

**CHABOT-LAS POSITAS COMMUNITY COLLEGE DISTRICT**

**INVITATION FOR BID NO.: 08-15**

**M&O Pre-Engineered Shop Building – Engineering & Manufacturing**

**Bids Due:**

**DECEMBER 18, 2007 at 2:00 P.M.**



**Return Bids To:  
District Office  
Purchasing Department  
5020 Franklin Drive  
Pleasanton, California 94588**

**Tel.: (925) 485-5230  
Fax: (925) 485-5253, (925) 485-5271**



## INVITATION FOR BID 08-15

### SECTION A – BACKGROUND AND PURPOSE

Chabot-Las Positas Community College District (District), (CLPCCD), is preparing to construct a new Maintenance and Operations Department facility at Las Positas College and has chosen to utilize a pre-engineered, pre fabricated building.

The purpose of this Invitation to Bid (IFB) is to establish a contract for a vendor to furnish and deliver a new and unused building in accordance with the specifications used herein and provide pre and post sales support to assure the District's needs are met. **Building erection will not be included in this contract.**

In this document, CLPCCD is requesting sealed bids and competitive pricing from qualified firms. Bidders are encouraged to investigate and provide all possible educational, quantity, piggyback and other discounts.

### SECTION B – NOTICE TO BIDDERS

NOTICE IS HEREBY GIVEN that the Chabot Las Positas Community College District (“District”), calls for sealed bids for M&O Pre-Engineered. Shop Building – Engineering & Manufacturing, Bid No. 08-15 to be delivered to the Purchasing Manager, 5020 Franklin Drive, Pleasanton, California 94588 until December 18, 2007 at 2:00 p.m. at which time and place said bids will be opened. Faxed or emailed bids will not be accepted.

Bids shall be presented in accordance with the specifications for the same, which are on file with the Purchasing Manager, at the office address listed above.

Inquiries regarding this bid should be directed to office of the Purchasing Manager, Phone: (925) 485-5230 or FAX: (925) 485-5253, (925) 485-5271. Reference Bid No. 08-15 on all inquiries.

The Board of Trustees reserves the right to reject any and all bids and any and all items of such bids. This bid shall also be subject to any and all applicable laws, regulations and standards. For more information, please refer to the Facilities Modernization Program Website at <http://www.clpccd.org/bond/BiddingProjectBusinessOpportunitiesRFB.php>.

### SECTION C – EQUIPMENT LIST AND SPECIFICATIONS

CLPCCD requests prices for each of the items described in the Bid Form in accordance with the Specifications.

**SECTION D – BID FORM AND SIGNATURE FORM**

**BID FORM**

**Bidder Name:** \_\_\_\_\_

**ADDITIONAL SHEETS MAY BE ADDED AS NEEDED**

<b>Quantity</b>	<b>Description</b>
<b>1</b>	<b>New and Unused building, described herein.</b>

**FOR ALL ITEMS BID      SUBTOTAL \$ \_\_\_\_\_**  
**(before tax)**

**Price shall be inclusive of all shipping or other charges. All shipments shall be made FOB destination; freight prepaid and allowed.**

**MEETS DELIVERY REQUIREMENTS STATED HEREIN – SECTION E.**

\_\_\_\_\_ **YES**                      \_\_\_\_\_ **NO**

**SIGNATURE FORM**

TO: **CHABOT-LAS POSITAS COMMUNITY COLLEGE DISTRICT**, a California Community College District, acting by and through its Board of Trustees (the "District"), 5020 Franklin Drive, Pleasanton, California 94588.

FROM:

\_\_\_\_\_  
(Firm Name of Bidder)

\_\_\_\_\_  
(Address)

\_\_\_\_\_  
(City, State, Zip Code)

\_\_\_\_\_  
(Telephone and Facsimile)

\_\_\_\_\_  
(Name(s) of Bidder's Authorized Representative(s))

**1. Bid.**

**1.1 Bid Amount.** The undersigned Bidder proposes and agrees to provide the equipment, materials, and related documentation required for the bid described as: M&O Pre-Engineered Shop Building – Engineering & Manufacturing, in the amounts listed on the Bid Form(s). The bid amounts are exclusive of any State of California or local sales or use. The Bidder confirms that it has checked all of the above figures and understands that neither the District nor any of its agents, employees or representatives shall be responsible for any errors or omissions on the part of the undersigned Bidder in preparing and submitting this Bid.

**1.2 Acknowledgment of Bid Addenda.** In submitting this Bid, the undersigned Bidder acknowledges receipt of all Bid Addenda issued by or on behalf of the District, as set forth below. The Bidder confirms that this Bid incorporates and is inclusive of, all items or other matters contained in Bid Addenda.

**Addenda Nos.** \_\_\_\_\_ received, acknowledged and incorporated into this Bid. **(initial)**\_\_\_\_\_

**2. Documents Accompanying Bid.** The Bidder has submitted with this Bid the following: (a) Non-Collusion Affidavit; (b) Bid Form(s); (c) Bid Signature Form; (d) and Drug-Free Workplace Certification.

The Bidder acknowledges that if this Bid and the documents contained herein are not fully in compliance with applicable requirements set forth in the Call for Bids, the Instructions for Bidders and in each of the documents herein, the Bid may be rejected as non-responsive.

3. **Award of Contract.** It is the intent of the District to issue a Purchase Order(s). It is expected that the successful vendor will meet all requirements of this bid and purchase order.
  
4. **Acknowledgement and Confirmation.** The undersigned Bidder acknowledges its receipt, review and understanding of the business requirements, specifications and other contract documents pertaining to this bid. The undersigned Bidder certifies that the contract documents are, in its opinion, adequate, feasible and complete. The undersigned bidder certifies that is has, all necessary equipment, personnel, materials, technical and financial ability to complete the Work for the amount bid herein within the Contract time and in accordance with the Contract Documents.

By: \_\_\_\_\_  
(Authorized Signature)

\_\_\_\_\_  
(Typed or Printed Name)

Title: \_\_\_\_\_

## **SECTION E – DELIVERY REQUIREMENTS**

Time is of the essence. Any bidder submitting a response to this invitation thereby guarantees compliance with the delivery requirement of no later than June 2008. Any exceptions must be set forth in writing.

The Campus location is as follows:

Las Positas College  
3000 Campus Hill Drive  
Livermore CA 94551

Please view the web site for general campus information: [www.laspositascollege.edu](http://www.laspositascollege.edu)

Orders require an Authorized District Purchase Order and will be placed via email, fax, phone or U.S. Mail from CLPCCD's Purchasing Department. After receipt of order, vendors(s) shall furnish and deliver the equipment in accordance with the delivery requirements as directed by the Project Manager. It is required that vendor provide expedited delivery whenever necessary to meet the delivery needs of CLPCCD.

The primary contact person after issuance of the purchase order will be Karen Powell, 925-424-1860, 510-847-5781, Program/Project Manager.

**All shipments shall be made FOB: destination, Freight: prepaid and allowed.**

## **SECTION F – INSTRUCTIONS TO BIDDERS**

Two (2) copies of the bid must be submitted. Bids must be addressed and delivered no later than 2:00 PM December 18<sup>th</sup>, 2007. Please plan deliveries accordingly. Deliver bids to:

Andrew Howe, C.P.M.  
Purchasing Manager, Purchasing and Warehouse Services  
Chabot-Las Positas Community College District  
District Office  
5020 Franklin Drive  
Pleasanton, California 94588

## **SECTION G – INTERPRETATION OF DRAWINGS, SPECIFICATIONS OR CONTRACT DOCUMENTS**

Any Bidder in doubt as to the true meaning of any part of the Contract Documents; finds discrepancies, errors or omissions therein; or finds variances in any of the Contract Documents with applicable rules, regulations, ordinances and/or laws, a written request for an interpretation or correction thereof may be submitted to the District. It is the sole and exclusive responsibility of the Bidder to submit such request not less than three (3) days prior to the scheduled closing date for the receipt of Bid Proposals. Interpretations or corrections of the Contract Documents will be by written addendum issued by the District or the Architect. A copy of any such addendum will be mailed, faxed, emailed or delivered to each Bidder receiving a set of the Contract Documents. No person is authorized to render an oral interpretation or correction of any portion of the Contract Documents to

any Bidder, and no Bidder is authorized to rely on any such oral interpretation or correction. Failure to request interpretation or clarification of any portion of the Contract Documents pursuant to the foregoing is a waiver of any discrepancy, defect or conflict therein.

## **SECTION H – LAST DAY FOR QUESTIONS**

The LATEST TIME/DATE FOR Requests for Information/Questions is Thursday, December 13, 2007 at 2:00 P.M. Requests for information/Questions may only be submitted in writing. Direct all correspondence to Andrew Howe, Manager as listed in Section F. Email at [ahowe@clpccd.org](mailto:ahowe@clpccd.org) and Fax (925) 485-5253, (925) 485-5271 are acceptable.

## **SECTION I – BUILDING DESCRIPTION AND SIZE**

- a. Shop Building: 60' x 200'
- b. Carport A: 20' x 120'
- c. Carport B: 20' x 140'
- d. Fuel Depot: 20' x 80'

## **SECTION J – SCHEDULE**

- a. Structural load design values necessary for the design of the structural building foundations shall be delivered to the District no later than (2) weeks from the Notice of Award.
- b. Shop drawings shall be delivered to the District no later than (5) weeks from Notice of Award.
- c. Buildings shall be delivered to the project site in June 2008. The successful bidder, upon receiving the award for the work or at the latest, by the time of receiving the purchase order for the work, shall inform the purchaser of a firm delivery date of the buildings, contingent upon job site readiness by purchaser.

## **SECTION K – REGULATORY AGENCY REVIEW**

Bidder shall provide the District with complete shop drawings adequate for review and approval by the authority having jurisdiction. Drawings shall be formatted on 30"x42" sheets. Bidder shall respond promptly to all District and regulatory agency questions and comments. Bidder shall be responsible for all costs associated with obtaining approval of the Bidder's drawings, including but not limited to labor, printing and delivery of documents.

## **SECTION L – BID DOCUMENT SPECIFICATION AND PLANS**

The following documents are provided with this bid package. All work related to the pre-engineered buildings described and/or shown in the attached documents is to be incorporated into the bidder's proposal, unless otherwise noted:

- Pre-Engineered Building specification section 13125
- Floor plans, Roof Plans, Elevations, Door Schedule and Window Schedule
- Mechanical and Electrical Plans (provided as a reference for the design of the pre-engineered building system)

## **GENERAL INSTRUCTIONS:**

1. Bids received after the deadline for closing will be returned unopened unless necessary for identification purposes. CLPCCD is not responsible for mail/messenger delays.
2. The District reserves the right to conduct discussions with all bidders, including the bidder(s) who appear(s) to have been selected, to require clarification or request additional information or additional documentation prior to an official award(s). An oral presentation prior to awards(s) may be required by the District.
3. Any information considered to be proprietary by the bidder shall be marked or stamped "Proprietary Information." Pricing information will not be considered proprietary.
4. Award: The award shall be made to the responsible bidder(s) providing the lowest responsive bid. The award will be in accordance with CLPCCD Board Policy and Procedures, all laws, rules and regulations. CLPCCD reserves the right to award one or more purchase orders to one or more bidders.
5. Format: Bids must be submitted on the CLPCCD Bid Form and Bid Signature Form along with any other required submittals that meet both format and content requirements listed herein.
6. Bidders may be required to provide the District with samples each of the specified item for evaluation and inspection for a period up to one week.
7. The District reserves the right to reject any or all bids of any part thereof, or to withhold the award and to waive or decline to waive irregularities in any proposal when it is determined to be in the District's best interest.
8. The successful bidder(s) is expected to enter into a Standard Agreement approved by the Board of Trustees of CLPCCD, which includes the Standard Purchase Order Terms and Conditions, which are included herein.
9. Under a subsequent contract, Contractor will be required to submit any and all technical manuals per each type of equipment described in this Bid.

## **SPECIAL INSTRUCTIONS**

1. Contractor must set forth in any bid submittal any modification(s) or substitution(s). The District reserves the right of refusal and may reject all unauthorized substitutions.

## **SECTION M – RESPONSIBLE BIDDER AND RESPONSIVE BID**

In order to be determined as a responsible bidder submitting a responsive bid, bidders must comply with all requirements in all sections of this bid, including provision of the following:

1. Complete and submit Attachments A and B with your bid.
2. **REFERENCES SUBMITAL REQUIRED** - Provide the names and phone numbers of at least two (2) customers similar to Chabot-Las Positas Community College District, to whom you have supplied the same or similar equipment.

