

WEST VIRGINIA DEPARTMENT OF TRANSPORTATION

DIVISION OF HIGHWAYS

SPECIAL PROVISION

FOR

**SECTION 615
STEEL STRUCTURES**

615.2 – WORKING DRAWINGS

DELETE THE CONTENTS AND REPLACE WITH THE FOLLOWING:

Working drawings must be submitted in accordance with section 105.2.

615.2.1 - SHOP DRAWINGS

DELETE THE HEADING AND THE ENTIRE SUBSECTION:

WEST VIRGINIA DEPARTMENT OF TRANSPORTATION

DIVISION OF HIGHWAYS

SPECIAL PROVISION

FOR

**SECTION 105
CONTROL OF WORK**

105.2 – WORKING DRAWINGS:

DELETE THE FOURTH PARAGRAPH AND REPLACE WITH THE FOLLOWING:

The Contractor shall submit to the Engineer all stress sheets, shop drawings, erection plans, falsework plans, framework plans, cofferdam plans, bending diagrams for reinforcing steel, or any other supplemental plans or similar data for the Engineers use.

ADD THE FOLLOWING SUBSECTION:

105.2.1 - Shop Drawings: Shop Drawings shall be defined as those working drawings necessary for the fabrication and inspection of the work as may reasonably be required for the successful prosecution of the work and which are not included in the plans furnished by the Engineer

Any Contractor proposed changes to the contract document shall be submitted to the Division for approval prior to certification of the shop drawings. The Division will prepare and issue all revisions to the contract plans dictated by these approved changes.

Shop drawings shall be submitted sufficiently in advance of the start of the work to allow time for distribution by the Engineer without delaying the work. Only certified copies of shop drawings that have been distributed by the Engineer shall be considered approved by project personnel. Copies of shop drawings which do not contain the certification stamp and have not been distributed by the Engineer and are used for construction of any part of the work shall be at the Contractor's risk.

Upon completion of the work, reproducible, full-size tracings of the original drawings shall be delivered to the Engineer. The size of the original drawings shall be 22 inches x 34 inches, including margins, unless otherwise permitted.

Shop drawing shall give full detailed dimensions and sizes of component parts of the structure and details of all miscellaneous parts, such as pins, nuts, bolts, drains, reinforcing, inserts, strands, ducts, etc. Where specific orientation of parts is required, such as the rolling of plates, the direction shall be shown.

Shop drawings shall specifically identify the AASHTO material designation for all component parts.

July 27, 2007

The Division shall reserve the right to review any submission of shop drawings or catalog sheets. This review shall not delay the contractor in the construction project or delay the distribution of the approved shop drawings or catalog sheets.

WEST VIRGINIA DEPARTMENT OF TRANSPORTATION

DIVISION OF HIGHWAYS

SPECIAL PROVISION

FOR

SECTION 101

DEFINITION OF TERMS

101.99 – WORKING DRAWINGS:

DELETE THE CONTENTS AND REPLACE WITH THE FOLLOWING:

The Contractor shall submit to the Engineer all stress sheets, shop drawings, erection plans, falsework plans, framework plans, cofferdam plans, bending diagrams for reinforcing steel, or any other supplemental plans or similar data for the Engineers use.

WEST VIRGINIA DEPARTMENT OF TRANSPORTATION

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FOR

**SECTION 622
CONTROL OF WORK**

622.4 – SHOP AND ERECTION DRAWINGS:

DELETE THE THIRD PARAGRAPH:

WEST VIRGINIA DEPARTMENT OF TRANSPORTATION

DIVISION OF HIGHWAYS

SPECIAL PROVISION

FOR

SECTION 603

PRESTRESSED CONCRETE MEMBERS

603.4.1 - General:

DELETE THE CONTENTS AND REPLACE WITH THE FOLLOWING:

Working drawings must be submitted in accordance with section 105.2.

