

Kaleena Trevino
Director of Purchasing
Kaleena.Trevino@VictoriaCollege.edu
361-572-6461

Amber Padron
Purchasing Assistant
Amber.Padron@VictoriaCollege.edu
361-582-2571

<p>INVITATION TO BID <u>Bid # 23/24-0011</u> <u>Student Success Center Test and Balance</u> Issued: Wednesday, April 17, 2024 Due: Wednesday, May 1, 2024 at 2:00 p.m.</p>

<p>Company Name: _____ Address: _____ City: _____ State: _____ Zip Code: _____ Representative's Name: _____ Phone #: _____ Fax #: _____ E-Mail: _____</p>

Having carefully examined the specifications and conditions prepared by the Purchasing Office, Victoria College and agreeing to conform to conditions set out in the contract, we, the undersigned, propose to furnish all supplies as awarded.

Notice of No Submission:

individual has not prepared this proposal in collusion with any other vendor and that the contents of this offer as to prices, terms or conditions of this said contract have not been communicated by the undersigned nor by any employee or agent to any other persons engaged in this type of business prior to the official opening of this proposal".

Our company does not wish to submit at bid for the requested products/services at this time

Initials: _____

STUDENT SUCCESS CENTER TEST AND BALANCE

FOR

<p>Signature of Company Official: _____ Printed Name of Company Official: _____ Official Position: _____</p>
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FELONY CONVICTION NOTIFICATION FORM
MUST BE SIGNED & RETURNED WITH THE BID

Texas Education Code Section 44.034 Notification of Criminal History, Subsection (a), states a person or business entity that enters into a contract with a College must give advance notice to the College if the person or an owner or operator of the business entity has been convicted of a felony. The notice must include a general description of the conduct resulting in the conviction of a felony.

(I), (We) the undersigned agent for the firm named below, certify that the information concerning notification of felony convictions has been reviewed by me and the following information furnished is true to the best of my knowledge.

Please print or type:

REQUIRED INFORMATION	REQUIRED RESPONSE
Company Official's Name (printed):	
My firm is a publicly held corporation; therefore, this reporting requirement is not applicable.	
My firm is not owned nor operated by anyone who has been convicted of a felony.	
My firm is owned or operated by the following individual(s) who has/have been convicted of a felony:	
Name of felon(s):	
Detail of conviction:	
Signature of company official:	
Signature (printed):	
Title:	
Date:	

Return Form To:

Victoria College
 Purchasing Office
 2200 E. Red River
 Victoria, Texas 77901

**STUDENT SUCCESS CENTER TEST AND BALANCE
FOR VICTORIA COLLEGE
BID FOR FISCAL YEAR 2023-2024
DELIQUENT FRANCHISE TAX FORM
*MUST BE SIGNED & RETURNED WITH THE BID***

Each corporation contracting with the College shall certify that its franchise taxes are current. If the corporation is exempt from payment of franchise taxes or is an out-of-state corporation not subject to Texas franchise tax, it shall certify a statement to that effect. Making a false statement as to corporate franchise tax status shall be considered a material breach of the contract and shall be grounds for cancellation of the contract.

I, the authorized agent for the corporation, named below, certify that the information concerning delinquent franchise taxes has been reviewed by me and the following information is true to the best of my knowledge.

Vendor Name: _____

Authorized Vendor Official's Printed Name: _____

- A. The corporation is exempt from payment of franchise taxes or is an out-of-state corporation not subject to Texas franchise tax; therefore, I am submitting a certified statement to that effect.

Signature of Vendor Official: _____

- B. The corporation is subject to Texas franchise tax. I hereby certify that there is no delinquent Texas franchise tax pending against corporation.

Signature of Vendor Official: _____

- C. I hereby certify that there is delinquent Texas franchise tax pending against the corporation.

Signature of Vendor Official: _____

STUDENT SUCCESS CENTER TEST AND BALANCE
HOUSE BILL 89 FORM
MUST BE SIGNED & RETURNED WITH THE BID

Prohibition on contracts with companies boycotting Israel. The following form must be completed and signed.

The undersigned affirms that he/she is duly authorized to provide this information by the person(s) or business entity making the proposal and the information provided below concerning companies that boycott Israel thoroughly reviewed and verified and is, therefore, current, true, and accurate to the best of my knowledge.

Pursuant to the provisions of Subtitle F, Title 10, Texas Government Code, section 2270.001:

(1) "Boycott Israel" means refusing to deal with, terminating business activities with, or otherwise taking any action that is intended to penalize, inflict economic harm on, or limit commercial relations specifically with Israel, or with a person or entity doing business in Israel or in an Israeli-controlled territory, but does not include an action made for ordinary business purposes, and

(2) "Company" means a for profit sole proprietorship, organization, association, corporation, partnership, joint venture, limited partnership, limited liability partnership, or any limited liability company, including a wholly owned subsidiary, majority-owned subsidiary, parent company or affiliate of those entities or business associations that exist to make a profit.

___ Does not boycott Israel currently, and

___ Will not boycott Israel during the term of the contract with Victoria College.

Name of Business Entity: _____

Authorized Signature: _____

Printed Name & Title: _____

PROPOSAL AND CONDITIONS

Victoria College will be requesting the following conditions and specifications from each vendor responding to the Test and Balance of the Student Success Center Addition and Renovation.

QUANTITIES AND DISCOUNTS LISTED IN THE SPECIFICATIONS:

1. Quantities reflected in the Bid Invitation are estimates based upon the projected needs for Victoria College during the contract period. Quantities are the best estimate of anticipated needs available at the time of publication of this Bid Invitation, but the accuracy of these estimated quantities may be affected by numerous factors including, but not limited to, budgetary adjustments, student participation, the availability of government commodities or other subsidies, changing market forces, unintentional errors, or omissions. Actual needs may be greater or less than the estimated quantities provided. The College will only be responsible for payment for the items which have been purchased and delivered.
2. A percentage discount off manufacturer's list price is requested for those items not mentioned in this bid. The vendor may also quote a last column price, or a cost plus for these items.
3. As per state law the College is not obligated to purchase any goods and/or services, if funds are not allocated, by the legislative session or the Board of Trustees.

