53	0.335	-1.106
105	2	5	C	80.00	32	7.34	12.84	5.6	6.9	2.34	2.53	0.335	-0.568
105	2	6	C	80.00	32	7.34	12.84	5.6	6.9	2.10	2.53	0.335	-1.285
105	2	7	C	80.00	32	7.34	12.84	5.6	6.9	2.34	2.53	0.335	-0.568
105	2	8	C	80.00	32	7.34	12.84	5.6	6.9	2.94	2.53	0.335	1.225
105	2	9	C	80.00	32	7.34	12.84	5.6	6.9	2.64	2.53	0.335	0.329
105	3	1	C	80.00	32	7.34	12.84	5.6	6.9	2.28	2.53	0.335	-0.747
105	3	2	C	80.00	32	7.34	12.84	5.6	6.9	2.52	2.53	0.335	-0.030
105	3	3	C	80.00	32	7.34	12.84	5.6	6.9	2.28	2.53	0.335	-0.747
105	3	4	C	80.00	32	7.34	12.84	5.6	6.9	2.70	2.53	0.335	0.508
105	3	5	C	80.00	32	7.34	12.84	5.6	6.9	2.70	2.53	0.335	0.508
105	3	6	C	80.00	32	7.34	12.84	5.6	6.9	2.52	2.53	0.335	-0.030
105	3	7	C	80.00	32	7.34	12.84	5.6	6.9	2.28	2.53	0.335	-0.747
105	3	8	C	80.00	32	7.34	12.84	5.6	6.9	2.70	2.53	0.335	0.508
105	3	9	C	80.00	32	7.34	12.84	5.6	6.9	1.98	2.53	0.335	-1.645
106	4	1	C	80.00	34	7.44	12.62	6.0	6.0	3.06	2.82	0.468	0.513
106	4	2	C	80.00	34	7.44	12.62	6.0	6.0	2.82	2.82	0.468	-0.000
106	4	3	C	80.00	34	7.44	12.62	6.0	6.0	2.22	2.82	0.468	-1.283
106	4	4	C	80.00	34	7.44	12.62	6.0	6.0	3.12	2.82	0.468	0.642
106	4	5	C	80.00	34	7.44	12.62	6.0	6.0	3.30	2.82	0.468	1.027
106	4	6	C	80.00	34	7.44	12.62	6.0	6.0	3.54	2.82	0.468	1.540
106	5	1	C	80.00	34	7.44	12.62	6.0	6.0	2.64	2.82	0.468	-0.385
106	5	2	C	80.00	34	7.44	12.62	6.0	6.0	2.76	2.82	0.468	-0.128
106	5	3	C	80.00	34	7.44	12.62	6.0	6.0	3.18	2.82	0.468	0.770
106	5	4	C	80.00	34	7.44	12.62	6.0	6.0	2.94	2.82	0.468	0.256
106	5	5	C	80.00	34	7.44	12.62	6.0	6.0	2.04	2.82	0.468	-1.668
106	5	6	C	80.00	34	7.44	12.62	6.0	6.0	2.22	2.82	0.468	-1.283
107	11	1	C	80.00	34	7.41	12.81	6.0	7.2	3.48	3.44	0.296	0.127
107	11	2	C	80.00	34	7.41	12.81	6.0	7.2	3.06	3.44	0.296	-1.294
107	11	3	C	80.00	34	7.41	12.81	6.0	7.2	3.42	3.44	0.296	-0.076
107	11	4	C	80.00	34	7.41	12.81	6.0	7.2	3.30	3.44	0.296	-0.482
107	11	5	C	80.00	34	7.41	12.81	6.0	7.2	3.24	3.44	0.296	-0.685
107	11	6	C	80.00	34	7.41	12.81	6.0	7.2	3.30	3.44	0.296	-0.482
107	11	7	C	80.00	34	7.41	12.81	6.0	7.2	3.96	3.44	0.296	1.751

IDENT	SPAN NMBR	BEAM NMBR	BEAM TYPE	SPAN LGTH (FT)	STRANDS (NMBR)	ECCENTRICITY END (INCHES)	ECCENTRICITY MIDDLE (INCHES)	DESIGN FPCI (KSI)	DESIGN FPC (KSI)	**CAMBER STATISTICS** ACTL.	MEAN	STD. DEV.	T-VAL
107	11	8	C	80.00	34	7.41	12.81	6.0	7.2	3.78	3.44	0.296	1.142
108	5	1	C	80.00	34	7.91	12.61	6.0	7.2	3.42	3.23	0.411	0.456
108	5	2	C	80.00	34	7.91	12.61	6.0	7.2	2.58	3.23	0.411	-1.587
108	5	3	C	80.00	34	7.91	12.61	6.0	7.2	3.72	3.23	0.411	1.185
108	5	4	C	80.00	34	7.91	12.61	6.0	7.2	3.78	3.23	0.411	1.331
108	5	5	C	80.00	34	7.91	12.61	6.0	7.2	3.18	3.23	0.411	-0.128
108	5	6	C	80.00	34	7.91	12.61	6.0	7.2	2.82	3.23	0.411	-1.003
108	5	7	C	80.00	34	7.91	12.61	6.0	7.2	3.12	3.23	0.411	-0.274
108	5	8	C	80.00	34	7.91	12.61	6.0	7.2	3.24	3.23	0.411	0.018
109	3	1	C	79.81	34	7.44	12.62	6.0	6.1	2.94	2.87	0.264	0.265
109	3	2	C	79.81	34	7.44	12.62	6.0	6.1	2.52	2.87	0.264	-1.326
109	3	3	C	79.81	34	7.44	12.62	6.0	6.1	2.94	2.87	0.264	0.265
109	3	4	C	79.81	34	7.44	12.62	6.0	6.1	2.70	2.87	0.264	-0.644
109	3	5	C	79.81	34	7.44	12.62	6.0	6.1	2.82	2.87	0.264	-0.189
109	3	6	C	79.81	34	7.44	12.62	6.0	6.1	3.30	2.87	0.264	1.629
110	2	1	C	79.46	34	7.44	12.62	6.0	6.1	2.22	2.60	0.305	-1.245
110	2	2	C	79.46	34	7.44	12.62	6.0	6.1	2.70	2.60	0.305	0.328
110	2	3	C	79.46	34	7.44	12.62	6.0	6.1	2.76	2.60	0.305	0.524
110	2	4	C	79.46	34	7.44	12.62	6.0	6.1	2.94	2.60	0.305	1.114
110	2	5	C	79.46	34	7.44	12.62	6.0	6.1	2.22	2.60	0.305	-1.245
110	2	6	C	79.46	34	7.44	12.62	6.0	6.1	2.76	2.60	0.305	0.524
111	4	1	C	77.00	32	7.84	12.84	5.7	5.7	2.64	2.24	0.406	0.984
111	4	2	C	77.00	32	7.84	12.84	5.7	5.7	2.82	2.24	0.406	1.427
111	4	3	C	77.00	32	7.84	12.84	5.7	5.7	3.00	2.24	0.406	1.870
111	4	4	C	77.00	32	7.84	12.84	5.7	5.7	1.80	2.24	0.406	-1.083
111	4	5	C	77.00	32	7.84	12.84	5.7	5.7	2.40	2.24	0.406	0.394
111	4	6	C	77.00	32	7.84	12.84	5.7	5.7	1.98	2.24	0.406	-0.640
111	4	7	C	77.00	32	7.84	12.84	5.7	5.7	1.74	2.24	0.406	-1.230
111	4	8	C	77.00	32	7.84	12.84	5.7	5.7	2.10	2.24	0.406	-0.344
111	4	9	C	77.00	32	7.84	12.84	5.7	5.7	2.28	2.24	0.406	0.098
111	4	10	C	77.00	32	7.84	12.84	5.7	5.7	1.86	2.24	0.406	-0.935
111	4	11	C	77.00	32	7.84	12.84	5.7	5.7	2.04	2.24	0.406	-0.492
111	4	12	C	77.00	32	7.84	12.84	5.7	5.7	2.22	2.24	0.406	-0.049
112	2	1	C	75.00	32	7.21	12.82	4.8	5.6	1.38	1.61	0.253	-0.909
112	2	2	C	75.00	32	7.21	12.82	4.8	5.6	1.38	1.61	0.253	-0.909

IDENT	SPAN NMBR	BEAM NMBR	BEAM TYPE	SPAN LGTH (FT)	STRANDS (NMBR)	ECCENTRICITY END (INCHES)	ECCENTRICITY MIDDLE (INCHES)	DESIGN FPCI (KSI)	DESIGN FPC (KSI)	**CAMBER STATISTICS** ACTL.	MEAN	STD. DEV.	T-VAL
112	2	3	C	75.00	32	7.21	12.82	4.8	5.6	1.38	1.61	0.253	-0.909
112	2	4	C	75.00	32	7.21	12.82	4.8	5.6	1.44	1.61	0.253	-0.672
112	2	5	C	75.00	32	7.21	12.82	4.8	5.6	1.56	1.61	0.253	-0.198
112	2	6	C	75.00	32	7.21	12.82	4.8	5.6	1.68	1.61	0.253	0.276
112	2	1	C	75.00	32	7.21	12.82	4.8	5.6	1.56	1.61	0.253	-0.198
112	2	2	C	75.00	32	7.21	12.82	4.8	5.6	1.92	1.61	0.253	1.225
112	2	3	C	75.00	32	7.21	12.82	4.8	5.6	2.04	1.61	0.253	1.699
112	2	4	C	75.00	32	7.21	12.82	4.8	5.6	1.44	1.61	0.253	-0.672
112	2	5	C	75.00	32	7.21	12.82	4.8	5.6	1.50	1.61	0.253	-0.435
112	2	6	C	75.00	32	7.21	12.82	4.8	5.6	2.04	1.61	0.253	1.699
113	2	1	C	75.00	30	10.29	13.09	5.4	6.5	2.22	2.02	0.112	1.791
113	2	2	C	75.00	30	10.29	13.09	5.4	6.5	1.98	2.02	0.112	-0.357
113	2	3	C	75.00	30	10.29	13.09	5.4	6.5	2.04	2.02	0.112	0.178
113	2	4	C	75.00	30	10.29	13.09	5.4	6.5	2.04	2.02	0.112	0.178
113	2	5	C	75.00	30	10.29	13.09	5.4	6.5	1.92	2.02	0.112	-0.895
113	2	6	C	75.00	30	10.29	13.09	5.4	6.5	1.92	2.02	0.112	-0.895
114	2	1	C	75.00	30	8.29	13.09			1.86	1.90	0.165	-0.213
114	2	2	C	75.00	30	8.29	13.09			1.74	1.90	0.165	-0.941
114	2	3	C	75.00	30	8.29	13.09			2.10	1.90	0.165	1.245
114	2	4	C	75.00	30	8.29	13.09			2.10	1.90	0.165	1.244
114	2	5	C	75.00	30	8.29	13.09			1.92	1.90	0.165	0.153
114	2	6	C	75.00	30	8.29	13.09			1.80	1.90	0.165	-0.577
114	3	1	C	75.00	30	8.29	13.09			2.04	1.90	0.165	0.881
114	3	2	C	75.00	30	8.29	13.09			1.68	1.90	0.165	-1.304
114	3	3	C	75.00	30	8.29	13.09			2.04	1.90	0.165	0.879
114	3	4	C	75.00	30	8.29	13.09			1.74	1.90	0.165	-0.941
114	3	5	C	75.00	30	8.29	13.09			2.04	1.90	0.165	0.881
114	3	6	C	75.00	30	8.29	13.09			1.68	1.90	0.165	-1.306
115	2	1	C	75.00	30	8.29	13.09			1.74	1.79	0.195	-0.258
115	2	2	C	75.00	30	8.29	13.09			1.50	1.79	0.195	-1.490
115	2	3	C	75.00	30	8.29	13.09			1.92	1.79	0.195	0.669
115	2	4	C	75.00	30	8.29	13.09			1.86	1.79	0.195	0.360
115	2	5	C	75.00	30	8.29	13.09			1.62	1.79	0.195	-0.873
115	2	6	C	75.00	30	8.29	13.09			1.50	1.79	0.195	-1.491
115	3	1	C	75.00	30	8.29	13.09			1.62	1.79	0.195	-0.874
115	3	2	C	75.00	30	8.29	13.09			1.92	1.79	0.195	0.669
115	3	3	C	75.00	30	8.29	13.09			1.98	1.79	0.195	0.976
115	3	4	C	75.00	30	8.29	13.09			2.10	1.79	0.195	1.593
115	3	5	C	75.00	30	8.29	13.09			1.92	1.79	0.195	0.669

IDENT	SPAN NMBR	BEAM NMBR	BEAM TYPE	SPAN LGTH (FT)	STRANDS (NMBR)	ECCENTRICITY (INCHES) END	ECCENTRICITY (INCHES) MIDDLE	DESIGN FPCI (KSI)	DESIGN FPC (KSI)	**CAMBER STATISTICS** ACTL.	MEAN	STD. DEV.	T-VAL
115	3	6	C	75.00	30	8.29	13.09			1.80	1.79	0.195	0.052
116	2	1	C	75.00	26	7.40	13.40	4.5	5.2	2.34	1.90	0.237	1.860
116	2	2	C	75.00	26	7.40	13.40	4.5	5.2	1.74	1.90	0.237	-0.669
116	2	3	C	75.00	26	7.40	13.40	4.5	5.2	2.10	1.90	0.237	0.849
116	2	4	C	75.00	26	7.40	13.40	4.5	5.2	1.56	1.90	0.237	-1.428
116	2	5	C	75.00	26	7.40	13.40	4.5	5.2	2.10	1.90	0.237	0.849
116	2	6	C	75.00	26	7.40	13.40	4.5	5.2	1.92	1.90	0.237	0.090
116	2	7	C	75.00	26	7.40	13.40	4.5	5.2	1.56	1.90	0.237	-1.427
116	5	1	C	75.00	26	7.40	13.40	4.5	5.2	1.62	1.90	0.237	-1.174
116	5	2	C	75.00	26	7.40	13.40	4.5	5.2	1.98	1.90	0.237	0.344
116	5	3	C	75.00	26	7.40	13.40	4.5	5.2	1.68	1.90	0.237	-0.921
116	5	4	C	75.00	26	7.40	13.40	4.5	5.2	1.86	1.90	0.237	-0.162
116	5	5	C	75.00	26	7.40	13.40	4.5	5.2	1.98	1.90	0.237	0.343
116	5	6	C	75.00	26	7.40	13.40	4.5	5.2	2.04	1.90	0.237	0.596
116	5	7	C	75.00	26	7.40	13.40	4.5	5.2	2.10	1.90	0.237	0.849
117	1	1	C	75.00	28	7.66	13.23	5.0	5.0	3.06	1.78	0.510	2.511
117	1	2	C	75.00	28	7.66	13.23	5.0	5.0	2.22	1.78	0.510	0.864
117	1	3	C	75.00	28	7.66	13.23	5.0	5.0	2.88	1.78	0.510	2.158
117	1	4	C	75.00	28	7.66	13.23	5.0	5.0	2.16	1.78	0.510	0.746
117	1	5	C	75.00	28	7.66	13.23	5.0	5.0	2.22	1.78	0.510	0.864
117	3	7	C	85.00	30	6.69	13.09	5.0	5.0	1.92	1.78	0.510	0.275
117	3	8	C	85.00	30	6.69	13.09	5.0	5.0	2.04	1.78	0.510	0.511
117	4	1	C	85.00	30	6.69	13.09	5.0	5.0	1.98	1.78	0.510	0.393
117	4	2	C	85.00	30	6.69	13.09	5.0	5.0	1.86	1.78	0.510	0.157
117	4	3	C	85.00	30	6.69	13.09	5.0	5.0	2.04	1.78	0.510	0.511
117	4	4	C	85.00	30	6.69	13.09	5.0	5.0	1.98	1.78	0.510	0.393
117	4	5	C	85.00	30	6.69	13.09	5.0	5.0	2.40	1.78	0.510	1.217
117	4	6	C	85.00	30	6.69	13.09	5.0	5.0	2.04	1.78	0.510	0.511
117	4	7	C	85.00	30	6.69	13.09	5.0	5.0	2.04	1.78	0.510	0.511
117	4	8	C	85.00	30	6.69	13.09	5.0	5.0	2.94	1.78	0.510	2.276
117	1	6	C	75.00	28	7.66	13.23	5.0	5.0	1.98	1.78	0.510	0.393
117	1	7	C	75.00	28	7.66	13.23	5.0	5.0	2.64	1.78	0.510	1.688
117	2	1	C	75.00	28	7.66	13.23	5.0	5.0	1.86	1.78	0.510	0.157
117	2	2	C	75.00	28	7.66	13.23	5.0	5.0	1.38	1.78	0.510	-0.784
117	2	3	C	75.00	28	7.66	13.23	5.0	5.0	1.38	1.78	0.510	-0.784
117	2	4	C	75.00	28	7.66	13.23	5.0	5.0	1.32	1.78	0.510	-0.902
117	2	5	C	75.00	28	7.66	13.23	5.0	5.0	1.32	1.78	0.510	-0.902
117	2	6	C	75.00	28	7.66	13.23	5.0	5.0	1.38	1.78	0.510	-0.784
117	2	7	C	75.00	28	7.66	13.23	5.0	5.0	1.50	1.78	0.510	-0.549
117	3	1	C	75.00	28	7.66	13.23	5.0	5.0	1.62	1.78	0.510	-0.313
117	3	2	C	75.00	28	7.66	13.23	5.0	5.0	1.26	1.78	0.510	-1.019

IDENT	SPAN NMBR	BEAM NMBR	BEAM TYPE	SPAN LGTH (FT)	STRANDS (NMBR)	ECCENTRICITY END (INCHES)	ECCENTRICITY MIDDLE (INCHES)	DESIGN FPCI (KSI)	DESIGN FPC (KSI)	**CAMBER STATISTICS** ACTL.	MEAN	STD. DEV.	T-VAL
117	3	3	C	75.00	28	7.66	13.23	5.0	5.0	1.02	1.78	0.510	-1.490
117	3	4	C	75.00	28	7.66	13.23	5.0	5.0	0.96	1.78	0.510	-1.608
117	3	5	C	75.00	28	7.66	13.23	5.0	5.0	1.08	1.78	0.510	-1.373
117	3	6	C	75.00	28	7.66	13.23	5.0	5.0	1.20	1.78	0.510	-1.137
117	3	7	C	75.00	28	7.66	13.23	5.0	5.0	1.62	1.78	0.510	-0.313
117	4	1	C	75.00	28	7.66	13.23	5.0	5.0	1.74	1.78	0.510	-0.078
117	4	2	C	75.00	28	7.66	13.23	5.0	5.0	1.74	1.78	0.510	-0.078
117	4	3	C	75.00	28	7.66	13.23	5.0	5.0	1.44	1.78	0.510	-0.666
117	4	4	C	75.00	28	7.66	13.23	5.0	5.0	1.56	1.78	0.510	-0.431
117	4	5	C	75.00	28	7.66	13.23	5.0	5.0	1.44	1.78	0.510	-0.666
117	4	6	C	75.00	28	7.66	13.23	5.0	5.0	1.56	1.78	0.510	-0.431
117	4	7	C	75.00	28	7.66	13.23	5.0	5.0	1.26	1.78	0.510	-1.019
117	5	1	C	75.00	28	7.66	13.23	5.0	5.0	1.50	1.78	0.510	-0.549
117	5	2	C	75.00	28	7.66	13.23	5.0	5.0	1.38	1.78	0.510	-0.784
117	5	3	C	75.00	28	7.66	13.23	5.0	5.0	1.20	1.78	0.510	-1.137
117	5	4	C	75.00	28	7.66	13.23	5.0	5.0	1.68	1.78	0.510	-0.196
117	5	5	C	75.00	28	7.66	13.23	5.0	5.0	1.44	1.78	0.510	-0.666
117	5	6	C	75.00	28	7.66	13.23	5.0	5.0	1.44	1.78	0.510	-0.666
117	5	7	C	75.00	28	7.66	13.23	5.0	5.0	1.62	1.78	0.510	-0.313
117	6	1	C	75.00	28	7.66	13.23	5.0	5.0	1.56	1.78	0.510	-0.431
117	6	2	C	75.00	28	7.66	13.23	5.0	5.0	1.44	1.78	0.510	-0.666
117	6	3	C	75.00	28	7.66	13.23	5.0	5.0	1.44	1.78	0.510	-0.666
117	6	4	C	75.00	28	7.66	13.23	5.0	5.0	1.50	1.78	0.510	-0.549
117	6	5	C	75.00	28	7.66	13.23	5.0	5.0	1.44	1.78	0.510	-0.666
117	6	6	C	75.00	28	7.66	13.23	5.0	5.0	1.38	1.78	0.510	-0.784
117	6	7	C	75.00	28	7.66	13.23	5.0	5.0	1.14	1.78	0.510	-1.255
117	7	1	C	75.00	28	7.66	13.23	5.0	5.0	2.70	1.78	0.510	1.805
117	7	2	C	75.00	28	7.66	13.23	5.0	5.0	2.46	1.78	0.510	1.334
117	7	3	C	75.00	28	7.66	13.23	5.0	5.0	2.28	1.78	0.510	0.981
117	7	4	C	75.00	28	7.66	13.23	5.0	5.0	2.46	1.78	0.510	1.335
117	7	5	C	75.00	28	7.66	13.23	5.0	5.0	2.46	1.78	0.510	1.334
117	7	6	C	75.00	28	7.66	13.23	5.0	5.0	2.40	1.78	0.510	1.217
117	7	7	C	75.00	28	7.66	13.23	5.0	5.0	2.04	1.78	0.510	0.511
118	1	1	C	75.00	30	7.89	13.09			2.22	2.45	0.327	-0.705
118	1	2	C	75.00	30	7.89	13.09			2.16	2.45	0.327	-0.889
118	1	3	C	75.00	30	7.89	13.09			2.52	2.45	0.327	0.214
118	1	4	C	75.00	30	7.89	13.09			2.52	2.45	0.327	0.214
118	1	5	C	75.00	30	7.89	13.09			2.46	2.45	0.327	0.031
118	1	6	C	75.00	30	7.89	13.09			1.86	2.45	0.327	-1.807
118	6	1	C	75.00	30	7.89	13.09			2.04	2.45	0.327	-1.256
118	6	2	C	75.00	30	7.89	13.09			2.88	2.45	0.327	1.317
118	6	3	C	75.00	30	7.89	13.09			2.94	2.45	0.327	1.501
118	6	4	C	75.00	30	7.89	13.09			2.70	2.45	0.327	0.766

IDENT	SPAN NMBR	BEAM NMBR	BEAM TYPE	SPAN LGTH (FT)	STRANDS (NMBR)	ECCENTRICITY END (INCHES)	ECCENTRICITY MIDDLE (INCHES)	DESIGN FPCI (KSI)	DESIGN FPC (KSI)	**CAMBER STATISTICS** ACTL.	MEAN	STD. DEV.	T-VAL
118	6	5	C	75.00	30	7.89	13.09			2.58	2.45	0.327	0.398
118	6	6	C	75.00	30	7.89	13.09			2.52	2.45	0.327	0.214
119	6	1	C	75.00	32	7.35	12.34	5.6	5.6	2.70	2.39	0.321	0.967
119	6	2	C	75.00	32	7.35	12.34	5.6	5.6	2.76	2.39	0.321	1.154
119	6	3	C	75.00	32	7.35	12.34	5.6	5.6	2.46	2.39	0.321	0.218
119	6	4	C	75.00	32	7.35	12.34	5.6	5.6	2.16	2.39	0.321	-0.717
119	6	5	C	75.00	32	7.35	12.34	5.6	5.6	2.34	2.39	0.321	-0.156
119	6	6	C	75.00	32	7.35	12.34	5.6	5.6	1.92	2.39	0.321	-1.466
120	1	1	C	75.00	30	7.89	13.09	5.4	5.4	3.42	2.15	1.046	1.216
120	1	6	C	75.00	30	7.89	13.09	5.4	5.4	1.20	2.15	1.046	-0.906
120	2	1	C	75.00	30	7.89	13.09	5.4	5.4	2.76	2.15	1.046	0.585
120	2	6	C	75.00	30	7.89	13.09	5.4	5.4	1.20	2.15	1.046	-0.906
120	3	1	C	75.00	30	7.89	13.09	5.4	5.4	3.36	2.15	1.046	1.159
120	3	6	C	75.00	30	7.89	13.09	5.4	5.4	1.14	2.15	1.046	-0.964
120	4	1	C	75.00	30	7.89	13.09	5.4	5.4	3.24	2.15	1.046	1.044
120	4	6	C	75.00	30	7.89	13.09	5.4	5.4	1.08	2.15	1.046	-1.021
120	5	1	C	75.00	30	7.89	13.09	5.4	5.4	2.82	2.15	1.046	0.642
120	5	6	C	75.00	30	7.89	13.09	5.4	5.4	1.26	2.15	1.046	-0.849
121	1	1	C	70.00	30	9.49	13.09	4.0	5.0	1.98	1.69	0.264	1.112
121	1	2	C	70.00	30	9.49	13.09	4.0	5.0	2.10	1.69	0.264	1.565
121	1	3	C	70.00	30	9.49	13.09	4.0	5.0	1.74	1.69	0.264	0.204
121	1	4	C	70.00	30	9.49	13.09	4.0	5.0	1.50	1.69	0.264	-0.703
121	1	5	C	70.00	30	9.49	13.09	4.0	5.0	1.56	1.69	0.264	-0.476
121	5	1	C	70.00	30	9.49	13.09	4.0	5.0	1.50	1.69	0.264	-0.703
121	5	2	C	70.00	30	9.49	13.09	4.0	5.0	1.32	1.69	0.264	-1.384
121	5	3	C	70.00	30	9.49	13.09	4.0	5.0	1.44	1.69	0.264	-0.930
121	5	4	C	70.00	30	9.49	13.09	4.0	5.0	1.98	1.69	0.264	1.112
121	5	5	C	70.00	30	9.49	13.09	4.0	5.0	1.74	1.69	0.264	0.204
122	1	1	C	70.00	30	9.49	13.09	4.0	5.0	0.36	1.10	0.493	-1.511
122	1	2	C	70.00	30	9.49	13.09	4.0	5.0	1.14	1.10	0.493	0.073
122	1	3	C	70.00	30	9.49	13.09	4.0	5.0	1.38	1.10	0.493	0.560
122	1	4	C	70.00	30	9.49	13.09	4.0	5.0	0.90	1.10	0.493	-0.414
122	1	5	C	70.00	30	9.49	13.09	4.0	5.0	1.56	1.10	0.493	0.926
122	5	1	C	70.00	30	9.49	13.09	4.0	5.0	0.24	1.10	0.493	-1.754
122	5	2	C	70.00	30	9.49	13.09	4.0	5.0	1.32	1.10	0.493	0.439
122	5	3	C	70.00	30	9.49	13.09	4.0	5.0	1.80	1.10	0.493	1.413
122	5	4	C	70.00	30	9.49	13.09	4.0	5.0	1.26	1.10	0.493	0.317

IDENT	SPAN NMBR	BEAM NMBR	BEAM TYPE	SPAN LGTH (FT)	STRANDS (NMBR)	ECCENTRICITY (INCHES) END	ECCENTRICITY (INCHES) MIDDLE	DESIGN (KSI) FPCI	DESIGN (KSI) FPC	**CAMBER STATISTICS** ACTL.	MEAN	STD. DEV.	T-VAL
122	5	5	C	70.00	30	9.49	13.09	4.0	5.0	1.08	1.10	0.493	-0.049
123	1	1	C	69.70	26	8.32	13.40	4.8	5.8	1.26	2.89	*****	-0.120
123	1	2	C	69.70	26	8.32	13.40	4.8	5.8	1.38	2.89	*****	-0.111
123	1	3	C	69.70	26	8.32	13.40	4.8	5.8	1.62	2.89	*****	-0.093
123	1	4	C	69.70	26	8.32	13.40	4.8	5.8	1.26	2.89	*****	-0.120
123	1	5	C	69.70	26	8.32	13.40	4.8	5.8	1.20	2.89	*****	-0.124
123	1	6	C	69.70	26	8.32	13.40	4.8	5.8	1.26	2.89	*****	-0.120
123	1	7	C	69.70	26	8.32	13.40	4.8	5.8	1.32	2.89	*****	-0.115
123	2	1	C	69.70	26	8.32	13.40	4.8	5.8	1.44	2.89	*****	-0.106
123	2	2	C	69.70	26	8.32	13.40	4.8	5.8	1.02	2.89	*****	-0.137
123	2	3	C	69.70	26	8.32	13.40	4.8	5.8	1.32	2.89	*****	-0.115
123	2	4	C	69.70	26	8.32	13.40	4.8	5.8	1.38	2.89	*****	-0.111
123	2	5	C	69.70	26	8.32	13.40	4.8	5.8	1.14	2.89	*****	-0.128
123	2	6	C	69.70	26	8.32	13.40	4.8	5.8	1.26	2.89	*****	-0.120
123	2	7	C	69.70	26	8.32	13.40	4.8	5.8	1.20	2.89	*****	-0.124
123	3	1	C	69.70	26	8.32	13.40	4.8	5.8	1.20	2.89	*****	-0.124
123	3	2	C	69.70	26	8.32	13.40	4.8	5.8	1.26	2.89	*****	-0.120
123	3	3	C	69.70	26	8.32	13.40	4.8	5.8	1.50	2.89	*****	-0.102
123	3	4	C	69.70	26	8.32	13.40	4.8	5.8	1.38	2.89	*****	-0.111
123	3	5	C	69.70	26	8.32	13.40	4.8	5.8	1.14	2.89	*****	-0.128
123	3	6	C	69.70	26	8.32	13.40	4.8	5.8	1.20	2.89	*****	-0.124
123	3	7	C	69.70	26	8.32	13.40	4.8	5.8	1.14	2.89	*****	-0.128
123	4	1	C	69.70	26	8.32	13.40	4.8	5.8	0.96	2.89	*****	-0.141
123	4	2	C	69.70	26	8.32	13.40	4.8	5.8	1.08	2.89	*****	-0.133
123	4	3	C	69.70	26	8.32	13.40	4.8	5.8	1.02	2.89	*****	-0.137
123	4	4	C	69.70	26	8.32	13.40	4.8	5.8	1.08	2.89	*****	-0.133
123	4	5	C	69.70	26	8.32	13.40	4.8	5.8	1.08	2.89	*****	-0.133
123	4	6	C	69.70	26	8.32	13.40	4.8	5.8	0.96	2.89	*****	-0.141
123	4	7	C	69.70	26	8.32	13.40	4.8	5.8	1.38	2.89	*****	-0.111
123	5	1	C	69.70	26	8.32	13.40	4.8	5.8	1.26	2.89	*****	-0.120
123	5	2	C	69.70	26	8.32	13.40	4.8	5.8	1.32	2.89	*****	-0.115
123	5	3	C	69.70	26	8.32	13.40	4.8	5.8	1.44	2.89	*****	-0.106
123	5	4	C	69.70	26	8.32	13.40	4.8	5.8	1.14	2.89	*****	-0.128
123	5	5	C	69.70	26	8.32	13.40	4.8	5.8	1.08	2.89	*****	-0.133
123	5	6	C	69.70	26	8.32	13.40	4.8	5.8	1.20	2.89	*****	-0.124
123	5	7	C	69.70	26	8.32	13.40	4.8	5.8	1.14	2.89	*****	-0.128
123	6	2	C	70.00	26	8.32	13.40	4.8	5.8	1.20	2.89	*****	-0.124
123	6	1	C	70.00	26	8.32	13.40	4.8	5.8	1.50	2.89	*****	-0.102
123	6	3	C	70.00	26	8.32	13.40	4.8	5.8	1.26	2.89	*****	-0.120
123	6	4	C	70.00	26	8.32	13.40	4.8	5.8	1.38	2.89	*****	-0.111
123	6	5	C	70.00	26	8.32	13.40	4.8	5.8	1.38	2.89	*****	-0.111
123	6	6	C	70.00	26	8.32	13.40	4.8	5.8	1.32	2.89	*****	-0.115
123	6	7	C	70.00	26	8.32	13.40	4.8	5.8	1.32	2.89	*****	-0.115

IDENT	SPAN NMBR	BEAM NMBR	BEAM TYPE	SPAN LGTH (FT)	STRANDS (NMBR)	ECCENTRICITY END (INCHES)	ECCENTRICITY MIDDLE (INCHES)	DESIGN FPCI (KSI)	DESIGN FPC (KSI)	**CAMBER STATISTICS** ACTL.	MEAN	STD. DEV.	T-VAL
123	7	1	C	70.00	26	8.32	13.40	4.8	5.8	1.44	2.89	*****	-0.106
123	7	2	C	70.00	26	8.32	13.40	4.8	5.8	1.44	2.89	*****	-0.106
123	7	3	C	70.00	26	8.32	13.40	4.8	5.8	****	2.89	*****	8.247
123	7	4	C	70.00	26	8.32	13.40	4.8	5.8	1.44	2.89	*****	-0.106
123	7	5	C	70.00	26	8.32	13.40	4.8	5.8	1.38	2.89	*****	-0.111
123	7	6	C	70.00	26	8.32	13.40	4.8	5.8	1.38	2.89	*****	-0.111
123	7	7	C	70.00	26	8.32	13.40	4.8	5.8	1.20	2.89	*****	-0.124
123	8	1	C	70.00	26	8.32	13.40	4.8	5.8	1.20	2.89	*****	-0.124
123	8	2	C	70.00	26	8.32	13.40	4.8	5.8	1.02	2.89	*****	-0.137
123	8	3	C	70.00	26	8.32	13.40	4.8	5.8	1.26	2.89	*****	-0.120
123	8	4	C	70.00	26	8.32	13.40	4.8	5.8	1.26	2.89	*****	-0.120
123	8	5	C	70.00	26	8.32	13.40	4.8	5.8	1.08	2.89	*****	-0.133
123	8	6	C	70.00	26	8.32	13.40	4.8	5.8	1.08	2.89	*****	-0.133
123	8	7	C	70.00	26	8.32	13.40	4.8	5.8	1.26	2.89	*****	-0.120
123	9	1	C	70.00	26	8.32	13.40	4.8	5.8	1.32	2.89	*****	-0.115
123	9	2	C	70.00	26	8.32	13.40	4.8	5.8	1.62	2.89	*****	-0.093
123	9	3	C	70.00	26	8.32	13.40	4.8	5.8	0.96	2.89	*****	-0.141
123	9	4	C	70.00	26	8.32	13.40	4.8	5.8	1.32	2.89	*****	-0.115
123	9	5	C	70.00	26	8.32	13.40	4.8	5.8	1.14	2.89	*****	-0.128
123	9	6	C	70.00	26	8.32	13.40	4.8	5.8	1.38	2.89	*****	-0.111
123	9	7	C	70.00	26	8.32	13.40	4.8	5.8	1.38	2.89	*****	-0.111
123	10	1	C	70.00	26	8.32	13.40	4.8	5.8	1.02	2.89	*****	-0.137
123	10	2	C	70.00	26	8.32	13.40	4.8	5.8	1.44	2.89	*****	-0.106
123	10	3	C	70.00	26	8.32	13.40	4.8	5.8	1.44	2.89	*****	-0.106
123	10	4	C	70.00	26	8.32	13.40	4.8	5.8	1.50	2.89	*****	-0.102
123	10	5	C	70.00	26	8.32	13.40	4.8	5.8	1.02	2.89	*****	-0.137
123	10	6	C	70.00	26	8.32	13.40	4.8	5.8	1.44	2.89	*****	-0.106
123	10	7	C	70.00	26	8.32	13.40	4.8	5.8	1.14	2.89	*****	-0.128
124	2	1	C	70.00	24	8.09	13.59	4.3	5.0	1.44	1.51	0.330	-0.215
124	2	2	C	70.00	24	8.09	13.59	4.3	5.0	1.56	1.51	0.330	0.149
124	2	3	C	70.00	24	8.09	13.59	4.3	5.0	1.32	1.51	0.330	-0.579
124	2	4	C	70.00	24	8.09	13.59	4.3	5.0	1.14	1.51	0.330	-1.124
124	2	5	C	70.00	24	8.09	13.59	4.3	5.0	1.38	1.51	0.330	-0.397
124	2	6	C	70.00	24	8.09	13.59	4.3	5.0	1.26	1.51	0.330	-0.760
124	2	7	C	70.00	24	8.09	13.59	4.3	5.0	1.44	1.51	0.330	-0.215
124	2	8	C	70.00	24	8.09	13.59	4.3	5.0	1.50	1.51	0.330	-0.033
124	3	1	C	70.00	24	8.09	13.59	4.3	5.0	1.50	1.51	0.330	-0.033
124	3	2	C	70.00	24	8.09	13.59	4.3	5.0	1.14	1.51	0.330	-1.124
124	3	3	C	70.00	24	8.09	13.59	4.3	5.0	1.38	1.51	0.330	-0.397
124	3	4	C	70.00	24	8.09	13.59	4.3	5.0	1.62	1.51	0.330	0.331
124	3	5	C	70.00	24	8.09	13.59	4.3	5.0	1.20	1.51	0.330	-0.942
124	3	6	C	70.00	24	8.09	13.59	4.3	5.0	1.62	1.51	0.330	0.331
124	3	7	C	70.00	24	8.09	13.59	4.3	5.0	1.26	1.51	0.330	-0.760

IDENT	SPAN NMBR	BEAM NMBR	TYPE	SPAN LGTH (FT)	STRANDS (NMBR)	ECCENTRICITY END (INCHES)	ECCENTRICITY MIDDLE (INCHES)	DESIGN FPCI (KSI)	DESIGN FPC (KSI)	**CAMBER STATISTICS** ACTL.	MEAN	STD. DEV.	T-VAL
124	3	8	C	70.00	24	8.09	13.59	4.3	5.0	1.26	1.51	0.330	-0.760
124	3	1	C	72.33	28	8.95	13.24	4.3	5.0	2.40	1.51	0.330	2.694
124	3	2	C	71.46	28	8.95	13.24	4.3	5.0	1.86	1.51	0.330	1.058
124	3	3	C	70.59	28	8.95	13.24	4.3	5.0	1.86	1.51	0.330	1.058
124	3	4	C	69.73	28	8.95	13.24	4.3	5.0	1.92	1.51	0.330	1.240
124	3	5	C	68.86	28	8.95	13.24	4.3	5.0	1.14	1.51	0.330	-1.124
124	3	6	C	67.99	28	8.95	13.24	4.3	5.0	2.04	1.51	0.330	1.603
125	1	1	C	67.00	24	8.59	15.57	4.5	5.4	1.38	1.20	0.294	0.628
125	1	6	C	67.00	24	8.59	15.57	4.5	5.4	0.42	1.20	0.294	-2.632
125	2	1	C	67.00	24	8.59	15.57	4.5	5.4	1.26	1.20	0.294	0.220
125	2	6	C	67.00	24	8.59	15.57	4.5	5.4	1.08	1.20	0.294	-0.390
125	3	1	C	67.00	24	8.59	15.57	4.5	5.4	1.08	1.20	0.294	-0.390
125	3	6	C	67.00	24	8.59	15.57	4.5	5.4	1.32	1.20	0.294	0.425
125	1	1	C	67.00	24	8.59	15.57	4.5	5.4	1.50	1.20	0.294	1.036
125	1	6	C	67.00	24	8.59	15.57	4.5	5.4	1.44	1.20	0.294	0.832
125	2	1	C	67.00	24	8.59	15.57	4.5	5.4	0.96	1.20	0.294	-0.798
125	2	6	C	67.00	24	8.59	15.57	4.5	5.4	1.20	1.20	0.294	0.017
125	3	1	C	67.00	24	8.59	15.57	4.5	5.4	1.44	1.20	0.294	0.832
125	3	6	C	67.00	24	8.59	15.57	4.5	5.4	1.26	1.20	0.294	0.221
126	3	1	C	67.00	46	7.55	11.24	5.1	6.1	1.80	1.87	0.177	-0.407
126	3	2	C	67.00	46	7.55	11.24	5.1	6.1	1.92	1.87	0.177	0.272
126	3	3	C	67.00	46	7.55	11.24	5.1	6.1	1.62	1.87	0.177	-1.424
126	3	4	C	67.00	46	7.55	11.24	5.1	6.1	1.92	1.87	0.177	0.271
126	3	5	C	67.00	46	7.55	11.24	5.1	6.1	2.10	1.87	0.177	1.288
127	1	1	C	65.54	22	8.91	13.82	4.1	5.0	1.74	1.76	0.300	-0.067
127	1	2	C	65.54	22	8.91	13.82	4.1	5.0	2.16	1.76	0.300	1.334
127	1	3	C	65.54	22	8.91	13.82	4.1	5.0	1.62	1.76	0.300	-0.467
127	1	4	C	65.54	22	8.91	13.82	4.1	5.0	1.68	1.76	0.300	-0.267
127	1	5	C	65.54	22	8.91	13.82	4.1	5.0	1.80	1.76	0.300	0.133
127	1	6	C	65.54	22	8.91	13.82	4.1	5.0	1.02	1.76	0.300	-2.468
127	6	1	C	66.81	22	8.91	13.82	4.1	5.0	1.50	1.76	0.300	-0.867
127	6	2	C	66.81	22	8.91	13.82	4.1	5.0	1.74	1.76	0.300	-0.067
127	6	3	C	66.81	22	8.91	13.82	4.1	5.0	1.98	1.76	0.300	0.734
127	6	4	C	66.81	22	8.91	13.82	4.1	5.0	1.98	1.76	0.300	0.734
127	6	5	C	66.81	22	8.91	13.82	4.1	5.0	2.04	1.76	0.300	0.934
127	6	6	C	66.81	22	8.91	13.82	4.1	5.0	1.86	1.76	0.300	0.334
128	1	1	C	65.00	26	9.70	13.40	4.0	5.0	1.02	0.71	0.260	1.198