603.4.2 - Shop Drawings:

DELETE THE CONTENTS AND THE HEADING:

WEST VIRGINIA DEPARTMENT OF TRANSPORTATION

DIVISION OF HIGHWAYS

SPECIAL PROVISION

FOR

SECTION 603

PRESTRESSED CONCRETE MEMBERS

603.4-WORKING DRAWINGS:

603.4.3-Erection Drawings:

DELETE THE CONTENTS AND REPLACE WITH THE FOLLOWING:

603.4.3-Erection Drawings: The contractor shall submit drawings illustrating fully their proposed method of erection. The drawings shall show details of all falsework bents, bracing, guys, dead-men, lifting devices, and attachments to the bridge members: sequence of erection, location of cranes and barges, crane capacities, location of lifting points on the bridge members, and weights of the members. The plan and drawings shall be complete in detail for all anticipated phases and conditions during erection. Design calculations, sealed by a West Virginia Registered Professional Engineer, shall be submitted by the contractor/fabricator to the Engineer and these calculations shall demonstrate that allowable stresses for falsework and concrete members being erected are not exceeded and that member capacities and final geometry shall be correct. Receipt of plans, drawings and calculations does not constitute review or approval or relieve the contractor of their responsibility to satisfactorily design the erection plan.

When the designated concrete deck overhang exceeds 30 inches (760 mm) from the edge of the beam flange, the erection drawings submitted by the contractor/fabricator shall include complete details of the forming and bracing for the overhang and shall transmit the concrete deck dead load to an area of the beam or stringer which will prevent distortion.

WEST VIRGINIA DEPARTMENT OF TRANSPORTATION

DIVISION OF HIGHWAYS

SPECIAL PROVISION

FOR

**SECTION 615
STEEL STRUCTURES**

615.2.2-Erection Drawings:

DELETE THE FIRST PARAGRAPH AND REPLACE WITH THE FOLLOWING:

615.2.2-Erection Drawings: The Contractor shall submit drawings illustrating fully their proposed method of erection. The drawings shall show details of all falsework bents, bracings, guys, dead-men, lifting devices, and attachments to the bridge members: sequence of erection, location of cranes and barges, crane capacities, location of lifting points on the bridge members, and weights of the members. The plan and drawings shall be complete in detail for all anticipated phases and conditions during erection. Design calculations, sealed by a West Virginia Registered Professional Engineer, shall be submitted by the Contractor to the Engineer seven days prior to commencing work. Receipt of plans, drawings and calculations does not constitute review or approval or relieve the contractor of their responsibility to satisfactorily design the erection plan. The design calculations shall demonstrate that allowable stresses for falsework and steel members being erected are not exceeded and that member capacities and final geometry shall be correct.

When the designated concrete deck overhang exceeds 30 inches (760 mm) from the edge of the beam flange, the erection drawings submitted by the contractor/fabricator shall include complete details of the forming and bracing for the overhang and shall transmit the concrete deck dead load to an area of the beam or stringer which will prevent distortion.

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FOR

**SECTION 615
STEEL STRUCTURES**

615.5-ASSEMBLY:

615.5.3.1-General:

DELETE THE FIRST PARAGRAPH AND REPLACE WITH THE FOLLOWING:

615.5.3.1-General: Field connections of main members of trusses, arches, continuous beams, plate girders, bents, towers and rigid frames shall be preassembled prior to erection to verify the geometry of the completed structure or unit and to verify or prepare field splices. Attaining accurate geometry is the responsibility of the Contractor and they shall propose an appropriate method of preassembly and submit the plan to the Engineer. The method and details of preassembly shall be consistent with the erection procedure shown on the erection plans and camber diagrams prepared by the Contractor and submitted to the Engineer. Receipt of plans, drawings and calculations does not constitute review or approval or relieve the contractor of their responsibility to satisfactorily design the erection plan. As a minimum, the preassembly procedure shall consist of assembling three contiguous panels accurately adjusted for line and camber.

