CONSULTING ENGINEERS
GENERAL MEMORANDUM 07-04

STATE OF CONNECTICUT
DEPARTMENT OF TRANSPORTATION
BUREAU OF ENGINEERING AND
HIGHWAY OPERATIONS
OFFICE OF ENGINEERING

New Bridge Design Standard Practice

April 20, 2007

To: CONSULTING ENGINEERS

The "Bridge Design Standard Practices" are hereby revised to include Stainless Steel Anchor Bolts as standard practice materials, and to use the attached special provisions and nomenclature substituting "Temporary Earth Retaining System" and "Earth Retaining System Left in Place" for "Temporary Sheet Piling" and "Sheeting Left in Place," respectively. See enclosed.

Very truly yours,

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Manager of Consultant Design
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Enclosure

BRIDGE DESIGN STANDARD PRACTICES

The following standard practice has been established by the Department.

Stainless steel anchor bolts for bridge bearings, with a diameter no greater than 1 1/2", and requiring a minimum yield stress no greater 50 ksi shall conform to the following:

Anchor bolts shall be stainless steel and conform to ASTM A193, Class 2, Grade B8 (UNS designation S 30400 (304)). The nuts shall be prevailing-torque reusable-type (with nylon insert) lock nuts and conform to ASTM A194, Grade 8, strain hardened (UNS designation S 30400 (304)). Washers shall be 5/16" thick stainless steel and conform to ASTM A276, Type 304, annealed.

The material designations for stainless steel anchor bolts not meeting the above dimensional and strength limits, shall be determined by the designer.

SECTION 7.15

EARTH RETAINING SYSTEM LEFT IN PLACE

7.15.01 and 7.15.02—Description and Materials: This specification covers only that portion of the temporary earth retaining system that may be ordered left in place by the Engineer or designated in the plans to be left in place.

7.15.03—Construction Methods: The Contractor shall submit to the Engineer for approval, plans showing the proposed method of construction prior to the start of such construction.

7.15.04—Method of Measurement: Earth retaining system material left in place will be measured for payment by the square foot (square meter). This area will be measured or computed from the horizontal and vertical payment limits shown on the plans or as ordered. If no payment limits are shown on the plans, the limits used for payment will be the actual horizontal limit of temporary earth retaining system ordered or designated in the plans to be left in place, and the vertical limit will correspond to the method of measurement of the temporary earth retaining system.

Temporary earth retaining system left in place solely at the Contractor's option, and with the Engineer's permission, will not be measured for payment.

7.15.05—Basis of Payment: Payment for this work will be made as follows:

That portion of the temporary earth retaining system ordered or designated in the plans to be left in place will be paid for at the contract unit price per square foot (square meter) for "Earth Retaining System Left in Place," applying to one or more structures or portions of structures, which price shall include only the cost of material left in place. All other expenses shall be paid for under the item for "Temporary Earth Retaining System."

Pay Item	Pay Unit
Earth Retaining System Left in Place	s.f. (s.m)

SECTION 7.14

TEMPORARY EARTH RETAINING SYSTEM

7.14.01—Description: . For purposes of this specification, temporary earth retaining system shall be any type of adequately braced temporary retaining wall such as temporary sheet piling which the Contractor elects to build to satisfy, and which does satisfy, the condition that existing facilities be properly retained during excavation or fill for the placement of substructure or other facilities. Temporary earth retaining system shall be designed by the Contractor and constructed where shown on the plans. This system shall be removed upon completion of the permanent work, except that some sections may be left in place when so ordered by the Engineer.

7.14.02—Materials: Materials of steel sheet piling shall conform to the requirement of ASTM A 328. Timber sheet piling shall conform to the requirements of Subarticle M.09.01-1. Materials other than steel or timber, or a combination of these may be used provided they are properly designed for the purpose intended. Systems utilizing other material(s) shall conform to the manufacturer's specifications and project specifications. The parts list shall be furnished for the proprietary system and the Contractor shall provide the material certificates for the parts.

7.14.03—Construction Methods: Temporary earth retaining system shall be safely designed and shall be carried to adequate depths and braced as necessary for proper performance of the work. Construction shall be such as to permit excavation or fill as required. Interior dimensions shall be such as to give sufficient clearance for construction of forms and their inspection and for battered pile clearance when necessary. Movements of the system or bracing which prevent the proper completion of the substructure shall be corrected at the sole expense of the Contractor. No part of the temporary earth retaining system or bracing shall be allowed to extend into the substructure without written permission of the Engineer.

Working drawings and design calculations for temporary earth retaining system shall be submitted in accordance with the requirements of Article 1.05.02(2). The working drawings and design calculations shall be prepared, sealed, and signed by a Professional Engineer, licensed in the state of Connecticut. The furnishing of such plans shall not serve to relieve the Contractor of any part of his responsibility for the safety of the work or for the successful completion of the project.

Unless otherwise ordered by the Engineer, all parts of the temporary earth retaining system shall be removed upon completion of the work for which it was provided. The excavation shall be backfilled and properly compacted, prior to removal of the system unless otherwise permitted by the Engineer. Temporary earth retaining system may be left in place at the option of the Contractor if so permitted by the Engineer, provided that it is cut off at an elevation as directed by the Engineer and the cutoffs removed from the site.

7.14.04—Method of Measurement: Temporary earth retaining system will be measured for payment by the number of square feet (square meters) of temporary retaining wall completed and accepted, as computed from the horizontal and vertical payment lines shown on the plans or as ordered. If no payment limits are shown on the plans, the limits used for payment will be the actual horizontal limit of temporary earth retaining system installed and accepted, and the vertical limit as measured from the bottom of the exposed face of the wall system to the top of the retained earth behind the system. The measurement for temporary earth retaining system which is used as a common wall for staged construction will be the horizontal payment limit shown on the plans and the greater vertical dimension of the common wall face.

No measurement will be made of end extensions or returns necessary for the safety of the retained facility. Earth retaining system ordered left in place by the Engineer shall be measured in accordance with Article 7.15.04.

Earth retaining systems left in place solely at the Contractor's option, and with the Engineer's permission, will not have an additional payment at the contract unit price per square foot (square meter) for "Earth Retaining System Left in Place."

7.14.05—Basis of Payment: Payment for this work will be made at the contract unit price per square foot (square meter) for "Temporary Earth Retaining System ," measured as described above, which price shall include all design, materials, equipment and labor incidental to the construction and removal of the temporary earth retaining system required at the locations specified on the plans; including removal of obstructions, repair and correction, adjustments or reconstruction required by the plans. Any common earth retaining system required for staged construction will be measured for payment only once.

Pay Item	Pay Unit
Temporary Earth Retaining System	s.f. (s.m)