IDENT	SPAN NMBR	BEAM NMBR	BEAM TYPE	SPAN LGTH (FT)	STRANDS (NMBR)	ECCENTRICITY END (INCHES)	ECCENTRICITY MIDDLE (INCHES)	DESIGN FPCI (KSI)	DESIGN FPC (KSI)	**CAMBER ACTL.	MEAN	STD. DEV.	T-VAL STATISTICS**
128	1	2	C	65.00	26	9.70	13.40	4.0	5.0	0.18	0.71	0.260	-2.027
128	1	3	C	65.00	26	9.70	13.40	4.0	5.0	1.08	0.71	0.260	1.428
128	1	4	C	65.00	26	9.70	13.40	4.0	5.0	0.54	0.71	0.260	-0.645
128	1	5	C	65.00	26	9.70	13.40	4.0	5.0	0.54	0.71	0.260	-0.645
128	5	1	C	65.00	26	9.70	13.40	4.0	5.0	0.72	0.71	0.260	0.046
128	5	2	C	65.00	26	9.70	13.40	4.0	5.0	0.66	0.71	0.260	-0.184
128	5	3	C	65.00	26	9.70	13.40	4.0	5.0	0.90	0.71	0.260	0.737
128	5	4	C	65.00	26	9.70	13.40	4.0	5.0	0.72	0.71	0.260	0.046
128	5	5	C	65.00	26	9.70	13.40	4.0	5.0	0.72	0.71	0.260	0.046
129	7	1	C	65.00	22	8.91	13.80	4.2	5.0	1.80	1.73	0.253	0.266
129	7	2	C	65.00	22	8.91	13.80	4.2	5.0	1.74	1.73	0.253	0.030
129	7	3	C	65.00	22	8.91	13.80	4.2	5.0	1.92	1.73	0.253	0.740
129	7	4	C	65.00	22	8.91	13.80	4.2	5.0	1.50	1.73	0.253	-0.917
129	7	5	C	65.00	22	8.91	13.80	4.2	5.0	1.26	1.73	0.253	-1.865
129	7	6	C	65.00	22	8.91	13.80	4.2	5.0	1.92	1.73	0.253	0.740
129	7	7	C	65.00	22	8.91	13.80	4.2	5.0	2.04	1.73	0.253	1.213
129	7	8	C	65.00	22	8.91	13.80	4.2	5.0	1.68	1.73	0.253	-0.207
130	1	1	C	65.00	22	8.91	13.82	4.1	5.0	1.80	1.96	0.193	-0.822
130	1	2	C	65.00	22	8.91	13.82	4.1	5.0	2.16	1.96	0.193	1.037
130	1	3	C	65.00	22	8.91	13.82	4.1	5.0	1.56	1.96	0.193	-2.063
130	1	4	C	65.00	22	8.91	13.82	4.1	5.0	2.28	1.96	0.193	1.658
130	1	5	C	65.00	22	8.91	13.82	4.1	5.0	2.04	1.96	0.193	0.417
130	1	6	C	65.00	22	8.91	13.82	4.1	5.0	1.98	1.96	0.193	0.108
130	2	1	C	65.00	22	8.91	13.82	4.1	5.0	1.86	1.96	0.193	-0.513
130	2	2	C	65.00	22	8.91	13.82	4.1	5.0	1.86	1.96	0.193	-0.512
130	2	3	C	65.00	22	8.91	13.82	4.1	5.0	1.98	1.96	0.193	0.108
130	2	4	C	65.00	22	8.91	13.82	4.1	5.0	2.28	1.96	0.193	1.658
130	2	5	C	65.00	22	8.91	13.82	4.1	5.0	1.92	1.96	0.193	-0.202
130	2	6	C	65.00	22	8.91	13.82	4.1	5.0	1.92	1.96	0.193	-0.202
130	3	1	C	65.00	22	8.91	13.82	4.1	5.0	1.74	1.96	0.193	-1.133
130	3	2	C	65.00	22	8.91	13.82	4.1	5.0	1.86	1.96	0.193	-0.513
130	3	3	C	65.00	22	8.91	13.82	4.1	5.0	1.80	1.96	0.193	-0.822
130	3	4	C	65.00	22	8.91	13.82	4.1	5.0	1.98	1.96	0.193	0.108
130	3	5	C	65.00	22	8.91	13.82	4.1	5.0	1.98	1.96	0.193	0.108
130	3	6	C	65.00	22	8.91	13.82	4.1	5.0	1.74	1.96	0.193	-1.133
130	4	1	C	65.00	22	8.91	13.82	4.1	5.0	2.28	1.96	0.193	1.658
130	4	2	C	65.00	22	8.91	13.82	4.1	5.0	1.62	1.96	0.193	-1.753
130	4	3	C	65.00	22	8.91	13.82	4.1	5.0	1.92	1.96	0.193	-0.202
130	4	4	C	65.00	22	8.91	13.82	4.1	5.0	2.52	1.96	0.193	2.899
130	4	5	C	65.00	22	8.91	13.82	4.1	5.0	1.74	1.96	0.193	-1.133
130	4	6	C	65.00	22	8.91	13.82	4.1	5.0	2.04	1.96	0.193	0.418

IDENT	SPAN	BEAM		SPAN	STRANDS	ECCENTRICITY		DESIGN		**CAMBER	STATISTICS**		
	NMBR	NMBR	TYPE	LGTH (FT)	(NMBR)	END	MIDDLE	FPCI/FPC		ACTL.	MEAN	STD. DEV.	T-VAL
						(INCHES)		(KSI)					
130	5	1	C	65.00	22	8.91	13.82	4.1	5.0	2.04	1.96	0.193	0.418
130	5	2	C	65.00	22	8.91	13.82	4.1	5.0	1.92	1.96	0.193	-0.202
130	5	3	C	65.00	22	8.91	13.82	4.1	5.0	2.04	1.96	0.193	0.417
130	5	4	C	65.00	22	8.91	13.82	4.1	5.0	1.56	1.96	0.193	-2.064
130	5	5	C	65.00	22	8.91	13.82	4.1	5.0	1.92	1.96	0.193	-0.202
130	5	6	C	65.00	22	8.91	13.82	4.1	5.0	2.10	1.96	0.193	0.728
130	6	1	C	65.00	22	8.91	13.82	4.1	5.0	2.10	1.96	0.193	0.728
130	6	2	C	65.00	22	8.91	13.82	4.1	5.0	2.04	1.96	0.193	0.417
130	6	3	C	65.00	22	8.91	13.82	4.1	5.0	1.92	1.96	0.193	-0.202
130	6	4	C	65.00	22	8.91	13.82	4.1	5.0	2.16	1.96	0.193	1.037
130	6	5	C	65.00	22	8.91	13.82	4.1	5.0	1.68	1.96	0.193	-1.442
130	6	6	C	65.00	22	8.91	13.82	4.1	5.0	2.04	1.96	0.193	0.417
130	7	1	C	65.00	22	8.91	13.82	4.1	5.0	2.16	1.96	0.193	1.038
130	7	2	C	65.00	22	8.91	13.82	4.1	5.0	1.98	1.96	0.193	0.108
130	7	3	C	65.00	22	8.91	13.82	4.1	5.0	1.92	1.96	0.193	-0.202
130	7	4	C	65.00	22	8.91	13.82	4.1	5.0	2.04	1.96	0.193	0.418
130	7	5	C	65.00	22	8.91	13.82	4.1	5.0	2.16	1.96	0.193	1.038
130	7	6	C	65.00	22	8.91	13.82	4.1	5.0	2.22	1.96	0.193	1.348
130	8	1	C	65.00	22	8.91	13.82	4.1	5.0	1.80	1.96	0.193	-0.822
130	8	2	C	65.00	22	8.91	13.82	4.1	5.0	2.22	1.96	0.193	1.348
130	8	3	C	65.00	22	8.91	13.82	4.1	5.0	1.98	1.96	0.193	0.108
130	8	4	C	65.00	22	8.91	13.82	4.1	5.0	2.10	1.96	0.193	0.728
130	8	5	C	65.00	22	8.91	13.82	4.1	5.0	1.80	1.96	0.193	-0.823
130	8	6	C	65.00	22	8.91	13.82	4.1	5.0	1.92	1.96	0.193	-0.202
130	9	1	C	65.00	22	8.91	13.82	4.1	5.0	2.22	1.96	0.193	1.349
130	9	2	C	65.00	22	8.91	13.82	4.1	5.0	1.86	1.96	0.193	-0.513
130	9	3	C	65.00	22	8.91	13.82	4.1	5.0	1.92	1.96	0.193	-0.202
130	9	4	C	65.00	22	8.91	13.82	4.1	5.0	2.04	1.96	0.193	0.417
130	9	5	C	65.00	22	8.91	13.82	4.1	5.0	1.86	1.96	0.193	-0.513
130	9	6	C	65.00	22	8.91	13.82	4.1	5.0	1.98	1.96	0.193	0.107
130	10	1	C	65.00	22	8.91	13.82	4.1	5.0	1.74	1.96	0.193	-1.133
130	10	2	C	65.00	22	8.91	13.82	4.1	5.0	2.16	1.96	0.193	1.038
130	10	3	C	65.00	22	8.91	13.82	4.1	5.0	2.22	1.96	0.193	1.349
130	10	4	C	65.00	22	8.91	13.82	4.1	5.0	1.92	1.96	0.193	-0.202
130	10	5	C	65.00	22	8.91	13.82	4.1	5.0	2.04	1.96	0.193	0.417
130	10	6	C	65.00	22	8.91	13.82	4.1	5.0	2.04	1.96	0.193	0.418
130	11	1	C	65.00	22	8.91	13.82	4.1	5.0	1.86	1.96	0.193	-0.513
130	11	2	C	65.00	22	8.91	13.82	4.1	5.0	2.16	1.96	0.193	1.038
130	11	3	C	65.00	22	8.91	13.82	4.1	5.0	1.68	1.96	0.193	-1.443
130	11	4	C	65.00	22	8.91	13.82	4.1	5.0	1.98	1.96	0.193	0.108
130	11	5	C	65.00	22	8.91	13.82	4.1	5.0	1.44	1.96	0.193	-2.684
130	11	6	C	65.00	22	8.91	13.82	4.1	5.0	2.10	1.96	0.193	0.728
130	12	1	C	65.00	22	8.91	13.82	4.1	5.0	1.80	1.96	0.193	-0.822
130	12	2	C	65.00	22	8.91	13.82	4.1	5.0	1.98	1.96	0.193	0.107
130	12	3	C	65.00	22	8.91	13.82	4.1	5.0	1.86	1.96	0.193	-0.513

IDENT	SPAN NMBR	BEAM NMBR	TYPE	SPAN LGTH (FT)	STRANDS (NMBR)	ECCENTRICITY END (INCHES)	ECCENTRICITY MIDDLE (INCHES)	DESIGN FPCI (KSI)	DESIGN FPC (KSI)	**CAMBER ACTL.	MEAN	STD. DEV.	T-VAL STATISTICS**
130	12	4	C	65.00	22	8.91	13.82	4.1	5.0	1.80	1.96	0.193	-0.822
130	12	5	C	65.00	22	8.91	13.82	4.1	5.0	2.04	1.96	0.193	0.417
130	12	6	C	65.00	22	8.91	13.82	4.1	5.0	1.68	1.96	0.193	-1.442
131	1	1	C	65.00	22	8.91	13.82	4.1	5.0	2.34	1.92	0.231	1.842
131	1	2	C	65.00	22	8.91	13.82	4.1	5.0	2.10	1.92	0.231	0.803
131	1	3	C	65.00	22	8.91	13.82	4.1	5.0	2.04	1.92	0.231	0.542
131	1	4	C	65.00	22	8.91	13.82	4.1	5.0	2.28	1.92	0.231	1.581
131	1	5	C	65.00	22	8.91	13.82	4.1	5.0	1.86	1.92	0.231	-0.238
131	1	6	C	65.00	22	8.91	13.82	4.1	5.0	1.80	1.92	0.231	-0.498
131	2	1	C	65.00	22	8.91	13.82	4.1	5.0	1.50	1.92	0.231	-1.799
131	2	2	C	65.00	22	8.91	13.82	4.1	5.0	2.22	1.92	0.231	1.323
131	2	3	C	65.00	22	8.91	13.82	4.1	5.0	2.10	1.92	0.231	0.802
131	2	4	C	65.00	22	8.91	13.82	4.1	5.0	2.10	1.92	0.231	0.801
131	2	5	C	65.00	22	8.91	13.82	4.1	5.0	1.92	1.92	0.231	0.022
131	2	6	C	65.00	22	8.91	13.82	4.1	5.0	1.68	1.92	0.231	-1.019
131	3	1	C	65.00	22	8.91	13.82	4.1	5.0	2.16	1.92	0.231	1.062
131	3	2	C	65.00	22	8.91	13.82	4.1	5.0	1.68	1.92	0.231	-1.019
131	3	3	C	65.00	22	8.91	13.82	4.1	5.0	1.62	1.92	0.231	-1.279
131	3	4	C	65.00	22	8.91	13.82	4.1	5.0	1.98	1.92	0.231	0.282
131	3	5	C	65.00	22	8.91	13.82	4.1	5.0	1.62	1.92	0.231	-1.278
131	3	6	C	65.00	22	8.91	13.82	4.1	5.0	1.86	1.92	0.231	-0.239
131	4	1	C	65.00	22	8.91	13.82	4.1	5.0	1.80	1.92	0.231	-0.498
131	4	2	C	65.00	22	8.91	13.82	4.1	5.0	1.80	1.92	0.231	-0.498
131	4	3	C	65.00	22	8.91	13.82	4.1	5.0	1.74	1.92	0.231	-0.759
131	4	4	C	65.00	22	8.91	13.82	4.1	5.0	2.04	1.92	0.231	0.542
131	4	5	C	65.00	22	8.91	13.82	4.1	5.0	1.98	1.92	0.231	0.282
131	4	6	C	65.00	22	8.91	13.82	4.1	5.0	1.74	1.92	0.231	-0.759
131	5	1	C	65.00	22	8.91	13.82	4.1	5.0	1.68	1.92	0.231	-1.019
131	5	2	C	65.00	22	8.91	13.82	4.1	5.0	1.86	1.92	0.231	-0.239
131	5	3	C	65.00	22	8.91	13.82	4.1	5.0	2.04	1.92	0.231	0.542
131	5	4	C	65.00	22	8.91	13.82	4.1	5.0	1.92	1.92	0.231	0.022
131	5	5	C	65.00	22	8.91	13.82	4.1	5.0	2.04	1.92	0.231	0.542
131	5	6	C	65.00	22	8.91	13.82	4.1	5.0	1.38	1.92	0.231	-2.319
131	6	1	C	65.00	22	8.91	13.82	4.1	5.0	2.22	1.92	0.231	1.323
131	6	2	C	65.00	22	8.91	13.82	4.1	5.0	1.86	1.92	0.231	-0.239
131	6	3	C	65.00	22	8.91	13.82	4.1	5.0	1.98	1.92	0.231	0.282
131	6	4	C	65.00	22	8.91	13.82	4.1	5.0	1.86	1.92	0.231	-0.239
131	6	5	C	65.00	22	8.91	13.82	4.1	5.0	1.68	1.92	0.231	-1.019
131	6	6	C	65.00	22	8.91	13.82	4.1	5.0	1.98	1.92	0.231	0.281
131	7	1	C	65.00	22	8.91	13.82	4.1	5.0	2.16	1.92	0.231	1.062
131	7	2	C	65.00	22	8.91	13.82	4.1	5.0	1.86	1.92	0.231	-0.239
131	7	3	C	65.00	22	8.91	13.82	4.1	5.0	1.86	1.92	0.231	-0.239
131	7	4	C	65.00	22	8.91	13.82	4.1	5.0	2.16	1.92	0.231	1.062

IDENT	SPAN NMBR	BEAM NMBR	BEAM TYPE	SPAN LGTH (FT)	STRANDS (NMBR)	ECCENTRICITY END (INCHES)	ECCENTRICITY MIDDLE (INCHES)	DESIGN FPCI (KSI)	DESIGN FPC (KSI)	**CAMBER STATISTICS** ACTL.	MEAN	STD. DEV.	T-VAL
131	7	5	C	65.00	22	8.91	13.82	4.1	5.0	2.40	1.92	0.231	2.103
131	7	6	C	65.00	22	8.91	13.82	4.1	5.0	1.56	1.92	0.231	-1.539
131	8	1	C	65.00	22	8.91	13.82	4.1	5.0	1.92	1.92	0.231	0.022
131	8	2	C	65.00	22	8.91	13.82	4.1	5.0	1.92	1.92	0.231	0.022
131	8	3	C	65.00	22	8.91	13.82	4.1	5.0	2.04	1.92	0.231	0.542
131	8	4	C	65.00	22	8.91	13.82	4.1	5.0	2.16	1.92	0.231	1.062
131	8	5	C	65.00	22	8.91	13.82	4.1	5.0	1.74	1.92	0.231	-0.759
131	8	6	C	65.00	22	8.91	13.82	4.1	5.0	2.22	1.92	0.231	1.322
131	9	1	C	65.00	22	8.91	13.82	4.1	5.0	2.40	1.92	0.231	2.103
131	9	2	C	65.00	22	8.91	13.82	4.1	5.0	1.50	1.92	0.231	-1.799
131	9	3	C	65.00	22	8.91	13.82	4.1	5.0	1.62	1.92	0.231	-1.278
131	9	4	C	65.00	22	8.91	13.82	4.1	5.0	1.74	1.92	0.231	-0.759
131	9	5	C	65.00	22	8.91	13.82	4.1	5.0	2.04	1.92	0.231	0.542
131	9	6	C	65.00	22	8.91	13.82	4.1	5.0	1.62	1.92	0.231	-1.278
131	10	1	C	65.00	22	8.91	13.82	4.1	5.0	2.34	1.92	0.231	1.842
131	10	2	C	65.00	22	8.91	13.82	4.1	5.0	1.74	1.92	0.231	-0.759
131	10	3	C	65.00	22	8.91	13.82	4.1	5.0	1.80	1.92	0.231	-0.498
131	10	4	C	65.00	22	8.91	13.82	4.1	5.0	1.92	1.92	0.231	0.022
131	10	5	C	65.00	22	8.91	13.82	4.1	5.0	1.68	1.92	0.231	-1.019
131	10	6	C	65.00	22	8.91	13.82	4.1	5.0	1.80	1.92	0.231	-0.499
131	11	1	C	65.00	22	8.91	13.82	4.1	5.0	2.40	1.92	0.231	2.102
131	11	2	C	65.00	22	8.91	13.82	4.1	5.0	2.04	1.92	0.231	0.542
131	11	3	C	65.00	22	8.91	13.82	4.1	5.0	1.98	1.92	0.231	0.282
131	11	4	C	65.00	22	8.91	13.82	4.1	5.0	1.62	1.92	0.231	-1.278
131	11	5	C	65.00	22	8.91	13.82	4.1	5.0	1.80	1.92	0.231	-0.498
131	11	6	C	65.00	22	8.91	13.82	4.1	5.0	1.80	1.92	0.231	-0.498
131	12	1	C	65.00	22	8.91	13.82	4.1	5.0	1.80	1.92	0.231	-0.499
131	12	2	C	65.00	22	8.91	13.82	4.1	5.0	1.98	1.92	0.231	0.281
131	12	3	C	65.00	22	8.91	13.82	4.1	5.0	1.92	1.92	0.231	0.022
131	12	4	C	65.00	22	8.91	13.82	4.1	5.0	1.80	1.92	0.231	-0.499
131	12	5	C	65.00	22	8.91	13.82	4.1	5.0	1.92	1.92	0.231	0.022
131	12	6	C	65.00	22	8.91	13.82	4.1	5.0	2.16	1.92	0.231	1.061
132	1	1	C	65.00	24	9.09	13.59	4.5	5.0	1.26	1.16	0.204	0.489
132	1	2	C	65.00	24	9.09	13.59	4.5	5.0	1.02	1.16	0.204	-0.685
132	1	3	C	65.00	24	9.09	13.59	4.5	5.0	1.08	1.16	0.204	-0.391
132	1	4	C	65.00	24	9.09	13.59	4.5	5.0	1.26	1.16	0.204	0.489
132	1	5	C	65.00	24	9.09	13.59	4.5	5.0	1.14	1.16	0.204	-0.098
132	1	6	C	65.00	24	9.09	13.59	4.5	5.0	1.32	1.16	0.204	0.782
132	1	7	C	65.00	24	9.09	13.59	4.5	5.0	1.08	1.16	0.204	-0.391
132	1	8	C	65.00	24	9.09	13.59	4.5	5.0	1.20	1.16	0.204	0.196
132	1	9	C	65.00	24	9.09	13.59	4.5	5.0	1.44	1.16	0.204	1.369
132	1	10	C	65.00	24	9.09	13.59	4.5	5.0	1.14	1.16	0.204	-0.098
132	1	11	C	65.00	24	9.09	13.59	4.5	5.0	1.20	1.16	0.204	0.196

IDENT	SPAN NMBR	BEAM NMBR	TYPE	SPAN LGTH (FT)	STRANDS (NMBR)	ECCENTRICITY END (INCHES)	ECCENTRICITY MIDDLE (INCHES)	DESIGN FPCI (KSI)	DESIGN FPC (KSI)	**CAMBER ACTL.	MEAN	STD. DEV.	T-VAL STATISTICS**
132	1	12	C	65.00	24	9.09	13.59	4.5	5.0	1.44	1.16	0.204	1.369
132	1	13	C	65.00	24	9.09	13.59	4.5	5.0	0.90	1.16	0.204	-1.271
132	1	14	C	65.00	24	9.09	13.59	4.5	5.0	1.02	1.16	0.204	-0.685
132	2	1	C	65.00	24	9.09	13.59	4.5	5.0	0.72	1.16	0.204	-2.152
132	2	2	C	65.00	24	9.09	13.59	4.5	5.0	0.84	1.16	0.204	-1.565
132	2	3	C	65.00	24	9.09	13.59	4.5	5.0	1.56	1.16	0.204	1.956
132	2	4	C	65.00	24	9.09	13.59	4.5	5.0	1.02	1.16	0.204	-0.685
132	2	5	C	65.00	24	9.09	13.59	4.5	5.0	1.08	1.16	0.204	-0.391
132	2	6	C	65.00	24	9.09	13.59	4.5	5.0	1.38	1.16	0.204	1.076
132	2	7	C	65.00	24	9.09	13.59	4.5	5.0	1.38	1.16	0.204	1.076
132	2	8	C	65.00	24	9.09	13.59	4.5	5.0	1.26	1.16	0.204	0.489
132	2	9	C	65.00	24	9.09	13.59	4.5	5.0	1.38	1.16	0.204	1.076
132	2	10	C	65.00	24	9.09	13.59	4.5	5.0	1.08	1.16	0.204	-0.391
132	2	11	C	65.00	24	9.09	13.59	4.5	5.0	1.26	1.16	0.204	0.489
132	2	12	C	65.00	24	9.09	13.59	4.5	5.0	0.96	1.16	0.204	-0.978
132	2	13	C	65.00	24	9.09	13.59	4.5	5.0	0.90	1.16	0.204	-1.272
133	6	1	C	65.00	20	10.09	14.09	4.0	5.0	0.96	1.15	0.203	-0.927
133	6	2	C	65.00	20	10.09	14.09	4.0	5.0	0.96	1.15	0.203	-0.928
133	6	3	C	65.00	20	10.09	14.09	4.0	5.0	1.20	1.15	0.203	0.253
133	6	4	C	65.00	20	10.09	14.09	4.0	5.0	1.08	1.15	0.203	-0.338
133	6	5	C	65.00	20	10.09	14.09	4.0	5.0	1.32	1.15	0.203	0.844
133	6	6	C	65.00	20	10.09	14.09	4.0	5.0	1.02	1.15	0.203	-0.633
133	6	7	C	65.00	20	10.09	14.09	4.0	5.0	1.50	1.15	0.203	1.729
134	1	1	C	65.00	24	9.26	13.59			1.56	1.50	0.418	0.144
134	1	2	C	65.00	24	9.26	13.59			1.50	1.50	0.418	-0.000
134	1	3	C	65.00	24	9.26	13.59			1.20	1.50	0.418	-0.718
134	1	4	C	65.00	24	9.26	13.59			1.26	1.50	0.418	-0.574
134	1	5	C	65.00	24	9.26	13.59			1.62	1.50	0.418	0.287
134	1	6	C	65.00	24	9.26	13.59			1.08	1.50	0.418	-1.005
134	2	1	C	65.00	24	9.26	13.59			1.50	1.50	0.418	0.000
134	2	2	C	65.00	24	9.26	13.59			1.20	1.50	0.418	-0.718
134	2	3	C	65.00	24	9.26	13.59			1.56	1.50	0.418	0.144
134	2	4	C	65.00	24	9.26	13.59			1.38	1.50	0.418	-0.287
134	2	5	C	65.00	24	9.26	13.59			1.56	1.50	0.418	0.144
134	2	6	C	65.00	24	9.26	13.59			1.14	1.50	0.418	-0.861
134	1	1	C	65.00	24	9.26	13.59			1.20	1.50	0.418	-0.718
134	1	2	C	65.00	24	9.26	13.59			1.56	1.50	0.418	0.144
134	1	3	C	65.00	24	9.26	13.59			1.68	1.50	0.418	0.431
134	1	4	C	65.00	24	9.26	13.59			1.56	1.50	0.418	0.144
134	1	5	C	65.00	24	9.26	13.59			1.80	1.50	0.418	0.718
134	1	6	C	65.00	24	9.26	13.59			1.62	1.50	0.418	0.287

IDENT	SPAN NMBR	BEAM NMBR	BEAM TYPE	SPAN LGTH (FT)	STRANDS (NMBR)	ECCENTRICITY END (INCHES)	ECCENTRICITY MIDDLE (INCHES)	DESIGN FPCI (KSI)	DESIGN FPC (KSI)	**CAMBER STATISTICS** ACTL.	MEAN	STD. DEV.	T-VAL
134	2	1	C	65.00	24	9.26	13.59			3.18	1.50	0.418	4.020
134	2	2	C	65.00	24	9.26	13.59			1.74	1.50	0.418	0.574
134	2	3	C	65.00	24	9.26	13.59			1.26	1.50	0.418	-0.574
134	2	4	C	65.00	24	9.26	13.59			1.02	1.50	0.418	-1.148
134	2	5	C	65.00	24	9.26	13.59			1.32	1.50	0.418	-0.431
134	2	6	C	65.00	24	9.26	13.59			1.50	1.50	0.418	0.000
135	1	1	C	65.00	26	8.29	11.89			2.04	2.25	0.187	-1.123
135	1	2	C	65.00	26	8.29	11.89			2.40	2.25	0.187	0.803
135	1	3	C	65.00	26	8.29	11.89			2.16	2.25	0.187	-0.482
135	1	4	C	65.00	26	8.29	11.89			2.10	2.25	0.187	-0.801
135	2	1	C	65.00	26	8.29	11.89			2.40	2.25	0.187	0.803
135	2	2	C	65.00	26	8.29	11.89			2.34	2.25	0.187	0.480
135	2	3	C	65.00	26	8.29	11.89			2.52	2.25	0.187	1.444
135	2	4	C	65.00	26	8.29	11.89			2.04	2.25	0.187	-1.122
136	3	1	C	65.00	26	9.24	13.40			1.98	2.13	0.173	-0.868
136	3	2	C	65.00	26	9.24	13.40			2.22	2.13	0.173	0.521
136	3	3	C	65.00	26	9.24	13.40			2.28	2.13	0.173	0.868
136	3	4	C	65.00	26	9.24	13.40			2.40	2.13	0.173	1.563
136	4	1	C	65.00	26	9.24	13.40			1.98	2.13	0.173	-0.868
136	4	2	C	65.00	26	9.24	13.40			2.22	2.13	0.173	0.521
136	4	3	C	65.00	26	9.24	13.40			1.92	2.13	0.173	-1.216
136	4	4	C	65.00	26	9.24	13.40			2.04	2.13	0.173	-0.522
137	5	1	C	65.00	22	8.91	15.82	4.1	5.0	0.78	0.92	0.147	-0.971
137	5	6	C	65.00	22	8.91	15.82	4.1	5.0	0.90	0.92	0.147	-0.154
137	6	1	C	65.00	22	8.91	15.82	4.1	5.0	1.08	0.92	0.147	1.074
137	6	6	C	65.00	22	8.91	15.82	4.1	5.0	1.20	0.92	0.147	1.891
137	5	1	C	65.00	22	8.91	15.82	4.1	5.0	0.90	0.92	0.147	-0.153
137	5	6	C	65.00	22	8.91	15.82	4.1	5.0	0.90	0.92	0.147	-0.154
137	6	1	C	65.00	22	8.91	15.82	4.1	5.0	0.78	0.92	0.147	-0.971
137	6	6	C	65.00	22	8.91	15.82	4.1	5.0	0.84	0.92	0.147	-0.562
138	1	1	C	65.00	20	10.09	14.09	4.0	5.0	1.14	0.85	0.194	1.501
138	1	2	C	65.00	20	10.09	14.09	4.0	5.0	0.96	0.85	0.194	0.574
138	1	3	C	65.00	20	10.09	14.09	4.0	5.0	0.72	0.85	0.194	-0.661
138	1	4	C	65.00	20	10.09	14.09	4.0	5.0	0.96	0.85	0.194	0.574
138	1	5	C	65.00	20	10.09	14.09	4.0	5.0	0.66	0.85	0.194	-0.972
138	1	6	C	65.00	20	10.09	14.09	4.0	5.0	0.90	0.85	0.194	0.265
138	1	7	C	65.00	20	10.09	14.09	4.0	5.0	0.60	0.85	0.194	-1.280

IDENT	SPAN NMBR	BEAM NMBR	BEAM TYPE	SPAN LGTH (FT)	STRANDS (NMBR)	ECCENTRICITY END (INCHES)	ECCENTRICITY MIDDLE (INCHES)	DESIGN FPCI (KSI)	DESIGN FPC (KSI)	**CAMBER ACTL.	MEAN	STD. DEV.	T-VAL STATISTICS**
139	10	1	C	64.00	22	9.45	13.80	4.2	5.1	0.90	1.10	0.279	-0.698
139	10	6	C	64.00	22	9.45	13.80	4.2	5.1	0.96	1.10	0.279	-0.484
139	11	1	C	64.00	22	9.45	13.80	4.2	5.1	1.08	1.10	0.279	-0.054
139	11	6	C	64.00	22	9.45	13.80	4.2	5.1	1.08	1.10	0.279	-0.053
139	10	1	C	64.00	22	9.45	13.80	4.2	5.1	1.14	1.10	0.279	0.161
139	10	6	C	64.00	22	9.45	13.80	4.2	5.1	1.74	1.10	0.279	2.311
139	11	1	C	64.00	22	9.45	13.80	4.2	5.1	1.02	1.10	0.279	-0.269
139	11	6	C	64.00	22	9.45	13.80	4.2	5.1	0.84	1.10	0.279	-0.914
140	1	1	C	60.00	20	9.29	14.08	4.0	5.0	1.32	0.84	0.304	1.582
140	1	6	C	60.00	20	9.29	14.08	4.0	5.0	1.02	0.84	0.304	0.593
140	2	1	C	60.00	20	9.29	14.08	4.0	5.0	0.60	0.84	0.304	-0.790
140	2	6	C	60.00	20	9.29	14.08	4.0	5.0	0.78	0.84	0.304	-0.198
140	3	1	C	60.00	20	9.29	14.08	4.0	5.0	0.54	0.84	0.304	-0.988
140	3	6	C	60.00	20	9.29	14.08	4.0	5.0	0.78	0.84	0.304	-0.198
140	4	1	C	60.00	20	9.29	14.08	4.0	5.0	0.54	0.84	0.304	-0.988
140	4	6	C	60.00	20	9.29	14.08	4.0	5.0	0.60	0.84	0.304	-0.791
140	1	1	C	60.00	20	9.29	14.08	4.0	5.0	0.84	0.84	0.304	0.000
140	1	6	C	60.00	20	9.29	14.08	4.0	5.0	1.50	0.84	0.304	2.174
140	2	1	C	60.00	20	9.29	14.08	4.0	5.0	0.84	0.84	0.304	-0.000
140	2	6	C	60.00	20	9.29	14.08	4.0	5.0	0.48	0.84	0.304	-1.186
140	3	1	C	60.00	20	9.29	14.08	4.0	5.0	0.78	0.84	0.304	-0.198
140	3	6	C	60.00	20	9.29	14.08	4.0	5.0	1.32	0.84	0.304	1.581
140	4	1	C	60.00	20	9.29	14.08	4.0	5.0	0.78	0.84	0.304	-0.198
140	4	6	C	60.00	20	9.29	14.08	4.0	5.0	0.72	0.84	0.304	-0.395
141	1	2	C	60.00	28	9.80	9.80	4.0	5.0	0.60	0.74	0.166	-0.856
141	1	3	C	60.00	28	9.80	9.80	4.0	5.0	0.78	0.74	0.166	0.225
141	1	4	C	60.00	28	9.80	9.80	4.0	5.0	0.66	0.74	0.166	-0.495
141	4	1	C	60.00	28	9.80	9.80	4.0	5.0	0.84	0.74	0.166	0.585
141	4	2	C	60.00	28	9.80	9.80	4.0	5.0	1.02	0.74	0.166	1.668
141	4	3	C	60.00	28	9.80	9.80	4.0	5.0	0.72	0.74	0.166	-0.136
141	4	4	C	60.00	28	9.80	9.80	4.0	5.0	0.84	0.74	0.166	0.586
141	4	5	C	60.00	28	9.80	9.80	4.0	5.0	0.48	0.74	0.166	-1.577
142	1	1	C	60.00	20	9.29	14.09			0.90	0.78	0.139	0.883
142	1	2	C	60.00	20	9.29	14.09			0.78	0.78	0.139	0.020
142	1	3	C	60.00	20	9.29	14.09			0.78	0.78	0.139	0.020
142	1	4	C	60.00	20	9.29	14.09			0.60	0.78	0.139	-1.274
142	1	5	C	60.00	20	9.29	14.09			0.84	0.78	0.139	0.451
142	1	6	C	60.00	20	9.29	14.09			0.90	0.78	0.139	0.881
142	4	1	C	60.00	20	9.29	14.09			0.60	0.78	0.139	-1.274

IDENT	SPAN NMBR	BEAM NMBR	BEAM TYPE	SPAN LGTH (FT)	STRANDS (NMBR)	ECCENTRICITY END (INCHES)	ECCENTRICITY MIDDLE (INCHES)	DESIGN FPCI (KSI)	DESIGN FPC (KSI)	**CAMBER STATISTICS** ACTL.	MEAN	STD. DEV.	T-VAL
142	4	4	C	60.00	20	9.29	14.09			0.78	0.78	0.139	0.020
142	4	5	C	60.00	20	9.29	14.09			0.60	0.78	0.139	-1.274
142	4	6	C	60.00	20	9.29	14.09			0.96	0.78	0.139	1.313
142	1	1	C	60.00	20	9.29	14.09			0.78	0.78	0.139	0.020
142	1	2	C	60.00	20	9.29	14.09			0.60	0.78	0.139	-1.274
142	1	3	C	60.00	20	9.29	14.09			0.78	0.78	0.139	0.020
142	1	4	C	60.00	20	9.29	14.09			0.66	0.78	0.139	-0.842
142	1	5	C	60.00	20	9.29	14.09			0.90	0.78	0.139	0.883
142	1	6	C	60.00	20	9.29	14.09			0.90	0.78	0.139	0.881
142	4	1	C	60.00	20	9.29	14.09			0.54	0.78	0.139	-1.706
142	4	2	C	60.00	20	9.29	14.09			0.66	0.78	0.139	-0.844
142	4	3	C	60.00	20	9.29	14.09			0.78	0.78	0.139	0.021
142	4	4	C	60.00	20	9.29	14.09			0.84	0.78	0.139	0.450
142	4	5	C	60.00	20	9.29	14.09			1.08	0.78	0.139	2.175
142	4	6	C	60.00	20	9.29	14.09			0.84	0.78	0.139	0.451
143	1	1	C	60.00	20	9.29	14.09	4.0	5.0	0.96	1.13	0.137	-1.200
143	1	3	C	60.00	20	9.29	14.09	4.0	5.0	1.14	1.13	0.137	0.109
143	1	2	C	60.00	20	9.29	14.09	4.0	5.0	1.02	1.13	0.137	-0.764
143	1	4	C	60.00	20	9.29	14.09	4.0	5.0	1.02	1.13	0.137	-0.764
143	1	5	C	60.00	20	9.29	14.09	4.0	5.0	1.20	1.13	0.137	0.546
143	1	6	C	60.00	20	9.29	14.09	4.0	5.0	1.02	1.13	0.137	-0.764
143	3	1	C	60.00	20	9.29	14.09	4.0	5.0	1.08	1.13	0.137	-0.328
143	3	2	C	60.00	20	9.29	14.09	4.0	5.0	1.02	1.13	0.137	-0.764
143	3	3	C	60.00	20	9.29	14.09	4.0	5.0	1.14	1.13	0.137	0.109
143	3	4	C	60.00	20	9.29	14.09	4.0	5.0	1.20	1.13	0.137	0.546
143	3	5	C	60.00	20	9.29	14.09	4.0	5.0	0.96	1.13	0.137	-1.202
143	3	6	C	60.00	20	9.29	14.09	4.0	5.0	1.14	1.13	0.137	0.109
143	1	1	C	60.00	20	9.29	14.09	4.0	5.0	1.08	1.13	0.137	-0.327
143	1	2	C	60.00	20	9.29	14.09	4.0	5.0	0.96	1.13	0.137	-1.202
143	1	3	C	60.00	20	9.29	14.09	4.0	5.0	1.08	1.13	0.137	-0.327
143	1	4	C	60.00	20	9.29	14.09	4.0	5.0	1.14	1.13	0.137	0.109
143	1	5	C	60.00	20	9.29	14.09	4.0	5.0	1.56	1.13	0.137	3.168
143	1	6	C	60.00	20	9.29	14.09	4.0	5.0	1.32	1.13	0.137	1.420
143	3	1	C	60.00	20	9.29	14.09	4.0	5.0	1.08	1.13	0.137	-0.327
143	3	2	C	60.00	20	9.29	14.09	4.0	5.0	1.26	1.13	0.137	0.984
143	3	3	C	60.00	20	9.29	14.09	4.0	5.0	1.08	1.13	0.137	-0.328
143	3	4	C	60.00	20	9.29	14.09	4.0	5.0	1.14	1.13	0.137	0.109
143	3	5	C	60.00	20	9.29	14.09	4.0	5.0	1.32	1.13	0.137	1.420
143	3	6	C	60.00	20	9.29	14.09	4.0	5.0	1.08	1.13	0.137	-0.327
144	1	1	C	60.00	20	10.09	14.09	4.0	5.0	0.78	0.87	0.138	-0.668
144	1	2	C	60.00	20	10.09	14.09	4.0	5.0	0.96	0.87	0.138	0.639

IDENT	SPAN NMBR	BEAM NMBR	BEAM TYPE	SPAN LGTH (FT)	STRANDS (NMBR)	ECCENTRICITY END (INCHES)	ECCENTRICITY MIDDLE (INCHES)	DESIGN FPCI (KSI)	DESIGN FPC (KSI)	**CAMBER ACTL.	STATISTICS MEAN	STD. DEV.	T-VAL**
144	1	3	C	60.00	20	10.09	14.09	4.0	5.0	0.78	0.87	0.138	-0.668
144	1	4	C	60.00	20	10.09	14.09	4.0	5.0	1.08	0.87	0.138	1.511
144	1	5	C	60.00	20	10.09	14.09	4.0	5.0	0.90	0.87	0.138	0.203
144	1	6	C	60.00	20	10.09	14.09	4.0	5.0	0.90	0.87	0.138	0.203
144	1	7	C	60.00	20	10.09	14.09	4.0	5.0	1.02	0.87	0.138	1.075
144	4	1	C	60.00	18	10.20	14.20	4.0	5.0	0.96	0.87	0.138	0.639
144	4	2	C	60.00	18	10.20	14.20	4.0	5.0	1.08	0.87	0.138	1.511
144	4	3	C	60.00	18	10.20	14.20	4.0	5.0	0.84	0.87	0.138	-0.232
144	4	4	C	60.00	18	10.20	14.20	4.0	5.0	0.72	0.87	0.138	-1.104
144	4	5	C	60.00	18	10.20	14.20	4.0	5.0	0.90	0.87	0.138	0.203
144	4	6	C	60.00	18	10.20	14.20	4.0	5.0	0.72	0.87	0.138	-1.104
144	4	7	C	60.00	18	10.20	14.20	4.0	5.0	0.84	0.87	0.138	-0.232
144	4	8	C	60.00	18	10.20	14.20	4.0	5.0	0.60	0.87	0.138	-1.975
145	1	1	C	60.00	18	9.31	14.20	4.0	5.0	1.20	1.07	0.264	0.492
145	1	2	C	60.00	18	9.31	14.20	4.0	5.0	1.32	1.07	0.264	0.947
145	1	3	C	60.00	18	9.31	14.20	4.0	5.0	1.26	1.07	0.264	0.719
145	1	4	C	60.00	18	9.31	14.20	4.0	5.0	1.08	1.07	0.264	0.038
145	1	5	C	60.00	18	9.31	14.20	4.0	5.0	0.96	1.07	0.264	-0.417
145	1	6	C	60.00	18	9.31	14.20	4.0	5.0	0.60	1.07	0.264	-1.780
146	1	1	C	60.00	20	9.29	14.08	4.0	5.0	1.02	1.00	0.197	0.102
146	1	2	C	60.00	20	9.29	14.08	4.0	5.0	1.38	1.00	0.197	1.928
146	1	3	C	60.00	20	9.29	14.08	4.0	5.0	1.26	1.00	0.197	1.319
146	1	4	C	60.00	20	9.29	14.08	4.0	5.0	1.14	1.00	0.197	0.710
146	1	5	C	60.00	20	9.29	14.08	4.0	5.0	0.90	1.00	0.197	-0.507
146	1	6	C	60.00	20	9.29	14.08	4.0	5.0	1.02	1.00	0.197	0.102
146	2	1	C	60.00	20	9.29	14.08	4.0	5.0	0.72	1.00	0.197	-1.421
146	2	2	C	60.00	20	9.29	14.08	4.0	5.0	0.84	1.00	0.197	-0.812
146	2	3	C	60.00	20	9.29	14.08	4.0	5.0	1.08	1.00	0.197	0.406
146	2	4	C	60.00	20	9.29	14.08	4.0	5.0	1.02	1.00	0.197	0.102
146	2	5	C	60.00	20	9.29	14.08	4.0	5.0	0.84	1.00	0.197	-0.812
146	2	6	C	60.00	20	9.29	14.08	4.0	5.0	0.78	1.00	0.197	-1.116
147	13	1	C	60.00	20	9.69	14.07	4.0	5.0	1.44	1.73	0.247	-1.183
147	13	2	C	60.00	20	9.69	14.07	4.0	5.0	1.38	1.73	0.247	-1.426
147	13	3	C	60.00	20	9.69	14.07	4.0	5.0	1.86	1.73	0.247	0.516
147	13	4	C	60.00	20	9.69	14.07	4.0	5.0	2.04	1.73	0.247	1.244
147	13	5	C	60.00	20	9.69	14.07	4.0	5.0	1.56	1.73	0.247	-0.698
147	13	6	C	60.00	20	9.69	14.07	4.0	5.0	1.98	1.73	0.247	1.001
147	13	7	C	60.00	20	9.69	14.07	4.0	5.0	1.86	1.73	0.247	0.516
147	13	8	C	60.00	20	9.69	14.07	4.0	5.0	1.74	1.73	0.247	0.030

