

**REQUEST FOR
BID (RFB) FORM**

**MAILING ADDRESS:
MISSOURI DEPARTMENT OF TRANSPORTATION
GENERAL SERVICES, P.O. BOX 270
JEFFERSON CITY, MO 65102**

REQUEST NO.	9-121023RJ
DATE	October 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; October 23, 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**

Mt. Vernon and Nevada, MO

BUYER: Reva Jones **EMAIL:** reva.jones@modot.mo.gov

BUYER TELEPHONE: 573-526-2744

The purpose of this Request For Bids (RFB) is to accept bids for the construction of two truck washes at the Mt. Vernon Maintenance Facility in Lawrence County, MO and Nevada Maintenance Facility in Vernon County, MO. The project described as "**Mt. Vernon and Nevada Truck Washes**" 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

MoDOT will receive bids at the following mailing address: P.O. Box 270, Jefferson City, MO 65102-0270, Attn: Reva Jones or hand-delivered in a sealed envelope to the following physical address: General Services Procurement at 830 MoDOT Drive, Attn: Reva Jones, Jefferson City, MO 65109, until 2:00 p.m., October 23, 2012. Bid forms and information may be obtained by contacting the buyer at the phone number or e-mail addresses indicated above, 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 No bid may be amended or withdrawn after the bid is opened.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 Reva Jones no later than 2:00 p.m., Local Time, October 17, 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 reva.jones@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 October 18, 2012. It is the sole responsibility of the Bidder 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 within the timeframe specified herein.

Date: _____

Telephone No.: _____

Fax No.: _____

Federal I.D. No.: _____

Email Address: _____

Firm Name: _____

Address: _____

By (Signature): _____

Type/Print Name _____

Is your firm MBE certified?

Yes No

Title:
Is your firm WBE certified?

Yes No

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Terms & Conditions

Project Drawings for Mt. Vernon and Nevada Truck Washes
Annual Wage Order #19 for Lawrence and Vernon Counties

FINAL CHECKLIST BEFORE SUBMITTING BID

- ____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 addenda(s) are issued attach to the back of the bid package.

NEWSPAPER ADVERTISEMENT

Notice to Contractors

MoDOT will receive bids at its General Services, Procurement section, 830 MoDOT Drive, Jefferson City, MO until 2:00 p.m., October 23, 2012 for the construction of two truck washes at the Mt. Vernon and Nevada Maintenance Facilities, **Mt. Vernon and Nevada Truck Washes** at Lawrence and Vernon County, MO. Contact Reva Jones at 573-526-2744 or reva.jones@modot.mo.gov to obtain plans, forms, and information or download them at no charge from <http://www.modot.org/gsbidding/>.

BIDDER REQUIREMENTS

1. SCOPE OF WORK

The project scope shall include constructing two truck washes having nominal dimensions of 50'-0" x 50'-0" x 16'-3" eave height on existing 48" tall concrete foundation walls at two different sites. The Mt. Vernon site will be constructed of 8" structural CMU and the Nevada site will be stick-built having batt insulated walls. Both sites will have wood roof trusses, metal roof, ceiling insulation, coiling overhead doors and stainless steel passage doors.

2. BID INSTRUCTIONS

In order to receive consideration, bids must be made in strict accordance with the following.

- A. Make bids, upon 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 Invitation 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.

3. INVOICING AND PAYMENT

- A. Each invoice should be itemized in accordance with items listed on the contract in accordance with Section 01019, Contract Considerations, 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 six (6) days before opening of bids. The request shall be sent directly to the Senior Facilities Designer. 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 bond.

8. AWARD OR REJECTION OF BIDS

The Contract, if awarded, will be made on an "Item by Item" 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. CONTRACT DOCUMENTS

The contract expresses the complete agreement of the parties and performance shall be governed solely by the specifications and requirements contained therein. Any change, whether by modification and/or supplementation, must be accomplished by a formal contract amendment signed and approved by and between the duly authorized representative of the Contractor and the duly authorized representative of the Commission, by a modified purchase order prior to the effective date of such modification. The Contractor expressly and explicitly understands and agrees that no other method and/or no other document, including correspondence, acts, and oral communications by or from any person, shall be used or construed as an amendment or modification.

10. 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 Facilities Manager 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 Facilities Manager'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, Submittals.

11. 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 upon MoDOT's written acceptance of the punch list items.

- 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 from the Commission's property all debris.
- 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.

12. CHANGE ORDERS

- A. General. All departures from the plans and specifications will be considered unauthorized unless, before proceeding with the work, the contractor has had delivered to it a 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 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.

13. 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. This work is to be performed under the general supervision and direction of the Missouri Department of Transportation (MoDOT) and, if awarded any portion of the work, the Contractor agrees to furnish at his own expense all labor and equipment required to complete the work, it being expressly understood that this solicitation is for completed work based upon the price(s) specified and is not a solicitation for rental of equipment or employment of labor by MoDOT, and MoDOT is to have no direction or control over the employees used by the Contractor in performance of the work.

14. 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.

15. 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.

16. 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. The MHTC reserves the right to return any such rejected shipment at the Contractor's expense for full credit or replacement and to specify a reasonable date by which replacements must be received.
- 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.

17. DEFINITIONS

Architect/Engineer/Designer: When the term "Architect or Engineer or Designer" is used herein, it shall refer to Larry Carver , Missouri Department of Transportation 573-526-7934 (Direct line) or Doug Record [General Services Manager – Facilities, Missouri Department of Transportation] (573) 526-7937, 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 Brad Leonard, [Facility Operations Supervisor in the Southwest District], (417) 895-7700.

Owner: When the term "Owner" is used herein, it shall refer to Missouri Department of Transportation (MoDOT).

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: <table style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="width: 33%; text-align: center;"><u>M/WBE Name</u></th> <th style="width: 33%; text-align: center;"><u>Percentage of Contract</u></th> <th style="width: 33%; text-align: center;"><u>M/WBE Certifying Agency</u></th> </tr> </thead> <tbody> <tr> <td>_____</td> <td>_____</td> <td>_____</td> </tr> <tr> <td>_____</td> <td>_____</td> <td>_____</td> </tr> </tbody> </table> If additional space is required, please attach an additional sheet and identify it as M/WBE Information		<u>M/WBE Name</u>	<u>Percentage of Contract</u>	<u>M/WBE Certifying Agency</u>	_____	_____	_____	_____	_____	_____
<u>M/WBE Name</u>	<u>Percentage of Contract</u>	<u>M/WBE Certifying Agency</u>								
_____	_____	_____								
_____	_____	_____								

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: <ol style="list-style-type: none"> 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. 	
<u>Veteran Information</u>	<u>Business Information</u>
Service-Disabled Veteran's Name (Please Print)	Service-Disabled Veteran Business Name
Service-Disabled Veteran's Signature	Missouri Address of Service Disabled Veteran Business

00301

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: **9-121023RJ – Mt. Vernon and Nevada Truck Washes** 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:

Mt. Vernon Truck Wash Building

_____ DOLLARS (\$_____)

Nevada Truck Wash Building

_____ DOLLARS (\$_____)

Note: Awards will be made on an "Item By Item" basis.

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.)

00430

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 _____

00600

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 bid.

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 Bid, 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

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

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

Accepted Alternatives will be identified in Owner-Contractor Agreement.

END OF SECTION

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 (Not in Contract)

- 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

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

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

1.3 TELEPHONE SERVICE

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

1.4 TEMPORARY WATER SERVICE

- A. Connect to existing water source as directed for construction operations at time of project mobilization.
- B. Contractor will reimburse Owner for water used in construction as agreed upon at time of project mobilization.

1.5 TEMPORARY SANITARY FACILITIES

Provide and maintain required facilities and enclosures. Provide at time of project mobilization.

1.6 FENCING

- A. Construction: Use plastic mesh safety fencing or better.
- B. Provide 48" high fence around construction site; equip with vehicular and pedestrian gates with locks.

1.7 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.

1.8 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.

1.9 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.

1.10 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.

1.11 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

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

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

1.6 PROJECT RECORD DOCUMENTS

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.

END OF SECTION

03200

CONCRETE REINFORCEMENT

PART 1 GENERAL

1.1 SECTION INCLUDES

Reinforcing steel bars, wire fabric and accessories for cast-in-place concrete.

1.2 RELATED SECTIONS

Section 04200 – Unit Masonry.

1.3 REFERENCES

- A. ACI 301 - Structural Concrete for Buildings.
- B. ACI 318 - Building Code Requirements For Reinforced Concrete.
- C. ACI SP-66 - American Concrete Institute - Detailing Manual.
- D. ACI 315-99 – Details and Detailing of Concrete Reinforcement
- E. ANSI/ASTM A82 - Cold Drawn Steel Wire for Concrete Reinforcement.
- F. ANSI/ASTM A184 - Fabricated Deformed Steel Bar Mats for Concrete Reinforcement.
- G. ANSI/ASTM A185 - Welded Steel Wire Fabric for Concrete Reinforcement.
- H. ANSI/AWS D1.4 - Structural Welding Code for Reinforcing Steel.
- I. ASTM A615 - Deformed and Plain Billet Steel Bars for Concrete Reinforcement.
- J. AWS D12.1 - Welding Reinforcement Steel, Metal Inserts and Connections in Reinforced Concrete Construction.
- K. CRSI - Concrete Reinforcing Steel Institute - Manual of Standard Practice.
- L. CRSI - Placing Reinforcing Bars.

1.4 QUALITY ASSURANCE

Perform Work in accordance with CRSI - Manual of Standard Practice & ACI 318.

1.5 COORDINATION

- A. Coordinate work under provisions of Section 01039.
- B. Coordinate with placement of formwork, formed openings and other Work.

PART 2 PRODUCTS

2.1 REINFORCEMENT

- A. Reinforcing Steel: ASTM A615, yield grade; deformed billet steel bars, unfinished.
- B. Reinforcing Steel Plain Bar and Rod Mats: ASTM A704, ASTM A615, Grade 60; steel bars or rods, unfinished.
- C. Stirrup Steel: ANSI/ASTM A82, unfinished.
- D. Welded Steel Wire Fabric: ASTM A815; in flat sheets.

2.2 ACCESSORY MATERIALS

Tie Wire: Minimum gage annealed type.

2.3 FABRICATION

Fabricate concrete reinforcing in accordance with CRSI Manual of Practice ACI SP-66.

PART 3 EXECUTION

3.1 PLACEMENT

- A. Place, support and secure reinforcement against displacement. Do not deviate from required position.
- B. Do not displace or damage vapor barrier.
- C. Accommodate placement of formed openings.
- D. Conform to applicable code for concrete cover over reinforcement.