## SECTION N – STANDARD PURCHASE ORDER TERMS AND CONDITIONS

**Chabot Las Positas Community College District**  
**Purchase Order Terms & Conditions**  
**For Purchase Order # \_\_\_\_\_**

This Agreement is made by and between \_\_\_\_\_ (“Seller”) and the Chabot-Las Positas Community College District (District) as of \_\_\_\_\_, 20\_\_ for the purchase of a pre engineered, pre-fabricated building at Las Positas College, as follows:

1. **Entire Agreement:** The following terms and conditions, together with such terms as are set forth in this Purchase Order ("Order"), such plans, specifications or other documents as are incorporated by reference in the Purchase Order, and any amendments in any subsequent authorized writing from District, shall constitute the entire contract between the District and Seller and shall supersede all prior agreements, understandings, negotiations and discussions, whether oral or written, of the parties. There are no warranties, representations or other agreements between the parties in connection with the subject matter hereof, except as specifically set forth herein. If performance specifications, technical product descriptions or other similar descriptive materials submitted by Seller in connection with the Order have been incorporated by reference in the Purchase Order these shall not be deemed to supersede any contrary requirements of District, but to the extent that such materials are not inconsistent with District's requirements, they shall constitute a part of the basis of this agreement.
2. **Payment:** Payment terms are as set forth in the Purchase Order. . If no terms are specified, the net amount shall be payable within 30 days after the later of (i) delivery and acceptance of goods or other performance conforming with the terms of this Order or (ii) invoicing. Except as otherwise provided in the Purchase Order the price includes all applicable Federal, State and local taxes and duties. All Federal, State and local taxes and duties shall be separately itemized on any invoices. Seller assigns to District all rights to refunds of sales and use taxes paid in connection with this Order and agrees to co-operate with District in the processing of any refund claims.
3. **Changes:** District may make changes to this Order, including drawings and specifications for specially manufactured goods and place of delivery, by giving written notice to Seller. If such changes affect the cost of or the time required for performance of this Order, an equitable adjustment in the price or date of delivery or both shall be made. No change by Seller is allowed without written approval of District. Any claim of Seller for an adjustment under this Article must be made in writing within thirty (30) days from the date of receipt by Seller of notification of such change. Nothing in this Article excuses Seller from delivering the goods and services described in this Order. Except as otherwise provided herein, no other supplement, modification, waiver or termination of this Agreement shall be binding unless executed in writing by the parties to be bound thereby.
4. **Time:** If delivery or completion dates cannot be met, Seller shall inform District immediately. Such notice shall not, however, constitute a change to the delivery or completion terms of this Order unless District modifies this Order in writing. If any item is not received or if any element of the work is not completed by the date specified, the District, at District's option and without prior notice to Seller may either approve a revised date or may cancel this Order and may obtain such goods or work elsewhere and in either event the Seller shall be liable to the District for any resulting loss incurred by the District. Seller's sole remedy for a delay caused by District shall be an extension in the time for Seller's performance equal to the duration of District's delay. Seller shall not be liable for damages resulting from Seller's failure to deliver or complete, or for delays in delivery or completion occasioned by strikes, lock-outs, fires, war or acts of God. **TIMING OF DELIVERY AND/OR PERFORMANCE OF THE WORK IS OF THE ESSENCE OF THIS ORDER.**
5. **Improper Performance:** In addition to other remedies provided by law, District reserves the right to reject any goods or to revoke any previous acceptance and to cancel all or any part of the Order if Seller fails to deliver all or any part of the goods or perform any of the work in accordance with the terms and conditions of this Order. Acceptance of any part of the Order shall not bind the District to accept any future shipments or work nor deprive it

of the right to return goods already accepted. At District's option, all disputes arising in connection with this Order shall be resolved by arbitration in accordance with the rules of the American Arbitration Association, except that each party shall have the discovery rights established by the California Code of Civil Procedure.

6. **Cancellations:** The District may cancel this Order in whole or in part, for no cause, upon written or fax notice to the Seller, effective when sent, provided such notice is sent at least fourteen (14) days prior to the delivery date specified on the face of this Order.

In addition, the District may cancel this Order in whole or in part at any time for cause by written or fax notice to the Seller, effective when sent, in the event that Seller: (a) fails to comply with any term or condition of this Order including, but not limited to, delivery terms; or (b) appoints a receiver, liquidator or trustee in bankruptcy or other similar officer over any or all of its property or assets; or (c) files a voluntary petition in bankruptcy; or (d) has had filed against it an involuntary petition in bankruptcy which remains in effect for thirty (30) days; or (e) voluntarily ceases trading; or (f) merges with or is acquired by a third party; or (g) assigns any of its rights or obligations under the Order to a third party without the District's advance written consent.

Upon the occasion of any one of the aforesaid and in addition to any remedies, which the District may have in law or in equity, the District may also cancel this order or any outstanding deliveries hereunder by notifying Seller in writing of such cancellation. Seller shall thereupon transfer title and deliver to the District such work in progress or completed material as may be requested by the District. The District shall have no liability to Seller beyond payment of any balance owing for materials purchased hereunder and delivered to and accepted by the District prior to the Seller's receipt of the notice of termination, and for work in progress requested for delivery to the District.

7. **Rescheduling:** The District may without liability at least fourteen (14) days prior to the scheduled delivery date appearing on the Order defer delivery on any or every item under said Order by giving oral notice to the Seller (confirmed in writing within ten (10) working days) of any necessary rescheduling.
8. **Warranty:** The goods and services furnished shall be exactly as specified in the Order, and shall be free from all defects in design, workmanship and materials. The goods and services are subject to inspection and test by the District at any time and place. If the goods and services furnished are found to be defective, the District may reject them, or require Seller to correct them without charge, or require a reduction in price, which is equitable under the circumstances. If Seller is unable or refuses to correct such items within a time deemed reasonable by the District, the District may terminate this Order in whole or in part. Seller bears all risks as to rejected goods and services. Seller shall reimburse the District for all transportation costs, other related costs incurred, and overpayments in respect of the neglected goods and services. These express warranties shall not be waived by reason of acceptance or payment by the District. This Order incorporates by reference all terms of the Uniform Commercial Code as adopted in the State of California providing any protection to the District, including but not limited to all warranty protection (express or implied) and all of the District's remedies under the UCC. All goods and work shall also be subject to any stricter warranties specified in the Data Sheet or in other materials incorporated by reference.
9. **Risk of Loss:** Unless the Order expressly states otherwise, all goods shall be shipped FOB the "Ship to" location designated in the Purchase Order. Risk of loss shall not pass to District until goods called for in this Order actually have been received and accepted by the District at the destination specified herein. Seller assumes full responsibility for packing, crating, marking, transportation and liability for loss and/or damage even if District has agreed to pay freight, express or other transportation changes.
10. **Electronic/Facsimile Transmission:** If this Order is transmitted by telecopier or by other means of electronic transmission, such transmission shall have the legal significance of a duly executed original delivered to the Seller, but only if the Transmit Terminal Identification on the Purchase Order correctly includes the notation "Chabot-Las Positas Community College District," "Chabot Community College," or "Las Positas Community College".
11. **Hold Harmless:** From and after the date of this Order, the Seller agrees to indemnify, defend and hold harmless the District from any and all claims, regardless of by whom such claim or claims may be asserted, for personal injury or property damage or otherwise that may result directly or indirectly from the use, possession or

ownership of the goods or from the services provided by Seller pursuant to this Order.

12. **Assignment/Subcontracting**: Neither party shall have any right to assign this Order or any benefits arising from this Order without prior written consent of the other and, unless otherwise agreed upon in writing, the rights of any assignee shall be subject to all set-offs, counterclaims, and other comparable rights arising hereunder. Seller shall not, except in the case of raw materials (including castings, forgings, and rough welded structures) or standard commercial goods or except as otherwise agreed in writing by the District, delegate or subcontract the work on any item of material or service to be delivered or performed under this Order.
13. **Shipping, Packaging and Labeling**: All Material purchased hereunder must be packed and packaged to ensure its safe delivery in accordance with good commercial practice and where incorporated, the District's packaging specification. The Seller shall mark on all containers, handling and loading instructions, shipping information, part number, purchase order number and item number, quantity in box, shipment date, and names and addresses of the Seller and the District. An itemized packing list must accompany each shipment. Each packing slip shall include; this Order number, quantity, item description, order date, shipping date and delivery address, but shall not include pricing information.
14. **Notification of Hazardous Products**: The Seller hereby agrees to notify the District of any inherent hazard related to any materials or goods being purchased herein that would expose the hazard during handling, transportation, storage, use, resale, disposal or scrap. Said notice shall be sent to the District's Director of Purchasing and shall specify the product name and part number, the nature of the hazard, proper precautions that must be undertaken by the District or others and any additional information that the District should reasonably expect to know to protect its interest.

All shipments of hazardous materials under this Order shall comply with current U.S. Department of Transportation (DOT) regulations as published in 49 CFR 100-199, and the labeling shall meet the current U. S. Occupational Safety and Health Administration (OSHA) regulations as published in 29 CFR 1910. 1200, for the transporting and labeling of hazardous materials. Material Safety Data Sheets (MSDS) shall be supplied with the first shipment of all hazardous materials, and these sheets shall be resubmitted if any changes or updates, as required, are made.

15. **Work On-Site**: The following additional conditions will apply if work is to be performed by the Seller at any of District's locations.
  - a. All persons furnished by Seller shall be deemed Seller's employees or agents and Seller shall comply with all applicable statutes regarding worker's compensation, employer's liability, unemployment compensation, and/or old age benefits and all other applicable laws relating to or affecting the employment of labor.
  - b. Seller shall indemnify, hold harmless and defend District from any and all claims and liabilities for injuries or death and also for any and all claims and liabilities arising out of loss or damage to property, caused by or resulting from the performance of the work covered hereby.
  - c. Seller shall at all times during the term of this Agreement, or any extension thereof, maintain comprehensive general liability insurance coverage in the amount of \$1,000,000 per occurrence and in the aggregate for all claims made during any one policy year. Seller shall, upon request of the District, provide proof that the services provided are covered under its policy and that the District is named or fully covered as an additional insured.
  - d. Seller agrees to comply fully with all provisions of all applicable workers' compensation insurance laws, and shall procure and maintain in full force and affect worker's compensation insurance covering its partners, employees and agents while said persons are performing services pursuant to this Agreement. In the event that an employee of Seller performing this Agreement files a worker's compensation claim against the District, Seller agrees to defend and hold the District harmless from such claim.
  - e. The work shall be performed in a first class and workmanlike manner by qualified and efficient

workers who shall not cause labor conflicts with any workers employed by the District or others working at District's facilities. The work shall be performed in strict conformity with the strictest quality standards mandated and/or recommended by all generally recognized organizations establishing quality standards for work of the type to be performed hereunder. Seller shall be solely responsible for controlling the manner and means by which it and its employees perform labor and services and it shall observe, abide by and perform all of its obligations in accordance with all legal requirements. Without limiting the foregoing, Seller shall control the manner and means of the labor and services so as to perform the work in a reasonably safe manner and comply fully with all applicable codes, regulations and requirements imposed or enforced by any government agencies, including all applicable requirements of the Occupational Safety and Health Administration (OSHA) and all safety codes and procedures mandated or recommended by insurance underwriting organizations and all generally recognized organizations establishing safety standards, including without limitation the National Fire Protection Association, for work of the type to be performed hereunder. Notwithstanding the foregoing, any stricter standard provided in plans, specifications or other documents incorporated, as part of this Order shall govern.

- f. Seller is responsible for securing all applicable licenses and permits and compliance therewith and the price shall be deemed to include the cost of these items.
  - g. The site shall be kept free of waste and, on completion, left "broom clean." In case of dispute District may remove waste at Seller's expense.
  - h. If requested, Seller shall furnish satisfactory evidence of the kind, quality and quantity of labor and materials used or to be used.
  - i. The Seller, for itself and for all subcontractors and material men, agrees that no mechanic's lien or other claim shall be filed or maintained by the Contractor or by any subcontractor, material man, laborer or any other person, whatsoever, for or on account of any work done or materials furnished under this Order. This agreement shall be an independent contract and the Seller shall execute and deliver to District a separate Waiver of Liens (in form and substance satisfactory to the District).
  - j. In every subcontract entered into by the Seller after the execution and delivery of this Order or in connection herewith, the Seller shall incorporate a provision, similar to the foregoing paragraph, to the effect that neither the subcontractor nor any party acting through or under him shall file or maintain any mechanic's lien or other claim against the District in connection with the work to be performed hereunder.
16. **Non-Discrimination in Employment:** In connection with the performance of work under this Order, the Seller agrees that it will not unlawfully discriminate on the basis of race, color, religion, gender, national origin, age or medical condition, sexual orientation or marital status or any other characteristic protected by law in the delivery of programs or services set forth herein. In the event of the Seller's non-compliance with the non-discrimination clauses of this Order or with any of the said rules, regulations, or orders, this Order may be cancelled, terminated or suspended in whole or in part and the Seller may be declared ineligible for further District contracts as provided by law.
17. **Compliance with Laws and Regulations:** The Seller represents and warrants to District that Seller and its employees, agents, and any subcontractors have filed all certifications and have obtained all licenses, permits, qualifications, and approvals of whatsoever nature that are legally required in connection with this Order.
18. **Waiver:** A waiver of any breach or any of the covenants, terms or provisions of this Agreement shall not be construed as a waiver of any subsequent breach of the same or any other covenant, term or provision.
19. **Termination for Convenience:** District may terminate this Order at any time without incurring liability to Seller for lost profits or any other costs other than the value of conforming work completed on site or goods delivered.
20. **Governing Law:** This Agreement shall be governed by and construed in accordance with the laws of the State

of California.

