PART 1 - GENERAL

1.1 GENERAL

.1 All drawings and all sections of the specification shall apply to and form an integral part of this section.

.2 The Air balancing sub-contractor must be a member of the Associated Air Balance Council. (AABC).

.3 Mechanical Contractor to provide services of independent Air balancing sub-contractor which specialises in the balancing and testing of heating, ventilation, exhaust air-conditioning systems.

1.2 WORK INCLUDED

.1 Labour, material, plant, tools, equipment and services necessary for and reasonably incidental to completion of initial balancing and operation of new air handling unit. Building pressure differential with all systems operating.

.2 Include extended service of 90 days, after completion of test and balance work, during which time the Contract Administrator at his discretion may request a re-check or resetting of any inlet, outlet, make up air unit, exhaust fan as listed in test report. The Air balancing sub-contractor shall provide technicians to assist the Contract Administrator in making any tests he may require during this period of time.

.3 The Air balancing sub-contractor shall work in co-ordination with Section 15800 to assure the installation of all manual adjusting dampers and pitot tube enclosures are as required to allow proper adjustment of the air systems.

.4 As part of the work of this contract, Section 15800 shall make any changes in the pulleys and belts, and any additional manual dampers for correct balance as recommended by the Air balancing sub-contractor, at no additional cost to The City.

1.3 RELATED WORK SPECIFIED ELSEWHERE

.1	Mechanical General Provisions:	Section 15010
.2	Ventilation + Air Conditioning:	Section 15800
.3	Controls:	Section 15900
.4	Electrical:	Section 16000

1.4 REQUIREMENTS AND REGULATORY AGENCIES

.1 Shall be a member of the Associated Air Balance Council.

.2 Testing and balancing personnel shall be experienced and certified in balancing of Mechanical Systems in accordance with AABC procedures.

.3 Use approved instruments. Include types, serial numbers, and dates of calibration of all instruments used.

1.5 DESCRIPTION

.1 Work shall not be done until the system has been completed and in full working order. Division 15 shall put all heating, ventilating, and air-conditioning systems and equipment into full operation, as the season would demand, and shall continue operation of same during each working day of testing and balancing.

- .1 New make up air unit.
- .2 Existing exhaust fan with final setting to be determined as part of the fiels reading.
- .3 Three pressure differential readings at different equipment settings.

.2 Section 15800 to provide initial alignment and tension of all fan pulleys and belts supplied by them. Upon completion of the mechanical installation, submit two copies of complete test data to Contract Administrator for forwarding for evaluation and approval.

.3 Air balancing sub-contractor shall supply 3 hard-bound copies of final corrected air balance report for The City, c/w certification by Air balancing sub-contractor.

.4 Final payment will not be issued until the air balance report has been submitted to and approved by the Architect.

.5 Systems shall be balanced so that the fans operate at the lowest possible static pressure.

.6 Provide spot checks of the system if called upon by the Contract Administrator. If air quantities, fan rpm's etc. do not agree with the submitted air balance report, re-balance the system or systems in question, until satisfactory results are received.

1.6 TESTING PROCEDURES

.1 Installation data, manufacturer and model size, arrangement discharge and class, motor type, Watts, voltage, phase, cycles and full load amps. Location and local identification data.

.2 Design data, total volume flow rate, static pressure, motor HP W, R/min and amps, outside air flow rate with winter correction, fan F/min, fan power.

.3 Recorded data, air flow rates, static pressure, fan R/min, motor operating amps, motor power.

.4 System Schematic.

.1 Complete system schematic with required actual flow rates at each outlet or inlet. Show room numbers and floors.

.2 Duct air quantities: for mains, branches and maximum and minimum for outside air and exhausts; duct size, pressure readings, sum of velocity measurements, average velocity, duct recorded flow rates, duct design flow rates.

.3 Air inlets and outlets, supply or exhaust outlet identification. Location and number designation.

.4 Manufacturers catalogue identification and type, application factors, designated area, design and recorded velocities, design and recorded air flow rates, deflector vane or vane or diffusion cone settings.

.5 Permissible air deviation from design air quantities shall be 5%.

.6 After submission of report, perform random check of 20% of air inlets and outlets.

.7 Following recheck and acceptance of report, permanently mark settings of all splitters, dampers and other adjustment devices.

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