

SUPERSEDED BY EB 15-031 EFFECTIVE 9/28/15		New York State Department of Transportation ENGINEERING INSTRUCTION	EI 06-003
Title: DIAPHRAGMS FOR PRESTRESSED CONCRETE BEAMS			
Distribution: ☒ Manufacturers (18) ☒ Local Govt. (31) ☒ Agencies (32) ☐ Surveyors (33) ☒ Consultants (34) ☒ Contractors (39) ☐ _____ ()		Approved:  G. Christian, Deputy Chief Engineer, Structures Date <u>3/7/06</u>	

ADMINISTRATIVE INFORMATION:

- This EI is effective beginning with projects submitted for the letting of September 7, 2006.
- Superseded Issuances: None.
- Disposition of Issued Materials: This information will be incorporated into a future update of the Standard Specifications.

PURPOSE: This EI issues changes to **§563 PRESTRESSED CONCRETE UNITS (STRUCTURAL)** and issues a new section **§718-07 DIAPHRAGMS FOR PRESTRESSED CONCRETE BEAMS**.

TECHNICAL INFORMATION:

- Prestressed concrete spread systems are increasingly being used for new superstructures, and many contractors are requesting to use steel diaphragms. This new materials specification gives the requirements that must be followed to use steel diaphragms. BD sheets containing the steel diaphragms are in a separate issuance.
- In addition, New England Bulb Tees are being given their own item number.
- Cost Impact: None.

IMPLEMENTATION: The Design Quality Assurance Bureau will add the attached shelf note to contracts that include prestressed concrete items.

TRANSMITTED MATERIALS: A shelf note containing the changes to **§563 PRESTRESSED CONCRETE UNITS (STRUCTURAL)** and the new section **§718-07 DIAPHRAGMS FOR PRESTRESSED CONCRETE BEAMS**.

CONTACT: Duane Carpenter, Office of Structures, Standards and Policy Unit, (518) 457-5715, dcarpenter@dot.state.ny.us.

Make the following changes to Volume 2 of 3 of the Standards and Specifications for Materials and Construction of January 2, 2002.

Page 5-97, **delete** lines 2-7 (this also replaces the changes made by EI 05-011) and **replace** with the following:

"563-1 DESCRIPTION. This work shall consist of furnishing and placing prestressed concrete units for structures, as specified in the contract documents.

The Contractor shall notify the Deputy Chief Engineer, Structures (DCES) of the name and address of the fabricator of all prestressed concrete units (structural) and the fabricator of any steel diaphragms for the prestressed concrete units in accordance with §106-01 Sources of Supply.

563-2 MATERIALS

563-2.01 Prestressed Units. Prestressed concrete units shall meet the requirements of the P.C.C.M."

Page 5-97, after line 10 and after §563-2.05 (added by EI 03-037) **insert:**
563-2.06 Diaphragms. The requirements of §718-07 shall apply.

Page 5-97, line 21, after "materials", **insert:**
,diaphragms,

Page 5-97, after line 36, **insert**

563.05 M Prestressed Concrete New England Bulb Tee Units

Meter

Make the following changes to Volume 3 of 3 of the Standards and Specifications for Materials and Construction of January 2, 2002.

Page 7-204, **replace** line 20 with the following:

718-07 DIAPHRAGMS FOR PRESTRESSED CONCRETE BEAMS

SCOPE. This specification covers the material requirements for diaphragms used with prestressed concrete beam spread systems. Diaphragms may be cast-in-place concrete, precast concrete, or steel.

MATERIAL REQUIREMENTS. Diaphragms shall meet the requirements of the PCCM, and the following:

- A. Cast-in-place concrete shall meet the requirements for Class HP concrete. Damaged or defective concrete shall be defined by and repaired in accordance with the requirements of §555-3.11, Damaged or Defective Concrete.
- B. Steel Diaphragms.
 - a. Steel shall meet the requirements of §715-01. Stock steel is allowed.
 - b. All steel shall be galvanized in accordance with §719-01.
 - c. Fabrication and transportation shall follow the requirements of the SCM.
 - d. Shop drawings shall be submitted as part of the complete package of prestressed concrete beam drawings.

- e. Erection shall follow the requirements of the SCM, except that the erection drawings will be included with the erection drawings for the concrete beams and shall follow the approval procedure in the PCCM.
- f. Shop inspection may be performed at the discretion of the Department.
- g. All steel-to-steel connections shall meet the requirements of the SCM.
- h. Bolts in steel-to-concrete connections shall be snug tight only.

BASIS OF ACCEPTANCE. Steel diaphragms will be accepted by the Engineer in accordance with the requirements of 715.01. Precast diaphragms will be accepted in accordance with the requirements of the PCCM. Cast-in-place diaphragms will be accepted by the Engineer.

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