21. **Venue:** In the event that either party brings any action against the other under this Agreement, the parties agree that trial of such action shall be vested exclusively in the state courts of California in the County of Alameda or in the United States District Court for the Northern District of California.
22. **No Third Party Beneficiaries:** Nothing in this Agreement shall be construed to create any duty to, any standard of care with reference to, or any liability to anyone other than the Parties to this Agreement. No one is an intended third-party beneficiary of this Agreement.
23. **Attorney's Fees:** If a party to this Agreement brings any action, including an action for declaratory relief, to enforce or interpret the provision of this Agreement, the prevailing party shall be entitled to reasonable attorneys' fees in addition to any other relief to which that party may be entitled. The court may set such fees in the same action or in a separate action brought for that purpose.
24. **Captions:** The captions used herein as headings of the various paragraphs and subparagraphs hereof are for convenience only, and the parties agree that such captions are not to be construed as a part of the Agreement or to be used in determining or construing the intent or context of this Agreement.
25. **Counterparts:** This Agreement may be executed in any number of counterpart copies, all of which shall constitute one and the same Agreement and each of which shall constitute an original.
26. **Severability:** If any of the provisions or portions thereof of this Agreement are held to be unenforceable or invalid by any court of competent jurisdiction, the validity and enforceability of the remaining provisions or portions thereof shall not be affected thereby.

**ATTACHMENT A**

**NON-COLLUSION AFFIDAVIT**

**STATE OF CALIFORNIA**

**COUNTY OF \_\_\_\_\_**

I, \_\_\_\_\_, being first duly sworn, deposes and says that I am  
(Typed or Printed Name)

The \_\_\_\_\_ of \_\_\_\_\_, the party submitting  
(Title) (Bidder Name)

the foregoing Bid Proposal ("the Bidder"). In connection with the foregoing Bid Proposal, the undersigned declares, states and certifies that:

1. The Bid Proposal is not made in the interest of or on behalf of, any undisclosed person, partnership, company, association, organization or corporation.
2. The Bid Proposal is genuine and not collusive or sham.
3. The bidder has not directly or indirectly induced or solicited any other bidder to put in a false or sham bid, and has not directly or indirectly colluded, conspired, connived, or agreed with any other bidder or anyone else to put in sham bid, or to refrain from bidding.
4. The bidder has not in any manner, directly or indirectly, sought by agreement, communication, or conference with anyone to fix the bid price, or that of any other bidder, or to fix any overhead, profit or cost element of the bid price or that of any other bidder, or to secure any advantage against the public body awarding the contract or of anyone interested in the proposed contract.
5. All statements contained in the Bid Proposal and related documents are true.
6. The bidder has not, directly or indirectly, submitted the bid price or any breakdown thereof, or the contents thereof, or divulged information or data relative thereto, or paid, and will not pay, any fee to any person, corporation, partnership, company, association, organization, bid depository, or to any member or agent thereof to effectuate a collusive or sham bid.

Executed this \_\_\_\_\_ day of \_\_\_\_\_, 20\_\_ at \_\_\_\_\_  
(City, County and State)

I declare under penalty of perjury under the laws of the State of California that the foregoing is true and correct.

\_\_\_\_\_  
Signature

\_\_\_\_\_  
(Address)

\_\_\_\_\_  
Name Printed or Typed

\_\_\_\_\_  
(City, County and State)

(\_\_\_\_\_) \_\_\_\_\_  
(Area Code and Telephone Number)

**ATTACHMENT B**

**DRUG-FREE WORKPLACE CERTIFICATION**

I, \_\_\_\_\_, am the \_\_\_\_\_ of \_\_\_\_\_  
(Print Name) (Title)  
\_\_\_\_\_. I declare, state and certify to all of the following.  
(Contractor Name)

1. I am aware of the provisions and requirements of California Government Code §§8350 et seq., the Drug Free Workplace Act of 1990.

2. I am authorized to certify, and do certify, on behalf of Contractor that a drug free workplace will be provided by Contractor by doing all of the following:

A. Publishing a statement notifying employees that the unlawful manufacture, distribution, dispensation, possession or use of a controlled substance is prohibited in Contractor's workplace and specifying actions which will be taken against employees for violation of the prohibition;

B. Establishing a drug-free awareness program to inform employees about all of the following:

- (i) The dangers of drug abuse in the workplace;
- (ii) Contractor's policy of maintaining a drug-free workplace;
- (iii) The availability of drug counseling, rehabilitation and employee-assistance programs; and
- (iv) The penalties that may be imposed upon employees for drug abuse violations;

C. Requiring that each employee engaged in the performance of the Contract be given a copy of the statement required by subdivision (A), above, and that as a condition of employment by Contractor in connection with the Work of the Contract, the employee agrees to abide by the terms of the statement.

3. Contractor agrees to fulfill and discharge all of Contractor's obligations under the terms and requirements of California Government Code §8355 by, inter alia, publishing a statement notifying employees concerning: (a) the prohibition of any controlled substance in the workplace, (b) establishing a drug-free awareness program, and (c) requiring that each employee engaged in the performance of the Work of the Contract be given a copy of the statement required by California Government Code §8355(a) and requiring that the employee agree to abide by the terms of that statement.

4. Contractor and I understand that if the District determines that Contractor has either: (a) made a false certification herein, or (b) violated this certification by failing to carry out and to implement the requirements of California Government Code §§8355, the Contract awarded herein is subject to termination, suspension of payments, or both. Contractor and I further understand that, should Contractor violate the terms of the Drug-Free Workplace Act of 1990, Contractor may be subject to debarment in accordance with the provisions of California Government Code §§8350, et seq.

5. Contractor and I acknowledge that Contractor and I are aware of the provisions of California Government Code §§8350, et seq. and hereby certify that Contractor and I will adhere to, fulfill, satisfy and discharge all provisions of and obligations under the Drug-Free Workplace Act of 1990.

I declare under penalty of perjury under the laws of the State of California that all of the foregoing is true and correct.

Executed at \_\_\_\_\_ this \_\_\_\_ day of \_\_\_\_\_  
(City and State)  
\_\_\_\_\_, 20\_\_\_\_.

\_\_\_\_\_  
(Signature)  
(Handwritten or Typed Name)

## ATTACHMENT C

### SPECIFICATIONS

#### SECTION 13125

#### PRE-ENGINEERED BUILDINGS

##### PART 1 - GENERAL

###### 1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract apply to this Section.

###### 1.2 SUMMARY

- A. This Section includes metal building systems that consist of integrated sets of mutually dependent components including structural framing, roof panels, wall panels, exterior doors, exterior windows, door hardware and accessories.

###### 1.3 DEFINITIONS

- A. Bay: Dimension between main frames measured normal to frame (at centerline of frame) for interior bays, and dimension from centerline of first interior main frame measured normal to end wall (outside face of end-wall girt) for end bays.
- B. Building Length: Dimension of the building measured perpendicular to main framing from end wall to end wall (outside face of girt to outside face of girt).
- C. Building Width: Dimension of the building measured parallel to main framing from sidewall to sidewall (outside face of girt to outside face of girt).
- D. Clear Span: Distance between supports of beams, girders, or trusses (measured from lowest level of connecting area of a column and a rafter frame or knee).
- E. Eave Height: Vertical dimension from finished floor to eave (the line along the sidewall formed by intersection of the planes of the roof and wall).
- F. Clear Height under Structure: Vertical dimension from finished floor to lowest point of any part of primary or secondary structure, not including crane supports, located within clear span.
- G. Terminology Standard: Refer to MBMA's "Metal Building Systems Manual" for definitions of terms for metal building system construction not otherwise defined in this Section or in referenced standards.

#### 1.4 SYSTEM DESCRIPTION

- A. General: Provide a complete, integrated set of metal building system manufacturer's standard mutually dependent components and assemblies that form a metal building system capable of withstanding structural and other loads, thermally induced movement, and exposure to weather without failure or infiltration of water into building interior. Include primary and secondary framing, metal roof panels, metal wall panels, doors, windows and accessories complying with requirements indicated.
  - 1. Provide metal building systems of size and with spacing, slopes, and spans indicated on drawings.
    - a. Shop Building
    - b. Carport A
    - c. Carport B
    - d. Fuel Depot
- B. Primary Frame Type:
  - 1. Rigid Clear Span: Solid-member, structural-framing system without interior columns.
- C. End-Wall Framing: Manufacturer's standard, for buildings not required to be expandable, consisting of primary frame, capable of supporting one-half of a bay design load, and end-wall columns.
- D. Secondary Frame Type: Manufacturer's standard purlins and joists and partially inset-framed or exterior-framed (bypass) girts.
- E. Eave Height: As indicated on Drawings.
- F. Bay Spacing: As indicated on Drawings.
- G. Roof Slope: As indicated on Drawings.
- H. Roof System:
  - 1. Shop Building: Manufacturer's standard vertical-rib, standing-seam metal roof panels with insulation.
  - 2. Carports and Fuel Depot: Manufacturer's standard vertical-rib, standing seam metal roof panels without insulation.
- I. Exterior Wall System:
  - 1. Manufacturer's standard field-assembled, non-insulated metal wall panels.

#### 1.5 SYSTEM PERFORMANCE REQUIREMENTS

- A. Structural Performance: Provide metal building systems capable of withstanding the effects of gravity loads and the following loads and stresses within limits and under conditions indicated:

1. Engineer metal building systems according to procedures in MBMA's "Metal Building Systems Manual."
  2. Design Loads: Basic design loads as required by the 2007 CBC and MBMA's "Metal Building Systems Manual."
  3. Live Loads: Include vertical loads induced by the building occupancy indicated on Drawings. Include loads induced by maintenance workers, materials, and equipment for roof live loads.
  4. Roof Snow Loads: Include vertical loads induced by the weight of snow, as determined by 50-year, mean-recurrence-interval ground snow load at Project site of 0psf.
  5. Wind Loads: Include horizontal loads induced by a basic wind speed corresponding to a 50-year, mean-recurrence interval at Project site of 70mph.
  6. Collateral Loads: Include additional dead loads other than the weight of metal building system for permanent items such as sprinklers, mechanical systems, electrical systems, and ceilings.
  7. Auxiliary Loads: Include dynamic live loads, such as those generated by cranes and materials-handling equipment indicated on Drawings.
  8. Load Combinations: Design metal building systems to withstand the most critical effects of load factors and load combinations as required by 2007 CBC and MBMA's "Metal Building Systems Manual."
  9. Deflection Limits: Engineer assemblies to withstand design loads with deflections no greater than the following:
    - a. Purlins and Rafters: Vertical deflection of 1/360 of the span.
    - b. Girts: Horizontal deflection of 1/360 of the span.
    - c. Metal Roof Panels: Vertical deflection of 1/240 of the span.
    - d. Metal Wall Panels: Horizontal deflection of 1/240 of the span.
  10. Design secondary framing system to accommodate deflection of primary building structure and construction tolerances, and to maintain clearances at openings.
  11. Provide metal panel assemblies capable of withstanding the effects of loads and stresses indicated, based on testing according to ASTM E 1592.
- B. Seismic Performance: Design and engineer metal building systems capable of withstanding the effects of earthquake motions determined according to the 2007 CBC. Site seismic zone is 4.
- C. Thermal Movements: Provide metal panel systems that allow for thermal movements resulting from the following maximum change (range) in ambient and surface temperatures by preventing buckling, opening of joints, overstressing of components, failure of joint sealants, failure of connections, and other detrimental effects. Base engineering calculation on surface temperatures of materials due to both solar heat gain and nighttime-sky heat loss.
1. Temperature Change (Range): 120 deg F (67 deg C), ambient; 180 deg F (100 deg C), material surfaces.

