

**REQUEST FOR MISSOURI DEPARTMENT OF TRANSPORTATION
 BID (RFB) FORM GENERAL SERVICES
 P.O. BOX 270
 JEFFERSON CITY, MO 65102**

REQUEST NO.	9-120307TV
DATE	February 23, 2012

SEALED BIDS, SUBJECT TO THE CONDITIONS ON ALL PAGES OF THIS RFB WILL BE RECEIVED AT THIS OFFICE UNTIL

2:00 PM LOCAL TIME: March 7, 2012

AND THEN PUBLICLY OPENED AND READ FOR FURNISHING THE FOLLOWING SUPPLIES OR SERVICES. SIGN AND RETURN BEFORE TIME SET FOR OPENING.

**BIDS TO BE BASED F.O.B.
 MISSOURI DEPARTMENT OF TRANSPORTATION**

Macon, MO

BUYER: Tom Veasman **EMAIL:** tom.veasman@modot.mo.gov

BUYER TELEPHONE: 573-522-4404

The purpose of this Request For Bids (RFB) is to accept bids for the purchase and installation of the HVAC system at the MoDOT facility on Route 63, three miles north of Route 36, Macon County, Macon MO to include three residential furnaces, three air conditioning condensers, one PTAC unit, insulated duct work and related items for a complete and functional system. The project described as "Northeast District Significant Presence HVAC" shall be completed according to project drawings and specifications. The pricing being solicited under this RFB is for bids to be rendered to the Missouri Highways and Transportation Commission (hereinafter, "MHTC" or "Commission"), acting by and through its operating arm, the Missouri Department of Transportation (hereinafter, "MoDOT").

Notice to Contractors

This Request For Bid seeks bids from qualified organizations to purchase and install the HVAC system. MoDOT will receive bids at the following mailing address: P.O. Box 270, Jefferson City, MO 65102-0270, or hand-delivered in a sealed envelope to the following physical address: General Services Procurement at 830 MoDOT Drive, Jefferson City, MO 65109 until 2:00 p.m., March 7, 2012. Bid forms and information may be obtained by contacting Tom Veasman at 573-522-4404, tom.veasman@modot.mo.gov, or electronically download them at no charge from http://modot.mo.gov/business/contractor_resources/FacilitiesConstructionandMaintenance.htm. Prevailing wage as established by the Missouri Department of Labor and Industrial Relations shall apply. Bid securities in the amount of 5% of the bid will be required to accompany bids. Bids must be made on forms provided by the Commission. The Commission reserves the right to reject any or all bids and to waive irregularity in the bids and the bidding. No bid may be amended or withdrawn after the bid is opened.

Written Questions: All written questions must be addressed to Tom Veasman no later than 2:00 p.m., Local Time, Tuesday, February 28, 2012 at the following mailing address: Missouri Dept. of Transportation, General Services Procurement Unit, P.O. Box 270, Jefferson City, MO 65102-0270 or by e-mail to tom.veasman@modot.mo.gov. Any questions received after this deadline will not be accepted. MoDOT may issue an addendum and post the responses to all questions on-line for vendors to retrieve. Responses to the questions will be posted on MoDOT's website at:

http://modot.mo.gov/business/contractor_resources/FacilitiesConstructionandMaintenance.htm

in the form of a written addendum. It is anticipated this addendum will be issued on February 29, 2012. It is the sole responsibility of the Offeror to check for any and all addendums throughout the Bid process.

(See Attached for Terms, Conditions, and Instructions)

In compliance with the above Request For Bid, and subject to all conditions thereof, the undersigned bidder agrees to furnish and deliver any or all the items on which prices were bid.

"EXCESSIVE UNEMPLOYMENT IS IN EFFECT"

During times of high unemployment, state law permits the Department's Division of Labor Standards to declare that excessive unemployment is in effect, allowing only workers from certain states to work on the Missouri's public works projects. Public works projects are construction projects funded wholly or partially from public funds, or are projects that benefit the public such as but not limited to schools, parks, fire houses, and government buildings. The excessive unemployment law does not apply to projects funded in part by Federal Funds.

Restrictive states have laws in place restricting Missouri workers to work on their public works projects. Workers from these states are also not allowed to work on Missouri's public works projects.

Only Missouri laborers and laborers from nonrestrictive states are allowed by law to be employed on Missouri's public works projects when the unemployment rate exceeds **5 percent** for two consecutive months. (**See Sections 290.550 through 290.580 RSMo**). To file a complaint against a contractor for employing a worker from one of the restrictive states below on a Missouri public works project, submit the **complaint form** online for the Division to investigate.

Restrictive states- workers from these states are **NOT** allowed to be employed on Missouri public works projects: Alaska, Arizona, California, Colorado, Connecticut, Delaware, District of Columbia, Florida, Idaho, Illinois, Maine, Massachusetts, Mississippi, Montana, Nevada, New Jersey, North Dakota, South Dakota, and the U.S. Virgin Islands, West Virginia and Wyoming.

Non-Restrictive States- workers from these states are allowed to be employed on Missouri public works projects: Alabama, Arkansas, Georgia, Hawaii, Indiana, Iowa, Kansas, Kentucky, Louisiana, Maryland, Michigan, Minnesota, Nebraska, New Hampshire, New Mexico, New York, North Carolina, Ohio, Oklahoma, Oregon, Pennsylvania, Rhode Island, South Carolina, Tennessee, Texas, Utah, Vermont, Virginia, Washington and Wisconsin.

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1. BID INSTRUCTIONS

- A. Bids must be completed on the forms provided herein, properly signed and with all items filled out. Do not change the wording of the bid form and do not add words to the bid form. Unauthorized conditions, limitations or provisions attached to the bid will be cause for rejection of the bid.
- B. No telegraphic bid or telegraphic modification of a bid will be considered. No bids received after the time fixed for receiving them will be considered. Late bids will be returned to the bidder unopened.
- C. Address bids to the Missouri Department of Transportation, and deliver to the address given in the Request for Bid, on or before the day and hour set for opening the bids. Enclose each bid in a sealed envelope bearing the title of the Work, the name of the bidder, and the date and hour of the bid opening. Submit only the original signed copy of the bid. It is the sole responsibility of the bidder to see that the bid is received on time.

2. BONDS

- A. Each proposal shall be accompanied by a Bid Bond, Certified Check, Cashier's Check or Bank Money Order payable to the Director of Revenue – Credit State Road Fund for an amount equal to Five Percent (5%) of the amount of the BID submitted. This is to act as a guarantee that the bidder, if awarded the contract, will furnish an acceptable performance and payment bond (Contract Bond) or a cashier's check, a bank money order or a certified check made payable to "Director of Revenue – Credit State Road Fund" in an amount equal to One Hundred (100%) of the contract price.
- B. If a BID BOND is used (in lieu of a certified check, cashier's check, or bank money order), it must be in the form provided and executed by the bidder as principal and by a surety company authorized to do business in the State of Missouri as surety. The agent executing the same on behalf of the surety company must attach a current Power of Attorney setting forth his authority to execute the bond involved.
- C. Certified Checks, Cashier's Checks or Bank Money Orders of unsuccessful bidders will be returned as soon as the award is made. The checks or bank money orders of the successful bidder(s) will be retained until the contract is executed and a satisfactory Performance and Payment (Contract Bond) is furnished. Bid Bonds will not be returned except on specific request of the bidder.
- D. Failure to execute the contract or to file an acceptable contract bond within 15 days after the unexecuted contract has been mailed to the bidder will be just cause for the cancellation of the award and the forfeiture of the bid guaranty. A bidder failing to file an acceptable bid or contract bond from an approved surety or failing to execute the contract within the time provided resulting in a cancellation of the award to that bidder, disqualifies that bidder, and any other firm having common ownership or control with that bidder, from performing any work on the Commission project or projects that are the subject of that bid, as a prime contractor, a subcontractor or a supplier.

3. INVOICING AND PAYMENT

- A. Each invoice should be itemized in accordance with items listed on the contract in accordance with Section 01019, Contract Requirements, Applications for Payment provisions. Failure to comply with this requirement may delay processing of invoices for payment.
- B. Unless otherwise provided for in the solicitation documents, payment for all equipment, supplies, and/or services required herein shall be made in arrears. The Commission shall not make any advance deposits.
- C. The Commission assumes no obligation for equipment, supplies, and/or services shipped or provided in excess of the quantity ordered. Any authorized quantity is subject to the Commission's rejection and shall be returned at the Contractor's expense.
- D. The Commission reserves the right to purchase goods and services using the state-purchasing card.

4. EXAMINATION OF DOCUMENTS AND SITE OF WORK

- A. Before submitting a bid, each bidder shall examine the Drawings carefully, read the Specifications and all other proposed Contract Documents, and visit the site of the work. Each bidder shall fully inform themselves, prior to bidding, as to existing conditions and limitations under which the Work is to be performed and shall include in his bid a sum to cover the cost of items necessary to perform the Work, as set forth in the proposed Contract Documents. No allowance will be made to a bidder because of lack of such examination or knowledge. The submission of a bid will be considered conclusive evidence that the bidder has made such examination.
- B. The contract price shall include any necessary permits and licenses required by law incidental to the work. Local ordinances requiring building permits are not applicable to the state. Contractor will comply with local laws involving safety in the prosecution of the work.

5. INTERPRETATION

No oral interpretations will be made to any bidder as to the meaning of the plans and specifications or the acceptability of alternate products, materials, form or type of construction. Every request for interpretation shall be made in writing and submitted with all supporting documents not less than eight (8) days before opening of bids. The request shall be sent directly to the Buyer of Record. Every interpretation made to a bidder will be in the form of an addendum and will be sent as promptly as is practicable to all persons to whom plans and specifications have been issued. All such addenda shall become part of the contract documents.

6. PROOF OF COMPETENCY OF BIDDER

A bidder may be required to furnish evidence, satisfactory to the Commission, that he and his proposed subcontractor(s) have sufficient means and experience in the types of work called for to assure completion of the Contract in a satisfactory manner.

7. WITHDRAWAL OF BIDS

After the bid opening, a vendor may be permitted to withdraw a bid prior to award at the sole discretion of the division if there is a verifiable error in the bid and enforcement of the bid would impose an unconscionable hardship on the vendor. This withdrawal will be considered only after receipt of a written request and supporting documentation from the vendor. Withdrawal shall be the vendor's sole remedy for an error other than an obvious clerical error. Withdrawal of a bid may result in forfeiture of the bid/proposal bond.

8. AWARD OR REJECTION OF BIDS

The Contract, if awarded, will be made on an **“All or None”** basis using the **“lowest and best”** principle of **award**, subject to the Commission's right to reject any or all bids and to waive informality and irregularity in the bids and in the bidding.

9. SUBMITTALS

Review of Submittals. The Architect/Engineer/Designer review of submittals is only for the limited purpose of checking for conformance with information given and seeing if they conform to design intent. The General Services Facility Operations Supervisor is not responsible for determining the accuracy of measurements and completeness of details, for verifying quantities, or for checking fabrication or installation procedures. The General Services Facility Operations Supervisor's review does not relieve the contractor of his or her responsibilities under the contract documents. The submittal process shall be carried out as outlined in Section 01300, Submittal Requirements.

10. WORK QUALITY

- A. Inspection of Work. The General Services Facility Operations Supervisor or designated representative shall be permitted to inspect all work, materials, payrolls, records of personnel, invoices of materials, and other data and records relating to the work. If requested by the General Services-Facility Operations Supervisor or designated

representative, the contractor shall at any time before final acceptance of the work uncovers any portion of the finished work as directed for inspection. After examination, the contractor shall restore said portions of the work to the standards required by the contract. Should the work thus exposed and examined prove acceptable, the actual cost of uncovering, removing and replacing shall be paid by the Commission. Should the work so exposed and examined prove unacceptable, the uncovering, removing and replacing shall be at the expense of the contractor.

- B. Defective Work. All work which has been rejected shall be remedied, or if necessary, removed and replaced in an acceptable manner by the contractor at its expense. If the contractor fails to remedy or replace such defective work immediately after receiving written notice from the General Services-Facility Operations Supervisor or designated representative, the Commission may employ labor to correct the defective work, and the cost incurred in making such corrections shall be deducted from the payment due or to become due the contractor under this contract.
- C. Contractor will provide a one-year warranty for parts and labor on all building material, and equipment or a standard manufacturer's warranty whichever is greater. All warranties, including extended service agreements shall begin on the date of Final Acceptance of this project.
- D. Contractor's Responsibility for Work. Until the General Services-Facility Operations Supervisor or designated representative, accepts the work, it shall be in the custody and under the charge and care of the contractor. Contractor shall rebuild, repair, restore or make good at its own expense any lost or stolen Commission-owned material and all injuries or damages to any portion of the work caused by action of the elements or from any other reason before its completion and final acceptance. Issuance of a payment estimate on any part of the work done will not be considered as final acceptance of any work completed up to that time.
- E. Preservation of Utilities and Monuments. The contractor shall be responsible for the preservation of all public and private utilities, wires, lines, pipes, poles, cables, and conduit at the site of the work and shall use every precaution necessary to prevent damage or injury thereto. The contractor shall not disturb or damage any land monument or property landmark until an authorized agent has witnessed or otherwise referenced, their location and shall not remove them until directed by General Services Facilities Manager.
- F. Cooperation with Other Contractors. The contractor shall arrange its work so as not to interfere with the operations of other contractors of the Commission which might be engaged in performing adjacent or nearby work. Whenever work being done by other contractors is contiguous or related to the work involved in this contract, the respective rights of the various contractors will be determined by the General Services-Facility Operations Supervisor or designated representative in order to secure the completion of the work under all contracts in general harmony.
- G. The contractor will be required to remove all debris from the Commission's property.
- H. Temporary Suspension of Work. The General Services-Facility Operations Supervisor or designated representative shall have authority to suspend work, wholly or in part, for such period or periods of time as he may deem necessary when weather or other conditions are such that in the opinion of the General Services-Facility Operations Supervisor or designated representative the work may be done at a later time with advantage to the Commission or for failure on the part of the contractor to comply with any of the provisions of the contract. The contractor may suspend work for reasonable cause with written approval of the General Services-Facility Operations Supervisor or designated representative. Liquidated damages shall not accrue during the period in which work is suspended with the approval of the General Services-Facility Operations Supervisor or designated representative, however, if the suspension is because of the contractor's failure to comply to any of the provisions of the contract, the contractor shall not be entitled to an extension of completion time nor to a waiver of liquidated damages. In the event work is suspended, the contractor shall store all materials in a manner that will protect them from damage, and shall take every precaution to prevent damage or deterioration of, the portions of the work completed. If work has been discontinued for any reason, the contractor shall give the General Services-Facility Operations Supervisor or designated representative written notice at least forty-eight (48) hours before resuming operations.

