

Part 1 General**1.1 RELATED SECTIONS**

- .1 Section 01 00 10 - General Instructions.

1.2 TRIAL USAGE

- .1 Departmental Representative may use equipment and systems for test purposes prior to acceptance. Supply labour, material, and instruments required for testing.

1.3 PROTECTION OF OPENINGS

- .1 Protect equipment and systems openings from dirt, dust, and other foreign materials with materials appropriate to system.

1.4 SPECIAL TOOLS

- .1 Provide one set of special tools required to service equipment as recommended by manufacturers and in accordance with Section 01 00 10 - General Instructions.

1.5 DEMONSTRATION, OPERATING AND MAINTENANCE INSTRUCTIONS

- .1 Supply tools, equipment and personnel to demonstrate and instruct operating and maintenance personnel in operating, controlling, adjusting, trouble-shooting and servicing of all systems and equipment during regular work hours, prior to acceptance.
- .2 Use operation and maintenance manual, as-built drawings, audio visual aids, etc. as part of instruction materials.
- .3 Instruction duration time requirements as specified in appropriate sections.
- .4 Where deemed necessary, Departmental Representative may record these demonstrations on video tape for future reference

1.6 CLOSEOUT SUBMITTALS

- 1 Provide operation and maintenance data for incorporation into manual specified in Section 01 00 10 - General Instructions.
- 2 Operation and maintenance manual to be approved by, and final copies deposited with, Departmental Representative before final inspection.
- 3 Operation data to include:
 - 1 Manufacturer's information on all new equipment.
 - 2 Operation instruction for each system and each component.
 - 3 Description of actions to be taken in event of equipment failure.
 - 4 Colour coding chart.
- .4 Maintenance data shall include:
 - .1 Servicing, maintenance, operation and trouble-shooting instructions for each item

- of equipment.
- .2 Data to include schedules of tasks, frequency, tools required and task time.
- .5 Performance data to include:
 - .1 Equipment manufacturer's performance data sheets with point of operation as left after commissioning is complete.
 - .2 Equipment performance verification test results.
 - .3 Special performance data as specified elsewhere.
- .6 Approvals:
 - .1 Submit two (2) copies of draft Operation and Maintenance Manual to Departmental Representative for approval. Submission of individual data will not be accepted unless so directed by Departmental Representative.
 - .2 Make changes as required and re-submit as directed by Departmental Representative.
- .7 Additional data:
 - .1 Prepare and insert into operation and maintenance manual when need for same becomes apparent during demonstrations and instructions specified above.

1.7 SHOP DRAWINGS

- .1 Submit shop drawings and product data in accordance with Section 01 00 10 - General Instructions.
- .2 Shop drawings and product data shall show:
 - .1 Mounting arrangements.
 - .2 Operating and maintenance clearances. E.g. access door swing spaces.
- .3 Shop drawings and product data shall be accompanied by:
 - .1 Detailed drawings of bases, supports, and anchor bolts.
 - .2 Acoustical sound power data, where applicable.
 - .3 Points of operation on performance curves.
 - .4 Manufacturer to certify as to current model production.
 - .5 Certification of compliance to applicable codes.

1.8 CLEANING

- .1 Clean any surface or area affected by the new work. Building areas are to be returned to their original state after completion.

1.9 AS-BUILT DRAWINGS

- .1 Site records:
 - .1 Departmental Representative will provide 1 set of reproducible mechanical drawings. Provide sets of white prints as required for each phase of the work. Mark there on all changes as work progresses and as changes occur. This shall include changes to existing mechanical systems, control systems and low voltage control wiring.

- .2 On a weekly basis, transfer information to reproducibles, revising reproducibles to show all work as actually installed.
- .3 Use different colour waterproof ink for each service.
- .4 Make available for reference purposes and inspection at all times.
- .2 As-built drawings:
 - .1 Identify each drawing in lower right hand corner in letters at least 12 mm high as follows: - "AS BUILT DRAWINGS: THIS DRAWING HAS BEEN REVISED TO SHOW MECHANICAL SYSTEMS AS INSTALLED" (Signature of Contractor) (date).
 - .2 Submit to Departmental Representative for approval and make corrections as directed.
 - .3 Submit completed reproducible as-built drawings with Operating and Maintenance Manuals.

1.10 WASTE MANAGEMENT AND DISPOSAL

- .1 Separate and recycle waste materials in accordance with Section 01 00 10 - General Instructions.
- .2 Divert unused metal and wiring materials from landfill to metal recycling facility approved by Departmental Representative.
- .3 Dispose of unused paint material at official hazardous material collections site approved by Departmental Representative.
- .4 Do not dispose of unused paint material into sewer system, into streams, lakes, onto ground or in other locations where it will pose health or environmental hazard.
- .5 Remove from site and dispose of packaging materials at appropriate recycling facilities.
- .6 Dispose of corrugated cardboard, polystyrene and plastic packaging material in appropriate on-site bin for recycling in accordance with site waste management program.

Part 2 Products

2.1 NOT USED

- .1 Not Used.

Part 3 Execution

3.1 NOT USED

- .1 Not Used.

END OF SECTION