- D. Thermal Performance: Provide insulated metal panel assemblies with the following maximum U-factors and minimum R-values for opaque elements when tested according to ASTM C 1363 or ASTM C 518:
  - 1. Metal Roof Panel Assemblies:
    - a. U-Factor: .043
    - b. R-Value: 23.
- E. Air Infiltration for Metal Roof Panels: Air leakage through assembly of not more than **0.06 cfm/sq. ft. (0.3 L/s per sq. m)** of roof area when tested according to ASTM E 1680 at negative test-pressure difference of **1.57 lbf/sq. ft. (75 Pa)**.
- F. Air Infiltration for Metal Wall Panels: Air leakage through assembly of not more than **0.06 cfm/sq. ft. (0.3 L/s per sq. m)** of wall area when tested according to ASTM E 283 at static-air-pressure difference of **6.24 lbf/sq. ft. (300 Pa)**.
- G. Water Penetration for Metal Roof Panels: No water penetration when tested according to ASTM E 1646 at test-pressure difference of **2.86 lbf/sq. ft. (137 Pa)**.
- H. Water Penetration for Metal Wall Panels: No water penetration when tested according to ASTM E 331 at a minimum differential pressure of 20 percent of inward-acting, wind-load design pressure of not less than **6.24 lbf/sq. ft. (300 Pa)** and not more than **12 lbf/sq. ft. (575 Pa)**.
- I. Wind-Uplift Resistance: Provide metal roof panel assemblies that comply with UL 580 for Class 90.

#### 1.6 SUBMITTALS

- A. Product Data: Include construction details, material descriptions, dimensions of individual components and profiles, and finishes for each type of the following metal building system components:
  - 1. Structural-framing system.
  - 2. Metal roof panels.
  - 3. Metal wall panels.
  - 4. Translucent panels.
  - 5. Insulation and vapor retarders.
  - 6. Flashing and trim.
  - 7. Exterior Doors.
  - 8. Exterior Windows.
  - 9. Door Hardware.
  - 10. Accessories.
- B. Shop Drawings: For the following metal building system components. Include plans, elevations, sections, details, and attachments to other work.

1. For installed products indicated to comply with design loads, include structural analysis data signed and sealed by the qualified professional engineer responsible for their preparation.
  2. Anchor-Bolt Plans: Submit anchor-bolt plans before foundation work begins. Include location, diameter, and projection of anchor bolts required to attach metal building to foundation. Indicate column reactions at each location.
  3. Structural-Framing Drawings: Show complete fabrication of primary and secondary framing; include provisions for openings. Indicate welds and bolted connections, distinguishing between shop and field applications. Include transverse cross-sections.
    - a. Show provisions for attaching roof curbs.
  4. Metal Roof and Wall Panel Layout Drawings: Show layouts of metal panels including methods of support. Include details of edge conditions, joints, panel profiles, corners, anchorages, trim, flashings, closures, and special details. Distinguish between factory- and field-assembled work; show locations of exposed fasteners.
    - a. Show roof-mounted items including equipment supports, skylights and items mounted on roof curbs.
    - b. Show wall-mounted items including doors, windows, overhead coiling door openings, and lighting fixtures.
  5. Accessory Drawings: Include details of the following items, at a scale of not less than **1-1/2 inches per 12 inches (1:8)**:
    - a. Flashing and trim.
    - b. Gutters.
    - c. Downspouts.
- C. Samples for Initial Selection: For each type of building component with factory-applied color finish.
- D. Samples for Verification: For each type of exposed finish required, prepared on Samples of sizes indicated below.
1. Metal Roof and Wall Panels: Nominal **12 inches (300 mm)** long by actual panel width. Include fasteners, closures, and other exposed panel accessories.
  2. Flashing and Trim: Nominal **12 inches (300 mm)** long. Include fasteners and other exposed accessories.
  3. Vapor Retarders: Nominal **6-inch- (150-mm-)** square Samples.
  4. Windows: Full-size, nominal **12-inch- (300-mm-)** long frame Samples showing typical profile.
  5. Accessories: Nominal **12-inch- (300-mm-)** long Samples for each type of accessory.
- E. Product Certificates: For each type of metal building system, signed by product manufacturer.

1. Letter of Design Certification: Signed and sealed by a qualified professional engineer. Include the following:
  - a. Name and location of Project.
  - b. Order number.
  - c. Name of manufacturer.
  - d. Name of Contractor.
  - e. Building dimensions including width, length, height, and roof slope.
  - f. Indicate compliance with AISC standards for hot-rolled steel and AISI standards for cold-rolled steel, including edition dates of each standard.
  - g. Governing building code and year of edition.
  - h. Design Loads: Include dead load, roof live load, collateral loads, roof snow load, deflection, wind loads/speeds and exposure, seismic design category or effective peak velocity-related acceleration/peak acceleration, and auxiliary loads (cranes).
  - i. Load Combinations: Indicate that loads were applied acting simultaneously with concentrated loads, according to governing building code.
  - j. Building-Use Category: Indicate category of building use and its effect on load importance factors.
  - k. AISC Certification for Category MB: Include statement that metal building system and components were designed and produced in an AISC-Certified Facility by an AISC-Certified Manufacturer.
- F. Welding certificates.
- G. Manufacturer Certificate: Signed by manufacturer certifying that products comply with requirements.
- H. Qualification Data: For manufacturer, professional engineer and testing agency.
- I. Material Test Reports: Signed by manufacturers certifying that the following products comply with requirements:
  1. Structural steel including chemical and physical properties.
  2. Bolts, nuts, and washers including mechanical properties and chemical analysis.
  3. Tension-control, high-strength, bolt-nut-washer assemblies.
  4. Shop primers.
- J. Source quality-control test reports.
- K. Product Test Reports: Based on evaluation of comprehensive tests performed by manufacturer and witnessed by a qualified testing agency, for insulation and vapor retarders. Include reports for thermal resistance, fire-test-response characteristics, water-vapor transmission, and water absorption.
- L. Maintenance Data: For metal panel finishes to include in maintenance manuals.
- M. Warranties: Special warranties specified in this Section.
- N. Other Action Submittals:

1. Door Schedule: For doors and frames. Use same designations indicated on Drawings. Include details of reinforcement.

## 1.7 QUALITY ASSURANCE

- A. Manufacturer Qualifications: A qualified manufacturer and member of MBMA.
  1. AISC Certification for Category MB: An AISC-Certified Manufacturer that designs and produces metal building systems and components in an AISC-Certified Facility.
  2. Engineering Responsibility: Preparation of Shop Drawings and comprehensive engineering analysis by a qualified professional engineer.
- B. Testing Agency Qualifications: An independent agency qualified according to ASTM E 329 for testing indicated, as documented according to ASTM E 548.
- C. Source Limitations: Obtain primary metal building system components, including structural framing and metal panel assemblies, through one source from a single manufacturer.
- D. Welding: Qualify procedures and personnel according to AWS D1.1, "Structural Welding Code--Steel," and AWS D1.3, "Structural Welding Code--Sheet Steel."
- E. Structural Steel: Comply with AISC's "Specification for Structural Steel Buildings--Allowable Stress Design, Plastic Design," or AISC's "Load and Resistance Factor Design Specification for Structural Steel Buildings," for design requirements and allowable stresses.
- F. Cold-Formed Steel: Comply with AISI's "Specification for the Design of Cold-Formed Steel Structural Members," or AISI's "Load and Resistance Factor Design Specification for Steel Structural Members," for design requirements and allowable stresses.
- G. Fire-Resistance Ratings: Where indicated, provide metal panel assemblies identical to those of assemblies tested for fire resistance per ASTM E 119 by a testing and inspecting agency acceptable to authorities having jurisdiction.
  1. Combustion Characteristics: ASTM E 136.
  2. Fire-Resistance Ratings: Indicated by design designations from UL's "Fire Resistance Directory" or from the listings of another testing and inspecting agency.
  3. Metal panels shall be identified with appropriate markings of applicable testing and inspecting agency.
- H. Surface-Burning Characteristics: Provide field-insulated metal panels having thermal insulation and vapor-retarder-facing materials with the following surface-burning characteristics as determined by testing identical products per ASTM E 84 by UL or another testing and inspecting agency acceptable to authorities having jurisdiction:
  1. Flame-Spread Index: 25 or less, unless otherwise indicated.
  2. Smoke-Developed Index: 450 or less, unless otherwise indicated.

- I. Pre-Erection Conference: Attend conference at Project site. Review methods and procedures related to metal building systems including, but not limited to, the following:
    - 1. Inspect and discuss condition of foundations and other preparatory work performed by other trades.
    - 2. Review structural load limitations.
    - 3. Review required testing, inspecting, and certifying procedures.
    - 4. Review weather and forecasted weather conditions and procedures for unfavorable conditions.
  
  - J. Preinstallation Roof Assembly Conference: Conduct conference at Project site to comply with requirements in Division 1 Section "Project Management and Coordination." Review methods and procedures related to metal roof panel assemblies including, but not limited to, the following:
    - 1. Examine purlin and rafter conditions for compliance with requirements, including flatness and attachment to structural members.
    - 2. Review structural limitations of purlins and rafters during and after roofing.
    - 3. Review flashings, special roof details, roof drainage, roof penetrations, equipment curbs, and condition of other construction that will affect metal roof panels.
    - 4. Review temporary protection requirements for metal roof panel assembly during and after installation.
    - 5. Review roof observation and repair procedures after metal roof panel installation.
  
  - K. Preinstallation Wall Assembly Conference: Conduct conference at Project site to comply with requirements in Division 1 Section "Project Management and Coordination." Review methods and procedures related to metal wall panel assemblies including, but not limited to, the following:
    - 1. Examine support conditions for compliance with requirements, including alignment between and attachment to structural members.
    - 2. Review structural limitations of girts and columns during and after wall panel installation.
    - 3. Review flashings, special siding details, wall penetrations, openings, and condition of other construction that will affect metal wall panels.
    - 4. Review temporary protection requirements for metal wall panel assembly during and after installation.
    - 5. Review wall observation and repair procedures after metal wall panel installation.
- 1.8 DELIVERY, STORAGE, AND HANDLING
- A. Deliver components, sheets, panels, and other manufactured items so as not to be damaged or deformed. Package metal panels for protection during transportation and handling.

- B. Unload and store metal panels in a manner to prevent bending, warping, twisting, and surface damage.
- C. Stack metal panels horizontally on platforms or pallets, covered with suitable weathertight and ventilated covering. Store metal panels to ensure dryness and with positive slope for drainage of water. Do not store metal panels in contact with other materials that might cause staining, denting, or other surface damage.

## 1.9 WARRANTY

- A. Special Warranty on Metal Panel Finishes: Manufacturer's standard form in which manufacturer agrees to repair finish or replace metal panels that show evidence of deterioration of factory-applied finishes within specified warranty period.
  - 1. Fluoropolymer Finish: Deterioration includes, but is not limited to, the following:
    - a. Color fading more than 5 Hunter units when tested according to ASTM D 2244.
    - b. Chalking in excess of a No. 8 rating when tested according to ASTM D 4214.
    - c. Cracking, checking, peeling, or failure of paint to adhere to bare metal.
  - 2. Finish Warranty Period: 20 years from date of Substantial Completion.
- B. Special Weathertightness Warranty for Standing-Seam Metal Roof Panels: Manufacturer's standard form in which manufacturer agrees to repair or replace standing-seam, metal roof panel assemblies that fail to remain weathertight, including leaks, within specified warranty period.
  - 1. Warranty Period: 20 years from date of Substantial Completion.

## PART 2 - PRODUCTS

### 2.1 MANUFACTURERS

- A. Available Manufacturers: Subject to compliance with requirements, manufacturers offering products that may be incorporated into the Work include, but are not limited to, the following:
  - 1. Alliance Steel, Inc.
  - 2. American Buildings Company.
  - 3. American Steel Building Company, Inc.; Division of NCI Building Systems, LLP.
  - 4. Behlen Mfg. Co.
  - 5. Butler Manufacturing Company.
  - 6. Ceco Building Systems; Division of Robertson-Ceco Corporation.
  - 7. Garco Building Systems.

8. Gulf States Manufacturers, Inc.
9. Mesco Metal Buildings; Division of NCI Building Systems, LLP.
10. Metallic Metal Building Company; Division of NCI Building Systems, LLP.
11. Package Industries, Inc.
12. Spirco Manufacturing; Division of Metal Building Products, Inc.
13. Star Building Systems; Division of Robertson-Ceco Corporation.
14. United Structures of America, Inc.
15. VP Buildings, Inc.; a United Dominion Company.