END OF SECTION

04100

MORTAR AND MASONRY GROUT

PART 1 GENERAL

1.1 SECTION INCLUDES

Mortar and grout for masonry.

1.2 RELATED SECTIONS

Section 04300 - Unit Masonry System.

1.3 QUALITY ASSURANCE

Perform work in accordance with ACI 530 and ACI 530.1.

1.4 ENVIRONMENTAL REQUIREMENTS

- A. Maintain materials and surrounding air temperature to minimum 40 degrees F prior to, during, and 48 hours after completion of masonry work.
- B. Maintain materials and surrounding air temperature to maximum 90 degrees F prior to, during, and 48 hours after completion of masonry work.

PART 2 PRODUCTS

2.1 MATERIALS

- A. Premix Mortar: ASTM C387, using gray cement, normal strength.
- B. Mortar Aggregate: ASTM C144, standard masonry type.
- C. Hydrated Lime: ASTM C207, Type S.
- D. Grout Aggregate: ASTM C404.
- E. Water: Clean and potable.
- F. Bonding Agent: Epoxy type.

2.2 MORTAR MIXES

- A. Mortar for Masonry below Grade and in Contact with Earth: ASTM C270, Type M.
- B. Mortar for Reinforced Masonry: ASTM C270, Type S.
- C. Mortar for Reinforced Masonry: ASTM C270, Type S.
- D. Mortar for Non-load Bearing Walls and Partitions: ASTM C270, Type S or Type N.

2.3 MORTAR MIXING

- A. Thoroughly mix mortar ingredients in quantities needed for immediate use in accordance with ASTM C270.
- B. Add admixtures in accordance with manufacturer's instructions.
- C. Do not use antifreeze compounds to lower the freezing point of mortar.

2.4 MORTAR COLOR

Mortar Color: Mineral oxide pigment, color as selected by Architect.

2.5 GROUT MIXES

- A. Grout: Mixed in accordance with ASTM C476; provide consistency required at time of placement to fill completely all spaces indicated to be grouted.
 - 1. Use fine grout in spaces less than 2 inches in least horizontal dimension.
 - 2. Use coarse grout in spaces 2 inches or more in least horizontal dimension.

2.6 GROUT MIXING

- A. Thoroughly mix mortar ingredients in quantities needed for immediate use in accordance with ASTM C476.
- B. Do not use anti-freeze compounds to lower the freezing point of grout.

2.7 MIX TESTS

- A. Testing of Mortar Mix: In accordance with ASTM C780
- B. Testing of Grout Mix: In accordance with ASTM C1019.

PART 3 EXECUTION

3.1 INSTALLATION

- A. Install mortar in accordance with ASTM C780.
- B. Perform all grouting by means of low-lift technique.
 - 1. Maintain minimum dimension of 2 inches and minimum area of 6 square inches in cells to be grouted. Extend vertical reinforcement above pour height as required for splicing.
 - 2. Lay masonry units to maximum pour height, not to exceed 32 inches.
 - 3. Place grout continuously and consolidate immediately; do not interrupt pour for more than one hour.
 - 4. Stop vertical pours 1-1/2 inches below bond beams to interlock with vertical cores.
- C. Work grout into masonry cores and cavities to eliminate voids. Do not displace reinforcement.

END OF SECTION

04300

UNIT MASONRY SYSTEM

PART 1 GENERAL

1.1 SECTION INCLUDES

- A. Concrete masonry units.
- B. Reinforcement, anchorage and accessories.
- C. Targeted masonry surfaces.

1.2 RELATED SECTIONS

- A. Section 01400 - Quality Control.
- B. Section 05500 - Metal Fabrications: Loose steel lintels and fabricated steel items.
- C. Section 07900 - Joint Sealers: Rod and sealant at control and expansion joints.

1.3 REFERENCES

- A. ACI 530 - Building Code Requirements for Masonry Structures.
- B. ACI 530.1 - Specifications for Masonry Structures.
- C. ASTM A82 - Cold-Drawn Steel Wire for Concrete Reinforcement.
- D. ASTM C129 - Non-Load Bearing Concrete Masonry Units.
- E. ASTM C744 - Pre-faced Concrete and Calcium Silicate Masonry Units.
- F. UL - Fire Resistance Directory.

1.4 ENVIRONMENTAL REQUIREMENTS

Maintain materials and surrounding air temperature to minimum 40 degrees F prior to, during and 48 hours after completion of masonry work.

1.5 COORDINATION

Coordinate work under provisions of Section 01039.

PART 2 PRODUCTS

2.1 CONCRETE MASONRY UNITS

- A. ASTM C90, Standard Specification for load bearing Concrete Masonry Units shall apply as required.
- B. Size and Shape: Nominal modular size of 8 x 8 x 16 inches. Provide special units for 90-degree corners, bond beams, lintels and bullnosed corners.

2.2 REINFORCEMENT AND ANCHORAGE

- A. Single Wythe Joint Reinforcement: Truss type; steel wire, hot dip galvanized to ASTM A641 Class 3 after fabrication, cold drawn steel wire conforming to ASTM A82, 3/16 inch side rods with 1/16 inch cross ties.
- B. Wall Ties: bent steel shape, 1 x 6 inch size x 18 gauge thick, hot dip galvanized to ASTM A123 finish.

2.3 FLASHINGS

Galvanized Steel: ASTM A525, 24-gauge core steel.

2.4 ACCESSORIES

- A. Preformed Control Joints: Rubber material. Provide with corner and tee accessories, heat fused joints.
- B. Building Paper: No. 15 asphalt saturated felt.
- C. Nailing Strips: Softwood, preservative treated for moisture resistance, dovetail shape, sized to masonry joints.
- D. Weeps: Preformed plastic tubes, hollow.
- E. Cleaning Solution: Non-acidic, not harmful to masonry work or adjacent materials.

2.5 SEALERS

Provide two coats of sealer to exterior concrete masonry units equal to Sure Klean; Blok-Guard S or Weather Seal Siloxane WB Concentrate as manufactured by: ProSoCo, Inc.

PART 3 EXECUTION

3.1 EXAMINATION

- A. Verify that field conditions are acceptable and are ready to receive work.
- B. Verify items provided by other sections of work are properly sized and located.
- C. Verify that built-in items are in proper location and ready for roughing into masonry work.

3.2 PREPARATION

- A. Direct and coordinate placement of metal anchors supplied to other sections.
- B. Provide temporary bracing during installation of masonry work. Maintain in place until building structure provides permanent bracing.

3.3 COURSING

- A. Establish lines, levels, and coursing indicated. Protect from displacement.
- B. Maintain masonry courses to uniform dimension. Form vertical and horizontal joints of uniform thickness.
- C. Concrete Masonry Units:
 - 1. Bond: Running.
 - 2. Coursing: One unit and one mortar joint to equal 8 inches.
 - 3. Mortar Joints: Beveled.

3.4 PLACING AND BONDING

- A. Lay solid masonry units in full bed of mortar, with full head joints, uniformly jointed with other work.
- B. Lay hollow masonry units with face shell bedding on head and bed joints.
- C. Buttering corners of joints or excessive furrowing of mortar joints are not permitted.
- D. Remove excess mortar as work progresses.
- E. Do not shift or tap masonry units after mortar has achieved initial set. Where adjustment must be made, remove mortar and replace.
- F. Perform job site cutting of masonry units with proper tools to provide straight, clean, unchipped edges. Prevent broken masonry unit corners or edges.

3.5 CONTROL AND EXPANSION JOINTS

- A. Do not continue horizontal joint reinforcement through control and expansion joints.
- B. Install preformed control joint device in continuous lengths. Seal butt and corner joints in accordance with manufacturer's instructions.
- C. Size control joint in accordance with Section 07900 for sealant performance.
- D. Form expansion joint as detailed.

3.6 TOLERANCES

- A. Maximum Variation from Unit to Adjacent Unit: 1/16 inch.
- B. Maximum Variation from Plane of Wall: 1/4 inch in 10 ft and 1/2 inch in 20 ft or more.
- C. Maximum Variation from Plumb: 1/4 inch per story non-cumulative; 1/2 inch in two stories or more.
- D. Maximum Variation from Level Coursing: 1/8 inch in 3 ft and 1/4 inch in 10 ft; 1/2 inch in 30 ft.
- E. Maximum Variation of Joint Thickness: 1/8 inch in 3 ft.
- F. Maximum Variation from Cross Sectional Thickness of Walls: 1/4 inch.

3.7 CUTTING AND FITTING

- A. Cut and fit for chases, pipes, conduit, sleeves and grounds. Coordinate with other sections of work to provide correct size, shape and location.
- B. Obtain approval prior to cutting or fitting masonry work not indicated or where appearance or strength of masonry work may be impaired.

3.8 FIELD QUALITY CONTROL

- A. Field inspection will be performed under provisions of Section 01400.
- B. Inspect all masonry work.

3.9 CLEANING

- A. Clean work under provisions of 01700.
- B. Remove excess mortar and mortar smears as work progresses.
- C. Replace defective mortar. Match adjacent work.
- D. Clean soiled surfaces with cleaning solution.
- E. Use non-metallic tools in cleaning operations.

3.10 PROTECTION OF FINISHED WORK

- A. Protect finished Work under provisions of Section 01500.
- B. Without damaging completed work, provide protective boards at exposed external corners, which may be damaged by construction activities.

END OF SECTION

05500

METAL FABRICATIONS

PART 1 GENERAL

1.1 SECTION INCLUDES

Shop fabricated ferrous metal items.

1.2 RELATED SECTIONS

Section 04300 - Unit Masonry System: Placement of metal fabrications in masonry.

1.3 REFERENCES

- A. ASTM A36 - Structural Steel.
- B. ASTM A53 - Hot-Dipped, Zinc-coated Welded and Seamless Steel Pipe.
- C. ASTM A123 - Zinc (Hot-Dip Galvanized) Coatings on Iron and Steel Products.
- D. ASTM A283 - Carbon Steel Plates, Shapes and Bars.
- E. ASTM A307 - Carbon Steel Bolts and Studs, 60,000 p.s.i Tensile Strength.
- F. ASTM A500 - Cold-Formed Welded and Seamless Carbon Steel Structural Tubing in Round and Shapes.
- G. ASTM A501 - Hot-Formed Welded and Seamless Carbon Steel Structural Tubing.
- H. AWS A2.0 - Standard Welding Symbols.
- I. AWS D1.1 - Structural Welding Code.
- J. SSPC (Steel Structures Painting Council) - Steel Structures Painting Manual.

