

**SECTION 03310  
MISCELLANEOUS CONCRETE WORK**

**PART 1 - GENERAL**

**1.01 SCOPE OF THE WORK**

- A. Work of this Section covers the furnishing of all labor, equipment, appliances and materials, and in performing all operations in connection with providing the construction of all plain Portland cement-concrete work for concrete pad, complete in place and accepted in accordance with the drawings and specifications and as directed by the CTARNG.

**1.02 QUALITY ASSURANCE**

- A. All cast-in-place concrete shall have a compressive strength at the end of 28 days of not less than 4,000 pounds per square inch. The use of admixture, other than the retarding densifier specified herein, will not be permitted.
- B. Portland cement and Aggregates may be tested by the CTARNG.
- C. Tests of Portland cement-concrete test specimens will be made by the CTARNG. When required by the CTARNG, 6 inch by 12-inch test cylinders shall be made in accordance with the requirements of ASTM Designation C 192 (latest revision). Test cylinders will be tested in accordance with the requirements of ASTM Designation C 39 (latest revision). The cost of making laboratory tests for concrete work will be in accordance with the requirements of Section 02121, but the Contractor shall furnish the CTARNG the necessary labor, assistance and facilities for making, protecting, caring for and transporting the test specimens.
- D. CTARNG shall have free access at all times to the batching and mixing plant for sampling of all material and inspection of work performed for this project.

**1.04 REFERENCES**

- A. Whenever reference is made to the "Form 814A" in these Specifications, it shall refer to "State of Connecticut Department of Transportation Standard Specifications for Roads, Bridges and Incidental Construction, Form 814A", dated 1995, and its latest supplements and revisions.
- B. When reference is made to a particular section of "Form 814A", it will be construed to include all related articles referred to in said Section.

## **PART 2 - PRODUCTS**

### **2.01 MATERIALS**

- A. Portland Cement Concrete shall conform to the CT DOT "Form 814A" Section M.03 for "Class 'A' Concrete.

## **PART 3 - EXECUTION**

### **3.01 METHOD OF CONSTRUCTION**

- A. Prior to placing the concrete, the Contractor shall be responsible for checking and maintaining the proper position of all parts to be embedded in Portland cement concrete.
- B. Placing of concrete shall be such that the concrete for each pour shall be placed in one continuous operation.
- C. Water shall be removed from excavations before concrete is deposited. Any flow of water shall be diverted and shall be removed without washing over the freshly deposited concrete.
- D. The subgrade for concrete work shall be maintained in an approved, smooth and thoroughly compacted condition in conformity with the required section and grade until the concrete is in place. The subgrade shall be thoroughly moistened, but not muddy, at the time the concrete is deposited. No concrete shall be placed until forms and all work to be built into concrete have been satisfactorily installed and inspected.
- E. Concrete shall not be placed when the ambient temperature is below 35 F nor when the concrete without special protection is likely to be subjected to freezing temperature before the expiration of the specified curing period. If it is necessary to place concrete under conditions of low temperature, placement shall be approved by the CTARNG. The temperature of the concrete, when placed, shall be not less than fifty (50 F) degrees F nor more than seventy (70 F.) degrees F. Heating of the mixing and/or aggregates will be required, as necessary, to maintain the minimum temperature of fifty (50 F) degrees F., and all methods and equipment for heating shall be satisfactory to the CTARNG. Materials shall be free from ice, snow and frozen lumps before entering the mixer. Suitable covering and other means shall be provided for maintaining the concrete to prevent freezing. Any concrete damaged by freezing shall be

removed and replaced by the Contractor at no additional expense to the CTARNG.

- F. Concrete shall be transferred from mixer to transport vehicle to place of final deposit in a continuous manner, as rapidly as practicable, and without segregation or loss of ingredients until the unit of construction is completed. Concrete that has attained its initial set or has contained its mixing water for more than thirty (30) minutes shall not be placed in the work. Placing will not be permitted when, in the opinion of the CTARNG, the sun, heat, wind, temperature of limitations of facilities furnished by the Contractor prevent proper finishing and curing of the concrete. Forms shall not be splashed with concrete in advance of pouring. When placing concrete for encasements, precautionary measures shall be taken to prevent the displacement of piping or disturbing of joints of the piping; displaced or disturbed joints shall be corrected by the Contractor in a manner satisfactory to the CTARNG, at no additional expense to the CTARNG. Concrete shall be placed in the forms in uniform layers as nearly as practicable in final position. Immediately after placing, concrete shall be compacted thoroughly in a satisfactory manner. Tapping or other external vibration of forms will not be permitted. Concrete shall not be placed on concrete sufficiently hard to cause formation of seams and planes of weakness within the section. Concrete shall not be allowed to drop freely more than five (5') feet. Concrete to receive other construction shall be screeded to the proper level.
- G. The ground foundation on which concrete is placed shall be clean, damp and free from frost, ice and standing or running water. Prior to placing concrete the gravel foundation shall be satisfactorily compacted as specified under Section 02260.
- H. Curing shall be accomplished by preventing loss of moisture, rapid temperature change and mechanical injury or injury from rain or flowing water, and kept moist for a period of at least 7 days after placing. During this period, concrete shall be maintained at seventy (70 F) degrees F for at least four (4) days or above fifty (50 F) degrees F for at least seven (7) days. All concrete shall be damp-cured in a suitable and approved manner and curing shall be started as soon after placing and finishing as practicable.

END OF SECTION