OBLIGATIONS BY THE COMPANY:

1. Your bid should be accompanied by a transmittal letter signed by an officer of your company indicating compliance to the conditions and specifications. This officer must have the power and authority to obligate the company for all proposals and conditions stated.
2. Specifications which refer to brand names are given for reference. Bidders may quote on approved equivalent articles, if brand name, catalog number(s) and any deviations are noted on the bid form. The vendor should provide complete descriptive literature of the product or service quoted.
3. Substitutions will not be allowed after a quotation has been submitted for review, and will not be delivered instead of the item quoted, unless the item is of a higher quality than the item specified.
4. The Vendor shall not substitute items named in the bid without the express written consent of the College. Failure of the delivered item(s) to perform as specified or failure to meet the stated delivery schedule shall release the College from all obligations to the contracting party regarding the item(s) in question.
5. Any specifications a vendor may not agree with must be submitted in writing to the Purchasing Office ten (10) days in advance of the opening.
6. The Vendor shall be held responsible for and must make good, without expense to the College, all damages, injury or loss due to the execution of the work. The Vendor shall protect all finished building surfaces from damage and shall repair any damage to the building or property caused by delivery of the equipment.
7. It is understood and agreed that the delivery date and/or date of installation after receipt of a purchase order will not vary from a supplier's bid. In its acceptance of any quotation offer, the College is relying on the promised delivery date and/or installation as material and basic to its acceptance, unless otherwise indicated. In the event of Seller's failure to deliver as and when promised, the College reserves the right to cancel its accepting order, any part thereof, and Seller agrees that the College may return all or part of any shipment so made, and may charge Seller with any loss or expense sustained as a result of such failure to deliver as promised.
8. The Vendor shall not sell, assign, transfer or convey this contract, in whole or in part, without the prior written consent of the College.
9. All quantity and prompt payment discounts shall be listed on the bid form.
10. Any item that does not perform or meet test standards, as specified, or as claimed by the seller, the items will be replaced at no cost to the purchaser.
11. The College reserves the right to cancel the entire contract and/or buy on the open market at the current price and charge the vendor the difference between the price so paid and the bid price in the event, (1) any item is not delivered

according to specifications during the bid period, (2) brands of merchandise other than brands named on the bid, are delivered without prior approval, (3) orders are not delivered within the specified time.

12. In quoting, give complete information in spaces provided; otherwise, your quotation offer may not be given consideration. All bid offers must be signed to be considered.
13. All items bid shall be new, in first-class condition, including containers suitable for shipment and storage, unless otherwise indicated in bid invitation. Verbal agreements to the contrary will not be recognized. In some instances, refurbished equipment may be requested, but the bid specification will indicate refurbished equipment is acceptable.
14. Bidder hereby certifies that neither the bidder nor the firm, corporation, partnership, or institution represented by the bidder, or anyone acting for such firm, corporation, partnership, or institution has violated the antitrust laws of the State, codified in Section 15.01 et. Seq., Texas Business and Commerce Code, Federal Antitrust Laws, nor communicated directly or indirectly the bid made to any competitor or any other person engaged in such line of business.

OBLIGATIONS BY THE COLLEGE:

1. The College reserves the right to separate and accept, or eliminate any item(s) listed under this proposal that it deems necessary to accommodate budgetary and/or operational requirements.
2. The College also reserves the right to reject any or all bids submitted, to waive any formalities or irregularities and to make whatever award is in the best interest of the College.
3. In determining to whom to award a contract, the district may consider:
 - a) the purchase price
 - b) the reputation of the vendor and of the vendor's goods or services
 - c) the quality of the vendor's goods or services
 - d) the extent to which the goods or services meet the district's needs
 - e) the vendor's past relationship with the district
 - f) the impact on the ability of the district to comply with laws and rules relating to historically under-utilized businesses;
 - g) the total long-term cost to the district to acquire the vendor's goods or services; and any other relevant factor specifically listed in the request for bids or proposals.

Reference Texas Education Code, SEC 44.031 (b).

4. The College shall not be responsible for any goods delivered or services performed without its purchase order, and signed by an authorized representative of the Purchasing Department.
5. The College will have the right to schedule other work and will retain the right to let other contracts, at the same sites and while delivery and installation is required under this contract.
6. The College will have the authority to disapprove or reject defective products and/or non-suitable work standards.
7. The College may make such investigations, as it deems necessary, to determine the ability of the Vendors to provide satisfactory performance in accordance with the specifications. The Vendor shall furnish to the College all such information and data for this purpose, as the College may request. Vendors may be required to provide an item for evaluation purposes.
8. The College reserves the right to enforce the performance of this contract, in any manner prescribed by law or deemed to be in the best interest of the College, in the event of breach or default of this contract. The College reserves the right to terminate the contract immediately in the event the successful vendors fail to meet schedules or otherwise perform in accordance with these specifications. Breach of Contract or default authorizes the College to purchase the service elsewhere, and charge the full increase in cost and handling to the defaulting successful vendor.

DELIVERY OF THE BID:

1. Fax transmittal will not be accepted. The bids may be mailed, or delivered by courier before the stated time in a sealed envelope.
2. All bids received after the stated time will not be opened, read, or recorded, and will be returned to the vendor.

3. Bid proposals must include the full name and address of the bidder. Failure to manually sign the proposal will disqualify that proposal.

STATE LAW REQUIREMENTS:

1. This agreement will be governed and construed according to the laws of the State of Texas. This agreement is performable in Victoria County.
2. All equipment and services furnished under this contract shall comply with applicable laws, ordinances, and regulations. The Vendors shall give all notices and comply with laws, ordinances, rules, and regulations, and without such notice to the authorized College's representative, the Vendor shall bear all costs arising there from.
3. On May 30, 1995, Governor George Bush signed Senate Bill 1. It became effective on the day he signed it. The following is a requirement included in this law. It is mandatory that the College must include this in all specifications. Each vendor must respond to this section of the law.