11. CHANGE ORDERS

- A. General. All departures from the plans and specifications will be considered unauthorized unless, before proceeding with the work, the contractor has a delivered change order, signed by the General Services-Facility Operations Supervisor or designated representative, authorizing and directing such changes or departures. All unauthorized work shall be at the contractor's expense and the General Services-Facility Operations Supervisor or designated representative may order such unauthorized work removed and replaced at the contractor's expense.
- B. Overhead and Profit on Change Orders. The percentages for overhead and profit charged on Change Orders and Field Work Authorizations shall be negotiated and may vary according to the nature, extent and complexity of the work involved. However, the overhead and profit for the contractor or subcontractor actually performing the work shall not exceed 15%. When one or more tiers of subcontractors are used, in no event shall any contractor or subcontractor receive as overhead and profit more than 7% of the cost of the work performed by any of his subcontractors. In no case shall the total overhead and profit paid by the owner on any change order exceed twenty five percent (25%) of the cost of materials, labor and equipment necessary to put the change order work in place.
- C. Contractor's Procedure for Claims. If the contractor considers additional compensation may be due for work or material not clearly covered in the contract or ordered in writing by the General Services-Facility Operations Supervisor or designated representative as extra work, or if additional compensation may be requested beyond the scope of such provisions, the contractor shall notify the General Services-Facility Operations Supervisor or designated representative in writing of the intention to make a claim before beginning the work in question. If notification is not given and the General Services-Facility Operations Supervisor or designated representative is not afforded proper facilities by the contractor to provide necessary inspection and for keeping strict account of actual cost, the contractor agrees to waive any claims for additional compensation. Notice by the contractor, and the fact that the General Services-Facility Operations Supervisor or designated representative has kept account of the cost shall not be construed as substantiating the validity of the claim. The contractor shall file a written notice of claim for additional compensation in triplicate within 60 days after completing the work in question.
 - a. If the claim is against the Commission, the notice of claim shall be personally delivered, or sent by certified mail to the office of the Secretary of the Commission in Jefferson City, Missouri. All notices of claims shall contain an itemized statement showing completely and fully the items and amounts forming the basis of the claim.
 - b. Any claim or an item of any claim, not included in the notice and statement, or any claim included but not clearly defined and specifically set out and itemized or any claim not filed within the time and in the manner provided, shall be forever waived and shall neither constitute the basis of nor be included in any legal action, counterclaim, set-off, or arbitration.
 - c. All claims filed with Missouri Highway and Transportation Commission's Secretary will be forwarded to the Missouri Department of Transportation's Claims Committee.

12. GENERAL PERFORMANCE

- A. Bidders are encouraged to obtain minority business enterprise (MBE) and women business enterprise (WBE) participation in this work through the use of subcontractors, suppliers, joint ventures, or other arrangements that afford meaningful participation for M/WBEs. Bidders are encouraged to obtain 10% MBE and 5% WBE participation.
- B. MoDOT reserves the right to approve or disapprove appointment of any of the Contractor's employees to provide the required services. MoDOT also reserves the right to request replacement of any of the Contractor's employees. Unless the situation with the Contractor's employee(s) requires immediate replacement, MoDOT will attempt to give the Contractor a minimum of fourteen (14) calendar days after notification to replace any unsatisfactory employee(s).

13. REMEDIES AND RIGHTS

- A. No provision in the contract shall be construed, expressly or implied, as a waiver by the MHTC of any existing or future right and/or remedy available by law in the event of any claim by the MHTC of the Contractor's default or breach of contract.
- B. The Contractor agrees and understands that the contract shall constitute an assignment by the Contractor to the MHTC of all rights, title and interest in and to all causes of action that the Contractor may have under the antitrust laws of the United States or State of Missouri for which causes of action have accrued or will accrue as the result of or in relation to the particular equipment, supplies, and/or services purchased or produced by the Contractor in the fulfillment of the contract with the MHTC.
- C. In the event a Contractor becomes involved in, or is threatened with, litigation with a subcontractor or supplier as a result of such direction, the Contractor may request MoDOT to enter into such litigation to protect the interests of the MHTC, and, in addition, the Contractor may request the United States to enter into such litigation to protect the interests of the United States.

14. INVENTIONS, PATENTS AND COPYRIGHTS

The Contractor shall defend, protect, and hold harmless the MHTC, its officers, agents, and employees against all suits of law or in equity resulting from patent and copyright infringement concerning the Contractor's performance or products produced under the terms of the contract.

15. INSPECTION AND ACCEPTANCE

- A. No equipment, supplies, and/or services received by MoDOT pursuant to a contract shall be deemed accepted until MoDOT has had reasonable opportunity to inspect said equipment, supplies, and/or services.
- B. All equipment, supplies, and/or services which do not comply with the specifications and/or requirements or which are otherwise unacceptable or defective may be rejected. In addition, all equipment, supplies, and/or services which are discovered to be defective or which do not conform to any warranty of the Contractor upon inspection (or at any later time if the defects contained were not reasonably ascertainable upon the initial inspection) may be rejected.
- C. All equipment, supplies, and/or services which do not comply with the specifications and/or requirements or which are otherwise unacceptable or defective may be rejected. In addition, all equipment, supplies, and/or services which are discovered to be defective or which do not conform to any warranty of the Contractor upon inspection (or at any later time if the defects contained were not reasonably ascertainable upon the initial inspection) may be rejected.
- D. The MHTC's right to reject any unacceptable equipment, supplies, and/or services shall not exclude any other legal, equitable or contractual remedies the MHTC may have.

16. DEFINITIONS

Architect/Engineer/Designer: When the term "Architect or Engineer or Designer" is used herein, it shall refer to Larry Carver (573) 526-7934, FAX (573) 526-6948. MoDOT Inspector or Facility Operations Supervisor: When the term "MoDOT Inspector or Facility Operations Supervisor" is used herein, it shall refer to those MoDOT individuals authorized to perform site inspections by Todd Roth, [Facility Operations Supervisor] Northeast District, General Services Division, (573) 231-6593, Owner: When the term "Owner" is used herein, it shall refer to Missouri Department of Transportation (MoDOT).

FINAL CHECKLIST BEFORE SUBMITTING PROPOSAL

- ____1. Complete the Bid Form by filling in the total dollar amount of the bid; listing any addenda which may have been issued; filling in the dollar amount of the bidder's check or Bid Bond, sign the proper signature line, and supply the required information in connection with the signature for the individual bidder, joint adventurer, or corporation.
- ____2. Submit Bid Bond executed by the bidder and surety. Bidders are required to use the Bid Bond furnished by the Commission or attach cashier's check to Bid Bond form. Personal checks are not accepted.
- ____3. Complete Subcontractor section by listing major subcontractor(s) and general supervisor(s), sign as required.
- ____4. Complete Vendor Information and Preference Certification Form.
- ____5. If addendum(s) are issued, they should be signed and attached to the back of the bid package.

BID FORM

To: The Missouri Highway and Transportation Commission
PO Box 270
Jefferson City, Missouri 65102

- 1. The undersigned, having examined the proposed Contract Documents titled: "Northeast District Significant Presence, Route 63, 3 Miles North of Route 36, Macon, Missouri, Macon County" and having visited the site and examined the conditions affecting the work, hereby proposes and agrees to furnish all labor, materials, equipment and everything which may be necessary or incidental thereto, as proposed by said Contract Documents, all to the satisfaction of the General Services-Facility Operations Supervisor or designated representative of the Missouri Department of Transportation and the Missouri Highway and Transportation Commission, for the stipulated sum of:

_____ DOLLARS
(\$ _____)

- 2. The undersigned, acknowledges having examined and being familiar with the contract documents including the drawings, the Instructions to Bidders, General Conditions, Supplementary Conditions and the body of technical specifications.
- 3. The undersigned acknowledges receipt of Addenda number _____ through _____ inclusive.
- 4. Enclosed with this bid is bid security in the amount of not less than 5% of the bidder's proposed Contract Sum, the amount being _____ DOLLARS (\$ _____).

IF AN INDIVIDUAL

Name of individual

Residence address

Social Security Number

Telephone Number

Firm Name, If Any

Address for communications

Signature

IF A PARTNERSHIP

Name of Partnership

(State Name and Residence Address of All Partners)

Partner

Residence Address

Partner

Residence Address

Federal Tax I.D. Number

Address for Communications

Signature of Either Partner

Telephone Number

IF A CORPORATION

Name of Corporation

Incorporated under the laws of the
State of _____

Name and Title of Officer

Corporate License No. _____
(If a corporation organized in a state other than
Missouri, attach Certificate of Authority to do
business in the State of Missouri.)

Signature of officer

Federal Tax I.D. Number

Address for Communications

(ATTEST)

Telephone Number

(SEAL) Secretary

(Each bidder must complete the Bid Form by signing in the proper signature line above and by supplying the required information called for in connection with the signature. The information called for is necessary in the proper preparation of the contract and performance bond.)

SUBCONTRACTOR LISTING

1. For portions of Work equaling or exceeding 1% of the total proposed Contract Sum, the undersigned proposes to use the following subcontractors. Except as otherwise approved by the Owner, the undersigned proposes to perform all other portions of the Work with his own forces.

2. Portion of the Work:	Subcontractor name and address:
_____	_____

_____	_____

_____	_____

USE ADDITIONAL SHEETS
IF REQUIRED

BIDDER:

PROVIDE SIGNATURE
IDENTICAL TO THAT
SHOWN ON THE BID FORM

by _____

BID BOND

KNOW ALL MEN BY THESE PRESENTS, that we

_____, as Principal, and

_____, as Surety,

are held firmly bound unto the State of Missouri (acting by and through the Missouri Highway and Transportation Commission) in the penal sum of

_____ Dollars

(\$_____), to be paid to the State of Missouri, or the Missouri Highway and Transportation Commission, to be credited to the State Road Fund and Principal and Surety binding themselves, their heirs, executors, administrators, successors and assigns, jointly and severally, firmly by these presents.

Sealed with our seals and dated this _____ day of _____, 20_____

THE CONDITION OF THIS OBLIGATION is such that:

WHEREAS, the Principal is submitting herewith a bid to the Missouri Highway and Transportation Commission on

Route(s) _____,

in _____ County(ies), Project(s) _____,

for construction or improvement as set out in said proposal.

NOW THEREFORE, if the Missouri Highway and Transportation Commission shall accept the bid of the Principal, and if said Principal shall properly execute and deliver to the Missouri Highway and Transportation Commission the Contract, Contract Bond, Specifications and evidence of insurance coverage in compliance with the requirements of the Proposal, to the satisfaction of the Missouri Highway and Transportation Commission, then this obligation shall be void and of no effect, otherwise to remain in full force and effect.

In the event the said Principal shall, in the judgment of the Missouri Highway and Transportation Commission, fail to comply with any requirement as set forth in the preceding paragraph, then the State of Missouri, acting through the Missouri Highway and Transportation Commission, shall immediately and forthwith be entitled to recover the fees, and any other expense of recovery.

Principal

Surety

By _____

Attorney in Fact (SEAL)

Attest: (CORPORATE SEAL)

Corporate Secretary

Note: This bond must be executed by the Principal and by a Corporate Surety authorized to conduct surety business in the State of Missouri.

END OF SECTION

01019

CONTRACT REQUIREMENTS

PART 1 GENERAL

1.1 SECTION INCLUDES

- A. Schedule of values.
- B. Application for payment.
- C. Change procedures.
- D. Alternatives.

1.2 RELATED SECTIONS

- A. Section 01600 - Material and Equipment: Product substitutions.

1.3 SCHEDULE OF VALUES

- A. Submit a printed schedule on Contractor's standard form. Electronic media printout will be considered.
- B. Submit Schedule of Values in duplicate within 20 days after date of Owner-Contractor Agreement.
- C. Revise schedule to list approved Change Orders, with each Application For Payment.

1.4 APPLICATIONS FOR PAYMENT

- A. Submit four copies of each application on Contractor's electronic media driven form.
- B. Content and Format: Utilize Schedule of Values for listing items in Application for Payment.
- C. Payment Period: 30 days.
- D. Submit waiver of liens from vendors.
- E. Include an updated construction progress schedule.
- F. Certified payroll records.

