

Craig City School District

CRAIG HIGH SCHOOL NEW SHOP BUILDING SUPPLY



PROJECT MANUAL

July 19, 2023

Prepared for:

Craig City School District
PO Box 800/100 School Rd
Craig, Alaska 99921

Prepared By:

R&M Engineering-Ketchikan, Inc.
7180 Revilla Road, Suite 300
Ketchikan, Alaska 99901



TABLE OF CONTENTS

DIVISION 00 – PROCUREMENT AND CONTRACTING REQUIREMENTS

002000	Invitation to Bid
003000	Instructions to Bidders
004000	Bid Documentation Forms
005000	Owner Contractor Agreement

DIVISION 01 – GENERAL REQUIREMENTS

011000	Summary
012600	Contract Modification Procedures
013300	Submittal Procedures

DIVISION 07 – THERMAL AND MOISTURE PROTECTION

076200	Sheet Metal Flashing and Trim
--------	-------------------------------

DIVISION 08 – DOORS AND WINDOWS

081113	Hollow Metal Doors and Frames
083323	Overhead Coiling Doors
085500	Poly Vinyl Chloride Windows
087100	Door Hardware

DIVISION 13 – SPECIAL CONSTRUCTION

133419	Metal Building Systems
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**CRAIG CITY SCHOOL DISTRICT
INVITATION FOR BID**

**CRAIG HIGH SCHOOL
NEW SHOP BUILDING SUPPLY**

SCOPE OF WORK: Bids are requested for supplying a pre-engineered steel metal building, exterior hollow metal doors, overhead coiling doors, and windows as shown on the attached drawings labeled as “Craig High School – New Shop Building” – Sheets G100, G101, A200, A201, A400, S100 (6 sheets).

The lump sum bid shall include all materials, structural steel, secondary steel such as purlins and girts, liner panels, insulated metal panels, door framing, mechanical openings, metal soffit panels, gutters & downspouts, snowguards, and misc. metal fabrications as shown on the drawings.

Installation of the metal building is not a part of the bid.

Price shall include freight FOB Craig, Alaska.

TO RECEIVE THE INVITATION FOR BID (IFB), please contact: 907-826-3274 ext. 4003 office of CCSD Superintendent Chris Reitan. Requests for the IFB documents may be emailed to creitan@craigschools.com. The IFB documents will also be posted on the School District’s website and The Plans Room. Even though the IFB documents are provided online, each firm must register with the School District by sending an email to: creitan@craigschools.com. **Bids from unregistered bidders will not be accepted.** The required email must include the firm name, address, telephone number, and fax number. No faxed or oral bids will be allowed.

MATERIAL DELIVERY DATE: Building components shall be delivered complete to Craig, Alaska as soon as possible after receipt of order from Craig City School District.

OWNER’S RESPONSIBILITIES: The Craig City School District is the owner and responsible for the order. Nycole Gizinski of R&M Engineering, Ketchikan is acting as Owners Agent for this bid.

QUESTIONS CONCERNING THIS BID: All questions on this bid should be directed to Nycole Gizinski at (907) 225-7917 ext. 103 or email at nycole@rmketchikan.com.

PAYMENT SCHEDULE: Payment will be made within 30 days upon receipt of invoice, for materials delivered to the Seattle Dock.

SUBMISSION OF BIDS: Bids may be emailed to Chris Reitan, Craig City School District at creitan@craigschools.com or received in the Office of the CCSD Superintendent at PO Box 800/100 School Road Craig, AK 99921.

DUE DATE AND TIME. Bids must be received by *2:00 P.M. Monday, August 7th, 2023.* Only bids received by the due date and time will be accepted. Bids will be accepted prior to **August 7th.**

FAX / EMAIL DISCLAIMER: It is the responsibility of the bidder to respond in a timely manner. Neither Craig City School District nor R&M Engineering-Ketchikan, Inc. will be responsible for bids that are late due to mechanical failure, or any other cause arising from bidders' use of Internet service interruption. Bidders are strongly encouraged to confirm receipt of their bid with the Owners Agent prior to submittal deadline.

CRAIG CITY SCHOOL DISTRICT

Release Date:

By: _____
CCSD Superintendent

END OF INVITATION FOR BID

INSTRUCTIONS TO BIDDERS

PREPARATION OF BID FORMS.

The Craig City School District, hereinafter referred to as the **OWNER**, invites bids on the form enclosed as part of the bidding and contract documents to be submitted at such time and place as is stated in the Invitation for Bid.

All bids must be submitted in a sealed envelope or box clearly marked on the outside with the project name, and must be delivered to the address outlined, and in the required format, on or before the deadline outlined in the IFB. Emailed bids are acceptable. It is the sole responsibility of the Bidder to see that his bid is received in proper time. **Any bids received after the deadline for receipt of bids will be disqualified and returned to the Bidder unopened. Bids submitted by fax will not be accepted.**

To be considered, bidders must complete, sign, and include the Bid Documentation Forms provided in the IFB with submitted bids.

SIGNATURES.

All proposals shall give the price proposed, both in writing and in figures, shall give all other information requested herein, and shall be signed and dated by the Bidder or his authorized representative. Specifically:

- A. If the proposal is made by an individual, his name, signature and mailing address must be shown.
- B. A bid by a partnership shall be executed in the partnership name and signed by a partner (whose title must appear under the signature), accompanied by evidence of authority to sign. Evidence of authority to sign may be in the form of a copy of the partnership agreement or other reliable evidence.
- C. A bid by a limited liability company shall be executed in the name of the firm by a member and accompanied by evidence of authority to sign. Such evidence may be in the form of a copy of the corporate bylaws, articles of incorporation, resolution of the board, corporate certificate, or other reliable evidence.
- D. A bid by a corporation shall be executed in the corporate name by the president, vice-president, or other corporate officer. A certified copy of the bylaws or resolution of the board of directors of the corporation shall be furnished showing the authority of the officer signing the proposal to execute contracts on behalf of the corporation.

INQUIRY DEADLINE

Questions, objections, or protests relating to defects, errors, omissions regarding the project or this IFB should be submitted in writing no later than seven (7) days prior to the time announced for opening the proposals for an interpretation or correction thereof. The person submitting the request shall be responsible for its prompt delivery. Any interpretation or correction of the

Contract Documents will be made only by Addendum issued by the Project Manager, which shall thereupon become part of the Contract Documents and a copy of such Addendum will be sent by email to each person receiving a set of Contract Documents; however, responsibility shall rest solely with each of the intending Bidders to determine that he has, by time of bidding, received all Addenda. The OWNER will not be responsible for any other explanation or interpretation of the Contract Documents. No oral interpretation of provisions in the Contract Documents will be made to the Bidder. Bidders must satisfy themselves of the accuracy of any of the estimated quantities by examination of the site and a review of the Contract Documents, including Addenda. After bids have been submitted, the Bidder shall not assert that there was a misunderstanding concerning the quantities of work, site or other conditions, or of the nature of the work to be done.

Address questions to:

R&M Engineering-Ketchikan
Nycole Gizinski
Architect
Telephone: 907.225.7917 Ext. 103
Email: nycole@rmketchikan.com

DELIVERY INSTRUCTIONS

Bids must be received by the deadline specified in this IFB.

Be aware that Craig is considered a remote location and, as such, mail and special deliveries by couriers to Craig are commonly delayed beyond the advertised guaranteed arrival of carriers and couriers.

Bids must be delivered to:

Craig City School District (CCSD)
Superintendent
Att: Chris Reitan
Po Box 800/100 School Rd
Craig, AK 99921

Or emailed to:

Chris Reitan, creitan@craigschools.com

LICENSES AND REGISTRATION

Before execution of a contract, the successful bidder must have a current State of Alaska business license. Any Bidder or Contractor not so licensed is subject to the penalties imposed by such laws and the Bid Proposal of such Bidders may be rejected.

COMPLIANCE WITH LAWS

The Contractor shall observe and abide by all applicable laws, regulations, ordinances and other rules of the State of Alaska and/or any political subdivisions thereof, or any other duly constituted public authority wherein work is done or services performed, and further agrees to indemnify and save the Craig City School District harmless from any and all liability or penalty which may be imposed or asserted by reason of the Contractor's failure or alleged failure to

observe and abide thereby.

BIDDER CERTIFIES

The bidder certifies that any and all prices which may be charged under the terms of this bid request do not and will not violate any existing federal, state, or municipal laws or regulations concerning price discrimination and/or price fixing. The bidder agrees to indemnify, exonerate, and hold harmless the Craig City School District from liability for such violation now and throughout the term of the contract.

ADDENDA ACKNOWLEDGEMENTS

Each proposal shall include specific acknowledgment in the space provided of receipt of all addenda issued during the bidding period. Failure to so acknowledge may result in the proposal being rejected as not responsive.

WRITTEN WORDS

In the case of a difference between written words and figures, the amount stated in written words shall govern. In the case of a difference between a unit price and the extended price, the unit price shall govern.

MODIFICATIONS.

Changes in or additions to the bid forms, recapitulations of the work bid upon, alternative proposals or any other modifications of the bid form which are not specifically called for in the Contract Documents may result in the OWNER's rejection of the bid as not being responsive to the Notice to Contractors Inviting Bids. No oral or telephone modification of any bid submitted will be considered. Any Bidder may modify his bid by submitting a written modification signed by the Bidder or by a signed facsimile communication at Fax No. (907) 826 - 3309 at any time prior to the scheduled bid closing time for receipt of bids, provided such communication is received by the OWNER prior to the bid closing time, and, provided further, the OWNER is satisfied that a written confirmation or facsimile modification over the signature of the Bidder was mailed or shipped via overnight service to the Craig City School District prior to the bid closing time. The modification should not reveal the bid price but should provide the addition or subtraction or other modification so that the final prices or terms will not be known by the Owner until the sealed bid is opened. If written confirmation is not received within three (3) days from the closing time, no consideration will be given to the modification.

ERASURES.

The bid submitted must not contain any erasures, interlineations or other corrections unless each such correction is suitably authenticated by affixing in the margin immediately opposite the corrections the surname of the person or persons signing the bid.

BID PRICE.

The bid price shall include everything necessary for the fulfillment of the Contract including, but not limited to, furnishing all materials and equipment, except as may be provided otherwise in the Contract Documents. In the event of a difference between a price quoted in words and a price quoted in figures for the same quotation, the words shall be the amount bid.

QUALIFICATION OF BIDDERS.

Each Bidder shall be duly licensed, qualified, skilled and regularly engaged in the general class or type of work called for under the Contract. A statement setting forth his licensing, qualification, experience and the experience, knowledge and ability of the personnel available for employment in responsible charge of the work shall be submitted by low Bidder when requested by the OWNER.

It is the intention of the OWNER to award a contract to the lowest responsive responsible Bidder who furnishes satisfactory evidence that he has the requisite licenses, qualifications, experience and ability and that he has sufficient capital, facilities, and plant to enable him to prosecute the work successfully and properly, and to complete the work within the time specified in the Contract.

To determine the degree of responsibility to be credited to the Bidder, the OWNER will weigh any evidence that the Bidder, or personnel available for employment in responsible charge of the work, have satisfactorily performed other contracts of like nature, magnitude and comparable difficulty and comparable rates of progress and other factors, including:

- a) The ability, capacity and skill of the Bidder to perform the Contract.
- b) Whether the Bidder can perform the Contract within the time specified, and without delay
- c) The character, integrity, reputation, judgement, experience and efficiency of the Bidder.
- d) The quality of the Bidder's performance on previous contracts.
- e) The previous and existing compliance by the Bidder with laws and ordinances relating to this and other contracts.
- f) The sufficiency of the financial resources and the ability of the Bidder to perform the Contract.

POSTPONEMENT OF OPENING

The OWNER reserves the right to postpone the date and time for opening of proposals at any time prior to the time announced for opening of proposals in the advertisement.

BID CANCELLATION

The Craig City School District reserves the right to cancel the procurement, IFB, or award without liability to the Bidder, except the return of the bid security, at any time before the Agreement has been fully signed by all parties, including the Craig City School District.

DISQUALIFICATION OF BIDDER

If there is reason to believe that collusion exists among the Bidders, none of the bids of the participants in such collusion will be considered.

REJECTION OF BIDS

The OWNER reserves the right to reject any bid which is nonresponsive, incomplete, obscure or

irregular; any bid which omits any one or more items on which the bids are required; any bid in which unit prices are unbalanced in the opinion of the OWNER; any bid accompanied by insufficient or irregular bid security; and any bid from Bidders who have previously failed to perform properly or to complete on time contracts of any nature.

AGREEMENT AND BONDS

The form of Agreement which the successful Bidder, as Contractor, shall be required to execute are included in the Contract Documents and should be carefully examined by the Bidder. The Agreement shall be executed in three (3) original counterparts.

BIDDERS INTERESTED IN MORE THAN ONE BID

No person, firm, or corporation shall be allowed to make, or file, or be interested in more than one bid for the same work unless alternate bids are specifically called for. A person, firm, or corporation that has submitted a sub-proposal to a Bidder, or that has quoted prices or materials to a Bidder, is not thereby disqualified from submitting a sub-proposal or quoting prices to other Bidders or making a prime proposal.