Section 44.034 TEC. Notification of Criminal History of Contractor.

- (a) A person or business entity that enters into a contract with a school district must give advance notice to the district if the person or an owner or operator of the business entity has been convicted of a felony.

The school district must have advance notice that a person, owner, or operator of the business entity has been convicted of a felony. The notice must include a general description of the conduct resulting in the conviction of a felony.

- (b) A school district may terminate a contract with a person or business entity if the district determines that the person or business entity failed to give notice as required by Subsection (a) or misrepresented the conduct resulting in the conviction. The district must compensate the person or business entity for services performed before the termination of the contract.

- (c) This section does not apply to a publicly held corporation.

CONFLICT OF INTEREST

The College District shall not enter into a purchasing contract with businesses in which a board member, member of the faculty, student, or an immediate family member of a board member, member of the faculty, or student has an interest that, in the opinion of the President, could be viewed as a conflict of interest.

INTERPRETATIONS OF THE SPECIFICATIONS:

1. Only the interpretation or correction so given by the Director of Purchasing, in writing, shall be binding and prospective Bidders are advised that no other source is authorized to give information concerning, or explain or interpret, the bidding document.
2. Every request for such interpretation or correction must be in writing, addressed to the Director of Purchasing.
3. All questions must be submitted in writing within ten days of the bid opening date. Any questions submitted after this deadline may not be answered in time for quotation.
4. Interpretation and supplemental instructions will be in the form of written addenda to the bidding documents prior to the ten-day bid opening date deadline.
5. Your questions concerning the bid specifications **must be submitted in writing or by emailing** Kaleena.Trevino@victoriacollege.edu. We will return a written answer to your company.

WARRANTIES:

Proposers are requested to give a detailed statement of the warranty period.

DELIVERY EXPECTATIONS:

1. Delivery will be FOB, to specified buildings at Victoria College, 2200 E. Red River, Victoria, Texas 77901 and other areas listed. The Vendor shall be responsible for all claims against the manufacturer for manufacturing defects and against the carrier for all freight and/or drayage damage. The Vendor shall be responsible for receiving and handling all materials, and shall bear all risks of loss, theft, or damage to all material until installed in a designated location and accepted by the College. The College will not accept pre-deliveries directly to the site, unless otherwise specified.
2. The unit prices shall include all items required, including trucking and transportation.
3. The company must notify the Purchasing Office seventy-two (72) hours in advance of shipments not being fulfilled as specified.
4. Offers must be submitted on the forms provided to ensure complete uniformity of wording of all offers. Offers may be rejected if they show any omissions, alterations in wording, conditional clauses, or irregularities of any kind.
5. No allowance for waste, loss, breakage, damage, or difficulties shall be made.
6. Bid should show number of days required to place material in designated location under normal conditions. Unrealistically short or long delivery promises may cause bid to be disregarded. Failure to sign the bid may, or signing it with a false statement shall void the submitted bid or any resulting contracts, and the bidder will be removed from all bid lists.

TAX EXEMPTIONS:

The district is exempt from State Tax and Local Tax. Do not include tax in your bid. Tax exemption certificates will be furnished upon request.

COMPLIANCE WITH AMERICANS WITH DISABILITIES ACT (ADA)

Vendor shall follow all relevant requirements of the Americans with Disabilities Act (ADA) as applicable to their operations. By submission of a proposal response, vendor acknowledges intention to conform to the requirements of the ADA. Failure to comply with ADA constitutes good cause for the College to suspend a contract with any successful vendor.

GRATUITIES:

1. Bidder affirms that he has not given, offered to give, nor intends to give at any time hereafter any economic opportunity, future employment, gift, loan, gratuity, special discount, trip, favor, or service to a public servant in connection with the submitted bid. Failure to sign the bid will, or signing it with a false statement shall, void the submitted bid or any resulting contracts, and the bidder will be removed from all bid lists.
2. The College may by written notice to the vendor, cancel this contract without liability to the vendor if it is determined by the College that gratuities, in the form of entertainment, gifts, or anything of monetary value, were offered or given by the vendor, or any agent, or representative of the vendor and with the goal of obtaining a contract or securing favorable treatment with respect to the awarding, amending or making of any determinations with respect to the performing of such a contract. In the event this contract is canceled by the College pursuant to this provision, the College shall be entitled, in addition to any other rights and remedies, to recover or withhold the amount of the cost incurred by the vendor in providing such gratuities.

UNIFORM COMMERCIAL CODE:

1. This writing and subsequent interview information given and forwarded to the College shall be a sole and final expression of the agreement between the College and the vendor, and is intended also as a complete and exclusive statement of the terms of their agreement. Whenever a term defined by the Uniform Commercial Code is used in this agreement, the definition contained in the Code is controlling.
2. This agreement shall be governed by the laws of the State of Texas. By submitting a signed proposal, the vendor certifies that the company does not discriminate against any employee or applicant for employment because of race, religion, color, sex, or national origin, and certifies that the company complies with equal employment opportunity regulations.

ADVERTISING:

The vendor shall not advertise or publish, without the College's prior consent, the fact that the College has entered into this contract, except to the extent necessary to comply with proper requests for information from an authorized representative of the federal, state, or local government.