IDENT	SPAN NMBR	BEAM NMBR	TYPE	SPAN LGTH (FT)	STRANDS (NMBR)	ECCENTRICITY END (INCHES)	ECCENTRICITY MIDDLE (INCHES)	DESIGN FPCI (KSI)	DESIGN FPC (KSI)	**CAMBER STATISTICS** ACTL.	MEAN	STD. DEV.	T-VAL
148	2	1	C	60.08	24	9.42	9.42	4.6	5.9	1.38	1.08	0.208	1.460
148	2	2	C	60.04	24	9.42	9.42	4.6	5.9	0.90	1.08	0.208	-0.843
148	2	3	C	60.01	24	9.42	9.42	4.6	5.9	1.38	1.08	0.208	1.460
148	2	4	C	59.97	24	9.42	9.42	4.6	5.9	0.96	1.08	0.208	-0.555
148	2	5	C	59.93	24	9.42	9.42	4.6	5.9	0.90	1.08	0.208	-0.843
148	2	6	C	59.89	24	9.42	9.42	4.6	5.9	0.90	1.08	0.208	-0.843
148	2	7	C	59.85	24	9.42	9.42	4.6	5.9	0.96	1.08	0.208	-0.555
148	19	1	C	60.00	24	9.42	9.42	4.6	5.9	1.50	1.08	0.208	2.035
148	19	2	C	60.00	24	9.42	9.42	4.6	5.9	1.08	1.08	0.208	0.021
148	19	3	C	60.00	24	9.42	9.42	4.6	5.9	0.84	1.08	0.208	-1.131
148	19	4	C	60.00	24	9.42	9.42	4.6	5.9	0.96	1.08	0.208	-0.555
148	19	5	C	60.00	24	9.42	9.42	4.6	5.9	1.02	1.08	0.208	-0.267
148	19	6	C	60.00	24	9.42	9.42	4.6	5.9	1.14	1.08	0.208	0.308
148	19	7	C	60.00	24	9.42	9.42	4.6	5.9	1.14	1.08	0.208	0.308
149	1	1	C	60.00	28	9.80	13.23	4.0	5.0	0.90	0.76	0.260	0.539
149	1	2	C	60.00	28	9.80	13.23	4.0	5.0	0.84	0.76	0.260	0.308
149	1	3	C	60.00	28	9.80	13.23	4.0	5.0	0.96	0.76	0.260	0.770
149	1	4	C	60.00	28	9.80	13.23	4.0	5.0	0.84	0.76	0.260	0.308
149	1	5	C	60.00	28	9.80	13.23	4.0	5.0	0.84	0.76	0.260	0.308
149	1	6	C	60.00	28	9.80	13.23	4.0	5.0	0.90	0.76	0.260	0.539
149	3	1	C	60.00	28	9.80	13.23	4.0	5.0	0.96	0.76	0.260	0.770
149	3	2	C	60.00	28	9.80	13.23	4.0	5.0	0.60	0.76	0.260	-0.616
149	3	3	C	60.00	28	9.80	13.23	4.0	5.0	0.54	0.76	0.260	-0.847
149	3	4	C	60.00	28	9.80	13.23	4.0	5.0	0.42	0.76	0.260	-1.309
149	3	5	C	60.00	28	9.80	13.23	4.0	5.0	1.20	0.76	0.260	1.693
149	3	6	C	60.00	28	9.80	13.23	4.0	5.0	0.84	0.76	0.260	0.308
149	1	1	C	60.00	28	9.80	13.23	4.0	5.0	0.90	0.76	0.260	0.539
149	1	2	C	60.00	28	9.80	13.23	4.0	5.0	1.02	0.76	0.260	1.001
149	1	3	C	60.00	28	9.80	13.23	4.0	5.0	0.66	0.76	0.260	-0.385
149	1	4	C	60.00	28	9.80	13.23	4.0	5.0	0.84	0.76	0.260	0.308
149	1	5	C	60.00	28	9.80	13.23	4.0	5.0	0.60	0.76	0.260	-0.616
149	1	6	C	60.00	28	9.80	13.23	4.0	5.0	0.60	0.76	0.260	-0.616
149	3	1	C	60.00	28	9.80	13.23	4.0	5.0	0.90	0.76	0.260	0.539
149	3	2	C	60.00	28	9.80	13.23	4.0	5.0	0.36	0.76	0.260	-1.539
149	3	3	C	60.00	28	9.80	13.23	4.0	5.0	0.30	0.76	0.260	-1.770
149	3	4	C	60.00	28	9.80	13.23	4.0	5.0	0.96	0.76	0.260	0.770
149	3	5	C	60.00	28	9.80	13.23	4.0	5.0	0.18	0.76	0.260	-2.232
149	3	6	C	60.00	28	9.80	13.23	4.0	5.0	1.08	0.76	0.260	1.232
150	1	3	C	60.00	18	9.76	14.18	4.0	5.0	1.26	1.35	0.293	-0.292
150	1	4	C	60.00	18	9.76	14.18	4.0	5.0	1.62	1.35	0.293	0.936
150	1	5	C	60.00	18	9.76	14.18	4.0	5.0	1.68	1.35	0.293	1.141

IDENT	SPAN NMBR	BEAM NMBR	BEAM TYPE	SPAN LGTH (FT)	STRANDS (NMBR)	ECCENTRICITY END (INCHES)	ECCENTRICITY MIDDLE (INCHES)	DESIGN FPCI (KSI)	DESIGN FPC (KSI)	**CAMBER STATISTICS** ACTL.	MEAN	STD. DEV.	T-VAL
150	1	6	C	60.00	18	9.76	14.18	4.0	5.0	1.74	1.35	0.293	1.345
150	1	7	C	60.00	18	9.76	14.18	4.0	5.0	1.44	1.35	0.293	0.322
150	8	1	C	60.00	18	9.76	14.18	4.0	5.0	1.50	1.35	0.293	0.526
150	8	2	C	60.00	18	9.76	14.18	4.0	5.0	1.26	1.35	0.293	-0.292
150	8	3	C	60.00	18	9.76	14.18	4.0	5.0	1.20	1.35	0.293	-0.497
150	8	4	C	60.00	18	9.76	14.18	4.0	5.0	0.96	1.35	0.293	-1.316
150	8	5	C	60.00	18	9.76	14.18	4.0	5.0	1.56	1.35	0.293	0.731
150	8	6	C	60.00	18	9.76	14.18	4.0	5.0	1.20	1.35	0.293	-0.497
150	8	7	C	60.00	18	9.76	14.18	4.0	5.0	1.74	1.35	0.293	1.345
150	8	8	C	60.00	18	9.76	14.18	4.0	5.0	0.84	1.35	0.293	-1.726
150	12	1	C	60.00	18	9.76	14.18	4.0	5.0	1.02	1.35	0.293	-1.111
150	12	2	C	60.00	18	9.76	14.18	4.0	5.0	1.14	1.35	0.293	-0.702
150	12	3	C	60.00	18	9.76	14.18	4.0	5.0	1.26	1.35	0.293	-0.292
150	12	4	C	60.00	18	9.76	14.18	4.0	5.0	1.38	1.35	0.293	0.117
150	12	5	C	60.00	18	9.76	14.18	4.0	5.0	0.84	1.35	0.293	-1.726
150	12	6	C	60.00	18	9.76	14.18	4.0	5.0	1.38	1.35	0.293	0.117
150	12	7	C	60.00	18	9.76	14.18	4.0	5.0	1.86	1.35	0.293	1.755
150	12	8	C	60.00	18	9.76	14.18	4.0	5.0	1.38	1.35	0.293	0.117
151	2	1	C	60.00	24	9.42	9.42			0.90	1.03	0.215	-0.582
151	2	2	C	60.00	24	9.42	9.42			0.84	1.03	0.215	-0.861
151	2	3	C	60.00	24	9.42	9.42			1.20	1.03	0.215	0.814
151	2	4	C	60.00	24	9.42	9.42			0.90	1.03	0.215	-0.582
151	2	5	C	60.00	24	9.42	9.42			0.72	1.03	0.215	-1.421
151	2	6	C	60.00	24	9.42	9.42			1.26	1.03	0.215	1.095
151	5	1	C	60.00	24	9.42	9.42			1.38	1.03	0.215	1.653
151	5	2	C	60.00	24	9.42	9.42			1.14	1.03	0.215	0.535
151	5	3	C	60.00	24	9.42	9.42			0.84	1.03	0.215	-0.861
151	5	4	C	60.00	24	9.42	9.42			1.02	1.03	0.215	-0.023
151	5	5	C	60.00	24	9.42	9.42			1.26	1.03	0.215	1.094
151	5	6	C	60.00	24	9.42	9.42			0.84	1.03	0.215	-0.862
152	1	1	C	60.00	24	8.87	14.20			1.20	2.22	8.908	-0.114
152	1	2	C	60.00	24	8.87	14.20			0.90	2.22	8.908	-0.146
152	1	3	C	60.00	24	8.87	14.20			0.84	2.22	8.908	-0.155
152	1	4	C	60.00	24	8.87	14.20			0.72	2.22	8.908	-0.165
152	1	5	C	60.00	24	8.87	14.20			0.60	2.22	8.908	-0.182
152	1	6	C	60.00	24	8.87	14.20			0.72	2.22	8.908	-0.168
152	2	1	C	60.00	24	8.87	14.20			0.66	2.22	8.908	-0.175
152	2	2	C	60.00	24	8.87	14.20			0.54	2.22	8.908	-0.188
152	2	3	C	60.00	24	8.87	14.20			1.08	2.22	8.908	-0.128
152	2	4	C	60.00	24	8.87	14.20			1.50	2.22	8.908	-0.081
152	2	5	C	60.00	24	8.87	14.20			1.02	2.22	8.908	-0.134

IDENT	SPAN NMBR	BEAM NMBR	BEAM TYPE	SPAN LGTH (FT)	STRANDS (NMBR)	ECCENTRICITY END (INCHES)	ECCENTRICITY MIDDLE (INCHES)	DESIGN FPCI/FPC (KSI)	**CAMBER STATISTICS** ACTL.	MEAN	STD. DEV.	T-VAL
152	2	6	C	60.00	24	8.87	14.20		0.84	2.22	8.906	-0.155
152	3	1	C	60.00	24	8.87	14.20		0.84	2.22	8.906	-0.155
152	3	2	C	60.00	24	8.87	14.20		1.14	2.22	8.906	-0.121
152	3	3	C	60.00	24	8.87	14.20		0.84	2.22	8.906	-0.155
152	3	4	C	60.00	24	8.87	14.20		0.84	2.22	8.906	-0.155
152	3	5	C	60.00	24	8.87	14.20		0.96	2.22	8.906	-0.141
152	3	6	C	60.00	24	8.87	14.20		0.60	2.22	8.906	-0.182
152	4	1	C	60.00	24	8.87	14.20		0.90	2.22	8.906	-0.148
152	4	2	C	60.00	24	8.87	14.20		1.02	2.22	8.906	-0.134
152	4	3	C	60.00	24	8.87	14.20		0.66	2.22	8.906	-0.175
152	4	4	C	60.00	24	8.87	14.20		1.08	2.22	8.906	-0.128
152	4	5	C	60.00	24	8.87	14.20		1.20	2.22	8.906	-0.114
152	4	6	C	60.00	24	8.87	14.20		0.72	2.22	8.906	-0.168
152	5	1	C	60.00	24	8.87	14.20		0.78	2.22	8.906	-0.161
152	5	2	C	60.00	24	8.87	14.20		1.14	2.22	8.906	-0.121
152	5	3	C	60.00	24	8.87	14.20		0.30	2.22	8.906	-0.215
152	5	4	C	60.00	24	8.87	14.20		1.74	2.22	8.906	-0.054
152	5	5	C	60.00	24	8.87	14.20		1.38	2.22	8.906	-0.094
152	5	6	C	60.00	24	8.87	14.20		1.32	2.22	8.906	-0.101
152	6	1	C	60.00	24	8.87	14.20		0.96	2.22	8.906	-0.141
152	6	2	C	60.00	24	8.87	14.20		0.60	2.22	8.906	-0.182
152	6	3	C	60.00	24	8.87	14.20		0.84	2.22	8.906	-0.155
152	6	4	C	60.00	24	8.87	14.20		0.90	2.22	8.906	-0.148
152	6	5	C	60.00	24	8.87	14.20		0.48	2.22	8.906	-0.195
152	6	6	C	60.00	24	8.87	14.20		0.66	2.22	8.906	-0.175
152	7	1	C	60.00	24	8.87	14.20		0.48	2.22	8.906	-0.195
152	7	2	C	60.00	24	8.87	14.20		0.72	2.22	8.906	-0.168
152	7	3	C	60.00	24	8.87	14.20		0.48	2.22	8.906	-0.195
152	7	4	C	60.00	24	8.87	14.20		0.54	2.22	8.906	-0.188
152	7	5	C	60.00	24	8.87	14.20		0.84	2.22	8.906	-0.155
152	7	6	C	60.00	24	8.87	14.20		0.78	2.22	8.906	-0.161
152	8	1	C	60.00	24	8.87	14.20		0.96	2.22	8.906	-0.141
152	8	2	C	60.00	24	8.87	14.20		0.78	2.22	8.906	-0.161
152	8	3	C	60.00	24	8.87	14.20		0.60	2.22	8.906	-0.182
152	8	4	C	60.00	24	8.87	14.20		0.48	2.22	8.906	-0.195
152	8	5	C	60.00	24	8.87	14.20		0.60	2.22	8.906	-0.182
152	8	6	C	60.00	24	8.87	14.20		0.90	2.22	8.906	-0.148
152	9	1	C	60.00	24	8.87	14.20		0.90	2.22	8.906	-0.148
152	9	2	C	60.00	24	8.87	14.20		0.48	2.22	8.906	-0.195
152	9	3	C	60.00	24	8.87	14.20		0.54	2.22	8.906	-0.188
152	9	4	C	60.00	24	8.87	14.20		1.38	2.22	8.906	-0.094
152	9	5	C	60.00	24	8.87	14.20		0.72	2.22	8.906	-0.168
152	9	6	C	60.00	24	8.87	14.20		0.72	2.22	8.906	-0.168
152	10	1	C	60.00	24	8.87	14.20		0.60	2.22	8.906	-0.182
152	10	2	C	60.00	24	8.87	14.20		0.60	2.22	8.906	-0.182

IDENT	SPAN NMBR	BEAM NMBR	BEAM TYPE	SPAN LGTH (FT)	STRANDS (NMBR)	ECCENTRICITY END (INCHES)	ECCENTRICITY MIDDLE (INCHES)	DESIGN FPCI/FPC (KSI)	**CAMBER STATISTICS** ACTL.	MEAN	STD. DEV.	T-VAL
152	10	3	C	60.00	24	8.87	14.20		0.84	2.22	8.908	-0.155
152	10	4	C	60.00	24	8.87	14.20		0.84	2.22	8.908	-0.155
152	10	5	C	60.00	24	8.87	14.20		0.72	2.22	8.908	[illegible]
152	10	6	C	60.00	24	8.87	14.20		0.54	2.22	8.908	[illegible]
152	11	1	C	60.00	24	8.87	14.20		0.90	2.22	8.908	[illegible]
152	11	2	C	60.00	24	8.87	14.20		1.08	2.22	8.908	[illegible]
152	11	3	C	60.00	24	8.87	14.20		0.72	2.22	8.908	[illegible]
152	11	4	C	60.00	24	8.87	14.20		0.30	2.22	8.908	-0.215
152	11	5	C	60.00	24	8.87	14.20		0.66	2.22	8.908	[illegible]
152	11	6	C	60.00	24	8.87	14.20		0.84	2.22	8.908	[illegible]
152	12	1	C	60.00	24	8.87	14.20		0.66	2.22	8.908	[illegible]
152	12	2	C	60.00	24	8.87	14.20		0.42	2.22	8.908	[illegible]
152	12	3	C	60.00	24	8.87	14.20		0.60	2.22	8.908	[illegible]
152	12	4	C	60.00	24	8.87	14.20		0.96	2.22	8.908	[illegible]
152	12	5	C	60.00	24	8.87	14.20		0.72	2.22	8.908	[illegible]
152	12	6	C	60.00	24	8.87	14.20		0.06	2.22	8.908	[illegible]
152	13	1	C	60.00	24	8.87	14.20		0.54	2.22	8.908	[illegible]
152	13	2	C	60.00	24	8.87	14.20		0.36	2.22	8.908	[illegible]
152	13	3	C	60.00	24	8.87	14.20		0.72	2.22	8.908	[illegible]
152	13	4	C	60.00	24	8.87	14.20		0.90	2.22	8.908	[illegible]
152	13	5	C	60.00	24	8.87	14.20		0.66	2.22	8.908	[illegible]
152	13	6	C	60.00	24	8.87	14.20		1.44	2.22	8.908	[illegible]
152	18	2	C	60.00	24	8.87	14.20		****	2.22	8.908	[illegible]
152	18	3	C	60.00	24	8.87	14.20		0.72	2.22	8.908	[illegible]
152	18	4	C	60.00	24	8.87	14.20		1.20	2.22	8.908	[illegible]
152	18	5	C	60.00	24	8.87	14.20		1.02	2.22	8.908	[illegible]
152	19	2	C	60.00	24	8.87	14.20		0.90	2.22	8.908	[illegible]
152	19	3	C	60.00	24	8.87	14.20		0.72	2.22	8.908	[illegible]
152	19	4	C	60.00	24	8.87	14.20		1.20	2.22	8.908	[illegible]
152	19	5	C	60.00	24	8.87	14.20		0.90	2.22	8.908	[illegible]
152	19	6	C	60.00	24	8.87	14.20		0.72	2.22	8.908	[illegible]
152	20	1	C	60.00	24	8.87	14.20		0.72	2.22	8.908	[illegible]
152	20	2	C	60.00	24	8.87	14.20		0.78	2.22	8.908	[illegible]
152	20	3	C	60.00	24	8.87	14.20		0.72	2.22	8.908	[illegible]
152	20	4	C	60.00	24	8.87	14.20		1.02	2.22	8.908	[illegible]
152	20	5	C	60.00	24	8.87	14.20		0.90	2.22	8.908	[illegible]
152	20	6	C	60.00	24	8.87	14.20		0.84	2.22	8.908	[illegible]
152	21	1	C	60.00	24	8.87	14.20		0.72	2.22	8.908	[illegible]
152	21	2	C	60.00	24	8.87	14.20		0.48	2.22	8.908	[illegible]
152	21	3	C	60.00	24	8.87	14.20		0.90	2.22	8.908	[illegible]
152	21	4	C	60.00	24	8.87	14.20		0.96	2.22	8.908	[illegible]
152	21	5	C	60.00	24	8.87	14.20		0.84	2.22	8.908	[illegible]
152	21	6	C	60.00	24	8.87	14.20		0.42	2.22	8.908	[illegible]
152	22	1	C	60.00	24	8.87	14.20		0.96	2.22	8.908	[illegible]
152	22	2	C	60.00	24	8.87	14.20		0.54	2.22	8.908	[illegible]

IDENT	SPAN NMBR	BEAM NMBR	TYPE	SPAN LGTH (FT)	STRANDS (NMBR)	ECCENTRICITY END (INCHES)	ECCENTRICITY MIDDLE (INCHES)	DESIGN FPCI (KSI)	DESIGN FPC (KSI)	**CAMBER STATISTICS** ACTL.	MEAN	STD. DEV.	T-VAL
152	22	3	C	60.00	24	8.87	14.20			0.60	2.22	[illegible]	[illegible]
152	22	4	C	60.00	24	8.87	14.20			0.18	2.22	[illegible]	[illegible]
152	22	5	C	60.00	24	8.87	14.20			0.54	2.22	[illegible]	[illegible]
152	22	6	C	60.00	24	8.87	14.20			0.84	2.22	[illegible]	[illegible]
152	23	1	C	60.00	24	8.87	14.20			0.90	2.22	[illegible]	[illegible]
152	23	2	C	60.00	24	8.87	14.20			0.96	2.22	[illegible]	[illegible]
152	23	3	C	60.00	24	8.87	14.20			****	2.22	[illegible]	[illegible]
152	23	4	C	60.00	24	8.87	14.20			0.90	2.22	[illegible]	[illegible]
152	23	5		60.00	24	8.87	14.20			0.66	2.22	[illegible]	[illegible]
152	23	6	C	60.00	24	8.87	14.20			0.54	2.22	[illegible]	[illegible]
152	24	1	C	60.00	24	8.87	14.20			0.66	2.22	[illegible]	[illegible]
152	24	2	C	60.00	24	8.87	14.20			0.66	2.22	[illegible]	[illegible]
152	24	3	C	60.00	24	8.87	14.20			0.96	2.22	[illegible]	[illegible]
152	24	4	C	60.00	24	8.87	14.20			0.72	2.22	[illegible]	[illegible]
152	24	5	C	60.00	24	8.87	14.20			1.20	2.22	[illegible]	[illegible]
152	24	6	C	60.00	24	8.87	14.20			0.42	2.22	[illegible]	[illegible]
152	25	1	C	60.00	24	8.87	14.20			0.78	2.22	[illegible]	[illegible]
152	25	2	C	60.00	24	8.87	14.20			0.48	2.22	[illegible]	[illegible]
152	25	3	C	60.00	24	8.87	14.20			****	2.22	[illegible]	[illegible]
152	25	4	C	60.00	24	8.87	14.20			4.14	2.22	[illegible]	[illegible]
152	25	5	C	60.00	24	8.87	14.20			0.90	2.22	[illegible]	[illegible]
152	25	6	C	60.00	24	8.87	14.20			0.78	2.22	[illegible]	[illegible]
153	1	1	C	60.00	22	9.64	9.64	4.3	5.1	0.66	0.73	0.115	-0.579
153	1	2	C	60.00	22	9.64	9.64	4.3	5.1	0.78	0.73	0.115	0.467
153	1	3	C	60.00	22	9.64	9.64	4.3	5.1	0.90	0.73	0.115	1.513
153	1	4	C	60.00	22	9.64	9.64	4.3	5.1	0.66	0.73	0.115	-0.579
153	1	5	C	60.00	22	9.64	9.64	4.3	5.1	0.90	0.73	0.115	1.513
153	1	6	C	60.00	22	9.64	9.64	4.3	5.1	0.66	0.73	0.115	-0.580
153	1	7	C	60.00	22	9.64	9.64	4.3	5.1	0.54	0.73	0.115	-1.626
153	7	1	C	60.00	22	9.64	9.64	4.3	5.1	0.72	0.73	0.115	-0.055
153	7	2	C	60.00	22	9.64	9.64	4.3	5.1	0.78	0.73	0.115	0.467
153	7	3	C	60.00	22	9.64	9.64	4.3	5.1	0.78	0.73	0.115	0.467
153	7	4	C	60.00	22	9.64	9.64	4.3	5.1	0.72	0.73	0.115	-0.057
153	7	5	C	60.00	22	9.64	9.64	4.3	5.1	0.78	0.73	0.115	0.467
153	7	6	C	60.00	22	9.64	9.64	4.3	5.1	0.66	0.73	0.115	-0.579
153	7	7	C	60.00	22	9.64	9.64	4.3	5.1	0.72	0.73	0.115	-0.055
153	8	1	C	60.00	22	9.64	9.64	4.3	5.1	0.60	0.73	0.115	-1.102
153	8	2	C	60.00	22	9.64	9.64	4.3	5.1	0.84	0.73	0.115	0.989
153	8	3	C	60.00	22	9.64	9.64	4.3	5.1	0.78	0.73	0.115	0.467
153	8	4	C	60.00	22	9.64	9.64	4.3	5.1	0.60	0.73	0.115	-1.102
153	8	5	C	60.00	22	9.64	9.64	4.3	5.1	0.60	0.73	0.115	-1.102
153	8	6	C	60.00	22	9.64	9.64	4.3	5.1	0.60	0.73	0.115	-1.102
153	8	7	C	60.00	22	9.64	9.64	4.3	5.1	0.66	0.73	0.115	-0.579

IDENT	SPAN NMBR	BEAM NMBR	TYPE	SPAN LGTH (FT)	STRANDS (NMBR)	ECCENTRICITY END (INCHES)	MIDDLE	DESIGN FPCI (KSI)	/FPC	**CAMBER ACTL.	MEAN	STD. DEV.	STATISTICS** T-VAL
153	9	1	C	60.00	22	9.64	9.64	4.3	5.1	0.72	0.73	0.115	-0.055
153	9	2	C	60.00	22	9.64	9.64	4.3	5.1	1.02	0.73	0.115	2.560
153	9	3	C	60.00	22	9.64	9.64	4.3	5.1	0.84	0.73	0.115	0.991
153	9	4	C	60.00	22	9.64	9.64	4.3	5.1	0.78	0.73	0.115	0.467
153	9	5	C	60.00	22	9.64	9.64	4.3	5.1	0.84	0.73	0.115	0.991
153	9	6	C	60.00	22	9.64	9.64	4.3	5.1	0.60	0.73	0.115	-1.102
153	9	7	C	60.00	22	9.64	9.64	4.3	5.1	0.60	0.73	0.115	-1.102
154	8	1	C	60.00	22	9.64	9.64	4.3	5.2	0.60	0.75	0.221	-0.658
154	8	2	C	60.00	22	9.64	9.64	4.3	5.2	0.54	0.75	0.221	-0.929
154	8	3	C	60.00	22	9.64	9.64	4.3	5.2	0.78	0.75	0.221	0.155
154	8	4	C	60.00	22	9.64	9.64	4.3	5.2	0.60	0.75	0.221	-0.659
154	8	5	C	60.00	22	9.64	9.64	4.3	5.2	1.20	0.75	0.221	2.052
154	8	6	C	60.00	22	9.64	9.64	4.3	5.2	0.78	0.75	0.221	0.155
154	8	7	C	60.00	22	9.64	9.64	4.3	5.2	0.72	0.75	0.221	-0.116
155	6	1	C	60.00	22	9.64	9.64	4.3	5.2	0.30	0.59	0.168	-1.746
155	6	2	C	60.00	22	9.64	9.64	4.3	5.2	0.48	0.59	0.168	-0.676
155	9	1	C	60.00	22	9.64	9.64	4.3	5.2	0.48	0.59	0.168	-0.676
155	9	2	C	60.00	22	9.64	9.64	4.3	5.2	0.84	0.59	0.168	1.461
155	10	1	C	60.00	22	9.64	9.64	4.3	5.2	0.66	0.59	0.168	0.392
155	10	2	C	60.00	22	9.64	9.64	4.3	5.2	0.84	0.59	0.168	1.461
155	11	1	C	60.00	22	9.64	9.64	4.3	5.2	0.60	0.59	0.168	0.036
155	11	2	C	60.00	22	9.64	9.64	4.3	5.2	0.66	0.59	0.168	0.392
155	12	1	C	60.00	22	9.64	9.64	4.3	5.2	0.60	0.59	0.168	0.036
155	12	2	C	60.00	22	9.64	9.64	4.3	5.2	0.48	0.59	0.168	-0.676
156	6	3	C	60.00	22	9.64	9.64	4.3	5.2	0.30	0.58	0.167	-1.684
156	6	4	C	60.00	22	9.64	9.64	4.3	5.2	0.54	0.58	0.167	-0.251
156	9	3	C	60.00	22	9.64	9.64	4.3	5.2	0.66	0.58	0.167	0.466
156	9	4	C	60.00	22	9.64	9.64	4.3	5.2	0.72	0.58	0.167	0.825
156	10	3	C	60.00	22	9.64	9.64	4.3	5.2	0.42	0.58	0.167	-0.967
156	10	4	C	60.00	22	9.64	9.64	4.3	5.2	0.66	0.58	0.167	0.465
156	11	3	C	60.00	22	9.64	9.64	4.3	5.2	0.72	0.58	0.167	0.824
156	11	4	C	60.00	22	9.64	9.64	4.3	5.2	0.54	0.58	0.167	-0.251
156	12	3	C	60.00	22	9.64	9.64	4.3	5.2	0.84	0.58	0.167	1.541
156	12	4	C	60.00	22	9.64	9.64	4.3	5.2	0.42	0.58	0.167	-0.967
157	1	1	C	60.00	24	9.42	9.42	4.5	5.6	0.96	0.98	0.112	-0.134
157	1	2	C	60.00	24	9.42	9.42	4.5	5.6	0.84	0.98	0.112	-1.206
157	1	3	C	60.00	24	9.42	9.42	4.5	5.6	0.96	0.98	0.112	-0.134

IDENT	SPAN NMBR	BEAM NMBR	BEAM TYPE	SPAN LGTH (FT)	STRANDS (NMBR)	ECCENTRICITY (INCHES) END	ECCENTRICITY (INCHES) MIDDLE	DESIGN FPCI (KSI)	DESIGN FPC (KSI)	**CAMBER STATISTICS** ACTL.	MEAN	STD. DEV.	T-VAL
157	1	4	C	60.00	24	9.42	9.42	4.5	5.6	0.84	0.98	0.112	-1.206
157	1	5	C	60.00	24	9.42	9.42	4.5	5.6	0.96	0.98	0.112	-0.134
157	1	6	C	60.00	24	9.42	9.42	4.5	5.6	0.96	0.98	0.112	-0.134
157	3	1	C	60.00	24	9.42	9.42	4.5	5.6	0.96	0.98	0.112	-0.134
157	3	2	C	60.00	24	9.42	9.42	4.5	5.6	1.02	0.98	0.112	0.402
157	3	3	C	60.00	24	9.42	9.42	4.5	5.6	0.90	0.98	0.112	-0.671
157	3	4	C	60.00	24	9.42	9.42	4.5	5.6	1.08	0.98	0.112	0.936
157	3	5	C	60.00	24	9.42	9.42	4.5	5.6	1.26	0.98	0.112	2.548
157	3	6	C	60.00	24	9.42	9.42	4.5	5.6	0.96	0.98	0.112	-0.133
158	1	1	C	60.00	24	9.42	9.42	4.5	5.6	1.02	0.95	0.088	0.796
158	1	2	C	60.00	24	9.42	9.42	4.5	5.6	0.96	0.95	0.088	0.113
158	1	3	C	60.00	24	9.42	9.42	4.5	5.6	1.14	0.95	0.088	2.158
158	1	4	C	60.00	24	9.42	9.42	4.5	5.6	0.90	0.95	0.088	-0.569
158	1	5	C	60.00	24	9.42	9.42	4.5	5.6	1.02	0.95	0.088	0.796
158	1	6	C	60.00	24	9.42	9.42	4.5	5.6	0.84	0.95	0.088	-1.250
158	3	1	C	60.00	24	9.42	9.42	4.5	5.6	1.02	0.95	0.088	0.796
158	3	2	C	60.00	24	9.42	9.42	4.5	5.6	0.90	0.95	0.088	-0.569
158	3	3	C	60.00	24	9.42	9.42	4.5	5.6	0.90	0.95	0.088	-0.567
158	3	4	C	60.00	24	9.42	9.42	4.5	5.6	0.84	0.95	0.088	-1.250
158	3	5	C	60.00	24	9.42	9.42	4.5	5.6	0.90	0.95	0.088	-0.567
158	3	6	C	60.00	24	9.42	9.42	4.5	5.6	0.96	0.95	0.088	0.115
159	1	1	C	60.00	36	8.42	12.42	4.3	5.1	0.96	1.05	0.198	-0.433
159	1	2	C	60.00	36	8.42	12.42	4.3	5.1	1.14	1.05	0.198	0.474
159	1	3	C	60.00	36	8.42	12.42	4.3	5.1	0.90	1.05	0.198	-0.736
159	1	4	C	60.00	36	8.42	12.42	4.3	5.1	1.50	1.05	0.198	2.287
159	1	5	C	60.00	36	8.42	12.42	4.3	5.1	1.02	1.05	0.198	-0.131
159	2	1	C	60.00	36	8.42	12.42	4.3	5.1	0.78	1.05	0.198	-1.340
159	2	2	C	60.00	36	8.42	12.42	4.3	5.1	1.02	1.05	0.198	-0.131
159	2	3	C	60.00	36	8.42	12.42	4.3	5.1	0.84	1.05	0.198	-1.039
159	2	4	C	60.00	36	8.42	12.42	4.3	5.1	1.02	1.05	0.198	-0.131
159	2	5	C	60.00	36	8.42	12.42	4.3	5.1	1.20	1.05	0.198	0.776
159	12	1	C	60.00	36	8.42	12.42	4.3	5.1	0.90	1.05	0.198	-0.735
159	12	2	C	60.00	36	8.42	12.42	4.3	5.1	1.02	1.05	0.198	-0.131
159	12	3	C	60.00	36	8.42	12.42	4.3	5.1	1.08	1.05	0.198	0.172
159	12	4	C	60.00	36	8.42	12.42	4.3	5.1	0.90	1.05	0.198	-0.736
159	12	5	C	60.00	36	8.42	12.42	4.3	5.1	1.20	1.05	0.198	0.776
159	13	1	C	60.00	36	8.42	12.42	4.3	5.1	0.96	1.05	0.198	-0.433
159	13	2	C	60.00	36	8.42	12.42	4.3	5.1	1.32	1.05	0.198	1.380
159	13	3	C	60.00	36	8.42	12.42	4.3	5.1	1.56	1.05	0.198	2.590
159	13	4	C	60.00	36	8.42	12.42	4.3	5.1	1.26	1.05	0.198	1.078
159	13	5	C	60.00	36	8.42	12.42	4.3	5.1	0.90	1.05	0.198	-0.736

IDENT	SPAN NMBR	BEAM NMBR	BEAM TYPE	SPAN LGTH (FT)	STRANDS (NMBR)	ECCENTRICITY END (INCHES)	ECCENTRICITY MIDDLE (INCHES)	DESIGN FPCI (KSI)	DESIGN FPC (KSI)	**CAMBER STATISTICS** ACTL.	MEAN	STD. DEV.	T-VAL
159	14	1	C	60.00	36	8.42	12.42	4.3	5.1	1.02	1.05	0.198	-0.132
159	14	2	C	60.00	36	8.42	12.42	4.3	5.1	0.84	1.05	0.198	-1.038
159	14	3	C	60.00	36	8.42	12.42	4.3	5.1	1.02	1.05	0.198	-0.131
159	14	4	C	60.00	36	8.42	12.42	4.3	5.1	0.66	1.05	0.198	-1.944
159	14	5	C	60.00	36	8.42	12.42	4.3	5.1	1.14	1.05	0.198	0.474
159	15	1	C	60.00	36	8.42	12.42	4.3	5.1	1.02	1.05	0.198	-0.131
159	15	2	C	60.00	36	8.42	12.42	4.3	5.1	0.96	1.05	0.198	-0.433
159	15	3	C	60.00	36	8.42	12.42	4.3	5.1	0.90	1.05	0.198	-0.735
159	15	4	C	60.00	36	8.42	12.42	4.3	5.1	1.08	1.05	0.198	0.171
159	15	5	C	60.00	36	8.42	12.42	4.3	5.1	1.26	1.05	0.198	1.078
160	1	1	C	60.00	36	8.42	12.42	4.3	5.1	1.38	1.13	0.268	0.949
160	1	2	C	60.00	36	8.42	12.42	4.3	5.1	1.56	1.13	0.268	1.621
160	1	3	C	60.00	36	8.42	12.42	4.3	5.1	1.62	1.13	0.268	1.845
160	1	4	C	60.00	36	8.42	12.42	4.3	5.1	1.20	1.13	0.268	0.278
160	1	5	C	60.00	36	8.42	12.42	4.3	5.1	1.32	1.13	0.268	0.726
160	2	1	C	60.00	36	8.42	12.42	4.3	5.1	0.78	1.13	0.268	-1.290
160	2	2	C	60.00	36	8.42	12.42	4.3	5.1	1.08	1.13	0.268	-0.170
160	2	3	C	60.00	36	8.42	12.42	4.3	5.1	0.84	1.13	0.268	-1.066
160	2	4	C	60.00	36	8.42	12.42	4.3	5.1	0.72	1.13	0.268	-1.513
160	2	5	C	60.00	36	8.42	12.42	4.3	5.1	1.14	1.13	0.268	0.054
160	12	1	C	60.00	36	8.42	12.42	4.3	5.1	0.60	1.13	0.268	-1.962
160	12	2	C	60.00	36	8.42	12.42	4.3	5.1	1.14	1.13	0.268	0.054
160	12	3	C	60.00	36	8.42	12.42	4.3	5.1	0.84	1.13	0.268	-1.066
160	12	4	C	60.00	36	8.42	12.42	4.3	5.1	1.08	1.13	0.268	-0.171
160	12	5	C	60.00	36	8.42	12.42	4.3	5.1	1.44	1.13	0.268	1.173
160	13	1	C	60.00	36	8.42	12.42	4.3	5.1	1.14	1.13	0.268	0.054
160	13	2	C	60.00	36	8.42	12.42	4.3	5.1	1.56	1.13	0.268	1.621
160	13	3	C	60.00	36	8.42	12.42	4.3	5.1	1.26	1.13	0.268	0.502
160	13	4	C	60.00	36	8.42	12.42	4.3	5.1	1.08	1.13	0.268	-0.170
160	13	5	C	60.00	36	8.42	12.42	4.3	5.1	0.90	1.13	0.268	-0.842
160	14	1	C	60.00	36	8.42	12.42	4.3	5.1	0.96	1.13	0.268	-0.618
160	14	2	C	60.00	36	8.42	12.42	4.3	5.1	1.20	1.13	0.268	0.278
160	14	3	C	60.00	36	8.42	12.42	4.3	5.1	0.90	1.13	0.268	-0.842
160	14	4	C	60.00	36	8.42	12.42	4.3	5.1	1.20	1.13	0.268	0.278
160	14	5	C	60.00	36	8.42	12.42	4.3	5.1	1.20	1.13	0.268	0.278
161	1	1	C	60.00	36	8.42	12.42	4.3	5.1	1.32	1.09	0.202	1.118
161	1	2	C	60.00	36	8.42	12.42	4.3	5.1	1.14	1.09	0.202	0.227
161	1	3	C	60.00	36	8.42	12.42	4.3	5.1	1.32	1.09	0.202	1.118
161	1	4	C	60.00	36	8.42	12.42	4.3	5.1	1.32	1.09	0.202	1.118
161	1	5	C	60.00	36	8.42	12.42	4.3	5.1	1.26	1.09	0.202	0.821
161	2	1	C	60.00	36	8.42	12.42	4.3	5.1	1.20	1.09	0.202	0.524

IDENT	SPAN NMBR	BEAM NMBR	BEAM TYPE	SPAN LGTH (FT)	STRANDS (NMBR)	ECCENTRICITY END (INCHES)	ECCENTRICITY MIDDLE (INCHES)	DESIGN FPCI (KSI)	DESIGN FPC (KSI)	**CAMBER STATISTICS** ACTL.	MEAN	STD. DEV.	T-VAL
161	2	2	C	60.00	36	8.42	12.42	4.3	5.1	0.90	1.09	0.202	-0.959
161	2	3	C	60.00	36	8.42	12.42	4.3	5.1	1.08	1.09	0.202	-0.069
161	2	4	C	60.00	36	8.42	12.42	4.3	5.1	1.50	1.09	0.202	2.008
161	2	5	C	60.00	36	8.42	12.42	4.3	5.1	1.50	1.09	0.202	2.008
161	3	1	C	60.00	36	8.42	12.42	4.3	5.1	1.32	1.09	0.202	1.118
161	3	2	C	60.00	36	8.42	12.42	4.3	5.1	1.20	1.09	0.202	0.524
161	3	3	C	60.00	36	8.42	12.42	4.3	5.1	0.90	1.09	0.202	-0.959
161	3	4	C	60.00	36	8.42	12.42	4.3	5.1	0.90	1.09	0.202	-0.959
161	3	5	C	60.00	36	8.42	12.42	4.3	5.1	1.14	1.09	0.202	0.228
161	4	1	C	60.00	36	8.42	12.42	4.3	5.1	0.96	1.09	0.202	-0.662
161	4	2	C	60.00	36	8.42	12.42	4.3	5.1	1.14	1.09	0.202	0.227
161	4	3	C	60.00	36	8.42	12.42	4.3	5.1	1.02	1.09	0.202	-0.366
161	4	4	C	60.00	36	8.42	12.42	4.3	5.1	0.96	1.09	0.202	-0.663
161	4	5	C	60.00	36	8.42	12.42	4.3	5.1	1.14	1.09	0.202	0.227
161	14	1	C	60.00	36	8.42	12.42	4.3	5.1	1.02	1.09	0.202	-0.366
161	14	2	C	60.00	36	8.42	12.42	4.3	5.1	0.96	1.09	0.202	-0.662
161	14	3	C	60.00	36	8.42	12.42	4.3	5.1	1.14	1.09	0.202	0.227
161	14	4	C	60.00	36	8.42	12.42	4.3	5.1	1.20	1.09	0.202	0.523
161	14	5	C	60.00	36	8.42	12.42	4.3	5.1	1.08	1.09	0.202	-0.070
161	15	1	C	60.00	36	8.42	12.42	4.3	5.1	0.60	1.09	0.202	-2.443
161	15	2	C	60.00	36	8.42	12.42	4.3	5.1	0.96	1.09	0.202	-0.663
161	15	3	C	60.00	36	8.42	12.42	4.3	5.1	0.84	1.09	0.202	-1.256
161	15	4	C	60.00	36	8.42	12.42	4.3	5.1	0.90	1.09	0.202	-0.960
161	15	5	C	60.00	36	8.42	12.42	4.3	5.1	0.90	1.09	0.202	-0.959
162	1	1	C	60.00	36	8.42	12.42	4.3	5.1	1.14	1.15	0.237	-0.041
162	1	2	C	60.00	36	8.42	12.42	4.3	5.1	1.68	1.15	0.237	2.236
162	1	3	C	60.00	36	8.42	12.42	4.3	5.1	1.14	1.15	0.237	-0.041
162	1	4	C	60.00	36	8.42	12.42	4.3	5.1	1.20	1.15	0.237	0.212
162	1	5	C	60.00	36	8.42	12.42	4.3	5.1	0.96	1.15	0.237	-0.799
162	2	1	C	60.00	36	8.42	12.42	4.3	5.1	1.14	1.15	0.237	-0.041
162	2	2	C	60.00	36	8.42	12.42	4.3	5.1	1.32	1.15	0.237	0.718
162	2	3	C	60.00	36	8.42	12.42	4.3	5.1	1.26	1.15	0.237	0.465
162	2	4	C	60.00	36	8.42	12.42	4.3	5.1	1.08	1.15	0.237	-0.294
162	2	5	C	60.00	36	8.42	12.42	4.3	5.1	1.14	1.15	0.237	-0.040
162	3	1	C	60.00	36	8.42	12.42	4.3	5.1	0.84	1.15	0.237	-1.305
162	3	2	C	60.00	36	8.42	12.42	4.3	5.1	1.02	1.15	0.237	-0.547
162	3	3	C	60.00	36	8.42	12.42	4.3	5.1	1.14	1.15	0.237	-0.041
162	3	4	C	60.00	36	8.42	12.42	4.3	5.1	0.96	1.15	0.237	-0.799
162	3	5	C	60.00	36	8.42	12.42	4.3	5.1	0.84	1.15	0.237	-1.305
162	13	1	C	60.00	36	8.42	12.42	4.3	5.1	0.72	1.15	0.237	-1.810
162	13	2	C	60.00	36	8.42	12.42	4.3	5.1	1.20	1.15	0.237	0.212
162	13	3	C	60.00	36	8.42	12.42	4.3	5.1	1.08	1.15	0.237	-0.293
162	13	4	C	60.00	36	8.42	12.42	4.3	5.1	1.74	1.15	0.237	2.488