AWARD OF CONTRACT

The OWNER reserves the right to reject any or all bids, waive any informalities or irregularity in the bidding and/or not make an award. The award of the Contract, if made by the OWNER, will be made to the qualified and responsible Bidder submitting the lowest responsive bid, but the OWNER shall determine in its own discretion whether a Bidder is responsible and qualified to perform the Contract, and what bid is the lowest or in the best interest of the OWNER, including the OWNER's right to consider the proposed form of manufacturer's warranty to be given by the manufacturer to be used by a Bidder, if such warranty is called for in the Contract Documents, or any other matters to be submitted pursuant to the Contract Documents, in making its determinations, and determine whether it is to the best interest of the OWNER to accept the bid.

Alternate bids are intended to provide the Owner a range of comparative costs which will allow identification of the combination most responsive to the Owner's needs and available funds. The Bidder must submit bid prices for all alternate bids. Except as otherwise herein stated an apparent low Bidder will be identified and award of the contract will be made on the basis of the base bid plus those alternate bids that the Owner in its sole discretion elects to accept. The order of the alternates listed shall not be construed as binding and/or an indication of the order in which the Owner may select alternatives if any.

NON-COLLUSION AFFIDAVITS

Upon a specific request of the OWNER, the Bidder, before the award of a Contract, shall submit non-collusion affidavits to the OWNER covering the Bidder and all subcontractors.

DEFAULTING BIDDER

If any Bidder whose Bid proposal is accepted fails, neglects or refuses to execute the Agreement as herein provided, such Bidder shall not be the lowest responsive Bidder. The OWNER may then select the lowest responsive Bidder and deliver a notice of acceptance of Bid proposal to such lowest responsive Bidder.

ERRORS AND OMISSIONS

No consideration will be given by the OWNER to claim of error in a bid unless such claim is made to the OWNER within twenty-four (24) hours after the time stated for receiving bids in the Notice to Contractors Inviting Bids, and unless supporting evidence of such claim, including cost breakdown sheets, is delivered to the OWNER within forty-eight (48) hours after the time stated for receiving bids in the Notice to Contractors Inviting Bids. Relief may be granted only at the OWNER's discretion and in such event only for clerical errors.

SIGNING

Each document signed by an attorney-in-fact shall be accompanied with a copy of the power of attorney authorizing the attorney-in-fact. No agreement shall be binding upon the OWNER until the same has been completely signed by the Contractor and also signed on behalf of the OWNER. Failure to sign and return the required form of Agreement and acceptable bonds and/or insurance certificates or policies as provided herein and the Contract Documents within the time limit above specified may be just and sufficient cause for the cancellation of the award and the forfeiture of the bid security.

WITHDRAWAL OF BIDS.

Bids may be withdrawn only by written or facsimile notice to 907.826.3309 provided such notice is received prior to the date and time set for the receipt of bids, and, provided further, a written confirmation of the withdrawal is mailed or shipped via overnight service to the Craig City School District prior to the bid closing time. No Bidder may withdraw his bid after the time announced for the opening, or before both the award and execution of the agreement, unless the award is delayed for a period in excess of sixty (60) days.

BID PROTESTS.

An aggrieved bidder may file a bid protest within ten (10) calendar days after Notice of Intent to Award the contract is mailed.

PROJECT OVERVIEW

PROJECT:

Craig High School New Shop Building Supply

PROJECT SITE:

1 Panther Way, Craig, AK 99921

PROJECT SCHEDULE:

Craig High School Biomass Project will advertise for bid in the Ketchikan Daily News the weekend of July 22nd.

Note: the project schedule may be modified after the closing date.

- IFB issued: July 21st, 2023
- Deadline for questions, objections, or protests relating to defects, error, omissions regarding the project or this IFB July 31st, 2023
- IFB closing date: August 7th, 2023
- Notice of Intent to Award: August 7th, 2023
- Deadline for Appeal of Proposed Award (10 days): August 17th, 2023
- Approval of Contract Award by School August 23th, 2023

SCOPE OF WORK

The supply of a pre-engineered steel metal building, exterior hollow metal doors, overhead coiling doors, and windows, including all materials, structural steel, secondary steel such as purlins and girts, liner panels, insulated metal panels, door framing, mechanical openings, metal soffit panels, gutters & downspouts, snowguards, and misc. metal fabrications as shown on the drawings.

Installation of the metal building is not a part of the scope of work.

Bids are to include all work described in the Craig High School New Shop Building Supply Project Manual dated July 19th, 2023 and the Craig High School New Shop Building drawing bid set dated July 19th, 2023.

BID CHECKLIST

This Bid Checklist is a summary of the forms and materials required as part of your firm's bid. Bidders are urged to thoroughly read the entire bid. It may be helpful to use this checklist to help ensure compliance with submission requirements.

PROCEDURAL QUALIFICATIONS

- Bidders must be registered (company name, address, telephone number, and fax number) with the Craig City School District as indicated in this solicitation.
- Bids must be received in the Office of the Superintendent no later than the date and time indicated in the solicitation.

FORM AND CONTENT OF BIDS

- Bidders must list and acknowledge receipt of any Addenda issued on the Bid Documentation form by signing in the space provided.
- The Bid Documentation Forms must be signed by an individual authorized to bind the bidder. All bidders, other than individuals, must include evidence of authorization to sign on behalf of the corporation, partnership, limited liability company, or other organization.

Completion of this checklist does not guarantee that a bid will be considered to be responsive. The checklist is provided strictly as a courtesy to bidders.

BID PROPOSAL

TO: Craig City School District:

Pursuant to and in compliance with your Notice to Contractors Inviting Bids, Information For Bidders, Agreement and the other Contract Documents relating thereto, the undersigned Bidder, being fully familiarized with all the terms of all the Contract Documents and with the project site and local conditions and costs affecting the performance as called for in the Contract Documents, hereby proposes and agrees to perform, within the time and in the manner stipulated, the Contract, including all of its component parts, and everything required to be performed, and to provide and furnish any and all of the work, labor, materials, tools, supplies, and all transportation and other services necessary to perform the Contract in a skillful and timely manner, all in strict conformity with the Contract Documents, including addenda(s) for the following project:

CRAIG HIGH SCHOOL NEW SHOP BUILDING SUPPLY

Award of Contract. The Craig City School District shall have the right to reject this bid proposal and such bid proposal shall remain open and may not be withdrawn for a period of sixty (60) days after the date prescribed for its closing.

Execution of Contract and Performance Security. It is understood and agreed that if written notice of the acceptance of this proposal and award of the Contract is mailed, telefaxed or delivered to the undersigned Bidder within sixty (60) days after the opening of the proposal, or at any time thereafter before it is withdrawn in writing, the undersigned Bidder will execute and deliver the Agreement in the form set forth in the Contract Documents to the Craig City School District in accordance with the proposal as accepted, and will also furnish and deliver to the Craig City School District the performance and payment bonds on the forms provided in the Contract Documents, the Certificate of Insurance and policies of insurance and any other documents or bonds called for in the Contract Documents, all within ten (10) days after notice of acceptance and award of the Contract is given.

Notice of acceptance and award of the Contract or requests or additional information may be addressed to the undersigned Bidder at the business address set forth at the end of this bid.

Wherever in this proposal an amount is stated in both words and figures, in case of discrepancy between words and figures, the words shall prevail; if all or any portion of the proposal is required to be given in unit prices and totals and a discrepancy exists between any such unit prices and totals so given, the unit prices shall prevail.

Receipt of Addenda. Receipt of the following Addenda to the Contract Documents is hereby acknowledged.

ADDENDUM	DATE OF RECEIPT	SIGNED
<u>NO</u>	<u>OF ADDENDUM</u>	<u>ACKNOWLEDGMENT</u>

- 1 _____
- 2 _____
- 3 _____
- 4 _____

(Note: Failure to acknowledge receipt of any addenda may be considered an irregularity in the proposal and grounds for rejection of the bid.)

BIDDER:

By: _____

Title: _____

Alaska Contractor License No. _____

Company/Firm Name: _____

Telephone: _____

Fax No: _____

Mobile No: _____

Business Address: _____

Email: _____

NOTE: If Bidder is a corporation, the legal name of the corporation shall be set forth above together with the signatures of the officer or officers authorized to sign contracts on behalf of the corporation; if Bidder is a copartnership, the true name of the firm shall be set forth above together with the signature of the partner or partners authorized to sign contracts in behalf of the copartnership, and if Bidder is an individual, the appropriate signature shall be placed above.

Signature of Individual Authorized to Bind the Bidder

Printed Name and Title of Individual Authorized to Bind the Bidder

Date

PRICE PROPOSAL FORM

CRAIG HIGH SCHOOL NEW SHOP BUILDING SUPPLY

Basis of Award shall be based upon the lowest base bid price. The OWNER reserves the right to award any or all portions of this contract as determined to be in the best interest of the Craig City School District.

• **BASE BID:**

_____ \$ _____
Total in Written Words Total in Dollars

_____ Date _____
Company

_____ Printed Name _____
Signature and Title

(if applicable)

1. _____, certify that I am the Secretary of the Corporation named as Bidder in the foregoing instrument; that _____, who signed this bid on behalf of the corporation, was then _____ of said Corporation; that the bid was duly signed for and on behalf of said Corporation by authority of its governing body or other authority and is written the scope of its corporate powers.

Signature

CORPORATE ACKNOWLEDGMENT

STATE OF _____)
) ss.
FIRST JUDICIAL DISTRICT)

THIS IS TO CERTIFY that on this _____ day of _____, 2023, before me, the undersigned, a Notary Public in and for the State of _____, duly commissioned and sworn, personally appeared _____

_____ and _____ known to be the _____ and _____ of _____, the corporation which executed the above and foregoing instrument, and who on oath stated they were duly authorized to execute said instrument and acknowledged that they signed the same freely and voluntarily on behalf of said corporation for the purposed therein mentioned.

WITNESS my hand and official seal the day and year in this certificate above written.

NOTARY PUBLIC FOR _____
My Commission Expires: _____

(Seal)

PARTNERSHIP ACKNOWLEDGMENT

(if applicable)

STATE OF _____)
) ss.
FIRST JUDICIAL DISTRICT)

THIS IS TO CERTIFY that on this _____ day of _____, 2023, before me, the undersigned, a Notary Public in and for the State of _____, duly commissioned and sworn, personally appeared _____

_____ and _____ known to be the _____ and _____ of _____, the corporation which executed the above and foregoing instrument, and who on oath stated they were duly authorized to execute said instrument and acknowledged that they signed the same freely and voluntarily on behalf of said corporation for the purposed therein mentioned.

WITNESS my hand and official seal the day and year in this certificate above written.

NOTARY PUBLIC FOR _____
My Commission Expires: _____

(Seal)

LIMITED LIABILITY COMPANY (LLC) ACKNOWLEDGMENT

(if applicable)

STATE OF _____)
) ss.
FIRST JUDICIAL DISTRICT)

THIS IS TO CERTIFY that on this _____ day of _____, 2023, before me, the undersigned, a Notary Public in and for the State of _____, duly commissioned and sworn, personally appeared _____

_____ and _____ known to be the _____ and _____ of _____, the corporation which executed the above and foregoing instrument, and who on oath stated they were duly authorized to execute said instrument and acknowledged that they signed the same freely and voluntarily on behalf of said corporation for the purposed therein mentioned.

WITNESS my hand and official seal the day and year in this certificate above written.

NOTARY PUBLIC FOR _____
My Commission Expires: _____

(Seal)

INDIVIDUAL ACKNOWLEDGMENT

(if applicable)

STATE OF _____)
) ss.
FIRST JUDICIAL DISTRICT)

THIS IS TO CERTIFY that on this _____ day of _____, 2023, before me, the undersigned, a Notary Public in and for the State of _____, duly commissioned and sworn, personally appeared _____

_____ and _____ known to be the _____ and _____ of _____, the corporation which executed the above and foregoing instrument, and who on oath stated they were duly authorized to execute said instrument and acknowledged that they signed the same freely and voluntarily on behalf of said corporation for the purposed therein mentioned.

WITNESS my hand and official seal the day and year in this certificate above written.

NOTARY PUBLIC FOR _____
My Commission Expires: _____

(Seal)

AGREEMENT FOR

CRAIG HIGH SCHOOL NEW SHOP BUILDING SUPPLY

THIS AGREEMENT made and entered into this __ day of _____, 2023, by and between the **Craig City School District**, PO Box 800/100 School Rd, Craig, Alaska 99921, hereinafter called "**OWNER**," and _____ licensed and qualified to do business within the State of Alaska, hereinafter called "**CONTRACTOR**."

NOW, THEREFORE, for and in consideration of the terms, covenants, conditions, and provisions contained herein, and attached and incorporated herein and made a part hereof, the parties hereto agree as follows:

Section 1: Scope of Work. The **CONTRACTOR** shall perform and provide, within the time stipulated, the Contract as herein defined, of which this Agreement is a component part, and everything required to be performed including the providing of all work, labor, services, materials, utility, transportation and other acts necessary to perform the Contract in a workmanlike manner (hereinafter referred to as "Construction"), in connection with:

CRAIG HIGH SCHOOL BIOMASS PROJECT

and in strict conformity with the Contract Drawings and Engineering Specifications, including any and all Addenda issued by the **OWNER**, and with all of the other Contract Documents enumerated in Section 4 hereof, hereinafter collectively referred to as the "Contract."

Section 2: Construction Time.

(a) The **CONTRACTOR** agrees to complete all work and construction called for and as defined in the Contract Documents, to the satisfaction of the **OWNER** within the time for completion as specified in these Contract Documents.