WITHDRAWAL or MODIFICATION of BID:

1. Subject to the restrictions discussed below, Victoria College will consider a written request from any bidder that the bidder be allowed to withdraw any bid submitted, but only in its entirety, and only until the due date and time for bid submission as stated in the Notice of Invitation to Bid included with this Bid Invitation. A representative of the bidding entity who is authorized to enter into contracts on behalf of the bidding entity must manually sign any request for the withdrawal of any bid in ink, and the person signing the request must indicate his/her title along with his/her signature. No bid may be withdrawn after the date and time that bids are due as specified in the Notice of Invitation to Bid. Only bids that have been submitted consistent with the instruction relating to packaging and labeling of the bid will be considered for withdrawal. If there is any question in the mind of the management or staff of Victoria College regarding the identity of the bid or the identity of the bidder relating to any request for the withdrawal of any bid, Victoria College will refuse to allow the withdrawal of the bid. Withdrawal of any bid allowed by Victoria College will require the completion and signature of a written receipt by the bidder's representative satisfactory to the management or staff of Victoria College before the bid will be released. The decision of the management or staff of Victoria College relating to any matters concerning bid withdrawal will be final.
2. If a bidder requests to withdraw a bid and Victoria College allows the withdrawal of the bid, the bidder may resubmit the bid, or submit a new bid, up until the due date and time for bid submission as stated in the Notice of Invitation to Bid included with this bid invitation, provided any new submission meets all the qualifications of bid submission included in these Proposal Terms and Conditions.
3. All bids in the possession of Victoria College at the time bids are due shall be deemed final, conclusive, and irrevocable, and no bid shall be subject to withdrawal, amendment, or correction after the due date and time for bid submission as stated in the Notice of Invitation to Bid included with this bid invitation.
4. Victoria College will not allow any vendor to increase any cost once the bid has been awarded, regardless of circumstances. A vendor will have the right to withdraw an awarded bid, if the quoted cost will constitute a hardship to the vendor. If this situation occurs, the College will re-bid the awarded bid.

PRICE QUOTATIONS:

1. Bid prices may not be withdrawn for a period of 30 days from bid opening date.
2. Bid unit price on quantity specified, extend, and show total. The unit price shall always govern.
3. Texas law states businesses operating outside of Texas must state a percentage cost added to a bid, if the state will reciprocate a percentage increase in a Texas bid. **Texas Codes Annotated, Government Code, Title 10, Section 2252.003.**

PRICING GUARANTEES:

The College's fiscal year is September 1, 2024 through August 31, 2025. The guaranteed date for prices must be within that time period.

GENERAL CONDITIONS:

1. You are notified that although the College is required to submit purchases of all contracts of \$10,000 to competitive bidding, it is not required to accept the lowest bid. In such purchasing the lowest bid may be rejected if the Board of Trustees, in the exercise of its best judgment, feels that the bid of one other than the low bidder will best serve the interest of the College.
2. Victoria College reserves the right to accept or reject any or all quotations and/or bids by item or in its entirety and to waive all formalities. This inquiry implies no obligation on the part of the buyer, nor does the buyer's silence imply any acceptance or rejection of any quotation offer.

PURCHASE ORDER:

1. A purchase order will be generated by Victoria College to the successful bidder(s). The purchase order number must appear on all itemized invoices and packing slips.
2. The College shall not be responsible for any goods delivered or services performed without its purchase order, signed by an authorized representative.

SILENCE OF SPECIFICATIONS:

The apparent silence of these specifications as to any detail or not to the apparent omission from it of a detailed description concerning any point, shall be regarded as meaning that only the best commercial practices are to prevail. All interpretations of these specifications shall be made based on this statement.

REMEDIES FOR NON- PERFORMANCE OF CONTRACT, AND TERMINATION OF CONTRACT:

1. If the vendor cannot comply with the terms and conditions in fulfilling its contract as anticipated, the vendor must supply the same products or services contracted for other sources at the contract price. The vendor's delay in the above will constitute the vendor's material Breach of Contract, whereupon Victoria College may terminate the vendor's contract for cause as provided by the remainder of this section.
2. Except as otherwise provided for within the Proposal Terms and Conditions of this document, this contract may be terminated in whole or in part by either party in the event of substantial failure by the other party to fulfill its obligations under this contract through no fault of the terminating party; provided that no such termination may be implemented unless and until the other party is given (1) at least ten (10) days written notice (delivered by certified mail, return receipt requested) of intent to terminate, and (2) an opportunity for consultation with the terminating party, followed by a reasonable opportunity, of not more than ten (10) working days, to rectify the defects in products or performance, prior to termination.

SUBMITTAL OF BIDS:

The submitted bids must be quoted on the provided forms. Each bid **must** be placed in a separate envelope and properly identified with Bid Invitation Name and Opening Date. Late bids will not be considered.

AWARDING THE BID:

1. The successful bidder will be based upon the eight legal reasons for award found in the section marked "Obligations of the College". In addition, the College will consider:
 - a) the discounted price of the items not mentioned in this package
 - b) the length of time the contract is guaranteed.
2. The College reserves the right to award to multiple or single vendors. If the company does not wish for the bid submitted to be split, the company must state "this bid is all or nothing".
3. The College will award by package total, by line item, or total cost of the bid which ever deems is in the best interest of the College.

NOTIFICATION OF AWARD:

Bid documentation for the purpose of award are presented to the Board of Trustees at a regularly scheduled meeting. The Board of Trustees meets the third Monday of every other month. Once the Board of Trustees has awarded the bid, vendors will be notified by electronic means. The tabulation sheet will be included in all electronic communications.

VENDOR:

Victoria College is seeking one or more vendors as suppliers. The intended purpose is to provide a convenient, cost-effective method for the College to purchase commodities listed in this invitation to bid. This agreement shall not restrict the College from placing orders through existing State of Texas contracts or other sources when in the best interest of the College.

INSTRUCTIONS TO BIDDERS

INSURANCE REQUIREMENTS: The successful bidder shall provide the Owner with a Certificate of Insurance confirming the College has been named an additional insured, for insurance limits, within ten days of the contract.

TYPES	DESCRIPTION	LIMITS
General Liability	General Aggregate	\$1,000,000
Commercial General Liability	Products - Com/or Agg	\$1,000,000
Claims Made Occur	Personal & Adv. Injury	\$1,000,000
Owner's Contractor's Protection	Each Occurrence	\$1,000,000
	Fire Damage (Any one fire)	\$ 50,000
	Med Expense (Any one person)	\$ 5,000
Automobile Liability	Combined Single Limit	\$1,000,000
Any auto	Bodily Injury (per person)	
All Owned Autos	Bodily Injury (per person)	
Scheduled Autos	Property Damage	
Hired Autos		
Non-Owned Autos		
Garage Liability		
Umbrella Form - Excess Liability		
State the limits that your company carries		
Worker's Compensation and Employer's Liability	<u>Statutory</u>	
	Each accident	\$ 500,000
	Disease-Policy Limit	\$ 500,000
	Disease-Each employee	\$ 500,000

The insurance requirements, as previously listed, also apply to any sub-contractor(s) if any work is sublet. The vendor is responsible to ensure that the sub-contractor's meets the minimum insurance requirement limits according to law. The vendor is required to submit with the offer a certificate of insurance for the previously listed insurance requirements.

