STATE	FEDERAL PROJECT NO.	SHEET	TOTAL SHEETS
N. J.			
STRUCTURE NO.			
STRUCTURE NAME			

NOTES TO DESIGNER:

1. THE DESIGNER SHALL COMPLETE ALL TITLE BLOCK INFORMATION AND ITEMS DESIGNATED WITH (D) PRIOR TO INCLUDING ANY OF PLATES 2.4-1 THROUGH 2.4-5 INTO THE CONTRACT PLANS.

2. END DIAPHRAGMS SHALL BE PLACED PARALLEL TO THE SKEW ANGLE.

3. FOR INTERMEDIATE DIAPHRAGM spacings and details see Standard Drawing Plate 2.4-5.

4. A. END DIAPHRAGM WIDTH SHALL BE 9" AND 8" RESPECTIVELY FOR THE 45" AND 54" PRESTRESSED CONCRETE I BEAMS.

   B. END DIAPHRAGM WIDTH SHALL BE 12" AND 10" RESPECTIVELY FOR THE 63" AND 72" PRESTRESSED CONCRETE I BEAMS.

5. MILD STEEL REINFORCEMENT DESIGNATED AS BAR NUMBERS R4 AND R6 AT THE ENDS OF THE BEAM SHALL BE PER DESIGN REQUIREMENTS AND SHALL BE A MINIMUM OF #16 BARS. MILD STEEL REINFORCEMENT LOCATIONS AND SPACINGS SHALL BE VERIFIED FOR EACH BEAM TO INSURE REQUIRED CONCRETE CLEAR COVER AND TO AVOID CONFLICTS WITH PRESTRESSING STEEL.

6. STANDARD PLATES 2.4-1 THROUGH 2.4-5 APPLY TO SIMPLY SUPPORTED NON-CONTINUOUS BEAMS. ADDITIONAL REINFORCEMENT, INCLUDING SHEAR REINFORCEMENT, MAY BE REQUIRED FOR CONTINUOUS AND FOR LIVE LOAD CONTINUOUS APPLICATIONS AND SHALL BE DESIGNED ACCORDINGLY.

7. A CAMBER DIAGRAM, FIG. 1, AND AN ESTIMATED CAMBER TABLE FIG. 2, SHALL BE SHOWN ON THE FRAMING PLAN OR THE BEAM DETAILS SHEET. ALL CAMBERS SHOWN SHALL BE IN INCHES. THE FOLLOWING CAMBER VALUES SHALL BE PROVIDED AT QUARTER POINTS ALONG THE BEAM SPAN LENGTH:

   A_{REL} = ESTIMATED PRESTRESS CAMBER AT RELEASE LESS DEFLECTION DUE TO DEAD LOAD OF BEAM TIMES CREEP FACTOR.

   A_{EREC} = ESTIMATED PRESTRESS CAMBER AT RELEASE LESS DEFLECTION DUE TO DEAD LOAD OF BEAM.

   B = DEFLECTION DUE TO DEAD LOAD OF SLAB, PERMANENT STEEL BRIDGE DECK FORMS, PARAPETS, SIDEWALKS, MEDIANS, RAILING, UTILITIES AND FUTURE PAVING.

   C = NET FINAL CAMBER (A_{EREC}-B)

   CAMBER IN PRESTRESS BEAMS ARE TIME DEPENDENT AND THEREFORE ARE APPROXIMATE. A, B, AND C ARE THEORETICAL VALUES AND MAY VARY WITH ACTUAL CONCRETE STRENGTH, VARIOUS PRESTRESSING CONDITIONS, CREEP FACTOR AND PRESTRESS LOSSES.

   THE FOLLOWING STATEMENTS SHALL BE INCLUDED ALONG WITH THE CAMBER DIAGRAM AND THE ESTIMATED CAMBER TABLE:

   "THE ERECTION CAMBER SHALL BE CHECKED BY THE CONTRACTOR IN THE FIELD TO ESTABLISH PROPER CONCRETE HAUNCH AND DECK ELEVATIONS."

   "SHOP DRAWINGS SHALL INCLUDE CALCULATIONS OF PRESTRESS LOSSES FOR THE ENGINEER'S REVIEW AND APPROVAL."

8. PRESTRESSED CONCRETE I-BEAMS SHALL BE TREATED WITH AN EPOXY WATER-PROOFING SEAL COAT, FIG. 3, CONFORMING TO SUBSECTION 912.12 OF THE NJDOT STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION, WITH CURRENT SUPPLEMENTAL SPECIFICATIONS, AS MODIFIED BY THE SPECIAL PROVISIONS. THE LIMITS FOR SEALER APPLICATION SHALL BE SHOWN ON THE CONSTRUCTION PLANS FOR BEAMS SUBJECTED TO DECK JOINT LEAKAGE AND SHALL CONFORM TO THE FOLLOWING:

AREAS TO BE TREATED	APPLICATION LIMITS ✳
ENDS, SIDES, AND BOTTOMS	4'-0" AND 8" LENGTH MEASURED FROM THE BEAM ENDS FOR EXTERIOR FACES OF FASCIAS AND INTERIOR FACES RESPECTIVELY.