Section 3: Contract Amount. As and for full payment, and in consideration of the timely and proper performance of all construction and work called for by the Contract, as defined herein, and performance of all the terms and conditions thereof, the **OWNER** shall pay the **CONTRACTOR** in currency of the United States, as follows:

(a) If the Bid Proposal calls for single lump sum price(s), the **OWNER** shall pay to the **CONTRACTOR** a Total Contract Amount of _____ Dollars(\$ _____) to be paid monthly upon **CONTRACTOR'S** progress; the total contract amount shall not exceed **\$XX**. Any increases beyond this amount must be approved through a written change order signed by the authorized representatives of both parties.

(b) If the Bid Proposal calls for unit prices, the **OWNER** shall pay to the **CONTRACTOR** a Total Contract Amount computed from the unit prices set forth in the **CONTRACTOR'S** Bid Proposal and the actual quantities of units furnished. It is

understood that the quantities stated are approximate only and are subject to either increase or decrease, and should the quantities of any of the units of work and construction be increased, the **CONTRACTOR** shall perform the additional work at the unit prices set forth in the Bid Proposal, and should the quantities be decreased, payment will be made based on the actual quantities installed at the unit prices set forth in the Bid Proposal and the **CONTRACTOR** will make no claim for anticipated profits, or cost recovery for any increase or decrease in the quantities except as specifically provided in the General Conditions. Based upon the unit prices set forth in the **CONTRACTOR'S** Bid Proposal and upon the quantities estimated from the Contract Drawings for bidding purposes, the estimated Total Contract Amount is _____ (\$_____).

It is further agreed that the **CONTRACTOR** shall start all work and construction within ten (10) days after delivery of the **OWNER'S** Notice to Proceed, unless otherwise specified in such Notice to Proceed, and shall complete all work and construction in accordance with the construction schedule and time for completion as provided in the Contract Documents.

Section 4: Contract Documents. The Contract, and the component parts of this Contract, entered into by the acceptance of the **CONTRACTOR'S** Bid Proposal and the signing of this Agreement, consist of the following documents, all of which are component parts of said Contract and are as fully a part thereof as if herein set forth in full, and if not attached, as if attached hereto:

This Agreement with the following Exhibits:

- EXHIBIT A Invitation to Bid;
- EXHIBIT B Information for Bidders;
- EXHIBIT C Notice of Award;
- EXHIBIT D Bid Proposal as accepted;
- EXHIBIT E Contract Forms: Change Orders; Request for Payment; Release; Waiver, and Discharge of all Claims and Liens;
- EXHIBIT F Performance and Payment Bond (will be added after execution)
- EXHIBIT G Addendum No(s). _____;
- EXHIBIT H Notice to Proceed
- EXHIBIT I Specifications bearing the title Craig High School New Shop Building Supply consisting of _____ (____) pages.
- EXHIBIT J Contract Drawings, consisting of _____ (____) pages with each sheet bearing the title **Craig High School New Shop Building Supply**.

IN WITNESS WHEREOF, the parties hereto have executed this agreement the day and year first above written.

OWNER:

Craig City School District

Date: _____

By: _____
Chris Reitan
Superintendent

Attest:

By: _____
Name
Title

Certified Funds Available:

By: _____
Name
Business Manager
Account No. XXX-XX-XXX-XXXX

CONTRACTOR NAME:

Name of Contractor

Date: _____

By: _____
(Signature of authorized officer)

(Title of person signing)

SCHOOL DISTRICT ACKNOWLEDGMENT

STATE OF ALASKA)
) ss.
FIRST JUDICIAL DISTRICT)

THIS IS TO CERTIFY that on this _____ day of _____, 2023, before me, the undersigned, a Notary Public in and for the State of Alaska, duly commissioned and sworn, personally appeared _____ and _____ to me known to be the **Superintendent** and the **CCSD Clerk** of the **Craig City School District**, the entity which executed the above and foregoing instrument; who on oath stated that they were duly authorized to execute said instrument and affix the corporate seal thereto on behalf of said entity; who acknowledged to me that they signed and sealed the same freely and voluntarily on behalf of said entity for the uses and purposes therein mentioned.

WITNESS my hand and official seal the day and year in the certificate first above written.

NOTARY PUBLIC FOR ALASKA
My Commission Expires:_____

(Seal)

CORPORATE CERTIFICATE

I, _____ certify that I am the Secretary of the Corporation named as _____ in the foregoing instrument; that _____, who signed said instrument on behalf of said Corporation, was then President of said corporation; that said instrument was duly signed for in behalf of said Corporation by authority of its governing body and is within the scope of its corporate powers.

(Corporate Seal)

(Signature)

CORPORATE ACKNOWLEDGEMENT (if applicable)

STATE OF ALASKA)
) ss.
FIRST JUDICIAL DISTRICT)

THIS IS TO CERTIFY that on this ____ day of _____, 2023, before me, the undersigned, a Notary Public in and for the State of _____, duly commissioned and sworn, personally appeared _____ and _____ (Name)

(Name)
known to be the President and Secretary of _____, a corporation formed under the laws of the State of _____, the corporation which executed the above and foregoing instrument, and who on oath stated he(she)(they) were duly authorized to execute said instrument and affix the corporate seal thereto on behalf of said corporation, and that the seal affixed thereto is the corporate seal thereof, and acknowledged that he(she)(they) signed the same freely and voluntarily on behalf of said corporation for the purposes therein mentioned.

WITNESS my hand and official seal the day and year in this certificate above written.

NOTARY PUBLIC FOR ALASKA
My Commission Expires: _____

(Seal)

INDIVIDUAL ACKNOWLEDGMENT (if applicable)

STATE OF ALASKA)
) ss.
FIRST JUDICIAL DISTRICT)

THIS IS TO CERTIFY that on this ____ day of _____, 2023, before me, the undersigned, a Notary Public in and for the State of Alaska, duly commissioned and sworn, personally appeared * to me known to be the person(s) described in and who executed the foregoing instrument, and acknowledged to me that he/she/they signed and sealed the same freely and voluntarily for the uses and purposes therein mentioned.

WITNESS my hand and official seal the day and year in this certificate above written.

NOTARY PUBLIC FOR ALASKA
My Commission Expires: _____

PARTNERSHIP ACKNOWLEDGMENT (if applicable)

STATE OF ALASKA)
) ss.
FIRST JUDICIAL DISTRICT)

THIS IS TO CERTIFY that on this ____ day of _____, 2023, before me, a Notary Public, personally appeared _____ known to me to be (one of) the partner(s) of the partnership that executed the within instrument, and acknowledged to me that such partnership executed the same.

DATED: _____

NOTARY PUBLIC FOR ALASKA
My Commission Expires: _____

(Seal)

**SECTION 011000
SUMMARY**

PART 1 - GENERAL

1.1 SUMMARY

- A. Section Includes:
1. Project information.
 2. Work covered by Contract Documents.
 3. Specification and Drawing conventions.

1.2 PROJECT INFORMATION

- A. Project Identification: Craig High School Biomass Project
1. Project Location: 1 Panther Way, Craig, AK 99921.
 2. Owner: Owner's Representative: Chris Reitan, Superintendent, Craig City School District, PO Box800/100 School Rd., Craig, AK, 99921 (907)826.3274
- B. Project Manager: R&M Engineering-Ketchikan, Inc., 7180 Revilla Road, Suite 300, Ketchikan, AK 99901, (907) 225-7197.

1.3 WORK COVERED BY CONTRACT DOCUMENTS

- A. The Work of Project is defined by the Contract Documents and consists of the following:
1. The supply of a pre-engineered steel metal building, exterior hollow metal doors, overhead coiling doors, and windows. Installation of the metal building is not a part of the bid.
- B. Type of Contract:
1. Project will be constructed under a single prime contract.

1.8 SPECIFICATION AND DRAWING CONVENTIONS

- A. Specification Content: The Specifications use certain conventions for the style of language and the intended meaning of certain terms, words, and phrases when used in particular situations. These conventions are as follows:
1. Imperative mood and streamlined language are generally used in the Specifications. The words "shall," "shall be," or "shall comply with,"

depending on the context, are implied where a colon (:) is used within a sentence or phrase.

2. Specification requirements are to be performed by Contractor unless specifically stated otherwise.

B. Division 01 General Requirements: Requirements of Sections in Division 01 apply to the Work of all Sections in the Specifications.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION (Not Used)

END OF SECTION 011000

**SECTION 012600
CONTRACT MODIFICATION PROCEDURES**

PART 1 - GENERAL

1.1 SUMMARY

- A. Section includes administrative and procedural requirements for handling and processing Contract modifications.

1.2 PROPOSAL REQUESTS

- A. Owner-Initiated Proposal Requests: Project Manager will issue a detailed description of proposed changes in the Work that may require adjustment to the Contract Sum or the Contract Time. If necessary, the description will include supplemental or revised Drawings and Specifications.

1. Work Change Proposal Requests issued by Project Manager are not instructions either to stop work in progress or to execute the proposed change.
2. Within time specified in Proposal Request or 20 days, when not otherwise specified, after receipt of Proposal Request, submit a quotation estimating cost adjustments to the Contract Sum and the Contract Time necessary to execute the change.
 - a. Include a list of quantities of products required or eliminated and unit costs, with total amount of purchases and credits to be made. If requested, furnish survey data to substantiate quantities.
 - b. Indicate applicable taxes, delivery charges, equipment rental, and amounts of trade discounts.
 - c. Include costs of labor and supervision directly attributable to the change.
 - d. Include an updated Contractor's construction schedule that indicates the effect of the change, including, but not limited to, changes in activity duration, start and finish times, and activity relationship. Use available total float before requesting an extension of the Contract Time.

- B. Contractor-Initiated Proposals: If latent or changed conditions require modifications to the Contract, Contractor may initiate a claim by submitting a request for a change to Project Manager within 21 days of the notice of the claim.

1. Include a statement outlining reasons for the change and the effect of the change on the Work. Provide a complete description of the proposed

change. Indicate the effect of the proposed change on the Contract Sum and the Contract Time.

2. Include a list of quantities of products required or eliminated and unit costs, with total amount of purchases and credits to be made. If requested, furnish survey data to substantiate quantities.
3. Indicate applicable taxes, delivery charges, equipment rental, and amounts of trade discounts.
4. Include costs of labor and supervision directly attributable to the change.
5. Include an updated Contractor's construction schedule that indicates the effect of the change, including, but not limited to, changes in activity duration, start and finish times, and activity relationship. Use available total float before requesting an extension of the Contract Time.

1.3 CHANGE ORDER PROCEDURES

- A. On Owner's approval of a Work Change Proposal Request, Project Manager will issue a Change Order for signatures of Owner and Contractor on AIA Document G701 or similar document.

1.4 CONSTRUCTION CHANGE DIRECTIVE

- A. Construction Change Directive: Project Manager may issue a Construction Change Directive on AIA Document G714 or similar document. Construction Change Directive instructs Contractor to proceed with a change in the Work, for subsequent inclusion in a Change Order.
- B. Documentation: Maintain detailed records on a time and material basis of work required by the Construction Change Directive.
 1. After completion of change, submit an itemized account and supporting data necessary to substantiate cost and time adjustments to the Contract.
- C. Documentation: Maintain detailed records on a time and material basis of work required by the Work Change Directive.
 1. After completion of change, submit an itemized account and supporting data necessary to substantiate cost and time adjustments to the Contract.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION (Not Used)

END OF SECTION 012600

**SECTION 013300
SUBMITTAL PROCEDURES**

PART 1 - GENERAL

1.1 SECTION INCLUDES

- A. Definitions.
- B. Submittal procedures.
- C. Proposed product list.
- D. Product data.
- E. Shop Drawings.
- F. Samples.
- G. Other submittals.
- H. Design data.
- I. Test reports.
- J. Certificates.
- L. Contractor review.
- M. Owner/Engineer review.

1.2 DEFINITIONS

- A. Action Submittals: Written and graphic information and physical samples that require Owner/Engineer's responsive action.
- B. Informational Submittals: Written and graphic information and physical Samples that do not require Owner/Engineer's responsive action. Submittals may be rejected for not complying with requirements.

1.3 SUBMITTAL PROCEDURES

- A. Transmit each submittal with Submittal Transmittal Form provided to Contractor by Project Manager.
- B. Sequentially number transmittal forms. Mark revised submittals with original number and sequential alphabetic suffix.
- C. Identify: Project, Contractor, Subcontractor and supplier, pertinent Drawing and detail number, and Specification Section number appropriate to submittal.
- D. Apply Contractor's stamp, signed or initialed, certifying that review, approval, verification of products required, field dimensions, adjacent construction Work, and coordination of information is according to requirements of the Work and Contract Documents.
- E. Schedule submittals to expedite Project.

- F. For each submittal for review, allow minimum 15 days excluding delivery time to and from Contractor.
- G. Identify variations in Contract Documents and product or system limitations that may be detrimental to successful performance of completed Work.
- H. Allow space on submittals for Contractor and Project Manager/Consultant review stamps.
- I. When revised for resubmission, identify changes made since previous submission.
- J. Distribute copies of reviewed submittals as appropriate. Instruct parties to promptly report inability to comply with requirements.
- K. Submittals not requested will not be recognized nor processed.
- L. Incomplete Submittals: Project Manager will not review. Complete submittals for each item are required. Delays resulting from incomplete submittals are not the responsibility of Project Manager.