PART 2 PRODUCTS

2.1 MATERIALS - STEEL

- A. Steel Sections: ASTM A36.
- B. Steel Tubing: ASTM A500, Grade B.
- C. Plates: ASTM A283.
- D. Pipe: ASTM A53, Grade B, Schedule 40.
- E. Bolts, Nuts, and Washers: ASTM A325 galvanized to ASTM A153 for galvanized components.
- F. Welding Materials: AWS D1.1; type required for materials being welded.
- G. Ladders: ANSI A14.3.
- H. Shop and Touch-Up Primer: SSPC 15, Type 1, red oxide.

2.2 FABRICATION

- A. Fit and shop assemble items in largest practical sections, for delivery to site.
- B. Fabricate items with joints tightly fitted and secured.
- C. Grind exposed joints flush and smooth with adjacent finish surface. Make exposed joints butt tight, flush and hairline. Ease exposed edges to small uniform radius.
- D. Exposed Mechanical Fastenings: Flush countersunk screws or bolts; unobtrusively located; consistent with design of component, except where specifically noted otherwise.
- E. Supply components required for anchorage of fabrications. Fabricate anchors and related components of same material and finish as fabrication, except where specifically noted otherwise.

2.3 FABRICATION TOLERANCES

Squareness: 1/8-inch maximum difference in diagonal measurements.

- B. Maximum Offset Between Faces: 1/16 inch.
- C. Maximum Misalignment of Adjacent Members: 1/16 inch.
- D. Maximum Bow: 1/8 inch in 48 inches.
- E. Maximum Deviation: from plane: 1/16 inch in 48 inches.

2.4 FINISHES - STEEL

- A. Clean surfaces of rust, scale, grease, and foreign matter prior to finishing.
- B. Do not prime surfaces in direct contact with concrete or where field welding is required.
- C. Prime paint items with one coat.
- D. Structural Steel Members: Galvanize after fabrication to ASTM A123. [Provide minimum 1.25 oz/sq ft galvanized coating.]
- E. Non-structural Items: Galvanized after fabrication to ASTM A123. Provide minimum 1.25 oz/sq ft galvanized coating.
- F. Chrome Plating: ASTM B177, weight, nickel-chromium alloy, satin finish.

PART 3 EXECUTION

3.1 EXAMINATION

Verify that field conditions are acceptable and are ready to receive work.

3.2 PREPARATION

- A. Clean and strip primed steel items to bare metal where site welding is required.
- B. Supply steel items required to be cast into concrete or embedded in masonry with setting templates to appropriate sections.

3.3 INSTALLATION

- A. Install items plumb and level, accurately fitted, free from distortion or defects.
- B. Provide for erection loads, and for sufficient temporary bracing to maintain true alignment until completion of erection and installation of permanent attachments.
- C. Field weld components indicated on Drawings.
- D. Perform field welding in accordance with AWS D1.1.
- E. Obtain approval prior to site cutting or making adjustments not scheduled.
- F. After erection, prime welds, abrasions, and surfaces not shop primed or galvanized, except surfaces to be in contact with concrete.

3.4 ERECTION TOLERANCES

- A. Maximum Variation from Plumb: 1/4 inch per story, non-cumulative.
- B. Maximum Offset from True Alignment: 1/4 inch.
- C. Maximum Out-of-Position: 1/4 inch.

END OF SECTION

FRAMING AND SHEATHING

PART 1 GENERAL

1.1 SECTION INCLUDES

- A. Structural wall and roof framing.
- B. Built-up structural beams and columns.
- C. Diaphragm trusses fabricated on site.
- D. Floor, wall and roof sheathing.
- E. Sill flashings.
- F. Preservative treatment of wood.
- G. Fire retardant treatment of wood.
- H. Miscellaneous framing and sheathing.

1.2 RELATED SECTIONS

- A. Section 05500: Prefabricated steel structural supports.
- B. Sections 08111 and 08520: Window and Door openings to receive wood blocking.

1.3 REFERENCES

- A. AHA (American Hardboard Association) A135.4 - Basic Hardboard.
- B. ALSC (American Lumber Standards Committee) - Softwood Lumber Standards.
- C. ANSI A208.1 - Mat-Formed Wood Particleboard.
- D. APA (American Plywood Association).
- E. NFPA (National Forest Products Association).
- F. SPIB (Southern Pine Inspection Bureau).
- G. WCLIB (West Coast Lumber Inspection Bureau).
- H. WWPA (Western Wood Products Association).

1.4 SUBMITTALS FOR REVIEW

Shop Drawings for Site Fabricated Truss Frame: Indicate dimensions, wood species and grades, component profiles, drilled holes, fasteners, connectors, erection details and sequence.

1.5 QUALITY ASSURANCE

- A. In lieu of grade stamping exposed to view lumber and plywood, submit manufacturer's certificate certifying that products meet or exceed specified requirements.
- B. Design structural shop fabricated trusses under direct supervision of a Professional Structural Engineer experienced in design of this Work and licensed in the State of Missouri.

1.6 DELIVERY, STORAGE AND PROTECTION

- A. Section 01600 - Material and Equipment: Transport, handle, store and protect products.
- B. Protect trusses from warping or other distortion by stacking in vertical position, braced to resist movement.

PART 2 PRODUCTS

2.1 SHEATHING MATERIALS

Wall Sheathing: ANSI A208.1 Oriented Strand Board. (OSB) or as indicated on the Drawings.

2.2 SHEATHING AND UNDERLAYMENT LOCATIONS

Above grade OSB wall sheathing: ½” and treated plywood ¾” thick, 48 x 96 inch sized sheets, square edges as indicated on the Drawings.

2.3 ACCESSORIES

- A. Fasteners and Anchors:
 - 1. Fasteners: Stainless steel for high humidity and treated wood locations, unfinished steel elsewhere.
- B. Sill Flashing (Under Sill Gasket): Galvanized steel.
- C. Building Paper: Tyvek or equal.
- D. Treated 1x’s and 2x’s as indicated on the Drawings.

PART 3 EXECUTION

3.1 FRAMING

- A. Set structural members level and plumb, in correct position.
- B. Make provisions for erection loads and for sufficient temporary bracing to maintain structure safe, plumb and in true alignment until completion of erection and installation of permanent bracing.
- C. Place horizontal members, crown side up.
- D. Construct load bearing framing members’ full length without splices.
- E. Double members at openings over 24 inches wide. Space short studs over and under opening to stud spacing.
- F. Construct double joist headers at floor and ceiling openings and under wall stud partitions that are parallel to floor joists. Framed rigidly into joists.
- G. Bridge joists or other framing in excess of 8 feet span at mid-span. Fit solid blocking at ends of members.
- H. Place full width continuous sill flashings under framed walls on cementitious foundations. Lap flashing joint 4 inches.
- I. Coordinate installation of wood decking, wood chord metal joists, glue laminated structural units, prefabricated wood trusses or plywood web joists.

3.2 SHEATHING

- A. Secure roof sheathing with longer edge perpendicular to framing members and with ends staggered and sheet ends over bearing.
- B. Secure wall sheathing with long dimension parallel to wall studs, with ends over firm bearing and staggered.
- C. Place plywood or structural-use panel sheeting at building corners for a horizontal distance of 48 inches.
- D. Place Tyvek horizontally over wall sheathing; weather lap edges and ends.

3.3 TOLERANCES

- A. Framing Members: 1/4 inch from true position, maximum.
- B. Surface Flatness of Floor: 1/4 inch in 10 feet maximum and 1/2 inch in 30 feet maximum.

END OF SECTION

ALUMINUM SOFFIT PANELS

PART 1 GENERAL

1.1 SECTION INCLUDES

Preformed aluminum soffit panels, trim, and accessories for enclosing exterior roof overhangs.

1.2 RELATED SECTIONS

- A. Section 05500 – Metal Fabrications.
- B. Section 06112 – Framing and Sheathing.
- C. Section 07900 – Joint Sealers.

1.3 REFERENCES

- A. AAMA 1402-86 – Aluminum Siding, Soffit, and Fascia.
- B. ASTM B 209 – Aluminum and Aluminum-Alloy Sheet and Plate.
- C. ASTM D 226 – Asphalt-Saturated Organic Felt Used in Roofing and Waterproofing.
- D. ASTM E 84 – Surface Burning Characteristics of Building Materials.

1.4 PERFORMANCE REQUIREMENTS

- A. Soffits shall be fabricated and installed to withstand positive and negative wind pressure loads in accordance with applicable codes.
- B. Soffit system to accommodate without damage to components or failure of weather barrier movement caused by seasonal temperature cycling and deflection of structural support framing.
- C. Moisture entering or condensation occurring within soffit system shall drain to exterior.

1.5 SUBMITTALS

- A. Provide in accordance with Section 01300:
 - 1. Product data including material descriptions, dimensions, and profiles.
 - 2. Shop drawings showing layout, location of vents, dimensions, penetrations, trim, and installation methods.
 - 3. 4 inch long minimum samples of soffit panel and trim in color selected.
 - 4. Certificates documenting soffit system complies with requirements specified.
 - 5. Manufacturer’s installation instructions.
 - 6. Copy of warranty for review by Architect.

1.6 QUALITY ASSURANCE

- A. Manufacturer: Company with a minimum 5 years’ successful experience manufacturing aluminum soffit.
- B. Single Source Responsibility: To ensure functional and appearance compatibility, soffit panels and all trim pieces shall be products of single manufacturer.
- C. Aluminum soffit system shall be fabricated and installed to comply with:
 - 1. AAMA 1402-86.
 - 2. International Code Council-ES Legacy – Report No. 97-64.
 - 3. International Conference of Building Officials (ICBO): Report No. 2027.

1.7 PRODUCT HANDLING

- A. Deliver components in manufacturer's protective cartons clearly labeled as to specific products contained.
- B. During delivery and storage keep cartons flat and supported along entire length.
- C. Store material off ground, out of weather, in dry place. Provide ventilation. Protect from falling objects and construction activities.
- D. Handling: Avoid gouging, scratching, and denting.

1.8 WARRANTY

Provide under provisions of section 01780 – Closeout Submittals: Fifty (50) year lifetime limited, non-prorated, transferable warranty.

PART 2 PRODUCTS

2.1 MATERIALS

- A. Fabricate soffit panels and trim from sheet aluminum complying with ASTM B 209, AA3000 Alloy:
- B. Minimum Aluminum Properties:
 - 1. Ultimate Strength: 25 KSI.
 - 2. Yield Strength: 22 KSI.
 - 3. Modulus of Elasticity: 10,000 KSI.
 - 4. Coefficient of Linear Thermal Expansion: 1.31×10^{-5} inch/inch/degree F.
 - 5. Melting Range: 1175 to 1210 degrees F.