## 2.2 STRUCTURAL-FRAMING MATERIALS

- A. W-Shapes: ASTM A 992/A 992M; ASTM A 572/A 572M, Grade 50 or 55 (345 or 380); or ASTM A 529/A 529M, Grade 50 or 55 (345 or 380).
- B. Channels, Angles, M-Shapes, and S-Shapes: ASTM A 36/A 36M; ASTM A 572/A 572M, Grade 50 or 55 (345 or 380); or ASTM A 529/A 529M, Grade 50 or 55 (345 or 380).
- C. Plate and Bar: ASTM A 36/A 36M; ASTM A 572/A 572M, Grade 50 or 55 (345 or 380); or ASTM A 529/A 529M, Grade 50 or 55 (345 or 380).
- D. Structural-Steel Sheet: Hot-rolled, ASTM A 1011/A 1011M, Structural Steel (SS), Grades 30 through 55 (205 through 380), or High-Strength Low Alloy Steel (HSLAS), Grades 45 through 70 (310 through 480); or cold-rolled, ASTM A 1008/A 1008M, Structural Steel (SS), Grades 25 through 80 (170 through 550), or High-Strength Low Alloy Steel (HSLAS), Grades 45 through 70 (310 through 480).
- E. Metallic-Coated Steel Sheet: ASTM A 653/A 653M, Structural Steel (SS), Grades 33 through 80 (230 through 550) or High-Strength Low Alloy Steel (HSLAS), Grades 50 through 80 (340 through 550); with G60 (Z180) coating designation; mill phosphatized.
- F. Metallic-Coated Steel Sheet Pre-painted with Coil Coating: Steel sheet metallic coated by the hot-dip process and pre-painted by the coil-coating process to comply with ASTM A 755/A 755M.
  1. Zinc-Coated (Galvanized) Steel Sheet: ASTM A 653/A 653M, Structural Steel (SS), Grades 33 through 80 (230 through 550) or High-Strength Low Alloy Steel (HSLAS), Grades 50 through 80 (340 through 550); with G90 (Z275) coating designation.
  2. Aluminum-Zinc Alloy-Coated Steel Sheet: ASTM A 792/A 792M, Structural Steel (SS), Grade 50 or 80 (340 or 550); with Class AZ50 (AZM150) coating.
- G. Non-High-Strength Bolts, Nuts, and Washers: ASTM A 307, Grade A (ASTM F 568M, Property Class 4.6), carbon-steel, hex-head bolts; ASTM A 563 (ASTM A 563M) carbon-steel hex nuts; and ASTM F 844 plain (flat) steel washers.
  1. Finish: Hot-dip zinc coating, ASTM A 153/A 153M, Class C.

- H. High-Strength Bolts, Nuts, and Washers: **ASTM A 325 (ASTM A 325M)**, Type 1, heavy hex steel structural bolts; **ASTM A 563 (ASTM A 563M)** heavy hex carbon-steel nuts; and **ASTM F 436 (ASTM F 436M)** hardened carbon-steel washers.
  - 1. Finish: Hot-dip zinc coating, ASTM A 153/A 153M, Class C.
  - 2. Tension-Control, High-Strength Bolt-Nut-Washer Assemblies: ASTM F 1852, Type 1, heavy-hex-head steel structural bolts with splined ends.
    - a. Finish: Hot-dip zinc coating, ASTM A 153/A 153M, Class C.
- I. Unheaded Anchor Rods: **ASTM A 307, Grade A (ASTM F 568M, Property Class 4.6)**.
  - 1. Configuration: Straight.
  - 2. Nuts: **ASTM A 563 (ASTM A 563M)** heavy hex carbon steel.
  - 3. Plate Washers: ASTM A 36/A 36M carbon steel.
  - 4. Washers: **ASTM F 436 (ASTM F 436M)** hardened carbon steel.
  - 5. Finish: Hot-dip zinc coating, ASTM A 153/A 153M, Class C.
- J. Headed Anchor Rods: **ASTM A 307, Grade A (ASTM F 568M, Property Class 4.6)**, straight.
  - 1. Nuts: **ASTM A 563 (ASTM A 563M)** heavy hex carbon steel.
  - 2. Plate Washers: ASTM A 36/A 36M carbon steel.
  - 3. Washers: **ASTM F 436 (ASTM F 436M)** hardened carbon steel.
  - 4. Finish: Hot-dip zinc coating, ASTM A 153/A 153M, Class C.
- K. Threaded Rods: **ASTM A 307, Grade A (ASTM F 568M, Property Class 4.6)**.
  - 1. Nuts: **ASTM A 563 (ASTM A 563M)** heavy hex carbon steel.
  - 2. Washers: **ASTM F 436 (ASTM F 436M)** hardened carbon steel.
  - 3. Finish: Hot-dip zinc coating, ASTM A 153/A 153M, Class C.
- L. Primer: SSPC-Paint 15, Type I, red oxide.

### 2.3 MATERIALS FOR FIELD-ASSEMBLED METAL PANELS

- A. Metallic-Coated Steel Sheet Pre-painted with Coil Coating: Steel sheet metallic coated by the hot-dip process and pre-painted by the coil-coating process to comply with ASTM A 755/A 755M.
  - 1. Zinc-Coated (Galvanized) Steel Sheet: ASTM A 653/A 653M, Structural Steel (SS), Grades **33 through 80 (230 through 550)**, with **G90 (Z275)** coating designation.
  - 2. Surface: Smooth, flat finish.
  - 3. Exposed Finishes: Apply the following coil coating, as specified or indicated on Drawings:
    - a. High-Performance Organic Finish (3-Coat Fluoropolymer): AA-C12C40R1x (Chemical Finish: cleaned with inhibited chemicals; Chemical Finish: conversion coatings; Organic Coating: manufacturer's

standard 3-coat, thermocured system consisting of specially formulated inhibitive primer, fluoropolymer color coat, and clear fluoropolymer topcoat, with both color coat and clear topcoat containing not less than 70 percent polyvinylidene fluoride resin by weight), with a minimum total dry film thickness of **1.5 mil (0.038 mm)**. Prepare, pre-treat, and apply coating to exposed metal surfaces to comply with AAMA 2605 and with coating and resin manufacturers' written instructions, except as modified below:

- 1) Humidity Resistance: 2000 hours.
  - 2) Salt-Spray Resistance: 2000 hours.
- b. Concealed Finish: Apply pretreatment and manufacturer's standard white or light-colored backer finish, consisting of prime coat and wash coat with a total minimum dry film thickness of **0.5 mil (0.013 mm)**.

#### 2.4 THERMAL INSULATION FOR FIELD-ASSEMBLED METAL PANELS

- A. Metal Building Insulation: ASTM C 991, Type I, or NAIMA 202, glass-fiber-blanket insulation; **0.5-lb/cu. ft. (8-kg/cu. m)** density; **2-inch- (50-mm-)** wide, continuous, vapor-tight edge tabs; and with a flame-spread index of 25 or less.
1. Thickness as required to obtain minimum desired R-value (23) and U-value (.043).
  2. Provide additional framing members if required to support insulation.
- B. Vapor-Retarder Facing: ASTM C 1136, with permeance not greater than **0.02 perm (1.15 ng/Pa x s x sq. m)** when tested according to ASTM E 96, Desiccant Method.
1. Composition: White metallized-polypropylene film facing, fiberglass scrim reinforcement, and kraft-paper backing.
- C. Retainer Strips: **0.019-inch- (0.5-mm-)** thick, formed, galvanized steel or PVC retainer clips colored to match insulation facing.
- D. Vapor-Retarder Tape: Pressure-sensitive tape of type recommended by vapor-retarder manufacturer for sealing joints and penetrations in vapor retarder.

#### 2.5 DOOR AND FRAME MATERIALS

- A. Cold-Rolled Steel Sheet: ASTM A 1008/A 1008M, Commercial Steel (CS), Type B, suitable for exposed applications.
- B. Hot-Rolled Steel Sheet: ASTM A 1011/A 1011M, Commercial Steel (CS), Type B; free of scale, pitting, or surface defects; pickled and oiled.
- C. Metallic-Coated Steel Sheet: ASTM A 653/A 653M, Commercial Steel (CS), Type B; with **G60 (Z180)** zinc (galvanized) or **A60 (ZF180)** zinc-iron-alloy (galvannealed) coating designation.

## 2.6 MISCELLANEOUS MATERIALS

- A. Fasteners: Self-tapping screws, bolts, nuts, self-locking rivets and bolts, end-welded studs, and other suitable fasteners designed to withstand design loads. Provide fasteners with heads matching color of materials being fastened by means of plastic caps or factory-applied coating.
  - 1. Fasteners for Metal Roof and Wall Panels: Self-drilling Type 410 stainless-steel or self-tapping Type 304 stainless-steel or zinc-alloy-steel hex washer head, with EPDM or PVC washer under heads of fasteners bearing on weather side of metal panels.
  - 2. Fasteners for Flashing and Trim: Blind fasteners or self-drilling screws with hex washer head.
  - 3. Blind Fasteners: High-strength aluminum or stainless-steel rivets.
- B. Bituminous Coating: Cold-applied asphalt mastic, SSPC-Paint 12, compounded for 15-mil (0.4-mm) dry film thickness per coat. Provide inert-type non-corrosive compound free of asbestos fibers, sulfur components, and other deleterious impurities.
- C. Nonmetallic, Shrinkage-Resistant Grout: ASTM C 1107, factory-packaged, nonmetallic aggregate grout, non-corrosive, non-staining, mixed with water to consistency suitable for application and a 30-minute working time.
- D. Metal Panel Sealants:
  - 1. Sealant Tape: Pressure-sensitive, 100 percent solids, gray polyisobutylene compound sealant tape with release-paper backing. Provide permanently elastic, nonsag, nontoxic, nonstaining tape of manufacturer's standard size.
  - 2. Joint Sealant: ASTM C 920; one-part elastomeric polyurethane, polysulfide, or silicone-rubber sealant; of type, grade, class, and use classifications required to seal joints in metal panels and remain weathertight; and as recommended by metal building system manufacturer.

## 2.7 FABRICATION, GENERAL

- A. General: Design components and field connections required for erection to permit easy assembly.
  - 1. Mark each piece and part of the assembly to correspond with previously prepared erection drawings, diagrams, and instruction manuals.
  - 2. Fabricate structural framing to produce clean, smooth cuts and bends. Punch holes of proper size, shape, and location. Members shall be free of cracks, tears, and ruptures.
- B. Tolerances: Comply with MBMA's "Metal Building Systems Manual": Chapter IV, Section 9, "Fabrication and Erection Tolerances."
- C. Metal Panels: Fabricate and finish metal panels at the factory to greatest extent possible, by manufacturer's standard procedures and processes, as necessary to fulfill indicated performance requirements. Comply with indicated profiles and with dimensional and structural requirements.

1. Provide panel profile, including major ribs and intermediate stiffening ribs, if any, for full length of metal panel.

## 2.8 STRUCTURAL FRAMING

### A. General:

1. Primary Framing: Shop fabricate framing components to indicated size and section with baseplates, bearing plates, stiffeners, and other items required for erection welded into place. Cut, form, punch, drill, and weld framing for bolted field assembly.
  - a. Make shop connections by welding or by using high-strength bolts.
  - b. Join flanges to webs of built-up members by a continuous submerged arc-welding process.
  - c. Brace compression flange of primary framing with steel angles or cold-formed structural tubing between frame web and purlin or girt web, so flange compressive strength is within allowable limits for any combination of loadings.
  - d. Shop Priming: Prepare surfaces for shop priming according to SSPC-SP 2. Shop prime primary structural members with specified primer after fabrication.
2. Secondary Framing: Shop fabricate framing components to indicated size and section by roll-forming or break-forming, with baseplates, bearing plates, stiffeners, and other plates required for erection welded into place. Cut, form, punch, drill, and weld secondary framing for bolted field connections to primary framing.
  - a. Make shop connections by welding or by using non-high-strength bolts.
  - b. Shop Priming: Prepare uncoated surfaces for shop priming according to SSPC-SP 2. Shop prime uncoated secondary structural members with specified primer after fabrication.

### B. Primary Framing: Manufacturer's standard structural primary framing system, designed to withstand required loads and specified requirements. Primary framing includes transverse and lean-to frames; rafter, rake, and canopy beams; sidewall, intermediate, end-wall, and corner columns; and wind bracing.

1. General: Provide frames with attachment plates, bearing plates, and splice members. Factory drill for field-bolted assembly. Provide frame span and spacing indicated.
2. Rigid Clear-Span Frames: I-shaped frame sections fabricated from shop-welded, built-up steel plates or structural-steel shapes. Interior columns are not permitted.
3. Exterior Column Type: Tapered.
4. Rafter Type: Tapered.