1.4 PROPOSED PRODUCT LIST

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

1.5 PRODUCT DATA

- A. Product Data: Action Submittal: Submit to Owner/Engineer for review for assessing conformance with information given and design concept expressed in Contract Documents.
- B. Submit electronic submittals via email as PDF electronic files.
- C. Mark each copy to identify applicable products, models, options, and other data. Supplement manufacturers' standard data to provide information specific to this Project.
- D. Indicate product utility and electrical characteristics, utility connection requirements, and location of utility outlets for service for functional equipment and appliances.

- E. After review, produce copies and distribute according to "Submittal Procedures" Article and for record documents described in Section 017000 - Execution and Closeout Requirements.

1.6 SHOP DRAWINGS

- A. Shop Drawings: Action Submittal: Submit to Project Manager for assessing conformance with information given and design concept expressed in Contract Documents.
- B. Indicate special utility and electrical characteristics, utility connection requirements, and location of utility outlets for service for functional equipment and appliances.
- C. When required by individual Specification Sections, provide Shop Drawings signed and sealed by a professional Engineer responsible for designing components shown on Shop Drawings.
 - 1. Include signed and sealed calculations to support design.
 - 2. Submit Shop Drawings and calculations in form suitable for submission to and approval by authorities having jurisdiction.
 - 3. Make revisions and provide additional information when required by authorities having jurisdiction.
- D. Submit electronic submittals via email as PDF electronic files.
- E. After review, produce copies and distribute according to "Submittal Procedures" Article and for record documents described in Section 017000 - Execution and Closeout Requirements.

1.7 SAMPLES

- A. Samples: Action Submittal: Submit to Project Manager for assessing conformance with information given and design concept expressed in Contract Documents.
- B. Samples for Selection as Specified in Product Sections:
 - 1. Submit to Project Manager for aesthetic, color, and finish selection.
 - 2. Submit Samples of finishes, textures, and patterns for Project Manager selection.
- C. Submit Samples to illustrate functional and aesthetic characteristics of products, with integral parts and attachment devices. Coordinate Sample submittals for interfacing work.
- D. Include identification on each Sample, with full Project information.
- E. Submit number of Samples specified in individual Specification Sections; Project Manager will retain one.

- F. Reviewed Samples that may be used in the Work are indicated in individual Specification Sections.
- G. Samples will not be used for testing purposes unless specifically stated in Specification Section.
- H. After review, produce copies and distribute according to "Submittal Procedures" Article and for record documents described in Section 017000 - Execution and Closeout Requirements.

1.8 OTHER SUBMITTALS

- A. Closeout Submittals: Comply with Section 017000 - Execution and Closeout Requirements.
- B. Informational Submittal: Submit data for Project Manager's knowledge as Contract administrator or for Owner.
- B. Submit information for assessing conformance with information given and design concept expressed in Contract Documents.

1.9 TEST REPORTS

- A. Informational Submittal: Submit reports for Project Manager's knowledge as Contract administrator or for Owner.
- B. Submit test reports for information for assessing conformance with information given and design concept expressed in Contract Documents.

1.10 CERTIFICATES

- A. Informational Submittal: Submit certification by manufacturer, installation/application Subcontractor, or Contractor to Project Manager, in quantities specified for Product Data.
- B. Indicate material or product conforms to or exceeds specified requirements. Submit supporting reference data, affidavits, and certifications as appropriate.
- C. Certificates may be recent or previous test results on material or product but must be acceptable to Project Manager.

1.11 CONTRACTOR REVIEW

- A. Review for compliance with Contract Documents and approve submittals before transmitting to Project Manager.

B. Contractor: Responsible for:

1. Determination and verification of materials including manufacturer's catalog numbers.
2. Determination and verification of field measurements and field construction criteria.
3. Checking and coordinating information in submittal with requirements of Work and of Contract Documents.
4. Determination of accuracy and completeness of dimensions and quantities.

C. Stamp, sign or initial, and date each submittal to certify compliance with requirements of Contract Documents.

D. Do not fabricate products or begin Work for which submittals are required until approved submittals have been received from Project Manager.

1.12 PROJECT MANAGER REVIEW

A. Do not make "mass submittals" to Project Manager. "Mass submittals" are defined as three or more submittals or items in one day or six or more submittals or items in one week. If "mass submittals" are received, Project Manager's review time stated above will be extended as necessary to perform proper review. Project Manager will review "mass submittals" based on priority determined by Project Manager.

B. Informational submittals and other similar data are for Project Manager's information, do not require Project Manager's responsive action, and will not be reviewed or returned with comment.

C. Submittals made by Contractor that are not required by Contract Documents may be returned without action.

D. Submittal approval does not authorize changes to Contract requirements unless accompanied by Change Order.

E. Owner may withhold monies due to Contractor to cover additional costs beyond the second submittal review.

PART 2 - PRODUCTS - Not Used

PART 3 - EXECUTION - Not Used

END OF SECTION 013300

SECTION 076200
SHEET METAL FLASHING AND TRIM

PART 1 - GENERAL

1.1 REFERENCES

- A. The following is a list of standards which may be referenced in this section:
1. Aluminum Association (AA):
 - a. 35-80, Specifications for Aluminum Sheet Metal Work in Building Construction.
 - b. 45-80, Designation System for Aluminum Finishes.
 2. American Society for Testing and Materials (ASTM):
 - a. A153-95, Standard Specification for Zinc Coating (Hot-Dip) on Iron and Steel Hardware.
 - b. A167-91, Standard Specification for Stainless and Heat-Resisting Chromium-Nickel Steel Plate, Sheet, and Strip (R 1994).
 - c. A653/A653M-95, Standard Specification for Steel Sheet, Zinc-Coated (Galvanized) or Zinc-Iron Alloy-Coated (Galvanealed) by the Hot-Dip Process.
 - d. B32-89, Standard Specification for Solder Metal (R 1995).
 - e. B209-90, Standard Specification for Aluminum and Aluminum Alloy Sheet and Plate.
 - f. B370-88, Standard Specification for Copper Sheet and Strip for Building Construction (R 1995).
 - g. D1187-95, Standard Specification for Asphalt-Base Emulsions for Use as Protective Coatings for Metal.
 - h. D4586-93, Standard Specification for Asphalt Roof Cement, Asbestos-Free.
 3. Federal Specifications (FS): QQ-L-201F(2), Lead Sheet (11/17/70).
 4. Sheet Metal and Air Conditioning Contractors National Association (SMACNA): Architectural Sheet Metal Manual, 5th Edition, 1993.

1.2 SUBMITTALS

- A. Shop Drawings:
1. Show joints, types and location of fasteners, and special shapes.
 2. Catalog data for stock manufactured items.
- B. Samples: Color samples for items to be factory finished.

1.3 DELIVERY, HANDLING, AND STORAGE

- A. Package and protect during shipment.
- B. Inspect for damage, dampness, and wet storage stains upon delivery to the Work site.

- C. Remove and replace damaged or permanently stained materials that cannot be restored to like-new condition.
- D. Carefully handle to avoid damage to surfaces, edges, and ends.
- E. Do not open packages until ready for use.
- F. Store materials in dry, weathertight, ventilated areas until immediately before installation.

PART 2 - PRODUCTS

2.1 METAL

- A. Galvanized Sheet Steel: ASTM A525-93 and ASTM A526-90, G90, commercial quality copper bearing steel, thickness 0.0217-inch (26 U.S. Standard gauge), unless otherwise shown.

2.2 DOWNSPOUTS, GUTTERS, SCUPPERS, AND CONDUCTOR HEADS

- A. By metal building manufacturer.
 - 1. Gutter color to match trim.
 - 2. Downspout color to match siding.

2.3 ANCILLARY MATERIALS

- A. Solder: ASTM B32-89, alloy composition Sn 50.
- B. Soldering Flux: ASTM B32-89, Type RA.
- C. Sealer Tape: Polyisobutylene sealer tape.
- D. Isolation Tape: Butyl or polyisobutylene, internally reinforced, or 20-mil thick minimum polyester.
- E. Fasteners: For Galvanized Steelwork: Steel, galvanized per ASTM A153-95 or stainless steel fasteners.

2.4 FABRICATION OF FLASHING

- A. Field measure prior to fabrication.
- B. Fabricate in accordance with SMACNA Architectural Sheet Metal Manual.
- C. Accurately form flashings to shapes shown and detailed, with angles and lines in true alignment.
- D. Form arris and angles true to line and surfaces free of waves and buckles.
- E. Form bends to 1/16-inch inside radius.
- F. Hem exposed edges.

- G. Reinforcements and Supports: Provide same material as flashing unless other material is shown. Steel, where shown or required, shall be galvanized or stainless.
- H. Rigid Joints and Seams: Make mechanically strong. Solder galvanized and stainless steel metal joints. Do not use solder to transmit stress.
- I. Fabricate sheet metal in 10-foot maximum lengths, unless otherwise indicated.
- J. At exposed ends of counterflashing furnish weathertight closures.
- K. Fabricate corners in one-piece with legs extending 30 inches each way to field joint. Lap, rivet, and solder corner seams watertight.
- L. Neutralize soldering flux.
- M. Solvent clean sheet metal. Surfaces to be in contact with roofing or otherwise concealed shall be coated with isolation paint.

PART 3 EXECUTION

3.1 INSTALLATION

A. Flashing:

1. Coordinate flashing Work with roofing Work for weathertight and watertight assembly.
2. Isolate metal from wood and concrete and from dissimilar metal with isolation tape or two coats of isolation paint.
3. Use only stainless steel fasteners to connect isolated dissimilar metals.
4. Joints: 10-foot maximum spacing and 2-1/2 feet from corners, butted with 3/16-inch space centered over matching 8-inch long backing plate with sealer tape in laps.
5. Set flanges of flashings and roof accessories on continuous sealer tape or in plastic roof cement on top of envelope ply of roofing. Nail flanges through sealer tape and at 3-inch maximum spacing. Touch up isolation paint on flanges.
6. Joints, Fastenings, Reinforcements, and Supports: Sized and located as required to preclude distortion or displacement due to thermal expansion and contraction.
7. Provide continuous holddown clips at counterflashing.
8. Conceal fastenings wherever possible.
9. Set flashing and sheet metal to straight, true lines with exposed faces aligned in proper plane without bulges or waves.

B. Prefabricated Systems:

1. Follow system manufacturer's applicable printed instructions.
2. Place color variations in pieces so no extremes are next to each other.

3.2 FINISH

- A. Exposed Surfaces of Flashing and Sheet Metalwork: Free of dents, scratches, abrasions, or other visible defects, and clean and ready for painting where applicable. Color and finish to match adjacent siding, roofing, or trim.

END OF SECTION 076200

**SECTION 081113
HOLLOW METAL DOORS AND FRAMES**

PART 1 - GENERAL

1.1 REFERENCES

A. The following is a list of standards which may be referenced in this section:

1. American National Standards Institute (ANSI):
 - a. A156.1-88, Butts and Hinges (BHMA 101).
 - b. A156.2-89, Bored and Preassembled Locks & Latches (BHMA 601).
 - c. A156.4-92, Door Controls-Closers (BHMA 301).
 - d. A156.16-89, Auxiliary Hardware (BHMA 1201).
 - e. A156.18-93, Materials and Finishes (BHMA 1301).
2. American Society for Testing and Materials (ASTM):
 - a. A366-95, Standard Specification for Steel, Sheet, Carbon, Cold-Rolled, Commercial Quality.
 - b. E774-92, Standard Specification for Sealed Insulating Glass Units.
3. Steel Door Institute (SDI):
 - a. 100-91, Recommended Specifications, Standard Steel Doors and Frames.
 - b. 105-92, Recommended Erection Instructions for Steel Frames.
 - c. 107-84, Hardware on Steel Doors (Reinforcement-Application).

1.2 SUBMITTALS

A. Shop Drawings:

1. Showing door and frame construction and anchorage details.
2. Complete Hardware Schedule, including numbers and finishes.

1.3 DELIVERY, STORAGE, AND HANDLING

- A. Provide packaging such as cardboard or other containers, separation, banding, and wrappings.
- B. Store doors upright, inside, at least 1 inch off floor.

1.4 MAINTENANCE

- A. Special Tools: Provide one set of those required for installation, maintenance, or adjustment.

PART 2 - PRODUCTS

1.1 DOOR AND FRAME MATERIALS

- B. Sheet Steel for Doors and Frames: Cold-rolled, stretcher level sheet, ASTM A366-95.
- C. Ancillary Items: Manufacturer's standard core filler, anchors, and fasteners.
- D. Glazing:
 - 1. Tempered Insulating Glass (T.I.G.): Clear tempered insulating glass with 1/2-inch air space meeting requirements of ASTM E774-92, Test Grade C, warranted for 5 years.
 - 2. Ancillary materials as required.

1.2 HARDWARE MATERIALS

- E. General:
 - 1. Furnish finish hardware with suitable stainless steel fasteners for a complete installation.
 - 2. Products complete and of equal quality and finish.
- F. Bolts: ANSI A156.16-89.

Type	Item	ANSI/BHMA	Stanley	Lawrence
B1	Top & Bottom Surface	L04151	CD4060	283

- G. Butt Hinges: ANSI A156.1-88.

Type	Item	ANSI/BHMA	Stanley	McKinney
H1	Regular, ball bearing	A2112	FBB191	TB2314

- H. Locks and Latches: ANSI A156.2-89 or A156.13-94, keying on schedule; furnish with lever handles, two keys for each lock and two master keys.