IDENT	SPAN NMBR	BEAM NMBR	TYPE	SPAN LGTH (FT)	STRANDS (NMBR)	ECCENTRICITY (INCHES) END	MIDDLE	DESIGN FPCI/FPC (KSI)		**CAMBER STATISTICS** ACTL.	MEAN	STD. DEV.	T-VAL
162	13	5	C	60.00	36	8.42	12.42	4.3	5.1	0.84	1.15	0.237	-1.305
162	14	1	C	60.00	36	8.42	12.42	4.3	5.1	1.20	1.15	0.237	0.212
162	14	2	C	60.00	36	8.42	12.42	4.3	5.1	1.26	1.15	0.237	0.465
162	14	3	C	60.00	36	8.42	12.42	4.3	5.1	1.44	1.15	0.237	1.223
162	14	4	C	60.00	36	8.42	12.42	4.3	5.1	1.20	1.15	0.237	0.213
162	14	5	C	60.00	36	8.42	12.42	4.3	5.1	1.20	1.15	0.237	0.212
163	1	1	C	60.00	24	7.67	7.67			0.96	1.17	0.339	-0.619
163	1	2	C	60.00	24	7.67	7.67			1.44	1.17	0.339	0.796
163	1	3	C	60.00	24	7.67	7.67			1.02	1.17	0.339	-0.442
163	1	4	C	60.00	24	7.67	7.67			1.44	1.17	0.339	0.795
163	1	5	C	60.00	24	7.67	7.67			0.96	1.17	0.339	-0.619
163	1	6	C	60.00	24	7.67	7.67			0.78	1.17	0.339	-1.149
163	2	1	C	60.00	24	7.67	7.67			1.08	1.17	0.339	-0.265
163	2	2	C	60.00	24	7.67	7.67			0.78	1.17	0.339	-1.149
163	2	3	C	60.00	24	7.67	7.67			0.96	1.17	0.339	-0.619
163	2	4	C	60.00	24	7.67	7.67			0.84	1.17	0.339	-0.973
163	2	5	C	60.00	24	7.67	7.67			1.62	1.17	0.339	1.326
163	2	6	C	60.00	24	7.67	7.67			1.26	1.17	0.339	0.265
163	5	1	C	60.00	24	7.67	7.67			1.44	1.17	0.339	0.795
163	5	2	C	60.00	24	7.67	7.67			1.32	1.17	0.339	0.442
163	5	3	C	60.00	24	7.67	7.67			1.50	1.17	0.339	0.972
163	5	4	C	60.00	24	7.67	7.67			2.10	1.17	0.339	2.740
163	5	5	C	60.00	24	7.67	7.67			0.90	1.17	0.339	-0.796
163	5	6	C	60.00	24	7.67	7.67			1.02	1.17	0.339	-0.442
163	6	1	C	60.00	24	7.67	7.67			1.32	1.17	0.339	0.442
163	6	2	C	60.00	24	7.67	7.67			1.26	1.17	0.339	0.265
163	6	3	C	60.00	24	7.67	7.67			1.50	1.17	0.339	0.972
163	6	4	C	60.00	24	7.67	7.67			0.66	1.17	0.339	-1.503
163	6	5	C	60.00	24	7.67	7.67			1.14	1.17	0.339	-0.088
163	6	6	C	60.00	24	7.67	7.67			0.78	1.17	0.339	-1.149
164	12	1	C	58.60	32	9.34	12.84	4.0	5.0	1.44	1.20	0.258	0.930
164	12	2	C	58.60	32	9.34	12.84	4.0	5.0	0.90	1.20	0.258	-1.162
164	12	3	C	58.60	32	9.34	12.84	4.0	5.0	1.26	1.20	0.258	0.233
164	12	4	C	58.60	32	9.34	12.84	4.0	5.0	1.44	1.20	0.258	0.930
164	12	5	C	58.60	32	9.34	12.84	4.0	5.0	0.96	1.20	0.258	-0.930
165	13	1	C	58.60	32	9.34	12.84	4.0	5.0	1.20	1.18	0.231	0.104
165	13	2	C	58.60	32	9.34	12.84	4.0	5.0	1.56	1.18	0.231	1.663
165	13	3	C	58.60	32	9.34	12.84	4.0	5.0	1.08	1.18	0.231	-0.416
165	13	4	C	58.60	32	9.34	12.84	4.0	5.0	1.08	1.18	0.231	-0.416

IDENT	SPAN NMBR	BEAM NMBR	BEAM TYPE	SPAN LGTH (FT)	STRANDS (NMBR)	ECCENTRICITY (INCHES) END	ECCENTRICITY (INCHES) MIDDLE	DESIGN (KSI) FPCI	DESIGN (KSI) FPC	**CAMBER STATISTICS** ACTL.	MEAN	STD. DEV.	T-VAL
165	13	5	C	58.60	32	9.34	12.84	4.0	5.0	0.96	1.18	0.231	-0.936
166	2	1	C	57.50	16	9.34	14.32	4.0	5.0	1.14	0.85	0.126	2.321
166	2	2	C	57.50	16	9.34	14.32	4.0	5.0	0.90	0.85	0.126	0.417
166	2	3	C	57.50	16	9.34	14.32	4.0	5.0	0.78	0.85	0.126	-0.536
166	2	4	C	57.50	16	9.34	14.32	4.0	5.0	0.78	0.85	0.126	-0.536
166	3	1	C	57.50	16	9.34	14.32	4.0	5.0	0.84	0.85	0.126	-0.060
166	3	2	C	57.50	16	9.34	14.32	4.0	5.0	0.78	0.85	0.126	-0.536
166	3	3	C	57.50	16	9.34	14.32	4.0	5.0	0.78	0.85	0.126	-0.536
166	3	4	C	57.50	16	9.34	14.32	4.0	5.0	0.78	0.85	0.126	-0.535
167	10	1	C	56.00	32	9.34	12.48	4.0	5.0	1.20	1.07	0.245	0.538
167	10	2	C	56.00	32	9.34	12.48	4.0	5.0	1.26	1.07	0.245	0.783
167	10	3	C	56.00	32	9.34	12.48	4.0	5.0	0.72	1.07	0.245	-1.419
167	10	4	C	56.00	32	9.34	12.48	4.0	5.0	1.26	1.07	0.245	0.783
167	10	5	C	56.00	32	9.34	12.48	4.0	5.0	0.90	1.07	0.245	-0.685
168	3	1	C	57.00	32	9.34	12.84	4.0	5.0	1.02	1.07	0.101	-0.474
168	3	2	C	57.00	32	9.34	12.84	4.0	5.0	0.90	1.07	0.101	-1.661
168	3	3	C	57.00	32	9.34	12.84	4.0	5.0	0.96	1.07	0.101	-1.067
168	3	4	C	57.00	32	9.34	12.84	4.0	5.0	1.02	1.07	0.101	-0.474
168	3	5	C	57.00	32	9.34	12.84	4.0	5.0	1.20	1.07	0.101	1.305
168	6	1	C	57.00	32	9.34	12.84	4.0	5.0	1.14	1.07	0.101	0.711
168	6	2	C	57.00	32	9.34	12.84	4.0	5.0	1.14	1.07	0.101	0.711
168	6	3	C	57.00	32	9.34	12.84	4.0	5.0	1.20	1.07	0.101	1.305
168	6	4	C	57.00	32	9.34	12.84	4.0	5.0	1.02	1.07	0.101	-0.474
168	6	5	C	57.00	32	9.34	12.84	4.0	5.0	1.08	1.07	0.101	0.118
169	6	1	C	56.90	32	9.34	12.84	4.0	5.0	1.32	1.31	0.099	0.122
169	6	2	C	56.90	32	9.34	12.84	4.0	5.0	1.38	1.31	0.099	0.731
169	6	3	C	56.90	32	9.34	12.84	4.0	5.0	1.14	1.31	0.099	-1.704
169	6	4	C	56.90	32	9.34	12.84	4.0	5.0	1.32	1.31	0.099	0.122
169	6	5	C	56.90	32	9.34	12.84	4.0	5.0	1.38	1.31	0.099	0.729
170	9	1	C	56.00	32	9.34	12.84	4.0	5.0	0.90	0.83	0.078	0.922
170	9	2	C	56.00	32	9.34	12.84	4.0	5.0	0.72	0.83	0.078	-1.380
170	9	3	C	56.00	32	9.34	12.84	4.0	5.0	0.78	0.83	0.078	-0.614
170	9	4	C	56.00	32	9.34	12.84	4.0	5.0	0.90	0.83	0.078	0.920
170	9	5	C	56.00	32	9.34	12.84	4.0	5.0	0.84	0.83	0.078	0.152

IDENT	SPAN NMBR	BEAM NMBR	BEAM TYPE	SPAN LGTH (FT)	STRANDS (NMBR)	ECCENTRICITY END (INCHES)	ECCENTRICITY MIDDLE (INCHES)	DESIGN FPCI (KSI)	DESIGN FPC (KSI)	**CAMBER STATISTICS** ACTL.	MEAN	STD. DEV.	T-VAL
171	1	1	C	55.00	18	10.42	10.42	4.0	5.0	0.54	0.62	0.116	-0.668
171	1	2	C	55.00	18	10.42	10.42	4.0	5.0	0.60	0.62	0.116	-0.148
171	1	3	C	55.00	18	10.42	10.42	4.0	5.0	0.72	0.62	0.116	0.889
171	1	4	C	55.00	18	10.42	10.42	4.0	5.0	0.54	0.62	0.116	-0.666
171	1	5	C	55.00	18	10.42	10.42	4.0	5.0	0.66	0.62	0.116	0.371
171	1	6	C	55.00	18	10.42	10.42	4.0	5.0	0.54	0.62	0.116	-0.666
171	1	7	C	55.00	18	10.42	10.42	4.0	5.0	0.90	0.62	0.116	2.447
171	2	1	C	55.00	18	10.42	10.42	4.0	5.0	0.60	0.62	0.116	-0.148
171	2	2	C	55.00	18	10.42	10.42	4.0	5.0	0.54	0.62	0.116	-0.666
171	2	3	C	55.00	18	10.42	10.42	4.0	5.0	0.36	0.62	0.116	-2.224
171	2	4	C	55.00	18	10.42	10.42	4.0	5.0	0.66	0.62	0.116	0.371
171	2	5	C	55.00	18	10.42	10.42	4.0	5.0	0.54	0.62	0.116	-0.668
171	2	6	C	55.00	18	10.42	10.42	4.0	5.0	0.48	0.62	0.116	-1.185
171	2	7	C	55.00	18	10.42	10.42	4.0	5.0	0.60	0.62	0.116	-0.148
171	3	1	C	55.00	18	10.42	10.42	4.0	5.0	0.60	0.62	0.116	-0.148
171	3	2	C	55.00	18	10.42	10.42	4.0	5.0	0.78	0.62	0.116	1.408
171	3	3	C	55.00	18	10.42	10.42	4.0	5.0	0.66	0.62	0.116	0.371
171	3	4	C	55.00	18	10.42	10.42	4.0	5.0	0.66	0.62	0.116	0.369
171	3	5	C	55.00	18	10.42	10.42	4.0	5.0	0.78	0.62	0.116	1.408
171	3	6	C	55.00	18	10.42	10.42	4.0	5.0	0.60	0.62	0.116	-0.148
171	3	7	C	55.00	18	10.42	10.42	4.0	5.0	0.60	0.62	0.116	-0.150
172	6	1	C	55.00	16	9.34	14.32	4.0	5.0	0.78	0.59	0.130	1.442
172	6	6	C	55.00	16	9.34	14.32	4.0	5.0	0.66	0.59	0.130	0.519
172	7	1	C	55.00	16	9.34	14.32	4.0	5.0	0.60	0.59	0.130	0.058
172	7	6	C	55.00	16	9.34	14.32	4.0	5.0	0.72	0.59	0.130	0.981
172	6	1	C	55.00	16	9.34	14.32	4.0	5.0	0.54	0.59	0.130	-0.404
172	6	6	C	55.00	16	9.34	14.32	4.0	5.0	0.54	0.59	0.130	-0.404
172	7	1	C	55.00	16	9.34	14.32	4.0	5.0	0.36	0.59	0.130	-1.787
172	7	6	C	55.00	16	9.34	14.32	4.0	5.0	0.54	0.59	0.130	-0.404
173	2	2	C	55.00	16	9.34	14.34	4.0	5.0	0.78	0.85	0.163	-0.400
173	2	3	C	55.00	16	9.34	14.34	4.0	5.0	1.02	0.85	0.163	1.075
173	2	4	C	55.00	16	9.34	14.34	4.0	5.0	1.02	0.85	0.163	1.075
173	2	5	C	55.00	16	9.34	14.34	4.0	5.0	0.66	0.85	0.163	-1.137
173	2	1	C	55.00	16	9.34	14.34	4.0	5.0	0.84	0.85	0.163	-0.031
173	2	6	C	55.00	16	9.34	14.34	4.0	5.0	0.84	0.85	0.163	-0.031
173	2	1	C	55.00	16	9.34	14.34	4.0	5.0	0.78	0.85	0.163	-0.400
173	2	2	C	55.00	16	9.34	14.34	4.0	5.0	0.84	0.85	0.163	-0.031
173	2	3	C	55.00	16	9.34	14.34	4.0	5.0	0.54	0.85	0.163	-1.874
173	2	4	C	55.00	16	9.34	14.34	4.0	5.0	0.90	0.85	0.163	0.338
173	2	5	C	55.00	16	9.34	14.34	4.0	5.0	0.78	0.85	0.163	-0.400
173	2	6	C	55.00	16	9.34	14.34	4.0	5.0	1.14	0.85	0.163	1.813

IDENT	SPAN NMBR	BEAM NMBR	TYPE	SPAN LGTH (FT)	STRANDS (NMBR)	ECCENTRICITY END (INCHES)	ECCENTRICITY MIDDLE (INCHES)	DESIGN FPCI (KSI)	DESIGN FPC (KSI)	**CAMBER STATISTICS** ACTL.	MEAN	STD. DEV.	T-VAL
174	3	1	C	55.00	16	9.34	14.34			0.90	****	*****	-0.691
174	3	2	C	55.00	16	9.34	14.34			1.08	****	*****	-0.691
174	3	3	C	55.00	16	9.34	14.34			****	****	*****	1.502
174	3	4	C	55.00	16	9.34	14.34			0.90	****	*****	-0.691
174	3	5	C	55.00	16	9.34	14.34			****	****	*****	-0.471
174	3	6	C	55.00	16	9.34	14.34			****	****	*****	1.043
175	3	1	C	55.00	16	9.34	14.34	4.0	5.0	0.24	****	*****	-0.474
175	3	2	C	55.00	16	9.34	14.34	4.0	5.0	0.66	****	*****	-0.454
175	3	3	C	55.00	16	9.34	14.34	4.0	5.0	0.78	****	*****	-0.448
175	3	4	C	55.00	16	9.34	14.34	4.0	5.0	0.90	****	*****	-0.443
175	3	5	C	55.00	16	9.34	14.34	4.0	5.0	5.76	****	*****	-0.212
175	3	6	C	55.00	16	0.34	14.34	4.0	5.0	****	****	*****	2.031
176	4	1	C	55.00	16	9.34	14.32	4.0	5.0	1.26	1.11	0.185	0.811
176	4	2	C	55.00	16	9.34	14.32	4.0	5.0	1.02	1.11	0.185	-0.487
176	4	3	C	55.00	16	9.34	14.32	4.0	5.0	1.38	1.11	0.185	1.460
176	4	4	C	55.00	16	9.34	14.32	4.0	5.0	1.14	1.11	0.185	0.162
176	4	5	C	55.00	16	9.34	14.32	4.0	5.0	0.96	1.11	0.185	-0.811
176	4	6	C	55.00	16	9.34	14.32	4.0	5.0	0.90	1.11	0.185	-1.136
177	4	1	C	55.00	16	9.34	14.32	4.0	5.0	1.32	0.97	0.297	1.177
177	4	2	C	55.00	16	9.34	14.32	4.0	5.0	0.96	0.97	0.297	-0.034
177	4	3	C	55.00	16	9.34	14.32	4.0	5.0	0.66	0.97	0.297	-1.042
177	4	4	C	55.00	16	9.34	14.32	4.0	5.0	0.66	0.97	0.297	-1.042
177	4	5	C	55.00	16	9.34	14.32	4.0	5.0	0.90	0.97	0.297	-0.235
177	4	6	C	55.00	16	9.34	14.32	4.0	5.0	1.32	0.97	0.297	1.177
178	3	1	C	55.00	16	10.84	14.34	4.0	5.0	1.02	0.75	0.174	1.549
178	3	2	C	55.00	16	10.84	14.34	4.0	5.0	0.78	0.75	0.174	0.172
178	3	3	C	55.00	16	10.84	14.34	4.0	5.0	0.66	0.75	0.174	-0.516
178	3	4	C	55.00	16	10.84	14.34	4.0	5.0	0.78	0.75	0.174	0.172
178	3	5	C	55.00	16	10.84	14.34	4.0	5.0	0.78	0.75	0.174	0.172
178	3	6	C	55.00	16	10.84	14.34	4.0	5.0	0.96	0.75	0.174	1.205
178	3	7	C	55.00	16	10.84	14.34	4.0	5.0	1.02	0.75	0.174	1.549
178	3	8	C	55.00	16	10.84	14.34	4.0	5.0	0.90	0.75	0.174	0.861
178	3	9	C	55.00	16	10.84	14.34	4.0	5.0	0.78	0.75	0.174	0.172
178	3	10	C	55.00	16	10.84	14.34	4.0	5.0	0.54	0.75	0.174	-1.205
178	3	11	C	55.00	16	10.84	14.34	4.0	5.0	0.78	0.75	0.174	0.172
178	3	12	C	55.00	16	10.84	14.34	4.0	5.0	1.02	0.75	0.174	1.549
178	5	1	C	55.00	16	10.84	14.34	4.0	5.0	0.72	0.75	0.174	-0.172

IDENT	SPAN NMBR	BEAM NMBR	BEAM TYPE	SPAN LGTH (FT)	STRANDS (NMBR)	ECCENTRICITY END (INCHES)	ECCENTRICITY MIDDLE (INCHES)	DESIGN FPCI (KSI)	DESIGN FPC (KSI)	**CAMBER STATISTICS** ACTL.	MEAN	STD. DEV.	T-VAL
178	5	2	C	55.00	16	10.84	14.34	4.0	5.0	0.78	0.75	0.174	0.172
178	5	3	C	55.00	16	10.84	14.34	4.0	5.0	0.84	0.75	0.174	0.516
178	5	4	C	55.00	16	10.84	14.34	4.0	5.0	0.90	0.75	0.174	0.861
178	5	5	C	55.00	16	10.84	14.34	4.0	5.0	0.48	0.75	0.174	-1.549
178	5	6	C	55.00	16	10.84	14.34	4.0	5.0	0.60	0.75	0.174	-0.861
178	5	7	C	55.00	16	10.84	14.34	4.0	5.0	0.48	0.75	0.174	-1.549
178	5	8	C	55.00	16	10.84	14.34	4.0	5.0	0.66	0.75	0.174	-0.516
178	5	9	C	55.00	16	10.84	14.34	4.0	5.0	0.78	0.75	0.174	0.172
178	5	10	C	55.00	16	10.84	14.34	4.0	5.0	0.48	0.75	0.174	-1.549
178	5	11	C	55.00	16	10.84	14.34	4.0	5.0	0.48	0.75	0.174	-1.549
178	5	12	C	55.00	16	10.84	14.34	4.0	5.0	0.78	0.75	0.174	0.172
179	2	1	C	55.00	20	9.89	9.89	4.0	5.0	1.32	1.07	0.213	1.175
179	2	2	C	55.00	20	9.89	9.89	4.0	5.0	0.90	1.07	0.213	-0.799
179	2	3	C	55.00	20	9.89	9.89	4.0	5.0	1.26	1.07	0.213	0.893
179	2	4	C	55.00	20	9.89	9.89	4.0	5.0	0.90	1.07	0.213	-0.799
179	2	5	C	55.00	20	9.89	9.89	4.0	5.0	1.20	1.07	0.213	0.612
179	2	6	C	55.00	20	9.89	9.89	4.0	5.0	0.84	1.07	0.213	-1.082
180	7	1	C	53.00	34	9.21	9.21	4.2	5.0	0.48	0.64	0.170	-0.916
180	7	2	C	53.00	34	9.21	9.21	4.2	5.0	0.72	0.64	0.170	0.493
180	7	3	C	53.00	34	9.21	9.21	4.2	5.0	0.60	0.64	0.170	-0.212
180	7	4	C	53.00	34	9.21	9.21	4.2	5.0	0.36	0.64	0.170	-1.621
180	7	5	C	53.00	34	9.21	9.21	4.2	5.0	0.84	0.64	0.170	1.199
180	8	1	C	53.00	34	9.21	9.21	4.2	5.0	0.42	0.64	0.170	-1.269
180	8	2	C	53.00	34	9.21	9.21	4.2	5.0	0.78	0.64	0.170	0.846
180	8	3	C	53.00	34	9.21	9.21	4.2	5.0	0.60	0.64	0.170	-0.213
180	8	4	C	53.00	34	9.21	9.21	4.2	5.0	0.78	0.64	0.170	0.846
180	8	5	C	53.00	34	9.21	9.21	4.2	5.0	0.78	0.64	0.170	0.846
181	7	1	C	52.80	34	9.20	9.20	4.2	5.0	0.78	0.63	0.204	0.745
181	7	2	C	52.80	34	9.20	9.20	4.2	5.0	0.54	0.63	0.204	-0.431
181	7	3	C	52.80	34	9.20	9.20	4.2	5.0	0.60	0.63	0.204	-0.137
181	7	4	C	52.80	34	9.20	9.20	4.2	5.0	0.96	0.63	0.204	1.628
181	7	5	C	52.80	34	9.20	9.20	4.2	5.0	0.96	0.63	0.204	1.629
181	8	1	C	52.80	34	9.20	9.20	4.2	5.0	0.60	0.63	0.204	-0.137
181	8	2	C	52.80	34	9.20	9.20	4.2	5.0	0.66	0.63	0.204	0.156
181	8	3	C	52.80	34	9.20	9.20	4.2	5.0	0.72	0.63	0.204	0.451
181	8	4	C	52.80	34	9.20	9.20	4.2	5.0	0.66	0.63	0.204	0.156
181	8	5	C	52.80	34	9.20	9.20	4.2	5.0	0.78	0.63	0.204	0.745
181	9	1	C	53.00	34	9.20	9.20	4.2	5.0	0.36	0.63	0.204	-1.314
181	9	2	C	53.00	34	9.20	9.20	4.2	5.0	0.60	0.63	0.204	-0.137

IDENT	SPAN NMBR	BEAM NMBR	BEAM TYPE	SPAN LGTH (FT)	STRANDS (NMBR)	ECCENTRICITY END (INCHES)	ECCENTRICITY MIDDLE (INCHES)	DESIGN FPCI (KSI)	DESIGN FPC (KSI)	**CAMBER ACTL.	MEAN	STD. DEV.	STATISTICS** T-VAL
181	9	3	C	53.00	34	9.20	9.20	4.2	5.0	0.36	0.63	0.204	-1.314
181	9	4	C	53.00	34	9.20	9.20	4.2	5.0	0.60	0.63	0.204	-0.137
181	9	5	C	53.00	34	9.20	9.20	4.2	5.0	0.24	0.63	0.204	-1.902
182	8	1	C	52.00	32	9.46	9.46	4.0	5.0	0.54	0.54	0.170	-0.000
182	8	2	C	52.00	32	9.46	9.46	4.0	5.0	0.66	0.54	0.170	0.708
182	8	3	C	52.00	32	9.46	9.46	4.0	5.0	0.66	0.54	0.170	0.707
182	8	4	C	52.00	32	9.46	9.46	4.0	5.0	0.90	0.54	0.170	2.121
182	8	5	C	52.00	32	9.46	9.46	4.0	5.0	0.42	0.54	0.170	-0.707
182	9	1	C	52.00	32	9.46	9.46	4.0	5.0	0.42	0.54	0.170	-0.707
182	9	2	C	52.00	32	9.46	9.46	4.0	5.0	0.42	0.54	0.170	-0.707
182	9	3	C	52.00	32	9.46	9.46	4.0	5.0	0.30	0.54	0.170	-1.415
182	9	4	C	52.00	32	9.46	9.46	4.0	5.0	0.54	0.54	0.170	0.001
182	9	5	C	52.00	32	9.46	9.46	4.0	5.0	0.54	0.54	0.170	-0.000
183	4	1	C	50.00	14	9.95	14.50	4.0	5.0	0.42	0.32	0.096	1.017
183	4	6	C	50.00	14	9.95	14.50	4.0	5.0	0.42	0.32	0.096	1.017
183	5	1	C	50.00	14	9.95	14.50	4.0	5.0	0.12	0.32	0.096	-2.112
183	5	6	C	50.00	14	9.95	14.50	4.0	5.0	0.36	0.32	0.096	0.392
183	4	1	C	50.00	14	9.95	14.50	4.0	5.0	0.30	0.32	0.096	-0.234
183	4	6	C	50.00	14	9.95	14.50	4.0	5.0	0.30	0.32	0.096	-0.236
183	5	1	C	50.00	14	9.95	14.50	4.0	5.0	0.30	0.32	0.096	-0.234
183	5	6	C	50.00	14	9.95	14.50	4.0	5.0	0.36	0.32	0.096	0.390
184	1	1	C	50.00	24	10.09	10.09	4.0	5.0	0.48	0.31	0.130	1.292
184	1	2	C	50.00	24	10.09	10.09	4.0	5.0	0.42	0.31	0.130	0.830
184	1	3	C	50.00	24	10.09	10.09	4.0	5.0	0.18	0.31	0.130	-1.015
184	1	4	C	50.00	24	10.09	10.09	4.0	5.0	0.24	0.31	0.130	-0.553
184	1	5	C	50.00	24	10.09	10.09	4.0	5.0	0.24	0.31	0.130	-0.553
185	1	1	C	50.00	14	10.66	14.38	4.0	0.0	1.14	****	*****	-0.285
185	1	2	C	50.00	14	10.66	14.38	4.0	0.0	0.60	****	*****	-0.289
185	1	3	C	50.00	14	10.66	14.38	4.0	0.0	0.30	****	*****	-0.291
185	1	4	C	50.00	14	10.66	14.38	4.0	0.0	0.72	****	*****	-0.288
185	1	5	C	50.00	14	10.66	14.38	4.0	0.0	0.48	****	*****	-0.290
185	1	6	C	50.00	14	10.66	14.38	4.0	0.0	0.66	****	*****	-0.289
185	4	1	C	50.00	14	10.66	14.34	4.0	0.0	0.72	****	*****	-0.288
185	4	2	C	50.00	14	10.66	14.34	4.0	0.0	0.78	****	*****	-0.288
185	4	3	C	50.00	14	10.66	14.34	4.0	0.0	0.54	****	*****	-0.289
185	4	4	C	50.00	14	10.66	14.34	4.0	0.0	****	****	*****	3.175
185	4	5	C	50.00	14	10.66	14.34	4.0	0.0	0.72	****	*****	-0.288

IDENT	SPAN NMBR	BEAM NMBR	BEAM TYPE	SPAN LGTH (FT)	STRANDS (NMBR)	ECCENTRICITY END (INCHES)	ECCENTRICITY MIDDLE (INCHES)	DESIGN FPCI (KSI)	DESIGN FPC (KSI)	**CAMBER STATISTICS** ACTL.	MEAN	STD. DEV.	T-VAL
185	4	6	C	50.00	14	10.66	14.34	4.0	0.0	0.54	****	*****	-0.289
186	1	1	C	50.00	14	10.66	14.38	4.0	5.0	0.60	1.05	1.661	-0.268
186	1	2	C	50.00	14	10.66	14.38	4.0	5.0	0.72	1.05	1.661	-0.196
186	1	3	C	50.00	14	10.66	14.38	4.0	5.0	0.66	1.05	1.661	-0.232
186	1	4	C	50.00	14	10.66	14.38	4.0	5.0	6.30	1.05	1.661	3.165
186	1	5	C	50.00	14	10.66	14.38	4.0	5.0	0.48	1.05	1.661	-0.340
186	1	6	C	50.00	14	10.66	14.38	4.0	5.0	0.60	1.05	1.661	-0.268
186	4	1	C	50.00	14	10.66	14.38	4.0	5.0	0.66	1.05	1.661	-0.232
186	4	2	C	50.00	14	10.66	14.38	4.0	5.0	0.36	1.05	1.661	-0.413
186	4	3	C	50.00	14	10.66	14.38	4.0	5.0	0.30	1.05	1.661	-0.449
186	4	4	C	50.00	14	10.66	14.38	4.0	5.0	0.48	1.05	1.661	-0.340
186	4	5	C	50.00	14	10.66	14.38	4.0	5.0	0.66	1.05	1.661	-0.232
186	4	6	C	50.00	14	10.66	14.38	4.0	5.0	0.72	1.05	1.661	-0.196
187	1	1	C	50.00	14	10.66	14.38	4.0	5.0	0.84	0.73	0.093	1.134
187	1	2	C	50.00	14	10.66	14.38	4.0	5.0	0.78	0.73	0.093	0.486
187	1	3	C	50.00	14	10.66	14.38	4.0	5.0	0.84	0.73	0.093	1.132
187	1	4	C	50.00	14	10.66	14.38	4.0	5.0	0.72	0.73	0.093	-0.162
187	1	5	C	50.00	14	10.66	14.38	4.0	5.0	0.78	0.73	0.093	0.486
187	1	6	C	50.00	14	10.66	14.38	4.0	5.0	0.66	0.73	0.093	-0.810
187	3	1	C	50.00	14	10.66	14.38	4.0	5.0	0.60	0.73	0.093	-1.456
187	3	2	C	50.00	14	10.66	14.38	4.0	5.0	0.90	0.73	0.093	1.780
187	3	3	C	50.00	14	10.66	14.38	4.0	5.0	0.72	0.73	0.093	-0.162
187	3	4	C	50.00	14	10.66	14.38	4.0	5.0	0.66	0.73	0.093	-0.810
187	3	5	C	50.00	14	10.66	14.38	4.0	5.0	0.66	0.73	0.093	-0.808
187	3	6	C	50.00	14	10.66	14.38	4.0	5.0	0.66	0.73	0.093	-0.810
188	1	1	C	50.00	14	10.66	14.38	4.0	5.0	0.54	0.77	0.130	-1.768
188	1	2	C	50.00	14	10.66	14.38	4.0	5.0	0.66	0.77	0.130	-0.846
188	1	3	C	50.00	14	10.66	14.38	4.0	5.0	0.84	0.77	0.130	0.538
188	1	4	C	50.00	14	10.66	14.38	4.0	5.0	0.78	0.77	0.130	0.077
188	1	5	C	50.00	14	10.66	14.38	4.0	5.0	0.90	0.77	0.130	1.000
188	1	6	C	50.00	14	10.66	14.38	4.0	5.0	0.90	0.77	0.130	1.000
188	3	1	C	50.00	14	10.66	14.38	4.0	5.0	0.90	0.77	0.130	1.000
188	3	2	C	50.00	14	10.66	14.38	4.0	5.0	0.72	0.77	0.130	-0.385
188	3	3	C	50.00	14	10.66	14.38	4.0	5.0	0.78	0.77	0.130	0.077
188	3	4	C	50.00	14	10.66	14.38	4.0	5.0	0.84	0.77	0.130	0.537
188	3	5	C	50.00	14	10.66	14.38	4.0	5.0	0.84	0.77	0.130	0.538
188	3	6	C	50.00	14	10.66	14.38	4.0	5.0	0.54	0.77	0.130	-1.769

IDENT	SPAN NMBR	BEAM NMBR	TYPE	SPAN LGTH (FT)	STRANDS (NMBR)	ECCENTRICITY END (INCHES)	MIDDLE	DESIGN FPCI/FPC (KSI)		**CAMBER STATISTICS** ACTL.	MEAN	STD. DEV.	T-VAL
189	1	1	C	50.00	14	10.66	14.38	4.0	5.0	0.78	0.76	0.113	0.221
189	1	2	C	50.00	14	10.66	14.38	4.0	5.0	0.90	0.76	0.113	1.284
189	1	3	C	50.00	14	10.66	14.38	4.0	5.0	0.84	0.76	0.113	0.753
189	1	4	C	50.00	14	10.66	14.38	4.0	5.0	0.72	0.76	0.113	-0.311
189	1	5	C	50.00	14	10.66	14.38	4.0	5.0	0.66	0.76	0.113	-0.841
189	1	6	C	50.00	14	10.66	14.38	4.0	5.0	0.90	0.76	0.113	1.285
189	3	1	C	50.00	14	10.66	14.38	4.0	5.0	0.60	0.76	0.113	-1.374
189	3	2	C	50.00	14	10.66	14.38	4.0	5.0	0.72	0.76	0.113	-0.309
189	3	3	C	50.00	14	10.66	14.38	4.0	5.0	0.66	0.76	0.113	-0.841
189	3	4	C	50.00	14	10.66	14.38	4.0	5.0	0.78	0.76	0.113	0.221
189	3	5	C	50.00	14	10.66	14.38	4.0	5.0	0.90	0.76	0.113	1.285
189	3	6	C	50.00	14	10.66	14.38	4.0	5.0	0.60	0.76	0.113	-1.374
190	1	1	C	50.00	14	10.66	14.38	4.0	5.0	0.60	0.69	0.121	-0.742
190	1	2	C	50.00	14	10.66	14.38	4.0	5.0	0.78	0.69	0.121	0.741
190	1	3	C	50.00	14	10.66	14.38	4.0	5.0	0.54	0.69	0.121	-1.237
190	1	4	C	50.00	14	10.66	14.38	4.0	5.0	0.60	0.69	0.121	-0.742
190	1	5	C	50.00	14	10.66	14.38	4.0	5.0	0.54	0.69	0.121	-1.237
190	1	6	C	50.00	14	10.66	14.38	4.0	5.0	0.54	0.69	0.121	-1.235
190	3	1	C	50.00	14	10.66	14.38	4.0	5.0	0.78	0.69	0.121	0.741
190	3	2	C	50.00	14	10.66	14.38	4.0	5.0	0.84	0.69	0.121	1.236
190	3	3	C	50.00	14	10.66	14.38	4.0	5.0	0.66	0.69	0.121	-0.247
190	3	4	C	50.00	14	10.66	14.38	4.0	5.0	0.78	0.69	0.121	0.741
190	3	5	C	50.00	14	10.66	14.38	4.0	5.0	0.78	0.69	0.121	0.741
190	3	6	C	50.00	14	10.66	14.38	4.0	5.0	0.84	0.69	0.121	1.236
191	1	1	C	50.00	14	10.66	14.38	4.0	5.0	0.42	0.63	0.146	-1.440
191	1	2	C	50.00	14	10.66	14.38	4.0	5.0	0.72	0.63	0.146	0.618
191	1	3	C	50.00	14	10.66	14.38	4.0	5.0	0.42	0.63	0.146	-1.440
191	1	4	C	50.00	14	10.66	14.38	4.0	5.0	0.66	0.63	0.146	0.206
191	1	5	C	50.00	14	10.66	14.38	4.0	5.0	0.60	0.63	0.146	-0.206
191	1	6	C	50.00	14	10.66	14.38	4.0	5.0	0.48	0.63	0.146	-1.029
191	3	1	C	50.00	14	10.66	14.38	4.0	5.0	0.66	0.63	0.146	0.206
191	3	2	C	50.00	14	10.66	14.38	4.0	5.0	0.54	0.63	0.146	-0.616
191	3	3	C	50.00	14	10.66	14.38	4.0	5.0	0.72	0.63	0.146	0.617
191	3	4	C	50.00	14	10.66	14.38	4.0	5.0	0.78	0.63	0.146	1.028
191	3	5	C	50.00	14	10.66	14.38	4.0	5.0	0.66	0.63	0.146	0.206
191	3	6	C	50.00	14	10.66	14.38	4.0	5.0	0.90	0.63	0.146	1.851
192	1	1	C	50.00	14	10.66	14.38	4.0	5.0	0.60	0.63	0.134	-0.224
192	1	2	C	50.00	14	10.66	14.38	4.0	5.0	0.60	0.63	0.134	-0.224
192	1	3	C	50.00	14	10.66	14.38	4.0	5.0	0.72	0.63	0.134	0.670

IDENT	SPAN NMBR	BEAM NMBR	BEAM TYPE	SPAN LGTH (FT)	STRANDS (NMBR)	ECCENTRICITY END (INCHES)	ECCENTRICITY MIDDLE (INCHES)	DESIGN FPCI (KSI)	DESIGN FPC (KSI)	**CAMBER STATISTICS** ACTL.	MEAN	STD. DEV.	T-VAL
192	1	4	C	50.00	14	10.66	14.38	4.0	5.0	0.36	0.63	0.134	-2.012
192	1	5	C	50.00	14	10.66	14.38	4.0	5.0	0.60	0.63	0.134	-0.224
192	1	6	C	50.00	14	10.66	14.38	4.0	5.0	0.48	0.63	0.134	-1.118
192	3	1	C	50.00	14	10.66	14.38	4.0	5.0	0.78	0.63	0.134	1.118
192	3	2	C	50.00	14	10.66	14.38	4.0	5.0	0.78	0.63	0.134	1.118
192	3	3	C	50.00	14	10.66	14.38	4.0	5.0	0.60	0.63	0.134	-0.224
192	3	4	C	50.00	14	10.66	14.38	4.0	5.0	0.60	0.63	0.134	-0.224
192	3	5	C	50.00	14	10.66	14.38	4.0	5.0	0.60	0.63	0.134	-0.224
192	3	6	C	50.00	14	10.66	14.38	4.0	5.0	0.84	0.63	0.134	1.566
193	1	1	C	50.00	14	10.66	14.38			0.84	0.68	0.168	0.950
193	1	2	C	50.00	14	10.66	14.38			0.60	0.68	0.168	-0.475
193	1	3	C	50.00	14	10.66	14.38			0.84	0.68	0.168	0.950
193	1	4	C	50.00	14	10.66	14.38			0.72	0.68	0.168	0.238
193	1	5	C	50.00	14	10.66	14.38			0.84	0.68	0.168	0.950
193	1	6	C	50.00	14	10.66	14.38			0.30	0.68	0.168	-2.256
193	4	1	C	50.00	14	10.66	14.38			0.72	0.68	0.168	0.237
193	4	2	C	50.00	14	10.66	14.38			0.54	0.68	0.168	-0.832
193	4	3	C	50.00	14	10.66	14.38			0.60	0.68	0.168	-0.475
193	4	4	C	50.00	14	10.66	14.38			0.54	0.68	0.168	-0.832
193	4	5	C	50.00	14	10.66	14.38			0.78	0.68	0.168	0.595
193	4	6	C	50.00	14	10.66	14.38			0.84	0.68	0.168	0.950
194	1	1	C	50.00	14	10.66	14.38	4.0	5.0	0.60	0.75	0.090	-1.657
194	1	2	C	50.00	14	10.66	14.38	4.0	5.0	0.90	0.75	0.090	1.660
194	1	3	C	50.00	14	10.66	14.38	4.0	5.0	0.78	0.75	0.090	0.331
194	1	4	C	50.00	14	10.66	14.38	4.0	5.0	0.84	0.75	0.090	0.996
194	1	5	C	50.00	14	10.66	14.38	4.0	5.0	0.78	0.75	0.090	0.329
194	1	6	C	50.00	14	10.66	14.38	4.0	5.0	0.78	0.75	0.090	0.331
194	4	1	C	50.00	14	10.66	14.38	4.0	5.0	0.66	0.75	0.090	-0.995
194	4	2	C	50.00	14	10.66	14.38	4.0	5.0	0.78	0.75	0.090	0.331
194	4	3	C	50.00	14	10.66	14.38	4.0	5.0	0.84	0.75	0.090	0.994
194	4	4	C	50.00	14	10.66	14.38	4.0	5.0	0.66	0.75	0.090	-0.995
194	4	5	C	50.00	14	10.66	14.38	4.0	5.0	0.72	0.75	0.090	-0.331
194	4	6	C	50.00	14	10.66	14.38	4.0	5.0	0.66	0.75	0.090	-0.995
195	1	1	C	50.00	28	9.80	9.80	4.0	5.0	0.66	0.40	0.163	1.583
195	1	2	C	50.00	28	9.80	9.80	4.0	5.0	0.60	0.40	0.163	1.215
195	1	3	C	50.00	28	9.80	9.80	4.0	5.0	0.30	0.40	0.163	-0.627
195	1	4	C	50.00	28	9.80	9.80	4.0	5.0	0.30	0.40	0.163	-0.627
195	1	5	C	50.00	28	9.80	9.80	4.0	5.0	0.42	0.40	0.163	0.110
195	3	1	C	50.00	28	9.80	9.80	4.0	5.0	0.42	0.40	0.163	0.110