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**SECTION 615
STEEL STRUCTURES**

615.6-ERECTION:

615.6.1-General:

DELETE THE FIRST PARAGRAPH AND REPLACE WITH THE FOLLOWING:

615.6.1-General: The Contractor shall provide all tools, machinery, and equipment necessary to erect the structure. The Contractor shall submit to the Engineer, plans for falsework or for changes in the existing structure necessary for maintaining traffic prior to commencing work. The falsework shall be properly designed and substantially constructed and maintained for the loads which will come upon it (see 615.2.2). Submission of the Contractor's plans shall not be considered as relieving the Contractor of any responsibility. In addition to the above, the Contractor's West Virginia Registered Professional Engineer shall certify to the Engineer that the falsework system has been assembled according to the falsework drawings, prior to placing loads on the falsework.

WEST VIRGINIA DEPARTMENT OF TRANSPORTATION

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FOR

**SECTION 625
DRILLED CAISSON FOUNDATIONS**

625.2.1.3 – Experience:

DELETE THE CONTENTS OF ITEM 3 AND REPLACE WITH THE FOLLOWING:

The Engineer shall review and approve the Contractor's (Subcontractor's) caisson installation qualifications. If in the opinion of the Engineer the Contractor's qualifications are not adequate, the Contractor shall submit to the Engineer a proposed method of obtaining the necessary qualifications.

625.2.3 – Installation Plan:

ADD THE FOLLOWING AFTER THE FIRST SENTENCE:

The Installation Plan shall be certified (signed and sealed by a Professional Engineer licensed in West Virginia knowledgeable in drilled caisson installation) that the installation plan is complete and conforms to the plans, specifications and site conditions.

DELETE THE LAST PARAGRAPH AND REPLACE WITH THE FOLLOWING:

The Engineer will evaluate the Drilled Caisson Installation Plan for completeness. Within 7 calendar days after receipt of the plan, the Engineer will notify the Contractor in writing of any additional information required and/or changes necessary to complete the submission. The Engineers review shall not constitute approval or agreement that the submission meets the plans, specifications or field requirements.

ADD THE FOLLOWING AS ITEM (r):

- r) The Contractor shall provide a projected schedule of work to the MCS&T Division 30 days in advance of construction of caissons. This projected schedule shall include start date of caisson construction, date of when each caisson would need to be inspected for cleanliness and when CSL tests are to be performed for each caisson. This projected schedule will be used by the MCS&T Division to project workload and schedule manpower.

625.2.6.1 – General Requirements:

DELETE THE LAST PARAGRAPH AND REPLACE WITH THE FOLLOWING:

The CSL tests shall be conducted by the Contractor in conformance with ASTM D6760 and shall be certified (signed and sealed by a Professional Engineer licensed in West Virginia knowledgeable in drilled caisson installation). The CSL tests must be performed by one of the approved testing companies as listed on the MCS&T approved list. The Engineer may approve the use of an alternate company if they show experience and a certification in conducting the CSL test procedure. The cost of this testing shall be incidental to the caisson installation.

The contractor shall give MCS&T Division 5 calendar days notice prior to conducting the actual CSL testing. This will allow MCS&T Division to provide a qualified technician to observe the CSL test as it is being performed. MCS&T Division will determine if this observation is required. The observation by MCS&T Division is to satisfy the divisions Quality Assurance part of the CSL testing.

625.2.6.3 – CSL Logging Procedures:

DELETE THE LAST PARAGRAPH AND REPLACE WITH THE FOLLOWING:

The Contractor shall conduct the CSL tests. Any defects indicated by tests shall be evaluated by the Contractor and further tests may be conducted in regard to the extent of such defects. Any time required by such tests will be considered incidental to the work and will not be cause for extra compensation related to a claim or extension of contract.