Type	Item	ANSI/BHMA	Schlage Rhodes	Sargent LL
L1	Entrance lock	F109	D53PD	7G05

- I. Closers: ANSI A156.4-92 with painted finish.

Type	Item	ANSI/BHMA	LCN	Sargent
C1	Regular arm	C02011	4010	350

J. Thresholds:

Type	Item	ANSI/BHMA	Pemco	Reese
T1	Saddle	--	175A	S104A

K. Weatherstripping:

Type	Item	ANSI/BHMA	Pemco	Reese
W1	Head and jamb Door shoe Rain drip	--	S88D 222AV 346C	797B DB596AF R201C

L. Finishes: ANSI A156.18-93, satin chromium-plated No. 626, unless indicated otherwise.

M. Nameplates: Beveled edge plastic plate, 1/8-inch thick, 2-inch high black, with 1-inch high white Helvetica letters and matching sign with International Symbol of Accessibility.

1.5 DOOR AND FRAME FABRICATION

A. Hollow Metal Doors and Frames: Meet requirements of SDI 100-91 and SDI 107-84.

B. Hollow Metal Doors:

1. Type A: Insulated 1-3/4-inch thick, flush panel with 24-inch by 30-inch glass.
2. Type B: Insulated 1-3/4-inch thick, flush panel with 5-inch by 24-inch glass.
3. Type C: Non-Insulated, 1 3/4 inches thick, flush panel.
4. Type D: non-Insulated, 1-3/4-inch thick, flush panel with 24-inch by 24-inch louver.
5. Flush end closure on top.
6. Furnish overlapping astragal on active leaf of pairs of doors.
7. Rust-inhibiting prime coating over ASTM A653/A653M A60 or G60 zinc coating.
8. Exterior: SDI Grade III, Model 1, 16-gauge.
9. Interior: SDI Grade II, Model 1, 18-gauge.

C. Hollow Metal Frames:

1. Exterior Doors to be Welder type.
2. Interior doors to be Knockdown or Welded type.
3. Exterior Frame Thickness: 14-gauge.
4. Interior Frame Thickness: 16-gauge.

PART 3 EXECUTION

1.1 PREPARATION

- D. Coordinate doors, frames, and hardware.
- E. Provide hardware templates as required to door and frame manufacturers.

1.2 FRAME AND DOOR INSTALLATION

- F. Frames: Plumb and square, in accordance with SDI 105-92 and manufacturer's recommendations, and secure to adjacent construction.
- G. Doors: SDI 100-91.
- H. Remove labels from glass, wash and polish both faces.
- I. Leave clean and undamaged.
- J. Touch up prime coating.

1.3 HARDWARE INSTALLATION

- K. Mounting Dimensions: Follow National Builder's Hardware Association Standard; lock and latch backset 2-3/4 inches.
- L. Follow manufacturer's instructions. Make Work neat and secure, developing full strength of components and providing intended function.
- M. Prevent marring, scratching, or otherwise damaging adjacent finishes during installation.
- N. Set stops over solid backing after painting is complete.
- O. Cope ends of thresholds neatly to jamb profile and set in sealant, anchoring securely.
- P. Do fitting, dismantling, and reinstalling of finish hardware required before and after painting.
- Q. After installation, adjust hardware for noise-free operation without resistance.

1.4 PROTECTION

A. Protect doors, frames, and hardware from damage after installation.

1.6 SUPPLEMENTS

A. The supplements listed below, following “END OF SECTION”, are part of this Specification.

1. Door and Hardware Schedule: See construction drawings.
2. Hardware Sets: Guide to functional requirements of each opening. Provide hardware complete. Size omitted shall be as recommended by the manufacturer.

Item	Type
HDW-1. Single Locked Entrance Door	
1-1/2 Pair butts, 4-1/2 by 4-1/2	H1
1 Lock	L1
1 Threshold	T1
1 Closer	C1
1 Set weatherstrip	W1

PART 1 - GENERAL

1.1 SUMMARY

- A. Section Includes:
 - 1. Insulated service doors.

1.2 ACTION SUBMITTALS

- A. Product Data: For each type and size of overhead coiling door and accessory.
- B. Shop Drawings: For each installation and for special components not dimensioned or detailed in manufacturer's product data.
 - 1. Include points of attachment and their corresponding static and dynamic loads imposed on structure.
 - 2. Include diagrams for power, signal, and control wiring.
- C. Samples: For each exposed product and for each color and texture specified.

1.3 INFORMATIONAL SUBMITTALS

- A. Sample warranty.

1.4 CLOSEOUT SUBMITTALS

- A. Special warranty.
- B. Maintenance data.

1.5 QUALITY ASSURANCE

- A. Installer Qualifications: An entity that employs installers and supervisors who are trained and approved by manufacturer for both installation and maintenance of units required for this Project.
- B. Fire-Rated Door Inspector Qualifications: Inspector for field quality control inspections of fire-rated door assemblies is to meet the qualifications set forth in NFPA 80, Section 5.2.3.1 and the following:

1.6 WARRANTY

- A. Special Warranty: Manufacturer agrees to repair or replace components of doors that fail in materials or workmanship within specified warranty period.

1. Warranty Period: Two years from date of Substantial Completion.

PART 2 - PRODUCTS

2.1 PERFORMANCE REQUIREMENTS

- A. Structural Performance, Exterior Doors: Capable of withstanding the following design wind loads:
 1. Design Wind Load: As indicated on Drawings.
- B. Seismic Performance: Overhead coiling doors withstand the effects of earthquake motions determined according to ASCE/SEI 7 as noted on plans.

2.2 DOOR ASSEMBLY

- A. Insulated Service Door: Overhead coiling door formed with curtain of interlocking metal slats.
- B. Operation Cycles: Door components and operators capable of operating for not less than 50,000.
- C. Insulated Door Curtain R-Value: 7.7 R-Value, U-Value: 0.13
- D. Door Curtain Material: Galvanized steel.
- E. Door Curtain Slats: Flat profile slats of 1-7/8-inch center-to-center height.
 1. Vision Panels: Approximately 10- by 1-5/8-inch openings spaced approximately 2 inches apart and beginning 12 inches from end guides; in two rows of slats at height indicated on Drawings; installed with insulated vision-panel glazing.
 2. Insulated-Slat Interior Facing: Metal.
- F. Bottom Bar: Two angles, each not less than 1-1/2 by 1-1/2 by 1/8 inch thick; fabricated from hot-dip galvanized steel and finished to match door.
- G. Curtain Jamb Guides: Galvanized steel with exposed finish matching curtain slats.
- H. Hood: Match curtain material and finish.
 1. Mounting: Face of wall.
- I. Locking Devices: Equip door with locking device assembly.
 1. Locking Device Assembly: Cremone-type, both jamb sides locking bars, operable from inside and outside with cylinders.
- J. Electric Door Operator:
 1. Usage Classification: Standard duty, up to 25 cycles per hour and up to 90 cycles per day.

2. Safety: Listed according to UL 325 by a qualified testing agency for commercial or industrial use.
3. Motor Exposure: Interior.
4. Motor Electrical Characteristics:
 - a. Horsepower: 1/2 hp.
 - b. Voltage: 120 V ac, single phase, 60 Hz.
5. Emergency Manual Operation: Chain type.
6. Obstruction-Detection Device: Automatic photoelectric sensor
7. Control Station(s): Interior mounted.
8. Other Equipment: Audible and visual signals.

K. Curtain Accessories: Equip door with weatherseals.

L. Door Finish:

1. Powder Coated Finish: Color to be selected from Manufacturer's standard colors.
2. Interior Curtain-Slat Facing: Match finish of exterior curtain-slat face

2.3 MATERIALS, GENERAL

A. Electrical Components, Devices, and Accessories: Listed and labeled as defined in NFPA 70, by a qualified testing agency, and marked for intended location and application.

2.4 DOOR CURTAIN MATERIALS AND CONSTRUCTION

A. Door Curtains: Fabricate overhead coiling-door curtain of interlocking metal slats, designed to withstand wind loading indicated, in a continuous length for width of door without splices. Unless otherwise indicated, provide slats of thickness and mechanical properties recommended by door manufacturer for performance, size, and type of door indicated, and as follows:

1. Vision-Panel Glazing: Manufacturer's standard clear glazing, fabricated from transparent acrylic sheet or fire-protection-rated glass as required for type of door; set in glazing channel secured to curtain slats.
2. Insulation: Fill slats for insulated doors with manufacturer's standard thermal insulation complying with maximum flame-spread and smoke-developed indexes of 75 and 450, respectively, according to ASTM E84 or UL 723. Enclose insulation completely within slat faces.
3. Metal Interior Curtain-Slat Facing: Match metal of exterior curtain-slat face, with minimum steel thickness of 0.010 inch.

B. Curtain Jamb Guides: Manufacturer's standard angles or channels and angles of same material and finish as curtain slats unless otherwise indicated, with sufficient depth and strength to retain curtain, to allow curtain to operate smoothly, and to withstand loading. Slot bolt holes for guide adjustment. Provide removable stops on guides to prevent overtravel of curtain.

2.5 HOODS

- A. General: Form sheet metal hood to entirely enclose coiled curtain and operating mechanism at opening head. Contour to fit end brackets to which hood is attached. Roll and reinforce top and bottom edges for stiffness. Form closed ends for surface-mounted hoods and fascia for any portion of between-jamb mounting that projects beyond wall face. Equip hood with intermediate support brackets as required to prevent sagging.
 - 1. Include automatic drop baffle on fire-rated doors to guard against passage of smoke or flame.
 - 2. Exterior-Mounted Doors: Fabricate hood to act as weather protection and with a perimeter sealant-joint-bead profile for applying joint sealant.

2.6 LOCKING DEVICES

- A. Safety Interlock Switch: Equip power-operated doors with safety interlock switch to disengage power supply when door is locked.

2.7 CURTAIN ACCESSORIES

- A. Weatherseals for Exterior Doors: Equip each exterior door with weather-stripping gaskets fitted to entire exterior perimeter of door for a weather-resistant installation unless otherwise indicated.

2.8 COUNTERBALANCE MECHANISM

- A. General: Counterbalance doors by means of manufacturer's standard mechanism with an adjustable-tension, steel helical torsion spring mounted around a steel shaft and contained in a spring barrel connected to top of curtain with barrel rings. Use grease-sealed bearings or self-lubricating graphite bearings for rotating members.
- B. Brackets: Manufacturer's standard mounting brackets of either cast iron or cold-rolled steel plate.

2.9 ELECTRIC DOOR OPERATORS

- A. General: Electric door operator assembly of size and capacity recommended and provided by door manufacturer for door and operation-cycles requirement specified, with electric motor and factory-prewired motor controls, starter, gear-reduction unit, solenoid-operated brake, clutch, control stations, control devices, integral gearing for locking door, and accessories required for proper operation.
 - 1. Comply with NFPA 70.
 - 2. Control equipment complying with NEMA ICS 1, NEMA ICS 2, and NEMA ICS 6, with NFPA 70 Class 2 control circuit, maximum 24-V ac or dc.
- B. Usage Classification: Electric operator and components capable of operating for not less than number of cycles per hour indicated for each door.

- C. Motors: Reversible-type motor with controller (disconnect switch) for motor exposure indicated for each door assembly.
 - 1. Electrical Characteristics: Minimum as indicated for each door assembly. If not indicated, large enough to start, accelerate, and operate door in either direction from any position, at a speed not less than 8 in./sec. (203 mm/s) and not more than 12 in./sec. (305 mm/s), without exceeding nameplate ratings or service factor.
 - 2. Operating Controls, Controllers, Disconnect Switches, Wiring Devices, and Wiring: Manufacturer's standard unless otherwise indicated.
- D. Obstruction-Detection Devices: External entrapment protection consisting of indicated automatic safety sensor capable of protecting full width of door opening. For non-fire-rated doors, activation of device immediately stops and reverses downward door travel.
 - 1. Photoelectric Sensor: Manufacturer's standard system designed to detect an obstruction in door opening without contact between door and obstruction.
 - a. Self-Monitoring Type: Designed to interface with door operator control circuit to detect damage to or disconnection of sensing device. When self-monitoring feature is activated, door closes only with sustained or constant pressure on close button.
- E. Control Station: Three-button control station in fixed location with momentary-contact push-button controls labeled "Open" and "Stop" and sustained- or constant-pressure push-button control labeled "Close."
 - 1. Interior-Mounted Units: Full-guarded, surface-mounted, heavy-duty type, with general-purpose NEMA ICS 6, Type 1 enclosure.
 - 2. Exterior-Mounted Units: Full-guarded, standard-duty, surface-mounted, weatherproof type, NEMA ICS 6, Type 4 enclosure, key operated.
- F. Emergency Manual Operation: Equip each electrically powered door with capability for emergency manual operation. Design manual mechanism so required force for door operation does not exceed 25 lbf.
- G. Emergency Operation Disconnect Device: Equip operator with hand-operated disconnect mechanism for automatically engaging manual operator and releasing brake for emergency manual operation while disconnecting motor without affecting timing of limit switch. Mount mechanism so it is accessible from floor level. Include interlock device to automatically prevent motor from operating when emergency operator is engaged.
- H. Motor Removal: Design operator so motor may be removed without disturbing limit-switch adjustment and without affecting emergency manual operation.