IDENT	SPAN NMBR	BEAM NMBR	TYPE	SPAN LGTH (FT)	STRANDS (NMBR)	ECCENTRICITY END (INCHES)	MIDDLE	DESIGN FPCI/FPC (KSI)		**CAMBER ACTL.	MEAN	STD. DEV.	T-VAL STATISTICS**
195	3	2	C	50.00	28	9.80	9.80	4.0	5.0	0.42	0.40	0.163	0.110
195	3	3	C	50.00	28	9.80	9.80	4.0	5.0	0.18	0.40	0.163	-1.361
195	3	4	C	50.00	28	9.80	9.80	4.0	5.0	0.42	0.40	0.163	0.110
195	3	5	C	50.00	28	9.80	9.80	4.0	5.0	0.36	0.40	0.163	-0.258
195	3	1	C	50.00	28	9.80	9.80	4.0	5.0	0.24	0.40	0.163	-0.993
195	3	2	C	50.00	28	9.80	9.80	4.0	5.0	0.60	0.40	0.163	1.215
195	3	3	C	50.00	28	9.80	9.80	4.0	5.0	0.78	0.40	0.163	2.319
195	3	4	C	50.00	28	9.80	9.80	4.0	5.0	0.12	0.40	0.163	-1.731
195	3	5	C	50.00	28	9.80	9.80	4.0	5.0	0.30	0.40	0.163	-0.627
195	1	1	C	50.00	28	9.80	9.80	4.0	5.0	0.30	0.40	0.163	-0.625
195	1	2	C	50.00	28	9.80	9.80	4.0	5.0	0.42	0.40	0.163	0.110
195	1	3	C	50.00	28	9.80	9.80	4.0	5.0	0.42	0.40	0.163	0.110
195	1	4	C	50.00	28	9.80	9.80	4.0	5.0	0.48	0.40	0.163	0.479
195	1	5	C	50.00	28	9.80	9.80	4.0	5.0	0.30	0.40	0.163	-0.625
196	1	1	C	50.00	28	9.80	9.80	4.0	5.0	0.60	0.55	0.143	0.337
196	1	2	C	50.00	28	9.80	9.80	4.0	5.0	0.66	0.55	0.143	0.758
196	1	3	C	50.00	28	9.80	9.80	4.0	5.0	0.48	0.55	0.143	-0.505
196	1	4	C	50.00	28	9.80	9.80	4.0	5.0	0.42	0.55	0.143	-0.928
196	1	5	C	50.00	28	9.80	9.80	4.0	5.0	0.66	0.55	0.143	0.757
196	3	1	C	50.00	28	9.80	9.80	4.0	5.0	0.66	0.55	0.143	0.758
196	3	2	C	50.00	28	9.80	9.80	4.0	5.0	0.24	0.55	0.143	-2.189
196	3	3	C	50.00	28	9.80	9.80	4.0	5.0	0.54	0.55	0.143	-0.083
196	3	4	C	50.00	28	9.80	9.80	4.0	5.0	0.66	0.55	0.143	0.758
196	3	5	C	50.00	28	9.80	9.80	4.0	5.0	0.42	0.55	0.143	-0.926
196	1	1	C	50.00	28	9.80	9.80	4.0	5.0	0.72	0.55	0.143	1.178
196	1	2	C	50.00	28	9.80	9.80	4.0	5.0	0.66	0.55	0.143	0.758
196	1	3	C	50.00	28	9.80	9.80	4.0	5.0	0.48	0.55	0.143	-0.505
196	1	4	C	50.00	28	9.80	9.80	4.0	5.0	0.48	0.55	0.143	-0.506
196	1	5	C	50.00	28	9.80	9.80	4.0	5.0	0.54	0.55	0.143	-0.085
196	3	1	C	50.00	28	9.80	9.80	4.0	5.0	0.84	0.55	0.143	2.021
196	3	2	C	50.00	28	9.80	9.80	4.0	5.0	0.30	0.55	0.143	-1.768
196	3	3	C	50.00	28	9.80	9.80	4.0	5.0	0.54	0.55	0.143	-0.083
196	3	4	C	50.00	28	9.80	9.80	4.0	5.0	0.60	0.55	0.143	0.337
196	3	5	C	50.00	28	9.80	9.80	4.0	5.0	0.54	0.55	0.143	-0.083
197	7	1	C	50.00	16	10.84	10.84	4.0	5.0	0.72	0.69	0.268	0.131
197	7	2	C	50.00	16	10.84	10.84	4.0	5.0	0.12	0.69	0.268	-2.111
197	7	3	C	50.00	16	10.84	10.84	4.0	5.0	0.42	0.69	0.268	-0.990
197	7	4	C	50.00	16	10.84	10.84	4.0	5.0	0.60	0.69	0.268	-0.318
197	7	5	C	50.00	16	10.84	10.84	4.0	5.0	0.78	0.69	0.268	0.355
197	7	6	C	50.00	16	10.84	10.84	4.0	5.0	1.02	0.69	0.268	1.251
197	8	1	C	50.00	16	10.84	10.84	4.0	5.0	0.54	0.69	0.268	-0.541

IDENT	SPAN NMBR	BEAM NMBR	BEAM TYPE	SPAN LGTH (FT)	STRANDS (NMBR)	ECCENTRICITY END (INCHES)	ECCENTRICITY MIDDLE (INCHES)	DESIGN FPCI (KSI)	DESIGN FPC (KSI)	**CAMBER STATISTICS** ACTL.	MEAN	STD. DEV.	T-VAL
197	8	2	C	50.00	16	10.84	10.84	4.0	5.0	0.84	0.69	0.268	0.579
197	8	3	C	50.00	16	10.84	10.84	4.0	5.0	0.66	0.69	0.268	-0.093
197	8	4	C	50.00	16	10.84	10.84	4.0	5.0	1.14	0.69	0.268	1.700
197	8	5	C	50.00	16	10.84	10.84	4.0	5.0	0.78	0.69	0.268	0.355
197	8	6	C	50.00	16	10.84	10.84	4.0	5.0	0.60	0.69	0.268	-0.318
198	2	1	C	50.00	14	11.08	11.08	4.0	5.0	0.90	0.59	0.183	1.675
198	2	2	C	50.00	14	11.08	11.08	4.0	5.0	0.66	0.59	0.183	0.362
198	2	3	C	50.00	14	11.08	11.08	4.0	5.0	0.30	0.59	0.183	-1.607
198	2	4	C	50.00	14	11.08	11.08	4.0	5.0	0.48	0.59	0.183	-0.622
198	2	5	C	50.00	14	11.08	11.08	4.0	5.0	0.48	0.59	0.183	-0.622
198	2	6	C	50.00	14	11.08	11.08	4.0	5.0	0.48	0.59	0.183	-0.622
198	2	7	C	50.00	14	11.08	11.08	4.0	5.0	0.30	0.59	0.183	-1.607
198	2	8	C	50.00	14	11.08	11.08	4.0	5.0	0.30	0.59	0.183	-1.607
198	3	1	C	50.00	14	11.08	11.08	4.0	5.0	0.72	0.59	0.183	0.691
198	3	2	C	50.00	14	11.08	11.08	4.0	5.0	0.66	0.59	0.183	0.362
198	3	3	C	50.00	14	11.08	11.08	4.0	5.0	0.30	0.59	0.183	-1.606
198	3	4	C	50.00	14	11.08	11.08	4.0	5.0	0.42	0.59	0.183	-0.950
198	3	5	C	50.00	14	11.08	11.08	4.0	5.0	0.24	0.59	0.183	-1.935
198	3	6	C	50.00	14	11.08	11.08	4.0	5.0	0.60	0.59	0.183	0.034
198	3	7	C	50.00	14	11.08	11.08	4.0	5.0	0.60	0.59	0.183	0.034
198	3	8	C	50.00	14	11.08	11.08	4.0	5.0	0.36	0.59	0.183	-1.278
198	4	1	C	50.00	14	11.08	11.08	4.0	5.0	0.60	0.59	0.183	0.034
198	4	2	C	50.00	14	11.08	11.08	4.0	5.0	0.66	0.59	0.183	0.362
198	4	3	C	50.00	14	11.08	11.08	4.0	5.0	0.60	0.59	0.183	0.034
198	4	4	C	50.00	14	11.08	11.08	4.0	5.0	0.60	0.59	0.183	0.034
198	4	5	C	50.00	14	11.08	11.08	4.0	5.0	0.42	0.59	0.183	-0.950
198	4	6	C	50.00	14	11.08	11.08	4.0	5.0	0.60	0.59	0.183	0.034
198	4	7	C	50.00	14	11.08	11.08	4.0	5.0	0.54	0.59	0.183	-0.294
198	4	8	C	50.00	14	11.08	11.08	4.0	5.0	0.60	0.59	0.183	0.034
198	6	1	C	50.00	14	11.08	11.08	4.0	5.0	0.60	0.59	0.183	0.034
198	6	2	C	50.00	14	11.08	11.08	4.0	5.0	0.36	0.59	0.183	-1.278
198	6	3	C	50.00	14	11.08	11.08	4.0	5.0	0.54	0.59	0.183	-0.294
198	6	4	C	50.00	14	11.08	11.08	4.0	5.0	0.84	0.59	0.183	1.347
198	6	5	C	50.00	14	11.08	11.08	4.0	5.0	0.84	0.59	0.183	1.347
198	6	6	C	50.00	14	11.08	11.08	4.0	5.0	0.66	0.59	0.183	0.362
198	6	7	C	50.00	14	11.08	11.08	4.0	5.0	0.36	0.59	0.183	-1.278
198	6	8	C	50.00	14	11.08	11.08	4.0	5.0	0.60	0.59	0.183	0.034
198	9	1	C	50.00	14	11.08	11.08	4.0	5.0	0.90	0.59	0.183	1.675
198	9	2	C	50.00	14	11.08	11.08	4.0	5.0	0.60	0.59	0.183	0.034
198	9	3	C	50.00	14	11.08	11.08	4.0	5.0	0.78	0.59	0.183	1.019
198	9	4	C	50.00	14	11.08	11.08	4.0	5.0	0.84	0.59	0.183	1.347
198	9	5	C	50.00	14	11.08	11.08	4.0	5.0	0.60	0.59	0.183	0.034
198	9	6	C	50.00	14	11.08	11.08	4.0	5.0	0.78	0.59	0.183	1.019

IDENT	SPAN NMBR	BEAM NMBR	BEAM TYPE	SPAN LGTH (FT)	STRANDS (NMBR)	ECCENTRICITY END (INCHES)	ECCENTRICITY MIDDLE (INCHES)	DESIGN FPCI (KSI)	DESIGN FPC (KSI)	**CAMBER STATISTICS** ACTL.	MEAN	STD. DEV.	T-VAL
198	9	7	C	50.00	14	11.08	11.08	4.0	5.0	0.84	0.59	0.183	1.347
198	9	8	C	50.00	14	11.08	11.08	4.0	5.0	0.66	0.59	0.183	0.362
198	10	1	C	50.00	14	11.08	11.08	4.0	5.0	0.24	0.59	0.183	-1.935
198	10	2	C	50.00	14	11.08	11.08	4.0	5.0	0.60	0.59	0.183	0.034
198	10	3	C	50.00	14	11.08	11.08	4.0	5.0	0.84	0.59	0.183	1.347
198	10	4	C	50.00	14	11.08	11.08	4.0	5.0	0.66	0.59	0.183	0.362
198	10	5	C	50.00	14	11.08	11.08	4.0	5.0	0.84	0.59	0.183	1.347
198	10	6	C	50.00	14	11.08	11.08	4.0	5.0	0.78	0.59	0.183	1.019
198	10	7	C	50.00	14	11.08	11.08	4.0	5.0	0.66	0.59	0.183	0.362
198	10	8	C	50.00	14	11.08	11.08	4.0	5.0	0.66	0.59	0.183	0.362
199	1	1	C	50.00	16	10.84	10.84	4.0	5.0	0.66	0.45	0.135	1.597
199	1	2	C	50.00	16	10.84	10.84	4.0	5.0	0.54	0.45	0.135	0.705
199	1	3	C	50.00	16	10.84	10.84	4.0	5.0	0.48	0.45	0.135	0.259
199	1	4	C	50.00	16	10.84	10.84	4.0	5.0	0.36	0.45	0.135	-0.632
199	1	5	C	50.00	16	10.84	10.84	4.0	5.0	0.60	0.45	0.135	1.152
199	1	6	C	50.00	16	10.84	10.84	4.0	5.0	0.42	0.45	0.135	-0.186
199	3	1	C	50.00	16	10.84	10.84	4.0	5.0	0.18	0.45	0.135	-1.969
199	3	2	C	50.00	16	10.84	10.84	4.0	5.0	0.42	0.45	0.135	-0.185
199	3	3	C	50.00	16	10.84	10.84	4.0	5.0	0.48	0.45	0.135	0.260
199	3	4	C	50.00	16	10.84	10.84	4.0	5.0	0.54	0.45	0.135	0.705
199	3	5	C	50.00	16	10.84	10.84	4.0	5.0	0.60	0.45	0.135	1.151
199	3	6	C	50.00	16	10.84	10.84	4.0	5.0	0.60	0.45	0.135	1.152
199	1	1	C	50.00	16	10.84	10.84	4.0	5.0	0.24	0.45	0.135	-1.523
199	1	2	C	50.00	16	10.84	10.84	4.0	5.0	0.54	0.45	0.135	0.706
199	1	3	C	50.00	16	10.84	10.84	4.0	5.0	0.48	0.45	0.135	0.260
199	1	4	C	50.00	16	10.84	10.84	4.0	5.0	0.48	0.45	0.135	0.259
199	1	5	C	50.00	16	10.84	10.84	4.0	5.0	0.42	0.45	0.135	-0.185
199	1	6	C	50.00	16	10.84	10.84	4.0	5.0	0.42	0.45	0.135	-0.186
199	3	1	C	50.00	16	10.84	10.84	4.0	5.0	0.18	0.45	0.135	-1.967
199	3	5	C	50.00	16	10.84	10.84	4.0	5.0	0.60	0.45	0.135	1.151
199	3	2	C	50.00	16	10.84	10.84	4.0	5.0	0.36	0.45	0.135	-0.631
199	3	4	C	50.00	16	10.84	10.84	4.0	5.0	0.30	0.45	0.135	-1.077
199	3	3	C	50.00	16	10.84	10.84	4.0	5.0	0.48	0.45	0.135	0.260
199	3	6	C	50.00	16	10.84	10.84	4.0	5.0	0.30	0.45	0.135	-1.077
200	1	1	C	49.25	16	10.84	10.84	4.0	5.0	0.54	0.60	0.158	-0.407
200	1	2	C	49.25	16	10.84	10.84	4.0	5.0	0.66	0.60	0.158	0.356
200	1	3	C	49.25	16	10.84	10.84	4.0	5.0	0.60	0.60	0.158	-0.025
200	1	4	C	49.25	16	10.84	10.84	4.0	5.0	0.60	0.60	0.158	-0.025
200	1	5	C	49.25	16	10.84	10.84	4.0	5.0	0.54	0.60	0.158	-0.405
200	2	1	C	50.00	16	10.64	10.84	4.0	5.0	0.84	0.60	0.158	1.497
200	2	2	C	50.00	16	10.84	10.84	4.0	5.0	0.54	0.60	0.158	-0.405

IDENT	SPAN NMBR	BEAM NMBR	BEAM TYPE	SPAN LGTH (FT)	STRANDS (NMBR)	ECCENTRICITY (INCHES) END	ECCENTRICITY (INCHES) MIDDLE	DESIGN (KSI) FPCI	DESIGN (KSI) FPC	**CAMBER STATISTICS** ACTL.	MEAN	STD. DEV.	T-VAL
200	2	3	C	50.00	16	10.84	10.84	4.0	5.0	0.72	0.60	0.158	0.736
200	2	4	C	50.00	16	10.84	10.84	4.0	5.0	0.48	0.60	0.158	-0.788
200	2	5	C	50.00	16	10.84	10.84	4.0	5.0	0.78	0.60	0.158	1.117
200	3	1	C	50.00	16	10.84	10.84	4.0	5.0	0.60	0.60	0.158	-0.027
200	3	2	C	50.00	16	10.84	10.84	4.0	5.0	0.60	0.60	0.158	-0.025
200	3	3	C	50.00	16	10.84	10.84	4.0	5.0	0.48	0.60	0.158	-0.788
200	3	4	C	50.00	16	10.84	10.84	4.0	5.0	0.36	0.60	0.158	-1.549
200	3	5	C	50.00	16	10.84	10.84	4.0	5.0	0.78	0.60	0.158	1.117
200	4	1	C	50.00	16	10.84	10.84	4.0	5.0	0.84	0.60	0.158	1.499
200	4	2	C	50.00	16	10.84	10.84	4.0	5.0	0.66	0.60	0.158	0.355
200	4	3	C	50.00	16	10.84	10.84	4.0	5.0	0.48	0.60	0.158	-0.787
200	4	4	C	50.00	16	10.84	10.84	4.0	5.0	0.78	0.60	0.158	1.118
200	4	5	C	50.00	16	10.84	10.84	4.0	5.0	0.36	0.60	0.158	-1.548
200	5	1	C	50.00	16	10.84	10.84	4.0	5.0	0.84	0.60	0.158	1.499
200	5	2	C	50.00	16	10.84	10.84	4.0	5.0	0.48	0.60	0.158	-0.787
200	5	3	C	50.00	16	10.84	10.84	4.0	5.0	0.78	0.60	0.158	1.117
200	5	4	C	50.00	16	10.84	10.84	4.0	5.0	0.90	0.60	0.158	1.880
200	5	5	C	50.00	16	10.84	10.84	4.0	5.0	0.54	0.60	0.158	-0.407
200	6	1	C	50.00	16	10.84	10.84	4.0	5.0	0.48	0.60	0.158	-0.787
200	6	2	C	50.00	16	10.84	10.84	4.0	5.0	0.36	0.60	0.158	-1.549
200	6	3	C	50.00	16	10.84	10.84	4.0	5.0	0.48	0.60	0.158	-0.788
200	6	4	C	50.00	16	10.84	10.84	4.0	5.0	0.42	0.60	0.158	-1.168
200	6	5	C	50.00	16	10.84	10.84	4.0	5.0	0.60	0.60	0.158	-0.025
201	3	1	C	45.00	12	12.09	12.09	4.0	5.0	0.60	0.54	0.182	0.330
201	3	2	C	45.00	12	12.09	12.09	4.0	5.0	0.66	0.54	0.182	0.659
201	3	3	C	45.00	12	12.09	12.09	4.0	5.0	0.54	0.54	0.182	0.000
201	3	4	C	45.00	12	12.09	12.09	4.0	5.0	0.78	0.54	0.182	1.319
201	3	5	C	45.00	12	12.09	12.09	4.0	5.0	0.36	0.54	0.182	-0.989
201	3	6	C	45.00	12	12.09	12.09	4.0	5.0	0.30	0.54	0.182	-1.319
202	1	1	C	45.00	12	12.09	12.09	4.0	5.0	0.30	0.50	0.143	-1.414
202	1	6	C	45.00	12	12.09	12.09	4.0	5.0	0.54	0.50	0.143	0.262
202	3	1	C	45.00	12	12.09	12.09	4.0	5.0	0.42	0.50	0.143	-0.577
202	3	6	C	45.00	12	12.09	12.09	4.0	5.0	0.72	0.50	0.143	1.519
202	1	1	C	45.00	12	12.09	12.09	4.0	5.0	0.66	0.50	0.143	1.100
202	1	6	C	45.00	12	12.09	12.09	4.0	5.0	0.54	0.50	0.143	0.262
202	3	1	C	45.00	12	12.09	12.09	4.0	5.0	0.36	0.50	0.143	-0.995
202	3	6	C	45.00	12	12.09	12.09	4.0	5.0	0.48	0.50	0.143	-0.157
203	5	1	C	43.22	12	12.09	14.76	4.0	5.0	0.12	0.43	0.232	-1.336
203	5	2	C	43.22	12	12.09	14.76	4.0	5.0	0.42	0.43	0.232	-0.043

IDENT	SPAN NMBR	BEAM NMBR	BEAM TYPE	SPAN LGTH (FT)	STRANDS (NMBR)	ECCENTRICITY END (INCHES)	ECCENTRICITY MIDDLE (INCHES)	DESIGN FPCI (KSI)	DESIGN FPC (KSI)	**CAMBER ACTL.	MEAN	STD. DEV.	T-VAL STATISTICS**
203	5	3	C	43.22	12	12.09	14.76	4.0	5.0	0.78	0.43	0.232	1.508
203	5	4	C	43.22	12	12.09	14.76	4.0	5.0	0.36	0.43	0.232	-0.302
203	5	5	C	43.22	12	12.09	14.76	4.0	5.0	0.30	0.43	0.232	-0.560
203	5	6	C	43.22	12	12.09	14.76	4.0	5.0	0.60	0.43	0.232	0.732
204	1	1	C	40.00	10	11.09	15.08	4.0	5.0	0.00	0.35	0.186	-1.882
204	1	2	C	40.00	10	11.09	15.08	4.0	5.0	0.30	0.35	0.186	-0.269
204	1	3	C	40.00	10	11.09	15.08	4.0	5.0	0.12	0.35	0.186	-1.237
204	1	4	C	40.00	10	11.09	15.08	4.0	5.0	0.48	0.35	0.186	0.699
204	1	5	C	40.00	10	11.09	15.08	4.0	5.0	0.48	0.35	0.186	0.699
204	1	6	C	40.00	10	11.09	15.08	4.0	5.0	0.36	0.35	0.186	0.054
204	1	1	C	40.00	10	11.09	15.08	4.0	5.0	0.18	0.35	0.186	-0.914
204	1	2	C	40.00	10	11.09	15.08	4.0	5.0	0.66	0.35	0.186	1.667
204	1	3	C	40.00	10	11.09	15.08	4.0	5.0	0.54	0.35	0.186	1.022
204	1	4	C	40.00	10	11.09	15.08	4.0	5.0	0.30	0.35	0.186	-0.269
204	1	5	C	40.00	10	11.09	15.08	4.0	5.0	0.36	0.35	0.186	0.054
204	1	6	C	40.00	10	11.09	15.08	4.0	5.0	0.42	0.35	0.186	0.376
205	1	1	C	40.00	12	11.09	11.09	4.0	5.0	0.78	0.58	0.162	1.216
205	1	2	C	40.00	12	11.09	11.09	4.0	5.0	0.60	0.58	0.162	0.103
205	1	3	C	40.00	12	11.09	11.09	4.0	5.0	0.60	0.58	0.162	0.103
205	1	4	C	40.00	12	11.09	11.09	4.0	5.0	0.54	0.58	0.162	-0.268
205	1	5	C	40.00	12	11.09	11.09	4.0	5.0	0.72	0.58	0.162	0.844
205	1	6	C	40.00	12	11.09	11.09	4.0	5.0	0.72	0.58	0.162	0.844
205	1	7	C	40.00	12	11.09	11.09	4.0	5.0	0.54	0.58	0.162	-0.267
205	1	8	C	40.00	12	11.09	11.09	4.0	5.0	0.66	0.58	0.162	0.474
205	1	9	C	40.00	12	11.09	11.09	4.0	5.0	0.96	0.58	0.162	2.328
205	4	1	C	40.00	12	11.09	11.09	4.0	5.0	0.66	0.58	0.162	0.473
205	4	2	C	40.00	12	11.09	11.09	4.0	5.0	0.30	0.58	0.162	-1.752
205	4	3	C	40.00	12	11.09	11.09	4.0	5.0	0.54	0.58	0.162	-0.267
205	4	4	C	40.00	12	11.09	11.09	4.0	5.0	0.30	0.58	0.162	-1.751
205	4	5	C	40.00	12	11.09	11.09	4.0	5.0	0.42	0.58	0.162	-1.010
205	4	6	C	40.00	12	11.09	11.09	4.0	5.0	0.48	0.58	0.162	-0.638
205	4	7	C	40.00	12	11.09	11.09	4.0	5.0	0.48	0.58	0.162	-0.638
205	4	8	C	40.00	12	11.09	11.09	4.0	5.0	0.60	0.58	0.162	0.103
205	4	9	C	40.00	12	11.09	11.09	4.0	5.0	0.60	0.58	0.162	0.103
206	7	1	C	39.00	18	11.09	11.09	4.0	5.0	0.24	0.28	0.117	-0.307
206	7	2	C	39.00	18	11.09	11.09	4.0	5.0	0.12	0.28	0.117	-1.330
206	7	3	C	39.00	18	11.09	11.09	4.0	5.0	0.24	0.28	0.117	-0.307
206	7	4	C	39.00	18	11.09	11.09	4.0	5.0	0.24	0.28	0.117	-0.307
206	7	5	C	39.00	18	11.09	11.09	4.0	5.0	0.42	0.28	0.117	1.227

IDENT	SPAN NMBR	BEAM NMBR	BEAM TYPE	SPAN LGTH (FT)	STRANDS (NMBR)	ECCENTRICITY END (INCHES)	ECCENTRICITY MIDDLE (INCHES)	DESIGN FPCI (KSI)	DESIGN FPC (KSI)	**CAMBER STATISTICS** ACTL.	MEAN	STD. DEV.	T-VAL
206	9	1	C	40.50	18	11.09	11.09	4.0	5.0	0.36	0.28	0.117	0.716
206	9	2	C	40.50	18	11.09	11.09	4.0	5.0	0.24	0.28	0.117	-0.307
206	9	3	C	40.50	18	11.09	11.09	4.0	5.0	0.48	0.28	0.117	1.739
206	9	4	C	40.50	18	11.09	11.09	4.0	5.0	0.30	0.28	0.117	0.206
206	9	5	C	40.50	18	11.09	11.09	4.0	5.0	0.12	0.28	0.117	-1.331
207	8	1	B	65.00	24	8.09	13.58	4.5	5.0	1.74	1.85	0.422	-0.261
207	8	2	B	65.00	24	8.09	13.58	4.5	5.0	1.38	1.85	0.422	-1.115
207	8	3	B	65.00	24	8.09	13.58	4.5	5.0	1.86	1.85	0.422	0.024
207	8	4	B	65.00	24	8.09	13.58	4.5	5.0	1.80	1.85	0.422	-0.119
207	8	5	B	65.00	24	8.09	13.58	4.5	5.0	1.68	1.85	0.422	-0.403
207	8	6	B	65.00	24	8.09	13.58	4.5	5.0	2.64	1.85	0.422	1.874
208	4	1	B	55.00	20	7.13	10.73	5.3	5.3	1.68	1.90	0.289	-0.774
208	4	2	B	55.00	20	7.13	10.73	5.3	5.3	1.92	1.90	0.289	0.058
208	4	3	B	55.00	20	7.13	10.73	5.3	5.3	1.50	1.90	0.289	-1.397
208	4	4	B	55.00	20	7.13	10.73	5.3	5.3	1.56	1.90	0.289	-1.189
208	4	5	B	55.00	20	7.13	10.73	5.3	5.3	2.22	1.90	0.289	1.097
208	4	6	B	55.00	20	7.13	10.73	5.3	5.3	1.68	1.90	0.289	-0.774
208	5	1	B	55.00	20	7.13	10.73	5.3	5.3	1.74	1.90	0.289	-0.566
208	5	2	B	55.00	20	7.13	10.73	5.3	5.3	2.04	1.90	0.289	0.473
208	5	3	B	55.00	20	7.13	10.73	5.3	5.3	1.62	1.90	0.289	-0.981
208	5	4	B	55.00	20	7.13	10.73	5.3	5.3	1.56	1.90	0.289	-1.189
208	5	5	B	55.00	20	7.13	10.73	5.3	5.3	1.98	1.90	0.289	0.266
208	5	6	B	55.00	20	7.13	10.73	5.3	5.3	2.28	1.90	0.289	1.305
208	6	1	B	55.00	20	7.13	10.73	5.3	5.3	2.22	1.90	0.289	1.097
208	6	2	B	55.00	20	7.13	10.73	5.3	5.3	2.04	1.90	0.289	0.473
208	6	3	B	55.00	20	7.13	10.73	5.3	5.3	2.22	1.90	0.289	1.097
208	6	4	B	55.00	20	7.13	10.73	5.3	5.3	1.56	1.90	0.289	-1.189
208	6	5	B	55.00	20	7.13	10.73	5.3	5.3	2.28	1.90	0.289	1.305
208	6	6	B	55.00	20	7.13	10.73	5.3	5.3	2.16	1.90	0.289	0.889
209	1	1	B	43.00	10	12.50	12.50	4.0	5.0	0.60	0.66	0.168	-0.385
209	1	2	B	43.00	10	12.50	12.50	4.0	5.0	0.84	0.66	0.168	1.046
209	1	3	B	43.00	10	12.50	12.50	4.0	5.0	0.72	0.66	0.168	0.331
209	1	4	B	43.00	10	12.50	12.50	4.0	5.0	0.30	0.66	0.168	-2.173
209	1	5	B	43.00	10	12.50	12.50	4.0	5.0	1.02	0.66	0.168	2.119
209	2	1	B	43.00	10	12.50	12.50	4.0	5.0	0.78	0.66	0.168	0.689
209	2	2	B	43.00	10	12.50	12.50	4.0	5.0	0.60	0.66	0.168	-0.385
209	2	3	B	43.00	10	12.50	12.50	4.0	5.0	0.54	0.66	0.168	-0.742
209	2	4	B	43.00	10	12.50	12.50	4.0	5.0	0.78	0.66	0.168	0.689
209	2	5	B	43.00	10	12.50	12.50	4.0	5.0	0.78	0.66	0.168	0.689

IDENT	SPAN NMBR	BEAM NMBR	TYPE	SPAN LGTH (FT)	STRANDS (NMBR)	ECCENTRICITY END (INCHES)	MIDDLE	DESIGN FPCI/FPC (KSI)		**CAMBER ACTL.	MEAN	STATISTICS** STD. DEV.	T-VAL
209	3	1	B	43.00	10	12.50	12.50	4.0	5.0	0.48	0.66	0.168	-1.100
209	3	2	B	43.00	10	12.50	12.50	4.0	5.0	0.78	0.66	0.168	0.689
209	3	3	B	43.00	10	12.50	12.50	4.0	5.0	0.96	0.66	0.168	1.762
209	3	4	B	43.00	10	12.50	12.50	4.0	5.0	0.54	0.66	0.168	-0.742
209	3	5	B	43.00	10	12.50	12.50	4.0	5.0	0.60	0.66	0.168	-0.385
209	4	1	B	43.00	10	12.50	12.50	4.0	5.0	0.54	0.66	0.168	-0.742
209	4	2	B	43.00	10	12.50	12.50	4.0	5.0	0.48	0.66	0.168	-1.100
209	4	3	B	43.00	10	12.50	12.50	4.0	5.0	0.96	0.66	0.168	1.762
209	4	4	B	43.00	10	12.50	12.50	4.0	5.0	0.48	0.66	0.168	-1.100
209	4	5	B	43.00	10	12.50	12.50	4.0	5.0	0.72	0.66	0.168	0.331
209	5	1	B	43.00	10	12.50	12.50	4.0	5.0	0.48	0.66	0.168	-1.100
209	5	2	B	43.00	10	12.50	12.50	4.0	5.0	0.42	0.66	0.168	-1.458
209	5	3	B	43.00	10	12.50	12.50	4.0	5.0	0.60	0.66	0.168	-0.385
209	5	4	B	43.00	10	12.50	12.50	4.0	5.0	0.84	0.66	0.168	1.046
209	5	5	B	43.00	10	12.50	12.50	4.0	5.0	0.60	0.66	0.168	-0.385
209	6	1	B	43.00	10	12.50	12.50	4.0	5.0	0.66	0.66	0.168	-0.027
209	6	2	B	43.00	10	12.50	12.50	4.0	5.0	0.96	0.66	0.168	1.762
209	6	3	B	43.00	10	12.50	12.50	4.0	5.0	0.90	0.66	0.168	1.404
209	6	4	B	43.00	10	12.50	12.50	4.0	5.0	0.66	0.66	0.168	-0.027
209	6	5	B	43.00	10	12.50	12.50	4.0	5.0	0.48	0.66	0.168	-1.100
209	7	1	B	43.00	10	12.50	12.50	4.0	5.0	0.72	0.66	0.168	0.331
209	7	2	B	43.00	10	12.50	12.50	4.0	5.0	0.72	0.66	0.168	0.331
209	7	3	B	43.00	10	12.50	12.50	4.0	5.0	0.66	0.66	0.168	-0.027
209	7	4	B	43.00	10	12.50	12.50	4.0	5.0	0.54	0.66	0.168	-0.742
209	7	5	B	43.00	10	12.50	12.50	4.0	5.0	0.78	0.66	0.168	0.689
209	8	1	B	43.00	10	12.50	12.50	4.0	5.0	0.60	0.66	0.168	-0.385
209	8	2	B	43.00	10	12.50	12.50	4.0	5.0	0.54	0.66	0.168	-0.742
209	8	3	B	43.00	10	12.50	12.50	4.0	5.0	0.66	0.66	0.168	-0.027
209	8	4	B	43.00	10	12.50	12.50	4.0	5.0	0.78	0.66	0.168	0.689
209	8	5	B	43.00	10	12.50	12.50	4.0	5.0	0.48	0.66	0.168	-1.100
210	1	1	A	49.58	12	6.28	9.61	1.3	5.0	1.38	1.04	0.232	1.485
210	1	2	A	49.50	12	6.28	9.61	1.3	5.0	0.96	1.04	0.232	-0.323
210	1	3	A	49.99	12	6.28	9.61	1.3	5.0	1.20	1.04	0.232	0.710
210	1	4	A	49.09	12	6.28	9.61	1.3	5.0	1.08	1.04	0.232	0.193
210	2	1	A	49.58	12	6.28	9.61	1.3	5.0	1.20	1.04	0.232	0.710
210	2	2	A	49.50	12	6.28	9.61	1.3	5.0	1.38	1.04	0.232	1.485
210	2	3	A	49.00	12	6.28	9.61	1.3	5.0	0.60	1.04	0.232	-1.872
210	2	4	A	49.08	12	6.28	9.61	1.3	5.0	1.26	1.04	0.232	0.968
210	3	1	A	49.58	12	6.28	9.61	1.3	5.0	0.78	1.04	0.232	-1.097
210	3	2	A	50.00	12	6.28	9.61	1.3	5.0	1.02	1.04	0.232	-0.064
210	3	3	A	49.00	12	6.28	9.61	1.3	5.0	1.08	1.04	0.232	0.193
210	3	4	A	49.58	12	6.28	9.61	1.3	5.0	0.72	1.04	0.232	-1.355
210	4	1	A	49.58	12	6.28	9.61	1.3	5.0	0.72	1.04	0.232	-1.356

IDENT	SPAN NMBR	BEAM NMBR	BEAM TYPE	SPAN LGTH (FT)	STRANDS (NMBR)	ECCENTRICITY END (INCHES)	ECCENTRICITY MIDDLE (INCHES)	DESIGN FPCI (KSI)	DESIGN FPC (KSI)	**CAMBER ACTL.	MEAN	STD. DEV.	T-VAL	STATISTICS**
210	4	2	A	49.04	12	6.28	9.61	1.3	5.0	1.08	1.04	0.232	0.194	
210	4	3	A	49.99	12	6.28	9.61	1.3	5.0	1.02	1.04	0.232	-0.064	
210	4	4	A	49.58	12	6.28	9.61	1.3	5.0	1.08	1.04	0.232	0.193	
211	1	1	A	40.00	10	7.34	7.34	4.0	5.0	0.90	0.72	0.188	0.964	
211	1	2	A	40.00	10	7.34	7.34	4.0	5.0	1.14	0.72	0.188	2.239	
211	2	1	A	40.00	10	7.34	7.34	4.0	5.0	0.60	0.72	0.188	-0.630	
211	2	2	A	40.00	10	7.34	7.34	4.0	5.0	0.48	0.72	0.188	-1.269	
211	3	1	A	40.00	10	7.34	7.34	4.0	5.0	0.60	0.72	0.188	-0.630	
211	3	2	A	40.00	10	7.34	7.34	4.0	5.0	0.72	0.72	0.188	0.007	
211	4	1	A	40.00	10	7.34	7.34	4.0	5.0	0.54	0.72	0.188	-0.949	
211	4	2	A	40.00	10	7.34	7.34	4.0	5.0	0.78	0.72	0.188	0.326	
211	5	1	A	40.00	10	7.34	7.34	4.0	5.0	0.60	0.72	0.188	-0.630	
211	5	2	A	40.00	10	7.34	7.34	4.0	5.0	0.78	0.72	0.188	0.326	
211	6	1	A	40.00	10	7.34	7.34	4.0	5.0	0.72	0.72	0.188	0.007	
211	6	2	A	40.00	10	7.34	7.34	4.0	5.0	0.72	0.72	0.188	0.007	
211	7	1	A	40.00	10	7.34	7.34	4.0	5.0	0.54	0.72	0.188	-0.950	
211	7	2	A	40.00	10	7.34	7.34	4.0	5.0	0.60	0.72	0.188	-0.630	
211	1	3	A	40.00	10	7.34	7.34	4.0	5.0	0.60	0.72	0.188	-0.630	
211	1	4	A	40.00	10	7.34	7.34	4.0	5.0	0.48	0.72	0.188	-1.269	
211	2	3	A	40.00	10	7.34	7.34	4.0	5.0	0.66	0.72	0.188	-0.311	
211	2	4	A	40.00	10	7.34	7.34	4.0	5.0	0.84	0.72	0.188	0.644	
211	3	3	A	40.00	10	7.34	7.34	4.0	5.0	0.54	0.72	0.188	-0.950	
211	3	4	A	40.00	10	7.34	7.34	4.0	5.0	0.54	0.72	0.188	-0.949	
211	4	3	A	40.00	10	7.34	7.34	4.0	5.0	0.66	0.72	0.188	-0.311	
211	4	4	A	40.00	10	7.34	7.34	4.0	5.0	0.78	0.72	0.188	0.326	
211	5	3	A	40.00	10	7.34	7.34	4.0	5.0	0.78	0.72	0.188	0.326	
211	5	4	A	40.00	10	7.34	7.34	4.0	5.0	0.72	0.72	0.188	0.007	
211	6	3	A	40.00	10	7.34	7.34	4.0	5.0	0.60	0.72	0.188	-0.630	
211	6	4	A	40.00	10	7.34	7.34	4.0	5.0	0.42	0.72	0.188	-1.587	
211	7	3	A	40.00	10	7.34	7.34	4.0	5.0	0.54	0.72	0.188	-0.949	
211	7	4	A	40.00	10	7.34	7.34	4.0	5.0	0.30	0.72	0.188	-2.224	
211	1	1	A	40.00	10	7.34	7.34	4.0	5.0	0.96	0.72	0.188	1.282	
211	1	2	A	40.00	10	7.34	7.34	4.0	5.0	0.96	0.72	0.188	1.282	
211	2	1	A	40.00	10	7.34	7.34	4.0	5.0	0.48	0.72	0.188	-1.269	
211	2	2	A	40.00	10	7.34	7.34	4.0	5.0	0.84	0.72	0.188	0.644	
211	3	1	A	40.00	10	7.34	7.34	4.0	5.0	0.90	0.72	0.188	0.964	
211	3	2	A	40.00	10	7.34	7.34	4.0	5.0	0.72	0.72	0.188	0.007	
211	4	1	A	40.00	10	7.34	7.34	4.0	5.0	0.84	0.72	0.188	0.645	
211	4	2	A	40.00	10	7.34	7.34	4.0	5.0	0.96	0.72	0.188	1.283	
211	5	1	A	40.00	10	7.34	7.34	4.0	5.0	1.02	0.72	0.188	1.602	
211	5	2	A	40.00	10	7.34	7.34	4.0	5.0	0.96	0.72	0.188	1.282	
211	6	1	A	40.00	10	7.34	7.34	4.0	5.0	0.78	0.72	0.188	0.326	
211	6	2	A	40.00	10	7.34	7.34	4.0	5.0	1.14	0.72	0.188	2.240	

IDENT	SPAN NMBR	BEAM NMBR	TYPE	SPAN LGTH (FT)	STRANDS (NMBR)	ECCENTRICITY END (INCHES)	ECCENTRICITY MIDDLE (INCHES)	DESIGN FPCI (KSI)	DESIGN FPC (KSI)	**CAMBER ACTL.	MEAN	STD. DEV.	T-VAL STATISTICS**
211	7	1	A	40.00	10	7.34	7.34	4.0	5.0	0.72	0.72	0.188	0.007
211	7	2	A	40.00	10	7.34	7.34	4.0	5.0	0.60	0.72	0.188	-0.630
211	8	1	A	40.00	10	7.34	7.34	4.0	5.0	0.84	0.72	0.188	0.644
211	8	2	A	40.00	10	7.34	7.34	4.0	5.0	0.72	0.72	0.188	0.007
212	1	3	A	40.00	10	7.34	7.34	4.0	5.0	0.78	0.76	0.116	0.195
212	1	4	A	40.00	10	7.34	7.34	4.0	5.0	0.66	0.76	0.116	-0.842
212	2	3	A	40.00	10	7.34	7.34	4.0	5.0	0.66	0.76	0.116	-0.844
212	2	4	A	40.00	10	7.34	7.34	4.0	5.0	0.84	0.76	0.116	0.714
212	3	3	A	40.00	10	7.34	7.34	4.0	5.0	0.90	0.76	0.116	1.231
212	3	4	A	40.00	10	7.34	7.34	4.0	5.0	0.78	0.76	0.116	0.195
212	4	3	A	40.00	10	7.34	7.34	4.0	5.0	0.90	0.76	0.116	1.231
212	4	4	A	40.00	10	7.34	7.34	4.0	5.0	0.96	0.76	0.116	1.751
212	5	3	A	40.00	10	7.34	7.34	4.0	5.0	0.78	0.76	0.116	0.195
212	5	4	A	40.00	10	7.34	7.34	4.0	5.0	0.72	0.76	0.116	-0.325
212	6	3	A	40.00	10	7.34	7.34	4.0	5.0	0.66	0.76	0.116	-0.842
212	6	4	A	40.00	10	7.34	7.34	4.0	5.0	0.60	0.76	0.116	-1.361
212	7	3	A	40.00	10	7.34	7.34	4.0	5.0	0.84	0.76	0.116	0.714
212	7	4	A	40.00	10	7.34	7.34	4.0	5.0	0.78	0.76	0.116	0.195
212	8	3	A	40.00	10	7.34	7.34	4.0	5.0	0.72	0.76	0.116	-0.325
212	8	4	A	40.00	10	7.34	7.34	4.0	5.0	0.54	0.76	0.116	-1.881
213	1	1	A	40.00	10	7.39	7.39	4.0	5.0	0.54	0.75	0.117	-1.763
213	1	2	A	40.00	10	7.39	7.39	4.0	5.0	0.66	0.75	0.117	-0.737
213	2	1	A	40.00	10	7.39	7.39	4.0	5.0	0.72	0.75	0.117	-0.223
213	2	2	A	40.00	10	7.39	7.39	4.0	5.0	0.78	0.75	0.117	0.288
213	3	1	A	40.00	10	7.39	7.39	4.0	5.0	0.66	0.75	0.117	-0.737
213	3	2	A	40.00	10	7.39	7.39	4.0	5.0	0.84	0.75	0.117	0.801
213	4	1	A	40.00	10	7.39	7.39	4.0	5.0	0.72	0.75	0.117	-0.225
213	4	2	A	40.00	10	7.39	7.39	4.0	5.0	0.66	0.75	0.117	-0.738
213	5	1	A	40.00	10	7.39	7.39	4.0	5.0	0.66	0.75	0.117	-0.737
213	5	2	A	40.00	10	7.39	7.39	4.0	5.0	0.48	0.75	0.117	-2.275
213	13	1	A	40.00	10	7.39	7.39	4.0	5.0	0.90	0.75	0.117	1.315
213	13	2	A	40.00	10	7.39	7.39	4.0	5.0	0.66	0.75	0.117	-0.738
213	14	1	A	40.00	10	7.39	7.39	4.0	5.0	0.72	0.75	0.117	-0.223
213	14	2	A	40.00	10	7.39	7.39	4.0	5.0	0.72	0.75	0.117	-0.225
213	15	1	A	40.00	10	7.39	7.39	4.0	5.0	0.72	0.75	0.117	-0.225
213	15	2	A	40.00	10	7.39	7.39	4.0	5.0	0.78	0.75	0.117	0.288
213	16	1	A	40.00	10	7.39	7.39	4.0	5.0	0.66	0.75	0.117	-0.738
213	16	2	A	40.00	10	7.39	7.39	4.0	5.0	0.78	0.75	0.117	0.288
213	17	1	A	40.00	10	7.39	7.39	4.0	5.0	0.84	0.75	0.117	0.801
213	17	2	A	40.00	10	7.39	7.39	4.0	5.0	0.90	0.75	0.117	1.313
213	18	1	A	40.00	10	7.39	7.39	4.0	5.0	0.72	0.75	0.117	-0.223

