**SECTION 01340**

**SHOP DRAWINGS, WORKING DRAWINGS AND SAMPLES**

#### PART 1. GENERAL

* 1. REQUIREMENTS INCLUDED

#### The Contractor shall submit to the Owner for review and exception, if any, such drawings, shop drawings, test reports and data on materials and equipment (hereinafter in this article called data), and material samples (hereinafter in this article called samples) as are required for the proper control of work, including but not limited to those working drawings, shop drawings, data and samples for materials and equipment specified on plans and in the Specifications.

* + 1. The Contractor is to maintain an accurate updated submittal log, containing the following information:

#### Submittal Description and Number assigned.

* + - 1. Date to Owner.

#### Date returned to Contractor (from Owner).

* + - 1. Status of Submittal (Approved/Resubmit).

#### Date of resubmittal and Return (as applicable).

* + - 1. Date material and shop drawings released (for fabrication).

#### Projected date of fabrication Start and completion.

* + - 1. Projected date of delivery to site and, if necessary, storage layout of completed segments of exhaust muffler piping, catwalk assemblies, flood gates, wall panels, sheet piles and structural piles.

#### CONTRACTOR'S RESPONSIBILITY

* + 1. It is the duty of the Contractor to check all drawings, data and samples prepared by or for him before submitting them to the Engineer for review. Each copy of the Drawings and data shall bear Contractor's stamp showing that they have been so checked. Shop drawings submitted to the Engineer without the Contractor's stamp will be returned to the Contractor for conformance with this requirement. Shop drawings shall indicate any deviations in the submittal from requirements of the Contract Documents.

#### Contractor shall determine and verify:

* + - 1. All field measurements.

#### Field storage including layout and proper support of assemblies.

* + - 1. Catalog numbers and similar data.

#### Conformance with Specifications and indicate all variance from the Specifications.

* + 1. The Contractor shall furnish the Engineer a schedule of Shop Drawing submittals fixing the respective dates for the submission of shop and any working drawings, the beginning of manufacture, testing and assembly installation of materials, supplies and equipment. This schedule shall indicate those that are critical to the progress schedule.

#### The Contractor shall not begin any of the work covered by a drawing, data, or a sample returned for correction until a revision or correction thereof has been reviewed and returned to him, by the Engineer, approved.

* + 1. The Contractor shall submit to the Engineer all drawings and schedules sufficiently in advance of fabrication requirements to provide no less than twenty-one (21) calendar days for checking and appropriate action from the time the Engineer receives them.

#### The Contractor shall submit four (4) copies of descriptive or product data submittals to complement shop drawings for the Engineer plus the number of copies which the Contractor requires. The Engineer/Owner will retain four (4) sets.

* + 1. The Contractor shall be responsible for and bear all cost of damages which may result from the ordering of any material or from proceeding with any part of work prior to the completion of the review by Engineer of the necessary Shop Drawings.

#### The Contractor shall utilize a Sequential Numbering System for submittals (1 - 999). Resubmittals or confirming material shall be assigned a letter next to the submittal number, i.e. A = second submittal, B = third submittal, etc.

* 1. ENGINEER'S REVIEW AND APPROVAL OF SHOP DRAWINGS

#### The Engineer's review and approval of drawings, data and samples submitted by the Contractor will cover only general conformity to the Specifications and fabrication details, external connections, and dimensions which affect the installation.

* + 1. The review and approval of drawings and schedules will be general, and shall not be construed:

#### As permitting any departure from the Contract requirements.

* + - 1. As relieving the Contractor of responsibility for any errors, including details, dimensions, and materials.

#### As approving departures from details furnished by the Engineer, except as otherwise provided herein.

* + 1. If the drawings or schedules as submitted describe variations per subparagraph 1.04.D and show a departure from the Contract requirements which Engineer finds to be in the interest of the Owner and to be so minor as not to involve a change in Contract Price or time for performance, the Engineer may return the reviewed Drawings without noting any exception.