1.5 CHANGE PROCEDURES

- A. The Architect/Engineer/Designer may issue a Notice of Change that includes a detailed description of a proposed change with supplementary or revised Drawings and specifications, a change in Contract Time for executing the change with a stipulation of any overtime work required.
- B. The Contractor may propose changes by submitting a request for change to the Architect/Engineer/Designer describing the proposed change and its full effect on the Work. Include a statement describing the reason for the change, the effect on the Contract Sum/Price and Contract Time, and a statement describing the effect on Work by the MoDOT District or other Contractors.
- C. Stipulated Sum/Price Change Order: Based on Notice of Change and Contractor's fixed price quotation or Contractor's request for a Change Order as approved by Architect/Engineer/Designer.

- D. Construction Change Directive: Architect/Engineer/Designer may issue a directive instructing the Contractor to proceed with a change in the Work, for subsequent inclusion in a Change Order. Document will describe changes in the Work, and designate method of determining any change in Contract Sum/Price or Contract Time. Promptly execute the change.
- E. Time and Material Change Order: Submit itemized account and supporting data after completion of change, within time limits indicated in the Conditions of the Contract. Architect/Engineer/Designer will determine the change allowable in Contract Sum/Price and Contract Time as provided in the Contract Documents.
- F. Maintain detailed records of work done on Time and Material basis. Provide full information required for evaluation of proposed changes, and to substantiate costs for changes in the Work.
- G. Execution of Change Orders: Architect/Engineer/Designer will issue Change Orders for signatures of parties as provided in the Conditions of the Contract.

1.6 DEFECT ASSESSMENT

- A. Replace the Work, or portions of the Work, not conforming to specify requirements.
- B. If, in the opinion of the Architect/Engineer/Designer, it is not practical to remove and replace the Work, the Architect/Engineer/Designer will direct an appropriate remedy or adjust payment.

1.7 ALTERNATIVES

- A. Accepted Alternatives will be identified in Owner-Contractor Agreement.

END OF SECTION

01039

COORDINATION AND MEETING REQUIREMENT

PART 1 GENERAL

1.1 SECTION INCLUDES

- A. Coordination and project conditions.
- B. Field engineering.
- C. Preconstruction meeting.
- D. Site mobilization meeting.
- E. Progress meetings.
- F. Preinstallation meetings.
- G. Equipment electrical characteristics and components.
- H. Examination.
- I. Preparation.
- J. Cutting and Patching.
- K. Alteration project procedures.

1.2 COORDINATION AND PROJECT CONDITIONS

- A. Coordinate scheduling, submittals, and Work of the various sections of the Project Manual to ensure efficient and orderly sequence of installation of interdependent construction elements.
- B. Verify utility requirements and characteristics of operating equipment are compatible with building utilities. Coordinate work of various sections having interdependent responsibilities for installing, connecting to and placing in service, such equipment.
- C. Coordinate space requirements, supports, and installation of mechanical and electrical Work, which are indicated diagrammatically on Drawings. Follow routing shown for pipes, ducts, and conduit, as closely as practicable; place runs parallel with lines of building. Utilize spaces efficiently to maximize accessibility for other installations, for maintenance, and for repairs.
- D. In finished areas, except as otherwise indicated, conceal pipes, ducts and wiring within the construction. Coordinate locations of fixtures and outlets with finish elements.
- E. Coordinate completion and clean up of Work of separate sections in preparation for Substantial Completion.
- F. After Owner occupancy of premises, coordinate access to site for correction of defective Work and Work not in accordance with Contract Documents, to minimize disruption of Owner's activities.

1.3 FIELD ENGINEERING

- A. Employ a Land Surveyor registered in the State of Missouri and acceptable to Architect/Engineer/Designer.
- B. Owner will locate and protect survey control and reference points.
- C. Control datum for survey is that established by Owner provided survey.
- D. Verify setbacks and easements; confirm drawing dimensions and elevations.
- E. Provide field engineering services. Establish elevations, lines and levels, utilizing recognized engineering survey practices.

1.4 PRECONSTRUCTION MEETING

- A. Architect/Engineer/Designer will schedule a meeting after Notice of Award.
- B. Attendance Required: District engineer or representative, Architect/Engineer/Designer and Contractor.
- C. Record minutes and distribute copies within 5 days after meeting to participants, with two copies to District Engineer, Architect/Engineer/Designer, participants and those affected by decisions made.

1.5 SITE MOBILIZATION MEETING

- A. Architect/Engineer/Designer will schedule a meeting at the Project site prior to Contractor occupancy.
- B. Architect/Engineer/Designer will record minutes and distributes copies within 5 days after meeting to participants, with two copies to Architect/Engineer/Designer, participants and those affected by decisions made.

1.6 PROGRESS MEETINGS

- A. Schedule and administer meetings throughout progress of the Work at when arranged by Architect/Engineer/Designer.
- B. Architect/Engineer/Designer will make arrangements for meetings, prepare agenda with copies for participants, and preside at meetings.
- C. Attendance Required: Job superintendent, major Subcontractors and suppliers, District engineer representative, Architect/Engineer/Designer, as appropriate to agenda topics for each meeting.
- D. Agenda:
 - 1. Review of Work progress.
 - 2. Field observations, problems, and decisions.
 - 3. Identification of problems, which impede planned progress.
 - 4. Maintenance of progress schedule.
 - 5. Corrective measures to regain projected schedules.
 - 6. Coordination of projected progress.
 - 7. Effect of proposed changes on progress schedule and coordination.
- E. Record minutes and distributes copies within 5 days after meeting to participants and those affected by decisions made.

1.7 PREINSTALLATION MEETING

- A. When required in individual specification sections, convene a pre-installation meeting at the site prior to commencing work of the section.
- B. Notify Architect/Engineer/Designer seven days in advance of meeting date.
- C. Prepare agenda and preside at meeting:
 - 1. Review conditions of installation, preparation and installation procedures.
 - 2. Review coordination with related work.
- D. Record minutes and distributes copies within 5 days after meeting to participants and those affected by decisions made.

PART 2 PRODUCTS

Not used

PART 3 EXECUTION

3.1 CUTTING AND PATCHING

- A. Employ skilled and experienced installer to perform cutting and patching.
- B. Submit written request in advance of cutting or altering elements, which affect:
 - 1. Structural integrity of element.
 - 2. Integrity of weather-exposed or moisture-resistant elements.
 - 3. Work of Owner or separate contractor.
- C. Execute cutting, fitting, and patching to complete Work, and to:
 - 1. Uncover Work to install or correct ill-timed Work.
 - 2. Remove and replace defective and non-conforming Work.
 - 3. Provide openings in elements of Work for penetrations of mechanical and electrical Work.
- D. Cut masonry and concrete materials using masonry saw or core drill.
- E. Fit Work tight to pipes, sleeves, ducts, conduit and other penetrations through surfaces.
- F. Maintain integrity of wall, ceiling, or floor construction; completely seal voids.
- G. Refinish surfaces to match adjacent finishes. For continuous surfaces, refinish to nearest intersection; for an assembly, refinish entire unit.
- H. Identify hazardous substances or conditions exposed during the Work to the Architect/Engineer/Designer for decision or remedy.

3.2 ALTERATION PROJECT PROCEDURES

- A. Materials: As specified in Product sections; match existing Products and work for patching and extending work.
- B. Close openings in exterior surfaces to protect existing work from weather and extremes of temperature and humidity.
- C. When finished surfaces are cut so that a smooth transition with new Work is not possible, terminate existing surface along a straight line at a natural line of division and submit recommendation to Architect/Engineer/Designer for review.
- D. Patch or replace portions of existing surfaces that are damaged, lifted, discolored or showing other imperfections.
- E. Finish surfaces as specified in individual Product sections.

END OF SECTION

01300

SUBMITTAL REQUIREMENTS

PART 1 GENERAL

1.1 SECTION INCLUDES

- A. Submittal procedures.
- B. Construction progress schedules.
- C. Proposed Products list.
- D. Product Data.
- E. Shop Drawings.
- F. Samples.
- G. Design data.
- H. Test reports.
- I. Certificates.
- J. Manufacturer's instructions.
- K. Manufacturer's field reports.
- L. Erection drawings.
- M. Construction photographs.

1.2 RELATED SECTIONS

- A. Section 01300 - Submittals
- B. Section 01400 - Quality Control: Manufacturers' field services and reports.
- C. Section 01700 - Contract Closeout: Contract warranties, bonds, manufacturers' certificates and closeout submittals.

1.3 REFERENCES

- A. AGC Associated General Contractors of America publication "The Use of CPM in Construction - A Manual for General Contractors and the Construction Industry".

1.4 SUBMITTAL PROCEDURES

- A. Transmit each submittal with Architect/Engineer/Designer accepted form.
- B. Identify Project, Contractor, Subcontractor or supplier; pertinent drawing and detail number and specification section number, as appropriate.
- C. Apply Contractor's stamp, signed or initialed certifying that review, approval, verification of Products required, field dimensions, adjacent construction Work and coordination of information is in accordance with the requirements of the Work and Contract Documents.
- D. Schedule submittals to expedite the Project, and deliver to Architect/Engineer/Designer at business address. Coordinate submission of related items.
- E. For each submittal for review, allow 15 days excluding delivery time to and from the contractor.
- F. Identify variations from Contract Documents and Product or system limitations, which may be detrimental to successful performance of the completed Work.
- G. Submittals not requested will not be recognized or processed.

1.5 CONSTRUCTION PROGRESS SCHEDULES

- A. Submit initial schedule in duplicate within 15 days after date established in Notice to Proceed.
- B. Revise and resubmit as required.
- C. Submit revised schedules with each Application for Payment, identifying changes since previous version.
- D. Submit a horizontal bar chart with separate line for each major portion of Work or operation, identifying first workday of each week.

1.6 PROPOSED PRODUCTS LIST

- A. Within 15 days after date of Notice to Proceed, submit list of major products proposed for use, with name of manufacturer, trade name and model number of each product.
- B. For products specified only by reference standards, give manufacturer, trade name, model or catalog designation and reference standards.

1.7 PRODUCT DATA

- A. Product Data For Review:
 - 1. Submitted to Architect/Engineer/Designer for review for the limited purpose of checking for conformance with information given and the design concept expressed in the contract documents.
 - 2. After review, provide copies and distribute in accordance with SUBMITTAL PROCEDURES article above and for record documents purposes described in Section 01700 - CONTRACT CLOSEOUT.
- B. Product Data For Information:
 - 1. Submitted for the Architect/Engineer/Designer's knowledge as contract administrator or for the Owner.
- C. Product Data For Project Closeout:
 - 1. Submitted for the Owner's benefit during and after project completion.
- D. Submit the number of copies, which the Contractor requires, plus two copies that will be retained by the Architect/Engineer/Designer.
- E. Mark each copy to identify applicable products, models, options and other data. Supplement manufacturers' standard data to provide information specific to this Project.
- F. After review distribute in accordance with the Submittal Procedures article above and provide copies for record documents described in Section 01700 - CONTRACT CLOSEOUT.

1.8 SHOP DRAWINGS

- A. Shop Drawings For Review:
 - 1. Submitted to Architect/Engineer/Designer for review for the limited purpose of checking for conformance with information given and the design concept expressed in the contract documents.
 - 2. After review, produce copies and distribute in accordance with SUBMITTAL PROCEDURES article above and for record documents purposes described in Section 01700 - CONTRACT CLOSEOUT.
- B. Shop Drawings For Information:
 - 1. Submitted for the Architect/Engineer/Designer's knowledge as contract administrator or for the Owner.

- C. Shop Drawings For Project Closeout:
 1. Submitted for the Owner's benefit during and after project completion.
- D. Indicate special utility and electrical characteristics, utility connection requirements and location of utility outlets for service for functional equipment and appliances.
- E. Submit in the form of one reproducible transparency and one opaque reproduction.

1.9 SAMPLES

- A. Samples For Review:
 1. Submitted to Architect/Engineer/Designer for review for the limited purpose of checking for conformance with information given and the design concept expressed in the contract documents.
 2. After review, produce duplicates and distribute in accordance with SUBMITTAL PROCEDURES article above and for record documents purposes described in Section 01700 - CONTRACT CLOSEOUT.
- B. Samples For Information:
 1. Submitted for the Architect/Engineer/Designer's knowledge as contract administrator or for the Owner.
- C. Samples For Selection:
 1. Submitted to Architect/Engineer/Designer for aesthetic, color, or finish selection.
 2. Submit samples of finishes for Architect/Engineer/Designer selection.
 3. After review, produce duplicates and distribute in accordance with SUBMITTAL PROCEDURES article above and for record documents purposes described in Section 01700 - CONTRACT CLOSEOUT.

1.10 DESIGN DATA

- A. Submit for the Architect/Engineer/Designer's knowledge as contract administrator or for the Owner.
- B. Submit for information for the limited purpose of assessing conformance with information given and the design concept expressed in the contract documents.

1.11 TEST REPORTS

- A. Submit for the Architect/Engineer/Designer's knowledge as contract administrator or for the Owner.
- B. Submit test reports for information for the limited purpose of assessing conformance with information given and the design concept expressed in the contract documents.

1.12 CERTIFICATES

- A. When specified in individual specification sections, submit certification by the manufacturer, installation/application subcontractor, or the Contractor to Architect/Engineer/Designer, in quantities specified for Product Data.
- B. Indicate material or Product conforms to or exceeds specified requirements. Submit supporting reference data, affidavits and certifications as appropriate.
- C. Certificates may be recent or previous test results on material or Product but must be acceptable to Architect/Engineer/Designer.

