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DESIGNED BEAMS (STRAIGHT STRANDS)

STRUCTURE	SPAN NO.	BEAM NO.	BEAM TYPE	PRESTRESSING STRANDS							DEBONDED STRANDS PER ROW								CONCRETE	
				NON-STD STRAND PATTERN	TOTAL NO.	SIZE (in)	STRGTH fpu (ksi)	"e" ℄ (in)	"e" END (in)	TOT. NO. DEB	DIST FROM BOTTOM (in)	NO. OF STRANDS TOTAL	NO. OF STRANDS DE-BONDED	NUMBER OF STRANDS DEBONDED TO (ft from end) 3	6	9	12	15	RELEASE STRGTH (1) f'ci (ksi)	MINIMUM 28 DAY COMP STRGTH f'c (ksi)

OPTIONAL DESIGN

DESIGN LOAD COMP STRESS (TOP ℄) (SERVICE I) fct (ksi)	DESIGN LOAD TENSILE STRESS (BOTT ℄) (SERVICE III) fcb (ksi)	REQUIRED MINIMUM ULTIMATE MOMENT CAPACITY (STRENGTH I) (kip-ft)	LIVE LOAD DISTRIBUTION FACTOR (2) Moment	Shear

NON-STANDARD STRAND PATTERNS

PATTERN	STRAND ARRANGEMENT AT ℄ OF BEAM

(1) Based on the following allowable stresses (ksi):

Compression = 0.65 f'ci

Tension = $0.24\sqrt{f'ci}$

Optional designs must likewise conform.

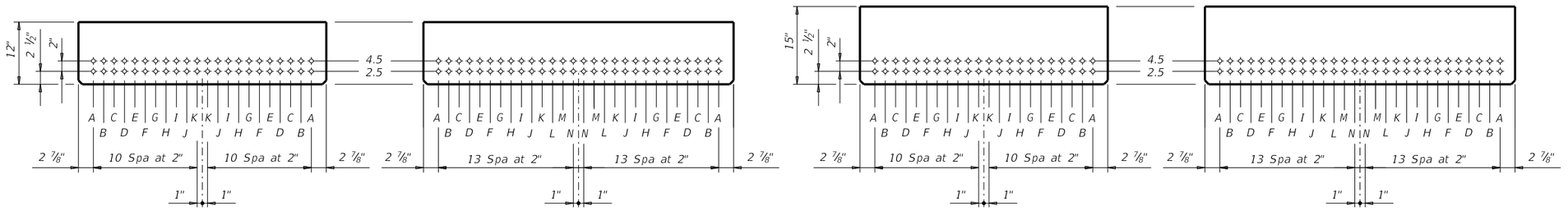
(2) Portion of full HL93.

DESIGN NOTES:

Designed according to AASHTO LRFD Bridge Design Specifications.
Prestress losses for the designed beams have been calculated for a relative humidity of percent. Optional designs must likewise conform.

FABRICATION NOTES:

Provide Class H concrete.
Provide Grade 60 reinforcing steel.
Use low relaxation strands, each pretensioned to 75 percent of fpu.
Full-length debonded strands are not permitted in positions "A" and "B".
Strand debonding must comply with Item 424.4.2.2.2.4.
When shown on this sheet, the Fabricator has the option of furnishing either the designed beam or an approved optional beam design. All optional design submittals and shop drawings must be signed, sealed and dated by a Professional Engineer registered in the State of Texas.
Locate strands for the designed beam as low as possible on the 2" grid system unless a non-standard strand pattern is indicated. Fill row "2.5", then row "4.5". Place strands within a row as follows:
1) Locate a strand in each "A" position.
2) Place strand symmetrically about vertical centerline of beam.
3) Space strands as equally as possible across the entire width.
Do not debond strands in position "A". Distribute debonded strands symmetrically about the vertical centerline. Increase debonded lengths working outward, with debonding staggered in each row.



TxDOT 4SB12 SLAB BEAM

TxDOT 5SB12 SLAB BEAM

TxDOT 4SB15 SLAB BEAM

TxDOT 5SB15 SLAB BEAM

HL93 LOADING

Texas Department of Transportation

Bridge Division Standard

PRESTRESSED CONCRETE SLAB BEAMS
(NON-STANDARD SPANS)

PSBND

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