

THE SCHOOL DISTRICT OF OSCEOLA COUNTY, FLORIDA

EXHIBIT A

**SCOPE OF SERVICES
(Includes Project Proposal as Attachment 1)**

DESCRIPTION OF SERVICE: Represent the School District as their Consultant for HVAC Test & Balance Services. Anticipated services will include, but not be limited to the following:

1. Provide all services necessary to investigate and inspect HVAC equipment for problems that relate to but not be limited to materials, workmanship, age, warranty, and deterioration.
2. Provide all services necessary for review of HVAC design, preparation of construction drawings and specifications, and provide contract administration and project inspection services for the construction of HVAC equipment for the selected project.
3. Provide a Scope of Work detailing the type of system for the selected project requiring HVAC Test & Balance Services and submit to the School District Representative(s) for approval.
4. Provide technical support in HVAC Test & Balance matters to the Facilities and Maintenance Department.
5. Provide national performance guarantee from A.A.B.C. (Associated Air Balance Council) or N.E.B.B. (National Environmental Balancing Bureau).
6. Provide commissioning per A.A.B.C. standards and guidelines.
7. Review and comment on Educational Specifications, design submittals, and construction documents prepared by other consultants.
8. Review, provide inspection services, and report on specific areas of construction when requested.
9. Provide support with school site analysis, educational specification preparation, construction project budgeting, etc. in accordance with:
 - a. The current edition of Florida State Board of Education, State Requirements for Educational Facilities.
 - b. Osceola County Educational or Ancillary Specifications where required.
 - c. Provisions of the Florida State Board of Education, State Requirements for Educational Facilities, Section 1013 Florida Statutes.
 - d. Current industry standards.
10. Provide services for investigation, identification, analysis, and recommendation with costs for specific school facility problems or needs assigned on selected project(s).
11. Provide technical support by the use of other consultants when specialized areas of expertise are needed.
12. At the School District's option, the selected firm may be requested to attend School Board meetings.
13. Pre-construction plan review will be performed to identify items which may cause problems in obtaining the final balance conditions, as required by the design. The review will include but will not be limited to; finding overlooked or missing items, elimination of items which may not be

required, mechanical items which have caused problems due to malfunction or erroneous data, duct work that could prevent proper distribution, placement of air distribution outlets, etc. Upon completion of the review, a written report of the recommendations will be submitted. Adopted recommendations will be forwarded to the Project Architect and School District Representative(s). The HVAC Test and Balance Consultant will perform a minimum two (2) plan reviews for each construction project. The plan reviews will be performed during the Phase I and Phase II reviews of the project, or as required by the School District Representative(s).