1.13 MANUFACTURER'S INSTRUCTIONS

- A. When specified in individual specification sections, submit printed instructions for delivery, storage, assembly, installation, and start-up, adjusting and finishing, to Architect/Engineer/Designer for delivery to owner in quantities specified for Product Data.
- B. Indicate special procedures, perimeter conditions requiring special attention and special environmental criteria required for application or installation.
- C. Refer to Section 01400 - Quality Control, Manufacturers' Field Services article.

1.14 MANUFACTURER'S FIELD REPORTS

- A. Submit reports for the Architect/Engineer/Designer's benefit as contract administrator or for the Owner.
- B. Submit for information for the limited purpose of assessing conformance with information given and the design concept expressed in the contract documents.

1.15 ERECTION DRAWINGS

- A. Submit drawings for the Architect/Engineer/Designer's benefit as contract administrator or for the Owner.
- B. Submit for information for the limited purpose of assessing conformance with information given and the design concept expressed in the contract documents.
- C. Data indicating inappropriate or unacceptable Work may be subject to action by the Architect/Engineer/Designer or Owner.

END OF SECTION

01400

QUALITY CONTROL REQUIREMENTS

PART 1 GENERAL

1.1 SECTION INCLUDES

- A. Quality assurance - control of installation.
- B. Tolerances
- C. References and standards.
- D. Mock-up.
- E. Inspecting and testing laboratory services.
- F. Manufacturers' field services.

1.2 RELATED SECTIONS

- A. Section 01300 - Submittals: Submission of manufacturers' instructions and certificates.
- B. Section 01600 - Material and Equipment: Requirements for material and product quality.
- C. Section 01650 - Starting of Systems.

1.3 QUALITY ASSURANCE - CONTROL OF INSTALLATION

- A. Monitor quality control over suppliers, manufacturers, Products, services, site conditions and workmanship, to produce Work of specified quality.
- B. Comply with manufacturers' instructions, including each step in sequence.
- C. Should manufacturers' instructions conflict with Contract Documents, request clarification from Architect/Engineer/Designer before proceeding.
- D. Comply with specified standards as minimum quality for the Work except where more stringent tolerances, codes or specified requirements indicate higher standards or more precise workmanship.
- E. Perform Work by persons qualified to produce required and specified quality.
- F. Verify that field measurements are as indicated on shop drawings or as instructed by the manufacturer.
- G. Secure Products in place with positive anchorage devices designed and sized to withstand stresses, vibration, physical distortion, or disfigurement.

1.4 TOLERANCES

- A. Monitor fabrication and installation tolerance control of Products to produce acceptable Work. Do not permit tolerances to accumulate.
- B. Comply with manufacturers' tolerances. Should manufacturers' tolerances conflict with Contract Documents, request clarification from Architect/Engineer/Designer before proceeding.
- C. Adjust Products to appropriate dimensions; position before securing Products in place.

1.5 REFERENCES AND STANDARDS

- A. For Products or workmanship specified by association, trade or other consensus standards, comply with requirements of the standard, except when more rigid requirements are specified or are required by applicable codes.

- B. Conform to reference standard by date of issue current on date for receiving bids or date specified in the individual specification sections, except where a specific date is established by code.
- C. Neither the contractual relationships, duties or responsibilities of the parties in Contract nor those of the Architect/Engineer/Designer shall be altered from the Contract Documents by mention or inference otherwise in any reference document.

1.6 TESTING SERVICES

- A. Contractor to provide all testing services as called out in these specifications.
- B. Testing and source quality control may occur on or off the project site. Perform off-site testing as required by the Architect/Engineer/Designer or the Owner.
- C. Testing does not relieve Contractor to perform Work to contract requirements.
- D. Re-testing required because of non-conformance to specified requirements shall be performed by the same MoDOT personnel on instructions by the Architect/Engineer/Designer.

1.7 INSPECTION SERVICES

- A. Owner will employ MoDOT Personnel to perform inspection.
- B. Inspecting may occur on or off the project site. Perform off-site inspecting as required by the Architect/Engineer/Designer or the Owner.
- C. Inspecting does not relieve Contractor to perform Work to contract requirements.

1.8 MANUFACTURERS' FIELD SERVICES

- A. When specified in individual specification sections, require material or Product suppliers or manufacturers to provide qualified staff personnel to observe site conditions, conditions of surfaces and installation, quality of workmanship, start-up of equipment, test, adjust and the balancing of equipment as applicable and to initiate instructions when necessary.
- B. Report observations and site decisions or instructions given to applicators or installers that are supplemental or contrary to manufacturers' written instructions.
- C. Refer to Section 01300 - SUBMITTALS, MANUFACTURERS' FIELD REPORTS article.

PART 2 EXECUTION

2.1 EXAMINATION

- A. Verify that existing site conditions and substrate surfaces are acceptable for subsequent Work. Beginning new Work means acceptance of existing conditions.
- B. Verify that existing substrate is capable of structural support or attachment of new Work being applied or attached.

2.2 PREPARATION

- A. Clean substrate surfaces prior to applying next material or substance.
- B. Seal cracks or openings of substrate prior to applying next material or substance.
- C. Apply manufacturer required or recommended substrate primer, sealer or conditioner prior to applying any new material or substance in contact or bond.

END OF SECTION

01500

CONSTRUCTION FACILITIES AND TEMPORARY CONTROL REQUIREMENTS

PART 1 GENERAL

1.1 SECTION INCLUDES

- A. Temporary Utilities: Electricity, telephone service, facsimile service and sanitary facilities.
- B. Temporary Controls: enclosures and fencing, protection of the Work and water control.
- C. Construction Facilities: progress cleaning and temporary buildings.

1.2 TEMPORARY ELECTRICITY

- A. Cost: By Contractor; pay for temporary power service furnished by MoDOT.

1.3 TELEPHONE SERVICE

- A. Provide, maintain, and pay for telephone service to field office and Architect/Engineer/Designer's field office at time of project mobilization.

1.4 PROTECTION OF INSTALLED WORK

- A. Protect installed Work and provide special protection where specified in individual specification sections.
- B. Provide temporary and removable protection for installed Products. Control activity in immediate work area to prevent damage.
- C. Provide protective coverings at walls, projections, jambs, sills and soffits of openings.
- D. Protect finished floors, stairs, and other surfaces from traffic, dirt, wear, damage or movement of heavy objects, by protecting with durable sheet materials.
- E. Prohibit traffic or storage upon waterproofed or roofed surfaces. If traffic or activity is necessary, obtain recommendations for protection from waterproofing or roofing material manufacturer.
- F. Prohibit traffic from landscaped areas.

1.5 SECURITY

- A. Provide security and facilities to protect Work and existing facilities and Owner's operations from unauthorized entry, vandalism or theft.
- B. Coordinate with Owner's security program.

1.6 ACCESS ROADS

- A. Provide and maintain access to fire hydrants, free of obstructions.
- B. Provide means of removing mud from vehicle wheels before entering streets.
- C. Designated existing on-site roads may be used for construction traffic.

1.7 PROGRESS CLEANING AND WASTE REMOVAL

- A. Maintain areas free of waste materials, debris and rubbish. Maintain site in a clean and orderly condition.
- B. Remove debris and rubbish from pipe chases, plenums, attics, crawl spaces and other closed or remote spaces, prior to enclosing the space.
- C. Broom and vacuum clean interior areas prior to start of surface finishing and continue cleaning to eliminate dust.
- D. Collect and remove waste materials, debris and rubbish from site periodically and dispose off-site.

- E. Open free-fall chutes are not permitted. Terminate closed chutes into appropriate containers with lids.

1.8 FIELD OFFICES AND SHEDS

- A. Office: Weather tight, with lighting, electrical outlets, heating and ventilating equipment and equipped with drawing rack and drawing display table.
- B. Provide space for Project meetings, with table and chairs to accommodate 6 persons.

1.9 REMOVAL OF UTILITIES, FACILITIES, AND CONTROLS

- A. Remove temporary utilities, equipment, facilities and materials prior to Final Application for Payment inspection.
- B. Clean and repair damage caused by installation or use of temporary work.
- C. Restore existing facilities used during construction to original condition. Restore permanent facilities used during construction to specified condition.

PART 2 PRODUCTS

Not Used.

PART 3 EXECUTION

Not Used.

END OF SECTION

01600

MATERIAL AND EQUIPMENT REQUIREMENT

PART 1 GENERAL

1.1 SECTION INCLUDES

- A. Products.
- B. Transportation and handling.
- C. Storage and protection.
- D. Product options.
- E. Substitutions.

1.2 RELATED SECTIONS

- A. Instructions to Bidders: Product options and substitution procedures.
- B. Section 01400 - Quality Control: Product quality monitoring.

1.3 PRODUCTS

- A. Do not use materials and equipment removed from existing premises, except as specifically permitted by the Contract Documents.
- B. Provide interchangeable components of the same manufacture for components being replaced.

1.4 TRANSPORTATION AND HANDLING

- A. Transport and handle Products in accordance with manufacturer's instructions.
- B. Promptly inspect shipments to ensure that Products comply with requirements, quantities are correct and products are undamaged.
- C. Provide equipment and personnel to handle Products by methods to prevent soiling, disfigurement or damage.

1.5 STORAGE AND PROTECTION

- A. Store and protect Products in accordance with manufacturers' instructions.
- B. Store with seals and labels intact and legible.
- C. Store sensitive Products in weather tight, climate controlled, enclosures in an environment favorable to Product.
- D. For exterior storage of fabricated Products, place on sloped supports above ground.
- E. Provide bonded off-site storage and protection when site does not permit on-site storage or protection.
- F. Cover Products subject to deterioration with impervious sheet covering. Provide ventilation to prevent condensation and degradation of Products.
- G. Store loose granular materials on solid flat surfaces in a well-drained area. Prevent mixing with foreign matter.
- H. Provide equipment and personnel to store Products by methods to prevent soiling, disfigurement or damage.

- I. Arrange storage of Products to permit access for inspection. Periodically inspect to verify Products are undamaged and are maintained in acceptable condition.

1.6 PRODUCT OPTIONS

- A. Products Specified by Reference Standards or by Description Only: Any Product meeting those standards or description is acceptable.
- B. Products Specified by Naming One or More Manufacturers: Products of manufacturers named and meeting specifications, no options or substitutions allowed.
- C. Products Specified by Naming One or More Manufacturers with a Provision for Substitutions: Submit a request for substitution for any manufacturer not named in accordance with the following article.

1.7 SUBSTITUTIONS

- A. Architect/Engineer/Designer will consider requests for Substitutions only within 15 days after date established in Notice to Proceed.
- B. Substitutions may be considered when a Product becomes unavailable through no fault of the Contractor.
- C. Document each request with complete data substantiating compliance of proposed Substitution with Contract Documents.
- D. A request constitutes a representation that the Contractor:
 - 1. Has investigated proposed Product and determined that it meets or exceeds the quality level of the specified Product.
 - 2. Will provide the same warranty for the Substitution as for the specified Product.
 - 3. Will coordinate installation and make changes to other Work that may be required for the Work to be complete with no additional cost to Owner.
 - 4. Waives claims for additional costs or time extension that may subsequently become apparent.
 - 5. Will reimburse Owner for review or redesign services associated with re-approval by authorities.
- E. Substitutions will not be considered when they are indicated or implied on shop drawing or product data submittals, without separate written request or when acceptance will require revision to the Contract Documents.
- F. Substitution Submittal Procedure:
 - 1. Submit three copies of request for Substitution for consideration. Limit each request to one proposed Substitution.
 - 2. Submit shop drawings, product data and certified test results attesting to the proposed Product equivalence. Burden of proof is on proposer.
 - 3. The Architect/Engineer/Designer will notify Contractor in writing of decision to accept or reject request.

PART 2 PRODUCTS

Not Used.

PART 3 EXECUTION

Not Used.

END OF SECTION

01650

STARTING OF SYSTEMS REQUIREMENT

PART 1 GENERAL

1.1 SECTION INCLUDES

- A. Starting systems.
- B. Demonstration and instructions.
- C. Testing, adjusting and balancing.

1.2 RELATED SECTIONS

- A. Section 01400 - Quality Control: Manufacturers field reports.
- B. Section 01700 - Contract Closeout: System operation and maintenance data and extra materials.

1.3 STARTING SYSTEMS

- A. Coordinate schedule for start-up of various equipment and systems.
- B. Notify Architect/Engineer/Designer seven days prior to start-up of each item.
- C. Verify that each piece of equipment or system has been checked for proper lubrication, drive rotation, belt tension, and control sequence and for conditions that may cause damage.
- D. Verify tests, meter readings, and specified electrical characteristics agree with those required by the equipment or system manufacturer.
- E. Verify that wiring and support components for equipment are complete and tested.
- F. Execute start-up under supervision of applicable manufacturer's representative or Contractors' personnel in accordance with manufacturers' instructions.
- G. When specified in individual specification Sections, require manufacturer to provide authorized representative to be present at site to inspect, check and approve equipment or system installation prior to start-up and to supervise placing equipment or system in operation.
- H. Submit a written report in accordance with Section 01300 that equipment or system has been properly installed and is functioning correctly.

