1.1 Project Record Documents

.1 Departmental Representative will provide 2 white print sets of contract drawings and two (2) copies of Specifications Manual specifically for "as-built" purposes.

.2 Maintain at site one set of the contract drawings and specifications to record actual as-built site conditions.

.3 Maintain up-to-date, real time as-built drawings and specifications in good condition and make available for inspection by the Departmental Representative upon request.

.4 As-Built Drawings:

- .1 Record changes in red ink on the prints. Mark only on one set of prints and at completion of work, neatly transfer notations to second set (also by use of red ink).
- .2 Submit both sets to Departmental Representative prior to application for Certificate of Substantial Performance.
- .3 Stamp all drawings with "As-Built Drawings". Label and place Contractor's signature and date.
- .4 Show all modifications, substitutions and deviations from what is shown on the contract drawings or in specifications.
- .5 Record following information:
  - .1 Field changes of dimension and details;
  - .2 Location of capped and terminated services and utilities;
  - .3 Chases for mechanical, electrical and other services;
  - .4 All structural steel installations to be fully dimensioned;
  - .5 Any details produced in the course of the contract by the Departmental Representative to supplement or to change existing design drawings;

.6 All change orders issued over the course of the contract must be documented on the finished as-built documents, accurately and consistently depicting the changed condition as it applies to all affected drawing details.

.5 As-built Specifications: legibly mark in red each item to record actual construction, including:

.1 Manufacturer, trade name, and catalogue number of each product actually installed, particularly items substituted from that specified.

.2 Changes made by Addenda and Change Orders.

.3 Mark up both copies of specifications; stamp "as-built", sign and date similarly to drawings as per above paragraph.

.6 Maintain As-built documents current as the contract progresses. Departmental Representative will conduct reviews and inspections of the documents on a regular basis. Failure to maintain as- builts current and complete to satisfaction of the Departmental Representative shall be subject to financial penalties in the form of progress payment reductions and holdback assessments.

1.2 Reviewed Shop Drawings

.1 Provide a complete set of all shop drawings reviewed for project to incorporate into each copy of the Operations & Maintenance manuals.

.2 Submit full sets at same time and as part of the contents of the Operation and Maintenance manuals specified.

1.3 Operations & Maintenance Manual

.1 O&M Manual - Definition: an organized compilation of operating and maintenance data including detailed technical information, documents and records describing operation and maintenance of individual products or systems as specified in individual sections of the specifications.

.2 Manual Language: final manuals to be in English language.

.3 Number of copies required:

.1 Upon review and acceptance by Departmental Representative, submit three (3) final copies. Interim copies are not to be considered as part of the final copies unless they have been fully revised and are identical to the final approved version.

.4 Submission Date: submit complete operation and maintenance manual to Departmental Representative three (3) weeks prior to application for Certificate of Substantial Performance of the work.

.5 Binding:

.1 Assemble, coordinate, bind and index required data into Operation and Maintenance Manual.

.2 Use vinyl, hard covered, 3 "D" ring binders, loose leaf, sized for 215 mm x 280 mm paper, with spine pocket.

.3 Where multiple binders are needed, correlate data into related consistent groupings.

.4 Identify contents of each binder on spine.

.5 Organize and divide data following same numerical system as the section numbers of the Specification Manual.

.6 Dividers: separate each section by use of cardboard dividers and labels. Provide tabbed fly leaf for each individual product and system and give description of product or component.

.7 Type lists and notes. Do not hand write.

.8 Drawings, diagrams and manufacturers' literature must be legible. Provide with reinforced, punched binder tab. Bind in with text; fold larger drawings to size of text pages.

.6 Manual Contents:

.1 Cover sheet containing:

.1 Date submitted.

.2 Project title, location and project number.

.3 Names and addresses of Contractor, and all Sub- contractors.

.2 Table of Contents: provide full table of contents in each binder(s), clearly indicate which contents are in each binder.

.3 List of maintenance materials.

.4 List of spare parts.

.5 List of special tools.

.6 Original or certified copy of warranties and product guarantees.

.7 Copy of approval documents and certificates issued by Inspection Authorities.

.8 Copy of reports and test results performed by Contractor as specified.

.9 Product Information (PI Data) on materials, equipment and systems as specified in various sections of the specifications. Data to include:

.1 List of equipment including manufacturer's name, supplier, local source of supplies and service depot(s). Provide full addresses and telephone numbers.

.2 Nameplate information including equipment number, make, size, capacity, model number and serial number.
.3 Parts list.
.4 Installation details.
.5 Operating instructions.
.6 Maintenance instructions for equipment.
.7 Maintenance instructions for finishes.

.7 Shop drawings:
.1 Include complete set of reviewed shop drawings into each copy of the operations and maintenance manual.
.2 Fold and bind material professionally in a manner that corresponds with the specification section numbering system.
.3 When large quantity of data is submitted, place into separate binders of same size as O&M binders.

.8 Equipment and Systems Data: the following list indicates the type of data and extent of information required to be included for each item of equipment and for each system:
.1 Requirements as specified in individual specification sections.

.9 Materials and Finishes Maintenance Data:
.1 Building Products, Applied Materials, and Finishes: include product data, with catalogue number, size, composition, and colour and texture designations.
.2 Moisture-protection and Weather- exposed Products: include manufacturer's recommendations for cleaning agents and methods, precautions against detrimental agents and methods, and recommended schedule for cleaning and maintenance.
.3 Additional Requirements: as specified in individual specifications sections.

END OF SECTION