2.2 SOFFIT PANELS

- A. Type: Fully vented, hi-tensile, double V-groove soffit panel with installation flanges along both edges.
 - 1. Dimensions: 12 inches exposed width by 144 inches long.
 - 2. Thickness: 0.016 inches.
 - 3. Profile: V-grooves forming three (3) 4-inch wide panels with all panels vented.
 - 4. Net Free Open Area: 11.6 square inches per linear foot.
 - 5. Surface: Smooth.
 - 6. Finish Color: White.

2.3 TRIM

- A. Provide trim pieces as detailed on manufacturer's installation manual and as required for complete, weathertight, functional installation.
- B. Aluminum Trim: Fabricate from same material as soffit to shape, dimensions, and profile required to accommodate soffit panel and project conditions. Provide with channels to receive panels, flanges for concealed weathertight attachment, and slotted attachment holes. Color shall match or coordinate with soffit color. In order to eliminate or minimize visible joints, form in longest possible lengths with 10 feet being the minimum.
 - 1. J-channel: ½ inch wide channel to receive soffit panels with ½ inch attachment flange.
 - 2. Reverse Frieze Molding: F-shaped piece with ½ inch wide channel to receive aluminum soffit panels.
 - 3. Soffit T-Bar: Double channel to receive two soffit panels with exposed face.

2.4 ACCESSORIES

- A. Fasteners: Weather and corrosion resistant nails of type, size, and spacing as recommended by soffit manufacturer.
 - 1. Plain Shank Nails: Use for wood studs, furring, and other framing with minimum lengths of 1-1/2 inches. Allow 3/4 inch minimum penetration into wood framing.
 - 2. Screw Shank Nails: Use for plywood sheathing.
 - 3. Exposed Nails: Trim nails that match soffit and trim.
- B. Sealants: Silicone type as recommended by soffit manufacturer.

PART 3 EXECUTION

3.1 GENERAL

- A. Prepare substrate and install soffit in accordance with manufacturer's instructions, approved shop drawings, and manufacturer's soffit installation manual.
- B. Coordinate work with provisions and installation of exterior insulation finish system to ensure compatibility and weathertight, neat transition from vertical surface to horizontal soffit panels.

3.2 PREPARATION

Inspection: Verify that soffit support framing is rigid, level, and spacing does not exceed 24 inches. Do not proceed until deficiencies are addressed.

3.3 INSTALLATION

- A. Field Cutting: Accurately measure and cut soffit panels and trim. Use power circular saw with 10-point aluminum cutting blade, duckbill sheet metal snips, or hacksaw as recommended by manufacturer for specific cutting operation.
- B. Trim: Prior to installing soffit panels, locate and anchor perimeter to receive channels.
- C. Soffit Panels:
 - 1. Layout panels as detailed on approved shop drawings. Provide vented panels to provide sufficient ventilation of space above soffit.
 - 2. Insert panel into receiver channel, flex panel, and insert other end into opposing receiver channel. Ensure panels are perpendicular to perimeter and aligned. Fasten panel to supports by nailing through attachment flanges.
 - 3. Overlap, engage, and lock subsequent panels over preceding ones.
 - 4. At corners, miter cut soffit panels and install with soffit T-bar. Align joints and grooves of intersecting panels.
- D. Expansion Joints: Where soffit panel engages receiver channel and where aluminum components butt or adjoin other materials, leave expansion gap:
 - 1. Hot weather with aluminum components partially expanded: 1/16 inch.
 - 2. Cold weather with aluminum components partially contracted: 1/8 inch.
- E. Fastening: Install panels and trim with nails. Where exposed, use trim nails with color to match aluminum components.
 - 1. Drive fasteners straight and level. Do not slant fasteners.
 - 2. Do not drive head of fastener tightly against attachment flange. Allow 1/32 inch clearance between fastener head and aluminum surface.
 - 3. Do not place fastener through face of soffit panel.
 - 4. Spacing: Fasten soffit panels at 24 inches maximum.
- F. Sealants: Apply sealants where indicated on manufacturer's approved shop drawings and as required to provide weathertight installation. Depth of sealant bead shall be 1/4 inch minimum.

3.4 CLEANING AND PROTECTION

- A. Clean aluminum soffits and trim. Use detergent as required. Do not use solvents, abrasive, wire brushes, or steel scrapers.
- B. Remove Excess materials and debris from site.
- C. Protect soffit from subsequent construction operations. If damage occurs, remove and replace damaged components to provide installation in original, undamaged condition.

END OF SECTION

07600

FLASHING AND SHEET METAL

PART 1 GENERAL

1.1 SECTION INCLUDES

Metal Roof Flashing and Trim

1.2 RELATED SECTIONS

Section 07900 - Sealants

1.3 REFERENCES

- A. ASTM A 526 – Standard Specification for Steel Sheet, Zinc-Coated (Galvanized) by the Hot-Dip Process, Commercial Quality.
- B. ASTM A 527 – Specification for Steel Sheet, Zinc-Coated (Galvanized) by the Hot-Dip Process, Lock-Forming Quality.
- C. ASTM B 209 – Standard Specification for Aluminum and Aluminum-Alloy Sheet and Plate.
- D. National Roofing Contractors Association (NRCA) – “Roofing and Waterproofing Manual” third edition.
- E. Sheet Metal and Air Conditioning Contractor’s National Association (SMACNA) – Architectural Sheet Metal Manual.

1.4 SUBMITTALS

- A. Submit under provisions of Section 01300.
- B. Manufacturer’s data sheets on each product to be used, including:
 - 1. Preparation instructions and recommendations.
 - 2. Storage and handling requirements and recommendations.
 - 3. Installation method.
- C. Shop Drawings:
 - 1. Indicate material profile, dimensions, jointing pattern, jointing details, fastening methods, flashing, termination, and installation details.
 - 2. Show the layout of wall sections, attachment, joint details, trim flashing, accessories and air infiltration seals.
 - 3. Show thickness of treated wood nailers and substrate.
- D. Design Data:
 - 1. Submit manufacturer’s certification that product supplied meets Factory Mutual Research Corporation’s (FMRC) requirements for Roof Perimeter Flashing for use in Zone 1 and Zone 2 Windstorm Resistance Areas as defined in FME & R Loss Prevention Data Sheet 1-7 and 1-49 design recommendations, and meets the wind resistance requirements specified.
 - 2. Certify that perimeter metal edge systems furnished meet the specified design pressures as tested using ANSI/SPRI ES-1-98 test method RE-2 or RE-3 test methodology.
 - 3. Certify that membrane attachment by perimeter edge systems exceeds 100 lb/ft of force as tested by ANSI/SPRI ES-1-98 test method RE-1.
- E. Verification Samples: For each finish product specified, two samples, minimum size 6 inches square, representing actual product, color, and pattern.

1.5 QUALITY ASSURANCE

Installer qualifications: Companies specializing in sheet metal work with 5 years documented experience.

1.6 DELIVERY, STORAGE, AND HANDLING

- A. Store products in manufacturer's unopened packaging until ready for installation.
- B. Store and dispose of solvent-based materials, and materials used with solvent-based materials, in accordance with requirements of local authorities having jurisdiction.
- C. Materials shall be delivered with identification labels, warnings and storage recommendations.
- D. Materials shall be stored in a clean, dry location prior to installation to prevent any damage to the contents. Store materials off the ground and protect from damage and deterioration as required by the material manufacturer.
- E. Handle materials to prevent damage to their surfaces, edges and ends of metal items. Damaged material shall be rejected and immediately removed from the site.

1.7 PROJECT CONDITIONS

Maintain environmental conditions (temperature, humidity, and ventilation) within limits recommended by manufacturer for optimum results. Do not install products under environmental conditions outside manufacturer's absolute limits.

1.8 WARRANTY

- A. Warranty Certification: Installing contractor shall certify that sheet metal work has been installed per National Sheet Metal System's printed details and specifications.
- B. Manufacturer warrants sheet metal fabrications are warranted to be free of defects in material and workmanship for a period of five (5) years from date of shipment.
- C. Provide manufacturer's Twenty (20) year finish warranty for standard coil-coated Kynar 500 colors against peeling, chalking, fading, checking and crazing, commencing upon date of final completion.
- D. No other warranties either expressed or implied are acceptable unless so stated in writing.

PART 2 PRODUCTS

2.1 MANUFACTURERS

- A. Acceptable Manufacturer: McElory Metal, PO Box 1148, Shreveport, LA 71163, Toll free 800-950-6532.
- B. Other manufacturer's as approved by the Architect.

2.2 ROOF EDGE SYSTEMS

- A. Provide flashing system which meets the criteria recommended by Factory Mutual Research Corporation's (FRMC) requirements for Roof Perimeter Flashing for use in Zone 1 and Zone 2 Windstorm Resistance Areas as defined in FME & R Loss Prevention Data Sheet 1-7 and 1-49.
- B. Accessories:
 - 1. Closure Cleat.
 - 2. Custom Fabrications as shown on details.
- C. Accessories to be Fabricated from:
 - 1. 26 ga. Sheet Steel minimum.
- D. Finish:
 - 1. Kynar 500/Hylar 5000 from manufacturer's standard coil-coated colors.
 - a. Color – As determined by District representative.

2.3 METAL ROOF FLASHING & TRIM

- A. Profile: As indicated on Roof Manufacturer's standard details.
 - 1. Pitch Break.
 - 2. Valley Flashing.
 - 3. Peak Flashing.
 - 4. Ridge/Hip Flashing.
 - 5. Eave Flashing.
 - 6. Outside Corner Flashing.
 - 7. Inside Corner Flashing.
 - 8. Material and Finish: 26 ga. Steel galvanized/paint grip.
- B. Steel Finish:
 - 1. Prefinished steel with Kynar 500/Hylar 5000 from manufacturer's standard colors.

2.4 MATERIALS

- A. Prefinished Zinc-Coated Steel: Hot-dip galvanized steel, commercial quality A1 S1 G90 extra smooth, primed on both sides and finished on 1 side with 70 percent Kynar 500 based fluorocarbon coating of minimum 0.70 mils total dry film thickness.
 - 1. Strippable coating: Shop-applied liquid to front side of pre-finished metal to protect finish during fabrication, shipment, and field handling.
- B. Prefinished Aluminum Sheet: ASTM B 209, alloy 3003, coil-coated, 70 percent Kynar based fluorocarbon coating of minimum 0.70 mils total dry film thickness.