IDENT	SPAN NMBR	BEAM NMBR	BEAM TYPE	SPAN LGTH (FT)	STRANDS (NMBR)	ECCENTRICITY END (INCHES)	ECCENTRICITY MIDDLE (INCHES)	DESIGN FPCI (KSI)	DESIGN FPC (KSI)	**CAMBER STATISTICS** ACTL.	MEAN	STD. DEV.	T-VAL
213	18	2	A	40.00	10	7.39	7.39	4.0	5.0	0.96	0.75	0.117	1.828
213	19	1	A	40.00	10	7.39	7.39	4.0	5.0	0.84	0.75	0.117	0.801
213	19	2	A	40.00	10	7.39	7.39	4.0	5.0	0.72	0.75	0.117	-0.225
213	20	1	A	40.00	10	7.39	7.39	4.0	5.0	0.60	0.75	0.117	-1.250
213	20	2	A	40.00	10	7.39	7.39	4.0	5.0	0.90	0.75	0.117	1.315
213	21	1	A	40.00	10	7.39	7.39	4.0	5.0	0.72	0.75	0.117	-0.225
213	21	2	A	40.00	10	7.39	7.39	4.0	5.0	0.90	0.75	0.117	1.315
213	22	1	A	40.00	10	7.39	7.39	4.0	5.0	0.90	0.75	0.117	1.313
213	22	2	A	40.00	10	7.39	7.39	4.0	5.0	0.90	0.75	0.117	1.313
213	23	1	A	40.00	10	7.39	7.39	4.0	5.0	0.60	0.75	0.117	-1.250
213	23	2	A	40.00	10	7.39	7.39	4.0	5.0	0.72	0.75	0.117	-0.223
214	1	3	A	40.00	10	7.39	7.39	4.0	5.0	0.66	0.61	0.168	0.291
214	1	4	A	40.00	10	7.39	7.39	4.0	5.0	0.78	0.61	0.168	1.006
214	2	3	A	40.00	10	7.39	7.39	4.0	5.0	0.72	0.61	0.168	0.648
214	2	4	A	40.00	10	7.39	7.39	4.0	5.0	0.84	0.61	0.168	1.362
214	3	3	A	40.00	10	7.39	7.39	4.0	5.0	0.66	0.61	0.168	0.291
214	3	4	A	40.00	10	7.39	7.39	4.0	5.0	0.54	0.61	0.168	-0.425
214	4	3	A	40.00	10	7.39	7.39	4.0	5.0	0.54	0.61	0.168	-0.424
214	4	4	A	40.00	10	7.39	7.39	4.0	5.0	0.12	0.61	0.168	-2.925
214	5	3	A	40.00	10	7.39	7.39	4.0	5.0	0.78	0.61	0.168	1.005
214	5	4	A	40.00	10	7.39	7.39	4.0	5.0	0.36	0.61	0.168	-1.495
214	13	3	A	40.00	10	7.39	7.39	4.0	5.0	0.60	0.61	0.168	-0.067
214	13	4	A	40.00	10	7.39	7.39	4.0	5.0	0.66	0.61	0.168	0.289
214	14	3	A	40.00	10	7.39	7.39	4.0	5.0	0.78	0.61	0.168	1.005
214	14	4	A	40.00	10	7.39	7.39	4.0	5.0	0.84	0.61	0.168	1.362
214	15	3	A	40.00	10	7.39	7.39	4.0	5.0	0.60	0.61	0.168	-0.067
214	15	4	A	40.00	10	7.39	7.39	4.0	5.0	0.72	0.61	0.168	0.647
214	16	3	A	40.00	10	7.39	7.39	4.0	5.0	0.30	0.61	0.168	-1.853
214	16	4	A	40.00	10	7.39	7.39	4.0	5.0	0.66	0.61	0.168	0.289
214	17	3	A	40.00	10	7.39	7.39	4.0	5.0	0.42	0.61	0.168	-1.139
214	17	4	A	40.00	10	7.39	7.39	4.0	5.0	0.60	0.61	0.168	-0.067
214	18	3	A	40.00	10	7.39	7.39	4.0	5.0	0.66	0.61	0.168	0.291
214	18	4	A	40.00	10	7.39	7.39	4.0	5.0	0.60	0.61	0.168	-0.067
214	19	3	A	40.00	10	7.39	7.39	4.0	5.0	0.78	0.61	0.168	1.005
214	19	4	A	40.00	10	7.39	7.39	4.0	5.0	0.48	0.61	0.168	-0.781
214	20	3	A	40.00	10	7.39	7.39	4.0	5.0	0.66	0.61	0.168	0.291
214	20	4	A	40.00	10	7.39	7.39	4.0	5.0	0.48	0.61	0.168	-0.781
214	21	3	A	40.00	10	7.39	7.39	4.0	5.0	0.48	0.61	0.168	-0.782
214	21	4	A	40.00	10	7.39	7.39	4.0	5.0	0.36	0.61	0.168	-1.497
214	22	3	A	40.00	10	7.39	7.39	4.0	5.0	0.78	0.61	0.168	1.005
214	22	4	A	40.00	10	7.39	7.39	4.0	5.0	0.72	0.61	0.168	0.648
214	23	3	A	40.00	10	7.39	7.39	4.0	5.0	0.72	0.61	0.168	0.647
214	23	4	A	40.00	10	7.39	7.39	4.0	5.0	0.66	0.61	0.168	0.291

IDENT	SPAN NMBR	BEAM NMBR	BEAM TYPE	SPAN LGTH (FT)	STRANDS (NMBR)	ECCENTRICITY (INCHES) END	ECCENTRICITY (INCHES) MIDDLE	DESIGN (KSI) FPCI	DESIGN (KSI) FPC	**CAMBER STATISTICS** ACTL.	MEAN	STD. DEV.	T-VAL
215	1	1	A	40.00	12	7.28	9.28	4.6	5.0	0.18	0.80	0.183	-3.409
215	1	2	A	40.00	12	7.28	9.28	4.6	5.0	0.96	0.80	0.183	0.852
215	1	3	A	40.00	12	7.28	9.28	4.6	5.0	0.66	0.80	0.183	-0.786
215	1	4	A	40.00	12	7.28	9.28	4.6	5.0	0.90	0.80	0.183	0.525
215	2	1	A	40.00	12	7.28	9.28	4.6	5.0	0.90	0.80	0.183	0.525
215	2	2	A	40.00	12	7.28	9.28	4.6	5.0	0.72	0.80	0.183	-0.458
215	2	3	A	40.00	12	7.28	9.28	4.6	5.0	0.90	0.80	0.183	0.525
215	2	4	A	40.00	12	7.28	9.28	4.6	5.0	0.90	0.80	0.183	0.524
215	3	1	A	40.00	12	7.28	9.28	4.6	5.0	0.84	0.80	0.183	0.196
215	3	2	A	40.00	12	7.28	9.28	4.6	5.0	0.84	0.80	0.183	0.197
215	3	3	A	40.00	12	7.28	9.28	4.6	5.0	0.66	0.80	0.183	-0.787
215	3	4	A	40.00	12	7.28	9.28	4.6	5.0	0.84	0.80	0.183	0.197
215	4	1	A	40.00	12	7.28	9.28	4.6	5.0	0.66	0.80	0.183	-0.787
215	4	2	A	40.00	12	7.28	9.28	4.6	5.0	0.78	0.80	0.183	-0.131
215	4	3	A	40.00	12	7.28	9.28	4.6	5.0	0.78	0.80	0.183	-0.130
215	4	4	A	40.00	12	7.28	9.28	4.6	5.0	0.90	0.80	0.183	0.524
215	5	1	A	40.00	12	7.28	9.28	4.6	5.0	0.96	0.80	0.183	0.852
215	5	2	A	40.00	12	7.28	9.28	4.6	5.0	0.72	0.80	0.183	-0.458
215	5	3	A	40.00	12	7.28	9.28	4.6	5.0	0.96	0.80	0.183	0.853
215	5	4	A	40.00	12	7.28	9.28	4.6	5.0	1.02	0.80	0.183	1.180
216	1	1	A	40.00	12	7.28	9.28	4.6	5.0	0.48	0.73	0.137	-1.795
216	1	2	A	40.00	12	7.28	9.28	4.6	5.0	0.54	0.73	0.137	-1.358
216	2	1	A	40.00	12	7.28	9.28	4.6	5.0	0.78	0.73	0.137	0.394
216	2	2	A	40.00	12	7.28	9.28	4.6	5.0	0.90	0.73	0.137	1.271
216	3	1	A	40.00	12	7.28	9.28	4.6	5.0	0.78	0.73	0.137	0.394
216	3	2	A	40.00	12	7.28	9.28	4.6	5.0	0.78	0.73	0.137	0.394
216	4	1	A	40.00	12	7.28	9.28	4.6	5.0	0.60	0.73	0.137	-0.920
216	4	2	A	40.00	12	7.28	9.28	4.6	5.0	0.78	0.73	0.137	0.394
216	5	1	A	40.00	12	7.28	9.28	4.6	5.0	0.84	0.73	0.137	0.833
216	5	2	A	40.00	12	7.28	9.28	4.6	5.0	0.78	0.73	0.137	0.394
217	1	1	A	40.00	12	7.28	9.28	4.6	5.0	1.38	1.00	0.168	2.256
217	1	2	A	40.00	12	7.28	9.28	4.6	5.0	0.84	1.00	0.168	-0.967
217	1	3	A	40.00	12	7.28	9.28	4.6	5.0	0.96	1.00	0.168	-0.251
217	1	4	A	40.00	12	7.28	9.28	4.6	5.0	1.02	1.00	0.168	0.108
217	2	1	A	40.00	12	7.28	9.28	4.6	5.0	0.90	1.00	0.168	-0.609
217	2	2	A	40.00	12	7.28	9.28	4.6	5.0	1.26	1.00	0.168	1.540
217	2	3	A	40.00	12	7.28	9.28	4.6	5.0	1.26	1.00	0.168	1.539
217	2	4	A	40.00	12	7.28	9.28	4.6	5.0	1.20	1.00	0.168	1.182
217	3	1	A	40.00	12	7.28	9.28	4.6	5.0	0.96	1.00	0.168	-0.252
217	3	2	A	40.00	12	7.28	9.28	4.6	5.0	0.78	1.00	0.168	-1.325
217	3	3	A	40.00	12	7.28	9.28	4.6	5.0	0.96	1.00	0.168	-0.251

IDENT	SPAN NMBR	BEAM NMBR	TYPE	SPAN LGTH (FT)	STRANDS (NMBR)	ECCENTRICITY END (INCHES)	MIDDLE	DESIGN FPCI/FPC (KSI)		**CAMBER ACTL.	MEAN	STATISTICS** STD. DEV.	T-VAL
217	3	4	A	40.00	12	7.28	9.28	4.6	5.0	0.90	1.00	0.168	-0.609
217	4	1	A	40.00	12	7.28	9.28	4.6	5.0	0.96	1.00	0.168	-0.251
217	4	2	A	40.00	12	7.28	9.28	4.6	5.0	1.02	1.00	0.168	0.108
217	4	3	A	40.00	12	7.28	9.28	4.6	5.0	1.08	1.00	0.168	0.466
217	4	4	A	40.00	12	7.28	9.28	4.6	5.0	1.08	1.00	0.168	0.466
217	5	1	A	40.00	12	7.28	9.28	4.6	5.0	0.78	1.00	0.168	-1.325
217	5	2	A	40.00	12	7.28	9.28	4.6	5.0	0.84	1.00	0.168	-0.966
217	5	3	A	40.00	12	7.28	9.28	4.6	5.0	1.02	1.00	0.168	0.108
217	5	4	A	40.00	12	7.28	9.28	4.6	5.0	0.84	1.00	0.168	-0.966
218	1	1	A	40.00	12	7.28	9.28	4.6	5.0	1.02	0.89	0.122	1.071
218	1	2	A	40.00	12	7.28	9.28	4.6	5.0	0.78	0.89	0.122	-0.888
218	1	3	A	40.00	12	7.28	9.28	4.6	5.0	0.72	0.89	0.122	-1.379
218	1	4	A	40.00	12	7.28	9.28	4.6	5.0	0.90	0.89	0.122	0.093
218	2	1	A	40.00	12	7.28	9.28	4.6	5.0	0.78	0.89	0.122	-0.887
218	2	2	A	40.00	12	7.28	9.28	4.6	5.0	0.96	0.89	0.122	0.582
218	2	3	A	40.00	12	7.28	9.28	4.6	5.0	0.90	0.89	0.122	0.091
218	2	4	A	40.00	12	7.28	9.28	4.6	5.0	0.90	0.89	0.122	0.091
218	3	1	A	40.00	12	7.28	9.28	4.6	5.0	1.02	0.89	0.122	1.073
218	3	2	A	40.00	12	7.28	9.28	4.6	5.0	0.72	0.89	0.122	-1.379
218	3	3	A	40.00	12	7.28	9.28	4.6	5.0	1.08	0.89	0.122	1.562
218	3	4	A	40.00	12	7.28	9.28	4.6	5.0	0.78	0.89	0.122	-0.888
218	4	1	A	40.00	12	7.28	9.28	4.6	5.0	0.96	0.89	0.122	0.582
218	4	2	A	40.00	12	7.28	9.28	4.6	5.0	0.96	0.89	0.122	0.583
218	4	3	A	40.00	12	7.28	9.28	4.6	5.0	0.72	0.89	0.122	-1.379
218	4	4	A	40.00	12	7.28	9.28	4.6	5.0	1.02	0.89	0.122	1.073
219	1	1	A	40.00	10	7.41	9.81	4.0	5.0	0.90	0.81	0.171	0.515
219	1	2	A	40.00	10	7.41	9.81	4.0	5.0	0.78	0.81	0.171	-0.187
219	1	3	A	40.00	10	7.41	9.81	4.0	5.0	0.54	0.81	0.171	-1.589
219	2	1	A	40.00	10	7.41	9.81	4.0	5.0	0.84	0.81	0.171	0.164
219	2	2	A	40.00	10	7.41	9.81	4.0	5.0	0.66	0.81	0.171	-0.888
219	2	3	A	40.00	10	7.41	9.81	4.0	5.0	0.96	0.81	0.171	0.865
219	3	1	A	40.00	10	7.41	9.81	4.0	5.0	1.02	0.81	0.171	1.217
219	3	2	A	40.00	10	7.41	9.81	4.0	5.0	0.72	0.81	0.171	-0.538
219	3	3	A	40.00	10	7.41	9.81	4.0	5.0	1.02	0.81	0.171	1.217
219	4	1	A	40.00	10	7.41	9.81	4.0	5.0	0.78	0.81	0.171	-0.188
219	4	2	A	40.00	10	7.41	9.81	4.0	5.0	0.84	0.81	0.171	0.163
219	4	3	A	40.00	10	7.41	9.81	4.0	5.0	0.66	0.81	0.171	-0.889
219	5	1	A	40.00	10	7.41	9.81	4.0	5.0	0.60	0.81	0.171	-1.240
219	5	2	A	40.00	10	7.41	9.81	4.0	5.0	0.72	0.81	0.171	-0.538
219	5	3	A	40.00	10	7.41	9.81	4.0	5.0	1.14	0.81	0.171	1.918

IDENT	SPAN NMBR	BEAM NMBR	TYPE	SPAN LGTH (FT)	STRANDS (NMBR)	ECCENTRICITY END (INCHES)	ECCENTRICITY MIDDLE (INCHES)	DESIGN FPCI (KSI)	DESIGN FPC (KSI)	**CAMBER STATISTICS** ACTL.	MEAN	STD. DEV.	T-VAL
220	1	1	A	35.00	10	6.61	9.01	4.0	5.0	0.78	0.59	0.109	1.716
220	1	2	A	35.00	10	6.61	9.01	4.0	5.0	0.60	0.59	0.109	0.068
220	1	3	A	35.00	10	6.61	9.01	4.0	5.0	0.48	0.59	0.109	-1.031
220	1	4	A	35.00	10	6.61	9.01	4.0	5.0	0.48	0.59	0.109	-1.031
220	2	1	A	35.00	10	6.61	9.01	4.0	5.0	0.60	0.59	0.109	0.068
220	2	2	A	35.00	10	6.61	9.01	4.0	5.0	0.84	0.59	0.109	2.265
220	2	3	A	35.00	10	6.61	9.01	4.0	5.0	0.60	0.59	0.109	0.067
220	2	4	A	35.00	10	6.61	9.01	4.0	5.0	0.54	0.59	0.109	-0.479
220	3	1	A	35.00	10	6.61	9.01	4.0	5.0	0.48	0.59	0.109	-1.029
220	3	2	A	35.00	10	6.61	9.01	4.0	5.0	0.54	0.59	0.109	-0.479
220	3	3	A	35.00	10	6.61	9.01	4.0	5.0	0.48	0.59	0.109	-1.029
220	3	4	A	35.00	10	6.61	9.01	4.0	5.0	0.60	0.59	0.109	0.068
220	4	1	A	35.00	10	6.61	9.01	4.0	5.0	0.48	0.59	0.109	-1.029
220	4	2	A	35.00	10	6.61	9.01	4.0	5.0	0.66	0.59	0.109	0.618
220	4	3	A	35.00	10	6.61	9.01	4.0	5.0	0.66	0.59	0.109	0.618
220	4	4	A	35.00	10	6.61	9.01	4.0	5.0	0.66	0.59	0.109	0.618
221	1	1	A	35.00	10	6.61	9.01	4.0	5.0	0.48	0.52	0.161	-0.217
221	1	2	A	35.00	10	6.61	9.01	4.0	5.0	0.18	0.52	0.161	-2.085
221	1	3	A	35.00	10	6.61	9.01	4.0	5.0	0.66	0.52	0.161	0.903
221	1	4	A	35.00	10	6.61	9.01	4.0	5.0	0.24	0.52	0.161	-1.711
221	2	1	A	35.00	10	6.61	9.01	4.0	5.0	0.66	0.52	0.161	0.901
221	2	2	A	35.00	10	6.61	9.01	4.0	5.0	0.72	0.52	0.161	1.276
221	2	3	A	35.00	10	6.61	9.01	4.0	5.0	0.60	0.52	0.161	0.529
221	2	4	A	35.00	10	6.61	9.01	4.0	5.0	0.54	0.52	0.161	0.155
221	3	1	A	35.00	10	6.61	9.01	4.0	5.0	0.54	0.52	0.161	0.155
221	3	2	A	35.00	10	6.61	9.01	4.0	5.0	0.54	0.52	0.161	0.155
221	3	3	A	35.00	10	6.61	9.01	4.0	5.0	0.54	0.52	0.161	0.155
221	3	4	A	35.00	10	6.61	9.01	4.0	5.0	0.48	0.52	0.161	-0.217
222	3	1	A	35.00	10	6.61	9.01	4.0	5.0	0.60	0.66	0.133	-0.453
222	3	2	A	35.00	10	6.61	9.01	4.0	5.0	0.60	0.66	0.133	-0.451
222	3	3	A	35.00	10	6.61	9.01	4.0	5.0	0.72	0.66	0.133	0.451
222	3	4	A	35.00	10	6.61	9.01	4.0	5.0	0.90	0.66	0.133	1.805
222	2	1	A	35.00	10	6.61	9.01	4.0	5.0	0.66	0.66	0.133	-0.001
222	2	2	A	35.00	10	6.61	9.01	4.0	5.0	0.66	0.66	0.133	0.001
222	2	3	A	35.00	10	6.61	9.01	4.0	5.0	0.42	0.66	0.133	-1.805
222	2	4	A	35.00	10	6.61	9.01	4.0	5.0	0.84	0.66	0.133	1.355
222	1	1	A	35.00	10	6.61	9.01	4.0	5.0	0.48	0.66	0.133	-1.354
222	1	2	A	35.00	10	6.61	9.01	4.0	5.0	0.66	0.66	0.133	0.001
222	1	3	A	35.00	10	6.61	9.01	4.0	5.0	0.66	0.66	0.133	0.001
222	1	4	A	35.00	10	6.61	9.01	4.0	5.0	0.72	0.66	0.133	0.451

APPENDIX B

WASTE FACTOR VALUES FOR STRUCTURES IN APPENDIX A

IDENT NO.	PROJECT DESCRIPTION	DIST. NO.	MANUF. CODE	SPAN NO.	WASTE FACTOR
1	I 10 6 (43) 662FM 2762 UNDERPAS	13	5	2	0.0088
1	I 10 6 (43) 662FM 2762 UNDERPAS	13	5	3	0.0045
2	C 2224 1 18 SOUTHBL LOOP 338	6	7	2	0.0012
3	C 2224 1 18 NORTHBL LOOP 338	6	7	2	0.0342
4	C 346-1-21 NAVIDAD RIVER	13	5	5	0.0148
5	CONNECTION A LOOP 820	2	1	4	0.0162
6	U 1107 (18) LOOP 289 & QUIRT	5	1	2	0.0237
7	C 783-2-17 LOOP 289-34TH RT	5	1	2	0.0131
8	C 783-2-17 LOOP 289-34TH LT	5	1	2	0.0143
9	C 783-2-17 289-N QUAKER RT	5	1	2	0.0178
10	C 783-2-17 289-N QUAKER LT	5	1	2	0.0131
11	C 783-1-19 289-FM 1730 # 42	5	1	2	0.0158
12	C 783-1-19 289-FM 1730 # 43	5	1	2	0.0139
13	C 783-1-19 289-QUAKER # 44	5	1	2	0.0135
14	C 783-1-19 289-QUAKER # 45	5	1	2	0.0093
15	518(25) FM 1162	13	1	2	0.0131
15	518(25) FM 1162	13	1	3	0.0110
16	RF-509 (4) SAN MARCOS RIV	13	1	7	0.0137
17	CONNECTION A LOOP 820	2	1	3	0.0110
18	C 783-1-19 289-INDIANA # 48	5	1	2	0.0089
19	TUMBLEWEED TRAIL UNDERP LOOP 820	20	1	1	0.0225
20	I 45 1 (103) 019 CALDER DRIVE	12		3	0.0251
20	I 45 1 (103) 019 CALDER DRIVE	12		4	0.0257
21	F-DP 1009 (13) NOLA RUTH U'PASS	9		2	0.0143
21	F-DP 1009 (13) NOLA RUTH U'PASS	9		3	0.0145
22	F-DP 1009 (13) US190-FT HOOD RT	9		3	0.0206
23	F-DP 1009 (13) US190-FT HOOD RT	9		2	0.0157
24	U 1107 (18) LOOP 289 & QUIRT	5	1	1	0.0196
25	U 1107 (18) LOOP 289 & QUIRT	5	1	3	0.0088
26	I-30-3 (37) 134 SILOAM U'PASS	19		2	0.0324
26	I-30-3 (37) 134 SILOAM U'PASS	19		4	0.0738
27	I-30-3 (37) 134 MALTA ROAD	19		2	0.0522
27	I-30-3 (37) 134 MALTA ROAD	19		4	0.0714
28	I-30-3 (40) 128 ED'S CREEK ROAD	19		2	0.0266
28	I-30-3 (40) 128 ED'S CREEK ROAD	19		4	0.0090
29	U 1113 (22) AIRLIN RD OVERPA	16	1	2	0.0490
30	I 10 6 (43) 662 COUNTY ROAD	13	5	2	0.0275
30	I 10 6 (43) 662 COUNTY ROAD	13	5	3	0.0133
31	I-30-3 (38) 121US 259 O'PASS LT	19		2	0.0236
32	I-30-3 (40) 128 HARRIS FERRY RD	19		2	0.0150
32	I-30-3 (40) 128 HARRIS FERRY RD	19		4	0.0232
33	I-30-3 (37) 134 FM 1840 U'PASS	19		2	0.0117
33	I-30-3 (37) 134 FM 1840 U'PASS	19		4	0.0282
33	I-30-3 (40) 128 FM 561	19		2	0.0266
33	I-30-3 (40) 128 FM 561	19		4	0.0584
33	F 543(21) ST HW 111 NE ST OV LT	13		3	0.0148
34	F 543(21)US 59 FM 822 OVER LEFT	13	1	2	0.0163
35	F543 (21) US59 NT EAST STOV RT	13	1	2	0.0299
36	I 10 2 (35) 275 STRUCTURE 103	6	7	2	0.0181
36	I 10 2 (35) 275 STRUCTURE 103	6	7	3	0.0212
37	T 9094 (6) LOOP 287 OPASS	11		2	0.0282
38	F-FG 518 (30) L SPRR & US 59	13	5	8	0.0049
38	F-FG 518 (30) L SPRR & US 59	13	5	9	0.0012
38	F-FG 518 (30) R SPRR & US 59	13	5	8	0.0029
38	F-FG 518 (30) R SPRR & US 59	13	5	9	0.0098
39	U 1113 (22) CARROL LAN OVERP	16	1	2	0.0201
40	U 1113 (22) WEBER RD OVERPAS	16	1	2	0.0240
41	U 1113 (22) EVERHART OVERPAS	16	1	2	0.0178

IDENT NO.	PROJECT DESCRIPTION	DIST. NO.	MANUF. CODE	SPAN NO.	WASTE FACTOR
42	U 1113 (22) STAPLES ST OVERP	16	1	2	0.0238
43	U 1113 (22) KOSTORYZ RD OVPA	16	1	2	0.0200
44	US 3063 (2) FW&D RR-US 287	3		7	0.0188
45	F-DP 1009 (13) WILLOW SPRINGS	9		2	0.0230
45	F-DP 1009 (13) WILLOW SPRINGS	9		3	0.0192
46	I 10 6 (43) 662 COUNTY ROAD	13	5	2	0.0267
46	I 10 6 (43) 662 COUNTY ROAD	13	5	3	0.0120
47	C915-41-2 KELLY-QUINT OV	15	2	1	0.0282
47	C915-41-2 KELLY-QUINT OV	15	2	2	0.0087
47	C915-41-2 KELLY-QUINT OV	15	2	3	0.0341
48	C915-41-2 KELLY-QUINT OV	15	2	11	0.0741
49	F 514 (64) FM1960 S BRIDGE	12		3	0.0280
50	F 514 (64) FM1960 N BRIDGE	12		3	0.0060
51	F 543 (22) US 59SERVICE RIGHT	13	1	2	0.0214
52	F543 (21) US59 RT OPASS 842-87	13	1	2	0.0311
53	F-DP 1009 (13) US 190-RM 440 LT	9		1	0.0024
53	F-DP 1009 (13) US 190-RM 440 LT	9		2	0.0037
53	F-DP 1009 (13) US 190-RM 440 LT	9		3	0.0029
53	F-DP 1009 (13) US 190-RM 440 RT	9		1	0.0119
53	F-DP 1009 (13) US 190-RM 440 RT	9		2	0.0168
53	F-DP 1009 (13) US 190-RM 440 RT	9		3	0.0153
54	RF 479 (3) U S 59 RED RIVER	19	6	4	0.0103
54	RF 479 (3) U S 59 RED RIVER	19	6	5	0.0081
54	RF 479 (3) U S 59 RED RIVER	19	6	6	0.0129
54	RF 479 (3) U S 59 RED RIVER	19	6	7	0.0186
54	RF 479 (3) U S 59 RED RIVER	19	6	8	0.0095
54	RF 479 (3) U S 59 RED RIVER	19	6	9	0.0151
54	RF 479 (3) U S 59 RED RIVER	19	6	10	0.0250
54	RF 479 (3) U S 59 RED RIVER	19	6	15	0.0127
54	RF 479 (3) U S 59 RED RIVER	19	6	16	0.0242
54	RF 479 (3) U S 59 RED RIVER	19	6	17	0.0178
54	RF 479 (3) U S 59 RED RIVER	19	6	20	0.0161
55	F 518 (28) R COLORADO RIVER	13	1	7	0.0024
55	F 518 (28) R COLORADO RIVER	13	1	8	0.0090
55	F 518 (28) R COLORADO RIVER	13	1	9	0.0379
56	F 518 (28) L COLORADO RIVER	13	1	7	0.0012
56	F 518 (28) L COLORADO RIVER	13	1	8	0.0147
56	F 518 (28) L COLORADO RIVER	13	1	9	0.0074
57	T 9094 (6) LOOP 287 OPASS	11		3	0.0189
58	F 543 (22) US 59 FM 710(RIGHT)	13	1	2	0.0069
59	F 543 (22) US 59 FM 710(LEFT)	13	1	2	0.0212
60	T 9094 (6) LOOP 287 OPASS	11		1	0.0303
61	E 163-3-24 TRINITY R BRIDGE	10	8	1	0.0231
61	E 163-3-24 TRINITY R BRIDGE	10	8	2	0.0200
61	E 163-3-24 TRINITY R BRIDGE	10	8	3	0.0364
61	E 163-3-24 TRINITY R BRIDGE	10	8	4	0.0220
61	E 163-3-24 TRINITY R BRIDGE	10	8	5	0.0121
61	E 163-3-24 TRINITY R BRIDGE	10	8	6	0.0149
61	E 163-3-24 TRINITY R BRIDGE	10	8	7	0.0172
61	E 163-3-24 TRINITY R BRIDGE	10	8	8	0.0268
61	E 163-3-24 TRINITY R BRIDGE	10	8	12	0.0142
61	E 163-3-24 TRINITY R BRIDGE	10	8	13	0.0961
61	E 163-3-24 TRINITY R BRIDGE	10	8	14	0.0084
61	E 163-3-24 TRINITY R BRIDGE	10	8	15	0.0304
61	E 163-3-24 TRINITY R BRIDGE	10	8	16	0.0210
61	E 163-3-24 TRINITY R BRIDGE	10	8	17	0.0167
61	E 163-3-24 TRINITY R BRIDGE	10	8	18	0.0138
61	E 163-3-24 TRINITY R BRIDGE	10	8	19	0.0176

IDENT NO.	PROJECT DESCRIPTION	DIST. NO.	MANUF. CODE	SPAN NO.	WASTE FACTOR
61	E 163-3-24 TRINITY R BRIDGE	10	8	20	0.0154
61	E 163-3-24 TRINITY R BRIDGE	10	8	21	0.0111
61	E 163-3-24 TRINITY R BRIDGE	10	8	22	0.0157
61	E 163-3-24 TRINITY R BRIDGE	10	8	23	0.0134
61	E 163-3-24 TRINITY R BRIDGE	10	8	24	0.0282
61	E 163-3-24 TRINITY R BRIDGE	10	8	25	0.0104
61	E 163-3-24 TRINITY R BRIDGE	10		26	0.0079
61	E 163-3-24 TRINITY R BRIDGE	10	8	27	0.0174
61	E 163-3-24 TRINITY R BRIDGE	10	8	28	0.0121
61	E 163-3-24 TRINITY R BRIDGE	10	8	29	0.0204
61	E 163-3-24 TRINITY R BRIDGE	10	8	30	0.0123
61	E 163-3-24 TRINITY R BRIDGE	10	8	31	0.0173
61	E 163-3-24 TRINITY R BRIDGE	10	8	32	0.0158
61	E 163-3-24 TRINITY R BRIDGE	10	8	33	0.0157
61	E 163-3-24 TRINITY R BRIDGE	10	8	34	0.0137
61	E 163-3-24 TRINITY R BRIDGE	10	8	35	0.0039
61	E 163-3-24 TRINITY R BRIDGE	10	8	36	0.0108
61	E 163-3-24 TRINITY R BRIDGE	10	8	37	0.0139
61	E 163-3-24 TRINITY R BRIDGE	10	8	38	0.0062
61	E 163-3-24 TRINITY R BRIDGE	10	8	39	0.0095
61	E 163-3-24 TRINITY R BRIDGE	10	8	40	0.0230
62	RF 479 (3) U S 59 RED RIVER	19	6	1	0.0215
62	RF 479 (3) U S 59 RED RIVER	19	6	18	0.0091
63	F 360 (14) US90-NUECES MAIN	22	2	1	0.0099
63	F 360 (14) US90-NUECES MAIN	22	2	2	0.0101
63	F 360 (14) US90-NUECES MAIN	22	2	7	0.0121
63	F 360 (14) US90-NUECES MAIN	22	2	8	0.0241
63	F 360 (14) US90-NUECES MAIN	22	2	9	0.0232
63	F 360 (14) US90-NUECES MAIN	22	2	10	0.0055
64	F 360 (14) US 90-NUECES REL	22	2	1	0.0120
64	F 360 (14) US 90-NUECES REL	22	2	2	0.0180
64	F 360 (14) US 90-NUECES REL	22	2	3	0.0141
64	F 360 (14) US 90-NUECES REL	22	2	4	0.0095
64	F 360 (14) US 90-NUECES REL	22	2	5	0.0024
64	F 360 (14) US 90-NUECES REL	22	2	6	0.0099
64	F 360 (14) US 90-NUECES REL	22	2	7	0.0192
64	F 360 (14) US 90-NUECES REL	22	2	8	0.0145
64	F 360 (14) US 90-NUECES REL	22	2	9	0.0149
64	F 360 (14) US 90-NUECES REL	22	2	10	0.0200
64	F 360 (14) US 90-NUECES REL	22	2	11	0.0084
64	F 360 (14) US 90-NUECES REL	22	2	12	0.0132
64	F 360 (14) US 90-NUECES REL	22	2	13	0.0231
64	F 360 (14) US 90-NUECES REL	22	2	14	0.0129
64	F 360 (14) US 90-NUECES REL	22	2	15	0.0113
64	F 360 (14) US 90-NUECES REL	22	2	16	0.0155
64	F 360 (14) US 90-NUECES REL	22	2	17	0.0095
64	F 360 (14) US 90-NUECES REL	22	2	18	0.0082
64	F 360 (14) US 90-NUECES REL	22	2	19	0.0647
64	F 360 (14) US 90-NUECES REL	22	2	20	0.0099
65	I 10 6 (43) 662FM 2762 UNDERPAS	13	5	1	0.0038
65	I 10 6 (43) 662FM 2762 UNDERPAS	13	5	4	0.0123
66	F 518 (28) L COLORADO RIVER	13	1	1	0.0075
66	F 518 (28) L COLORADO RIVER	13	1	2	0.0104
66	F 518 (28) L COLORADO RIVER	13	1	3	0.0131
67	F 518 (28) R COLORADO RIVER	13	1	1	0.0158
67	F 518 (28) R COLORADO RIVER	13	1	2	0.0081
67	F 518 (28) R COLORADO RIVER	13	1	3	0.0097
68	TURNER WARNELL RD OVERPASS	2	1	1	0.0052

IDENT NO.	PROJECT DESCRIPTION	DIST. NO.	MANUF. CODE	SPAN NO.	WASTE FACTOR
68	TURNER WARNELL RD OVERPASS	2	1	3	0.0172
69	FFG518(26)LEFT SPRR+US 59 EAST	13	1	4	0.0083
69	FFG518(26)LEFT SPRR+US 59 EAST	13	1	5	0.0059
70	FFG518(26)RIGHT SPRR+US 59 WEST	13	1	4	0.0096
70	FFG518(26)RIGHT SPRR+US 59 WEST	13	1	5	0.0132
70	FFG518(26)RIGHT SPRR+US 59 WEST	13	1	11	0.0230
71	FFG518(27) LEFT SPRR+US 59 EAST	13	1	11	0.0089
71	FFG518(27) LEFT SPRR+US 59 EAST	13	1	12	0.0143
71	FFG518(27)CONT SPRR US 59 EAST	13	1	10	0.0160
71	FFG518(27)CONT SPRR US 59 EAST	13	1	11	0.0127
72	KENNEDALE SUBLE RD OVERP LT LAN	2	1	1	0.0210
72	KENNEDALE SUBLE RD OVERP LT LAN	2	1	3	0.0197
73	U 1113 (22) AIRLIN RD OVERPA	16	1	3	0.0219
74	F-DP 1009 (13) US190-FT HOOD LT	9		1	0.0140
74	F-DP 1009 (13) US190-FT HOOD LT	9		4	0.0089
75	F-DP 1009 (13) US190-FT HOOD RT	9		1	0.0178
75	F-DP 1009 (13) US190-FT HOOD RT	9		4	0.0184
76	FFG518(27) LEFT SPRR+US 59 EAST	13	1	5	0.0106
76	FFG518(27) LEFT SPRR+US 59 EAST	13	1	6	0.0072
76	FFG518(26)LEFT SPRR+US 59 EAST	13	1	10	0.0126
76	FFG518(26)LEFT SPRR+US 59 EAST	13	1	11	0.0093
76	FFG518(27)CONT SPRR US 59 EAST	13	1	4	0.0125
77	F-DP 1009 (13) WILLOW SPRINGS	9		1	0.0135
77	F-DP 1009 (13) WILLOW SPRINGS	9		4	0.0206
78	U 1113 (22) CARROL LAN OVERP	16	1	1	0.0267
78	U 1113 (22) CARROL LAN OVERP	16	1	3	0.0142
79	U 1113 (22) WEBER RD OVERPAS	16	1	1	0.0307
79	U 1113 (22) WEBER RD OVERPAS	16	1	3	0.0191
80	U 1113 (22) EVERHART OVERPAS	16	1	1	0.0448
80	U 1113 (22) EVERHART OVERPAS	16	1	3	0.0162
81	U 1113 (22) STAPLES ST OVERP	16	1	1	0.0125
81	U 1113 (22) STAPLES ST OVERP	16	1	3	0.0318
82	U 1113 (22) KOSTORYZ RD OVPA	16	1	1	0.0174
82	U 1113 (22) KOSTORYZ RD OVPA	16	1	3	0.0141
83	FFG518(27)CONT SPRR US 59 EAST	13	1	5	0.0175
84	I 10 6 (43) 662 COUNTY ROAD	13	5	1	0.0028
84	I 10 6 (43) 662 COUNTY ROAD	13	5	4	0.0037
84	I 10 6 (43) 662 COUNTY ROAD	13	5	1	0.0147
84	I 10 6 (43) 662 COUNTY ROAD	13	5	4	0.0054
85	FFG518(26)RIGHT SPRR+US 59 WEST	13	1	10	0.0074
86	F 518 (28) RT ENTR RAMP	13	5	1	0.0024
86	F 518 (28) RT ENTR RAMP	13	5	2	0.0000
86	F 518 (28) RT ENTR RAMP	13	5	5	0.0264
87	F-DP 1009 (13) COUNTY RD TIE-IN	9		1	0.0088
87	F-DP 1009 (13) COUNTY RD TIE-IN	9		3	0.0050
88	C 783-2-17 LOOP 289-34TH RT	5	1	1	0.0080
88	C 783-2-17 LOOP 289-34TH RT	5	1	3	0.0214
89	C 783-2-17 LOOP 289-34TH LT	5	1	1	0.0248
89	C 783-2-17 LOOP 289-34TH LT	5	1	3	0.0071
90	C 783-2-17 289-N QUAKER RT	5	1	1	0.0074
90	C 783-2-17 289-N QUAKER RT	5	1	3	0.0037
91	C 783-2-17 289-N QUAKER LT	5	1	1	0.0094
91	C 783-2-17 289-N QUAKER LT	5	1	3	0.0072
92	C 2224 1 18 SOUTHBL LOOP 338	6	7	1	0.0018
92	C 2224 1 18 SOUTHBL LOOP 338	6	7	3	0.0014
93	I-30-3 (37) 134 FM 990	19		2	0.0583
94	F 642 (9) FM 1845 EAST	10		2	0.0402
94	F 642 (9) FM 1845 EAST	10		3	0.0310