1.4 DEMONSTRATION AND INSTRUCTIONS

- A. Demonstrate operation and maintenance of Products to Owner's personnel two weeks prior to date of Final Completion.
- B. For equipment or systems requiring seasonal operation, perform demonstration for other season within six months.
- C. Utilize operation and maintenance manuals as basis for instruction. Review contents of manual with Owners' personnel in detail to explain all aspects of operation and maintenance.
- D. Demonstrate start-up, operation, control, adjustment, trouble-shooting, servicing, maintenance and shutdown of each item of equipment at agreed time, at equipment location.

- E. Prepare and insert additional data in operations and maintenance manuals when the need for additional data becomes apparent during instruction.
- F. The amount of time required for instruction on each item of equipment and system that's specified in individual sections.

PART 2 PRODUCTS

Not Used.

PART 3 EXECUTION

Not Used.

END OF SECTION

01700

CONTRACT CLOSEOUT REQUIREMENT

PART 1 GENERAL

1.1 SECTION INCLUDES

- A. Closeout procedures.
- B. Final cleaning.
- C. Adjusting.
- D. Project record documents.
- E. Operation and maintenance data.
- F. Spare parts and maintenance Products.
- G. Warranties.

1.2 RELATED SECTIONS

- A. Section 01500 - Construction Facilities and Temporary Controls: Progress cleaning.
- B. Section 01650 - Starting of Systems: System start-up, testing, adjusting and balancing.

1.3 CLOSEOUT PROCEDURES

- A. Submit written certification that Contract Documents have been reviewed, Work has been inspected, and that Work is complete in accordance with Contract Documents and ready for Architect/Engineer/Designer's review.
- B. Provide submittals to Owner that is required by governing or other authorities.
- C. Submit final Application for Payment identifying total adjusted Contract Sum, previous payments and sum remaining due.
- D. Owner will occupy portions of the building as specified in Section 01010.

1.4 FINAL CLEANING

- A. Execute final cleaning prior to final project assessment. Clean interior and exterior glass, surfaces exposed to view; remove temporary labels, stains and foreign substances, polish transparent and glossy surfaces, vacuum carpeted and soft surfaces.
- B. Clean equipment and fixtures to a sanitary condition with cleaning materials appropriate to the surface and material being cleaned.
- C. Clean or replace filters of operating equipment used during construction and/or adjustment.
- D. Clean debris from roofs, gutters, downspouts and drainage systems.
- E. Clean site; sweep paved areas, rake clean landscaped surfaces.
- F. Remove waste and surplus materials, rubbish and construction facilities from the site.

1.5 ADJUSTING

- A. Adjust operating Products and equipment to ensure smooth and unhindered operation.

1.6 PROJECT RECORD DOCUMENTS

- A. Store record documents separate from documents used for construction.

- B. Record information concurrent with construction progress.
- C. Specifications: Legibly mark and record at each Product section description of actual Products installed, including the following:
 - 1. Manufacturer's name and product model and number.
 - 2. Product substitutions or alternates utilized.
 - 3. Changes made by Addenda and modifications.
- D. Record Drawings and Shop Drawings: Legibly mark each item to record actual construction including:
 - 1. Measured depths of foundations in relation to finish main floor datum.
 - 2. Measured horizontal and vertical locations of underground utilities and appurtenances, referenced to permanent surface improvements.
 - 3. Measured locations of internal utilities and appurtenances concealed in construction, referenced to visible and accessible features of the Work.
 - 4. Field changes of dimension and detail.
 - 5. Details not on original Contract drawings.
- E. Submit documents to Architect/Engineer/Designer's with claim for final Application for Payment.

1.7 OPERATION AND MAINTENANCE DATA

- A. Submit data bound in 8-1/2 x 11 inch (A4) text pages, three D side ring binders with durable plastic covers.
- B. Prepare binder cover with printed title "OPERATION AND MAINTENANCE INSTRUCTIONS", title of project and subject matter of binder when multiple binders are required.
- C. Internally subdivide the binder contents with permanent page dividers, logically organized; with tab titling clearly printed under reinforced laminated plastic tabs.
- D. Submit 1 draft copy of completed volumes 15 days prior to final inspection. This copy will be reviewed and returned with Architect/Engineer/Designer comments. Revise content of all document sets as required prior to final submission.
- E. Submit two sets of revised final volumes, within 10 days after final inspection.

1.8 SPARE PARTS AND MAINTENANCE PRODUCTS

- A. Provide spare parts, maintenance, and extra Products in quantities specified individual specification sections.
- B. Deliver to Project site; obtain receipt prior to final payment.
- C. Examine system components at a frequency consistent with reliable operation. Clean, adjust and lubricate as required.
- D. Include systematic examination, adjustment, and lubrication of components. Repair or replace parts whenever required. Use parts produced by the manufacturer of the original component.
- E. Maintenance service shall not be assigned or transferred to any agent or Subcontractor without prior written consent of the Owner.

1.9 WARRANTIES

- A. Execute and assemble transferable warranty documents from Subcontractors, suppliers and manufacturers.
- B. Submit prior to final Application for Payment.
- C. For items of Work delayed beyond date of Final Completion, provide updated submittal within 10

days after acceptance, listing date of acceptance as start of the warranty period.

PART 2

PRODUCTS

Not Used.

PART 3

EXECUTION

Not Used.

15500

HEATING, VENTILATING AND AIR CONDITIONING

PART 1 GENERAL

1.1 SUMMARY

- A. Provide heating, ventilating, and air conditioning systems where shown on the Drawings, as specified herein and as needed for a complete and proper installation including but not necessarily limited to:
 - 1. Heating and Central Air Condenser Unit.
 - 2. Air conditioning supply and return ductwork system with grilles and diffusers.
 - 3. Gas-fired, ceiling-hung Unit Heaters
 - 4. Temperature control system including low-voltage wiring.
 - 5. Acoustical and thermal insulation of ducts.
 - 6. Engineering and design, refer to drawings.
- B. Related work:
 - 1. Documents affecting work of this Section include, but are not necessarily limited to, General Conditions, Supplementary Conditions and Sections in Division 1 of these Specifications.

1.2 SUBMITTALS

- A. Comply with pertinent provisions of Section 01340.
- B. Product data: Within 30 calendar days after the Contractor has received the Owner's Notice to Proceed, submit:
 - 1. Manufacturers catalogs, samples and other items needed to fully demonstrate the quality of the proposed materials and equipment.
- C. Record drawings:
 - 1. Comply with pertinent provisions of Section 01720.
 - 2. Include a copy of the Record Drawings in each copy of the operation and maintenance manual described below.
- D. Upon completion of this portion of the Work, and as a condition of its acceptance, deliver to the Architect two copies of an operation and maintenance manual compiled in accordance with the provisions of Section 01730 of these Specifications.

1.3 QUALITY ASSURANCE

- A. Use adequate numbers of skilled workmen who are thoroughly trained and experienced in the necessary crafts and who are completely familiar with the specified requirements and the methods needed for proper performance of the work of this Section.
- B. Without additional cost to the Owner, provide such other labor and materials as are required to complete the work of this Section in accordance with the requirements of governmental agencies having jurisdiction, regardless of whether such materials and associated labor are called for elsewhere in these Contract Documents.
- C. Provide minimum 1-year manufacturer's warranty on all units.

1.4 DELIVERY, STORAGE AND HANDLING

- A. Comply with pertinent provisions of Section 01620.

PART 2 PRODUCTS

2.1 DUCTWORK

- A. For exhaust systems and for the heating, ventilating, and air conditioning systems, provide galvanized sheet metal ducts fabricated and installed to pertinent ASHRAE and SMACNA standards or to the requirements of governmental agencies having jurisdiction, whichever requirement is more stringent.
- B. Size the ducts for pressure drop of 0.1" H2O per 100 feet.
- C. Seal all duct seams, transverse and longitudinal, air tight with 6 oz canvas secured in place with "WC800" or equal duct sealing compound, an approved lagging adhesive or duct tape.

2.2 FLEXIBLE DUCT

- A. Provide factory fabricated insulated low-pressure flexible duct with the following attributes:
 - 1. Zinc-coated spring steel helix, with 1" thick fiberglass insulation, sheathed in a seamless vapor barrier jacket.
 - 2. Interior fire-resistive coated to prevent fiber erosion;
 - 3. Straight run sound absorption of 3 db per ft, and 5 db per ft sound absorption at 45 degree bends;
 - 4. Composite assembly, including insulation and vapor barrier, meeting Class 1 requirements of flame spread of 25 or less and smoke developed of 50 or less as set forth in NFPA Bulletin 90-A and bearing UL label as an air duct.
- B. Provide flexible duct in fully extended condition, free from sags and kinks.
 - 1. Use only the minimum length required to make the connection.
 - 2. Do not exceed 8'-0" in length.
 - 3. Where horizontal support is required, provide at least 3/4" wide banding material hangers at not more than 36" centers.
 - 4. Make joints and connections with 1/2" wide positive locking steel straps.
- C. Acceptable products:
 - 1. Insulated low pressure flexible duct "Type S-181" manufactured by Glass Insulation Co., Los Angeles.
 - 2. For toilet exhaust or return air connectors and runouts, aluminum flexible ducts such as "Flexmaster" or "Van-guard" may be used if acceptable to the governmental agencies having jurisdiction.

2.3 INSULATION

- A. General:
 - 1. Provide materials complying with NFPA Bulletin 90-A, as determined by UL method NFPA 225-ASTM E84, and complying with the governing code, with flame spread rating under 25 and smoke developed rating under 50.
 - 2. Where vapor barriers are used, provide intact and continuous throughout.
 - 3. Acceptable manufacturers:
 - a. Owens/Corning Fiberglass;
 - b. Manville
 - c. Certainteed.
- B. All supply ducts:
 - 1. Insulate supply ducts with 1" thick fiberglass blanket such as Fiberglas "FRK ED-100," or equal approved in advance by the Architect.
 - 2. Insulate return ducts with 3/4-pcf 1" thick fiberglass duct wrap blanket.

- C. Acoustical duct liner: For ducts exposed to the weather and for supply ducts from supply fan to first branch ducts:
 - 1. Line with one of the following 1" thick materials:
 - a. CSG No. 300, coated;
 - b. PPG 3 pcf;
 - c. Superine (or Textrafine) Fiberglass PF-615;
 - d. Manville 3 pcf Micortex coated duct liner.
 - 2. Apply duct liner with coated side facing air stream and secured to the sheet metal with "ED104" adhesive or with mechanical clips recommended by the manufacturer.
 - 3. Make joints tightly butted and heavily sized with "Lag-gas" or "Arabolt Lagging Adhesive," assuring continuity of surfaces.

2.4 AIR OUTLETS

- A. Ceiling diffusers:
 - 1. Provide Hart & Cooley or Approved Equal, in size, capacity and pattern noted on the Drawings.
 - 2. Provide insulated adaptor boxes above each diffuser neck to permit connection of flexible duct.
- B. Grilles: Provide Hart & Cooley or Approved Equal in size, capacity and pattern noted on drawings.
- C. Provide factory-applied or site-applied black coating on the inside of all air outlets and connecting plenums.
- D. Provide sponge rubber under all flanges.

2.5 VIBRATION ISOLATION AND FLEXIBLE CONNECTIONS

- A. At ducts to equipment, provide vent-fabric flexible connections with a minimum of 6" full length and approved by the governmental agencies having jurisdiction.
- B. Provide additional sound isolation as required to limit the noise level in conditioned space to a maximum of NC-40.

2.6 HEATING AND CENTRAL AIR UNIT

- A. Install High Efficiency, Direct Vent, Condensing Up- Flow Gas Furnaces with necessary appurtenances, per HVAC Schedule. See Construction Documents, equal to Carrier.
- B. Install High Efficiency Air Conditioners with necessary appurtenances, per Split Systems HVAC Units Schedule sheet 26 of 29, equal to Carrier.
- C. Install Carrier Model TSTATCCPAC01-B 7 day programmable thermostats, or approved equals, per manufacturer's instructions and specifications.
- D. Location of units per drawings
- E. Vent furnace unit per Manufacturer's instructions and specifications and as per drawings.

2.7 PIPING

- A. For refrigerant piping, provide Type "L" copper, refrigerant grade, with wrought copper fittings and with joints thoroughly cleaned prior to soldering.

2.8 AUTOMATIC TEMPERATURE CONTROL

- A. Provide a system of temperature control with the attributes listed below.
 - 1. Include thermostats, sensors, temperature controllers, and air piping as requiring for a complete and operable system compatible with approved Heating and Central Air Unit.
 - 2. Provide devices calibrated and adjusted with the actual operating conditions.

2.9 OTHER MATERIALS

- A. Provide other materials, not specifically described but required for a complete and proper installation, as selected by the Contractor subject to the approval of the Architect.
- B. Add LP kit to all furnaces as required.