2.5 FABRICATION

- A. General Metal Fabrication: Shop-fabricate work to the greatest extent possible. Comply with details indicated on Drawings, and with applicable requirements of SMACNA. Fabricate for waterproof and weather-resistant performance; with expansion provisions for running work. Form work to fit substrates. Comply with material manufacturer instructions and recommendations for forming material. Form exposed sheet metal work without excessive oil-canning, buckling, and tool marks, true to line and levels indicated, with exposed edges folded back to form hems.
- B. Seams: Fabricate non-moving seams in sheet metal with flat-lock seams. Form seams and solder tin edges to be seamed.
- C. Expansion and Contraction:
 - 1. Provide for thermal expansion and contraction, and building movement in completed work, without over-stressing the material, breaking connections, or producing wrinkles and distortion in finished surfaces. Make watertight and weather-resistive.
 - 2. Where subject to thermal expansion and contraction, attach members with clips to permit movement without damage, or provide slotted or oversize holes with washers only, as acceptable to Architect.
 - 3. Make lock seam work flat and true to line, and sweat full of solder, except where installed to permit expansion and contraction.
 - a. Lap flat lock seams and soldered lap seams according to pitch, but in no case less than 3 inches. Make seams in direction of flow.
- D. Sealant Joints: Where movable, non-expansion type joints are indicated, or required for proper performance of work, form metal to provide for proper installation of sealant per SMACNA standards.
- E. Metal Separation: Separate metal from non-compatible metal or corrosive substrates by coating concealed surfaces at locations of contact with bituminous coatings or other permanent separation as recommended by manufacturer.
- F. Accessories:
 - 1. Factory assemblies shall be furnished to maintain watertight integrity.
 - 2. Provide matching accessories or other special fabrications from the manufacturer; color to match specified profile unless noted otherwise.

- G. Fascia/flashing sections furnished with strippable protective vinyl masking shall have film removed immediately before installation to prevent damage to the coating if left exposed to the ultra-violet rays of sunlight.

PART 3 EXECUTION

3.1 EXAMINATION

- A. Do not begin installation until substrates have been properly prepared.
- B. If substrate preparation is the responsibility of another installer, notify Architect of unsatisfactory preparation before proceeding.

3.2 PREPARATION

- A. Clean surfaces thoroughly prior to installation.
- B. Prepare surfaces using the methods recommended by the manufacturer for achieving the best result for the substrate under the project conditions.

3.3 INSTALLATION

- A. Install in accordance with manufacturer's instructions.
- B. Except as otherwise indicated, comply with SMACNA recommendations.
- C. Anchor units of work securely in place by methods indicated, providing for thermal expansion of metal units. Conceal fasteners wherever possible, and set units true to line and level. Install work with laps, joints, and seams that will be permanently watertight and weather-restive.
- D. Strictly follow the material manufacturer's printed installation requirements.
- E. Completed work shall be true to line without buckling, creasing, warp or wind in finished surfaces. "Oil-canning" surfaces are not acceptable.
- F. Isolate dissimilar metals, masonry or concrete from metals using bituminous paint, tape or slip-sheet. Use gasketed fasteners where required to prevent corrosive actions.
- G. Allow sufficient clearances for expansion and contraction of linear metal components. Secure metal using continuous cleats, clips and fasteners as required by the system. No exposed face fastening shall be accepted.

3.4 PROTECTION

- A. Protect installed products until completion of project.
- B. Maintain prefinished surfaces in undamaged condition until date of final completion. Repair or replace damaged components, any touch-up to be indistinguishable from undamaged surface/finish.
- C. Upon completion of work, a final inspection by the owner's representative shall be made. Any necessary corrective actions will be noted and the installing contractor shall make corrections within five (5) working days. Upon acceptance of the project, any applicable warranties shall be presented to the owner's representative.

END OF SECTION

07612

SHEET METAL ROOFING

PART 1 GENERAL

1.1 SECTION INCLUDES

- A. Pre-finished steel sheet roofing, associated flashings.
- B. Counter flashings.
- C. Snow guards.

1.2 RELATED SECTIONS

Section 07900 - Joint Sealers.

1.3 REFERENCES

- A. AAMA 603.8 - Voluntary Performance Requirements and Test Procedures for Pigmented Organic Coatings on Extruded Aluminum.
- B. AAMA 605.2 - Specification for High Performance Organic Coatings on Architectural Extrusions and Panels.
- C. ASTM A526/A526M - Standard Specification for Steel Sheet, Zinc Coated (Galvanized) by the Hot-Dip Process, Commercial Quality.

1.4 SUBMITTALS FOR REVIEW

- A. Section 01300 - Submittals: Procedures for submittals.
- B. Shop Drawings: Indicate material profile, jointing pattern, jointing details, fastening methods, flashings, terminations and installation details.
- C. Product Data: Provide data on metal types, finishes and characteristics.

1.5 QUALITY ASSURANCE

- A. Perform work in accordance with SMACNA Architectural Sheet Metal Manual requirements, except as otherwise noted.
- B. Fabricator and Installer Qualifications: Company specializing in sheet metal roof installations with minimum four years experience.

1.6 DELIVERY, STORAGE, AND PROTECTION

- A. Section 01600 - Material and Equipment: Transport, handle, store, and protect.
- B. Stack material to prevent twisting, bending or abrasion and to provide ventilation. Slope metal sheets to ensure drainage.
- C. Prevent contact with materials that may cause discoloration or staining.

1.7 WARRANTY

Section 01700 - Contract Closeout. 01740 - Warranties.

PART 2 PRODUCTS

2.1 METAL WALL AND ROOF PANELS

- A. Manufacturer: McElroy Metal, Inc.
 - 1. Contact: 1500 Hamilton Road, Bossier City, LA 71111; Telephone (800) 950-6531, (318) 747-8000; Fax (318) 747-8059; Email marketing@mcelroymetal.com; website www.mcelroymetal.com
 - 2. Proprietary products: McElroy Preformed Roof Panels.
- B. Or Equal.

2.2 MANUFACTURED UNITS

- A. McElroy Max-Rib Panel
 - 1. Profile: Major longitudinal ribs 3/4" (45 mm) deep, spaced 9" (229 mm) on center; minor longitudinal ribs centered between major ribs.
 - 2. Size: 36" (914 mm) cover width.
 - 3. Material Galvalume steel sheet conforming to ASTM A792, AZ55 coating; 26 gauge sheet thickness.
 - 4. Finish: Galvalume Substrate with Kynar 500 coating.
 - a. Color: Selected from full range of manufacturer's standard colors.
- B. Trim:
 - 1. Manufacturer's standard 26 gauge sheet metal matching panel material and finish, break-formed, to profiles indicated on drawings, and including, but not limited to:
 - a. Copings.
 - b. Gravel stops.
 - c. Gutters and downspouts.
 - d. Termination and transition strips.
 - 2. Color: Match panel finish.
 - 3. Color: Selected from full range of manufacturer's standard color.
- C. Clips and Fasteners: Supply items required for installation of panels in accordance with manufacturer's installation instructions and other indicated items; supply galvanized clips and fasteners.

2.3 ACCESSORIES

- A. Fasteners: The steel panels shall be fastened to building framing by plated steel sharp point screws with zinc/aluminum/cast nonferrous alloy hex washer heads pre-assembled with aluminum bond seal washers, which cannot red rust and are compatible with steel panel. Woodzac by Construction Fasteners, Inc., or equal are acceptable.
- B. Snow Guards:
 - 1. Design Requirements: Continuous linear roof snow retention system along front of building should have a minimum performance of 500# per lineal foot of bar without deflection. Connection must be used at every roof seam.
 - 2. Bar: 16 ga. galvanized steel with Kynar 500 finish. Snow guard bar color to match metal roof or as selected by Architect.
 - 3. Connection: Stainless steel U- Bracket with stainless steel screws.
 - 4. Substrate Below Roof Panel: 2-Ply purlin at eave attachment line or double stagger line.
 - 5. Quality Assurance: 5-years
- C. Warranty:
 - 1. Max Rib Steel Panels:
 - a. 30 years against crack, peel, blister, or flake of paint coating.

- b. 40 years against Chalk in excess of 8 per ASTM D-4214 Method D659
 - c. 40 years against change of color in excess of 5 per ASTM D-2244
- D. Trim and Flashing: 0.0158" minimum thickness steel on gables, ridge, corners, base with same prefinished paint, Kynar 500. Color selected from standard color samples.
- E. Closure Strips: 1" wide closed-cell linked expanded polyurethane, to match panel corrugation.

2.4 FABRICATION

- A. Form sections true to shape, accurate in size, square and free from distortion or defects.
- B. Fabricate cleats of same material as sheet, minimum 3" wide, interlockable with sheet.
- C. Fabricate starter strips of same material as sheet, intermittent to minimum 3 inches wide, interlockable with sheet.
- D. Form pieces in longest practical lengths.
- E. Hem exposed edges on underside 1/2", miter and seam corners.
- F. Form material with standing seams, except where otherwise indicated. At moving joints, use sealed lapped, bayonet-type or interlocking hooked seams.
- G. Fabricate corners from one piece with minimum 18 inch long legs; seam for rigidity, seal with sealant.
- H. Fabricate vertical faces with bottom edge formed outward 1/4 inch and hemmed to form drip.
- I. Fabricate flashings to allow toe to extend 2 inches over roofing. Return and brake edges.
- J. Fabricate snow guards in accordance with SMACNA Plate.

PART 3 EXECUTION

3.1 EXAMINATION

- A. Inspect roof deck to verify deck is clean and smooth, free of depressions, waves or projections, properly sloped to drains, valleys and/or eaves.
- B. Verify deck is dry and free of snow or ice.
- C. Verify correct placement of wood nailers [and insulation positioning between nailers].
- D. Verify roof openings, curbs, pipes, sleeves, ducts or vents through roof are solidly set; reglets are in place and nailing strips located.
- E. Verify roofing termination and base flashings are in place, sealed, and secure.

3.2 PREPARATION

- A. Install starter and edge strips, and cleats before starting installation.
- B. Install surface mounted reglets true to lines and levels. Seal top of reglets with sealant.
- C. Back paint concealed metal surfaces and surfaces in contact with dissimilar metals with protective backing paint to a minimum dry film thickness of 15 mils.

3.3 INSTALLATION - FLASHINGS

- A. Conform to SMACNA details.
- B. Secure flashings in place using concealed fasteners. Use exposed fasteners only where permitted.
- C. Cleat and seam all joints.
- D. Apply plastic cement compound between metal flashings and felt flashings.
- E. Fit flashings tight in place. Make corners square with surfaces true and straight in planes and lines accurate to profiles.
- F. Seal metal joints watertight.