625.2.6.4 – CSL Testing Results:

DELETE THE CONTENTS AND REPLACE WITH THE FOLLOWING:

The CSL test results will be compiled into a caisson integrity testing report for each caisson. The report will summarize and analyze any defect zones indicated on the logs. A copy of each report will be provided to the Engineer.

625.2.6.5 - Evaluation of CSL Test Results:

DELETE THE CONTENTS AND REPLACE WITH THE FOLLOWING

The Contractor shall submit to the Engineer a certified (signed and sealed by a Professional Engineer licensed in West Virginia knowledgeable in drilled caisson installation) caisson integrity testing report containing the CSL testing results and an Evaluation of each caisson installation determining whether or not the drilled caisson as constructed is acceptable. The Engineer shall review the report and if the report determines that the drilled caisson is

acceptable he shall submit to the Contractor in writing within 7 calendar days approval to proceed with the work.

The acceptance of each drilled caisson shall be the decision of the Engineer, based on the results of the caisson integrity testing report and other information on the caisson placement. Rejection of a caisson shall require conclusive evidence that a defect exists in the caisson, which will result in inadequate or unsafe performance under strength and service loads. If the Non Destructive Testing records are complex or inconclusive, the Engineer may require the Contractor to verify caisson conditions, in accordance with 625.2.6.6. If a defect is confirmed, the Contractor shall pay for all coring and grouting costs. If no defect is encountered, compensation for all coring and grouting will be in accordance with 104.3 and 109.4 of the Standard Specifications.

In the case that any caisson is determined to be unacceptable, the Contractor shall submit a plan for remedial action to the Engineer for approval. The approval or rejection of the remediation plan may take up to 14 calendar days. If the remediation plan is rejected the contractor shall revise the plan and submit it for approval and the approval time is restarted. Any modifications to the foundation caisson and load transfer mechanisms caused by the remedial action will require calculations and working drawings stamped by a Professional Engineer licensed in the State of West Virginia for all foundation elements affected. All labor and materials required to perform remedial caisson action shall be provided at no cost to the Division and with no extension of the contract time.

625.2.6.6 - Evaluation by Core Drilling:

DELETE THE CONTENTS AND REPLACE WITH THE FOLLOWING

A drilled caisson that is found to be unacceptable shall be cored by the Contractor using double tube core barrels. One or more core holes shall be drilled at the location(s) as determined by the Contractor and/or Engineer. A core sample shall be taken from each defect location, at a length specified by the Contractor and/or Engineer. An accurate log of the core shall be kept and the core shall be crated and properly marked showing the caisson depth at each interval of core recovery. The core, one copy of the coring log and a revised certified (signed and sealed by a Professional Engineer licensed in West Virginia knowledgeable in drilled caisson installation) caisson integrity testing report indicating the condition of the caisson shall be provided to the Engineer.

The Engineer shall review the report and if the report determines that the drilled caisson is acceptable he shall submit to the Contractor in writing within 7 calendar days approval to proceed with the work. If the quality of the caisson is determined to be unacceptable, then the Contractor shall proceed in accordance with 625.2.6.5.

625.3 - DIMENSIONAL REQUIREMENTS:

DELETE THE CONTENTS AND REPLACE WITH THE FOLLOWING

The dimensional requirements for Placement Tolerances and Caisson Diameters shall be met prior to placement of reinforcing steel. The Contractor shall submit his corrective plan for any deviation from the caisson location, alignment and elevation tolerances, and reinforcement dimensional requirements to the Engineer for approval. This approval may take up to 14 calendar days. The corrective plan shall be certified (signed and sealed by a Professional Engineer licensed in West Virginia knowledgeable in drilled caisson installation). The cost of any corrective action shall be borne by the Contractor.

625.5.1 – General:

DELETE THE ITEM “i” AND REPLACE WITH THE FOLLOWING:

- i) CSL testing if required, corrective measures for any unacceptable caissons, removal of water from the CSL tubes and filling with an approved grout. All core holes must be filled with an approved grout.