2.10 HVAC SCHEDULE: Carrier brand shown. Will accept approved equal. Also see Construction Documents.

Mark For	Qty	Part Number	Description
	3	24ABB342A005	Carrier Base 13 Series 3.5 Ton Condensing Unit 208/230-3-60
	3	59SP5A080E17--16	G/F,4-WAY 95 AFUE 1S/ECM
	3	GAPAAXCC1625	Infinity Air Purifier
	3	1LOTCO2wDAMP	Wall mout CO two sensor and six inch damper
	1	ZONECC2KIT01-B	ZONECC-KIT01-B Comfort Zone II-Zoning System
	3	CNPVP4821ATA	CNPVP/CNPVU-Performance Series Cased Vertical N-Coil Evaporator Coils
	1	DAMPREC10X24-B	RECTANGULAR ZONING DAMPER,10X24 (Verify)
	1	DAMPRND10INC-B	ROUND ZONING DAMPER,10IN DIAMETER (Verify)
	1	DAMPBAR08X24	Rectangular Barometric Bypass - 8 in. X 24 in. (Verify)
	3	HUMCCLBP2417	Large Bypass humidifier
	2	33CS2PP2S-02	Edge Pro splitable 7-Day Programmable/Non-Prog
	3	P251-0083H	120-480 VAC Head Pressure Control
	3	KGANP47012HW	NATURAL GAS TO PROPANE CONV KIT
	3	33ZCSENOAT	Outdoor Air Sensor - Bell Box Enclosure
	1	ZONEXX0DTS01	Duct/HP Sensor
	3	KSASF0101AAA	Support Feet
	3	KAAFT0101AAA	Evaporator Freeze Thermostat
HP Alt.	3	25HBC348A005	Carrier Base 13 Series 4 Ton Heat Pump Condensing Unit 208/230-3-60

PART 3 EXECUTION

3.1 SURFACE CONDITIONS

- A. Examine the areas and conditions under which work of this Section will be performed. Correct conditions detrimental to timely and proper completion of the Work. Do not proceed until unsatisfactory conditions are corrected.

3.2 COORDINATION

- A. Coordinate as required with other trades to assure proper and adequate provision in the work of those trades for interface with the work of this Section.

3.3 EQUIPMENT INTERFACE

- A. Provide all required shutoff valves, unions and final connections of piping to the work of this Section.
- B. For electrically operated equipment, verify the electrical characteristics actually available for the work of this Section and provide equipment meeting those characteristics.

3.4 INSULATION

- A. Wrap insulation firmly around ductwork, covering all surfaces including standing seams and with all joints lapped at least 2".
- B. Securely fasten the insulation in place with 16 gauge soft annealed black or galvanized wire spaced approximately 12" on centers for straight runs and 3" on centers for elbows and fittings.
- C. Take special care to avoid excessive stretching and compressing and to achieve securing at lapped sections where possible.

3.5 INSTRUCTIONS

- A. Upon completion of this portion of the Work, and prior to its acceptance by the Owner, provide a qualified engineer and fully instruct the Owner's maintenance personnel in the proper operation and maintenance of items provided under this Section.
- B. Demonstrate the contents of the approved operation and maintenance manual required under Article 1.2 above.

3.6 TESTING AND ADJUSTING

- A. Test and adjust each piece of equipment and each system as required to assure proper balance and operation.
 - 1. Test and regulate ventilation and air conditioning systems to conform to the air volumes shown on the approved design drawings.
 - 2. Make tests and adjustments in apparatus and ducts for securing the proper volume and face distribution of air for each grille and ceiling outlet.
 - 3. Where required, provide pulleys for fans at no additional cost to the Owner and set to drive the fans at the speed needed to give the indicated volume.
 - 4. For each system, take the following data in tabulated form:
 - a. Air volumes at all supply return and exhaust outlets;
 - b. Total c.f.m. supplied;
 - c. Total c.f.m. returned;
 - d. Total static pressure at each fan and at each system;
 - e. Motor speed, fan speed and input ampere rating for each fan.
- B. Submit two sets of test and balance reports to the Architect for approval.
- C. Eliminate noise and vibration, and assure proper function of all controls, maintenance of temperature and operation in accordance with the approved design.
- D. Secure required approval from governmental agencies having jurisdiction.

END OF SECTION

TESTING AND BALANCING

PART 1 GENERAL

1.1 RELATED DOCUMENTS

- A. This section specifies the requirements and procedures for total mechanical systems testing, adjusting and balancing. Requirements include measurement and establishment of the fluid quantities of the mechanical system as required to meet design specifications, recording and reporting the results and operation of all systems to demonstrate satisfactory performance to the Owner.
- B. Test, adjust and balance the following mechanical systems:
 - 1. Supply, return and exhaust air systems
 - 2. Hydronic heating and cooling systems.
 - 3. Verify temperature control system operation.
- C. This Section does not include:
 - 1. Specifications for materials for patching mechanical systems.
 - 2. Specifications for materials and installation of adjusting and balancing devices. If devices must be added to achieve proper adjusting and balancing, refer to the respective system sections for materials and installation requirements.
 - 3. Requirements and procedures for piping and ductwork systems leakage tests.

1.2 DEFINITIONS

- A. Systems testing, adjusting, and balancing is the process of checking and adjusting all the building environmental systems to produce the design objectives. It includes:
 - 1. The balance of air and water distribution
 - 2. Adjustment of total system to provide design quantities
 - 3. Electrical measurement
 - 4. Verification of performance of all equipment and automatic controls
 - 5. Sound and vibration measurement
- B. Test: To determine quantitative performance of equipment.
- C. Adjust: To regulate the specified fluid flow rate and air patterns at the terminal equipment (e.g. reduce fan speed, throttling).
- D. Balance: To proportion flows within the distribution system (sub mains, branches and terminals) according to specified design quantities.
- E. Procedure: Standardized approach and execution of sequence of work operations to yield reproducible results
- F. Report Forms: Test data sheets arranged for collecting test data in logical order for submission and review. These data sheets should also form the permanent record to be used as the basis for required future testing, adjusting and balancing.
- G. Terminal: The point where the controlled fluid enters or leaves the distribution system. There are supply inlets on water terminals, supply outlets on air terminals, return outlets on water terminals, and exhaust or return inlets on air terminal such as registers, grilles, diffusers, louvers and hoods.
- H. Main: Duct or pipe containing the system's major or entire fluid flow.
- I. Submain: Duct or pipe containing part of the system's capacity and serving two or more branch mains.
- J. Branch Main: Duct or pipe serving two or more terminals.

- K. Branch: Duct or pipe serving a single terminal.

1.3 SUBMITTALS

- A. Agency Data:
 - 1. Submit proof that the proposed testing, adjusting, and balancing agency meets the qualifications specified below. The firm or individuals performing the work herein specified may be the installing firm or individuals or may be separate and independent firm or individuals employed by the contractor but in either case the personnel performing the work shall be qualified and certified as specified.
- B. Engineer and Technicians Data:
 - 1. Submit proof that the proposed testing, adjusting, and balancing agency meets the qualifications specified below. The firm or individuals performing the work herein specified may be the installing firm or individuals or may be a separate and independent firm or individuals employed by the Contractor, but in either case the personnel performing the work shall be qualified and certified as specified.
- C. Procedures and Agenda: Submit a synopsis of the testing adjusting and balancing procedures and agenda proposed to be used for this project.
- D. Maintenance Date: Submit maintenance and operating data that includes how to test, adjust and balance the building system. Include this information in maintenance data specified in Division 15 - Basic Mechanical Requirements.
- E. Sample Forms: Submit sample forms, if other than those standard forms prepared by the AABC or NEBB are proposed.
- F. Certified Reports: Submit testing, adjusting, and balancing reports bearing the seal and signature of the Test and Balance Engineer. The reports shall be certified proof that the systems have been tested, adjusted, and balanced in accordance with the referenced standards; are an accurate representation of how the systems have been installed; are a true representation of how the systems are operating at the completion of the testing, adjusting, and balancing procedures; and are an accurate record of all final quantities measured, to establish normal operating values of the systems. Follow the procedures and form as specified below:
- G. Reports: Upon completion of testing, adjusting, and balancing procedures, prepare reports on the approved forms. Reports may be hand written, but must be complete, factual, accurate and legible. Submit 3 complete sets of reports. Only 2 complete sets of draft reports will be returned.
- H. Report Format: Report forms shall be those standard forms prepared by the referenced standard for each respective item and system to be tested, adjusted and balanced. Bind report forms complete with schematic systems diagrams and other data in reinforced, vinyl, three-ring binders. Provide binding edge labels with the project identification and a title descriptive of the contents. Divide the contents of the binder into the below listed divisions, separated by divider tabs.
 - 1. General Information and Summary
 - 2. Air Systems
 - 3. Temperature Control Systems
- I. Report Contents: Provide the following minimum information, forms and data:
 - 1. General Information and Summary: Inside cover sheet to identify testing, adjusting and balancing agency, contractor, Owner, Architect, Engineer and Project. Include addresses, and contact names a telephone numbers. Also include a certification sheet containing the seal and name, address, telephone number and signature of the Certified Test and Balance Engineer.

Include in this division a listing of the instrumentation used for the procedures along with the proof of calibration.

2. The remainder of the report shall contain appropriate forms containing as a minimum, the information indicated on the standard report forms prepared by the AABC and NEBB, for each respective item and system to accompany each respective report form. The report shall contain the following information, and all other data resulting from the testing, adjusting and balancing work:
 3. All nameplate and specification data for all pumps, air handling equipment and motors.
 4. Inlet water and outlet water temperatures of each heating and cooling element.
 5. Water pressure drop through each heating and cooling coil.
 6. Operating suction and discharge pressure and final total discharge head for each pump.
 7. Water flow readings at all pumps and coils.
 8. Actual metered running amperage for each phase of each motor on all pumps and air handling equipment.
 9. Actual metered voltage at each pump and each piece of air handling equipment (phase to phase for all phases)
 10. Static pressure for each piece of air handling equipment and at each location in ductwork system where static pressure controllers are located.
 11. Fan RPM for each piece of air handling equipment.
 12. Total actual DCM being handled by each piece of air handling equipment.
 13. Entering and leaving air temperature of all air handling unit heating coils and cooling coils.
 14. Actual CFM of systems by rooms.

1.4 CERTIFICATION

A. Agency Qualifications:

1. Employ the services of a certified testing, adjusting and balancing agency meeting the qualifications specified below, to be the single source of responsibility to test, adjust and balance the building mechanical systems, identified above, to produce the design objectives. Services shall include checking installations for conformity to design, measurement and establishment of the fluid quantities of the mechanical systems as required to meet design specifications, recording and reporting the results and operation of all systems to demonstrate satisfactory performance to the Owner.
2. The testing, adjusting, and balancing agency certified by National Environmental Balancing Bureau (NEBB) or Associated Air Balance Council (AABC) in those testing and balancing disciplines required for this project and having at least one person certified by NEBB or AABC as a Test and Balance Engineer.

B. Codes and Standards

1. NEBB: "Procedural Standards for Testing, Adjusting, and Balancing of Environmental Systems". Or
2. AABC: "National Standards for Total System Balance", And
3. ASHRAE: "ASHRAE Handbook", 1984 Systems Volume, Chapter 37, Testing, Adjusting and Balancing.

- ##### C. Pre-balancing Conference:
- Prior to beginning of the testing, adjusting, and balancing procedures, schedule and conduct a conference with the Architect/Engineer and representatives of installers of the mechanical system. The objective of the conference is final coordination and verification of system operation and readiness for testing, adjusting and balancing.

1.5 PROJECT CONDITIONS

- ##### A. Systems Operation:
- System shall be fully operational and clean prior to beginning procedures.

1.6 SEQUENCING AND SCHEDULING

- ##### A. Test, adjust and balance the air systems before Hydronic, steam and refrigerant systems.

- B. Test, adjust, and balance air conditioning systems during summer season and heating systems during winter season, including at least a period of operation at outside conditions within 5 deg. F. Wet bulb temperature of maximum summer design condition and within 10 deg. F. Dry bulb temperature of minimum winter design condition. Take final temperature readings during seasonal operation.

PART 2 PRODUCTS

Not Applicable

PART 3 EXECUTION

3.1 PRELIMINARY PROCEDURE FOR AIR SYSTEM BALANCING

- A. Before operating the system, perform these steps:
 1. Walk the system from the system air handling equipment to terminal units to determine variations of installation from design.
 2. Check filters for cleanliness and to determine if they are the type specified.
 3. Check dampers (both volume and fire) for correct and locked position. Check automatic operating and safety controls and devices to determine that they are properly connected, functioning and at proper operating set point.
 4. Check automatic control dampers to determine that they are functioning properly, that they will close tightly and those they will open and close smoothly without binding or backlash.
 5. Prepare report test sheets for both fans and outlets. Obtain manufacturer's outlet factors and recommended procedures for testing. Prepare a summation of required outlet volumes to permit a cross check with required fan volumes.
 6. Determine best locations in main and branch ductwork for most accurate duct traverses.
 7. Place outlet dampers in the full open position.
 8. Prepare schematic diagrams of system "as-built" ductwork and piping layouts to facilitate reporting.
 9. Lubricate all motors and bearings.
 10. Check fan belt tension.
 11. Check fan rotation.

3.2 MEASUREMENTS

- A. Provide all required instrumentation to obtain proper measurements, calibrated to the tolerances specified in the referenced standards. Instruments shall be properly maintained and protected against damage.
- B. Provide instruments meeting the specifications of the referenced standards.
- C. Use only those instruments that have the maximum field measuring accuracy and are best suited to the function being measured.
- D. Apply instrument as recommended by the manufacturer.
- E. Use instruments with minimum scale and maximum subdivision and with scale ranges proper for the value being measured.
- F. When averaging values, take a sufficient quantity of readings that will result in a repeatability error of less than 5 percent. When measuring a single point, repeat readings until 2 consecutive identical values are obtained.
- G. Take all readings with the eye at the level of the indicated value to prevent parallax.
- H. Use pulsation dampeners where necessary to eliminate error involved in estimating average of rapidly fluctuating readings.

- I. Take measurements in the system where best suited to the task.