3.4 PROTECTION OF FINISHED WORK

- A. Section 01700 - Contract Closeout: Protecting installed work.

- B. Do not permit traffic over unprotected roof surface.

END OF SECTION

GUTTERS AND DOWNSPOUTS

PART 1 GENERAL

1.1 SECTION INCLUDES

- A. Pre-finished continuous aluminum gutters and downspouts.
- B. Precast concrete splash pads.

1.2 RELATED SECTIONS

Section 09900 - Painting: Field painting of metal surfaces.

1.3 REFERENCES

ASTM B209 - Standard Specification for Aluminum and Aluminum-Alloy Sheet and Plate.

1.4 DESIGN REQUIREMENTS

Conform to SMACNA Manual CDA Handbook for sizing components for rainfall intensity determined by a storm occurrence of 1 in 5 years.

1.5 SUBMITTALS FOR REVIEW

- A. Section 01300 - Submittals: Procedures for submittals.
- B. Shop Drawings: Indicate locations, configurations, jointing methods, fastening methods, locations and installation details.
- C. Samples: Submit two samples, 12 inches long illustrating component design, finish, color and configuration.

1.6 DELIVERY, STORAGE, AND PROTECTION

- A. Section 01600 - Material and Equipment: Transport, handle, store and protect.
- B. Stack material to prevent twisting, bending or abrasion and to provide ventilation. Slope to drain.
- C. Prevent contact with materials during storage that may cause discoloration, staining or damage.

1.7 PROJECT CONDITIONS

- A. Section 01039 - Coordination and Meetings.
- B. Coordinate the work with downspout discharge pipe inlet.

PART 2 PRODUCTS

2.1 MATERIALS

Pre-Finished Aluminum Sheet: ASTM B209; 0.032 inch thick; plain finish shop pre-coated with acrylic coating; color as selected from manufacturer's standard.

2.2 COMPONENTS

- A. Gutters: SMACNA Square style profile.
- B. Connectors: Furnish required connector pieces for PVC (Polyvinyl Chloride) components.
- C. Anchors and Supports: Profiled to suit gutters and downspouts.
 - 1. Anchoring Devices: Type recommended by fabricator.

2. Gutter Supports: Straps, screws and ferrules.
3. Downspout Supports: Straps.
- D. Fasteners: Aluminum. Same material and finish as gutters and downspouts, with soft neoprene washers.

2.3 ACCESSORIES

- A. Splash Pads: Precast concrete type, size and profiles indicated; minimum 3,000 p.s.i. at 28 days, with minimum 5 percent air entrainment.
- B. Downspout Boots: Plastic.

2.4 FABRICATION

- A. Form gutters and downspouts of profiles and size indicated.
- B. Fabricate with required connection pieces.
- C. Form sections square, true and accurate in size, in maximum possible lengths, free of distortion or defects detrimental to appearance or performance. Allow for expansion at joints.
- D. Hem exposed edges of metal.
- E. Fabricate gutter and downspout accessories; seal watertight.

2.5 FACTORY FINISHING

- A. Modified silicone polyester coating: Baked enamel system conforming to AAMA 603.8.
- B. Primer Coat: Finish concealed side of metal sheets with primer compatible with finish system, as recommended by finish system manufacturer.

PART 3 EXECUTION

3.1 EXAMINATION

- A. Section 01039 - Coordination and Meetings: Verification of existing conditions before starting work.
- B. Verify that contact surfaces are ready to receive work.

3.2 PREPARATION

Paint concealed metal surfaces and surfaces in contact with dissimilar metals with protective backing paint to a minimum dry film thickness of 15 mil.

3.3 INSTALLATION

- A. Install gutters, downspouts and accessories in accordance with manufacturer's instructions.
- B. Slope gutters 1/8 inch per foot
- C. Connect downspouts to downspout boots or shoes at 8 inches above grade or into storm sewer system. Seal connection watertight.
- D. Set splash pads under downspouts.

END OF SECTION

JOINT SEALERS

PART 1 GENERAL

1.1 SECTION INCLUDES

- A. Sealants and joint backing.
- B. Precompressed foam sealers.
- C. Hollow gaskets.

1.2 REFERENCES

- A. ASTM C834 - Standard Specification for Latex Sealing Compounds.
- B. ASTM C920 - Standard Specification for Elastomeric Joint Sealants.
- C. ASTM C1193 - Standard Guide for Use of Joint Sealants.
- D. ASTM D1056 - Standard Specification for Flexible Cellular Materials - Sponge or Expanded Rubber.
- E. ASTM D1565 - Standard Specification for Flexible Cellular Materials - Vinyl Chloride Polymers and Copolymers (Open-Cell Foam).
- F. ASTM D1667 - Standard Specification for Flexible Cellular Materials - Vinyl Chloride Polymers and Copolymers (Closed-Cell Foam).

1.3 QUALITY ASSURANCE

- A. Manufacturer Qualifications: Company specializing in manufacturing the Products specified in this section with minimum three years experience.
- B. Applicator Qualifications: Company specializing in performing the work of this section and approved by manufacturer.

1.4 ENVIRONMENTAL REQUIREMENTS

Maintain temperature and humidity recommended by the sealant manufacturer during and after installation.

1.5 COORDINATION

- A. Section 01039 - Coordination and Meetings: Coordination requirements.
- B. Coordinate the work with all sections referencing this section.

1.6 WARRANTY

- A. Section 01700 - Warranties.
- B. Correct defective work within a five-year period after Date of Substantial Completion.
- C. Warranty: Include coverage for installed sealants and accessories which fail to achieve airtight seal and exhibit loss of adhesion or cohesion or do not cure.

1.7 SEALANTS

- A. Type I - General Purpose Exterior Sealant: Polyurethane or Polysulfide; ASTM C920, Grade NS, Class 25, Uses M, G and A; single or multi- component.
 - 1. Standard colors matching finished surfaces.
- B. Type II - Exterior Expansion Joint Sealer: Precompressed foam sealer; urethane with water-repellent:

1. Face color: Gray.
 2. Size as required providing watertight seal when installed.
 3. Provide product recommended by manufacturer for traffic-bearing use.
 4. Applications: Use for:
 - a. Exterior wall expansion joints
 - b. Paving surface joints
 - c. Set in floor components
- C. Type III - Exterior Metal Lap Joint Sealant: Butyl or polyisobutylene, non-drying, non-skinning, non-curing.
1. Applications: Use for:
 - a. Concealed sealant bead in sheet metal work.
 - b. Concealed sealant bead in siding overlaps.

PART 2 PRODUCTS

2.1 ACCESSORIES

- A. Primer: Non-staining type, recommended by sealant manufacturer to suit application.
- B. Joint Cleaner: Non-corrosive and non-staining type, recommended by sealant manufacturer; compatible with joint forming materials.
- C. Joint Backing: Round foam rod compatible with sealant; ASTM D1056, sponge or expanded rubber; oversized 30 to 50 percent larger than joint width.
- D. Bond Breaker: Pressure sensitive tape recommended by sealant manufacturer to suit application.

PART 3 EXECUTION

3.1 EXAMINATION

- A. Verify that substrate surfaces and joint openings are ready to receive work.
- B. Verify that joint backing and release tapes are compatible with sealant.

3.2 PREPARATION

- A. Remove loose materials and foreign matter that might impair adhesion of sealant.
- B. Clean and prime joints in accordance with manufacturer's instructions.
- C. Perform preparation in accordance with manufacturer's instructions and ASTM C1193.
- D. Protect elements surrounding the work of this section from damage or disfiguration.

3.3 INSTALLATION

- A. Perform installation in accordance with sealant manufacturer's requirements for preparation of surfaces and material installation instructions.
- B. Perform installation in accordance with ASTM C1193.
- C. Measure joint dimensions and size joint backers to achieve width-to-depth ratio, neck dimension, and surface bond area as recommended by manufacturer, except where specific dimensions are indicated.
- D. Install bond breaker where joint backing is not used.
- E. Install sealant free of air pockets, foreign embedded matter, ridges and sags.
- F. Apply sealant within recommended application temperature ranges. Consult manufacturer when sealant cannot be applied within these temperature ranges.
- G. Tool joints concave.
- H. Precompressed Foam Sealant: Do not stretch; avoid joints except at corners, ends, and intersections; install with face 1/8 to 1/4 inch below adjoining surface.
- I. Compression Gaskets: Avoid joints except at ends, corners, and intersections; seal all joints with adhesive; install with face 1/8 to 1/4 inch below adjoining surface.

3.4 CLEANING

Clean adjacent soiled surfaces.

3.5 PROTECTION OF FINISHED WORK

Protect sealants until cured.

END OF SECTION

08111

STANDARD STEEL DOORS

PART 1 GENERAL

1.1 SECTION INCLUDES

- A. Non-rated, fire rated and thermally insulated steel doors and panels.
- B. Louvers. Glass and glazing.

1.2 RELATED SECTIONS

- A. Section 08112 - Standard Steel Frames.
- B. Section 08710 - Door Hardware.

1.3 REFERENCES

- A. ANSI A117.1 - Specifications for Making Buildings and Facilities Accessible to and Usable by Physically Handicapped People.
- B. ASTM A525 - Steel Sheet, Zinc-Coated (Galvanized) by the Hot-Dip Process.
- C. ASTM E152 - Methods of Fire Tests of Door Assemblies.
- D. NFPA 80 - Fire Doors and Windows.
- E. NFPA 252 - Fire Tests for Door Assemblies.
- F. SDI-100 - Standard Steel Doors and Frames.
- G. UL 10B - Fire Tests of Door Assemblies.

1.4 SUBMITTALS FOR REVIEW

- A. Section 01300 - Submittals: Procedures for submittals.
- B. Shop Drawings: Indicate door elevations, internal reinforcement, closure method and cutouts for glazing and louvers.

1.5 SUBMITTALS FOR INFORMATION

- A. Section 01300 - Submittals: Procedures for submittals.
- B. Manufacturer's Certificate: Certify that Products meet or exceed specified requirements.

1.6 QUALITY ASSURANCE

Manufacturer: Specializing in manufacturing products specified in this section with three years' experience.

1.7 REGULATORY REQUIREMENTS

Installed Door and Panel Assembly: Conform to NFPA 80 for fire rated class as scheduled.