PART 3 - EXECUTION

3.1 INSTALLATION, GENERAL

- A. Install overhead coiling doors and operating equipment complete with necessary hardware, anchors, inserts, hangers, and equipment supports; according to manufacturer's written instructions and as specified.
- B. Power-Operated Doors: Install automatic garage doors openers according to UL 325.

3.2 FIELD QUALITY CONTROL

- A. Repair or remove and replace installations where inspections indicate that they do not comply with specified requirements.
- B. Reinspect repaired or replaced installations to determine if replaced or repaired door assembly installations comply with specified requirements.

END OF SECTION 083323

**SECTION 085500
POLY VINYL CHLORIDE WINDOWS**

PART 1 - GENERAL

1.1 SUMMARY

- A. Provide the following window product types:
 - 1. Poly Vinyl Chloride (PVC) Windows: Fixed.

1.2 PERFORMANCE REQUIREMENTS

- A. General: Provide windows capable of complying with performance requirements indicated, based on testing manufacturer's windows that are representative of those specified and that are of minimum test size required by AAMA/NWWDA 101/I.S.2.
- B. AAMA/NWWDA Performance Requirements: Provide poly vinyl chloride windows of the performance class and grade indicated that comply with AAMA/NWWDA 101/I.S.2.
 - 1. Performance Class: C (commercial).
 - 2. Performance Grade: 60.
 - 3. Exception to AAMA/NWWDA 101/I.S.2: In addition to requirements for performance class and performance grade, design glass framing system to limit lateral deflections of glass edges to less than 1/175 of glass-edge length or 3/4 inch, whichever is less, at design pressure based on testing performed according to AAMA/NWWDA 101/I.S.2, Uniform Load Deflection Test or structural computations.
- C. Thermal Transmittance: Provide vinyl windows with a whole-window U-value maximum of U-0.29 or less for fixed windows and U-.37 or less for glider windows at 15-mph exterior wind velocity and winter condition temperatures when tested according to ASTM E 1423 or NFRC 100.
- D. Specific Product Performance Requirements: Comply with Section 2.2 of AAMA/NWWDA 101/I.S.2 as applicable to types of windows indicated.

1.3 SUBMITTALS

- A. Product Data: For each type of window indicated.
- B. Shop Drawings: Include plans, elevations, sections, details, hardware, attachments to other Work, and operational clearances.

1. Include structural analysis data indicating deflection limitations of glass framing systems, signed and sealed by the qualified professional engineer responsible for their preparation.

C. Samples: For each exposed finish.

D. Product test reports.

E. Maintenance data.

1.4 QUALITY ASSURANCE

A. Installer: A qualified installer, approved by manufacturer to install manufacturer's products.

B. Fenestration Standard: Comply with AAMA/NWWDA 101/I.S.2, "Voluntary Specifications for Aluminum, Vinyl (PVC) and Wood Windows and Glass Doors," for minimum standards of performance, materials, components, accessories, and fabrication unless more stringent requirements are indicated.

C. Glazing Publications: Comply with published recommendations of glass manufacturers and GANA's "Glazing Manual" unless more stringent requirements are indicated.

1.5 WARRANTY

A. Special Warranty: Manufacturer's standard form in which manufacturer agrees to repair or replace poly vinyl chloride windows that fail in materials and workmanship within five years from date of Substantial Completion.

B. Warranty Period for Metal Finishes: Five years from date of Substantial Completion.

C. Warranty Period for Glass: Ten years from date of Substantial Completion.

PART 2 - PRODUCTS

2.1 MANUFACTURERS

A. Manufacturers: Subject to compliance with requirements for PVC windows, provide products by one of the following, or an approved equal:

1. Wintech, Inc.

2.2 MATERIALS, POLY VINYL CHLORIDE (PVC) WINDOW

- A. Poly Vinyl Chloride: Windows shall be extruded, high impact resistant, poly vinyl chloride. Frame and sash members shall be multi-chambered design with minimum two air spaces between the interior and exterior surfaces. PVC window member reinforcement, required at all hardware attachment points, shall be snug fitting, roll-formed, galvanized steel, 0.62” thick.
 - 1. Color: Color as selected from manufacturer's standard color range, with minimum three colors to choose from.

2.3 GLAZING

- A. Glass and Glazing Materials: Refer to Division 8 Section "Glazing" for glass units and glazing requirements applicable to glazed wood window units.
- B. Glass: Clear, insulating-glass with low-e coating or film, argon-gas filled units complying with Division 8 Section "Glazing."
- C. Glazing System: Manufacturer's standard factory-glazing system.

2.4 FABRICATION: POLY VINYL CHLORIDE (PVC) WINDOWS

- A. General: Fabricate poly vinyl chloride windows, in sizes indicated, that comply with AAMA/NWWDA 101/I.S.2 for performance class and performance grade indicated. Include a complete system for assembling components and anchoring windows. Corners of PVC frames and sash shall be welded. Reinforce frames and sash at all hardware attachment points to meet requirements specified. Provide continuous drips over the heads of top ventilators. Where fixed windows adjoin ventilators, provide continuous drips across tops of fixed windows.
- B. Fabricate PVC windows that are reglazable without dismantling sash or ventilator framing.
- C. Weather Stripping: Provide full-perimeter weather stripping for each operable sash and ventilator, unless otherwise indicated. Provide double EPDM or Santoprene compression seals at ventilating sections of windows to ensure weather tight seal meeting the requirements for Grade C60 as specified.
- D. Factory machine windows for openings and hardware that is not surface applied.
- E. Mullions: Provide mullions and cover plates as shown, matching window units, complete with anchors for support to structure and installation of window units. Allow for erection tolerances and provide for movement of window units due to thermal expansion and building deflections, as indicated. Provide mullions and cover plates capable of withstanding design loads of window units.

PART 3 - EXECUTION

3.1 INSTALLATION

- A. Install all windows level, plumb, square, true to line, without distortion or impeding thermal movement, anchored securely in place to structural support, and in proper relation to wall flashing and other adjacent construction.
- B. Set sill members in bed of sealant or with gaskets, as indicated, for weathertight construction.
- C. Metal Protection: Separate aluminum and other corrodible surfaces 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.
- D. 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.
- E. Protect window surfaces from contact with contaminating substances resulting from construction operations. In addition, monitor window surfaces adjacent to and below exterior concrete and masonry surfaces during construction for presence of dirt, scum, alkaline deposits, stains, or other contaminants. If contaminating substances do contact window surfaces, remove contaminants immediately according to manufacturer's written recommendations.
- F. Clean exposed surfaces immediately after installing windows. Avoid damaging protective coatings and finishes. Remove excess sealants, glazing materials, dirt, and other substances.
- G. Clean factory-glazed glass immediately after installing windows. Comply with manufacturer's written recommendations for final cleaning and maintenance. Remove nonpermanent labels and clean surfaces.
- H. Remove and replace glass that has been broken, chipped, cracked, abraded, or damaged during construction period.

END OF SECTION

DOOR HARDWARE
SECTION 087100

PART 1 - GENERAL

1.1 SUMMARY:

- A. Section Includes: Finish Hardware for door openings, except as otherwise specified herein.
 - 1. Door hardware for steel doors.
 - 2. Keyed cylinders as indicated.

- B. Intent of Hardware Groups
 - 1. Should items of hardware not definitely specified be required for completion of the Work, furnish such items of type and quality comparable to adjacent hardware and appropriate for service required.
 - 2. Where items of hardware aren't specified and are required for completion of the Work, a written statement of such discrepancy to Architect, prior to date specified for receipt of bids for clarification by addendum; or, furnish such items in the type and quality established by this specification, and appropriate to the service intended.

1.2 SUBMITTALS:

- A. Product Data: Manufacturer's specifications and technical data including the following:
 - 1. Detailed specification of construction and fabrication.
 - 1. Manufacturer's installation instructions.
 - 2. Submit digital copy of catalog cuts with hardware schedule.

- B. Shop Drawings - Hardware Schedule: Submit copy of detailed hardware schedule in digital format.
 - 1. Hardware group and suffixes in proper sequence.
 - 2. Manufacturer, product name, and catalog number for each item.
 - 3. Function, type, and style.
 - 4. Size and finish of each item.
 - 5. Mounting heights.

- C. Templates: Submit templates and "reviewed Hardware Schedule" to door and frame supplier and others as applicable to enable proper and accurate sizing and locations of cutouts and reinforcing.

1.3 QUALITY ASSURANCE

- A. Comply with Division 1.
 - 1. Statement of qualification for distributor and installers.
 - 2. Statement of compliance with regulatory requirements and single source responsibility.
 - 3. Installer's Qualifications: Firm with 3 years experience in installation of similar hardware to that required for this Project.
 - 4. Single Source Responsibility: Except where allowed, furnish products of only one manufacturer for each type of hardware.
- B. Review Project for extent of finish hardware required completing the Work. Where there is a conflict between these Specifications and the existing hardware, notify the Architect in writing and furnish hardware in compliance with the Specification unless otherwise directed in writing by the Architect.

1.4 DELIVERY, STORAGE, AND HANDLING

- A. Packing and Shipping: Comply with Division 1
 - 1. Deliver products in original unopened packaging with legible manufacturer's identification.
- B. Storage and Protection: Comply with manufacturer's recommendations.

1.5 PROJECT CONDITIONS

- A. Coordinate hardware with other work. Furnish hardware items of proper design for use on doors and frames of the thickness, profile, swing, security and similar requirements indicated, as necessary for the proper installation and function, regardless of omissions or conflicts in the information on the Contract Documents.
- B. Review Shop Drawings for doors and entrances to confirm that adequate provisions will be made for the proper installation of hardware.
- C. Verify new hardware will accommodate conditions if existing.

1.6 WARRANTY:

- A. Manufacturer's Warranty:
 - 1. Closers: Ten years
 - 2. Exit Devices: Three Years
 - 3. Locksets & Cylinders: Three years
 - 4. All other Hardware: Two years.

PART 2 - PRODUCTS

2.1 MANUFACTURERS:

- A. The following manufacturers are approved subject to compliance with requirements of the Contract Documents. Approval of manufacturers other than those listed shall be in accordance with Division 1.

<u>Item:</u>	<u>Manufacturer:</u>	<u>Approved:</u>
Hinges	Stanley	Hager, McKinney
Locksets & Cylinders	Best	No Substitution
Pulls	Trimco	Rockwood, Hager
Stops	Trimco	Rockwood, Hager
Flatgoods	Trimco	Rockwood, Hager
Thresholds & Gasketing	Pemko	National Guard

2.2 MATERIALS:

- A. Hinges:
1. Template screw hole locations
 2. Minimum of 2 permanently lubricated non-detachable bearings
 3. Equip with easily seated, non-rising pins
 4. Sufficient size to allow 180-degree swing of door
 5. Furnish hinges with five knuckles and flush bearings
 6. Provide hinge type as listed in schedule.
 7. Furnish 3 hinges per leaf to 7 foot 6 inch height. Add one for each additional 30 inches in height or fraction thereof.
 8. Tested and approved by BHMA for all applicable ANSI Standards for type, size, function and finish
- B. Medium Duty Cylindrical Type Locks and Latchsets:
1. Tested and approved by BHMA for ANSI A156.2, Series 4000, Operational Grade 2, and be UL listed
 2. Fit modified ANSI A115.2 door preparation
 3. Locksets and cores to be of the same manufacturer to maintain complete lockset warranty
 4. Locks to have solid shank with no opening for access to keyed lever keeper.
 5. Each lever to have independent spring mechanism controlling it
 6. 2-3/4 inch backset
 7. 1/2 inch throw latchbolt
 8. Keyed lever to be removable only after core is removed, by authorized control key

9. Provide locksets with 7-pin removable and interchangeable core cylinders
 10. Core face must be the same finish as the lockset
 11. Function and design as indicated in the hardware groups
- C. Cylinders:
1. Provide necessary cylinder housings, collars, rings, & springs as recommended by manufacturer for proper installation.
 1. Provide proper cylinder cams as required to operate locksets.
 2. Coordinate and provide as required for related sections.
- D. Kick plates: Provide with four beveled edges, height as specified by width less 2 inches on single doors and 1 inch on pairs of doors. Furnish pan- head countersunk screws to match finish.
- E. Seals: All seals shall be finished to match adjacent frame color. Seals shall be furnished as listed in schedule. Material shall be UL listed for labeled openings.
- F. Thresholds: As specified and per details. Maximum height of ½” at ADA required openings. Coordinate with door bottom and door undercut.

2.3 FINISH:

- A. Designations used in Schedule of Finish Hardware - 3.5, and elsewhere to indicate hardware finishes are those listed in ANSI/BHMA A156.18 including coordination with traditional U.S. finishes shown by certain manufacturers for their products

2.4 KEYS AND KEYING:

- A. Provide keyed construction cores and keys during the construction period. Construction control and operating keys and core shall not be part of the Owner's permanent keying system or furnished in the same keyway (or key section) as the Owner's permanent keying system. Permanent cores and keys (prepared according to the accepted keying schedule) will be furnished to the Owner.
- B. Cylinders, removable and interchangeable core system:
1. Per Owner or Best “Standard” small format 7-pin.
- C. Permanent keys and cores: Stamped with the applicable key mark for identification. These visual key control marks or codes will not include the actual key cuts. Permanent keys will also be stamped "Do Not Duplicate".