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95	F 642 (9) FM 1845 WEST	10		3	0.0406
95	F 642 (9) FM 1845 WEST	10		2	0.0295
96	FG 1025(7) # 54 SPTC OV SOUTH L	13	1	2	0.0179
96	FG 1025(7) # 54 SPTC OV SOUTH L	13	1	3	0.0037
97	FG 1025(7) # 54 SPTC OV SOUTH L	13	1	1	0.0204
98	F518(25) EM 960 UNDERPASS	13	1	2	0.0091
98	F518(25) EM 960 UNDERPASS	13	1	3	0.0139
98	F518(25) EM 960 UNDERPASS	13	1	4	0.0207
99	I 45 1(125) 018 HUGHES ROAD	12	1	3	0.0191
100	F 514 (64) US 59 SAN JACINTO	12		14	0.0233
100	F 514 (64) US 59 SAN JACINTO	12		15	0.0696
100	F 514 (64) US 59 SAN JACINTO	12		16	0.0200
100	F 514 (64) US 59 SAN JACINTO	12		17	0.0246
101	I 45 1 (103) 019FM 3002 UNDERPAS	12		3	0.0192
101	I 45 1 (103) 019FM 3002 UNDERPAS	12		4	0.1154
102	F518(25) LT.LANE ST. HWY 71	13	1	2	0.0169
103	C 346-1-21 NAVIDAD RIVER	13	5	2	0.0118
103	C 346-1-21 NAVIDAD RIVER	13	5	3	0.0090
103	C 346-1-21 NAVIDAD RIVER	13	5	4	0.0107
103	C 346-1-21 NAVIDAD RIVER	13	5	6	0.0078
104	U 432 (12) FW&D-ALEXANDRIA	3		4	0.0152
105	U 1107 (18) LOOP 289 & ASH	5	1	2	0.0261
105	U 1107 (18) LOOP 289 & ASH	5	1	3	0.0121
106	U-UG 1107 (19) LOOP 289-AT&SFRR	5	1	4	0.0275
106	U-UG 1107 (19) LOOP 289-AT&SFRR	5	1	5	0.0260
107	T 9054 (2) MPRR O'PASS	10	9	11	0.0267
108	T 9054 (2) MPRR O'PASS	10	9	5	0.0278
109	U 432 (12) FW&D-ALEXANDRIA	3		3	0.0224
110	U 432 (12) FW&D-ALEXANDRIA	3		2	0.0161
111	F-DP 1009 (13) CLOVERLEAF	9		4	0.0393
112	F518(25) LT.LANE FM. 1163	13	1	2	0.0222
113	F 543 (21)US59 FM 530 OVER LEFT	13	1	2	0.0101
114	I 10 6 (43) 662 LITTLE 5 MI LT	13	5	2	0.0084
114	I 10 6 (43) 662 LITTLE 5 MI LT	13	5	3	0.0083
115	I 10 6 (43) 662 LITTLE 5 MI RT	13	5	2	0.0109
115	I 10 6 (43) 662 LITTLE 5 MI RT	13	5	3	0.0094
116	I 45 1(125) 018 HUGHES ROAD	12	1	2	0.0219
116	I 45 1(125) 018 HUGHES ROAD	12	1	5	0.0101
117	C 346-1-21 NAVIDAD E RELIEF	13	5	1	0.0275
117	I 45 1(125) 018 HUGHES ROAD	12	5	3	0.0024
117	I 45 1(125) 018 HUGHES ROAD	12	5	4	0.0403
117	C 346-1-21 NAVIDAD E RELIEF	13	5	1	0.0135
117	C 346-1-21 NAVIDAD E RELIEF	13	5	2	0.0215
117	C 346-1-21 NAVIDAD E RELIEF	13	1	3	0.0200
117	C 346-1-21 NAVIDAD E RELIEF	13	1	4	0.0101
117	C 346-1-21 NAVIDAD E RELIEF	13	1	5	0.0111
117	C 346-1-21 NAVIDAD E RELIEF	13	1	6	0.0070
117	C 346-1-21 NAVIDAD E RELIEF	13	1	7	0.0148
118	I 45 1 (103) 019 CALDER DRIVE	12		1	0.0100
118	I 45 1 (103) 019 CALDER DRIVE	12		6	0.0145
119	U-UG 1107 (19) LOOP 289-AT&SFRR	5	1	6	0.0178
120	I 10 2(51) 210 COX DRAW BRD EBL	6	7	1	0.1086
120	I 10 2(51) 210 COX DRAW BRD EBL	6	7	2	0.0763
120	I 10 2(51) 210 COX DRAW BRD EBL	6	7	3	0.1086
120	I 10 2(51) 210 COX DRAW BRD EBL	6	7	4	0.1057
120	I 10 2(51) 210 COX DRAW BRD EBL	6	7	5	0.0763
121	I-30-3 (37) 134 SILOAM U'PASS	19		1	0.0156
121	I-30-3 (37) 134 SILOAM U'PASS	19		5	0.0187

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122	I-30-3 (37) 134 MALTA ROAD	19		1	0.0231
122	I-30-3 (37) 134 MALTA ROAD	19		5	0.0289
123	RS 2790(3)NO 50CHOCOLATE BAYOU	13	1	1	0.0143
123	RS 2790(3)NO 50CHOCOLATE BAYOU	13	1	2	0.0097
123	RS 2790(3)NO 50CHOCOLATE BAYOU	13	1	3	0.0115
123	RS 2790(3)NO 50CHOCOLATE BAYOU	13	1	4	0.0153
123	RS 2790(3)NO 50CHOCOLATE BAYOU	13	1	5	0.0105
123	RS 2790(3)NO 50CHOCOLATE BAYOU	13	1	6	0.0078
123	RS 2790(3)NO 50CHOCOLATE BAYOU	13	1	7	4.7945
123	RS 2790(3)NO 50CHOCOLATE BAYOU	13	1	8	0.0050
123	RS 2790(3)NO 50CHOCOLATE BAYOU	13	1	9	0.0160
123	RS 2790(3)NO 50CHOCOLATE BAYOU	13	1	10	0.0097
124	F 1025(10) # 53 US 59 OVERP VIC	13	1	2	0.0094
124	US 3063 (2) FW&D RR-US 287	3	1	3	0.0423
125	F-FG 518 (30) L SPRR & US 59	13	5	1	0.0470
125	F-FG 518 (30) L SPRR & US 59	13	5	2	0.0088
125	F-FG 518 (30) L SPRR & US 59	13	5	3	0.0049
125	F-FG 518 (30) R SPRR & US 59	13	5	1	0.0029
125	F-FG 518 (30) R SPRR & US 59	13	5	2	0.0049
125	F-FG 518 (30) R SPRR & US 59	13	5	3	0.0088
126	FFG518(26)RIGHT SPRR+US 59 WEST	13	1	3	0.0115
127	U 432 (12) FW&D-ALEXANDRIA	3		1	0.0226
127	U 432 (12) FW&D-ALEXANDRIA	3		6	0.0085
128	I-30-3 (37) 134 FM 1840 U'PASS	19		1	0.0204
128	I-30-3 (37) 134 FM 1840 U'PASS	19		5	0.0074
129	T 9054 (2) MPRR O'PASS	10	9	7	0.0154
130	I 10 2 (45)284 TUNIS CREEK WBT	6	7	1	0.0148
130	I 10 2 (45)284 TUNIS CREEK WBT	6	7	2	0.0148
130	I 10 2 (45)284 TUNIS CREEK WBT	6	7	3	0.0058
130	I 10 2 (45)284 TUNIS CREEK WBT	6	7	4	0.0253
130	I 10 2 (45)284 TUNIS CREEK WBT	6	7	5	0.0091
130	I 10 2 (45)284 TUNIS CREEK WBT	6	7	6	0.0088
130	I 10 2 (45)284 TUNIS CREEK WBT	6	7	7	0.0074
130	I 10 2 (45)284 TUNIS CREEK WBT	6	7	8	0.0117
130	I 10 2 (45)284 TUNIS CREEK WBT	6	7	9	0.0124
130	I 10 2 (45)284 TUNIS CREEK WBT	6	7	10	0.0092
130	I 10 2 (45)284 TUNIS CREEK WBT	6	7	11	0.0148
130	I 10 2 (45)284 TUNIS CREEK WBT	6	7	12	0.0082
131	I 10 2 (45)284 TUNIS CREEK EBT	6	7	1	0.0133
131	I 10 2 (45)284 TUNIS CREEK EBT	6	7	2	0.0130
131	I 10 2 (45)284 TUNIS CREEK EBT	6	7	3	0.0177
131	I 10 2 (45)284 TUNIS CREEK EBT	6	7	4	0.0089
131	I 10 2 (45)284 TUNIS CREEK EBT	6	7	5	0.0093
131	I 10 2 (45)284 TUNIS CREEK EBT	6	7	6	0.0151
131	I 10 2 (45)284 TUNIS CREEK EBT	6	7	7	0.0189
131	I 10 2 (45)284 TUNIS CREEK EBT	6	7	8	0.0112
131	I 10 2 (45)284 TUNIS CREEK EBT	6	7	9	0.0295
131	I 10 2 (45)284 TUNIS CREEK EBT	6	7	10	0.0236
131	I 10 2 (45)284 TUNIS CREEK EBT	6	7	11	0.0234
131	I 10 2 (45)284 TUNIS CREEK EBT	6	7	12	0.0116
132	F-DP 1009 (13) CLOVERLEAF	9		1	0.0134
132	F-DP 1009 (13) CLOVERLEAF	9		2	0.0208
133	I 45 1(125) 018 HUGHES ROAD	12	1	6	0.0178
134	F 514 (64) FM1960 S BRIDGE	12		1	0.0120
134	F 514 (64) FM1960 S BRIDGE	12		2	0.0080
134	F 514 (64) FM1960 N BRIDGE	12		1	0.0105
134	F 514 (64) FM1960 N BRIDGE	12		2	0.0777
135	I 45 1 (103) 019 DICKINSON SOUTH	12		1	0.0098

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135	I 45 1 (103) 019 DICKINSON SOUTH	12		2	0.0084
136	I 45 1 (103) 019 DICKINSON NORTH	12		3	0.0083
136	I 45 1 (103) 019 DICKINSON NORTH	12		4	0.0083
137	F-FG 518 (29) SFRR & FM 102 RT	13	5	5	0.0024
137	F-FG 518 (29) SFRR & FM 102 RT	13	5	6	0.0024
137	F-FG 518 (29) SFRR & FM 102 LT	13	5	5	0.0000
137	F-FG 518 (29) SFRR & FM 102 LT	13	5	6	0.0012
138	I 45 1(125) 018 HUGHES ROAD	12	1	1	0.0146
139	F-FG 518 (30) L SPRR & US 59	13	5	10	0.0012
139	F-FG 518 (30) L SPRR & US 59	13	5	11	0.0000
139	F-FG 518 (30) R SPRR & US 59	13	5	10	0.0122
139	F-FG 518 (30) R SPRR & US 59	13	5	11	0.0088
140	F-FG 518 (29) SFRR & FM 102 RT	13	5	1	0.0147
140	F-FG 518 (29) SFRR & FM 102 RT	13	5	2	0.0037
140	F-FG 518 (29) SFRR & FM 102 RT	13	5	3	0.0049
140	F-FG 518 (29) SFRR & FM 102 RT	13	5	4	0.0012
140	F-FG 518 (29) SFRR & FM 102 LT	13	5	1	0.0135
140	F-FG 518 (29) SFRR & FM 102 LT	13	5	2	0.0176
140	F-FG 518 (29) SFRR & FM 102 LT	13	5	3	0.0110
140	F-FG 518 (29) SFRR & FM 102 LT	13	5	4	0.0029
141	518(25) FM 1162	13	1	1	0.0040
141	518(25) FM 1162	13	1	4	0.0109
142	I 10 6 (43) 662 LITTLE 5 MI LT	13	5	1	0.0054
142	I 10 6 (43) 662 LITTLE 5 MI LT	13	5	4	0.0110
142	I 10 6 (43) 662 LITTLE 5 MI RT	13	5	1	0.0068
142	I 10 6 (43) 662 LITTLE 5 MI RT	13	5	4	0.0137
143	F543 (21) US59 LT OPASS 842-87	13	1	1	0.0065
143	F543 (21) US59 LT OPASS 842-87	13	1	3	0.0055
143	F543 (21) US59 RT OPASS 842-87	13	1	1	0.0182
143	F543 (21) US59 RT OPASS 842-87	13	1	3	0.0075
144	F 1025(10) # 53 US 59 OVERP VIC	13	1	1	0.0080
144	F 1025(10) # 53 US 59 OVERP VIC	13	1	4	0.0122
145	U-UG 1107 (19) LOOP 289-AT&SFRR	5	1	1	0.0114
146	US 3063 (2) FW&D RR-US 287	3		1	0.0123
146	US 3063 (2) FW&D RR-US 287	3		2	0.0092
147	T 9054 (2) MPRR O'PASS	10		13	0.0149
148	RF 479 (3) U S 59 RED RIVER	19	6	2	0.0167
148	RF 479 (3) U S 59 RED RIVER	19	6	19	0.0210
149	I-30-3 (37) 134 FM 990	19		1	0.0040
149	I-30-3 (37) 134 FM 990	19		3	0.0224
149	I-30-3 (37) 134 FM 990	19		1	0.0122
149	I-30-3 (37) 134 FM 990	19		3	0.0240
150	T 9054 (2) MPRR O'PASS	10	9	1	0.0081
150	T 9054 (2) MPRR O'PASS	10	9	8	0.0225
150	T 9054 (2) MPRR O'PASS	10	9	12	0.0286
151	I 45 1 (103) 019 CALDER DRIVE	12		2	0.0148
151	I 45 1 (103) 019 CALDER DRIVE	12		5	0.0149
152	F 514 (64) US 59 SAN JACINTO	12		1	0.0189
152	F 514 (64) US 59 SAN JACINTO	12		2	0.0265
152	2 514 (64) US 59 SAN JACINTO	10		3	0.0125
152	F 514 (64) US 59 SAN JACINTO	12		4	0.0127
152	2 514 (64) US 59 SAN JACINTO	10		5	0.0307
152	F 514 (64) US 59 SAN JACINTO	12		6	0.0112
152	F 514 (64) US 59 SAN JACINTO	12		7	0.0098
152	F 514 (64) US 59 SAN JACINTO	12		8	0.0129
152	F 514 (64) US 59 SAN JACINTO	12		9	0.0291
152	F 514 (64) US 59 SAN JACINTO	12		10	0.0068
152	F 514 (64) US 59 SAN JACINTO	12		11	0.0168

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152	F 514 (64) US 59 SAN JACINTO	12		12	0.0181
152	F 514 (64) US 59 SAN JACINTO	12		13	0.0341
152	F 514 (64) US 59 SAN JACINTO	12		18	2.1734
152	F 514 (64) US 59 SAN JACINTO	12		19	0.0146
152	F 514 (64) US 59 SAN JACINTO	12		20	0.0091
152	F 514 (64) US 59 SAN JACINTO	12		21	0.0110
152	F 514 (64) US 59 SAN JACINTO	12		22	0.0187
152	F 514 (64) US 59 SAN JACINTO	12		23	2.3934
152	F 514 (64) US 59 SAN JACINTO	12		24	0.0200
152	F 514 (64) US 59 SAN JACINTO	12		25	2.1441
153	C 346-1-21 NAVIDAD RIVER	13	5	1	0.0080
153	C 346-1-21 NAVIDAD RIVER	13	5	7	0.0021
153	C 346-1-21 NAVIDAD RIVER	13	5	8	0.0083
153	C 346-1-21 NAVIDAD RIVER	13	5	9	0.0119
154	RF-509 (4) SAN MARCOS RIV	13	1	8	0.0222
155	RF-509 (4) SAN MARCOS N EXT	13	1	6	0.0037
155	RF-509 (4) SAN MARCOS N EXT	13	1	9	0.0073
155	RF-509 (4) SAN MARCOS N EXT	13	1	10	0.0037
155	RF-509 (4) SAN MARCOS N EXT	13	1	11	0.0012
155	RF-509 (4) SAN MARCOS N EXT	13	1	12	0.0059
156	RF-509 (4) SAN MARCOS S EXT	13	1	6	0.0049
156	RF-509 (4) SAN MARCOS S EXT	13	1	9	0.0012
156	RF-509 (4) SAN MARCOS S EXT	13	1	10	0.0049
156	RF-509 (4) SAN MARCOS S EXT	13	1	11	0.0088
156	RF-509 (4) SAN MARCOS S EXT	13	1	12	0.0205
157	F 543 (22) US 59SERVICE RIGHT	13	1	1	0.0022
157	F 543 (22) US 59SERVICE RIGHT	13	1	3	0.0109
158	F 543 (22) US 59SERVICE LEFT	13	1	1	0.0076
158	F 543 (22) US 59SERVICE LEFT	13	1	3	0.0053
159	FFG518(26)LEFT SPRR+US 59 EAST	13	1	1	0.0184
159	FFG518(26)LEFT SPRR+US 59 EAST	13	1	2	0.0111
159	FFG518(26)LEFT SPRR+US 59 EAST	13	1	12	0.0089
159	FFG518(26)LEFT SPRR+US 59 EAST	13	1	13	0.0157
159	FFG518(26)LEFT SPRR+US 59 EAST	13	1	14	0.0108
159	FFG518(26)LEFT SPRR+US 59 EAST	13	1	15	0.0110
160	FFG518(26)RIGHT SPRR+US 59 WEST	13	1	1	0.0095
160	FFG518(26)RIGHT SPRR+US 59 WEST	13	1	2	0.0113
160	FFG518(26)RIGHT SPRR+US 59 WEST	13	1	12	0.0203
160	FFG518(26)RIGHT SPRR+US 59 WEST	13	1	13	0.0169
160	FFG518(26)RIGHT SPRR+US 59 WEST	13	1	14	0.0051
161	FFG518(27) LEFT SPRR+US 59 EAST	13	1	1	0.0024
161	FFG518(27) LEFT SPRR+US 59 EAST	13	1	2	0.0135
161	FFG518(27) LEFT SPRR+US 59 EAST	13	1	3	0.0119
161	FFG518(27) LEFT SPRR+US 59 EAST	13	1	4	0.0047
161	FFG518(27) LEFT SPRR+US 59 EAST	13	1	14	0.0056
161	FFG518(27) LEFT SPRR+US 59 EAST	13	1	15	0.0052
162	FFG518(27)CONT SPRR US 59 EAST	13	1	1	0.0210
162	FFG518(27)CONT SPRR US 59 EAST	13	1	2	0.0061
162	FFG518(27)CONT SPRR US 59 EAST	13	1	3	0.0080
162	FFG518(27)CONT SPRR US 59 EAST	13	1	13	0.0281
162	FFG518(27)CONT SPRR US 59 EAST	13	1	14	0.0083
163	I 45 1 (103) 019FM 3002 UNDERPAS	12		1	0.0155
163	I 45 1 (103) 019FM 3002 UNDERPAS	12		2	0.0265
163	I 45 1 (103) 019FM 3002 UNDERPAS	12		5	0.0346
163	I 45 1 (103) 019FM 3002 UNDERPAS	12		6	0.0189
164	FFG518(27)CONT SPRR US 59 EAST	13	1	12	0.0116
165	FFG518(27) LEFT SPRR+US 59 EAST	13	1	13	0.0180
166	I 610 7 (56) 787HOMESTEAD BRIDGE	12		2	0.0118

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166	I 610 7 (56) 787HOMESTEAD BRIDGE	12		3	0.0022
167	FFG518(27) LEFT SPRR+US 59 EAST	13	1	10	0.0092
168	FFG518(26)LEFT SPRR+US 59 EAST	13	1	3	0.0093
168	FFG518(26)LEFT SPRR+US 59 EAST	13	1	6	0.0040
169	FFG518(26)RIGHT SPRR+US 59 WEST	13	1	6	0.0037
170	FFG518(27)CONT SPRR US 59 EAST	13	1	9	0.0037
171	C 346-1-21 NAVIDAD W RELIEF	13	5	1	0.0131
171	C 346-1-21 NAVIDAD W RELIEF	13	5	2	0.0062
171	C 346-1-21 NAVIDAD W RELIEF	13	5	3	0.0052
172	F-FG 518 (30) R SPRR & US 59	13	5	6	0.0059
172	F-FG 518 (30) R SPRR & US 59	13	5	7	0.0024
172	F-FG 518 (30) L SPRR & US 59	13	5	6	0.0000
172	F-FG 518 (30) L SPRR & US 59	13	5	7	0.0037
173	F 543(21) ST HW 111 NE ST OV LT	13	1	2	0.0154
174	F 543E21) US59 NT EAST ST OV LT	13	1	3	******
175	F543 (21) US59 NT EAST STOV -T	13	1	3	2.1892
176	F 642 (9) FM 1845 EAST	10		4	0.0131
177	F 642 (9) FM 1845 WEST	10		4	0.0190
178	F-DP 1009 (13) CLOVERLEAF	9		3	0.0099
178	F-DP 1009 (13) CLOVERLEAF	9		5	0.0122
179	U-UG 1107 (19) LOOP 289-AT&SFRR	5	1	2	0.0123
180	FFG518(26)LEFT SPRR+US 59 EAST	13	1	7	0.0120
180	FFG518(26)LEFT SPRR+US 59 EAST	13	1	8	0.0048
181	FFG518(26)RIGHT SPRR+US 59 WEST	13	1	7	0.0099
181	FFG518(26)RIGHT SPRR+US 59 WEST	13	1	8	0.0047
181	FFG518(26)RIGHT SPRR+US 59 WEST	13	1	9	0.0073
182	FFG518(27) LEFT SPRR+US 59 EAST	13	1	8	0.0118
182	FFG518(27) LEFT SPRR+US 59 EAST	13	1	9	0.0049
183	F-FG 518 (30) L SPRR & US 59	13	5	4	0.0000
183	F-FG 518 (30) L SPRR & US 59	13	5	5	0.0049
183	F-FG 518 (30) R SPRR & US 59	13	5	4	0.0000
183	F-FG 518 (30) R SPRR & US 59	13	5	5	0.0012
184	F518(25) EM 960 UNDERPASS	13	1	1	0.0084
185	F 543(21) ST HW 111NE ST OVP RT	13	1	1	0.0254
185	F 543(21) ST HW 111NE ST OVP RT	13	1	4	******
186	F 543(21) ST HW 111 NE ST OV LT	13	1	1	0.2281
186	F 543(21) ST HW 111 NE ST OV LT	13	1	4	0.0102
187	F 543 (21)US59 FM 530 OVER LEFT	13	1	1	0.0033
187	F 543 (21)US59 FM 530 OVER LEFT	13	1	3	0.0095
188	F 543 (21)US59 FM 530 OVE RIGHT	13	1	1	0.0061
188	F 543 (21)US59 FM 530 OVE RIGHT	13	1	3	0.0061
189	F 543(21)US 59 MILBY RD OV RIGH	13	1	1	0.0051
189	F 543(21)US 59 MILBY RD OV RIGH	13	1	3	0.0088
190	F 543(21)US 59 MILBY RD OV LEFT	13	1	1	0.0087
190	F 543(21)US 59 MILBY RD OV LEFT	13	1	3	0.0031
191	F 543(21)US 59 FM 822 OVE RIGHT	13	1	1	0.0078
191	F 543(21)US 59 FM 822 OVE RIGHT	13	1	3	0.0097
192	F 543(21)US 59 FM 822 OVER LEFT	13	1	1	0.0078
192	F 543(21)US 59 FM 822 OVER LEFT	13	1	3	0.0075
193	F 543(21) US59 NT EAST ST OV LT	13	1	1	0.0068
193	F 543(21) US59 NT EAST ST OV LT	13	1	4	0.0089
194	F543 (21) US59 NT EAST STOV RT	13	1	1	0.0054
194	F543 (21) US59 NT EAST STOV RT	13	1	4	0.0056
195	F518(25) RT.LANE FM. 1163	13	1	1	0.0104
195	F518(25) RT.LANE FM. 1163	13	1	3	0.0200
195	F518(25) LT.LANE FM. 1163	13	1	1	0.0041
196	F518(25) RT.LANE ST. HWY 71	13	1	1	0.0051
196	F518(25) RT.LANE ST. HWY 71	13	1	3	0.0078

IDENT NO.	PROJECT DESCRIPTION	DIST. NO.	MANUF. CODE	SPAN NO.	WASTE FACTOR
196	F518(25) LT.LANE ST. HWY 71	13	1	1	0.0073
196	F518(25) LT.LANE ST. HWY 71	13	1	3	0.0141
197	U-UG 1107 (19) LOOP 289-AT&SFRR	5	1	7	0.0215
197	U-UG 1107 (19) LOOP 289-AT&SFRR	5	1	8	0.0177
198	T 9054 (2) MPRR O'PASS	10	9	2	0.0211
198	T 9054 (2) MPRR O'PASS	10	9	3	0.0119
198	T 9054 (2) MPRR O'PASS	10	9	4	0.0042
198	T 9054 (2) MPRR O'PASS	10	9	6	0.0120
198	T 9054 (2) MPRR O'PASS	10	9	9	0.0076
198	T 9054 (2) MPRR O'PASS	10	9	10	0.0082
199	F 543 (22) US 59 FM 710(RIGHT)	13	1	1	0.0075
199	F 543 (22) US 59 FM 710(RIGHT)	13	1	3	0.0060
199	F 543 (22) US 59 FM 710(LEFT)	13	1	1	0.0049
199	F 543 (22) US 59 FM 710(LEFT)	13	1	3	0.0106
200	I 610 7 (56) 787 FULTON BRIDGE	12	1	1	0.0032
200	I 610 7 (56) 787 FULTON BRIDGE	12	1	2	0.0090
200	I 610 7 (56) 787 FULTON BRIDGE	12	1	3	0.0112
200	I 610 7 (56) 787 FULTON BRIDGE	12	1	4	0.0103
200	I 610 7 (56) 787 FULTON BRIDGE	12	1	5	0.0092
200	I 610 7 (56) 787 FULTON BRIDGE	12	1	6	0.0068
201	U-UG 1107 (19) LOOP 289-AT&SFRR	5	1	3	0.0113
202	I 10 2(51) 210 ST 17 OVERPA EBT	6	7	1	0.0049
202	I 10 2(51) 210 ST 17 OVERPA EBT	6	7	3	0.0061
202	I 10 2(51) 210 ST 17 OVERPA WBL	6	7	1	0.0059
202	I 10 2(51) 210 ST 17 OVERPA WBL	6	7	3	0.0024
203	U 432 (12) FW&D-ALEXANDRIA	3		5	0.0168
204	F 642 (9) FM 1845 WEST	10		1	0.0155
205	U 1107 (18) LOOP 289 & ASH	5	1	1	0.0148
205	U 1107 (18) LOOP 289 & ASH	5	1	4	0.0092
206	FFG518(27) LEFT SPRR+US 59 EAST	13	1	7	0.0086
206	FFG518(26)LEFT SPRR+US 59 EAST	13	1	9	0.0083
207	US 3063 (2) FW&D RR-US 287	3		8	0.0406
208	US 3063 (2) FW&D RR-US 287	3		4	0.0222
208	US 3063 (2) FW&D RR-US 287	3		5	0.0209
208	US 3063 (2) FW&D RR-US 287	3		6	0.0104
209	US 3063 (1) WICHITA RIVER	3		1	0.0164
209	US 3063 (1) WICHITA RIVER	3		2	0.0046
209	US 3063 (1) WICHITA RIVER	3		3	0.0131
209	US 3063 (1) WICHITA RIVER	3		4	0.0156
209	US 3063 (1) WICHITA RIVER	3		5	0.0119
209	US 3063 (1) WICHITA RIVER	3		6	0.0100
209	US 3063 (1) WICHITA RIVER	3		7	0.0051
209	US 3063 (1) WICHITA RIVER	3		8	0.0077
210	C-135-11-9 US 380 & STLSF&T	18		1	0.0112
210	C-135-11-9 US 380 & STLSF&T	18		2	0.0137
210	C-135-11-9 US 380 & STLSF&T	18		3	0.0073
210	C-135-11-9 US 380 & STLSF&T	18		4	0.0044
211	RF-509 (4) S M REL #1 N EXT	13	1	1	0.0049
211	RF-509 (4) S M REL #1 N EXT	13	1	2	0.0059
211	RF-509 (4) S M REL #1 N EXT	13	1	3	0.0024
211	RF-509 (4) S M REL #1 N EXT	13	1	4	0.0049
211	RF-509 (4) S M REL #1 N EXT	13	1	5	0.0037
211	RF-509 (4) S M REL #1 N EXT	13	1	6	0.0000
211	RF-509 (4) S M REL #1 N EXT	13	1	7	0.0012
211	RF-509 (4) S M REL #1 S EXT	13	1	1	0.0059
211	RF-509 (4) S M REL #1 S EXT	13	1	2	0.0037
211	RF-509 (4) S M REL #1 S EXT	13	1	3	0.0000
211	RF-509 (4) S M REL #1 S EXT	13	1	4	0.0024

IDENT NO.	PROJECT DESCRIPTION		DIST. NO.	MANUF. CODE	SPAN NO.	WASTE FACTOR
211	RF-509 (4)	S M REL #1 S EXT	13	1	5	0.0029
211	RF-509 (4)	S M REL #1 S EXT	13	1	6	0.0088
211	RF-509 (4)	S M REL #1 S EXT	13	1	7	0.0117
211	RF-509 (4)	S M REL #2 N EXT	13	1	1	0.0000
211	RF-509 (4)	S M REL #2 N EXT	13	1	2	0.0073
211	RF-509 (4)	S M REL #2 N EXT	13	1	3	0.0088
211	RF-509 (4)	S M REL #2 N EXT	13	1	4	0.0024
211	RF-509 (4)	S M REL #2 N EXT	13	1	5	0.0029
211	RF-509 (4)	S M REL #2 N EXT	13	1	6	0.0073
211	RF-509 (4)	S M REL #2 N EXT	13	1	7	0.0059
211	RF-509 (4)	S M REL #2 N EXT	13	1	8	0.0059
212	RF-509 (4)	S M REL #2 S EXT	13	1	1	0.0059
212	RF-509 (4)	S M REL #2 S EXT	13	1	2	0.0037
212	RF-509 (4)	S M REL #2 S EXT	13	1	3	0.0059
212	RF-509 (4)	S M REL #2 S EXT	13	1	4	0.0012
212	RF-509 (4)	S M REL #2 S EXT	13	1	5	0.0029
212	RF-509 (4)	S M REL #2 S EXT	13	1	6	0.0029
212	RF-509 (4)	S M REL #2 S EXT	13	1	7	0.0029
212	RF-509 (4)	S M REL #2 S EXT	13	1	8	0.0088
213	RF-509 (4)	SAN MARCOS N EXT	13	1	1	0.0024
213	RF-509 (4)	SAN MARCOS N EXT	13	1	2	0.0012
213	RF-509 (4)	SAN MARCOS N EXT	13	1	3	0.0037
213	RF-509 (4)	SAN MARCOS N EXT	13	1	4	0.0029
213	RF-509 (4)	SAN MARCOS N EXT	13	1	5	0.0088
213	RF-509 (4)	SAN MARCOS N EXT	13	1	13	0.0118
213	RF-509 (4)	SAN MARCOS N EXT	13	1	14	0.0000
213	RF-509 (4)	SAN MARCOS N EXT	13	1	15	0.0012
213	RF-509 (4)	SAN MARCOS N EXT	13	1	16	0.0024
213	RF-509 (4)	SAN MARCOS N EXT	13	1	17	0.0012
213	RF-509 (4)	SAN MARCOS N EXT	13	1	18	0.0049
213	RF-509 (4)	SAN MARCOS N EXT	13	1	19	0.0059
213	RF-509 (4)	SAN MARCOS N EXT	13	1	20	0.0061
213	RF-509 (4)	SAN MARCOS N EXT	13	1	21	0.0037
213	RF-509 (4)	SAN MARCOS N EXT	13	1	22	0.0000
213	RF-509 (4)	SAN MARCOS N EXT	13	1	23	0.0024
214	RF-509 (4)	SAN MARCOS S EXT	13	1	1	0.0024
214	RF-509 (4)	SAN MARCOS S EXT	13	1	2	0.0024
214	RF-509 (4)	SAN MARCOS S EXT	13	1	3	0.0059
214	RF-509 (4)	SAN MARCOS S EXT	13	1	4	0.0205
214	RF-509 (4)	SAN MARCOS S EXT	13	1	5	0.0205
214	RF-509 (4)	SAN MARCOS S EXT	13	1	13	0.0012
214	RF-509 (4)	SAN MARCOS S EXT	13	1	14	0.0012
214	RF-509 (4)	SAN MARCOS S EXT	13	1	15	0.0024
214	RF-509 (4)	SAN MARCOS S EXT	13	1	16	0.0073
214	RF-509 (4)	SAN MARCOS S EXT	13	1	17	0.0037
214	RF-509 (4)	SAN MARCOS S EXT	13	1	18	0.0029
214	RF-509 (4)	SAN MARCOS S EXT	13	1	19	0.0147
214	RF-509 (4)	SAN MARCOS S EXT	13	1	20	0.0088
214	RF-509 (4)	SAN MARCOS S EXT	13	1	21	0.0059
214	RF-509 (4)	SAN MARCOS S EXT	13	1	22	0.0029
214	RF-509 (4)	SAN MARCOS S EXT	13	1	23	0.0029
215	S 3236 (1)	ROCKEY CREEK	13	5	1	0.0124
215	S 3236 (1)	ROCKEY CREEK	13	5	2	0.0025
215	S 3236 (1)	ROCKEY CREEK	13	5	3	0.0025
215	S 3236 (1)	ROCKEY CREEK	13	5	4	0.0057
215	S 3236 (1)	ROCKEY CREEK	13	5	5	0.0055
216	S 3236 (1)	BOGGY CREEK LT	13	5	1	0.0012
216	S 3236 (1)	BOGGY CREEK LT	13	5	2	0.0024

IDENT NO.	PROJECT DESCRIPTION			DIST. NO.	MANUF. CODE	SPAN NO.	WASTE FACTOR
216	S 3236	(1)	BOGGY CREEK LT	13	5	3	0.0000
216	S 3236	(1)	BOGGY CREEK LT	13	5	4	0.0037
216	S 3236	(1)	BOGGY CREEK LT	13	5	5	0.0029
217	S 3236	(1)	PONTON CREEK	13	5	1	0.0167
217	S 3236	(1)	PONTON CREEK	13	5	2	0.0041
217	S 3236	(1)	PONTON CREEK	13	5	3	0.0031
217	S 3236	(1)	PONTON CREEK	13	5	4	0.0020
217	S 3236	(1)	PONTON CREEK	13	5	5	0.0066
218	S 3236	(1)	N MUSTANG CREEK	13	5	1	0.0086
218	S 3236	(1)	N MUSTANG CREEK	13	5	2	0.0032
218	S 3236	(1)	N MUSTANG CREEK	13	5	3	0.0085
218	S 3236	(1)	N MUSTANG CREEK	13	5	4	0.0055
219	S 3236	(1)	BOGGY CREEK RT	13	5	1	0.0070
219	S 3236	(1)	BOGGY CREEK RT	13	5	2	0.0072
219	S 3236	(1)	BOGGY CREEK RT	13	5	3	0.0056
219	S 3236	(1)	BOGGY CREEK RT	13	5	4	0.0032
219	S 3236	(1)	BOGGY CREEK RT	13	5	5	0.0150
220	S 3236	(1)	S LAVACA RIVER	13	5	1	0.0095
220	S 3236	(1)	S LAVACA RIVER	13	5	2	0.0086
220	S 3236	(1)	S LAVACA RIVER	13	5	3	0.0036
220	S 3236	(1)	S LAVACA RIVER	13	5	4	0.0018
221	S 3236	(1)	N LAVACA RIVER	13	5	1	0.0125
221	S 3236	(1)	N LAVACA RIVER	13	5	2	0.0040
221	S 3236	(1)	N LAVACA RIVER	13	5	3	0.0006
222	S 3236	(1)	KUEHN CREEK	13	5	3	0.0095
222	S 3236	(1)	KUEHN CREEK	13	5	2	0.0100
222	S 3236	(1)	KUEHN CREEK	13	5	1	0.0040

APPENDIX C

MANUFACTURING AND CAMBER DATA FOR SDHPT BEAMS

PROJECT No. US-2359(14) DISTRICT 15 COUNTY Bexar

BEAM TYPE AASHO IV SPAN LENGTH 124 ft. MANUFACTURER 2

STRAND PATTERN

ROW No.:	A2	A4	A6	A8	A10	A12	A14	A16	A18	A20
No. STRANDS:	12	12	12	10						

DRAPING: RAISE 8 STRANDS TO ROW A52 HARPING DIST. 6.0 ft.

ECCENTRICITY ℄: 19.88 in. ECCENTRICITY END: 12.23 in.

CASTING INFORMATION

	ERECTION MARK	AGE AT RELEASE (hrs.)	RELEASE STRENGTH (psi)	SUBSEQUENT STRENGTH (psi)	TIME STRESSING CASTING (hrs.)	TEMP. DIFF. (°F)	AGE AT SHIPPING (days)	CURING	CAMBERS (in.)
1	IV-1A	63	6897	7506(7)	47	-13	227	W	1.74
2	IV-2A	92	6684	7418(28)	27	-7	214	W	1.56
3	IV-3A	65	5959	7409(7)	24	-1	220	W	1.86, 1.68, 1.74, 1.98
4		〃	〃	〃	〃	〃	〃	〃	
5		63	6897	7506(7)	47	-13	227	W	
6		〃	〃	〃	〃	〃	〃	〃	
7	IV-4A	92	6684	7418(28)	27	-7	214	W	2.10
8	IV-5A	65	5959	7409(7)	24	-1	220	W	2.64
9									
10									
11									
12									
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28									

TABLE C1. 124 FT. AASHTO IV BEAMS, SINGLE SPAN, MANUFACTURER 2

PROJECT No. US-2359 (14) DISTRICT 15 COUNTY Bexar

BEAM TYPE 54 SPAN LENGTH 102 ft. MANUFACTURER 2

STRAND PATTERN

ROW No.:	A2	A4	A6	A8	A10	A12	A14	A16	A18	A20
No. STRANDS:	6	6	6	6	4	2	2			

DRAPING: RAISE 14 STRANDS TO ROW A34 HARPING DIST. 5.0 ft.

ECCENTRICITY ℄: 18.90 in. ECCENTRICITY END: 10.16 in.

CASTING INFORMATION

ERECTION MARK	AGE AT RELEASE (hrs.)	RELEASE STRENGTH (psi)	SUBSEQUENT STRENGTH (psi)	TIME STRESSING CASTING (hrs.)	TEMP. DIFF. (°F)	AGE AT SHIPPING (days)	CURING	CAMBERS (in.)
54-4A	47	5641	7066 (7)	23	+1	181	W	3.36
54-5A	27	5730	7856 (7)	45	+3	184	W	3.30, 2.76, 3.60, 2.94
	"	"	"	"	"	"	"	
	"	"	"	"	"	"	"	
	"	"	"	"	"	"	"	
54-6A	66	5995	6777 (7)	6	-3	150	W	3.06
54-7A	47	5641	7066 (7)	23	+1	181	W	3.06

TABLE C2. 102 FT. TYPE 54 BEAMS, SINGLE SPAN, MANUFACTURER 2

PROJECT No. C-301-6-2 DISTRICT 15 COUNTY Frio

BEAM TYPE 54 SPAN LENGTH 100 ft. MANUFACTURER 2

STRAND PATTERN

ROW No.:	A2	A4	A6	A8	A10	A12	A14	A16	A18	A20
No. STRANDS:	6	6	6	6	4	2				

DRAPING: RAISE 12 STRANDS TO ROW A-34 HARPING DIST. 5 ft.

ECCENTRICITY ℄: 19.40 in. ECCENTRICITY END: 10.60 in.

CASTING INFORMATION

	ERECTION MARK	AGE AT RELEASE (hrs.)	RELEASE STRENGTH (psi)	SUBSEQUENT STRENGTH (psi)	TIME STRESSING CASTING (hrs.)	TEMP. DIFF. (°F)	AGE AT SHIPPING (days)	CURING	CAMBERS (in.)
1	54-6C	45	5995	7603 (8)	22	+1	80	W	3.30
2	54-7C	43.5	5535	6515 (7)	29	-3	86	W	2.88, 3.42
3		43.5	5535	6515 (7)	29	-3	86	W	
4	54-8C	45	5995	7603 (8)	22	+1	80	W	3.30
5	54-9C	43.5	5535	6515 (7)	29	-3	86	W	3.54, 3.42
6		43.5	5535	6515 (7)	29	-3	86	W	
7	54-10C	45	5995	7603 (8)	22	+1	80	W	3.12
8									
9									
10									
11									
12									
13									
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28									

TABLE C3. 100 FT. TYPE 54 BEAMS, SINGLE SPAN, MANUFACTURER 2.

PROJECT No. C-301-6-2 DISTRICT 15 COUNTY Frio

BEAM TYPE 54 SPAN LENGTH 90 ft. MANUFACTURER 2

STRAND PATTERN

ROW No.:	A2	A4	A6	A8	A10	A12	A14	A16	A18	A20
No. STRANDS:	6	6	6	6						

DRAPING: RAISE 8 STRANDS TO ROW A36 HARPING DIST. 5.0 ft.

ECCENTRICITY ℄: 20.53 in. ECCENTRICITY END: 11.20 in.

CASTING INFORMATION

	ERECTION MARK	AGE AT RELEASE (hrs.)	RELEASE STRENGTH (psi)	SUBSEQUENT STRENGTH (psi)	TIME STRESSING CASTING (hrs.)	TEMP. DIFF. (°F)	AGE AT SHIPPING (days)	CURING	CAMBERS (in.)
1	54-1C	67	5252	6853(7)	48	-10	97	W	2.28, 2.34, 2.40, 1.86
2		"	"	"	"	"	"	"	
3		"	"	"	"	"	"	"	
4		"	"	"	"	"	"	"	
5	54-2C	27	4668	7338(8)	95	+7	86	W	2.04, 2.82, 2.40, 1.20, 2.28, 2.82, 2.16, 2.10
6		"	"	"	"	"	"	"	
7		"	"	"	"	"	"	"	
8		"	"	"	"	"	"	"	
9		45	5216	7025(7)	75	+1	88	W	
10		"	"	"	"	"	"	"	
11		"	"	"	"	"	"	"	
12		"	"	"	"	"	"	"	
13		24	4544	7343(7)	27	-3	96	W	
14		"	"	"	"	"	"	"	
15		"	"	"	"	"	"	"	
16		"	"	"	"	"	"	"	
17	54-3C	69	5942	7326(7)	25	-5	85	W	1.98, 2.04 2.40, 2.28
18		"	"	"	"	"	"	"	
19		"	"	"	"	"	"	"	
20		"	"	"	"	"	"	"	
21	54-4C	43	5411	7453(7)	118	+18	76	W	2.22, 2.76, 2.16, 2.46, 1.80, 2.46, 2.34, 2.28
22		"	"	"	"	"	"	"	
23		"	"	"	"	"	"	"	
24		"	"	"	"	"	"	"	
25		26	4668	7405(7)	26	-5	49	W	
26		"	"	"	"	"	"	"	
27		"	"	"	"	"	"	"	
28		"	"	"	"	"	"	"	

TABLE C4. 90 FT. TYPE 54 BEAMS, MULTIPLE SPANS, MANUFACTURER 2

CASTING INFORMATION

	ERECTION MARK	AGE AT RELEASE (hrs.)	RELEASE STRENGTH (psi)	SUBSEQUENT STRENGTH (psi)	TIME STRESSING CASTING (hrs.)	TEMP. DIFF. (°F)	AGE AT SHIPPING (days)	CURING	CAMBERS (in.)
29	54-5C	25	4633	7939(7)	29	-1	78	W	2.22, 2.22, 1.80, 2.58
30		"	"	"	"	"	"	"	
31		"	"	"	"	"	"	"	
32		"	"	"	"	"	"	"	
33									
34									
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66									
67									

TABLE C4 CONTINUED.