1. Should any of the described policies be canceled before the expiration date, the issuing company will mail thirty (30) days written notice to the certificate holder, Victoria College.
2. The vendor shall be required to waive all right of subrogation against the College, its officials, employees, and volunteers for losses arising from work performed by the vendor.
3. The vendor shall be required to hold the College harmless from, and indemnify it against, all liability, including attorney's fees, which may arise from and accrue directly from the performance of the work or any obligation of the vendor or failure of the vendor to perform any work or obligation provided for in this agreement.
4. The selected vendor will be required to supply an insurance certificate naming the College as an additional insured.
5. The College retains the right to approval for insurance coverage.

INDEMNIFICATION REQUIREMENTS: The Contractor shall indemnify and hold harmless Victoria College from and against all claims and actions, and all expenses incidental to such claims or actions, based upon or arising out of damage to property or injuries to persons or other tortuous acts caused or contributed to by Contractor or anyone acting under his direction or control or in his behalf in the course of his performance under this contract, provided the contractor's aforesaid indemnity and hold harmless agreement shall not be applicable to any liability based upon the sole negligence of the Owner.

CANCELLATION: If the service is determined not satisfactory, in the judgment of the Owner, the Owner reserves the right to cancel the awarded contract upon thirty days prior written notice.

CONTRACT TERM: This contract will be for a twelve-month period. Either party may cancel the contract after a period of thirty (30) days. (See Cancellation Clause)

SECTION 23 05 93 - TESTING, ADJUSTING, AND BALANCING

PART 1 – GENERAL

1.1 SECTION INCLUDES

- A. Testing, adjusting, and balancing of air and hydronic systems.
- B. Measurement of final operating condition of HVAC systems.

1.2 SCOPE OF WORK

A. Responsibility of Mechanical Contractor:

1. Mechanical Contractor shall be responsible for complete system start-up prior to testing, adjusting, and balancing and shall demonstrate operation of each item of mechanical equipment.
2. Motor amp draw shall be checked and adjusted to within 80% of rated amp draw during start-up procedures on all motors. Replace drive packages as necessary to achieve design conditions.
3. Set return air velocity to 500 fpm at each air unit inlet during start-up procedures.
4. Attend pre-balancing conference with testing agency to demonstrate operation of system.
5. Install clean filters in all air units.
6. Verify that systems are complete and operable. Refer to Part 3, Paragraph 3.1A.
7. Cooperate with Testing and Balancing Agency to provide all necessary data on the design and proper application of the system components and furnish all labor and material required to eliminate any deficiencies or malperformance. Resolve all operational deficiencies prior to submission of final TAB report.
8. Install all valves, dampers, sheaves, and miscellaneous adjustment devices in a manner that will leave them accessible and readily adjustable. The TAB Agency may be consulted if there is a questionable arrangement of a control or adjustable device.
9. Cooperate with Commissioning Provider to provide all necessary assistance in demonstration and operation of all HVAC system components. Provide test reports as required by Commissioning Provider for functional performance testing.

B. Responsibility of Testing, Adjusting and Balancing Agency (TAB):

1. During construction, inspect the installation of ductwork, Facility Management System and all other components of the HVAC system. Inspection will cover that part of the work relating to proper arrangement and adequate provisions for the testing and balancing. The inspections shall be performed periodically as the work progresses with a minimum of two inspections as follows:
 - a. When 60% of ductwork is installed in each building.
 - b. When 90% of ductwork is installed in each building.

2. Submit brief written report of each inspection to Owner, Architect, Engineer, and Contractor.
 3. Provide all instruments and equipment required to accomplish necessary testing, adjusting, and balancing and as required by the Engineer to verify performance. All instruments shall be in accurate calibration and shall be calibrated in ranges that will be expected.
 4. Field verify equipment nameplate electrical data. Do not derive data from submittal documents.
 5. Upon completion of the installation and start-up of the mechanical equipment by the Mechanical Division, the Testing, Adjusting and Balancing Agency will test, adjust, and balance the system components to obtain optimum conditions in each conditioned space in the facility. TAB Agency shall work with the Automatic Temperature Controls Contractor in commissioning the operation of all motorized/balancing duty control dampers. The TAB Agency is advised that deficiencies in HVAC construction are often encountered during final TAB services and Agency should include in bid proposal an amount it deems adequate to compensate for time in identifying the deficiencies to the Mechanical Contractor and awaiting their correction.
 6. As soon as possible or a minimum of fourteen days, or earlier, prior to Owner's Final Inspection as requested by the General Contractor, the Testing and Balancing Agency shall prepare seven copies of the completed Testing and Balancing Report and submit one copy to Owner and six copies to the Architect/Engineer. The reports shall be certified accurate and complete by a principal Engineer of the Agency. Resolve all operational deficiencies prior to submission of final report.
 7. Cooperate with Commissioning Provider to provide all necessary assistance in demonstration and operation of all HVAC system components. Provide test reports as required by Commissioning Provider for functional performance testing.
8. Commissioning:
- a. Refer to Specification Section 20 00 10 for commissioning plan and commissioning requirements.
 - b. Cooperate with Commissioning Provider to provide all necessary assistance in demonstration and operation of all HVAC system components. Provide test reports as required by Commissioning Provider for functional performance testing.

1.3 REFERENCES

- A. AABC - National Standards for Total System Balance.
- B. ADC - Test Code for Grilles, Registers, and Diffusers.
- C. ASHRAE 111 - Practices for Measurement, Testing, Adjusting, and Balancing of Building Heating, Ventilation, Air-conditioning, and Refrigeration Systems.
- D. NEBB – Procedural Standards for Testing, Adjusting, and Balancing of Environmental Systems.
- E. SMACNA - HVAC Systems Testing, Adjusting, and Balancing.