- C. End-Wall Framing: Manufacturer's standard primary end-wall framing fabricated for field-bolted assembly to comply with the following:
1. End-Wall and Corner Columns: I-shaped sections fabricated from structural-steel shapes; shop-welded, built-up steel plates; or C-shaped, cold-formed, structural-steel sheet; with minimum thickness of **0.0598 inch (1.5 mm)**.
  2. End-Wall Rafters: C-shaped, cold-formed, structural-steel sheet; with minimum thickness of **0.0598 inch (1.5 mm)**; or I-shaped sections fabricated from shop-welded, built-up steel plates or structural-steel shapes.
- D. Secondary Framing: Manufacturer's standard secondary framing members, including purlins, girts, eave struts, flange bracing, base members, gable angles, clips, headers, jambs, and other miscellaneous structural members. Fabricate framing from cold-formed, structural-steel sheet or roll-formed, metallic-coated steel sheet pre-painted with coil coating, unless otherwise indicated, to comply with the following:
1. Purlins: C- or Z-shaped sections; fabricated from minimum **0.0598-inch- (1.5-mm-)** thick steel sheet, built-up steel plates, or structural-steel shapes; minimum **2-1/2-inch- (64-mm-)** wide flanges.
    - a. Depth: As required to comply with system performance requirements.
  2. Girts: C- or Z-shaped sections; fabricated from minimum **0.0598-inch- (1.5-mm-)** thick steel sheet, built-up steel plates, or structural-steel shapes. Form ends of Z-sections with stiffening lips angled 40 to 50 degrees to flange and with minimum **2-1/2-inch- (64-mm-)** wide flanges.
    - a. Depth: As required to comply with system performance requirements.
  3. Eave Struts: Unequal-flange, C-shaped sections; fabricated from **0.0598-inch- (1.5-mm-)** thick steel sheet, built-up steel plates, or structural-steel shapes; to provide adequate backup for metal panels.
  4. Flange Bracing: Minimum **2-by-2-by-1/8-inch (51-by-51-by-3-mm)** structural-steel angles or **1-inch (25-mm)** diameter, cold-formed structural tubing to stiffen primary frame flanges.
  5. Sag Bracing: Minimum **1-by-1-by-1/8-inch (25-by-25-by-3-mm)** structural-steel angles.
  6. Base or Sill Angles: Minimum **3-by-2-by-0.0598-inch (76-by-51-by-1.5-mm)** zinc-coated (galvanized) steel sheet.
  7. Purlin and Girt Clips: Minimum **0.0598-inch- (1.5-mm-)** thick, steel sheet. Provide galvanized clips where clips are connected to galvanized framing members.
  8. Secondary End-Wall Framing: Manufacturer's standard sections fabricated from minimum **0.0598-inch- (1.5-mm-)** thick, zinc-coated (galvanized) steel sheet.
  9. Framing for Openings: Channel shapes; fabricated from minimum **0.0598-inch- (1.5-mm-)** thick, cold-formed, structural-steel sheet or structural-steel shapes. Frame head and jamb of door openings, and head, jamb, and sill of other openings.
  10. Miscellaneous Structural Members: Manufacturer's standard sections fabricated from cold-formed, structural-steel sheet; built-up steel plates; or zinc-coated (galvanized) steel sheet; designed to withstand required loads.

- E. Canopy Framing: Manufacturer's standard structural-framing system, designed to withstand required loads, fabricated from shop-welded, built-up steel plates or structural-steel shapes. Provide frames with attachment plates and splice members, factory drilled for field-bolted assembly.
1. Type: Tapered-beam, below-eave type.
- F. Bracing: Provide adjustable wind bracing as follows:
1. Rods: ASTM A 36/A 36M; ASTM A 572/A 572M, Grade 50 (345); or ASTM A 529/A 529M, Grade 50 (345); minimum 1/2-inch- (13-mm-) diameter steel; threaded full length or threaded a minimum of 6 inches (152 mm) at each end.
  2. Cable: ASTM A 475, 1/4-inch- (6-mm-) diameter, extra-high-strength grade, Class B zinc-coated, 7-strand steel; with threaded end anchors.
  3. Angles: Fabricated from structural-steel shapes to match primary framing, of size required to withstand design loads.
  4. Bracing: Provide wind bracing using any method specified above, at manufacturer's option.
- G. Bolts: Provide plain finish bolts for structural-framing components that are primed or finish painted. Provide zinc-plated or hot-dipped galvanized bolts for structural-framing components that are galvanized.
- H. Factory-Primed Finish: Apply specified primer immediately after cleaning and pretreating.
1. Prime primary, secondary, and end-wall structural-framing members to a minimum dry film thickness of 1 mil (0.025 mm).
    - a. Prime secondary steel framing formed from uncoated steel sheet to a minimum dry film thickness of 0.5 mil (0.013 mm) on each side.
  2. Prime galvanized members with specified primer, after phosphoric acid pretreatment.

## 2.9 METAL ROOF PANELS

- A. Vertical-Rib, Standing-Seam Metal Roof Panels: Formed with vertical ribs at panel edges and intermediate stiffening ribs symmetrically spaced between ribs; designed for sequential installation by mechanically attaching panels to supports using concealed clips located under one side of panels and engaging opposite edge of adjacent panels.
1. Material: Zinc-coated (galvanized) steel sheet, 0.0269 inch (0.70 mm) thick.
    - a. Exterior Finish: Fluoropolymer.
    - b. Color: As selected by Architect from manufacturer's full range.

2. Clips: Manufacturer's standard, floating type to accommodate thermal movement; fabricated from zinc-coated (galvanized) steel, aluminum-zinc alloy-coated steel, or stainless-steel sheet.
3. Joint Type: Panels snapped together.
4. Joint Type: Mechanically seamed, folded as standard with manufacturer.
5. Panel Coverage: 24 inches.
6. Panel Height: 2 inches (51 mm) minimum.
7. Uplift Rating: UL 90.

## 2.10 FIELD-ASSEMBLED METAL WALL PANELS

- A. Tapered-Rib-Profile, Exposed-Fastener Metal Wall Panels: Formed with raised, trapezoidal major ribs and intermediate stiffening ribs symmetrically spaced between major ribs; designed to be field assembled by lapping side edges of adjacent panels and mechanically attaching panels to supports using exposed fasteners in side laps.
  1. Material: Zinc-coated (galvanized) steel sheet, 0.0269 inch (0.70 mm) thick.
    - a. Exterior Finish: Fluoropolymer.
    - b. Color: As selected by Architect from manufacturer's full range.
  2. Major-Rib Spacing: 12 inches (305 mm) o.c.
  3. Panel Coverage: 36 inches (914 mm).
  4. Panel Height: 1.25 inches (32 mm) minimum.

## 2.11 DOORS AND FRAMES

- A. Fire-Rated Personnel Door Assemblies: Assemblies complying with NFPA 80 that are listed and labeled by a testing and inspecting agency acceptable to authorities having jurisdiction, for fire ratings indicated, based on testing according to NFPA 252.
  1. Test Pressure: Test at atmospheric pressure.
  2. Oversize Fire-Rated Door Assemblies: For units exceeding sizes of tested assemblies, provide certification by a testing agency acceptable to authorities having jurisdiction that doors comply with standard construction requirements for tested and labeled fire-rated door assemblies except for size.
- B. Swinging Personnel Doors and Frames: Metal building system manufacturer's standard doors and frames; prepared and reinforced at strike and hinges to receive field-applied hardware according to ANSI/DHI A115 Series.
  1. Steel Doors: 1-3/4 inches (44 mm) thick; fabricated from 0.0329-inch- (0.85-mm-) uncoated thickness, metallic-coated steel face sheets; of styles indicated; hemmed at both vertical edges; with 0.0528-inch- (1.35-mm-) uncoated thickness, inverted metallic-coated steel channels welded to face sheets at top and bottom of door.
    - a. Core: Polyurethane foam with U-factor rating of at least 0.07 Btu/sq. ft. x h x deg F (0.40 W/sq. m x K).

2. Steel Frames: Fabricate 2-inch- (51-mm-) wide face frames from 0.0528-inch- (1.35-mm-) uncoated thickness, metallic-coated steel sheet.
  - a. Type: Factory welded.
3. Fabricate concealed stiffeners, reinforcement, edge channels, and moldings from either cold- or hot-rolled steel sheet.
4. Hardware: Comply with ANSI/DHI A115 Series and as follows:
  - a. Provide hardware for each door leaf, as follows:
    - 1) Hinges: Three plain-bearing, standard weight, full-mortise, stainless-steel or bronze, template-type hinges; 4-1/2 by 4-1/2 inches (114 by 114 mm), with non-removable pin.
    - 2) Lockset: Key-in-lever cylindrical type.
    - 3) Threshold: Extruded aluminum.
    - 4) Silencers: Pneumatic rubber; three silencers on strike jambs of single door frames.
    - 5) Closer: Surface-applied, standard-duty hydraulic type.
    - 6) Weather Stripping: Silicone applied to head and jambs, with vinyl sweep at sill.
5. Anchors and Accessories: Manufacturer's standard units, galvanized according to ASTM A 123/A 123M.
6. Fabrication: Fabricate doors and frames to be rigid; neat in appearance; and free from defects, warp, or buckle. Provide continuous welds on exposed joints; grind, dress, and make welds smooth, flush, and invisible.
7. Finishes for Personnel Doors and Frames:
  - a. Surface Preparation: Clean surfaces with nonpetroleum solvent so surfaces are free of oil and other contaminants. After cleaning, apply a conversion coating suited to the organic coating to be applied over it. Clean welds, mechanical connections, and abraded areas, and apply galvanizing repair paint specified below to comply with ASTM A 780.
    - 1) Galvanizing Repair Paint: High-zinc-dust-content paint for regalvanizing welds in steel, complying with SSPC-Paint 20.
  - b. Factory Priming for Field-Painted Finish: Where field painting after installation is indicated, apply the primer specified below immediately after cleaning and pretreating.
    - 1) Shop Primer: Manufacturer's standard, fast-curing, lead- and chromate-free primer complying with ANSI A250.10 acceptance criteria.

## 2.12 WINDOWS

- A. Aluminum Windows: Metal building system manufacturer's standard, with self-flashing mounting fins, and as follows:

1. Type, Performance Class, and Performance Grade: Comply with AAMA/NWWDA 101/I.S.2 and as follows:
  - a. Horizontal-Sliding Units: HS-C30
  - b. Fixed Units: F-C30.
2. Aluminum Extrusions: **ASTM B 221 (ASTM B 221M)**, alloy and temper recommended by manufacturer for strength, corrosion resistance, and application of required finish, but not less than **0.062-inch (1.6-mm)** thickness at any location for main frame and sash members.
  - a. Thermally Improved Construction: Fabricate window units with an integral, concealed, low-conductance thermal barrier; located between exterior materials and window members exposed on interior side; in a manner that eliminates direct metal-to-metal contact.
3. Fasteners, Anchors, and Clips: Aluminum, nonmagnetic stainless steel, or other non-corrosive material, compatible with aluminum window members, trim, hardware, anchors, and other components of window units. Fasteners shall not be exposed, except for attaching hardware.
  - a. Reinforcement: Where fasteners screw-anchor into aluminum less than **0.125 inch (3.2 mm)** thick, reinforce interior with aluminum or nonmagnetic stainless steel to receive screw threads, or provide standard, non-corrosive, pressed-in, splined grommet nuts.
4. Hardware: Manufacturer's standard; of aluminum, stainless steel, die-cast steel, malleable iron, or bronze; including the following:
  - a. Cam-action sweep sash lock and keeper at meeting rails.
  - b. Nylon sash rollers for horizontal-sliding units.
5. Sliding-Type Weather Stripping: Woven-pile weather stripping of wool, polypropylene, or nylon pile and resin-impregnated backing fabric; complying with AAMA 701/702.
6. Insect Screens: Provide removable insect screen on each operable exterior sash, with screen frame finished to match window unit, and as follows:
  - a. Glass-Fiber Mesh Fabric: **18-by-16 (1.1-by-1.3-mm)** or **18-by-14 (1.1-by-1.5-mm)** mesh of PVC-coated, glass-fiber threads; woven and fused to form a fabric mesh; complying with ASTM D 3656.
7. Baked-Enamel Finish: AA-C12C42R1x (Chemical Finish: cleaned with inhibited chemicals; Chemical Finish: acid-chromate-fluoride-phosphate conversion coating; Organic Coating: as specified below). Apply baked enamel complying with paint manufacturer's written instructions for cleaning, conversion coating, and painting.
  - a. Organic Coating: Thermosetting, modified-acrylic enamel primer/topcoat system complying with AAMA 2603 except with a minimum dry film thickness of **0.7 mil (0.02 mm)**, medium gloss.
    - 1) Color: As selected by Architect from manufacturer's full range.

- B. Glazing:
1. Tinted Float Glass: ASTM C 1036, Type I, Class 2, Quality-Q3, 3 mm thick, manufacturer's standard color.
  2. Glazing Stops: Screw-applied or snap-on glazing stops coordinated with glazing system indicated. Match material and finish of window frames.
  3. Factory-Glazed Fabrication: Glaze window units in the factory to greatest extent possible and practical for applications indicated.