#### Resubmittals will be handled in the same manner as first submittals. On resubmittals the Contractor shall direct specific attention, in writing or on resubmitted Shop Drawings, to revisions other than the corrections requested by the Engineer on previous submissions. The Contractor shall make any corrections required by the Engineer.

* + 1. If the Contractor considers any correction indicated on the drawings to constitute a change to the Contract Drawings or Specifications, the Contractor shall give written notice thereof to the Engineer.

#### The Engineer will review a submittal/resubmittal a maximum of three (3) times after which cost of review will be borne by the Contractor. The cost of engineering shall be equal to the Engineer's charges to the Owner under the terms of the Engineer's agreement with the Owner.

* + 1. When the Shop Drawings have been completed to the satisfaction of the Engineer, the Contractor shall carry out the fabrication in accordance therewith and shall make no further changes except upon written instructions from the Engineer.

#### No partial submittals will be reviewed. Submittals not complete will be returned to the Contractor and will be considered "Not Approved" until resubmitted.

* + 1. Submittals will be returned to the Contractor under one of the following codes.

#### Code 1 - "APPROVED"

This code is assigned when there are no notations or comments on the submittal. When returned under this code the Contractor may release the equipment and/or material for manufacture.

#### Code 2 - "APPROVED AS NOTED"

This code is assigned when a confirmation of the notations and comments IS NOT required by the Contractor. The Contractor may release the equipment or material for manufacture; however, all notations and comments must be incorporated into the final product.

#### Code 3 - "APPROVED AS NOTED/CONFIRM"

This combination of codes is assigned when a confirmation of the notations and comments IS required by the Contractor. The Contractor may release the equipment or material for manufacture; however, all notations and comments must be incorporated into the final product. This confirmation shall specifically address each omission and nonconforming item that was noted. Confirmation is to be received by the Engineer within 15 calendar days of the date of the Engineer's transmittal requiring the confirmation.

#### Code 4 - "APPROVED AS NOTED/RESUBMIT"

This combination of codes is assigned when notations and comments are extensive enough to require a resubmittal of the package. The Contractor may release the equipment or material for manufacture; however, all notations and comments must be incorporated into the final product. This resubmittal is to address all comments, omissions and non-conforming items that were noted. Resubmittal is to be received by the Engineer within 15 calendar days of the date of the Engineer's transmittal requiring the resubmittal.

#### Code 5 - "NOT APPROVED"

This code is assigned when the submittal does not meet the intent of the Contract Documents. The Contractor must resubmit the entire package revised to bring the submittal into conformance. It may be necessary to resubmit using a different manufacturer/vendor to meet the Contract Documents.

#### Code 6 - "COMMENTS ATTACHED"

This code is assigned where there are comments attached to the returned submittal which provide additional data to aid the Contractor.

#### Codes 1 through 5 designate the status of the reviewed submittal with Code 6 showing there has been an attachment of additional data.

* 1. SHOP DRAWINGS

#### When used in the Contract Documents, the term "Shop Drawings" shall be considered to mean Contractor's plans for material and equipment which become an integral part of the Project. These drawings shall be complete and detailed. Shop Drawings shall consist of fabrication, erection and setting drawings and schedule drawings, manufacturer's scale drawings, and working points and control diagrams. Cuts, catalogs, pamphlets, descriptive literature, and performance and test data shall be considered only as supportive to required Shop Drawings as defined above.

* + 1. Drawings and schedules shall be checked and coordinated with the work of all trades involved before they are submitted for review by the Engineer and shall bear the Contractor's stamp of approval as evidence of such checking and coordination. Drawings or schedules submitted without this stamp of approval shall be returned to the Contractor for resubmission.

#### Each Shop Drawing shall have a blank area 3 1/2 inches by 3 1/2 inches, located adjacent to the title block. The title block shall display the following:

* + - 1. Number and title of the drawing.

#### Date of drawing or revision.

* + - 1. Name of project building or facility.

#### Name of Contractor and subcontractor submitting drawing.

* + - 1. Clear identification of contents and location of the work.