1.4 SUBMITTALS

A. Section 23 05 05 – Submittal Procedures.

1. Submit name of adjusting and balancing agency for approval within 30 days after award of Contract.
2. Field Reports: Indicate deficiencies in systems that would prevent proper testing, adjusting, and balancing of systems and equipment to achieve specified performance.
3. Prior to commencing work, submit report forms or outlines indicating adjusting, balancing, and equipment data required.
4. Submit draft copies of report for review prior to final acceptance of Project. Provide final copies for Architect/Engineer and for inclusion in operating and maintenance manuals.
5. Provide reports in 3-ring binder manuals, complete with index page and indexing tabs, with cover identification at front and side. Include set of reduced drawings with air outlets and equipment identified to correspond with data sheets, and indicating thermostat locations.
6. Include detailed procedures, agenda, sample report forms prior to commencing system balance.
7. Test Reports: Indicate data on AABC National Standards for Total System Balance forms, Forms prepared following ASHRAE 111 or NEBB forms.

1.5 PROJECT RECORD DOCUMENTS

A. Section 23 05 05 – Submittal Procedures.

B. Record actual locations of flow measuring stations, balancing valves, and rough setting.

1.6 QUALITY ASSURANCE

A. Perform total system balance in accordance with AABC National Standards for Field Measurement and Instrumentation, Total System Balance or ASHRAE 111 or NEBB Procedural Standards for Testing, Balancing and Adjusting of Environmental Systems.

1.7 QUALIFICATIONS

A. Agency: Company specializing in the testing, adjusting, and balancing of systems specified in this Section with minimum three years documented experience certified by AABC.

B. Perform Work under supervision of AABC Certified Test and Balance Engineer or NEBB Certified Testing, Balancing and Adjusting Supervisor.

1.8 PRE-BALANCING CONFERENCE

A. Convene one (1) week prior to commencing work of this section.

1.9 SEQUENCING

A. Sequence work to commence after completion of systems and schedule completion of work before Substantial Completion of Project.

1.10 DESIGN CONDITIONS

A. The HVAC systems have been designed to maintain the inside conditions indicated below when operating with the outside conditions stated. HVAC systems are intended to operate 24 hours a day, year-round, in either occupied or unoccupied mode as described in Specification 23 09 00 and 23 09 93. Install, test, adjust and balance the systems so that they will produce the inside conditions for design. Mechanical Contractor shall be prepared to provide a suitable test to prove that equipment is producing capacities scheduled.

B. Inside Conditions:

1. Summer: 75 degrees Fahrenheit dry bulb
55% relative humidity

2. Winter: 70 degrees Fahrenheit dry bulb

C. Outside Conditions:

1. Summer: 108 degrees Fahrenheit dry bulb
79 degrees Fahrenheit wet bulb

2. Winter: 30 degrees Fahrenheit dry bulb

PART 2 – PRODUCTS Not Applicable.

PART 3 – EXECUTION

3.1 AGENCIES

A. Precision Air of Texas, Inc.

B. Technical Air Balance, Inc.

C. Engineered Air Balance Co., Inc.

D. D. PHI Service Agency, Inc.

E. Testing Specialties, Inc.

F. Testing & Commissioning Services, LLC.

G. Cleary Zimmerman Engineers, Inc.

H. Other Acceptable Agencies: Section 23 05 00 – Mechanical General Conditions.

3.2 EXAMINATION

A. Verify that systems are complete and operable before commencing work. Ensure the following conditions:

1. Systems are started and operating in a safe and normal condition.

2. Temperature control systems are installed complete and operable.

3. Proper thermal overload protection is in place for electrical equipment.

4. Final filters are clean and in place. If required, install temporary media in addition to final filters.
5. Duct systems are clean of debris.
6. Fans are rotating correctly.
7. Fire and volume dampers are in place and open.
8. Air coil fins are cleaned and combed.
9. Access doors are closed and duct end caps are in place.
10. Air outlets are installed and connected.
11. Duct system leakage is minimized.
12. Hydronic systems are flushed, filled, and vented.
13. Pumps are rotating correctly.
14. Proper strainer baskets are clean and in place.
15. Service and balance valves are open.

B. Submit field reports. Report defects and deficiencies noted during performance of services that prevent system balance.

C. Beginning of work means acceptance of existing conditions.

3.3 PREPARATION

A. Provide instruments required for testing, adjusting, and balancing operations. Make instruments available to Architect/Engineer to facilitate spot checks during testing.

B. Drive assemblies. In the event that the drive assembly requires a change in belts and pulleys, or requires an increase in motor horsepower, it shall be the responsibility of the HVAC Division to:

1. Determine the size of the replacement equipment.
2. Obtain and install the replacement equipment at no additional cost to Owner.

C. Manual volume dampers:

1. In all cases, air volumes shall be adjusted by means of manual dampers in the ductwork, not by integral dampers in the terminal outlets or inlets.
2. Duct damper positions shall be marked with permanent-ink markers or black spray paint after the final setting has been made.

3.4 DUCT AND EQUIPMENT TEST HOLES

A. Temporary Test Holes: Cut or drill in ducts or equipment that will not damage equipment or ductwork. Provide caps with neoprene plugs, threaded plugs, or threaded or twist-on metal caps. All caps must be sealed vapor tight with appropriate silicone or duct sealant.

B. Permanent Test Holes: Factory fabricated, airtight flanged fittings with screw cap. Furnish extended neck fittings to clear insulation where applicable.

C. Double Walled Equipment: Provide caps on both sides of wall.

D. Insulation: TAB Contractor is responsible for repairing any damaged insulation on equipment, ductwork, piping, piping specialties, and the like at completion of TAB work. TAB Contractor shall make repairs in accordance with insulation manufacturer's requirements or subcontract repairs to a company who specializes in insulating.

E. Do not drill holes in outdoor equipment or outdoor ductwork. If test holes are required, consult with Engineer prior to performance of work.