14. Periodic inspections during construction will be made as the job advances. The HVAC Test and Balance Consultant will be required to visit the jobsite and make general inspections of the work being performed. A jobsite checklist will be made during these inspections which will include all items installed. Any discrepancies noted regarding equipment, installation, or placement will be immediately reported in writing to the School District Representative(s). Inspections will continue until completion of the project and each subsequent report will list corrections made from previous reports. The HVAC Test and Balance Consultant will assist the School District Representative(s) with resolving discrepancies and making corrections.
15. Air distribution test and balance or re-balance will include balancing of the air conditioning, ventilating, and exhaust systems to achieve the air quality specified. Prior to proceeding with work, the HVAC Test and Balance Consultant will perform a full inspection of all mechanical systems to determine their compliance with design drawings. A written report of deficiencies will be submitted to the School District Representative(s). Tests and procedures may include, but not be limited to the following:
 - a. Test fan RPM to design requirements;
 - b. Test and record motor running amperage for each phase;
 - c. Make pitot tube traverse at main supply ducts and obtain design CFM at fans;
 - d. Test and record systems static pressures, suction and discharge;
 - e. Test and adjust system for design re-circulated air CFM;
 - f. Test and adjust system for design outside air CFM (heating and cooling);
 - g. Test and record entering air temperatures (dry bulb for heating and cooling);
 - h. Test and record entering air temperatures (wet bulb for cooling);
 - i. Adjust all main supply and return air ducts to proper design CFM;
 - j. Adjust all zones to proper design CFM, supply and return;
 - k. Test and adjust each diffuser, grille, and register to within plus or minus 10 percent of design requirements, if possible. If not possible, balance to optimum performance capability of system and inform the School District Representative(s) in writing;
 - l. In cooperation with the control manufacturer's representatives, setting adjustments of automatically operated dampers to operate as specified, indicated, and/or noted. The HVAC Test and Balance Consultant will check all controls for proper calibrations and list all controls requiring adjustment.
 - m. All diffusers, grilles, and registers will be adjusted to minimize drafts in all areas;
 - n. Fume hood fans will be adjusted to CFM requirements specified. Test of fume hood enclosures will be made to determine velocities across opening in accordance with applicable safety codes.
16. Hydronic systems test and balance or re-balance will include balancing of condenser, chilled and heating hot water circulating systems to obtain water quantities, and temperature differentials through all system components. The HVAC Test and Balance Consultant will perform the tests and adjustments, listed below, in balancing the hydronic systems. Prior to proceeding with work, the HVAC Test and Balance Consultant will perform a full inspection of all mechanical systems to determine their compliance with design drawings. A written report of deficiencies will be submitted to the School District Representative(s). Prior to commencing any tasks in this category, all water systems will be determined by the HVAC Test and Balance Consultant to be free of construction debris and/or any foreign materials. The work may include, but not be limited to, the following types of tests and procedures:

- a. Perform when requested, performance evaluation of water chiller (centrifugal or reciprocal) in conformance with ARI 550-83 (or latest applicable procedure).
 - b. Test and record pump head at full flow and no flow.
 - c. Record pump motor running amps, volts, and brake horsepower.
 - d. Compare pump operating head and brake horsepower with pump curve for flow verification.
 - e. Test and record flow station pressure drop in corresponding GPM.
 - f. Test and record chiller and condenser pressure drops, and entering and leaving water temperatures.
 - g. Balance condenser water flow cooling tower particularly to each cooling tower basin, and perform an eight hour log study of cooling tower.
 - h. Test and record terminal elements pressure drop, entering and leaving wet and dry bulb temperatures.
 - i. Test and record terminal elements final total heat transfer.
 - j. List water metering device readings.
17. Sound analysis, if requested by Owner, the HVAC Test and Balance Consultant will conduct tests in selected areas of the building as specified. Sound level readings will be measured in decibels on the A and C scales of the General Radio Sound Level Meter or equal sound level meter that meets the current American Standard procedures based on the acoustic referenced power of db/re 10.13 watts. Readings will set forth the total random sound level of the selected rooms or areas with the system in operation as compared to total background sound level with the system not in operation.
18. The system increase over the background level will be recorded in decibels on the A and C scales. If sound levels are above those specified, adjustments will be made to bring the sound level within the range set forth, if possible, with the equipment installed.
19. A corrective action report will include all test results by building number and room number where the various tests occurred. Reading and thermal analysis performed during the major component performance analysis will be stated and compared with the manufacturer's specifications of the components. Problems will be generally and specifically identified and recommendations for corrective action(s) will be provided to the School District Representative(s).
20. Corrective action inspection will occur upon completion of those items selected by the School District Representative(s) from the corrective action report for repair, adjustment, or clearing. The HVAC Test and Balance Consultant will submit a written report to the School District Representative(s) providing the results of the inspection prior to proceeding with the test and balance of air distribution and hydronic systems.
21. Instruction of operation to School District personnel will occur upon completion of the testing and balancing of all systems. The HVAC Test and Balance Consultant will provide a thorough review of the final HVAC Test and Balance report including any open deficiencies and design concerns to the School District Representative(s).
22. The following services will be provided under work designated New Construction:
- a. Pre-construction plan review;
 - b. Periodic inspection during construction;
 - c. Air distribution test and balance;
 - d. Hydronic systems test and balance;
 - e. Sound analysis, if requested;
 - f. Reporting results to the School District Representative(s) of inspections, tests, and/or work performed;
 - g. Instruction of operation to School District personnel.

