January 27, 2011

S P E C I A L P R O V I S I O N

AMENDMENT TO SECTION 520 – PORTLAND CEMENT CONCRETE

Concrete Class AA (Precast Option)
Concrete Class AA (Precast Option)
Concrete Class AA, Approach Slabs (Precast Option)
Concrete Class A, Above Footings (Precast Option)
Concrete Class B, Footings (On Soil) (Precast Option)

This special provision allows the use of precast elements to construct stub abutments, approach slabs, and piers. All applicable provisions of 520 shall apply to cast-in-place concrete except as amended or modified below. All applicable provisions of 528 and any special provisions to 528 shall apply to precast concrete.

Add to 520.1.1 the following:

1.1.2 This work shall consist of manufacturing, storing, transporting, and assembling precast concrete substructure elements including stub abutments, approach slabs, and piers, herein referred to as "members", in accordance with the contract plans. The relevant provisions of the design method specified on the contract plans shall be adhered to unless such provisions are in conflict with this specification, in which case this specification shall govern.

1.1.3 This work shall also include the installation of approved cementitious grout where indicated on the plans, and/or assembly plans and shop drawings.

Add to 520.1 the following**:**

1.3 Design Criteria. Precast options requiring design shall meet all the applicable requirements from the current AASHTO Standard Specifications for Highway Bridges or AASHTO LRFD Bridge Design Specifications, as appropriate, including both seismic and non-seismic loading.

1.3.1 Details of the precast options are provided as an attachment to this specification.

Add to 520.3 the following:

3.13 Special Contract Requirements for Precast Members

3.13.1 Assembly Plan for Precast Concrete Members.

3.13.1.1 One assembly plan shall document all aspects of the precast element substitution for each bridge. The plan shall include but shall not be limited to:

a) shop drawings of all products
b) material requirements for other grout products proposed for use
c) method of erection proposed and the amount and character of equipment to be utilized
d) temporary support requirements including leveling screws and/or shims for footings and lateral load and moment resistance for stems
e) member placement sequence
f) tolerance requirements for assembly
g) grouting plan

3.13.1.2 The plan shall be submitted for approval 60 days prior to the start of fabrication and shall be stamped by a Professional Engineer, licensed in the State of NH. Multiple PE stamps may be included on the various portions of the plan, but only **ONE** engineer with PE stamp shall be clearly identified as the Engineer of Record for the entire assembly plan. All questions, comments, and revisions shall be coordinated with the Engineer of Record.

3.13.1.3 The Engineer of Record for the assembly plan is responsible for the precast system and its ability to resist the minimum design loads detailed on the contract drawings or provided in the specifications. The design loads detailed are specified to a particular location for a cast-in-place solution. Loadings specific to a precast system are not addressed and their inclusion and application shall be the sole responsibility of the assembly plan Engineer of Record.

3.13.2 Pre-Placement Meeting. A pre-placement meeting will be held to review the specifications, schedule, and assembly plan, and to discuss any special requirements. The meeting will be held at least forty-five (45) days prior to the scheduled casting of any member. The Design-Builder shall schedule the meeting and invite representatives of the Design-Builder, Fabricator, Contract Administrator, and the Bureaus of Bridge Design and Materials and Research, along with any other party the Engineer deems appropriate.

3.13.3 All precast products used in the bridge system shall be fabricated by the same precast plant.