3.5 INSTALLATION TOLERANCES

A. Contractor shall adjust all equipment in accordance with the capacities shown on the drawings, with permissible tolerances as follows:

Supply fans	-5% to +5%
Return	+5% to -5%
Exhaust fans	0% to -5%
Diffusers/supply grilles	-5% to +5%
Return grilles	0% to -5%
Exhaust grilles	0% to -5%
Cooling gpm	0% to +5%

3.6 ADJUSTING

A. Ensure recorded data represents actual measured or observed conditions.

B. Permanently mark settings of valves, dampers, and other adjustment devices allowing settings to be restored. Set and lock memory stops.

C. After adjustment, take measurements to verify balance has not been disrupted or that such disruption has been rectified.

D. Leave systems in proper working order, replacing belt guards, closing access doors, closing doors to electrical switch boxes, and restoring thermostats to specified settings.

E. At final inspection, recheck random selections of data recorded in report. Recheck points or areas as selected and witnessed by the Owner.

F. Check and adjust systems approximately six months after final acceptance and submit report.

3.7 AIR SYSTEM PROCEDURE

A. Adjust air handling and distribution systems to provide required or design supply, return, and exhaust air quantities at site altitude.

B. Make air quantity measurements in ducts by Pitot tube traverse of entire cross-sectional area of duct.

C. Measure air quantities at air inlets and outlets.

D. Adjust distribution system, including supply register and diffuser blade patterns, to obtain uniform space temperatures free from objectionable drafts and noise.

E. Use volume control devices to regulate air quantities only to extent that adjustments do not create objectionable air motion or sound levels. Effect volume control by duct internal devices such as dampers and splitters.

F. Vary total system air quantities by adjustment of fan speeds. Provide drive changes required. Vary branch air quantities by damper regulation.

G. Provide system schematic with required and actual air quantities recorded at each outlet or inlet.

H. Measure static air pressure conditions on air supply units, including filter and coil pressure drops, and total pressure across the fan. Make allowances for 50 percent loading of filters.

I. Adjust outside air automatic dampers, outside air, return air, and exhaust dampers for design conditions.

J. Measure temperature conditions across outside air, return air, and exhaust dampers to check leakage.

K. Where modulating dampers are provided, take measurements and balance at extreme conditions. Balance variable volume systems at maximum air flow rate, full cooling, and at minimum air flow rate, full heating.

L. For variable air volume system powered units set volume controller to air flow setting indicated. Confirm connections properly made and confirm proper operation for automatic variable air volume temperature control.

M. Verify building barometric relief dampers are adjusted to maintain building pressure between 0.08-0.1" w.c.

3.8 WATER SYSTEM PROCEDURE

A. Adjust water systems to provide required or design quantities.

B. Use calibrated Venturi tubes, orifices, or other metered fittings and pressure gages to determine flow rates for system balance. Where flow metering devices are not installed, base flow balance on temperature difference across various heat transfer elements in the system.

C. Adjust systems to provide specified pressure drops and flows through heat transfer elements prior to thermal testing. Perform balancing by measurement of temperature differential in conjunction with air balancing.

D. Effect system balance with automatic control valves fully open to heat transfer elements.

E. Effect adjustment of water distribution systems by means of balancing cocks, valves, and fittings. Do not use service or shut-off valves for balancing unless indexed for balance point.

F. Where available pump capacity is less than total flow requirements or individual system parts, full flow in one part may be simulated by temporary restriction of flow to other parts.

3.9 SCHEDULES

A. Equipment Requiring Testing, Adjusting, and Balancing:

1. HVAC Pumps.
2. Water Chillers.
3. Air Coils.

4. Air Handling Units.
5. Blower Coil Units.
6. Fans.
7. Air Filters.
8. Air Inlets and Outlets.
9. Heat Exchangers.
10. VAV Terminal Units.
11. Packaged Rooftop Units.

3.10 EXAMPLE REPORT FORMS

A. Title Page:

1. Name of Testing, Adjusting, and Balancing Agency.
2. Address of Testing, Adjusting, and Balancing Agency.
3. Telephone number of Testing, Adjusting, and Balancing Agency.
4. Project name.
5. Project location.
6. Project Architect.
7. Project Engineer.
8. Project Contractor.
9. Report date.

B. Summary Comments:

1. Design versus final performance.
2. Notable characteristics of system.
3. Description of systems operation sequence.
4. Summary of outdoor air and exhaust flows to indicate amount of building pressurization.
5. Nomenclature used throughout report.
6. Test conditions.

C. Instrument List:

1. Instrument.
2. Manufacturer.
3. Model number.
4. Serial number.
5. Range.
6. Calibration date.

D. Electric Motors:

1. Manufacturer.
2. Model/Frame.
3. HP/BHP.
4. Phase, voltage, amperage; nameplate, actual, no load.
5. RPM.
6. Service factor.
7. Starter size, rating, heater elements.
8. Sheave Make/Size/Bore.

E. V-Belt Drive:

1. Identification/location.
2. Required driven RPM.
3. Driven sheave, diameter, and RPM.
4. Belt, size, and quantity.
5. Motor sheave diameter and RPM.
6. Center to center distance, maximum, minimum, and actual.

F. Pump Data:

1. Identification/number.
2. Manufacturer/Size/model.
3. Impeller Size
4. Service.
5. Design flow rate, pressure drop, BHP.
6. Actual flow rate, pressure drop, BHP.
7. Discharge pressure.
8. Suction pressure.
9. Total operating dynamic head pressure.
10. Shut off, discharge and suction pressures.
11. Shut off, total head pressure.

G. Air Cooled Chillers:

1. Identification/number.
2. Manufacturer.
3. Capacity.
4. Model number.
5. Serial number.
6. Evaporator entering and leaving water temperatures, design and actual.
7. Evaporator pressure drop, design and actual.
8. Evaporator water flow rate, design and actual.
9. Entering DB air temperature, design and actual.
10. Leaving DB air temperature, actual.

