

## SECTION 01600

### MATERIAL AND EQUIPMENT

#### PART 1 GENERAL

##### 1.01 REQUIREMENTS INCLUDED

- A. Material and equipment incorporated into the Work:
  - 1. Conform to applicable specification and standards.
  - 2. Comply with size, make, type and quality specified, or as specifically approved in writing by the Engineer.
  - 3. Manufactured and Fabricated Products:
    - a. Design, fabricate and assemble in accord with the best engineering and shop practices.
    - b. Manufacture like parts of duplicate units to standard sizes and gages, to be interchangeable.
    - c. Two or more items of the same kind shall be identical, by the same manufacturer.
    - d. Products shall be suitable for service conditions.
    - e. Equipment capacities, sizes and dimensions shown or specified shall be adhered to unless variations are specifically approved in writing.
  - 4. Do not use material or equipment for any purpose other than that for which it is designed or is specified.

##### 1.02 RELATED REQUIREMENTS

- A. Conditions of the Contract
- B. Section 01010: Summary of Work
- C. Section 01340: Shop Drawings, Product Data & Samples
- D. Section 01710: Cleaning

##### 1.03 REUSE OF EXISTING MATERIAL

- A. Except as specifically indicated or specified, materials and equipment removed from the existing structure, if any, shall not be used in the completed work.
- B. For material and equipment specifically indicated or specified to be reused in the Work:
  - 1. Use special care in removal, handling, storage and reinstallation, to assure proper function in the completed Work.
  - 2. Arrange for transportation, storage and handling of products that require off-site storage, restoration or renovation. Pay all costs for such work.

#### 1.04 MANUFACTURER'S INSTRUCTIONS

- A. When Contract Documents require that installation of work shall comply with manufacturer's printed instructions, obtain and distribute copies of such instructions to parties involved in the installation, including two copies to Engineer.
  - 1. Maintain one set of complete instructions at the job site during installation and until completion.
- B. Handle, install, connect, clean, condition and adjust products in strict accord with such instruction, consult with Engineer for further instructions.
  - 1. Should job conditions or specified requirements conflict with manufacturer's instruction, consult with Engineer for further instructions.
  - 2. Do not proceed with work without clear instructions.
- C. Perform work in accord with manufacturer's instructions. Do not omit any preparatory step or installation procedure unless specifically modified or exempted by Contract Documents.

#### 1.05 TRANSPORTATION AND HANDLING

- A. Arrange deliveries of Products in accord with construction schedules, coordinate to avoid conflict with work and conditions at the site.
  - 1. Deliver Products in undamaged condition, in manufacturer's original containers or packaging, with identifying labels intact and legible.
  - 2. Immediately on delivery, inspect shipments to assure compliance with requirements of Contract Documents and approved submittals, and that Products are properly protected and undamaged.
- B. Provide equipment and personnel to handle Products by methods to prevent soiling and damage to Products or packaging.

#### 1.06 STORAGE AND PROTECTION

- A. Store Products in accord with manufacturer's instructions with seals and labels intact and legible.
  - 1. Store products subject to damage by the elements in weather tight enclosures.
  - 2. Maintain temperature and humidity within the ranges required by manufacturer's instructions.
- B. Exterior Storage
  - 1. Store fabricated products above the ground, on blocking or skids, prevent soiling or staining. Cover products which are subject to deterioration with impervious sheet coverings, provide adequate ventilation to avoid condensation.

2. Store loose granular materials in a well-drained area on solid surfaces to prevent mixing with foreign matter.
- C. Arrange storage in a manner to provide easy access for inspection. Make periodic inspections of stored Products to assure that Products are maintained under specified conditions, and free from damage or deterioration.

## 1.07 SUBSTITUTIONS AND PRODUCT OPTIONS

### A. Products List:

1. Within 30 days after Contract Date, submit to Engineer a complete list of major products proposed to be used, with the name of the manufacturer and the installing subcontractor.

### B. Contractor's Options

1. For Products specified only by reference standard, select any product meeting that standard.
2. For Products specified by naming one or more Products or manufacturers, select any one of the products or manufacturers named, which complies with the specifications.
3. For Products specified by naming one or more Products or manufacturers and "or equal", Contractor must submit a request as for substitutions for any Product or manufacturer not specifically named.
4. For Products specified by naming only one Product and manufacturer, there is no option.

### C. Substitutions

1. For a period of 30 days after Contract Date, Engineer will consider written requests from Contractor for substitution of Products.
2. Submit a separate request for each Product, supported with complete data, with drawings and samples as appropriate, including:
  - a. Comparison of qualities of the proposed substitution with that specified.
  - b. Changes required in other of the work because of the substitution.
  - c. Effect on the construction schedule.
  - d. Cost data comparing the proposed substitution with the Product specified.
  - e. Any required license fees or royalties.
  - f. Availability of maintenance service, and source of replacement materials.
3. Engineer shall be the judge of the acceptability of the proposed substitution.

### D. Contractor's Representation

1. At the request for a substitution constitutes a representation that Contractor:
  - a. Has investigated the proposed Product and determined that it is equal to or superior in all respects to that specified.
  - b. Will provide the same warranties or bonds for the substitution as for the Product specified.

- c. Will coordinate the installation of an accepted substitution into the Work, and make such other changes as may be required to make the Work complete in all respects.
  - d. Waives all claims for additional costs, under his responsibility, which may subsequently become apparent.
- E. Engineer will review requests for substitutions with reasonable promptness, and notify Contractor, in writing, of the decision to accept or reject the requested substitution.

**PART 2 PRODUCTS**

(Not Used)

**PART 3 EXECUTION**

(Not Used)

END OF SECTION