

707-B-198 PRECAST CONCRETE DECK PANELS

(Adopted 03-15-12)

The Standard Specifications are revised as follows:

SECTION 702, BEGIN LINE 729, DELETE AND INSERT AS FOLLOWS:

(f) Precast Concrete Deck Panels*Blank*

~~The construction and furnishing of precast concrete deck panels in accordance with 707.10 will be permitted as an alternate method of forming a bridge deck slab for a prestressed concrete I beam bridge. Precast concrete deck panels will not be permitted on a prestressed concrete I beam bridge which is built on a sag vertical curve or on a superelevation transition unless otherwise shown on the plans. Precast concrete deck panels will not be permitted for use on a steel beam, steel girder, prestressed concrete bulb T beam, or prestressed concrete spread box beam bridge.~~

~~The deck panel system shall replace the bottom mat of slab reinforcement and, depending on panel depth, the bottom 2 1/2 or 3 in. (64 or 75 mm) of the class C concrete slab. Formwork is eliminated in the areas between the beams, but forms shall be used for the copings and diaphragms.~~

~~Mating surfaces of the deck panels shall have a maximum deviation of 1/8 in. in 6 ft (3 mm in 1.8 m). All other dimensions as shown on the plans shall be fabricated to $\pm 1/4$ in. (± 6 mm), except the vertical location of prestressing strands shall be $\pm 1/16$ in. (± 2 mm). All panel joints shall be mortar tight immediately prior to placing the cast in-place portion of the deck slab. Immediately prior to placement of concrete, the precast deck panels shall be wetted until free moisture appears and remains without ponding.~~

SECTION 702, BEGIN LINE 1494, DELETE AS FOLLOWS:

~~The cost of precast concrete deck panels shall be included in the cost of concrete, C, superstructure. The pay quantity of such concrete in the slab will be computed from the dimensions for the formed and poured bridge floor slab shown on the plans. The pay quantity of reinforcing bars will be the plan quantity shown with no adjustment for eliminating the bottom reinforcing bar layer nor for additional reinforcement required due to use of the precast concrete deck panels.~~

SECTION 707, BEGIN LINE 4, DELETE AS FOLLOWS:

707.01 Description

~~This work shall consist of fabricating, furnishing, and installing reinforced precast concrete structural members, concrete deck panels cast outside the structure, transported to, and incorporated into the structure, or precast prestressed concrete structural members having a design 28-day concrete compressive strength, $f'c$, of up to and including 8,000 psi (55.2 MPa), all in accordance with 105.03.~~

SECTION 707, BEGIN LINE 37, DELETE AS FOLLOWS:

~~Tensioning rods and steel plates used with adjacent prestressed concrete box beams shall be in accordance with ASTM A 706, Grade 36 (A 706M, Grade 250). Nuts used with such tensioning rods shall be heavy hex in accordance with ASTM A 563 (A 563M). Grout used with such beams shall be non shrink in accordance with ASTM C 1107.~~

All precast non-prestressed structural members shall be manufactured by a Department Certified Precast Concrete Producer in accordance with ITM 813. All precast prestressed structural members including, but not limited to concrete deck panels, box-beams, I-beams, U-beams, and bulb-T beams shall be manufactured in a Department approved plant in accordance with ITM 814.

SECTION 707, BEGIN LINE 490, DELETE AND INSERT AS FOLLOWS:

~~After adjacent prestressed concrete box beams are in place, the transverse tensioning rods shall be preliminarily tightened as shown on the plans. The rods shall be final tensioned as shown on the plans. The final tensioning shall yield 20,000 psi (138 MPa) as developed by means of a torque of 19 lb/ft (271 N/m). The tensioning rod recesses and longitudinal joints between beams shall be filled with grout.~~

707.10 Precast Prestressed Concrete Deck Panels*Blank*

~~Precast prestressed concrete deck panels shall be designed as a non-composite section to support the dead load of the panel, reinforcement, plastic concrete, and a construction load of 50 lb/sq ft (2.4 kPa).~~

~~When the Contractor elects to use precast prestressed deck panels, the panel shall be designed as a composite section with class C concrete to support the live load. The Contractor shall revise the area of top longitudinal reinforcing bars in the deck over interior supports for negative moment to be equal to the total area of top and bottom longitudinal reinforcing bars.~~

~~Working drawings shall be submitted in accordance with 105.02. Design calculations shall be submitted only for total slab thicknesses greater than 8 in. (200 mm) or clear spans in excess of 7 ft 6 in. (2.3 m). Design shall be in accordance with the AASHTO LRFD Bridge Design Specifications as shown on the plans. Details such as type, size, and location of the reinforcing bars, the prestressing strands, WWR, and concrete shall be as shown on the plans.~~

~~The concrete for deck panels shall be placed in accordance with 702.20. The concrete shall be vibrated to prevent honeycombs and voids, especially at the corners and edges of the panels. The tops of the deck panels shall be broom or wire brush finished in the direction of the prestressing strands. The corrugations formed shall be uniform in appearance and shall not be more than 1/4 in. (6 mm) in depth. The coarse aggregate shall not be displaced when preparing the roughened surface.~~

SECTION 707, BEGIN LINE 527, DELETE AS FOLLOWS:

~~When the Contractor elects to use precast prestressed concrete deck panels, the panels will not be measured for payment.~~

SECTION 707, BEGIN LINE 560, DELETE AS FOLLOWS:

~~When the Contractor elects to use precast prestressed concrete deck panels, the cost of the panels shall be included in the cost of class C concrete in superstructure.~~

SECTION 910, BEGIN LINE 12, DELETE AS FOLLOWS:

~~Reinforcement used in precast or precast prestressed concrete structural members, including deck panels, shall be in accordance with ASTM A 615 grade 60 (A 615M, grade 420) or ASTM A 706 grade 60 (A 706M grade 420).~~