H. Hydronic Coil Data:

1. Identification/number.
2. Location.
3. Service.
4. Manufacturer.
5. Air flow rate, design and actual.
6. Entering air dry bulb DB and wet bulb WB temperatures, design and actual.
7. Leaving air dry bulb DB temperature, design and actual.
8. Water flow rate, design and actual.
9. Water pressure drop, design and actual.
10. Entering and Leaving water temperatures, design and actual.
11. Air pressure drop, design and actual.

I. Electric Resistance Heater:

1. Manufacturer.
2. Identification/number.
3. Location.
4. Model number.

5. Design capacity kW.
6. Number of stages.
7. Phase, voltage, amperage.
8. Test voltage (each phase).
9. Test amperage (each phase).
10. Air flow, specified and actual.
11. Entering and leaving air dry bulb DB temperatures, specified and actual.

J. Air Moving Equipment:

1. Location.
2. Manufacturer.
3. Model number.
4. Serial number.
5. Arrangement/Class/Discharge.
6. Supply air flow rate, specified and actual.
7. Return air flow rate, specified and actual.
8. Outside air flow rate, specified and actual.
9. Total static pressure (total external), specified and actual.
10. Inlet pressure.
11. Discharge pressure.
12. Sheave Make/Size/Bore.
13. Number of Belts/Make/Size.
14. Fan RPM.

K. Return Air/Outside Air Data:

1. Identification/location.
2. Total air flow rate, design and actual.
3. Return air flow rate, design and actual.
4. Outside air flow rate, design and actual.
5. Return and outside air temperatures.
6. Mixed air temperature, actual and design.
7. Design and actual outside/return air ratio.

L. Exhaust Fan Data:

1. Location.
2. Manufacturer.
3. Model number.
4. Serial number.
5. Air flow rate, specified and actual.
6. Total static pressure (total external), specified and actual.
7. Inlet and discharge pressures.
8. Sheave Make/Size/Bore.
9. Number of Belts/Make/Size.
10. Fan RPM.
11. Motor voltage and current draw, name plate and actual.

M. Duct Traverse:

1. Location.
2. Test instrument used.
3. System zone/branch.
4. Duct size (I.D.) and area.
5. Actual air velocity readings in grid form to represent location in duct.

6. Actual average air velocity.
7. Design and actual air flow rate.
8. Duct static pressure.
9. Air dry bulb temperature.
10. Air correction factor.

N. Flow Measuring Station:

1. Identification/number.
2. Location.
3. Size.
4. Manufacturer.
5. Model number.
6. Serial number.
7. Design flow rate.
8. Design pressure drop.
9. Actual/final pressure drop.
10. Actual/final flow rate.
11. Station calibrated setting.

O. Air Distribution Test Sheet:

1. Air terminal number.
2. Room number/location.
3. Terminal type and size.
4. Area factor.
5. Design velocity and air flow rate.
6. Test (final) velocity.
7. Test (final) air flow.
8. Percent of design air flow.

P. Air Inlets and Outlets:

1. System designation.
2. Inlet or outlet number and area served.
3. Size and type.
4. Design and final air volumes.

Q. VAV Terminal Unit – Fan Powered:

1. Terminal unit designation.
2. Room number/location.
3. Terminal type and size.
4. DDC address.
5. Fan motor horsepower.
6. Motor amps, rated and actual.
7. Design maximum and actual primary cooling air flow rate.
8. Minimum design and actual primary air flow rate.
9. Total static pressure (total external), specified and actual.
10. Terminal inlet and discharge pressures.
11. DDC flow correction / calibration factors.
12. Electric Heating:
 - a. Design and actual fan heating air flow rate.
 - b. Design and actual total heating air flow rate.
 - c. Design and actual heat capacity kW.
 - d. Number of stages.

- e. Phase, voltage, amperage.
- f. Test voltage (each phase).
- g. Test amperage (each phase).
- h. Entering and leaving air dry bulb DB temperatures, specified and actual.

R. VAV Terminal Unit – Non-Fan Powered:

1. Terminal unit designation.
2. Room number/location.
3. Terminal type and size.
4. DDC address.
5. Design maximum and actual primary cooling air flow rate.
6. Minimum design and actual primary air flow rate.
7. Total static pressure (total external), specified and actual.
8. Terminal inlet and discharge pressures.
9. DDC flow correction / calibration factors.
10. Electric Heating:
 - a. Design and actual total heating air flow rate.
 - b. Design and actual heat capacity kW.
 - c. Number of stages.
 - d. Phase, voltage, amperage.
 - e. Test voltage (each phase).
 - f. Test amperage (each phase).
 - g. Entering and leaving air dry bulb DB temperatures, specified and actual.

S. Barometric Pressure Relief Dampers:

1. Installed damper size.
2. Design static pressure relief setpoint.
3. Actual final adjusted differential pressure relief setpoint.

T. Packaged Rooftop Unit:

1. Identification/number.
2. Location.
3. Manufacturer.
4. Model number.
5. Serial number.
6. Condensing Section Data:
 - a. Entering air dry bulb DB temperature, design and actual.
 - b. Leaving air dry bulb temperature, actual.
 - c. Number of compressors.
7. Direct Expansion Evaporator Coil Data:
 - a. Air flow rate, design and actual.
 - b. Entering air dry bulb DB and wet bulb WB temperatures, design and actual.
 - c. Leaving air dry bulb DB temperature, design and actual.
 - d. Saturated suction temperature, design and actual.
 - e. Air pressure drop, design and actual.
8. Natural Gas Heater:
 - a. Design capacity.
 - b. Number of stages.
 - c. Air flow rate, specified and actual.
 - d. Entering and leaving air dry bulb DB temperatures, specified and actual.
 - e. Manufacture's recommended and actual burner manifold gas pressure.

9. Supply Fan:

- a. Arrangement/Class/Discharge.
- b. Air flow rate, specified and actual at each schedule stage.
- c. Return air flow rate, specified and actual.
- d. Outside air flow rate, specified and actual.
- e. Total static pressure (total external), specified and actual.
- f. Inlet and discharge air pressure.
- g. Sheave Make/Size/Bore.
- h. Number of Belts/Make/Size.
- i. Fan RPM.

END OF SECTION 23 05 93