3.3 PERFORMANCE TESTING, ADJUSTING, AND BALANCING

- A. Perform testing and balancing procedures on each system identified, in accordance with the detailed procedures outlined in the referenced standards. Balancing of the air systems and hydronic systems shall be achieved by adjusting the automatic controls, balancing valves, dampers, air terminal devices and the fan/motor drives within each system.
- B. Cut insulation, ductwork and piping for installation of test probes to the minimum extent necessary to allow adequate performance of procedures.
- C. Patch insulation, ductwork and hosing, using materials identical to those removed.
- D. Seal ducts and piping, and test for and repair leaks.
- E. Seal insulation to re-establish integrity of the vapor barrier.
- F. Mark equipment settings, including damper control positions, valve indicators, fan speed control levers and similar controls and devices, to show final settings. Mark with paint or other suitable, permanent identification materials.
- G. Retest, adjust and balance systems subsequent to significant system modifications and resubmit test results.

3.4 RECORD AND REPORT DATA

- A. Record all data obtained during testing, adjusting, and balancing in accordance with, and on the forms recommended by the referenced standards and as approved on the sample report forms.
- B. Prepare report of recommendations for correcting unsatisfactory mechanical performances when system cannot be successfully balanced.

3.5 DEMONSTRATION

- A. Training:
 - 1. Train the Owner's maintenance personnel on trouble shooting procedures and testing, adjusting and balancing procedures. Review with the Owner's personnel, the information contained in the Operating and Maintenance Data specified in Division 15.
 - 2. Schedule training with Owner through Engineer with at least 7 days prior notice.

END OF SECTION

ANNUAL WORKER ELIGIBILITY VERIFICATION AFFIDAVIT
(for joint ventures, a separate affidavit is required for each business entity)

STATE OF _____)

) ss

COUNTY OF _____)

On the ____ day of _____, 20____, before me appeared _____,
Affiant name
personally known to me or proved to me on the basis of satisfactory evidence to be a person whose name is subscribed to this affidavit, who being by me duly sworn, stated as follows:

•I, the Affiant, am of sound mind, capable of making this affidavit, and personally certify the facts herein stated, as required by Section 285.530, RSMo, to enter into any contract agreement with the state to perform any job, task, employment, labor, personal services, or any other activity for which compensation is provided, expected, or due, including but not limited to all activities conducted by business entities.

•I, the Affiant, am the _____ of _____, and I am duly authorized,
title business name
directed, and/or empowered to act officially and properly on behalf of this business entity.

•I, the Affiant, hereby affirm and warrant that the aforementioned business entity is enrolled in a federal work authorization program operated by the United States Department of Homeland Security, and the aforementioned business entity shall participate in said program to verify the employment eligibility of newly hired employees working in connection with any services contracted by the Missouri Highways and Transportation Commission (MHTC). I have attached documentation to this affidavit to evidence enrollment/participation by the aforementioned business entity in a federal work authorization program, as required by Section 285.530, RSMo.

•I, the Affiant, also hereby affirm and warrant that the aforementioned business entity does not and shall not knowingly employ, in connection with any services contracted by MHTC, any alien who does not have the legal right or authorization under federal law to work in the United States, as defined in 8 U.S.C. § 1324a(h)(3).

•I, the Affiant, am aware and recognize that, unless certain contract and affidavit conditions are satisfied pursuant to Section 285.530, RSMo, the aforementioned business entity may be held liable under Sections 285.525 through 285.550, RSMo, for subcontractors that knowingly employ or continue to employ any unauthorized alien to work within the state of Missouri.

•I, the Affiant, acknowledge that I am signing this affidavit as a free act and deed of the aforementioned business entity and not under duress.

Affiant Signature

Subscribed and sworn to before me in _____, _____, the day and year first above-written.
city (or county) state

Notary Public

My commission expires:

[documentation of enrollment/participation in a federal work authorization program attached]

APPLICANT AFFIDAVIT FOR SOLE-PROPRIETORSHIP OR PARTNERSHIP

(a separate affidavit is required for each owner and general partner)

STATE OF _____)

) ss

COUNTY OF _____)

On this _____ day of _____, 20____, before me appeared _____, personally known to me or proved to me on the basis of satisfactory evidence to be the person whose name is subscribed to the within instruments, who being by me duly sworn, deposed as follows:

My name is _____, and I am of sound mind, capable of making this affidavit, and personally certify the facts herein stated, as required by Section 208.009, RSMo, for failure to provide affirmative proof of lawful presence in the United States of America:

I am the _____ of _____, which is applying for a public benefit (grant, contract, and/or loan) administered/provided by the Missouri Highways and Transportation Commission (MHTC), acting by and through the Missouri Department of Transportation (MoDOT).

I am classified by the United States of America as: (check the applicable box)

- a United States citizen.
an alien lawfully admitted for permanent residence.

I am aware that Missouri law provides that any person who obtains any public benefit by means of a willfully false statement or representation, or by willful concealment or failure to report any fact or event required to be reported, or by other fraudulent device, shall be guilty of the crime of stealing pursuant to Section 570.030, RSMo, which is a Class C felony for stolen public benefits valued between \$500 and \$25,000 (punishable by a term of imprisonment not to exceed 7 years and/or a fine not more than \$5,000 – Sections 558.011 and 560.011, RSMo), and is a Class B felony for stolen public benefits valued at \$25,000 or more (punishable by a term of imprisonment not less than 5 years and not to exceed 15 years – Section 558.011, RSMo).

I recognize that, upon proper submission of this sworn affidavit, I will only be eligible for temporary public benefits until such time as my lawful presence in the United States is determined, or as otherwise provided by Section 208.009, RSMo.

I understand that Missouri law requires MHTC/MoDOT to provide assistance in obtaining appropriate documentation to prove citizenship or lawful presence in the United States, and I agree to submit any requests for such assistance to MHTC/MoDOT in writing.

I acknowledge that I am signing this affidavit as a free act and deed and not under duress.

Affiant Signature

Affiant's Social Security Number or Applicable Federal Identification Number

Subscribed and sworn to before me this _____ day of _____, 20_____.

Notary Public

My commission expires:

VENDOR INFORMATION & PREFERENCE CERTIFICATION FORM

Vendor Information

All bidders must furnish ALL applicable information requested below

Vendor Name/Mailing Address: Email Address:	Vendor Contact Information (including area codes): Phone #: Cellular #: Fax #:
Printed Name of Responsible Officer or Employee:	Signature:
For Corporations - State in which incorporated:	For Others - State of domicile:

If the address listed in the Vendor Name/Mailing Address block above is not located in the State of Missouri, list the address of Missouri offices or places of business:

*If additional space is required, please attach an additional sheet and identify it as **Addresses of Missouri Offices or Places of Business.***

M/WBE INFORMATION: List all certified Minority or Women Business Enterprises (**M/WBE**) utilized in the fulfillment of this bid. Include percentages for subcontractors and identify the M/WBE certifying agency:

<u>M/WBE Name</u>	<u>Percentage of Contract</u>	<u>M/WBE Certifying Agency</u>

*If additional space is required, please attach an additional sheet and identify it as **M/WBE Information***

Preference Certification

All bidders must furnish ALL applicable information requested below

GOODS/PRODUCTS MANUFACTURED OR PRODUCED IN USA: If any or all of the goods or products offered in the attached bid which the bidder proposes to supply to the MHTC are not manufactured or produced in the "United States", or imported in accordance with a qualifying treaty, law, agreement, or regulation, list below, by item or item number, the country other than the United States where each good or product is manufactured or produced.

Item (or item number)	Location Where Item is Manufactured or Produced

*If additional space is required, please attach an additional sheet and identify it as **Location Products are Manufactured or Produced.***

MISSOURI SERVICE-DISABLED VETERAN BUSINESS: Please complete the following if applicable. Additional information may be requested if preference is applicable. See below definitions for qualification criteria:

Service-Disabled Veteran is defined as any individual who is disabled as certified by the appropriate federal agency responsible for the administration of veterans' affairs.

Service-Disabled Veteran Business is defined as a business concern:

- a. Not less than fifty-one (51) percent of which is owned by one or more service-disabled veterans or, in the case of any publicly owned business, not less than fifty-one (51) percent of the stock of which is owned by one or more service-disabled veterans; and
- b. The management and daily business operations of which are controlled by one or more service-disabled veterans.

Veteran Information

Business Information

Service-Disabled Veteran's Name (Please Print)

Service-Disabled Veteran Business Name

Service-Disabled Veteran's Signature

Missouri Address of Service Disabled Veteran Business

APPLICANT AFFIDAVIT FOR SOLE-PROPRIETORSHIP OR PARTNERSHIP

(a separate affidavit is required for each owner and general partner)

STATE OF _____)
) ss
COUNTY OF _____)

On this _____ day of _____, 20____, before me appeared _____, personally known to me or proved to me on the basis of satisfactory evidence to be the person whose name is subscribed to the within instruments, who being by me duly sworn, deposed as follows:

My name is _____, and I am of sound mind, capable of making this affidavit, and personally certify the facts herein stated, as required by Section 208.009, RSMo, for failure to provide affirmative proof of lawful presence in the United States of America:

I am the _____ of _____, which is applying for a public benefit (grant, contract, and/or loan) administered/provided by the Missouri Highways and Transportation Commission (MHTC), acting by and through the Missouri Department of Transportation (MoDOT).

I am classified by the United States of America as: (check the applicable box)

- a United States citizen.
- an alien lawfully admitted for permanent residence.

I am aware that Missouri law provides that any person who obtains any public benefit by means of a willfully false statement or representation, or by willful concealment or failure to report any fact or event required to be reported, or by other fraudulent device, shall be guilty of the crime of stealing pursuant to Section 570.030, RSMo, which is a Class C felony for stolen public benefits valued between \$500 and \$25,000 (punishable by a term of imprisonment not to exceed 7 years and/or a fine not more than \$5,000 – Sections 558.011 and 560.011, RSMo), and is a Class B felony for stolen public benefits valued at \$25,000 or more (punishable by a term of imprisonment not less than 5 years and not to exceed 15 years – Section 558.011, RSMo).

I recognize that, upon proper submission of this sworn affidavit, I will only be eligible for temporary public benefits until such time as my lawful presence in the United States is determined, or as otherwise provided by Section 208.009, RSMo.

I understand that Missouri law requires MHTC/MoDOT to provide assistance in obtaining appropriate documentation to prove citizenship or lawful presence in the United States, and I agree to submit any requests for such assistance to MHTC/MoDOT in writing.

I acknowledge that I am signing this affidavit as a free act and deed and not under duress.

Affiant Signature

Affiant's Social Security Number or
Applicable Federal Identification Number

Subscribed and sworn to before me this _____ day of _____, 20____.

Notary Public

My commission expires:

VENDOR INFORMATION & PREFERENCE CERTIFICATION FORM

Vendor Information

All bidders must furnish ALL applicable information requested below

Vendor Name/Mailing Address: Email Address:	Vendor Contact Information (including area codes): Phone #: Cellular #: Fax #:
Printed Name of Responsible Officer or Employee:	Signature:
For Corporations - State in which incorporated:	For Others - State of domicile:

If the address listed in the Vendor Name/Mailing Address block above is not located in the State of Missouri, list the address of Missouri offices or places of business:

*If additional space is required, please attach an additional sheet and identify it as **Addresses of Missouri Offices or Places of Business.***

M/WBE INFORMATION: List all certified Minority or Women Business Enterprises (**M/WBE**) utilized in the fulfillment of this bid. Include percentages for subcontractors and identify the M/WBE certifying agency:

<u>M/WBE Name</u>	<u>Percentage of Contract</u>	<u>M/WBE Certifying Agency</u>

*If additional space is required, please attach an additional sheet and identify it as **M/WBE Information***

Preference Certification

All bidders must furnish ALL applicable information requested below

GOODS/PRODUCTS MANUFACTURED OR PRODUCED IN USA: If any or all of the goods or products offered in the attached bid which the bidder proposes to supply to the MHTC are **not** manufactured or produced in the "United States", or imported in accordance with a qualifying treaty, law, agreement, or regulation, list below, by item or item number, the country other than the United States where each good or product is manufactured or produced.

Item (or item number)	Location Where Item is Manufactured or Produced

*If additional space is required, please attach an additional sheet and identify it as **Location Products are Manufactured or Produced.***

MISSOURI SERVICE-DISABLED VETERAN BUSINESS: Please complete the following if applicable. Additional information may be requested if preference is applicable. See below definitions for qualification criteria:

Service-Disabled Veteran is defined as any individual who is disabled as certified by the appropriate federal agency responsible for the administration of veterans' affairs.

Service-Disabled Veteran Business is defined as a business concern:

- a. Not less than fifty-one (51) percent of which is owned by one or more service-disabled veterans or, in the case of any publicly owned business, not less than fifty-one (51) percent of the stock of which is owned by one or more service-disabled veterans; and
- b. The management and daily business operations of which are controlled by one or more service-disabled veterans.