1.8 DELIVERY, STORAGE AND PROTECTION

- A. Section 01600 - Material and Equipment: Transport, handle, store and protect products.
- B. Accept doors on site in manufacturer's packaging. Inspect for damage.
- C. Break seal on site to permit ventilation.

1.9 PROJECT CONDITIONS

- A. Section 01039 - Coordination and Meetings.
- B. Coordinate frame installation with size, location, and installation of service utilities.
- C. Coordinate the work with door opening construction, doorframes and door hardware installation.
- D. Sequence installation to ensure wire connections are achieved in an orderly and expeditious manner.

PART 2 PRODUCTS

2.1 ACCEPTABLE PRODUCTS FOR 24 GAGE 1-3/4" STAINLESS STEEL INSULATED DOOR:

- A. American Garage Door Supply, 1225 Industrial Park Drive, S E. Bemidji, MN 56601. Phone: 1-800 233-1487
- B. A. J. Manufacturing, Inc., 1217 Oak Street, Bloomer WI. Phone: 1-800-328-9448.

2.2 DOORS AND PANELS

- A. Astragals for Double Doors: Steel T shaped, specifically for double doors (As required).
- B. Fabricate doors with hardware reinforcement welded in place.
- C. Attach fire rated label to each fire rated door unit.
- D. Configure exterior doors with special profile to receive recessed weather stripping.
- E. Type and Design:
 - 1. Tightly hemmed vertical seam on lock and hinge edges, with top flush channel and beveled lock edge, in the dimensions and types shown on the drawings, reinforced for the finish hardware being provided under Section 08710 of these Specifications.

PART 3 EXECUTION

3.1 EXAMINATION

- A. Section 01039 - Coordination and Meetings: Verification of existing conditions before starting work.
- B. Verify that opening sizes and tolerances are acceptable.

3.2 INSTALLATION

- A. Install doors in accordance with SDI-100 and DHI.
- B. Coordinate installation of doors with installation of frames and hardware specified in Section 08710.

3.3 ERECTION TOLERANCES

Maximum Diagonal Distortion: 1/16 inch measured with straight edge, corner to corner.

3.4 ADJUSTING

- A. Section 01650 - Starting of Systems: Adjusting installed work.
- B. Adjust door for smooth and balanced door movement.

3.5 SCHEDULE

Refer to Door and Frame Schedule on architectural drawings.

END OF SECTION

08112

STANDARD STEEL FRAMES

PART 1 GENERAL

1.1 SECTION INCLUDES

Non-rated and fire rated steel frames.

1.2 RELATED SECTIONS

- A. Section 08111 - Standard Steel Doors.
- B. Section 08710 - Door Hardware: Hardware, silencers and weather stripping.

1.3 REFERENCES

- A. ANSI A117.1 - Specifications for Making Buildings and Facilities Accessible to and Usable by Physically Handicapped People.
- B. ASTM A525 - Steel Sheet, Zinc-Coated (Galvanized) by the Hot-Dip Process.
- C. ASTM E152 - Methods of Fire Tests of Door Assemblies.
- D. DHI - Door Hardware Institute: The Installation of Commercial Steel Doors and Steel Frames, Insulated Steel Doors in Wood Frames and Builder's Hardware.
- E. NFPA 80 - Fire Doors and Windows.
- F. NFPA 252 - Fire Tests for Door Assemblies.
- G. SDI-100 - Standard Steel Doors and Frames.
- H. UL 10B - Fire Tests of Door Assemblies.

1.4 SUBMITTALS FOR REVIEW

- A. Section 01300 - Submittals: Procedures for submittals.
- B. Shop Drawings: Indicate frame elevations, reinforcement, anchor types and spacing, location of cutouts for hardware and finish.

1.5 QUALITY ASSURANCE

Manufacturer: Company specializing in manufacturing the Products specified in this section with minimum three years documented experience.

1.6 REGULATORY REQUIREMENTS

- A. Fire Rated Frame Construction: Conform to NFPA 252 or UL 10B.
- B. Installed Frame Assembly: Conform to NFPA 80 for fire rated class same as fire door.

1.7 DELIVERY, STORAGE AND PROTECTION

- A. Section 01600 - Material and Equipment: Transport, handle, store and protect products.
- B. Accept frames on site in manufacturer's packaging. Inspect for damage.

1.8 PROJECT CONDITIONS

- A. Section 01039 - Coordination and Meetings.
- B. Coordinate the work with frame opening construction, door and hardware installation.
- C. Sequence installation to ensure wire connections are achieved in an orderly and expeditious manner.

PART 2 PRODUCTS

2.1 ACCEPTABLE MANUFACTURES FOR 16 GAGE STAINLESS STEEL FRAMES:

- A. American Garage Door Supply, 1225 Industrial Park Drive, S E. Bemidji, MN 56601.
Phone: 1-800 233-1487
- B. A. J. Manufacturing, Inc., 1217 Oak Street, Bloomer WI. Phone: 1-800-328-9448.

2.2 ACCESSORIES

- A. Removable Stops: Rolled steel channel shape, butted corners; prepared for countersink style tamper proof screws.
- B. Silencers: Specified in Section 08710.
- C. Weatherstripping: Specified in Section 08710.

2.3 FABRICATION

- A. Fabricate frames as welded unit.
- B. Mullions for Double Doors: Fixed type, of same profiles as jambs.
- C. Transom Bars for Glazed Lights: Fixed type, of same profiles as jamb and head.
- D. Fabricate frames with hardware reinforcement plates welded in place. Provide mortar guard boxes.
- E. Reinforce frames wider than 4" with roll formed steel channels fitted tightly into frame head, flush with top.
- F. Configure exterior frames with special profile to receive recessed weather stripping.
- G. Attach fire rated label to each fire rated door unit.

PART 3 EXECUTION

3.1 EXAMINATION

- A. Section 01039 - Coordination and Meetings: Verification of existing conditions before starting work.
- B. Verify that opening sizes and tolerances are acceptable.

3.2 INSTALLATION

- A. Install frames in accordance with SDI-100 and DHI.
- B. Coordinate with masonry, gypsum board or concrete wall construction for anchor placement.
- C. Coordinate installation of glass and glazing.
- D. Coordinate installation of frames with installation of hardware specified in Section 08710 and doors in Section 08111.

3.3 ERECTION TOLERANCES

Maximum Diagonal Distortion: 1/8" measured with straight edges, crossed corner to corner.

3.4 SCHEDULE

Refer to Door Schedule on drawings.

END OF SECTION

OVERHEAD COILING DOORS

PART 1 GENERAL

1.1 SUMMARY

- A. Provide overhead coiling doors where shown on the Drawings, as specified herein and as needed for a complete and proper installation.
- 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 45 calendar days after the Contractor has received the Owner's Notice to Proceed, submit:
 - 1. Materials list of items proposed to be provided under this section.
 - 2. Manufacturer's specifications and other data needed to prove compliance with the specified requirements;
 - 3. Shop Drawings in sufficient detail show fabrication, installation, anchorage and interface of the work of this Section with the work of adjacent trades.
 - 4. Manufacturer's recommended installation procedures which, when approved or rejecting actual installation procedures used on the Work.

1.3 QUALITY ASSURANCE

Use adequate numbers of skilled workman who are thoroughly trained and experienced in the necessary crafts and who are completely familiar with the specified requirements and the methods needed for the proper performance of the work of this Section.

1.4 DELIVERY, STORAGE AND HANDLING

Comply with the pertinent provisions of Section 01620.

PART 2 PRODUCTS

2.1 OVERHEAD COILING DOORS

- A. Provide standard rollup service doors of the dimensions and arrangements shown on the Drawings and with the following attributes:
 - 1. Design wind load: 20PSF
 - 2. Curtain: Interlocking, rolling formed, fully foamed-in-place, insulated, flat profile. The front slat shall be fabricated from minimum 22 gauge-galvanized steel, with the back slat to be fabricated from minimum 24 gauge.
 - 3. Bottom Bar: Extruded aluminum member, to reinforce the curtain in the guides and will have a vinyl weather seal attached.
 - 4. Guides: Hot-dipped galvanized structural steel shapes attached to continuous steel wall angle for door(s). Three structural steel angles with a minimum thickness of 3/16" for door(s). Guides will be weather stripped with a vinyl weather seal at each jamb on the interior and exterior curtain side.
 - 5. Brackets: Galvanized steel plate to support the counterbalance curtain and hood.
 - 6. Counterbalance: Helical torsion springs housed in a galvanized steel tube.

7. Weatherseals: Vinyl bottom seal, exterior guide and internal hood seals. Include header brush or broom seal with aluminum extrusion.
 8. Hood: Aluminum
 9. Operation: Motor and chain.
 10. Finish: Curtain slats shall be galvanizes per ASTM A-525 and shall receive a rust-inhibitive, roll coating process, including bonderizing, baked on prime paint to be .2 mils thick and a baked on polyester top coat to be .6 mils thick. All non-galvanized exposed ferrous surfaces will receive one coat of rust-inhibitive primer. All aluminum will be furnished in a clear mill finish. Door(s) to have factory white paint.
 11. Electric Sensing Edge: Provide for each door. Provide safety edges by Air Wave, Miller Edge, Model number MTAW21YB-U-door width minus 2" with coil cord or equal, extend full width of the door. Provide AW12 Air Wave waterproof switch. Upon contact with an obstruction the downward travel of the door shall be stopped or reversed.
- B. Provide electric motor operator with three position pushbutton operation, in capacity recommended by the manufacturer. See specification Section 08720.
- C. Acceptable products:
1. Model 625 Series face mounted rolling service door manufactured by Overhead Door Corporation P.O. Box 809046, Dallas, Texas 75380. Phone: 1-800-887-3667
 2. Equal products of other manufacturers when approved in advance by the Architect.

2.2 OTHER MATERIALS

Provide other materials, not specifically described but required for a complete and proper installation, as selected by the Contractor to the approval of the Architect.

PART 3 EXECUTION

3.1 SURFACE CONDITIONS

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

3.2 INSTALLATION

- 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.
- B. Install the work of this Section in strict accordance with the original design, the approved Shop Drawings per requirements of government agencies having jurisdiction, and the manufacturer's recommended installation procedures as approve by the Architect, anchoring all components firmly into position for long life under hard use.
- C. Upon completion of the installation, put all items through at least ten operating cycles. Make required adjustments and assure that components are in optimum operating condition.

END OF SECTION

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DOOR HARDWARE

PART 1 GENERAL

1.1 SECTION INCLUDES

- A. Hardware for wood, hollow steel and aluminum doors.
- B. Thresholds.
- C. Weatherstripping, seals and door gaskets.