- E. Furnish keys in the following quantities:
 - 1 each Control keys
 - 2 each Masterkeys
 - 3 each Change keys each keyed core

- F. The Owner, or the Owner's agent, will install permanent cores and return the construction cores to the Hardware Supplier. Construction cores and keys remain the property of the Hardware Supplier.

- G. Keying Schedule: Arrange for a keying meeting, Owner and other involved parties to ensure locksets and locking hardware, are functionally correct and keying complies with project requirements.

PART 3 – EXECUTION

3.1 EXAMINATION

- A. Verification of conditions: Examine doors, frames, related items and conditions under which Work is to be performed and identify conditions detrimental to proper and or timely completion.

3.2 HARDWARE LOCATIONS:

- A. Mount hardware units at heights indicated in the following publications except as specifically indicated or required to comply with the governing regulations.
 - 1. Recommended Locations for Builder's Hardware for Standard Steel Doors and Frames, by the Door and Hardware Institute (DHI).

3.3 INSTALLATION:

- A. Install each hardware item per manufacturer's instructions and recommendations. Do not install surface mounted items until finishes have been completed on the substrate. Set units level, plumb and true to line and location. Adjust and reinforce the attachment substrate as necessary for proper installation and operation.

- B. Locksets: Provide appropriate backset to center lockset. Install strikes with back boxes.

- C. Thresholds: Set thresholds for exterior doors in full bed of sealant complying with requirements. Securely and permanently anchor exterior thresholds using countersunk non-ferrous screws to match color of threshold. Stainless steel screws at aluminum thresholds.

- D. Gaskets & Weatherstripping: Install jamb-applied gaskets, rim strikes, etc; fasten hardware over and through stop applied gaskets providing an uninterrupted seal where possible. Install sweeps across bottoms of doors before astragals, cope sweeps around bottom pivots, trim astragals to tops of sweeps.
 - a. Adjustments: Adjust and check each operating item of door hardware and each door to ensure proper operation of function of every unit. Replace units that cannot be adjusted to operate as intended.

3.4 FIELD QUALITY CONTROL AND FINAL ADJUSTMENT:

- A. Contractor/Installer Field Services: After installation is complete, Contractor shall inspect completed door openings on site to verify installation of hardware is complete and properly adjusted. Check latchset, lockset, and exit devices are properly installed and adjusted to ensure proper operation.

3.5 SCHEDULE OF FINISH HARDWARE:

- A. Manufacturer's Abbreviations:
 - 1. ST Stanley
 - 2. BE Best
 - 3. PE Pemko
 - 4. TR Trimco
 - 5. PR Precision
 - 6. SCH Schlage
 - 7. Von D Von Duprin

Note: Coiling Door to have Manufacturers Standard Hardware. See specifications.

END OF SECTION 087100

**SECTION 133419
METAL BUILDING SYSTEMS**

PART 1 - GENERAL

1.1 SECTION INCLUDES

- A. Work Included: The extent and location of the Pre-engineered Metal Building addition as indicated on the drawings. The work includes the requirements for providing all structural steel for the pre-engineered steel building; secondary members; roof and wall sheeting; bolts and fasteners; painting of structural, secondary, and roof and wall sheeting; bracing; gutters, downspouts, and trim; base members; and framed openings. All work to be coordinated with all other portions of the work including but not limited to doors, windows, insulation, sealants, finishes, structural and mechanical and electrical systems and elements. The Contractor is responsible for obtaining the City of Craig approval of shop drawings and calculations for the pre-engineered building frame and components.
- B. Metal Building Systems Including:
1. Metal Framing Components
 2. Metal Wall SIP Panels and Trim
 3. Metal Roof SIP Panels and trim

1.2 RELATED SECTIONS

1. 076200 Sheet Metal Flashing & Trim
2. 081113 Hollow Metal Doors and Frames
3. 087100 Door Hardware

1.3 DESIGN REQUIREMENTS

- A. The building shall be designed by the Manufacturer as a complete system. Members and connections not indicated on the drawings shall be the responsibility of the Manufacturer and/or Contractor. All components of the system shall be supplied or specified by the same manufacturer.
- B. The Building Manufacturer shall be certified for AISC's QUALITY CERTIFICATION, CATEGORY MB program. This project shall be engineered and fabricated to meet the requirements of this certification.
- C. All structural mill sections and welded plate sections shall be designed in accordance with the AISC's "Manual of Steel Construction".
- D. All cold-formed steel structural members shall be designed in accordance with the latest edition of AISI's "Cold-formed Steel Design Manual".
- E. All roof and wall panels shall be designed in accordance with the AISI's "Cold-formed Steel Design Manual".

- F. Welded connections shall comply with the American Welding Society's (AWS) "Standard Code for Arc and Gas Welding in Building Construction" for welding procedures.
- G. All materials shall be new and unused prior to fabrication. The Building Manufacturer shall warrant the materials manufactured by it, if properly erected in accordance with the plans, specifications and erection manual furnished by it, against defects in materials and workmanship for a period of one (1) year after delivery
- H. The Building Manufacturer shall be MBMA certified.
- I. Governing Design Code: Structural design for the metal building system shall be performed by the manufacturer of the metal building system in accordance with the building loads provided in the contract documents and IBC 2021.
- J. Design Basis
 - 1. Use standards, specifications, recommendations, findings, and interpretations of professionally recognized groups as basis for establishing design, drafting, fabrication, and quality criteria, practices, and tolerances, including the AISC Code of Standard Practice for Steel Buildings and Bridges.
 - 2. Design structures in accordance with MBMA Metal Building Systems Manual including fabrication and erection tolerances.
 - 3. Design structural mill sections and welded plate sections in accordance with AISC 360, ASD Method.
 - 4. Design the lateral force resisting systems and related components for seismic loads in accordance with AISC 341.
 - 5. Design cold-formed steel structural members and panels in accordance with AISI S-100.
 - 6. Design all bolted joints in accordance with RCSC Specification.
 - 7. Design roof assembly tested in accordance with UL 580 Class 90.
- K. Design Loads:
 - 1. In accordance with Contract Documents and manufacturer's standard design practices.
 - 2. Design loads include dead loads, roof live loads, wind loads, seismic loads, collateral loads, auxiliary loads, floor live loads and applied or specified loads.

1.4 SUBMITTALS

- A. Submittals for Review:
 - 1. Shop Drawings:
 - A. Complete erection drawings with identification and assembly of building components.
 - B. Show anchor bolt settings, transverse cross-sections, sidewall, endwall, and roof framing, flashing and sheeting, and accessory installation details.
 - C. Bear seal and signature of Registered Professional Engineer in the State of Alaska responsible for metal building system design.
 - 2. Manufacturer installation manual showing:

- A. Preparation instructions and recommendations.
 - B. Storage and handling requirements and recommendations.
 - C. Installation methods.
3. Structural Design Calculations: 1 set sealed and signed by a professional engineer licensed in the State of Alaska.
 4. Documentation including test reports supporting Thermal Transmission Coefficients (U-factors) and Solar Heat Gain Coefficients (SHGC; for non-opaque components only) of building envelope components specified in this section.
- B. Samples:
 1. Submit color chips showing manufacturer's full range of available colors and patterns for each finish product.
 2. After color selection submit samples representing actual product, color, and patterns.
 - C. Quality Control Submittals:
 1. IAS AC472 Certificate for each facility involved in the design and fabrication of the Metal Building System.
 2. Certified Erector Certificate issued to the erector by the manufacturer.

1.5 QUALITY ASSURANCE

- A. Manufacturer and Fabricator Qualifications: Primary products furnished by single IAS AC472 accredited manufacturer/fabricator with minimum 5 years of experience.
- B. Erector Qualifications:
 1. Single installer with minimum 5 years of experience in installing products of same or similar type and scope.
- C. Welder Qualifications: AWS D1.1/D1.1M and/or AWS D1.3/D1.3M

1.6 RECEIVING, STORAGE AND HANDLING OF MATERIALS ON JOB SITE

- A. General: all materials shall be unloaded, handled, hauled and delivered to storage by competent workmen in a manner which will prevent bends, dents, scratches or other damage. Damaged materials shall be rejected and promptly replaced at no additional cost to the owner. All materials shall be properly stored and protected from weather damage. All shipments must be thoroughly checked by the consignee. If shortage or damage is found, a notation must be placed on the bill of lading and must be confirmed by the carrier.
- B. Primed materials: upon receipt, all bundles of primed material shall be stored on blocking at an angle sufficient to allow any trapped water to drain and should be protected from weather by covers allowing air circulation. Water, ice and snow should not be allowed to collect and remain thereon.
- C. Roof and wall panels: bundles of panels shall be inspected for moisture upon receipt. If moisture is present, dry the panels and, if possible, store them in a warm, dry place. The

panel bundles shall be elevated and sloped in a manner to allow moisture to drain. Cover all bundles with a tarp or plastic, leaving air spaces for adequate air circulation.

1.7 WARRANTY

- A. Special Manufacturer's Warranty: On manufacturer's standard form, in which manufacturer agrees to repair or replace metal building system components that fail in materials and workmanship within one year from date of Substantial Completion.
- B. Special Weathertightness Warranty: On manufacturer's standard form, in which manufacturer agrees to repair or replace metal building system components that fail to remain weathertight, including leaks, without monetary limitation within 5 years from date of Substantial Completion.
- C. Special Warranty on Roof and Wall Panel Finishes: On manufacturer's standard form, agreeing to repair or replace metal panels that show evidence of deterioration of factory applied finishes within specified warranty period. Include acknowledgment that the project location is approximately 2,000 feet from salt water.
 - 1. Color fading more than 5 Hunter units when tested according to ASTM D2244.
 - 2. Chalking in excess of a No. 8 rating when tested according to ASTM D4214.
 - 3. Cracking, checking, peeling, or failure of paint to adhere to bare metal.Finish warranty period to be 20 years from date of substantial completion.

1.8 ADMINISTRATION

- A. All nomenclature shall conform to the MBMA Metal Building Systems Manual.
- B. Coordination and administration of the work shall be in accordance with the MBMA Metal Building Systems Manual - Common Industry Practices.

PART 2 - PRODUCTS

2.1 GENERAL

- A. Unless otherwise noted or specified, all products shall be new, free from oxidation or corrosion and the "best" quality for the intended use.

2.2 MANUFACTURERS

- A. Basis of Design Manufacturer: Star Building Systems, a subsidiary of NCI Building Systems, Inc. (www.starbuildings.com). Other acceptable manufacturers include:
 - 1. Metallic Building Co., subsidiary of NCI Building Systems, Inc. (www.metallic.com)
 - 2. Ceco Building Systems, subsidiary of NCI Building Systems, Inc. (www.cecobuildings.com)
 - 3. Varco Pruden, (www.vp.com)

2.3 MATERIALS

A. Primary Framing Steel:

1. Hot-rolled shapes: ASTM A 36 or ASTM A 992 or ASTM A572, minimum yield of 36 ksi (248 MPa) or 50 ksi (345 MPa).
2. Built-up sections:
 - A. Webs:
 - 1) ASTM A 1011 or ASTM A1018, SS or HSLAS Class 1, Grade 55 (380) for webs 3/16 inch (4.76 mm) thick and thinner.
 - 2) ASTM A 572 Grade 50 (340) or 55 (380) for webs thicker than 3/16 inch (4.76 mm).
 - B. Flanges: ASTM A 529 Grade 55 (380) or ASTM A 572 Grade 50 (340) or 55 (380).
3. Round tube: ASTM A 500, Grade B or C with minimum yield strength of 42 ksi (290 MPa).
4. Square and rectangular tube: ASTM A 500, Grade B or C, minimum yield strength of 42 ksi (290 MPa).
5. Cold-formed C sections: ASTM A 1011, Grade 55 (380), or ASTM A 653, Grade 55 (380).
6. X-bracing: ASTM A 529 or A 572 for rod bracing 36 ksi (248 MPa) or 50 ksi (345 MPa), ASTM A 36 for angle bracing or ASTM A 475 for cable bracing.

B. Secondary Framing Steel:

1. Purlins, girts, and eave struts: ASTM A 1011 Grade 55 (380), or ASTM A 653, Grade 55 (380).
2. Finish: G-90 Pre-galvanized shop coat. Shop coat only intended to provide temporary protection during transportation and erection.

C. Rigid Frame Connections: Provide High Strength Bolts, Nuts and Washers:

- A. Bolts: ASTM A 325 or ASTM A 490 Heavy Hex Structural Type I as required by manufacturer's design.
- B. Washers: ASTM F 436 Type 1 Hardened Steel.
- C. Nuts: ASTM A 563 Grade C Heavy Hex.
- D. Coating: [ASTM F 1941 Electrodeposited Yellow Zinc] [Hot-Dipped Galvanized].
- E. Other Connections: Provide High Strength or Machine Bolts as required by manufacturer design.

2.4 ROOF PANELS AND FINISHES

- A. Roof Panel Description: Roof panels shall have major ribs 12" on center and 1-3/16" high. In the flat area between the major ribs shall be two smaller ribs. Each panel shall provide 36" net coverage in width, side laps of at least one major rib and a purlin-bearing leg.