PROJECT No. C-301-6-2 DISTRICT 15 COUNTY Frio

BEAM TYPE 54 SPAN LENGTH 85 ft. MANUFACTURER 2

STRAND PATTERN

ROW No.:	A2	A4	A6	A8	A10	A12	A14	A16	A18	A20
No. STRANDS:	6	6	6	4						

DRAPING: RAISE 8 STRANDS TO ROW A32 HARPING DIST. 5.0 ft.

ECCENTRICITY ℄: 20.80 in. ECCENTRICITY END: 12.08 in.

CASTING INFORMATION

Row	ERECTION MARK	AGE AT RELEASE (hrs.)	RELEASE STRENGTH (psi)	SUBSEQUENT STRENGTH (psi)	TIME STRESSING CASTING (hrs.)	TEMP. DIFF. (°F)	AGE AT SHIPPING (days)	CURING	CAMBERS (in.)
1		27	5225	7550(8)	67	+2	178	W	2.22, 2.28, 2.04, 2.10, 2.28, 1.02
2		21	4828	7612(7)	45	+6	185	W	
3	54-1A	"	"	"	"	"	"	"	
4		"	"	"	"	"	"	"	
5		"	"	"	"	"	"	"	
6		"	"	"	"	"	"	"	
7		27	5225	7550(8)	67	+2	147	W	2.04, 1.98, 1.92, 2.40, 2.16, 2.16, 1.86, 2.10, 1.92, 2.10, 1.80, 2.04
8		"	"	"	"	"	"	"	
9		"	"	"	"	"	"	"	
10		"	"	"	"	"	"	"	
11	54-2A	23	4306	7071(7)	27	-4	142	W	
12		"	"	"	"	"	"	"	
13		"	"	"	"	"	"	"	
14		"	"	"	"	"	"	"	
15		"	"	"	"	"	"	"	
16		42	5163	7417(14)	28	-15	134	W	
17		"	"	"	"	"	"	"	
18		"	"	"	"	"	"	"	
19		42	5163	7417(14)	28	-15	134	W	2.22, 2.28, 2.04, 2.04, 2.10, 1.92
20		"	"	"	"	"	"	"	
21	54-3A	27	5517	8091	88	+4	128	W	
22		"	"	"	"	"	"	"	
23		"	"	"	"	"	"	"	
24		"	"	"	"	"	"	"	
25		27	5517	8091	88	+4	128	W	1.92, 1.92, 1.92, 1.86,
26	54-4A	18	4686	7314	101	-14	122	W	
27		"	"	"	"	"	"	"	
28		"	"	"	"	"	"	"	

TABLE C5. 85 FT. TYPE 54 BEAMS, MULTIPLE SPANS, MANUFACTURER 2

CASTING INFORMATION

	ERECTION MARK	AGE AT RELEASE (hrs.)	RELEASE STRENGTH (psi)	SUBSEQUENT STRENGTH (psi)	TIME STRESSING CASTING (hrs.)	TEMP. DIFF. (°F)	AGE AT SHIPPING (days)	CURING	CAMBERS (in.)
29		"	"	"	"	"	"	"	
30		"	"	"	"	"	"	"	1.68, 1.44, 2.22, 2.10, 1.98, 2.16, 2.04, 2.28
31		21	4368	7338(14)	96	-5	115	W	
32	54-4A	"	"	"	"	"	"	"	
33		"	"	"	"	"	"	"	
34		"	"	"	"	"	"	"	
35		"	"	"	"	"	"	"	
36		18	4288	7053(14)	27	-15	112	W	
37		18	4288	7053(14)	27	-15	112	W	2.28, 2.34, 2.34, 2.28, 2.34, 1.62
38		"	"	"	"	"	"	"	
39	54-5A	"	"	"	"	"	"	"	
40		"	"	"	"	"	"	"	
41		20	4288	5789(14)	44	-6	109	W	
42		"	"	"	"	"	"	"	
43									
44									
45									
46									
47									
48									
49									
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TABLE C5 CONTINUED.

PROJECT No. C-301-6-2 DISTRICT 15 COUNTY Frio

BEAM TYPE 54 SPAN LENGTH 75 ft. MANUFACTURER 2

STRAND PATTERN

ROW No.:	A2	A4	A6	A8	A10	A12	A14	A16	A18	A20
No. STRANDS:	6	6	6							

DRAPING: RAISE 6 STRANDS TO ROW A22 HARPING DIST. 5.0 ft.

ECCENTRICITY ℄: 21.53 in. ECCENTRICITY END: 16.20 in.

CASTING INFORMATION

	ERECTION MARK	AGE AT RELEASE (hrs.)	RELEASE STRENGTH (psi)	SUBSEQUENT STRENGTH (psi)	TIME STRESSING CASTING (hrs.)	TEMP. DIFF. (°F)	AGE AT SHIPPING (days)	CURING	CAMBERS (in.)
1	54-1B	71	6631	7477 (7)	48	-1	124	W	1.14, 1.20,
2		114	6207	7453 (9)	26	+1	133	W	1.56, 1.62,
3		"	"	"	"	"	"	"	1.32, 1.32
4		"	"	"	"	"	"	"	
5		"	"	"	"	"	"	"	
6		"	"	"	"	"	"	"	
7	54-2B	14	4509	7710 (7)	26	-7	112	W	
8		"	"	"	"	"	"	"	1.50, 1.50,
9		"	"	"	"	"	"	"	1.62, 1.50,
10		64	6454	6868 (7)	72	-3	117	W	1.56, 1.62,
11		"	"	"	"	"	"	"	
12		"	"	"	"	"	"	"	1.50, 1.44,
13		"	"	"	"	"	"	"	1.74, 1.14,
14		"	"	"	"	"	"	"	1.80, 1.68
15		71	6631	7477 (7)	48	-1	124	W	
16		"	"	"	"	"	"	"	
17		"	"	"	"	"	"	"	
18		"	"	"	"	"	"	"	
19	54-3B	14	4509	7710 (7)	26	-7	112	W	
20		"	"	"	"	"	"	"	1.56, 1.80,
21		18	5039	6814 (7)	100	-15	107	W	1.86, 1.74,
22		"	"	"	"	"	"	"	1.20, 1.50
23		"	"	"	"	"	"	"	
24		"	"	"	"	"	"	"	
25	54-4B	22	4969	7169 (7)	26	-3	92	W	
26		22	4633	7450 (7)	25	+9	99	W	1.62, 1.74,
27		"	"	"	"	"	"	"	1.86, 1.50,
28		"	"	"	"	"	"	"	

TABLE C6. 75 FT. TYPE 54 BEAMS, MULTIPLE SPANS, MANUFACTURER 2

CASTING INFORMATION

	ERECTION MARK	AGE AT RELEASE (hrs.)	RELEASE STRENGTH (psi)	SUBSEQUENT STRENGTH (psi)	TIME STRESSING CASTING (hrs.)	TEMP. DIFF. (°F)	AGE AT SHIPPING (days)	CURING	CAMBERS (in.)
29		"	"	"	"	"	"	"	
30		"	"	"	"	"	"	"	1.86, 1.74,
31		58	6932	7253(7)	28	-4	103	W	1.32, 1.44,
32	54-4B	"	"	"	"	"	"	"	1.32, 1.32,
33		"	"	"	"	"	"	"	
34		"	"	"	"	"	"	"	1.74, 1.80
35		"	"	"	"	"	"	"	
36		18	5039	6814(7)	100	-15	107	W	
37		22	4430	7367(7)	24	+3	90	W	1.38, 1.68,
38		"	"	"	"	"	"	"	
39	54-5B	22	4969	7169(7)	26	-3	92	W	1.62, 2.04,
40		"	"	"	"	"	"	"	1.74, 1.38
41		"	"	"	"	"	"	"	
42		"	"	"	"	"	"	"	
43									
44									
45									
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TABLE C6 CONTINUED.

PROJECT No. 518(25) DISTRICT 13 COUNTY Wharton

BEAM TYPE AASHO IV SPAN LENGTH 120.00 ft. MANUFACTURER 1

STRAND PATTERN

ROW No.:	A2	A4	A6	A8	A10	A12	A14	A16	A18	A20
No. STRANDS:	12	12	12	12	6					

DRAPING: RAISE 10 STRANDS TO ROW A52 HARPING DIST. 6.0 ft.

ECCENTRICITY ℄: 19.17 in. ECCENTRICITY END: 11.34 in.

CASTING INFORMATION

	ERECTION MARK	AGE AT RELEASE (hrs.)	RELEASE STRENGHT (psi)	SUBSEQUENT STRENGHT (psi)	TIME STRESSING CASTING (hrs.)	TEMP. DIFF. (°F)	AGE AT SHIPPING (days)	CURING	CAMBERS (in.)
1	W-20	19	5988	8763 (14)	95	+9	255	S115	3.12, 3.24
2		21	5624	8262 (14)	23	0	249	S115	
3	W-21	38	6668	8971 (14)	222	−10	266	8S110W	3.48, 3.78
4		16	5733	8677 (14)	220	−2	265	S115	
5		16	5733	8677 (14)	220	−2	265	S115	3.48, 3.42
6		40	6432	8869 (14)	98	−13	262	8S110W	
7		16	5860	8986 (14)	120	−8	261	S118	3.48, 3.48
8		16	5860	8986 (14)	120	−8	261	S118	
9	W-22	37	6803	8961 (14)	76	+2	256	11S114W	3.24, 3.60
10		37	6803	8961 (14)	76	+2	256	11S114W	
11									
12									
13									
14									
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TABLE C7. 120 FT. AASHTO IV BEAMS, MULTIPLE SPANS, MANUFACTURER 1

PROJECT No. F-543 (22) DISTRICT 13 COUNTY JACKSON

BEAM TYPE 54 SPAN LENGTH 90' ft. MANUFACTURER 1

STRAND PATTERN

ROW No.:	A2	A4	A6	A8	A10	A12	A14	A16	A18	A20
No. STRANDS:	6	6	6	6	2					

DRAPING: RAISE 10 STRANDS TO ROW A32 HARPING DIST. 5 ft.

ECCENTRICITY ℄: 20.15 in. ECCENTRICITY END: 11.65 in.

CASTING INFORMATION

	ERECTION MARK	AGE AT RELEASE (hrs.)	RELEASE STRENGHT (psi)	SUBSEQUENT STRENGHT (psi)	TIME STRESSING CASTING (hrs.)	TEMP. DIFF. (°F)	AGE AT SHIPPING (days)	CURING	CAMBERS (in.)
1		19	6428	8705 (14)	21	+12	127	S118'	
2		19	6428	8705 (14)	21	+12	127	S118	2.64, 1.98
3		19	6428	8705 (14)	21	+12	127	S118	
4		19	6428	8705 (14)	21	+12	127	S118	2.40, 2.16
5		19	6428	8705 (14)	21	+12	127	S118	
6		16	6189	8729 (14)	24	0	129	S116	2.34, 2.28
7		"	"	"	"	"	"	"	
8	AF-23	"	"	"	"	"	"	"	2.70, 2.58
9		"	"	"	"	"	"	"	
10		"	"	"	"	"	"	"	2.22, 2.58
11		14	5376	7638 (7)	5	0	135	S123	
12		"	"	"	"	"	"	"	2.82, 2.58
13		"	"	"	"	"	"	"	
14		"	"	"	"	"	"	"	2.34, 2.16
15									
16									
17									
18									
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TABLE C8. 90 FT. TYPE 54 BEAMS, MULTIPLE SPANS, MANUFACTURER 1

PROJECT No. F543(22) DISTRICT 13 COUNTY Jackson

BEAM TYPE 54 SPAN LENGTH 85 ft. MANUFACTURER 1

STRAND PATTERN

ROW No.:	A2	A4	A6	A8	A10	A12	A14	A16	A18	A20
No. STRANDS:	6	6	6	6	4					

DRAPING: RAISE 10 STRANDS TO ROW A30 HARPING DIST. 5.0 ft.

ECCENTRICITY ℄: 19.80 in. ECCENTRICITY END: 12.67 in.

CASTING INFORMATION

	ERECTION MARK	AGE AT RELEASE (hrs.)	RELEASE STRENGTH (psi)	SUBSEQUENT STRENGTH (psi)	TIME STRESSING CASTING (hrs.)	TEMP. DIFF. (°F)	AGE AT SHIPPING (days)	CURING	CAMBERS (in.)
1		20	6216	8183(14)	20	+2	118	S129	
2		"	"	"	"	"	"	"	2.52, 2.58,
3		"	"	"	"	"	"	"	2.46, 2.70,
4		"	"	"	"	"	"	"	2.64, 2.46,
5	AF-14	"	"	"	"	"	"	"	
6		18	6357	8064(14)	24	-3	120	S124	2.40, 2.22,
7		"	"	"	"	"	"	"	2.16, 2.82
8		"	"	"	"	"	"	"	
9		"	"	"	"	"	"	"	
10		"	"	"	"	"	"	"	
11	AF-15	21	6454	8503(14)	22	0	120	S120	
12		"	"	"	"	"	"	"	2.40, 2.40
13									
14									
15									
16									
17									
18									
19									
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22									
23									
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26									
27									
28									

TABLE C9. 85 FT. TYPE 54 BEAMS, MULTIPLE SPANS, MANUFACTURER 1

PROJECT No. F518 (25) DISTRICT 13 COUNTY Wharton

BEAM TYPE C SPAN LENGTH 85 ft. MANUFACTURER 1

STRAND PATTERN

ROW No.: A2 A4 A6 A8 A10 A12 A14 A16 A18 A20

No. STRANDS: 10 10 10 8

DRAPING: RAISE 8 STRANDS TO ROW A38 HARPING DIST. 5.0 ft.

ECCENTRICITY ℄ : 12.25 in. ECCENTRICITY END: 5.93 in.

CASTING INFORMATION

	ERECTION MARK	AGE AT RELEASE (hrs.)	RELEASE STRENGHT (psi)	SUBSEQUENT STRENGHT (psi)	TIME STRESSING CASTING (hrs.)	TEMP. DIFF. (°F)	AGE AT SHIPPING (days)	CURING	CAMBERS (in.)
1		17	5553	8145 (14)	72	+2	183	S120	
2		17	5553	8145 (14)	72	+2	183	S120	1.44, 2.16,
3		17	5553	8145 (14)	72	+2	183	S120	1.86, 2.28,
4		17	5553	8145 (14)	72	+2	183	S120	2.10, 1.92,
5	W-27	17	5553	8145 (14)	72	+2	183	S120	2.22, 1.86,
6		17	5788	7961 (14)	41	+12	187	S120	2.58, 2.10
7		17	5788	7961 (14)	41	+12	187	S120	
8		17	5788	7961 (14)	41	+12	187	S120	
9		17	5788	7961 (14)	41	+12	187	S120	
10		17	5788	7961 (14)	41	+12	187	S120	
11		17	5824	7525 (14)	24	-21	181	S120	
12		17	5824	7525 (14)	24	-21	181	S120	2.16, 2.40,
13	W-28	17	5824	7525 (14)	24	-21	181	S120	2.16, 2.46,
14		17	5824	7525 (14)	24	-21	181	S120	2.10
15		17	5824	7525 (14)	24	-21	181	S120	
16									
17									
18									
19									
20									
21									
22									
23									
24									
25									
26									
27									
28									

TABLE C10. 85 FT. TYPE C BEAMS, MULTIPLE SPANS, MANUFACTURER 1

PROJECT No. F518 (25) DISTRICT 13 COUNTY Wharton

BEAM TYPE C SPAN LENGTH 80 ft. MANUFACTURER 1

STRAND PATTERN

ROW No.:	A2	A4	A6	A8	A10	A12	A14	A16	A18	A20
No. STRANDS:	10	10	10	8						

DRAPING: RAISE 8 STRANDS TO ROW A34 HARPING DIST. 5.0 ft.

ECCENTRICITY ℄: 12.25 in. ECCENTRICITY END: 6.77 in.

CASTING INFORMATION

	ERECTION MARK	AGE AT RELEASE (hrs.)	RELEASE STRENGHT (psi)	SUBSEQUENT STRENGHT (psi)	TIME STRESSING CASTING (hrs.)	TEMP. DIFF. (°F)	AGE AT SHIPPING (days)	CURING	CAMBERS (in.)
1	W-34	17	5988	8333 (9)	24	+1	46	S125	2.22, 2.28
2		15	5579	8698 (17)	24	0	51	S118	
3	W-35	17	5988	8333 (9)	24	+1	46	S125	2.28, 2.22
4		15	5579	8698 (17)	24	0	51	S118	
5	W-36	17	5988	8333 (9)	24	+1	46	S125	2.28, 2.10, 2.58, 2.04
6		17	5988	8333 (9)	24	+1	46	S125	
7		15	5579	8698 (17)	24	0	51	S118	
8		15	5579	8698 (17)	24	0	51	S118	
9	W-37	17	5988	8333 (9)	24	+1	46	S125	2.22, 2.04
10		15	5579	8698 (17)	24	0	51	S118	
11	W-38	19	5897	8216 (14)	27	+5	41	S123	2.34, 2.40
12		19	5897	8216 (14)	27	+5	41	S123	
13									
14									
15									
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TABLE C11. 80 FT. TYPE C BEAMS, MULTIPLE SPANS, MANUFACTURER 1

PROJECT No. F 543 (22) DISTRICT 13 COUNTY Jackson

BEAM TYPE C SPAN LENGTH 60 ft. MANUFACTURER 1

STRAND PATTERN

ROW No.:	A2	A4	A6	A8	A10	A12	A14	A16	A18	A20
No. STRANDS:			10	8	6					

DRAPING: RAISE — STRANDS TO ROW — HARPING DIST. 5 ft.

ECCENTRICITY ℄: 9.40 in. ECCENTRICITY END: 9.40 in.

CASTING INFORMATION

	ERECTION MARK	AGE AT RELEASE (hrs.)	RELEASE STRENGHT (psi)	SUBSEQUENT STRENGHT (psi)	TIME STRESSING CASTING (hrs.)	TEMP. DIFF. (°F)	AGE AT SHIPPING (days)	CURING	CAMBERS (in.)
1		17	6357	8341 (14)	95	-1	73	S 24	
2		"	"	"	"	"	"	"	0.96, 0.84,
3		"	"	"	"	"	"	"	0.96, 0.84,
4		"	"	"	"	"	"	"	0.96, 0.96,
5		"	"	"	"	"	"	"	0.96, 1.02,
6		"	"	"	"	"	"	"	0.90, 1.08,
7		"	"	"	"	"	"	"	1.26, 0.96,
8		"	"	"	"	"	"	"	1.02, 0.96,
9		18	6449	8874 (14)	21	+8	77	S 24	1.14, 0.90,
10		"	"	"	"	"	"	"	1.02, 0.84
11		"	"	"	"	"	"	"	1.02, 0.90,
12	4F-22	"	"	"	"	"	"	"	0.90, 0.84,
13		"	"	"	"	"	"	"	0.90, 0.96
14		"	"	"	"	"	"	"	
15		"	"	"	"	"	"	"	
16		"	"	"	"	"	"	"	
17		15	6295	8841 (14)	6	0	79	S 20	
18		"	"	"	"	"	"	"	
19		"	"	"	"	"	"	"	
20		"	"	"	"	"	"	"	
21		"	"	"	"	"	"	"	
22		"	"	"	"	"	"	"	
23		"	"	"	"	"	"	"	
24		"	"	"	"	"	"	"	
25									
26									
27									
28									

TABLE C12. 60 FT. TYPE C BEAMS, MULTIPLE SPANS, MANUFACTURER 1

PROJECT No. F543 (22) DISTRICT 13 COUNTY Jackson

BEAM TYPE C SPAN LENGTH 50 ft. MANUFACTURER 1

STRAND PATTERN

ROW No.:	A2	A4	A6	A8	A10	A12	A14	A16	A18	A20
No. STRANDS:	4	2	4	2	2	2				

DRAPING: RAISE 0 STRANDS TO ROW ____ HARPING DIST. 5.0 ft.

ECCENTRICITY ℄: 10.84 in. ECCENTRICITY END: 10.84 in.

CASTING INFORMATION

	ERECTION MARK	AGE AT RELEASE (hrs.)	RELEASE STRENGTH (psi)	SUBSEQUENT STRENGTH (psi)	TIME STRESSING CASTING (hrs.)	TEMP. DIFF. (°F)	AGE AT SHIPPING (days)	CURING	CAMBERS (in.)
1	AF-10	22	5588	7637(14)	21	+10	154	S123	0.66, 0.60,
2		14	4483	7297(14)	2	+4	160	S129	0.42, 0.18
3		14	4483	7297(14)	2	+4	160	S129	
4		22	5376	7179(14)	44	+28	161	S126	
5	AF-11	22	5588	7637(14)	21	+10	154	S123	0.54, 0.48,
6		22	5588	7637(14)	21	+10	154	S123	0.60, 0.36,
7		22	5588	7637(14)	21	+10	154	S123	
8		22	5588	7637(14)	21	+10	154	S123	0.42, 0.48,
9		14	5499	8293(14)	74	+8	156	S124	0.54, 0.60,
10		14	5499	8293(14)	74	+8	156	S124	
11		14	5499	8293(14)	74	+8	156	S124	0.54, 0.48,
12		14	4483	7297(14)	2	+4	160	S129	0.48, 0.42,
13		"	"	"		"	"	"	
14		"	"	"		"	"	"	0.60, 0.36,
15		"	"	"		"	"	"	0.30, 0.48
16		"	"	"			"	"	
17		22	5376	7179(14)	44	+28	161	S126	
18		"	"	"		"	"	"	
19		"	"	"		"	"	"	
20		"	"	"		"	"	"	
21	AF-12	22	5588	7637(14)	21	+10	154	S123	0.42, 0.18
22		"						"	
23		22	5376	7179(14)	44	+28	161	S126	0.24, 0.30
24		"	"			"	"	"	
25									
26									
27									
28									

TABLE C13. 50 FT. TYPE C BEAMS, MULTIPLE SPANS, MANUFACTURER 1

PROJECT No. I-10-6(43)662 DISTRICT 13 COUNTY Gonzales, Fayette

BEAM TYPE AASHO IV SPAN LENGTH 132 ft. MANUFACTURER 5

STRAND PATTERN

ROW No.:	A2	A4	A6	A8	A10	A12	A14	A16	A18	A20
No. STRANDS:	12	12	12	12	6					

DRAPING: RAISE 10 STRANDS TO ROW A52 HARPING DIST. 6.0 ft.

ECCENTRICITY ℄: 19.20 in. ECCENTRICITY END: 11.40 in.

CASTING INFORMATION

	ERECTION MARK	AGE AT RELEASE (hrs.)	RELEASE STRENGHT (psi)	SUBSEQUENT STRENGHT (psi)	TIME STRESSING CASTING (hrs.)	TEMP. DIFF. (°F)	AGE AT SHIPPING (days)	CURING	CAMBERS (in.)
1	F1 D1	22	6459	8308(14)	92	+14	177	S 138	1.20, 1.38
2		22	6188	8692(15)	44	-7	216	S 139	
3	F1 D2	22	6671	8738(14)	88	-7	164	S 130	0.78, 1.08, 1.02, 1.26, 1.26, 1.38
4		40	6341	8394 (14)	26	-9	170	S 135	
5		22	6247	8333(14)	39	-31	174	S 127	
6		45	6315	7996 (14)	41	-11	189	S 139	
7		47	6544	7610 (28)	67	-1	194	S 139	
8		39	6273	7757(14)	28	+3	205	S 139	
9	F1 D3	19	6646	8633 (14)	21	+11	162	S138	1.08, 1.14
10		28	6171	8959 (14)	45	+3	182	S139	
11									
12									
13									
14									
15									
16									
17									
18									
19									
20									
21									
22									
23									
24									
25									
26									
27									
28									

TABLE C14. 132 FT. AASHTO IV BEAMS, MULTIPLE SPANS, MANUFACTURER 5

PROJECT No. I-10-6 (43) 662 DISTRICT 13 COUNTY GONZALES FAYETTE

BEAM TYPE 54 SPAN LENGTH 108 ft. MANUFACTURER 5

STRAND PATTERN

ROW No.:	A2	A4	A6	A8	A10	A12	A14	A16	A18	A20
No. STRANDS:	6	6	6	6	4	2	2	2	2	

DRAPING: RAISE 18 STRANDS TO ROW A 36 HARPING DIST. 5 ft.

ECCENTRICITY ℄: 17.75 in. ECCENTRICITY END: 8.75 in.

CASTING INFORMATION

	ERECTION MARK	AGE AT RELEASE (hrs.)	RELEASE STRENGHT (psi)	SUBSEQUENT STRENGHT (psi)	TIME STRESSING CASTING (hrs.)	TEMP. DIFF. (°F)	AGE AT SHIPPING (days)	CURING	CAMBERS (in.)
1	E-7	20	6069	7927(14)	18	0	89	S135	2.88, 2.94
2		22	6069	8130(14)	93	+3	98	S130	
3	E-8	19	6290	8100(14)	70	-3	86	S132	2.22, 2.52, 2.52, 2.52
4		20	6409	8232(14)	22	0	91	S135	
5		22	6578	7986(14)	22	+2	95	S135	
6		22	6069	8130(14)	93	+3	98	S130	
7	E-9	19	6290	8100(14)	70	-3	86	S132	3.24, 2.76
8		22	6578	7986(14)	22	+2	95	S135	
9									
10									
11									
12									
13									
14									
15									
16									
17									
18									
19									
20									
21									
22									
23									
24									
25									
26									
27									
28									

TABLE C15. 108 FT. TYPE 54 BEAMS, MULTIPLE SPANS, MANUFACTURER 5

PROJECT No. I 10-6(43)662 DISTRICT 13 COUNTY Gonzales

BEAM TYPE 54 SPAN LENGTH 80 ft. MANUFACTURER 5

STRAND PATTERN

ROW No.:	A2	A4	A6	A8	A10	A12	A14	A16	A18	A20, 22, 24
No. STRANDS:	6	6						2	2	2

DRAPING: RAISE 0 STRANDS TO ROW ______ HARPING DIST. 5 ft.

ECCENTRICITY ℄: 14.804 in. ECCENTRICITY END: 14.804 in.

CASTING INFORMATION

	ERECTION MARK	AGE AT RELEASE (hrs.)	RELEASE STRENGHT (psi)	SUBSEQUENT STRENGHT (psi)	TIME STRESSING CASTING (hrs.)	TEMP. DIFF. (°F)	AGE AT SHIPPING (days)	CURING	CAMBERS (in.)
1	E-10	19	6120	8413(14)	20	-7	145	S132	0.96, 0.78
2		19	6120	8413	20	-7	145	S132	
3	E-11	20	5992	8422	23	+7	141	S132	0.96, 0.90,
4		20	5992	8422	23	+7	141	S132	
5		20	4726	7199	136	+5	147	S131	0.66, 1.08
6		20	4726	7199	136	+5	147	S131	
7	E-12	20	5992	8422	23	+7	141	S132	0.66, 0.72
8		20	4726	7199(14)	136	+5	147	S131	
9									
10									
11									
12									
13									
14									
15									
16									
17									
18									
19									
20									
21									
22									
23									
24									
25									
26									
27									
28									

TABLE C16. 80 FT. TYPE 54 BEAMS, MULTIPLE SPANS, MANUFACTURER 5

APPENDIX D

Extensometer Data From Modulus Tests

Load (kips)	Cylinder: D1-1				Cylinder: D1-2				Cylinder: D1-3			
	1	2	3	4	1	2	3	4	1	2	3	4
10	6	13	-5	-5	11	3	-7	2	1	2	0	4
20	17	23	-10	-8	22	7	-10	5	5	5	2	8
30	24	32	-13	-9	28	12	-11	10	8	7	4	15
40	30	39	-13	-7	35	16	-12	14	11	9	7	18
50	35	45	-13	-5	40	21	-11	16	15	12	11	25
60	41	51	-12	-4	46	25	-11	27	18	15	14	28
70	46	58	-11	0	51	30	-10	25	21	17	17	35
80	51	64	-10	3	57	34	-9	31	25	20	21	38
90	55	70	-7	6	62	38	-7	35	28	22	24	46
100	61	76	-4	10	68	43	-5	40	32	25	27	50
110												
120												
f'c	6740 psi				6670 psi				7890 psi			

Load (kips)	Cylinder: D2-1				Cylinder: D2-2				Cylinder: D2-3			
	1	2	3	4	1	2	3	4	1	2	3	4
10	9	11	0	-3	-2	12	18	-5	2	2	2	5
20	13	20	2	-4	-2	19	15	-5	5	4	4	10
30	19	26	6	-1	-2	23	21	-1	9	7	8	15
40	23	32	11	0	1	26	24	3	13	10	13	20
50	28	38	16	7	5	29	28	10	16	13	18	26
60	32	43	21	11	10	32	33	17	20	17	23	30
70	37	48	27	16	14	33	37	23	24	20	28	36
80	42	53	33	20	20	35	42	31	27	23	33	40
90	48	58	39	28	25	38	46	38	31	28	37	47
100	54	64	43	31	30	40	52	44	35	32	43	50
110												
120												
f'c	5840 psi				6000 psi				6800 psi			

Load (kips)	Cylinder: D3-1				Cylinder: D3-2				Cylinder: D3-3			
	1	2	3	4	1	2	3	4	1	2	3	4
10	-5	19	8	-12	-11	6	16	1	0	5	1	2
20	-4	38	17	-23	-15	11	27	3	4	9	4	4
30	-4	53	24	-29	-16	16	34	6	8	15	11	4
40	-5	64	28	-29	-16	20	39	9	10	21	15	9
50	-2	73	34	-29	-16	25	44	13	13	27	22	10
60	3	80	38	-28	-18	26	49	19	15	33	27	12
70	7	87	41	-14	-18	31	54	23	18	39	32	14
80	12	92	45	-19	-15	35	58	26	21	47	39	14
90	18	98	48	-13	-13	40	63	30	24	54	45	16
100	22	104	53	-9	-9	45	67	35	26	61	50	19
110												
120												
f'c	5610 psi				5980 psi				6770 psi			

TABLE D1. EXTENSOMETER READINGS (in. x 10^{-4}) FOR MODULUS TESTS AT DALLAS.

Load (kips)	Cylinder: D4-1 1	2	3	4
10	9	-5	-3	8
20	18	-7	-4	23
30	26	-7	-4	32
40	32	-5	-3	38
50	38	-1	-1	43
60	44	3	1	51
70	51	7	3	56
80	57	12	6	62
90	63	17	10	67
100	69	22	13	72
110				
120				
f'c	5800 psi			

Load (kips)	Cylinder: D4-2 1	2	3	4
10	-5	11	10	-4
20	-5	18	18	-5
30	-5	25	24	-7
40	-4	30	29	1
50	0	35	34	5
60	5	39	38	10
70	10	43	43	14
80	15	47	46	21
90	20	51	51	26
100	26	56	55	31
110				
120				
f'c	6000 psi			

Load (kips)	Cylinder: D4-3 1	2	3	4
10	3	3	1	2
20	7	7	3	8
30	10	10	7	11
40	14	14	10	17
50	17	18	13	20
60	20	21	17	26
70	23	25	19	30
80	27	30	20	38
90	30	34	22	44
100	33	38	23	50
110				
120				
f'c	6780 psi			

Load (kips)	Cylinder: D5-1 1	2	3	4
10	10	-3	-1	7
20	20	-3	-2	17
30	27	-1	-2	22
40	31	3	1	27
50	37	7	3	32
60	42	11	6	37
70	48	16	11	42
80	53	20	15	47
90	57	25	20	52
100	62	30	24	57
110				
120				
f'c	6540 psi			

Load (kips)	Cylinder: D5-2 1	2	3	4
10	0	16	5	-9
20	3	27	12	-12
30	8	35	16	-12
40	12	42	21	-11
50	17	47	25	-9
60	22	53	29	-5
70	27	58	34	-4
80	32	63	37	2
90	37	68	42	7
100	42	74	45	10
110				
120				
f'c	6760 spi			

Load (kips)	Cylinder: D5-3 1	2	3	4
10	3	5	1	3
20	7	9	3	5
30	11	13	6	11
40	15	18	10	13
50	18	22	13	18
60	22	27	17	22
70	25	32	22	24
80	28	36	25	30
90	31	41	31	32
100	35	46	35	38
110				
120				
f'c	7220 psi			

Load (kips)	Cylinder: 1	2	3	4
10				
20				
30				
40				
50				
60				
70				
80				
90				
100				
110				
120				
f'c				

Cylinder: 1	2	3	4

Cylinder: 1	2	3	4

TABLE D1. (CONTINUED)

EXTENSOMETER READINGS (in. x 10^{-4}) FOR MODULUS TESTS AT DALLAS.

Load (kips)	Cylinder: S1-1				Cylinder: S1-2				Cylinder: S2-1			
	1	2	3	4	1	2	3	4	1	2	3	4
10	0	0	0	0	0	0	0	0	0	0	0	0
20	1	3	8	5	14	3	-5	10	0	-3	8	15
30	4	7	12	11	24	8	-6	16	2	-5	13	28
40	6	10	19	18	34	14	-6	21	5	-5	19	38
50	9	13	24	25	42	19	-5	25	8	-4	22	48
60	14	16	30	32	49	25	-3	29	12	-2	26	57
70	18	19	36	39	56	32	1	32	16	1	30	65
80	24	23	42	48	63	38	4	36	21	4	33	73
90	27	26	48	57	70	47	9	39	26	8	36	83
100	32	26	54	58	78	55	13	43	32	11	40	88
110												
120												
f'c	5380 psi				6050 psi				5640 psi			

Load (kips)	Cylinder: S2-2				Cylinder: S3-1				Cylinder: S3-2			
	1	2	3	4	1	2	3	4	1	2	3	4
10	0	0	0	0	0	0	0	0	0	0	0	0
20	11	6	0	5	4	12	4	-1	0	10	2	-2
30	18	12	1	11	8	20	8	-1	3	18	8	-1
40	21	15	1	15	13	28	14	1	6	25	13	2
50	26	21	4	20	18	35	18	4	9	30	18	6
60	31	28	8	25	28	41	23	8	12	35	21	11
70	35	33	11	30	28	47	27	12	16	40	26	16
80	39	38	14	35	33	54	32	17	20	45	30	22
90	44	45	20	40	38	60	36	22	24	50	36	28
100	48	51	24	45	44	67	42	28	28	55	40	33
110												
120												
f'c	5570 psi				5520 psi				6010 psi			

Load (kips)	Cylinder: S3-3				Cylinder: S4-1				Cylinder: S4-2			
	1	2	3	4	1	2	3	4	1	2	3	4
10	0	0	0	0	0	0	0	0	0	0	0	0
20	-3	-1	10	11	12	1	-1	13	-1	1	5	9
30	-4	-1	20	21	23	2	-3	21	-1	4	12	16
40	-4	1	26	28	31	5	-3	29	2	8	17	22
50	-3	4	31	35	39	8	-3	36	7	13	20	28
60	0	7	38	40	45	11	-1	42	12	18	24	33
70	2	12	42	46	51	15	1	49	18	23	26	38
80	6	16	49	53	57	19	4	55	25	28	28	44
90	10	21	53	58	62	24	9	62	32	34	30	49
100	14	26	60	64	68	28	14	68	38	40	32	54
110												
120												
f'c	6050 psi				5020 psi				6010 psi			

TABLE D2. EXTENSOMETER READINGS (in. x 10^{-4}) FOR MODULUS TESTS AT SAN ANTONIO

Load (kips)	Cylinder: S4-3			
	1	2	3	4
10	0	0	0	0
20	-4	7	6	3
30	-4	13	15	6
40	-4	18	22	9
50	-1	23	26	13
60	2	28	32	17
70	7	34	36	21
80	12	40	43	26
90	17	41	46	32
100	22	52	52	36
110				
120				
f'c	6000 psi			

Load (kips)	Cylinder: S5-1			
	1	2	3	4
10	0	0	0	0
20	12	5	0	12
30	23	10	3	16
40	27	13	2	19
50	34	19	4	25
60	39	24	6	29
70	47	30	9	33
80	54	36	12	39
90	61	42	14	43
100	68	48	15	48
110				
120				
f'c	5940 psi			

Load (kips)	Cylinder: S5-2			
	1	2	3	4
10	0	0	0	0
20	0	0	8	10
30	1	2	15	18
40	5	5	23	25
50	9	8	29	31
60	12	11	36	38
70	15	15	43	44
80	19	18	49	51
90	23	23	55	59
100	27	27	62	66
110				
120				
f'c	5850 psi			

Load (kips)	Cylinder: S6-1			
	1	2	3	4
10	0	0	0	0
20	12	6	-2	5
30	20	12	-3	9
40	27	18	-3	12
50	33	23	-3	16
60	39	30	-3	19
70	43	36	0	23
80	48	42	4	27
90	52	48	7	31
100	57	55	13	35
110				
120				
f'c	6230 psi			

Load (kips)	Cylinder: S6-2			
	1	2	3	4
10	0	0	0	0
20	0	9	8	0
30	0	15	15	3
40	2	20	23	6
50	4	25	29	10
60	7	30	35	15
70	10	35	41	20
80	13	39	46	26
90	16	45	53	32
100	20	49	59	38
110				
120				
f'c	6160 psi			

Load (kips)	Cylinder:			
	1	2	3	4
10				
20				
30				
40				
50				
60				
70				
80				
90				
100				
110				
120				
f'c				

Load (kips)	Cylinder:			
	1	2	3	4
10				
20				
30				
40				
50				
60				
70				
80				
90				
100				
110				
120				
f'c				

Load (kips)	Cylinder:			
	1	2	3	4
10				
20				
30				
40				
50				
60				
70				
80				
90				
100				
110				
120				
f'c				

Load (kips)	Cylinder:			
	1	2	3	4
10				
20				
30				
40				
50				
60				
70				
80				
90				
100				
110				
120				
f'c				

TABLE D2. (CONTINUED) EXTENSOMETER READINGS (in. x 10^{-4}) FOR MODULUS TESTS AT SAN ANTONIO.

Load (kips)	Cylinder: V1-1			
	1	2	3	4
10	0	0	0	0
20	4	4	5	4
30	7	8	9	8
40	11	13	13	12
50	15	17	17	16
60	19	22	21	22
70	24	27	25	24
80	28	31	29	28
90	32	36	33	33
100	36	41	36	37
110	41	46	39	41
120	47	51	44	46
f'c	7038 psi			

Load (kips)	Cylinder: V1-2			
	1	2	3	4
10	0	0	0	0
20	3	3	4	4
30	7	7	8	8
40	11	11	11	12
50	16	15	13	17
60	20	19	17	22
70	25	23	20	27
80	29	27	22	29
90	34	31	24	36
100	40	36	27	41
110	45	40	30	46
120	50	44	32	51
f'c	7286 psi			

Load (kips)	Cylinder: V2-1			
	1	2	3	4
10	0	0	0	0
20	3	3	5	5
30	7	7	9	9
40	11	10	14	14
50	15	15	17	18
60	19	19	21	23
70	23	23	25	28
80	27	28	28	33
90	32	32	33	37
100	37	37	36	42
110	42	41	39	46
120	47	46	44	52
f'c	6685 psi			

Load (kips)	Cylinder: V2-2			
	1	2	3	4
10	0	0	0	0
20	3	3	3	5
30	6	6	6	10
40	10	10	8	15
50	14	13	11	20
60	19	17	15	25
70	23	21	17	29
80	27	25	21	35
90	32	30	24	40
100	37	34	27	45
110	42	38	30	51
120	48	43	34	56
f'c	6897 psi			

Load (kips)	Cylinder: V3-1			
	1	2	3	4
10	0	0	0	0
20	1	4	4	2
30	5	10	8	6
40	8	14	13	9
50	13	20	17	12
60	17	25	22	16
70	21	31	26	19
80	25	37	30	22
90	29	42	34	26
100	33	47	39	29
110				
120	41	59	48	36
f'c	6543 psi			

Load (kips)	Cylinder: V3-2			
	1	2	3	4
10	0	0	0	0
20	3	4	2	3
30	7	9	5	8
40	11	13	7	11
50	14	16	10	16
60	20	22	13	21
70	24	26	15	26
80	28	30	18	30
90	34	35	20	35
100	40	39	23	40
110	46	44	26	45
120	52	48	29	50
f'c	6760 psi			

Load (kips)	Cylinder: V4-1			
	1	2	3	4
10	0	0	0	0
20	3	3	5	5
30	7	6	10	10
40	12	11	13	14
50	16	14	17	19
60	21	18	21	24
70	25	22	25	29
80	30	26	29	34
90	34	30	32	40
100	39	34	36	45
110	44	38	41	50
120	50	43	44	56
f'c	7300 psi			

Load (kips)	Cylinder: V4-2			
	1	2	3	4
10	0	0	0	0
20	1	4	4	3
30	3	8	9	7
40	6	13	13	10
50	9	18	18	14
60	13	23	22	18
70	16	27	26	23
80	20	32	30	26
90	24	37	33	30
100	27	42	38	35
110	31	47	42	39
120	35	52	45	44
f'c	7220 psi			

Load (kips)	Cylinder: V5-1			
	1	2	3	4
10	0	0	0	0
20	2	4	4	3
30	5	8	9	7
40	8	13	12	11
50	13	17	17	16
60	17	21	22	20
70	22	26	27	25
80	26	30	32	29
90	30	35	36	34
100	35	39	40	39
110	39	44	44	43
120	44	48	50	49
f'c	7130 psi			

TABLE D3. EXTENSOMETER READINGS (in. x 10^{-4}) FOR MODULUS TESTS AT VICTORIA

Load (kips)	Cylinder: V5-2				Cylinder: V5-3				Cylinder:			
	1	2	3	4	1	2	3	4	1	2	3	4
10	0	0	0	0	0	0	0	0				
20	2	4	4	4	1	4	6	4				
30	5	8	9	7	3	7	11	8				
40	7	12	11	11	5	11	16	12				
50	11	17	14	14	8	16	22	17				
60	15	22	18	18	10	20	27	22				
70	19	27	22	22	13	23	33	26				
80	22	32	25	25	16	27	39	31				
90	26	37	29	29	18	31	44	35				
100	30	41	32	33	22	35	49	40				
110	34	47	35	37	24	39	56	45				
120	39	52	38	42	27	44	61	50				
f'c	7220 psi				6970 psi							

Load (kips)	Cylinder:				Cylinder:				Cylinder:			
	1	2	3	4	1	2	3	4	1	2	3	4
10												
20												
30												
40												
50												
60												
70												
80												
90												
100												
110												
120												
f'c												

Load (kips)	Cylinder:				Cylinder:				Cylinder:			
	1	2	3	4	1	2	3	4	1	2	3	4
10												
20												
30												
40												
50												
60												
70												
80												
90												
100												
110												
120												
f'c												

TABLE D3. (CONTINUED) EXTENSOMETER READINGS (in. x 10^{-4}) FOR MODULUS TESTS AT VICTORIA.