   DIAPHRAGM CONNECTION AREA NEED NOT BE EPOXY WATERPROOFING SEAL COATED. EPOXY WATERPROOFING SEAL COAT SHALL BE OMITTED FROM THE BEARING CONTACT AREAS FOR VARIOUS TYPES OF BEARINGS, CHECK BEARING MANUFACTURER'S RECOMMENDATIONS.

   ✳ IF THE STRUCTURE IS LOCATED IN A SEVERE SALT INTRUSION ZONE OR A SALT SPLASH ZONE (ZONE 3A OR 3B, SEE CHART TITLED "ZONAL AREAS OF NEW JERSEY AFFECTED BY SALINITY" IN SUBSECTION 1.24.18 OF THE DESIGN MANUAL FOR BRIDGES AND STRUCTURES) AND IS LOCATED LESS THAN 15 FEET ABOVE THE MEAN HIGH SALT WATER MARK, THE ENTIRE BEAM, INCLUDING BOTH SIDES, BOTTOM AND ENDS SHALL BE TREATED WITH AN EPOXY WATERPROOFING SEAL COAT.

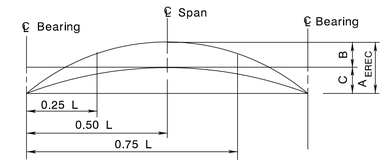
9. ALL MILD STEEL REINFORCEMENT USED FOR SHEAR CONNECTORS AND CAST-IN-PLACE DIAPHRAGMS SHALL BE CORROSION PROTECTED. (REFER TO SECTION 26 OF THIS MANUAL FOR TYPES OF CORROSION PROTECTED REINFORCEMENT STEEL THAT CAN BE USED)

10. HEIGHT OF SHEAR CONNECTOR STIRRUPS ABOVE THE TOP OF THE BEAMS SHOULD BE VERIFIED FOR ADEQUACY FOR EACH BRIDGE BASED UPON HAUNCH REQUIREMENTS.

11. SPACINGS OF SOLE PLATE STRAPS FOR BEARING ATTACHMENT SHOULD BE VERIFIED FOR ADEQUACY FOR EACH BRIDGE BASED UPON THE STRAND ARRANGEMENT.

12. DRAPED, STRAIGHT AND STRAIGHT/UNBONDED STRAND PATTERNS OF PRESTRESSING STEEL ARE PERMITTED. ALTERNATIVE PATTERNS MAY BE PROPOSED DURING FABRICATION.

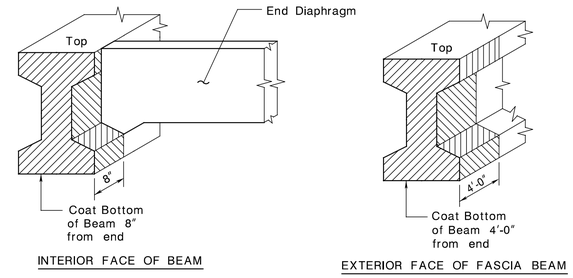
STANDARD DRAWING PLATE No.	INDEX DESCRIPTION
2.3-1	NOTES TO DESIGNER
2.4-1	45" PRETENSIONED PRESTRESSED CONCRETE BEAMS
2.4-2	54" PRETENSIONED PRESTRESSED CONCRETE BEAMS
2.4-3	63" PRETENSIONED PRESTRESSED CONCRETE BEAMS
2.4-4	72" PRETENSIONED PRESTRESSED CONCRETE BEAMS
2.4-5	DETAILS OF INTERMEDIATE STEEL DIAPHRAMS FOR PRESTRESSED CONCRETE BEAMS



CAMBER DIAGRAM
FIG. 1

ESTIMATED BEAM CAMBER (INCHES)					
BEAM No.	LOCATION	A_{REL}	A_{EREC}	B	C
	0.25 L				
	0.50 L				
	0.75 L				

CAMBER TABLE
FIG. 2



EPOXY WATERPROOFING LIMITS
FIG. 3

BDC04MB-01

THIS SHEET IS FOR DESIGN INFORMATION ONLY. DO NOT INCLUDE IN CONTRACT PLANS.

STANDARD DRAWING PLATE 2.3-1

NEW JERSEY DEPARTMENT OF TRANSPORTATION
BUREAU OF STRUCTURAL ENGINEERING

PRETENSIONED PRESTRESSED CONCRETE BEAMS

NOTES TO DESIGNER

REVISION	BY	CKD	DATE

CONTROL SECTION		JOB NO.	
DES. BY		CHK. BY	
DWN. BY			
EST. BY		CHK. BY	
SPECS. BY			
IN CHARGE OF			

BDC04MB-01