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**GENERAL****1.1 GENERAL CONDITIONS AND SPECIFICATIONS**

- .1 The General Conditions and General Specifications form an integral part of this specification and must be read in conjunction herewith. Read also and be fully cognizant of all Mechanical Sections.
- .2 The Testing and Balancing Subcontractor shall quote directly to the Contractor a firm contract cost to perform all balancing as hereinafter specified. He shall be fully cognizant of all mechanical requirements as indicated in the plans and specifications.
- .3 Testing and Balancing shall be performed by an independent test and balance agency that specializes in that its business is limited to testing and balancing of H.V.A.C. systems and shall be fully certified by AABC.
- .4 The Contractor shall include in his Bid all work required to facilitate the Balancing Subcontractor.
- .5 Testing and Balancing agency as part of its contract shall act as authorized inspection agency, responsible to list all items that are installed incorrectly, require correction or have not been installed in accordance with contract drawings and/or specifications, pertaining to the air distribution, cooling and heating systems. The Contractor shall make good these items.
- .6 Final payment on the building will not be issued until the final hydronic balance report has been submitted to the Contract Administrator and has been approved by the Contract Administrator.
- .7 The Contractors involved shall co-operate with the selected Testing and Balancing agency in the following manner:
  - .1 Provide sufficient time before final completion date so that tests and balancing can be accomplished.
  - .2 Provide immediately labour and tools to make corrections when required without undue delay. Install balancing dampers as required by Testing and Balancing agency
  - .3 Put all equipment into full operation and continue the operation of same during each working day of testing and balancing.
  - .4 Testing and Balancing agency shall be kept informed of any major changes made to system during construction and shall be provided with a complete set of as built drawings.

**1.2 SCOPE OF WORK**

- .1 Testing and balancing of all the hydronic pool pumping systems as indicated on the drawings.
- .2 The balance of the system shall be for the flow rate +/- 10%, with a clean sand filter operation. The pumping head may vary from the design pressure noted on the drawings. Provide Contractor with design flow rates and respective head pressures to facilitate the impeller trim.
- .3 Upon completion of impeller trim by Contractor, the system is to be rebalanced to ensure proper flow is maintained.

**1.3 EXECUTION PROCEDURES**

- .1 Hydronic System Procedure
  - .1 Prior to final inspection, adjust all water systems to provide the design flows required in accordance with flow diagrams.
  - .2 Where calibrated venturi tubes, orifices, or other metered fittings and pressure gauges are installed in piping system, use with flow meter to determine system flow rates.