

**PART 1 GENERAL**

**1.1 SUBMITTALS**

- .1 Submittals: in accordance with Section 01 33 00 - Submittal Procedures.
- .2 Prepare instructions and data in accordance with Section 01 91 61 - Operation and Maintenance Manual using personnel experienced in maintenance and operation of described products.
- .3 Copy will be returned after final inspection, with the Departmental Representative's comments.
- .4 Revise content of documents as required prior to final submittal.
- .5 Two weeks prior to Substantial Performance of the Work, submit to the Departmental Representative, four final hard copies of operating and maintenance manuals in English and electronic PDF files on CD.
- .6 Ensure spare parts, maintenance materials and special tools provided are new, undamaged or defective, and of same quality and manufacture as products provided in Work.
- .7 Furnish evidence, if requested, for type, source and quality of products provided.
- .8 Defective products will be rejected, regardless of previous inspections. Replace products at own expense.
- .9 Pay costs of transportation.

**1.2 OPERATION AND MAINTENANCE MANUAL**

- .1 In accordance with Section 01 91 61 - Operation and Maintenance Manual.

**1.3 AS-BUILTS AND SAMPLES**

- .1 Maintain, in addition to requirements in General Conditions, at site for the Departmental Representative, one record copy of:
  - .1 Contract Drawings.
  - .2 Specifications.
  - .3 Addenda.
  - .4 Change Orders and other modifications to Contract.
  - .5 Reviewed shop drawings, product data, and samples. Field test records.
  - .6 Inspection certificates.
  - .7 Manufacturer's certificates.
- .2 Store record documents and samples in field office apart from documents used for construction. Provide files, racks, and secure storage.

- 
- .3 Label record documents and file in accordance with Section number listings in List of Contents of this Project Manual. Label each document "PROJECT RECORD" in neat, large, printed letters.
  - .4 Maintain record documents in clean, dry and legible condition. Do not use record documents for construction purposes.
  - .5 Keep record documents and samples available for inspection by the Departmental Representative.

#### **1.4 RECORDING ACTUAL SITE CONDITIONS**

- .1 Record information on a clean set of black line construction drawings.
- .2 Provide felt tip marking pens, maintaining separate colours for each major system, for recording information.
- .3 Record information concurrently with construction progress. Do not conceal Work until required information is recorded.
- .4 Contract Drawings and shop drawings: mark each item to record actual construction, including:
  - .1 Measured depths of elements of foundation in relation to finish first floor datum.
  - .2 Measured horizontal and vertical locations of underground utilities and appurtenances, referenced to permanent surface improvements.
  - .3 Measured locations of internal utilities and appurtenances, referenced to visible and accessible features of construction.
  - .4 Field changes of dimension and detail.
  - .5 Changes made by change orders.
  - .6 Details not on original Contract Drawings.
  - .7 References to related shop drawings and modifications.
- .5 Specifications: mark each item to record actual construction, including:
  - .1 Manufacturer, trade name, and catalogue number of each product actually installed, particularly optional items and substitute items.
  - .2 Changes made by Addenda and change orders.
- .6 Other Documents: maintain manufacturer's certifications, inspection certifications, and field test records, required by individual specifications sections.

#### **1.5 FINAL SURVEY**

- .1 Submit final site survey certificate in accordance with Section 01 71 00 - Examination and Preparation, certifying that elevations and locations of completed Work are in conformance, or non-conformance with Contract Documents.

#### **1.6 SPARE PARTS**

- .1 Provide spare parts, in quantities specified in individual specification sections.

- .2 Provide items of same manufacture and quality as items in Work.
- .3 Deliver to site; place and store.
- .4 Receive and catalogue items. Submit inventory listing to the Departmental Representative. Include approved listings in Maintenance Manual.
- .5 Obtain receipt for delivered products and submit prior to final payment.

#### **1.7 MAINTENANCE MATERIALS**

- .1 Provide maintenance and extra materials, in quantities specified in individual specification sections.
- .2 Provide items of same manufacture and quality as items in Work.
- .3 Deliver to site; place and store.
- .4 Receive and catalogue items. Submit inventory listing to the Departmental Representative. Include approved listings in Maintenance Manual.
- .5 Obtain receipt for delivered products and submit prior to final payment.

#### **1.8 SPECIAL TOOLS**

- .1 Provide special tools, in quantities specified in individual specification section.
- .2 Provide items with tags identifying their associated function and equipment.
- .3 Deliver to site; place and store.
- .4 Receive and catalogue items. Submit inventory listing to the Departmental Representative. Include approved listings in Maintenance Manual.

#### **1.9 STORAGE, HANDLING AND PROTECTION**

- .1 Store spare parts, maintenance materials, and special tools in manner to prevent damage or deterioration.
- .2 Store in original and undamaged condition with manufacturer's seal and labels intact.
- .3 Store components subject to damage from weather in weatherproof enclosures.
- .4 Store paints and freezable materials in a heated and ventilated room.
- .5 Remove and replace damaged products at own expense and to satisfaction of the Departmental Representative.

#### **1.10 WARRANTIES AND BONDS**

- .1 Assemble approved information in binder and submit upon acceptance of work. Organize binder as follows:

- 
- .1 Separate each warranty or bond with index tab sheets keyed to Table of Contents listing.
  - .2 List subcontractor, supplier, and manufacturer, with name, address, and telephone number of responsible principal.
  - .3 Obtain warranties and bonds, executed in duplicate by subcontractors, suppliers, and manufacturers, within ten days after completion of applicable item of work.
  - .4 Verify that documents are in proper form, contain full information, and are notarized.
  - .5 Co-execute submittals when required.
  - .6 Retain warranties and bonds until time specified for submittal.
- .2 Except for items put into use with Departmental Representative's permission, leave date of beginning of time of warranty until Date of Substantial Performance is determined.
  - .3 Respond in a timely manner to oral or written notification of required construction warranty repair work.
  - .4 Written verification will follow oral instructions. Failure to respond will be cause for the Departmental Representative to proceed with action against Contractor.

#### **1.11 PRE-WARRANTY CONFERENCE**

- .1 Meet with the Departmental Representative, to develop understanding of requirements of this section. Schedule meeting prior to contract completion, and at time designated by the Departmental Representative.
- .2 The Departmental Representative will establish communication procedures for:
  - .1 Notification of construction warranty defects.
  - .2 Determine priorities for type of defect.
  - .3 Determine reasonable time for response.
- .3 Provide name, telephone number and address of licensed and bonded company that is authorized to initiate and pursue construction warranty work action.
- .4 Ensure contact is located within local service area of warranted construction, is continuously available, and is responsive to inquiries for warranty work action.

#### **1.12 WARRANTY TAGS**

- .1 Tag, at time of installation, each warranted item. Provide durable, oil and water resistant tag approved by the Departmental Representative.
- .2 Attach tags with copper wire and spray with waterproof silicone coating.
- .3 Leave date of acceptance until project is accepted for occupancy.
- .4 Indicate following information on tag:
  - .1 Type of product/material.
  - .2 Model number.
  - .3 Serial number.
  - .4 Contract number.

- .5 Warranty period.
- .6 Inspector's signature.
- .5 Construction Contractor.

**END OF SECTION**