1.2 RELATED SECTIONS

- A. Section 08111 - Standard Steel Doors.
- B. Section 08112 - Standard Steel Frames.

1.3 REFERENCES

- A. NFPA 80 - Fire Doors and Windows.
- B. NFPA 101 - Life Safety Code.
- C. NFPA 252 - Fire Tests of Door Assemblies.
- D. UL 10B - Safety Fire Tests of Door Assemblies.

1.4 SUBMITTALS FOR REVIEW

- A. Section 01300 - Submittals: Procedures for submittals.
- B. Shop Drawings:
 - 1. Indicate locations and mounting heights of each type of hardware, schedules and catalog cuts.
 - 2. Submit manufacturer's parts lists and templates.
- C. Samples:
 - 1. Submit 1 sample of hinge, latchset, lockset and closer, illustrating style, color and finish.
 - 2. Samples will be incorporated into the Work.

1.5 SUBMITTALS AT PROJECT CLOSEOUT

- A. Section 01700 - Operation and Maintenance Data.
- B. Section 01300 - Procedures for submittals.
- C. Maintenance Data: Include data on operating hardware, lubrication requirements and inspection procedures related to preventative maintenance.
- D. Keys: Deliver with identifying tags to Owner by security shipment direct from hardware supplier.

1.6 REGULATORY REQUIREMENTS

Products Requiring Electrical Connection: Listed and classified by Underwriters' Laboratories, Inc., as suitable for the purpose specified and indicated.

1.7 DELIVERY, STORAGE AND PROTECTION

- A. Section 01600 - Material and Equipment: Transport, handle, store, and protect products.
- B. Package hardware items individually, label and identify each package with door opening code to match hardware schedule.

1.8 PROJECT CONDITIONS

- A. Section 01039 - Coordination and Meetings.
- B. Coordinate the work with other directly affected sections involving manufacture or fabrication of internal reinforcement for door hardware and recessed items.
- C. Sequence installation to ensure utility connections are achieved in an orderly and expeditious manner.
- D. Coordinate Owner's keying requirements during the course of the Work.

1.9 WARRANTY

Provide five-year manufacturer warranty for door closers.

1.10 MAINTENANCE PRODUCTS

- A. Section 01730 - Operation and Maintenance Data.
- B. Provide special wrenches and tools applicable to each different or special hardware component.
- C. Provide maintenance tools and accessories supplied by hardware component manufacturer.

1.11 EXTRA MATERIALS

Section 01730 - Operation and Maintenance Data.

PART 2 PRODUCTS

2.1 KEYING

- A. Door Locks: Keyed in like-groups. Master keyed.
- B. Include construction keying, and control keying with removable core cylinders. Key to the existing keying system where requested.
- C. Supply keys in the following quantities:
 - 1. Two master keys.
 - 2. Four construction keys.
 - 3. Three change keys for each lock.

2.2 HARDWARE

- A. Furnish the following hardware groups in the amounts as indicated on the drawings.

1.	Hardware group 1:	Doors: 1, 8 & 15	
	4-1/2 Pr. Butts	FBB179-4-1/2 x 4-1/2 US26D NRP	Stanley
	3 Entrance	35H7F15J-626	Best
	3 Closer	7601DS	Dorma
	3 Threshold	2005A 36" x AL	Pemko
	3 Sweep	18062 36" x AL	Pemko
	3 Gasket Set	305CN	Pemko
	3 Weather strip	305CN x W x H	Pemko
2.	Hardware group 2:	Doors: 4, 5, 11 & 12	
	6 Pr. Butts	FBB179-4-1/2 x 4-1/2 US26D NRP	Stanley
	4 Passage	93KON15D-S3-626	Best
	4 Closer	7601DS	Dorma
	4 Threshold	2005A 36" x AL	Pemko
	4 Sweep	18062 36" x AL	Pemko
	4 Gasket Set	305CN	Pemko
	4 Weather strip	305CN x W x H	Pemko

PART 3 EXECUTION

3.1 EXAMINATION

- A. Section 01039 - Coordination and Meetings: Verification of existing conditions before starting work.
- B. Verify that doors and frames are ready to receive work and dimensions are as indicated on shop drawings.
- C. Verify that electric power is available to power operated devices and is of the correct characteristics.

3.2 INSTALLATION

- A. Install hardware in accordance with manufacturer's instructions.
- B. Use templates provided by hardware item manufacturer.

3.3 FIELD QUALITY CONTROL

Architectural Hardware Consultant will inspect installation and certify that hardware and installation has been furnished and installed in accordance with manufacturer's instructions and as specified.

3.4 ADJUSTING

Adjust hardware for smooth operation.

END OF SECTION

ELECTRIC DOOR OPERATORS

PART 1 GENERAL

1.1 SUMMARY

- A. Provide electric trolley type sectional overhead door operator and electric rolling door operator, where shown on the Drawings, as specified herein and as needed for a complete and proper installation.
- 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. Product data: Within 30 calendar days after the Contractor has received the Owner's Notice to Proceed, submit:
 - 1. Materials list of items proposed to be provided under this Section;
 - 2. Manufacturers' specifications and other data needed to prove compliance with the specified requirements;
 - 3. Shop drawings showing general layout, installation, materials, construction and assembly wiring.
 - 4. Manufacturers' recommended installation procedures which, when approved by the Architect, will become the basis for accepting or rejecting actual installation procedures used on the Work.
- B. Upon completion of this portion of the work and as a condition of its acceptance, deliver to the owner three copies of the operation and maintenance manual.

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. Comply with all governmental agencies having jurisdiction in this work.
- C. Each operator shall have a minimum one (1) year manufacturer's warranty.

1.4 DELIVERY, STORAGE, AND HANDLING

Comply with pertinent provisions of Section 01620.

PART 2 PRODUCTS AND MATERIAL

2.1 REQUIRED ATTRIBUTES

- A. Front of Hood Mount Type: (with car wash modification)
 - 1. Motor - 115/230V single phase, 1 hp Model "RDB" with hand chain hoist & 24V three button open-close-stop control, NEMA 4, from Overhead Door Corp. or equal.
 - 2. Reversing Contactor - Heavy Duty, electrically and mechanically interlocked.
 - 3. Electric bottom safety edge with coil cord.

2.2 OTHER MATERIALS

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.

PART 3 EXECUTION

3.1 SURFACE CONDITIONS

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 INSTALLATION

- A. Install the work of this section in strict accordance with the manufacturer's recommendations and shop drawings and in accordance with pertinent requirements of governmental agencies having jurisdiction.
- B. Electrical contractor will run electricity to the electric door operator. Final connection to the door operator shall be the responsibility of the electric door operator installer.

3.3 ADJUSTMENTS AND INSTRUCTIONS

- A. Upon completion of the installation, carefully inspect each component and verify that all items have been installed in the proper location, adequately anchored and adjusted to achieve optimum operation.
- B. Demonstrate to the owner, operation and maintenance procedures.

END OF SECTION

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FIBERGLASS WALL PANELS

PART 1 GENERAL

1.1 SUMMARY

- A. Provide fiberglass wall panels where shown on the Drawings, as specified herein and as needed for a complete and proper installation.
- 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 SUBMITTAL

- A. Comply with pertinent provisions of Section 01340.
- B. Product data: Within 45 calendar days after the Contractor has received the Owner's Notice to Proceed, submit:
 - 1. Materials list of items proposed to be provided under this Section;
 - 2. Manufacturer's specifications and other data needed to prove compliance with the specified requirements;
 - 3. Manufacturer's recommended installation procedures which, when approved by the Architect, will become the basis for accepting or rejecting actual installation procedures used on the Work.

1.3 QUALITY ASSURANCE

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.

1.4 DELIVERY, STORAGE AND HANDLING

Comply with pertinent provisions of Section 01620.

PART 2 PRODUCTS

2.1 WALL PANELS

- A. Where "fiberglass panels" or similar terms are shown on the Drawings, provide .030" thick white polyester fiberglass sheet factory laminated on 1/2" thick exterior grade plywood.
- B. Acceptable products:
 - 1. Nudo Products, Inc. distributed from 1500 Taylor Ave., Springfield, IL. 62703
Ph: 1-800-826-4132. Fax 217-528-8722.
 - 2. Fiber-Corr, 7/16" PVC panel #F3C400-10. Color: White. Size: 4' x 10'. Surface: Textured.
 - 3. Equal products of other manufacturers approved in advance by the Architect.

2.2 OTHER MATERIALS

- A. Provide General Electric "Silicone Sealant SE 1200."
- B. Provide continuous inside and outside corner beads where required.

- C. Provide white low profile pancake head stainless steel drive screws with spacing as recommended by the panel manufacturer.
- D. 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.

PART 3 EXECUTION

3.1 SURFACE CONDITIONS

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 INSTALLATION

- A. Securely install the approved products in accordance with the manufacturer's recommendations as approved by the Architect, setting panels straight, plumb, level and true to the lines and levels shown on the Drawings, attached to the walls with the specified nails at 6" centers both ways.
- B. Finish butt joints, wall juncture, wall/ceiling and wall/curb joints with the specified sealant, tooling to a smooth finish.

END OF SECTION

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.

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

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 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.

Bid Guaranty/Contract Bond

- a. Each bid 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 and file acceptable performance payment (Contract Bond) or cashier's check, bank money order or certified check

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within **15 days** after the contract has been mailed to the bidder shall be just cause for the cancellation of the award and the forfeiture of the proposal guaranty. Award may then be made to the next lowest responsible bidder, or the work may be re-advertised and performed under contract or otherwise, as the Commission may decide. No contract shall be considered effective until it has been executed by all parties thereto.

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 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): **Lawrence and Vernon**. The **Annual Wage Order #19, Incremental Increase #2** 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.

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

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 \$500 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.

Time of Completion

If this bid is accepted, it is hereby agreed that work will begin not later than the date specified in the "Notice to Proceed" and will diligently be prosecuted in order to complete the work and billing within **30-working days per location** from the date specified. Completion of work will be based on FINAL ACCEPTANCE of the building; "SUBSTANTIAL COMPLETION" will not be accepted as basis for completion.

A Working Day

Is defined as any day when, soil and weather conditions would permit the major operation of the project for six hours or more unless other unavoidable conditions prevent the contractor's operation. If conditions require the contractor to stop work in less than six hours, the day will not be counted as a working day. Working days will begin as soon as notice to proceed is issued. In order for MoDOT not to change a workday due to unavoidable conditions, the contractor must have enough forces, equipment, and materials on site to begin the project. The contractor must notify MoDOT inspector before 12:00 noon of said working day if forces will not be present.