B. Panel Finish

1. The panels shall have an exterior finish meeting or exceeding for the following criteria:

a. Exterior Surface:

- (1) Prime Coat: The base metal shall be pretreated and primed with Galvalume AZ50 for superior adhesion and superior resistance to corrosion. The dry film thickness shall be 0.2 mils.
- (2) Exterior coat: After priming, the exterior side shall be given a 20 year long life coating baked in excess of 500 degrees F. to a controlled dry film thickness of 0.7 to 0.8 mils.
- (3) Excellent weatherability and resistance to coating deterioration shall be evident when subjected to the following tests:
 - (a) Humidity Resistance: Immediately after removal from cabinet, the exposed area shall contain less than 5% No. 8 blisters, after 1000 hours when tested according to ASTM D-2247.
 - (b) Salt Spray Resistance: Immediately after removal from cabinet, the exposed area shall contain less than 5% No. 8 blisters, after 750 hours when tested according to ASTM B-117.
 - (c) Specular Gloss: The gloss rating shall be 25-35 degrees on a Gardner 60 degree gloss meter when tested in accordance with ASTM 523.
 - (d) Hardness: The coating shall have a minimum paint hardness of F-2H using Eagle Turquoise drawing pencils.
 - (e) Q.U.V. Weatherometer: There shall be no objectionable color change, chalking or blistering after 300 hours when tested in accordance with ASTM G 53.

b. Interior Finish: The interior finish shall have a parchment polyester top coat over an epoxy or urethane primer. The dry film thickness shall be 0.3 mils.

2. Color Selection: By Owner

C. Panel Length and Endlaps: All roof panels shall be continuous from eave to ridge except where lengths become prohibitive for handling purposes. All end laps shall be at least 6".

D. Closure Strips: The corrugations of the roof panels shall be filled with a preformed closed cell, laminated polyethylene foam closure along the eaves and ridge for weather tightness.

- D. Sealants: The roof side-laps and end-laps shall be sealed with a mastic sealer 3/16" diameter for roof slopes of 1:12 or greater, and 1/2" x 1/8" tape for roof slopes less than 1:12. The material shall be a butyl base elastic compound with a minimum solid content of 99%, Chemseco Sealum TC95 or equal. The sealer shall have good adhesion to metal and be non-staining, non-corrosive, non-shrinking, non-oxidizing, non-toxic, and non-volatile. The service temperature shall be from -60 degrees F to +212 degrees F. The material shall meet or surpass the requirements of Federal Specification TT-C-1196A Type II, Class B and NAAMM SS-IC-68.
- E. Roof Panel Fasteners
1. Roof panels shall be attached to the secondary framing members by self-drilling stainless steel screws and clips, assembled with a 0.040" minimum thickness nylon isolation washer.
 2. Roof panels to be stitched by self-taping stainless steel screws, Type "A" or "AB", assembled with a 0.040" minimum thickness nylon isolation washer.
 3. The fasteners shall be color coordinated with a premium coating system which assures a 20 year performance against corrosion and weathering. The fasteners shall be suitable for use with fiberglass blanket insulation from 0" to 4" thick. Plastic color caps are not allowed.
- F. Non-Penetrating Snow Guards
1. System Description
 - a. Attachment system to provide attachment to standing seam metal roofs:
 1. With only minor dimpling of panel seams.
 2. Without penetrations through roof seams or panels.
 3. Without use of sealers or adhesives.
 4. Without voiding roof warranty.
 - b. Materials: Clamps, brackets and clips shall be fabricated from 6061-T6 aluminum extrusions conforming to ASTM B221 or aluminum castings conforming to ASTM B85.
 - c. Clamp Model: As recommended by clamp manufacturer and as approved by metal roof panel manufacturer.
 - d. Fasteners: Stainless steel.
 - e. Color Strips: Same material and finish as metal roof panels.
 - f. Snow and Ice Clips: Aluminum, with rubber foot, minimum 3 inches wide.
 - g. Performance Requirements: Provide snow guards to withstand exposure to the weather and environmental elements, and resist design forces without failure due to defective manufacture.

1. Source Limitation: Provide snow guard system as designed and tested by the manufacturer as a complete system. Install components by the same manufacturer.

2.5 WALL PANELS AND FINISHES

- A. Wall Panel Description: Wall panels shall have major ribs 12" on center and 1-3/16" high. In the flat area between the major ribs shall be two smaller ribs. Each panel shall provide 36" net coverage in width and side laps of at least one major rib.
- B. Wall Panel Material: Panel material shall be 26 gauge and have a minimum yield stress of 80,000 psi (Grade E).
- C. Panel Finish
 1. The panels shall have an exterior finish meeting or exceeding for the following criteria:
 - a. Exterior Surface:
 - 1) Prime Coat: The base metal shall be pretreated and primed with Galvalume AZ50 for superior adhesion and superior resistance to corrosion. The dry film thickness shall be 0.2 mils.
 - 2) Exterior Coat: After priming, the exterior side shall be given a 20 year long life coating baked in excess of 500 degrees F. to a controlled dry film thickness of 0.7 to 0.8 mils.
 - 3) Excellent weatherability and resistance to coating deterioration shall be evident when subjected to the following tests:
 - a) Humidity Resistance: Immediately after removal from cabinet, the exposed area shall contain less than 5% No. 8 blisters, after 1000 hours when tested according to ASTM D-2247.
 - b) Salt Spray Resistance: Immediately after removal from cabinet, the exposed area shall contain less than 5% No. 8 blisters, after 750 hours when tested according to ASTM B-117.

- c) Specular Gloss: The gloss rating shall be 25-35 degrees on a Gardner 60 degree gloss meter when tested in accordance with ASTM 523.
 - d) Hardness: The coating shall have a minimum paint hardness of F-2H using Eagle Turquoise drawing pencils.
 - e) Q.U.V. Weatherometer: There shall be no objectionable color change, chalking or blistering after 300 hours when tested in accordance with ASTM G 53.
4. Interior Finish: The interior finish shall have a parchment polyester top coat over an epoxy or urethane primer. The dry film thickness shall be 0.3 mils.
2. Color Selection Exterior panel and trim colors will be selected by the OWNER from the Building Manufacturer's standard colors with minimum 12 colors to choose from. Submit two (2) color charts with the proposal.

D. Wall Panel Fasteners

- 1. Wall panels shall be attached to the secondary framing members by self-drilling stainless steel screws, No. 12 x 1 1/4" hex washer head, assembled with a 0.040" minimum thickness nylon isolation washer.
 - 2. Wall panel sidelaps shall be stitched by self-taping stainless steel screws, No. 14 x 3/4" Type "A" or "AB", assembled with a 0.040" minimum thickness nylon isolation washer.
 - 3. The fasteners shall be color coordinated with a premium coating system which assures a 20 year performance against corrosion and weathering. The fasteners shall be suitable for use with fiberglass blanket insulation from 0" to 4" thick. Plastic color caps are not allowed.
- E. Panel Length: All wall panels shall be continuous from sill to roof line except where lengths become prohibitive for handling purposes. Any end laps shall be at least 4".
- F. Closure Strips: At the eaves and rake and where panels end over or under a door, window, louver or other such wall openings, the wall panel corrugations shall be filled with a pre-formed closed cell, laminated polyethylene foam closure when required for weather tightness.

2.6 INSULATED METAL WALL & ROOF PANELS

1. Labeling: Labeled through a nationally recognized program, identifying the manufacturer, product name and model and product listings required in this section.
2. Panel Core: Foamed in-place, Zero Ozone Depletion Potential polyurethane or polyisocyanurate.
3. Fire Resistance:
 - A. FM 4880 Class 1 Approval with no height restrictions.
 - B. Flame Spread and Smoke Developed Index: The Flame Spread Index shall not exceed 75 and the Smoke Developed Index shall not exceed 450 when tested to ASTM E 84.
4. Panel Strength: Determine and certify panel allowable strengths as follows:
 - A. Positive Loading (Toward Panel Supports): Determine in accordance with ASTM E 72.
 - B. Negative Loading (Away from Panel Supports): Determine in accordance with ASTM E 1592.
5. U-Factor Determination: ASTM C 1363 conducted in accordance with ASHRAE 90.1 Section A9.3.2 or by Finite Element Modeling per ASHRAE 90.1 Section A9.4 and using core insulation thermal conductivity (k-factor) determined using ASTM C 518 conducted at 75-degree F mean temperature in the calculation
6. Maximum U-factor: .05 (Walls) .03 (Roof) BTU/hour-square foot-degree F.
7. Air Infiltration: Maximum air infiltration of 0.04 cubic feet per minute per square foot of specimen area when tested to ASTM E 1680 at a pressure differential of +/- 1.57 psf (75 Pa).
8. Water Infiltration: No uncontrollable water leakage when tested to ASTM E 1646 at a 20 psf (955 Pa) pressure differential when sprayed with 5 gallons of water per hour per square foot (203 liters per square meter) of specimen area.

2.7 METAL SOFFIT PANELS

- A. General: Provide factory-formed metal soffit panels designed to be installed by lapping and interconnecting side edges of adjacent panels and mechanically attaching through panel to supports using concealed fasteners and factory-applied sealant in side laps. Include accessories required for weathertight installation.
- B. Metal Soffit Panels: Match profile and material of metal roof panels.
 - 1) Finish: Match finish and color of metal roof panels.

2.8 GUTTER, RAKE AND WALL TRIM

- A. Exterior gutters shall be 24 gauge, G90 galvanized or aluminum-zinc alloy coated steel with the same finish as the wall panels. Color to be selected by Owner from manufacturers standard colors.

- B. Downspouts shall be 28 gauge galvanized or aluminum-zinc alloy coated steel with a color coordinated, pre-painted finish. Their color shall be the same as the wall panels.
- C. Standard rake trim shall be 26 gauge, G90 galvanized or aluminum-zinc alloy coated steel with the same finish as the wall panels. Color shall be White or Burnished Slate. If the roof is a Standing Seam or Loc-Seam system, the rake shall be attached to the endwall material with a slip joint, allowing the rake to expand and contract with the roof system.
- D. Wall trim shall be 26 gauge, G90 galvanized or aluminum-zinc alloy coated steel with the same finish as the wall panels. Color shall be the same as the wall panels.
- E. All gutter and downspout joints, rake flashing laps, ridge flashing laps, doors, windows and louvers shall be sealed with Sika Sikaflex 201 caulk or equal. It shall meet or exceed the requirements of Federal Specification TT-S-00230C, Type II, Class A.

2.9 BASE MEMBER

- A. Standard Base Angle: The base of the wall panels is to be attached to a pre-finished 18 gauge minimum thickness structural trim configured to create a sheeting ledge and water stop. This component is to be provided by the Building Manufacturer.
- B. At sills where the wall panels do not extend to the slab, a pre-painted base member 0.043" thick or a girt plus flashing detail shall be used. Unless clearly stated otherwise, the base member and girt are not to be designed as a horizontal spandrel bracing the top of the hardwall wainscot.

2.10 FRAMED OPENINGS

- A. Framed Openings shall be designed to structurally replace displaced framing and to resist applicable wind loads. Framing shall consist of jambs, a header and, if required, a seal. Color coordinated flashings of 26 gauge (minimum) steel shall be provided to conceal panel edges at the opening. Furnish openings as shown on the drawing. Provide flashing and waterproof assemblies as detailed and required for complete watertight installation.

2.11 INSULATION

Provide insulation as noted on the drawings. Insulation shall be installed, as a minimum, to industry standards and applicable Sections of the Contract Documents.

2.12 DOORS

- A. Contractor shall furnish all parts, frames, housings, and incidentals as necessary for a complete and operable facility.
- B. Man-doors per schedule and Section 08250.
- C. Door hardware per Section 08700 and schedule.

PART 3 - EXECUTION

3.1 PREPARATION

- A. Clean surfaces prior to installation.
- B. Prepare surfaces using methods recommended by manufacturer for best result for substrate.
- C. INSPECTION
 - 1. Prior to all work of this section, carefully inspect the installed work of all other trades affecting this work and verify that all such work is complete to the point where this installation may properly commence.
 - 2. Verify that all items to be embedded in concrete are in place, properly oriented, located and secured.
- D. DISCREPANCIES: In the event of a discrepancy, do not proceed with installation until all such discrepancies have been resolved by the Architect.

3.2 INSTALLATION

- A. The erection of the metal building and the installation of accessories shall be performed in accordance with the Building Manufacturer's erection drawings and erection manuals by a qualified erector using proper tools, equipment and safety practices.
- B. The erection company must have a minimum of 5 years of erection experience with pre-engineered metal buildings under one company name, must comply with all OSHA regulations, and provide to Owner agenda of weekly safety meetings. A list of all equipment to be used for erection must be provided to Architect for approval before starting erection of building.
- C. Erection practices shall conform to Section 6, Common Industry Practices found in the "Low Rise Building Systems Manual", MBMA 1986.
- D. There shall be no field modifications to primary structural members except as authorized and specified by the Building Manufacturer. Install system in accordance with manufacturer's instructions and approved Shop Drawings.
- E. Fit members square against abutting components.
- F. Position members plumb, square, and level.
- G. Temporarily brace members until permanently fastened.

- H. Do not splice load bearing members.
- I. Align and adjust various members forming parts of a complete frame or structure after assembly but before fastening.
- J. Welding to conform to AWS D1.1.
- K. Fasten panels to supports.
- L. Install trim to maintain visual continuity of system.
- M. Install joint sealant and gaskets to prevent water penetration.
- N. Flash penetrations through roofing with metal trim to match panels

3.3 PROTECTION

- A. Protect installed products until completion of project.

3.4 ADJUSTMENT

- A. Touch up, repair, or replace damaged products before Substantial Completion.

END OF SECTION 133419