#### Specification title and number.

* + 1. If Drawings show variations from Contract requirements because of standard shop practice or for other reasons, the Contractor shall describe such variations in his letter of transmittal. If acceptable, proper adjustment in the Contract shall be implemented where appropriate. If the Contractor fails to describe such variations, he shall not be relieved of the responsibility for executing the work in accordance with the Contract, even though such drawings have been reviewed.

#### Data on materials and equipment shall include, without limitation, materials and equipment lists, catalog data sheets, cuts, performance curves, diagrams, materials of construction and similar descriptive material. Materials and equipment lists shall give, for each item thereon, the name and location of the supplier or manufacturer, trade name, catalog reference, size, finish, and all other pertinent data.

* + 1. If any mechanical and electrical equipment is furnished, the Contractor shall provide a list including the equipment name, and address and telephone number of the manufacturer's representative and service company so that service and/or spare parts can be readily obtained. If there are any conflicts between this paragraph and Division 16, Division requirements will be followed.

#### All manufacturers or equipment suppliers who proposed to furnish equipment or products shall submit an installation list to the Engineer along with the required shop drawings. The installation list shall include at least five installations where identical equipment has been installed and has been in operation for a period of at least one (1) year if requested by ENGINEER.

* + 1. Only the Engineer will utilize the color "red" in marking Shop Drawings submittals. The Contractor shall use the color "green" for his markings.

#### Before final payment is made, the Contractor shall furnish to Engineer three (3) sets of record shop drawings all clearly revised, complete, and up to date showing the permanent fabrication as actually made for all frames, connections and structural steel, miscellaneous metals.

* 1. WORKING DRAWINGS

#### When used in the Contract Documents, the term "working drawings" shall be considered to mean the Contractor's plans for temporary structures such as temporary, support, forming and false work; for underpinning; and for such other work as may be required for fabrication and storage supports, but does not become an integrally part of the Project.

* + 1. Copies of working drawings as noted in subparagraph 1.05(A) above, shall be submitted to the Engineer where required by the Contract Documents or requested by the Engineer, and shall be submitted at least twenty-one (21) calendar days (unless otherwise specified by the Engineer) in advance of their being required for work. The Engineer shall not review working drawings; however, he will retain the drawings as a reference to the plan and progress of the work.

#### All risks of error in the working drawings are assumed by the Contractor; the Owner and Engineer shall have no responsibility, therefore.

* 1. SAMPLES

#### The Contractor shall furnish, for the approval of the Engineer, samples required by the Contract Documents or requested by the Engineer. Samples shall be delivered to the Engineer as specified or directed. The Contractor shall prepay all shipping charges on samples. Materials or equipment for which samples are required shall not be used in work until approved by the Engineer.

* + 1. Samples shall be of sufficient size and quantity to clearly illustrate:

#### Functional characteristics of the product, with integral related parts and attachments devices.

* + - 1. Full range of color, texture, and pattern.

#### A minimum of two samples of each item shall be submitted.

* + 1. Each sample shall have a label indicating:

#### Name of Project.

* + - 1. Name of Contractor and Subcontractor.

#### Material or Equipment Represented.

* + - 1. Place of Origin.

#### Name of Producer and Brand (if any).

* + - 1. Location in Project.

#### (Samples of finished materials shall have additional marking that will identify them under the finished schedules.)

* + 1. The Contractor shall prepare a transmittal letter in triplicate for each shipment of samples containing the information required in sub paragraph 1.06.C above. He shall enclose a copy of this letter with the shipment and send a copy of this letter to the Engineer. Approval of a sample shall be only for the characteristics or use named in such approval and shall not be construed to change or modify any Contract requirements.

#### Approved samples not destroyed in testing shall be sent to the Engineer or stored at the site of the work. Approved samples of the hardware in good condition will be marked for identification and may be used in the work. Materials and equipment incorporated in work shall match the approved samples. Samples which failed testing or were not approved will be returned to the Contractor at his expense, if so, requested at time of submission.

PART 2. PRODUCTS (NOT USED)

#### PART 3. EXECUTION (NOT USED)

#### END OF SECTION