Veteran Information

Business Information

Service-Disabled Veteran's Name (Please Print)

Service-Disabled Veteran Business Name

Service-Disabled Veteran's Signature

Missouri Address of Service Disabled Veteran Business

Missouri Highways and Transportation Commission
Standard Bid/Proposal Provisions, General Terms and Conditions and Special Terms and Conditions

STANDARD SOLICITATION PROVISIONS

- a. The solicitation for the procurement of the supplies referenced therein, to which these "Standard Bid Provisions, General Terms and Conditions and Special Terms and Conditions" are attached, is being issued under, and governed by, the provisions of Title 7 – Missouri Department of Transportation, Division 10 – Missouri Highways and Transportation Commission, Chapter 11 – Procurement of Supplies, of the Code of State Regulations. The Missouri Highways and Transportation Commission (**MHTC**), acting by and through its operating arm, the Missouri Department of Transportation (**MoDOT**), draws the Bidder's attention to said 7 CSR 10-11 for all the provisions governing solicitation and receipt of bids/quotes and the award of the contract pursuant to this solicitation.
- b. All bids/quotes must be signed with the firm name and by a responsible officer or employee. Obligations assumed by such signature must be fulfilled.

GENERAL TERMS AND CONDITIONS

Definitions

Capitalized terms as well as other terms used but not defined herein shall have the meaning assigned to them in section 7 CSR 10-11.010 Definition of Terms.

Nondiscrimination

- a. The Contractor shall comply with all state and federal statutes applicable to the Contractor relating to nondiscrimination, including, but not limited to, Chapter 213, RSMo; Title VI and Title VII of Civil Rights Act of 1964 as amended (42 U.S.C. Sections 2000d and 2000e, *et seq.*); and with any provision of the "Americans with Disabilities Act" (42 U.S.C. Section 12101, *et seq.*).
- b. **Sanctions for Noncompliance:** In the event of the Contractor's noncompliance with the nondiscrimination provisions of this contract, MHTC shall impose such contract sanctions as it or the Federal Highway Administration may determine to be appropriate, including, but not limited to:
 - i. withholding of payments to the Contractor under the contract until the Contractor complies, and/or,
 - ii. cancellation, termination or suspension of the contract, in whole or in part.

Contract/Purchase Order

- a. By submitting a bid/quote, the Bidder agrees to furnish any and all equipment, supplies and/or services specified in the solicitation documents, at the prices quoted, pursuant to all requirements and specifications contained therein.
- b. A binding contract shall consist of: (1) the solicitation documents, amendments thereto, and/or Best and Final Offer (BAFO) request(s) with any changes/additions, (2) the Contractor's bid response, and (3) the MHTC's acceptance of the bid by post-award contract or purchase order.
- c. A notice of award does not constitute an authorization for shipment of equipment or supplies or a directive to proceed with services. Before providing equipment, supplies and/or services, the Contractor must receive a properly authorized notice to proceed and/or purchase order.

Applicable Laws and Regulations

- a. The contract shall be construed according to the laws of the State of Missouri. The Contractor shall comply with all local, state, and federal laws and regulations related to the performance of the contract. The exclusive venue for any legal proceeding relating to or arising, out of the contract shall be in the Circuit Court of Cole County, Missouri.
- b. The Contractor must be registered and maintain good standing with the Secretary of State of the State of Missouri, Missouri Department of Revenue, and other regulatory agencies, as may be required by law or regulations. Prior to the issuance of a purchase order and/or notice to proceed, the Contractor may be required to submit to MHTC a copy of their current Authority Certificate from the Secretary of State of the State of Missouri and/or a copy of their Certificate of No Tax Due from the Missouri Department of Revenue.
- c. Prior to the issuance of a purchase order and/or notice to proceed, all **out-of-state** Contractors **providing services** within the state of Missouri must submit to MHTC a copy of their current Transient Employer Certificate from the Missouri Department of Revenue, in addition to a copy of their current Authority Certificate from the Secretary of State of the State of Missouri.

Executive Order:

The Contractor shall comply with all the provisions of Executive Order 07-13, issued by the Honorable Matt Blunt, Governor of Missouri, on the sixth (6th) day of March, 2007. This Executive Order, which promulgates the State of Missouri's position to not tolerate persons who contract with the state engaging in or supporting illegal activities of employing individuals who are not eligible to work in the United States, is incorporated herein by reference and made a part of this Agreement.

- 1) "By signing this Agreement, the Contractor hereby certifies that any employee of the Contractor assigned to perform services under the contract is eligible and authorized to work in the United States in compliance with federal law."
- 2) In the event the Contractor fails to comply with the provisions of the Executive Order 07-13, or in the event the Commission has reasonable cause to believe that the contractor has knowingly employed individuals who are not eligible to work in the United States in violation of federal law, the Commission reserves the right to impose such contract sanctions as it may determine to be appropriate, including but not limited to contract cancellation, termination or suspension in whole or in part or both.
- 3) The Contractor shall include the provisions of this paragraph in every subcontract. The Contractor shall take such action with respect to any subcontract as the Commission may direct as a means of enforcing such provisions, including sanctions for noncompliance.

Preferences

- a. In the evaluation of bids/quotes, preferences shall be applied in accordance with 7 CSR 10-11.020(7). Contractors should apply the same preferences in selecting subcontractors. The attached document entitled "**VENDOR INFORMATION AND PREFERENCE CERTIFICATION FORM**" must be completed and returned with the solicitation documents.
- b. Bidders are encouraged to obtain minority business enterprise (MBE) and women business enterprise (WBE) participation in this work through the use of subcontractors, suppliers, joint ventures, or other arrangements that afford meaningful participation for M/WBEs. Bidders are encouraged to obtain 10% MBE and 5% WBE participation.

Cancellation of Contract

The MHTC may cancel the Contract at any time for a material breach of contractual obligations or for convenience by providing Contractor with written

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notice of cancellation. Should the MHTC exercise its right to cancel the contract for such reasons, cancellation will become effective upon the date specified in the notice of cancellation sent to the Contractor.

Bankruptcy or Insolvency

Upon filing for any bankruptcy or insolvency proceeding by or against the Contractor, whether voluntarily, or upon the appointment of a receiver, trustee, or assignee, for the benefit of creditors, the Commission reserves the right and sole discretion to either cancel the Agreement or affirm the Agreement and hold the Contractor responsible for damages.

Warranty

The Contractor expressly warrants that all equipment, supplies, and/or services provided shall: (1) conform to each and every specification, drawing, sample or other description which was furnished to or adopted by the MHTC, (2) be fit and sufficient for the purpose expressed in the solicitation documents, (3) be merchantable, (4) be of good materials and workmanship, and (5) be free from defect.

Status of Independent Contractor

The Contractor represents itself to be an independent Contractor offering such services to the general public and shall not represent itself or its employees to be an employee of the MHTC. Therefore, the Contractor shall assume all legal and financial responsibility for taxes, FICA, employee fringe benefits, workers' compensation, employee insurance, minimum wage requirements, overtime, etc., and agrees to indemnify, save and hold the MHTC, its officers, agents and employees harmless from and against any and all losses (including attorney fees) and damage of any kind related to such matters.

Non-Waiver

If one of the parties agrees to waive its right to enforce any term of this Contract, that party does not waive its right to enforce such term at any other time or to enforce any or all other terms of this Contract.

Indemnification

The Contractor shall defend, indemnify and hold harmless MHTC, including its members and department employees, from any claim or liability whether based on a claim for damages to real or personal property or to a person for any matter relating to or arising out of the Contractor's performance of its obligations under the contract awarded pursuant to this solicitation.

SPECIAL TERMS AND CONDITIONS

Tax Exempt Status:

MHTC is exempt from paying Missouri Sales Tax, Missouri Use Tax and Federal Excise Tax. However, the Contractor may themselves be responsible for the payment of taxes on materials they purchase to fulfill the contract. A Project Tax Exemption Certificate will be furnished to the successful Bidder upon request if applicable.

Insurance

The Contractor shall maintain or cause to be maintained at Contractor's own expense commercial general liability, automobile liability, worker's compensation insurance against negligent acts, errors or omissions of the Contractor, or its subcontractors and anyone directly or indirectly employed by any of them. Any insurance policy required as specified in this Section shall be written by a company that is licensed and authorized to issue such insurance in the state of Missouri and shall provide insurance coverage for not less than the following limits of liability:

- 1) General Liability: Not less than \$500,000 for any one person in a single accident or occurrence, and not less than \$3,000,000 for all claims arising out of a single occurrence;
- 2) Automobile Liability: Not less than \$500,000 for any one person in a single accident or occurrence, and not less than \$3,000,000 for all claims arising out of a single occurrence;
- 3) Missouri State Workmen's Compensation policy or equivalent in accordance with state law.

Upon request from the Commission, the Contractor shall provide the Commission with certificates of insurance evidencing the required coverage and that such insurance is in effect.

Subcontracting

- a. It is specifically understood that no portion of the material or any interest in the contract, shall be subcontracted, transferred, assigned or otherwise disposed of, except with the written consent of MHTC. Request for permission to subcontract or otherwise dispose of any part of the work shall be in writing to MHTC and accompanied by documentation showing that the organization which will perform the work is particularly experienced and equipped for such work.
- b. Consent to subcontract or otherwise dispose of any portion of the work shall not be construed to relieve the Contractor of any responsibility for the production and delivery of the contracted work and the completion of the work within the specified time.
- c. All payments for work performed by a subcontractor shall be made to the Contractor to whom the contract was awarded and the purchase order issued.

Prohibition Of Employment Of Unauthorized Aliens:

- a. Non-employment of Unauthorized Aliens: Pursuant to Section 285.530, RSMo., no business entity or employer shall knowingly employ, hire for employment, or continue to employ an unauthorized alien to perform work within the State of Missouri. As a condition for the award of any contract or

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grant in excess of five thousand dollars by the State or by any political subdivision of the State to a business entity, or for any business entity receiving a state-administered or subsidized tax credit, tax abatement, or loan from the state, the business entity shall:

- 1) By sworn affidavit and provision of documentation, affirm its enrollment and participation in a federal work authorization program with respect to the employees working in connection with the contracted services. E-Verify is an example of a federal work authorization program. The business entity must affirm its enrollment and participation in the E-Verify federal work authorization program with respect to the employees proposed to work in connection with the services requested herein by providing acceptable enrollment and participation documentation consisting of **completed** copy of the E-Verify Memorandum of Understanding (MOU). For business entities that are not already enrolled and participating in a federal work authorization program, E-Verify is available at http://www.dhs.gov/files/programs/gc_1185221678150.shtm
 - 2) By sworn affidavit, affirm that it does not knowingly employ any person who is an unauthorized alien in connection with the contracted services. A copy of the affidavit referenced herein is provided within this document, attached as Exhibit A.
- b. Proof of Lawful Presence For Sole Proprietorships and Partnerships: If the business entity is a sole proprietorship or partnership, pursuant to Section 208.009, RSMo., each sole proprietor and each general partner shall provide affirmative proof of lawful presence in the United States. Such sole proprietorship or partnership is eligible for temporary public benefits upon submission by each sole proprietor and general partner of a sworn affidavit of his/her lawful presence on the United States until such lawful presence is affirmatively determined, or as otherwise provided by Section 208.009, RSMo. A copy of the affidavit reference herein is provided within this document, attached as Exhibit B.

Construction Safety Program

Missouri law, 292.675 RSMo, requires the awarded Contractor and its subcontractor(s) to provide a ten-hour occupational safety and health administration (OSHA) construction safety program (or a similar program approved by the Missouri Department of Labor and Industrial Relations as a qualified substitute) for their on-site employees (laborers, workmen, drivers, equipment operators, and craftsmen) who have not previously completed such a program and are directly engaged in actual construction of the improvement (or working at a nearby or adjacent facility used for construction of the improvement). The Contractor and its subcontractor(s) shall require all such employees to complete this ten-hour program, pursuant to 292.675 RSMo, unless they hold documentation on their prior completion of said program. Penalties for non-compliance include Contractor forfeiture to the Commission in the amount of \$2,500, plus \$100 per contractor and subcontractor employee for each calendar day such employee is employed beyond the elapsed time period for required program completion under 292.675 RSMo.

Prevailing Wage

- a. The work to be performed under this solicitation is governed by the provisions of Chapter 290 RSMo, as amended, related to prevailing wages to be paid on public works.
- b. If the bid/quote is accepted, the vendor will be required to comply with the prevailing wages as fixed by the Missouri Department of Labor and Industrial Relations, in effect as of the date of the issuance of the solicitation, for each affected craft and type of workmen in the following county(ies): **Statewide**. The **Annual Wage Order #18, Incremental Increase #7** is attached to the bid documents. Pursuant to the requirements of the Chapter 290 RSMo., not less than the prevailing hourly rate of wages, as set out in the wage order attached to and made part of the specification for work under the contract, must be paid to all workers performing work under the contract.
- c. The Contractor shall provide all information, reports and other documentation as required by MHTC to ensure compliance with Chapter 290 RSMo., as amended, relating to prevailing wages to be paid on public works.
- d. The Contractor shall forfeit a penalty to the contracting public body of \$100 per day (or portion of a day) for each worker that is paid less than the prevailing rate for any work done under the contract by the contractor or by any subcontractor.

Permits, Licenses and Safety Issues

The contract price shall include any necessary permits and licenses required by law incidental to the work. Local ordinances requiring building permits are not applicable to state agencies.

Liquidated Damages

- a. In the event the successful Contractor fails to deliver the material within the time specified, the Department and the public will sustain damages because of such delay in delivery, the exact extent of which would be difficult to ascertain, and in order to liquidate such damage in advance it is agreed that the **sum of \$300 per day**, for each assessable calendar day on which the delivery has not been completed, is reasonable and the best estimate which the parties can arrive at as liquidated damages, and it is therefore agreed that said amount will be withheld from payments due the Contractor or otherwise collected from the Contractor as liquidated damages.
- b. **Saturdays, Sundays, holidays and days whereas the Department has suspended work** shall not be assessable days.