23. The following services will be provided under any work designated Existing Facilities:
- a. Major component performance analysis;
 - b. Corrective action report;
 - c. Corrective action inspection;
 - d. Air distribution test and balance;
 - e. Hydronic systems test and balance; and,
 - f. Reporting results of inspections, tests, and/or work performed to the School District Representative(s).
24. The following services will be provided under any work designated Consultations and Trouble Shooting:
- a. When directed, investigate problems of existing systems;
 - b. Report findings of investigation;
 - c. If directed, perform corrective work to make system operative or more efficient.

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EXHIBIT B

PROJECT CONSTRUCTION BUDGET

Owner has entered into a GMP Agreement with the Construction Manager for a total Construction Cost of **TBD**. HVAC Test and Balance Firm will take care of work within cost parameters set forth by Owner and CM. HVAC Test and Balance Firm to request any construction cost breakdown necessary to complete its scope of work, from the Owner.

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EXHIBIT C

PROJECT SCHEDULE

Owner has entered into a GMP Agreement with the Construction Manager for a total Project schedule, including an opening of **TBD**. HVAC Test and Balance Firm will coordinate with the Owner and CM to take care of the work within the schedule parameters.

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EXHIBIT D

SCHEDULE OF PROGRESS PAYMENTS AND HOURLY RATES

Not to Exceed Fee for Basic Services shall be established and paid in accordance with the Contract and this Exhibit as follows:

Billing and Payment shall be at completion phases of work established by Purchase Order or Work Order, and per the Project Proposal (Attachment 1), on a monthly basis. HVAC Test and Balance Firm shall invoice on Purchase Orders issued by Owner.

THE SCHOOL DISTRICT OF OSCEOLA COUNTY, FLORIDA

EXHIBIT E

CONSULTANT REIMBURSABLE EXPENSE GUIDELINES

TRAVEL

All expenses related to travel, including without limitation train, mileage, air, etc., shall be subject to all laws, policies, and guidelines for the State of Florida and the School Board in connection with eligibility for reimbursement and limitations for dollar amount for such reimbursement. For the purpose of this Agreement the ARCHITECT/ENGINEER, including consultants, agents, etc., shall be deemed to be limited to the same extent as a School Board employee, by the affirmations, laws, regulations, that govern eligibility for travel reimbursement and amount of reimbursement

Current Mileage Rate: \$.45

No other expenses or costs will be reimbursed, without prior written authorization received from the Owner.

THE SCHOOL DISTRICT OF OSCEOLA COUNTY, FLORIDA

EXHIBIT F

KEY EMPLOYEES

Identify team members responsible for this project and their areas of responsibility.

Member

Title

Responsibility

THE SCHOOL DISTRICT OF OSCEOLA COUNTY, FLORIDA

EXHIBIT G

TRUTH IN NEGOTIATION CERTIFICATE

The wage rates and other factual unit costs supporting the compensation under the Agreement between the School Board of Osceola County, Florida and _____ dated _____

are accurate, complete and current as of the time of entering into the contract. This Certificate is executed in Compliance with Section 287.055 (5) (a) of the Florida Statutes.

DATED this ____ day of _____ 2007.

By:

STATE OF FLORIDA

COUNTY OF _____

BEFORE ME, the undersigned authority, personally appeared _____ as its _____, who, after first being duly sworn, deposes and says that the foregoing Truth In Negotiation Certificate is true and correct to the best of his/ her knowledge, information and belief.

SWORN TO AND SUBSCRIBED before me this ____ day of _____, 2007, by _____ (type/print name of affiant).

Notary Public (printed name)

Personally known to me _____; or has produced identification
Type of identification produced:
