

**TAB Proposal**

December 28, 2022

Attn: Frank Lopez – Tarrant County Facilities Management  
Email: ([FTLopez@TarrantCounty.com](mailto:FTLopez@TarrantCounty.com))

Re: HVAC Testing, Adjusting, and Balancing Proposal (TAB)  
350 W Belknap Renovation Project Floors 3 and 4

**Campos Proposal #IED – S22-1937.01**

Mr. Lopez,

Campos respectfully submits this proposal to provide testing, adjusting, and balancing (TAB) services for the 350 W Belknap Renovation Project Floors 3 and 4 located in Fort Worth, Texas.

**THE SCOPE OF WORK shall be defined as follows:**

Provide Testing, Adjusting, and Balancing services to the HVAC related equipment associated with the 100% design development documents dated 11/10/2022, TAB specification 230593, and as described in the basic services, clarifications, and exclusions below.

**BASIC SERVICES:** Campos shall provide the basic services listed below to generally meet the intent of the project's TAB specification.

1. Campos shall evaluate the contract drawings and specifications relating to testing and balancing services for arrangement and adequate provisions of devices for HVAC testing, adjusting, and balancing.
2. Campos shall evaluate the HVAC manufacturer's submittal data and the shop drawings for balance-ability and conformity to the project specifications.
3. Campos shall provide a pre-TAB site visit to observe the installation of the HVAC systems for adequate balancing provisions and readiness for TAB. Campos shall provide a written summary of our pre-TAB site visit observations and recommendations.
4. Campos shall prepare the plans for testing and balancing field procedures by numbering each air outlet / air grille. Whenever possible, Campos shall use the numbering system indicated on the mechanical plans. Plans shall be reduced to 11" x 17" format for insertion in the final test and balance report and for clarification of punch items identified in each project status report.
5. Campos shall attend coordination meetings throughout the project to facilitate the testing and balancing work schedule and review observed deficiencies.
  - ❑ Campos has no contractual relationship or authority to direct others in regards to scheduling and is totally dependent on the coordination of occupants and facility staff.



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- ❑ Campos scheduled start dates and resulting finish dates are dependent on all other trades completing their work as indicated in the project schedule. Once equipment systems are installed, started, and commissioned as functional, Campos shall bear the responsibility of meeting the time allocated for the Test and Balance work effort.
  - ❑ Campos shall staff the project as necessary to meet the agreed upon construction work dates. However, Campos has no responsibility to meet the project scheduled work dates if the building becomes unavailable due to occupancy coordination.
6. Campos shall test, adjust, and balance the heating, ventilating, and air conditioning systems in accordance with NEBB Procedural Standards for Testing, Adjusting, and Balancing of Environmental Systems.
  7. Campos shall perform Temperature Control Verification (TCV) in conjunction with systems balancing of the new HVAC systems. This includes verification of calibration of sensors and controlling of dampers / devices to achieve the desired temperature setpoints of the HVAC systems.
  8. Observed deficiencies during TAB procedures shall be documented in the form of a corrective action report (CAR) and reported to the responsible contractor and project manager.
  9. The responsible contractor shall be given the opportunity to correct the deficiency within a 1-day period; otherwise, Campos shall report the deficiency to the project team in our weekly status report.
  10. Upon written notification that all deficiencies have been corrected, Campos shall retest each piece of equipment listed.
  11. If items previously reported to Campos as being corrected are found to be uncorrected, Campos shall list each deficiency in the final test and balance report.
  12. Campos shall provide additional clarification of punch list items when requested. Reduced drawings indicating Campos' identification numbers and locations shall be provided with each deficiency list and in the final report.
  13. Upon completion of the field testing, adjusting, and balancing, Campos shall submit a certified, bound, typewritten report. The final report shall be signed and sealed by the NEBB certified professional for approval by the Owner and consulting MEP Engineer. The report shall include an executive summary, test report data, instrument calibration report, and reduced copies of the mechanical construction drawings of the HVAC layout.
  14. Campos shall provide one (1) post-construction site visit within ninety (90) days after completion of TAB services to observe corrected deficiency items that were noted in the final test and balance report and to verify balanced conditions are being maintained.



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Prior to each site visit, the TAB firm will require written notice of the completion of the deficiency items noted in the summary of the final test and balance report.

15. Campos shall provide one (1) site visit in the opposite season after completion of the testing, adjusting, and balancing to verify balanced conditions are being maintained, to recheck remaining punch items listed in the summary of the final testing, adjusting, and balancing report. Campos shall submit an updated Corrective Action Report and a memorandum detailing observations and recorded measurements during each site visit.
16. Campos shall provide up to two (2) 8-hour work days of commissioning assistance.

## EXCLUSIONS and CLARIFICATIONS

1. Campos is NEBB certified and will provide the NEBB Quality Assurance Program to fulfill the warranty requirements of the specification. Additionally, Campos shall correct observed deficiencies in the testing, adjusting, and balancing within a one year period from the substantial completion of the project excluding changes made by others, deficiencies due to lack of maintenance, and/or acts of God.
2. All HVAC systems in the scope of work shall be installed per the construction documents and made fully functional by others prior to Campos beginning TAB onsite.
3. Clean filters shall be required for all air moving systems prior to testing and clean strainers will be required for all hydronic systems prior to testing.
4. Testing of all domestic water systems, domestic water pumps, sewer piping systems, natural gas piping systems, roof drain systems, and modified fire protection / sprinkler systems is **not** included in the scope of work for HVAC testing, adjusting, and balancing. These systems are typically **not** part of the testing and balancing work and are **excluded**.
5. Refrigerant pressure and temperature data are **excluded** as it is not required for NEBB or AABC procedural standards for HVAC testing, adjusting, and balancing. Refrigerant system capacities will be verified by measuring the temperature splits across condensers and evaporators.
6. This proposal for TAB services **excludes** HVAC Ductwork Pressure Testing as it is typically performed by other trades.
7. This proposal for TAB services **excludes** IAQ testing from the scope of work in this proposal.
8. This proposal for TAB services **excludes** sound and vibration testing from the scope of work.
9. This proposal for TAB services **excludes** verifying ductwork clearance requirements from the scope of work as this is typically performed by other trades.



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10. Testing and balancing is limited **only** to the areas and equipment indicated on the 100% design development documents dated 11/10/2022.
11. Campos is **not** responsible for replacing motor sheaves, fan sheaves, or belts if changes are required to achieve the design airflow quantities indicated on the provided bid documents. Campos shall recommend new pulley sizes to be provided and installed by others. Additionally, Campos is not responsible for the installation of additional damper or thermometer wells as needed for proper TAB.
12. Rechecks of deficiencies due to persistent failure will be considered an additional service. Campos has provided for one recheck of each observed deficiency in the basic services of this proposal. Delays in the work due to others shall be documented in a delay report. Delay reports shall be submitted weekly attached to the CAR. Campos shall request additional fees in the event costs due to delays exceed 5% of the total fee indicated below in the fee section of this proposal.
13. The pricing provided is for normal working hours Monday – Friday, 8:00 a.m. – 5:00 p.m. If there are delays due to other trades that require extended hours, weekend work, or more than one 2-man crew to complete the TAB activities within the construction schedule, Campos will require a change order to accommodate the additional costs.

## FEES

Campos shall provide testing, adjusting, and balancing (TAB) as indicated in the above Basic Services 1-16 and Exclusions and Clarifications 1-13 for the stipulated sum of **\$33,600.00 (Thirty-Three Thousand Six Hundred Dollars)**.

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### PAYMENT

Invoices to be submitted monthly based upon an estimated percentage of completion with payment due not later than thirty (30) calendar days from the date of invoice.

We shall consider the return copy of an executed task assignment as acknowledging your acceptance of this proposal, as a firm contract between us, and as our authorization to proceed with the work of this project.

Respectfully submitted,  
**CAMPOS ENGINEERING, INC.**

A handwritten signature in black ink, appearing to read "Drew Herren".

Drew Herren, E.I.T. LEED AP BD+C  
NEBB Certified Professional – TAB, SM  
Fort Worth Area Manager

A handwritten signature in black ink, appearing to read "Wesley McVey".

Wesley McVey, P.E.  
CBCP, NEBB Certified Professional - TAB  
Principal

Attachment 'A' - Campos Standard Terms and Conditions

ACCEPTED:

By: \_\_\_\_\_

Date: \_\_\_\_\_