## 2.13 ACCESSORIES

- A. General: Provide accessories as standard with metal building system manufacturer and as specified. Fabricate and finish accessories at the factory to greatest extent possible, by manufacturer's standard procedures and processes. Comply with indicated profiles and with dimensional and structural requirements.
1. Form exposed sheet metal accessories that are without excessive oil canning, buckling, and tool marks and that are true to line and levels indicated, with exposed edges folded back to form hems.
- B. Roof Panel Accessories: Provide components required for a complete metal roof panel assembly including copings, fasciae, corner units, ridge closures, clips, sealants, gaskets, fillers, closure strips, and similar items. Match material and finish of metal roof panels, unless otherwise indicated.
1. Closures: Provide closures at eaves and ridges, fabricated of same material as metal roof panels.
  2. Clips: Manufacturer's standard, formed from stainless-steel sheet, designed to withstand negative-load requirements.
  3. Cleats: Manufacturer's standard, mechanically seamed cleats formed from stainless-steel sheet or nylon-coated aluminum sheet.
  4. Backing Plates: Provide metal backing plates at panel end splices, fabricated from material recommended by manufacturer.
  5. Closure Strips: Closed-cell, expanded, cellular, rubber or crosslinked, polyolefin-foam or closed-cell laminated polyethylene; minimum **1-inch- (25-mm-)** thick, flexible closure strips; cut or premolded to match metal roof panel profile. Provide closure strips where indicated or necessary to ensure weathertight construction.
  6. Thermal Spacer Blocks: Where metal panels attach directly to purlins, provide thermal spacer blocks of thickness required to provide **1 inch (25 mm)** standoff; fabricated from extruded polystyrene.
- C. Wall Panel Accessories: Provide components required for a complete metal wall panel assembly including copings, fasciae, mullions, sills, corner units, clips, sealants, gaskets, fillers, closure strips, and similar items. Match material and finish of metal wall panels, unless otherwise indicated.
1. Closures: Provide closures at eaves and rakes, fabricated of same material as metal wall panels.

2. Backing Plates: Provide metal backing plates at panel end splices, fabricated from material recommended by manufacturer.
  3. Closure Strips: Closed-cell, expanded, cellular, rubber or crosslinked, polyolefin-foam or closed-cell laminated polyethylene; minimum 1-inch- (25-mm-) thick, flexible closure strips; cut or premolded to match metal wall panel profile. Provide closure strips where indicated or necessary to ensure weathertight construction.
- D. Flashing and Trim: Formed from minimum 0.0159-inch- (0.40-mm-) thick, metallic-coated steel sheet or aluminum-zinc alloy-coated steel sheet prepainted with coil coating; finished to match adjacent metal panels.
1. Provide flashing and trim as required to seal against weather and to provide finished appearance. Locations include, but are not limited to, eaves, rakes, corners, bases, framed openings, ridges, fasciae, and fillers.
  2. Opening Trim: Minimum 0.0269-inch- (0.70-mm-) thick, metallic-coated steel sheet or aluminum-zinc alloy-coated steel sheet pre-painted with coil coating. Trim head and jamb of door openings, and head, jamb, and sill of other openings.
- E. Gutters: Formed from minimum 0.0159-inch- (0.40-mm-) thick, metallic-coated steel sheet or aluminum-zinc alloy-coated steel sheet pre-painted with coil coating; finished to match roof fascia and rake trim. Match profile of gable trim, complete with end pieces, outlet tubes, and other special pieces as required. Fabricate in minimum 96-inch- (2438-mm-) long sections, sized according to SMACNA's "Architectural Sheet Metal Manual."
1. Gutter Supports: Fabricated from same material and finish as gutters; spaced 36 inches (900 mm) o.c.
  2. Strainers: Bronze, copper, or aluminum wire ball type at outlets.
- F. Downspouts: Formed from 0.0159-inch- (0.4-mm-) thick, zinc-coated (galvanized) steel sheet or aluminum-zinc alloy-coated steel sheet pre-painted with coil coating; finished to match metal wall panels. Fabricate in minimum 10-foot- (3-m-) long sections, complete with formed elbows and offsets.
1. Mounting Straps: Fabricated from same material and finish as gutters; spaced 10 feet (3 m) on center.
- G. Roof Curbs: Fabricated from minimum 0.0428-inch- (1.1-mm-) thick, metallic-coated steel sheet or aluminum-zinc alloy-coated steel sheet prepainted with coil coating; finished to match metal roof panels; with welded top box and bottom skirt, and integral full-length cricket; capable of withstanding indicated loads and of size and height indicated.
1. Curb Subframing: Minimum 0.0528-inch- (1.35-mm-) thick, angle-, C-, or Z-shaped steel sheet.
  2. Provide roof curbs for field-installed mechanical equipment in the sizes and locations shown on the mechanical plans.

3. Provide roof curbs for skylights in size and locations shown on the shop building roof plan.
4. Insulation: ~~1-inch-~~ (25-mm-) thick, rigid type.

#### 2.14 FINISHES, GENERAL

- A. Comply with NAAMM's "Metal Finishes Manual for Architectural and Metal Products" for recommendations for applying and designating finishes.
- B. Appearance of Finished Work: Variations in appearance of abutting or adjacent pieces are acceptable if they are within one-half of the range of approved Samples. Noticeable variations in the same piece are not acceptable. Variations in appearance of other components are acceptable if they are within the range of approved Samples and are assembled or installed to minimize contrast.

#### 2.15 SOURCE QUALITY CONTROL

- A. Testing Agency: Owner will engage a qualified testing and inspecting agency to perform the following tests and inspections and to submit reports.
- B. Special Inspector: Owner will engage a qualified special inspector to perform the following tests and inspections and to submit reports. Special Inspector will verify that manufacturer maintains detailed fabrication and quality-control procedures and will review the completeness and adequacy of those procedures to perform the Work.
- C. Tests and Inspections:
  1. Bolted Connections: Shop-bolted connections shall be tested and inspected according to RCSC's "Specification for Structural Joints Using ASTM A 325 or A 490 Bolts."
  2. Welded Connections: In addition to visual inspection, shop-welded connections shall be tested and inspected according to AWS D1.1 and the following inspection procedures, at inspector's option:
    - a. Liquid Penetrant Inspection: ASTM E 165.
    - b. Magnetic Particle Inspection: ASTM E 709; performed on root pass and on finished weld. Cracks or zones of incomplete fusion or penetration will not be accepted.
    - c. Ultrasonic Inspection: ASTM E 164.
    - d. Radiographic Inspection: ASTM E 94.
- D. Correct deficiencies in Work that test reports and inspections indicate do not comply with the Contract Documents.

## PART 3 - EXECUTION

### 3.1 EXAMINATION

- A. Examine substrates, areas, and conditions, with Erector present, for compliance with requirements for installation tolerances and other conditions affecting performance of work.
  - 1. For the record, prepare written report, endorsed by Erector, listing conditions detrimental to performance of work.
- B. Before erection proceeds, survey locations of concrete- and masonry-bearing surfaces and locations of anchor rods, bearing plates, and other embedments to receive structural framing, with Erector present, for compliance with requirements and metal building system manufacturer's tolerances.

**\*\*\*\*\*NOTE: THE FOLLOWING ERECTION INSTRUCTIONS ARE PROVIDED AS A REFERENCE FOR THE PRE-ENGINEERED BUILDING MANUFACTURER WHO WILL ENGINEER AND MANUFACTURE THE PRE-ENGINEERED BUILDINGS. THE PRE-ENGINEERED BUILDING MANUFACTURER IS TO INCORPORATE THE INTENT OF THE ERECTION INSTRUCTIONS INTO THE DESIGN OF THE PRE-ENGINEERED BUILDINGS. \*\*\*\*\***

### 3.2 ERECTION OF STRUCTURAL FRAMING

- A. Erect metal building system according to manufacturer's written erection instructions and erection drawings.
- B. Do not field cut, drill, or alter structural members without written approval from metal building system manufacturer's professional engineer.
- C. Set structural framing accurately in locations and to elevations indicated and according to AISC specifications referenced in this Section. Maintain structural stability of frame during erection.
- D. Base Plates: Clean concrete- and masonry-bearing surfaces of bond-reducing materials, and roughen surfaces prior to setting plates. Clean bottom surface of plates.
  - 1. Set plates for structural members on wedges, shims, or setting nuts as required.
  - 2. Tighten anchor rods after supported members have been positioned and plumbed. Do not remove wedges or shims but, if protruding, cut off flush with edge of plate before packing with grout.
  - 3. Promptly pack grout solidly between bearing surfaces and plates so no voids remain. Neatly finish exposed surfaces; protect grout and allow to cure. Comply with manufacturer's written installation instructions for shrinkage-resistant grouts.

- E. Align and adjust structural framing before permanently fastening. Before assembly, clean bearing surfaces and other surfaces that will be in permanent contact with framing. Perform necessary adjustments to compensate for discrepancies in elevations and alignment.
  - 1. Level and plumb individual members of structure.
  - 2. Make allowances for difference between temperature at time of erection and mean temperature when structure will be completed and in service.
  
- F. Primary Framing and End Walls: Erect framing true to line, level, plumb, rigid, and secure. Level baseplates to a true even plane with full bearing to supporting structures, set with double-nutted anchor bolts. Use grout to obtain uniform bearing and to maintain a level base-line elevation. Moist cure grout for not less than seven days after placement.
  - 1. Make field connections using high-strength bolts installed according to RCSC's "Specification for Structural Joints Using ASTM A 325 or A 490 Bolts" for type of bolt and type of joint specified.
    - a. Joint Type: Snug tightened or pre-tensioned.
  
- G. Secondary Framing: Erect framing true to line, level, plumb, rigid, and secure. Fasten secondary framing to primary framing using clips with field connections using non-high-strength bolts.
  - 1. Provide rake or gable purlins with tight-fitting closure channels and fasciae.
  - 2. Locate and space wall girts to suit openings such as doors, overhead coiling door openings and windows.
  - 3. Locate canopy framing as indicated.
  - 4. Provide supplemental framing at entire perimeter of openings, including doors, windows, overhead coiling door openings and other penetrations of roof and walls.
  
- H. Bracing: Install bracing in roof and sidewalls where indicated on erection drawings.
  - 1. Tighten rod and cable bracing to avoid sag.
  - 2. Locate interior end-bay bracing only where indicated.
  
- I. Framing for Openings: Provide shapes of proper design and size to reinforce openings and to carry loads and vibrations imposed, including overhead coiling doors and equipment furnished under mechanical and electrical work. Securely attach to structural framing.
  
- J. Erection Tolerances: Maintain erection tolerances of structural framing within AISC's "Code of Standard Practice for Steel Buildings and Bridges."

### 3.3 METAL PANEL INSTALLATION, GENERAL

- A. Examination: Examine primary and secondary framing to verify that structural panel support members and anchorages have been installed within alignment tolerances required by manufacturer.
  - 1. Examine roughing-in for components and systems penetrating metal panels to verify actual locations of penetrations relative to seam locations of metal panels before metal panel installation.
- B. General: Anchor metal panels and other components of the Work securely in place, with provisions for thermal and structural movement.
  - 1. Field cut metal panels as required for doors, windows, and other openings. Cut openings as small as possible, neatly to size required, and without damage to adjacent metal panel finishes.
    - a. Field cutting of metal panels by torch is not permitted unless approved in writing by manufacturer.
  - 2. Install metal panels perpendicular to structural supports, unless otherwise indicated.
  - 3. Flash and seal metal panels with weather closures at perimeter of openings and similar elements. Fasten with self-tapping screws.
  - 4. Locate and space fastenings in uniform vertical and horizontal alignment.
  - 5. Locate metal panel splices over, but not attached to, structural supports with end laps in alignment. Stagger panel splices and end laps to avoid a four-panel lap splice condition.
  - 6. Lap metal flashing over metal panels to allow moisture to run over and off the material.
- C. Lap-Seam Metal Panels: Install screw fasteners with power tools having controlled torque adjusted to compress neoprene washer tightly without damage to washer, screw threads, or metal panels. Install screws in predrilled holes.
  - 1. Arrange and nest side-lap joints so prevailing winds blow over, not into, lapped joints. Lap ribbed or fluted sheets one full rib corrugation. Apply metal panels and associated items for neat and weathertight enclosure. Avoid "panel creep" or application not true to line.
- D. Metal Protection: Where dissimilar metals will contact each other or corrosive substrates, protect against galvanic action by painting contact surfaces with bituminous coating, by applying rubberized-asphalt underlayment to each contact surface, or by other permanent separation as recommended by metal roof panel manufacturer.
- E. Joint Sealers: Install gaskets, joint fillers, and sealants where indicated and where required for weatherproof performance of metal panel assemblies. Provide types of gaskets, fillers, and sealants indicated or, if not indicated, types recommended by metal panel manufacturer.

1. Seal metal panel end laps with double beads of tape or sealant, full width of panel. Seal side joints where recommended by metal panel manufacturer.

### 3.4 METAL ROOF PANEL INSTALLATION

- A. General: Provide metal roof panels of full length from eave to ridge, unless otherwise indicated or restricted by shipping limitations.
  1. Install ridge caps as metal roof panel work proceeds.
  2. Flash and seal metal roof panels with weather closures at eaves and rakes. Fasten with self-tapping screws.
- B. Field-Assembled, Standing-Seam Metal Roof Panels: Fasten metal roof panels to supports with concealed clips at each standing-seam joint at location, spacing, and with fasteners recommended by manufacturer.
  1. Install clips to supports with self-tapping fasteners.
  2. Install pressure plates at locations indicated in manufacturer's written installation instructions.
  3. Seamed Joint: Crimp standing seams with manufacturer-approved motorized seamer tool so clip, metal roof panel, and factory-applied sealant are completely engaged.
  4. Rigidly fasten eave end of metal roof panels and allow ridge end free movement due to thermal expansion and contraction. Pre-drill panels for fasteners.
  5. Provide metal closures at rake edges and each side of ridge caps.
- C. Metal Roof Panel Installation Tolerances: Shim and align metal roof panels within installed tolerance of **1/4 inch in 20 feet (6 mm in 6 m)** on slope and location lines as indicated and within **1/8-inch (3-mm)** offset of adjoining faces and of alignment of matching profiles.

### 3.5 METAL WALL PANEL INSTALLATION

- A. General: Install metal wall panels in orientation, sizes, and locations indicated on Drawings. Install panels perpendicular to girts, extending full height of building, unless otherwise indicated. Anchor metal wall panels and other components of the Work securely in place, with provisions for thermal and structural movement.
  1. Unless otherwise indicated, begin metal panel installation at corners with center of rib lined up with line of framing.
  2. Shim or otherwise plumb substrates receiving metal wall panels.
  3. When two rows of metal panels are required, lap panels **4 inches (102 mm)** minimum.
  4. When building height requires two rows of metal panels at gable ends, align lap of gable panels over metal wall panels at eave height.
  5. Rigidly fasten base end of metal wall panels and allow eave end free movement due to thermal expansion and contraction. Pre-drill panels.
  6. Flash and seal metal wall panels with weather closures at eaves, rakes, and at perimeter of all openings. Fasten with self-tapping screws.

7. Install screw fasteners in predrilled holes.
  8. Install flashing and trim as metal wall panel work proceeds.
  9. Apply elastomeric sealant continuously between metal base channel (sill angle) and concrete, and elsewhere as indicated, or if not indicated, as necessary for waterproofing.
  10. Align bottom of metal wall panels and fasten with blind rivets, bolts, or self-tapping screws.
  11. Provide weatherproof escutcheons for pipe and conduit penetrating exterior walls.
- B. Field-Assembled, Metal Wall Panels: Install metal wall panels on exterior side of girts. Attach metal wall panels to supports with fasteners as recommended by manufacturer.
- 3.6 THERMAL INSULATION INSTALLATION FOR FIELD-ASSEMBLED METAL PANELS
- A. General: Install insulation concurrently with metal panel installation, in thickness indicated to cover entire wall, according to manufacturer's written instructions.
1. Set vapor-retarder-faced units with vapor retarder to warm side of construction, unless otherwise indicated. Do not obstruct ventilation spaces, except for firestopping.
  2. Tape joints and ruptures in vapor retarder, and seal each continuous area of insulation to surrounding construction to ensure airtight installation.
  3. Install blankets straight and true in one-piece lengths. Install vapor retarder over insulation with both sets of facing tabs sealed to provide a complete vapor retarder.
- B. Blanket Roof Insulation: Comply with the following installation method:
1. Over-Purlin-with-Spacer-Block Installation: Extend insulation and vapor retarder over and perpendicular to top flange of secondary framing members. Install layer of filler insulation over first layer to fill space formed by metal roof panel standoffs. Hold in place by panels fastened to standoffs.
  2. Retainer Strips: Install retainer strips at each longitudinal insulation joint, straight and taut, nesting with secondary framing to hold insulation in place.
  3. Thermal Spacer Blocks: Where metal roof panels attach directly to purlins, install thermal spacer blocks.
- 3.7 DOOR AND FRAME INSTALLATION
- A. General: Install doors and frames plumb, rigid, properly aligned, and securely fastened in place according to manufacturer's written instructions. Coordinate installation with wall flashings and other components. Seal perimeter of each door frame with elastomeric sealant used for metal wall panels.
- B. Personnel Doors and Frames: Install doors and frames according to ANSI A250.8. Shim as necessary to comply with DHI A115.IG. Fit non-fire-rated doors accurately in their respective frames, with the following clearances:

1. Between Doors and Frames at Jambs and Head: 1/8 inch (3 mm).
  2. Between Edges of Pairs of Doors: 1/8 inch (3 mm).
  3. At Door Sills with Threshold: 3/8 inch (9.5 mm).
  4. At Door Sills without Threshold: 3/4 inch (19.1 mm).
  5. At fire-rated openings, install frames according to, and doors with clearances specified in, NFPA 80.
- C. Door Hardware: Mount units at heights indicated in DHI's "Recommended Locations for Architectural Hardware for Standard Steel Doors and Frames."
1. Install surface-mounted items after finishes have been completed on substrates involved.
  2. Set units level, plumb, and true to line and location. Adjust and reinforce attachment substrates as necessary for proper installation and operation.
  3. Drill and countersink units that are not factory prepared for anchorage fasteners. Space fasteners and anchors according to industry standards.
  4. Set thresholds for exterior doors in full bed of butyl-rubber or polyisobutylene mastic sealant complying with requirements specified in Division 7 Section "Joint Sealants."

### 3.8 WINDOW INSTALLATION

- A. General: Install windows plumb, rigid, properly aligned, without warp or rack of frames or sash, and securely fastened in place according to manufacturer's written instructions. Coordinate installation with wall flashings and other components. Seal perimeter of each window frame with elastomeric sealant used for metal wall panels.
1. Separate dissimilar materials from sources of corrosion or electrolytic action at points of contact with other materials by complying with requirements specified in "Dissimilar Materials" Paragraph in Appendix B in AAMA/NWWDA 101/I.S.2.
- B. Set sill members in bed of sealant or with gaskets, as indicated, for weathertight construction.
- C. Install windows and components to drain condensation, water penetrating joints, and moisture migrating within windows to the exterior.
- D. Mount screens direct to frames with tapped screw clips.

### 3.9 ACCESSORY INSTALLATION

- A. General: Install accessories with positive anchorage to building and weathertight mounting, and provide for thermal expansion. Coordinate installation with flashings and other components.
1. Install components required for a complete metal roof panel assembly including trim, copings, ridge closures, seam covers, flashings, sealants, gaskets, fillers, closure strips, and similar items.

2. Install components for a complete metal wall panel assembly including trim, copings, corners, seam covers, flashings, sealants, gaskets, fillers, closure strips, and similar items.
  3. Where dissimilar metals will contact each other or corrosive substrates, protect against galvanic action by painting contact surfaces with bituminous coating, by applying rubberized-asphalt underlayment to each contact surface, or by other permanent separation as recommended by manufacturer.
- B. Flashing and Trim: Comply with performance requirements, manufacturer's written installation instructions, and SMACNA's "Architectural Sheet Metal Manual." Provide concealed fasteners where possible, and set units true to line and level as indicated. Install work with laps, joints, and seams that will be permanently watertight and weather resistant.
1. Install exposed flashing and trim that is without excessive oil canning, buckling, and tool marks and that is true to line and levels indicated, with exposed edges folded back to form hems. Install sheet metal flashing and trim to fit substrates and to result in waterproof and weather-resistant performance.
  2. Expansion Provisions: Provide for thermal expansion of exposed flashing and trim. Space movement joints at a maximum of **10 feet (3 m)** with no joints allowed within **24 inches (600 mm)** of corner or intersection. Where lapped or bayonet-type expansion provisions cannot be used or would not be sufficiently weather resistant and waterproof, form expansion joints of intermeshing hooked flanges, not less than **1 inch (25 mm)** deep, filled with mastic sealant (concealed within joints).
- C. Gutters: Join sections with riveted and soldered or lapped and sealed joints. Attach gutters to eave with gutter hangers spaced not more than **4 feet (1.2 m)** o.c. using manufacturer's standard fasteners. Provide end closures and seal watertight with sealant. Provide for thermal expansion.
- D. Downspouts: Join sections with **1-1/2-inch (38-mm)** telescoping joints. Provide fasteners designed to hold downspouts securely **1 inch (25 mm)** away from walls; locate fasteners at top and bottom and at approximately **60 inches (1500 mm)** o.c. in between.
1. Provide elbows at base of downspouts to direct water away from building.
- E. Roof Curbs: Install curbs at locations indicated on Drawings. Install flashing around bases where they meet metal roof panels.
- F. Pipe Flashing: Form flashing around pipe penetration and metal roof panels. Fasten and seal to panel as recommended by manufacturer.

### 3.10 FIELD QUALITY CONTROL

- A. Testing Agency: Owner will engage a qualified testing and inspecting agency to perform the following tests and inspections and to submit reports.
- B. Special Inspector: Owner will engage a qualified special inspector to perform the following tests and inspections and to submit reports.

- C. Tests and Inspections:
1. High-Strength, Field-Bolted Connections: Connections shall be tested and inspected during installation according to RCSC's "Specification for Structural Joints Using ASTM A 325 or A 490 Bolts."
  2. Welded Connections: In addition to visual inspection, field-welded connections shall be tested and inspected according to AWS D1.1 and the following inspection procedures, at inspector's option:
    - a. Liquid Penetrant Inspection: ASTM E 165.
    - b. Magnetic Particle Inspection: ASTM E 709; performed on root pass and on finished weld. Cracks or zones of incomplete fusion or penetration will not be accepted.
    - c. Ultrasonic Inspection: ASTM E 164.
    - d. Radiographic Inspection: ASTM E 94.
- D. Correct deficiencies in Work that test reports and inspections indicate do not comply with the Contract Documents.

### 3.11 ADJUSTING

- A. Doors: After completing installation, test and adjust doors to operate easily, free of warp, twist, or distortion.
- B. Door Hardware: Adjust and check each operating item of door hardware and each door to ensure proper operation and function of every unit. Replace units that cannot be adjusted to operate as intended.
1. Door Closers: Adjust door closers to compensate for final operation of heating and ventilating equipment. Adjust sweep period so that, from an open position of 70 degrees, the door will take at least 3 seconds to move to a point 3 inches (76 mm) from the latch, measured to the leading edge of the door. Doors to be able to be opened using a maximum force of 5 pounds.
- C. Windows: Adjust operating sashes and ventilators, screens, hardware, and accessories for a tight fit at contact points and weather stripping for smooth operation and weathertight closure. Lubricate hardware and moving parts.

### 3.12 CLEANING AND PROTECTION

- A. Repair damaged galvanized coatings on galvanized items with galvanized repair paint according to ASTM A 780 and manufacturer's written instructions.
- B. Remove and replace glass that has been broken, chipped, cracked, abraded, or damaged during construction period.
- C. Touchup Painting: After erection, promptly clean, prepare, and prime or reprime field connections, rust spots, and abraded surfaces of prime-painted structural framing and accessories.

1. Clean and prepare surfaces by SSPC-SP 2, "Hand Tool Cleaning," or SSPC-SP 3, "Power Tool Cleaning."
  2. Apply a compatible primer of same type as shop primer used on adjacent surfaces.
- D. Metal Panels: Remove temporary protective coverings and strippable films, if any, as metal panels are installed. On completion of metal panel installation, clean finished surfaces as recommended by metal panel manufacturer. Maintain in a clean condition during construction.
1. Replace metal panels that have been damaged or have deteriorated beyond successful repair by finish touchup or similar minor repair procedures.
- E. Doors and Frames: Immediately after installation, sand smooth rusted or damaged areas of prime coat and apply touchup of compatible air-drying primer.
1. Immediately before final inspection, remove protective wrappings from doors and frames.
- F. Windows: Clean metal surfaces immediately after installing windows. Avoid damaging protective coatings and finishes. Remove excess sealants, glazing materials, dirt, and other substances. Clean factory-glazed glass immediately after installing windows.

### 3.13 DEMONSTRATION

- A. Engage a factory-authorized service representative to train Owner's maintenance personnel to adjust, operate, and maintain operable accessories.

END OF SECTION 13125